



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 31, 2020 – 10:01 AM BST

PDB ID : 5VYC
Title : Crystal structure of the human 40S ribosomal subunit in complex with DENR-MCT-1.
Authors : Lomakin, I.B.; Stolboushkina, E.A.; Vaidya, A.T.; Garber, M.B.; Dmitriev, S.E.; Steitz, T.A.
Deposited on : 2017-05-24
Resolution : 6.00 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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

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

MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.13
EDS	:	2.13
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)	:	2.13

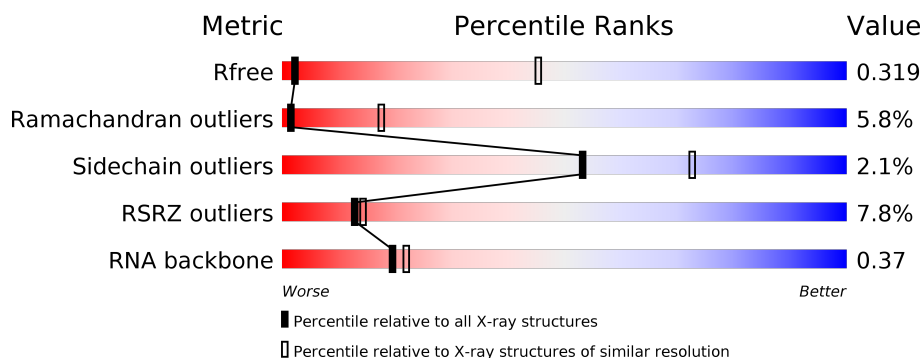
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 6.00 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.





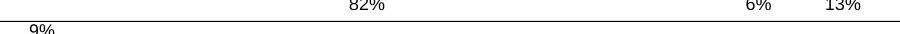


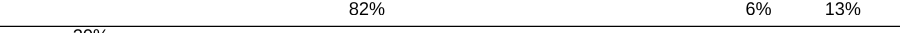

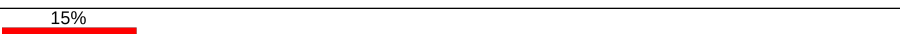


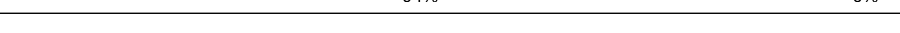
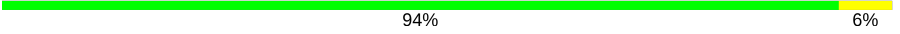

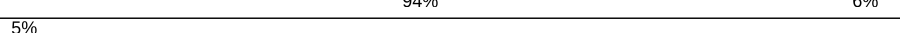


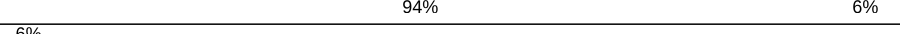




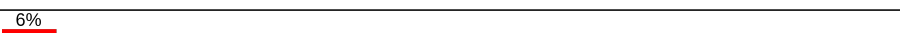



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1000 (8.00-3.88)
Ramachandran outliers	138981	1016 (8.00-3.86)
Sidechain outliers	138945	1017 (8.00-3.82)
RSRZ outliers	127900	1015 (8.20-3.78)
RNA backbone	3102	1076 (8.70-3.00)

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

Mol	Chain	Length	Quality of chain
1	T1	145	<div> <div>3%</div> <div>94%</div> <div>5%</div> </div>
1	T2	145	<div> <div>%</div> <div>94%</div> <div>5%</div> </div>
1	T3	145	<div> <div>%</div> <div>93%</div> <div>6%</div> </div>
1	T4	145	<div> <div>6%</div> <div>94%</div> <div>5%</div> </div>
1	T5	145	<div> <div>3%</div> <div>94%</div> <div>5%</div> </div>
1	T6	145	<div> <div>2%</div> <div>94%</div> <div>• •</div> </div>

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Mol	Chain	Length	Quality of chain
2	U1	119	
2	U2	119	
2	U3	119	
2	U4	119	
2	U5	119	
2	U6	119	
3	V1	83	
3	V2	83	
3	V3	83	
3	V4	83	
3	V5	83	
3	V6	83	
4	X1	143	
4	X2	143	
4	X3	143	
4	X4	143	
4	X5	143	
4	X6	143	
5	a1	115	
5	a2	115	
5	a3	115	
5	a4	115	
5	a5	115	
5	a6	115	
6	c1	69	











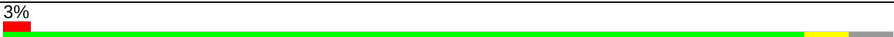


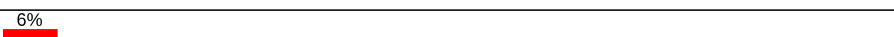











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Mol	Chain	Length	Quality of chain
6	c2	69	
6	c3	69	
6	c4	69	
6	c5	69	
6	c6	69	
7	d1	56	
7	d2	56	
7	d3	56	
7	d4	56	
7	d5	56	
7	d6	56	
8	f1	156	
8	f2	156	
8	f3	156	
8	f4	156	
8	f5	156	
8	f6	156	
9	g1	317	
9	g2	317	
9	g3	317	
9	g4	317	
9	g5	317	
9	g6	317	
10	C1	293	
10	C2	293	

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Mol	Chain	Length	Quality of chain
10	C3	293	
10	C4	293	
10	C5	293	
10	C6	293	
11	G1	249	
11	G2	249	
11	G3	249	
11	G4	249	
11	G5	249	
11	G6	249	
12	J1	194	
12	J2	194	
12	J3	194	
12	J4	194	
12	J5	194	
12	J6	194	
13	M1	132	
13	M2	132	
13	M3	132	
13	M4	132	
13	M5	132	
13	M6	132	
14	N1	151	
14	N2	151	
14	N3	151	

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Mol	Chain	Length	Quality of chain
14	N4	151	
14	N5	151	
14	N6	151	
15	O1	151	
15	O2	151	
15	O3	151	
15	O4	151	
15	O5	151	
15	O6	151	
16	W1	130	
16	W2	130	
16	W3	130	
16	W4	130	
16	W5	130	
16	W6	130	
17	Y1	133	
17	Y2	133	
17	Y3	133	
17	Y4	133	
17	Y5	133	
17	Y6	133	
18	Z1	125	
18	Z2	125	
18	Z3	125	
18	Z4	125	

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Mol	Chain	Length	Quality of chain
18	Z5	125	
18	Z6	125	
19	b1	84	
19	b2	84	
19	b3	84	
19	b4	84	
19	b5	84	
19	b6	84	
20	e1	133	
20	e2	133	
20	e3	133	
20	e4	133	
20	e5	133	
20	e6	133	
21	i1	1869	
21	i2	1869	
21	i3	1869	
21	i4	1869	
21	i5	1869	
21	i6	1869	
22	A1	295	
22	A2	295	
22	A3	295	
22	A4	295	
22	A5	295	

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Mol	Chain	Length	Quality of chain
22	A6	295	
23	B1	264	
23	B2	264	
23	B3	264	
23	B4	264	
23	B5	264	
23	B6	264	
24	D1	243	
24	D2	243	
24	D3	243	
24	D4	243	
24	D5	243	
24	D6	243	
25	E1	263	
25	E2	263	
25	E3	263	
25	E4	263	
25	E5	263	
25	E6	263	
26	F1	204	
26	F2	204	
26	F3	204	
26	F4	204	
26	F5	204	
26	F6	204	

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Mol	Chain	Length	Quality of chain
27	H1	194	
27	H2	194	
27	H3	194	
27	H4	194	
27	H5	194	
27	H6	194	
28	I1	208	
28	I2	208	
28	I3	208	
28	I4	208	
28	I5	208	
28	I6	208	
29	K1	165	
29	K2	165	
29	K3	165	
29	K4	165	
29	K5	165	
29	K6	165	
30	L1	158	
30	L2	158	
30	L3	158	
30	L4	158	
30	L5	158	
30	L6	158	
31	P1	145	






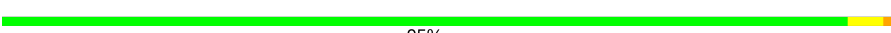

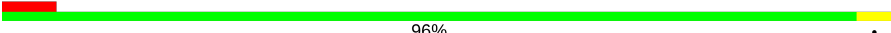
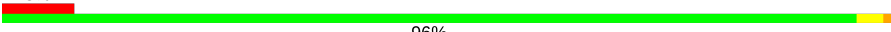






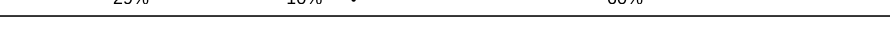
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Mol	Chain	Length	Quality of chain
31	P2	145	
31	P3	145	
31	P4	145	
31	P5	145	
31	P6	145	
32	Q1	146	
32	Q2	146	
32	Q3	146	
32	Q4	146	
32	Q5	146	
32	Q6	146	
33	R1	135	
33	R2	135	
33	R3	135	
33	R4	135	
33	R5	135	
33	R6	135	
34	S1	152	
34	S2	152	
34	S3	152	
34	S4	152	
34	S5	152	
34	S6	152	
35	j1	25	
35	j2	25	

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Mol	Chain	Length	Quality of chain
35	j3	25	 68% 32%
35	j4	25	 4% 72% 28%
35	j5	25	 68% 32%
35	j6	25	 68% 32%
36	k1	181	 4% 96% . .
36	k2	181	 95% . .
36	k3	181	 97% . .
36	k4	181	 6% 96% .
36	k5	181	 8% 96% . .
36	k6	181	 4% 97% . .
37	l1	198	 5% 29% 10% . 60%
37	l2	198	 7% 29% 10% . 60%
37	l3	198	 10% 29% 10% . 60%
37	l4	198	 11% 29% 10% . 60%
37	l5	198	 3% 29% 10% . 60%
37	l6	198	 4% 29% 10% . 60%

2 Entry composition [i](#)

There are 38 unique types of molecules in this entry. The entry contains 470574 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 protein called 40S ribosomal protein S19.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	T1	143	Total	C	N	O	S	0	0	0
			1112	697	214	198	3			
1	T2	143	Total	C	N	O	S	0	0	0
			1112	697	214	198	3			
1	T3	143	Total	C	N	O	S	0	0	0
			1112	697	214	198	3			
1	T4	143	Total	C	N	O	S	0	0	0
			1112	697	214	198	3			
1	T5	143	Total	C	N	O	S	0	0	0
			1112	697	214	198	3			
1	T6	143	Total	C	N	O	S	0	0	0
			1112	697	214	198	3			

- Molecule 2 is a protein called 40S ribosomal protein S20.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	U1	104	Total	C	N	O	S	0	0	0
			821	514	155	148	4			
2	U2	104	Total	C	N	O	S	0	0	0
			821	514	155	148	4			
2	U3	104	Total	C	N	O	S	0	0	0
			821	514	155	148	4			
2	U4	104	Total	C	N	O	S	0	0	0
			821	514	155	148	4			
2	U5	104	Total	C	N	O	S	0	0	0
			821	514	155	148	4			
2	U6	104	Total	C	N	O	S	0	0	0
			821	514	155	148	4			

- Molecule 3 is a protein called 40S ribosomal protein S21.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	V1	83	Total	C	N	O	S	0	0	0
			636	393	117	121	5			
3	V2	83	Total	C	N	O	S	0	0	0
			636	393	117	121	5			
3	V3	83	Total	C	N	O	S	0	0	0
			636	393	117	121	5			
3	V4	83	Total	C	N	O	S	0	0	0
			636	393	117	121	5			
3	V5	83	Total	C	N	O	S	0	0	0
			636	393	117	121	5			
3	V6	83	Total	C	N	O	S	0	0	0
			636	393	117	121	5			

- Molecule 4 is a protein called 40S ribosomal protein S23.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	X1	141	Total	C	N	O	S	0	0	0
			1098	693	219	183	3			
4	X2	141	Total	C	N	O	S	0	0	0
			1098	693	219	183	3			
4	X3	141	Total	C	N	O	S	0	0	0
			1098	693	219	183	3			
4	X4	141	Total	C	N	O	S	0	0	0
			1098	693	219	183	3			
4	X5	141	Total	C	N	O	S	0	0	0
			1098	693	219	183	3			
4	X6	141	Total	C	N	O	S	0	0	0
			1098	693	219	183	3			

- Molecule 5 is a protein called 40S ribosomal protein S26.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	a1	107	Total	C	N	O	S	0	0	0
			847	528	176	138	5			
5	a2	107	Total	C	N	O	S	0	0	0
			847	528	176	138	5			
5	a3	107	Total	C	N	O	S	0	0	0
			847	528	176	138	5			
5	a4	107	Total	C	N	O	S	0	0	0
			847	528	176	138	5			
5	a5	107	Total	C	N	O	S	0	0	0
			847	528	176	138	5			
5	a6	107	Total	C	N	O	S	0	0	0
			847	528	176	138	5			

- Molecule 6 is a protein called 40S ribosomal protein S28.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	c1	64	Total	C	N	O	S	0	0	0
			506	308	102	94	2			
6	c2	64	Total	C	N	O	S	0	0	0
			506	308	102	94	2			
6	c3	64	Total	C	N	O	S	0	0	0
			506	308	102	94	2			
6	c4	64	Total	C	N	O	S	0	0	0
			506	308	102	94	2			
6	c5	64	Total	C	N	O	S	0	0	0
			506	308	102	94	2			
6	c6	64	Total	C	N	O	S	0	0	0
			506	308	102	94	2			

- Molecule 7 is a protein called 40S ribosomal protein S29.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
7	d1	53	Total	C	N	O	S	0	0	0
			445	278	90	72	5			
7	d2	53	Total	C	N	O	S	0	0	0
			445	278	90	72	5			
7	d3	53	Total	C	N	O	S	0	0	0
			445	278	90	72	5			
7	d4	53	Total	C	N	O	S	0	0	0
			445	278	90	72	5			
7	d5	53	Total	C	N	O	S	0	0	0
			445	278	90	72	5			
7	d6	53	Total	C	N	O	S	0	0	0
			445	278	90	72	5			

- Molecule 8 is a protein called Ribosomal protein S27a.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	f1	72	Total	C	N	O	S	0	0	0
			585	366	114	97	8			
8	f2	72	Total	C	N	O	S	0	0	0
			585	366	114	97	8			
8	f3	72	Total	C	N	O	S	0	0	0
			585	366	114	97	8			
8	f4	72	Total	C	N	O	S	0	0	0
			585	366	114	97	8			
8	f5	72	Total	C	N	O	S	0	0	0
			585	366	114	97	8			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
8	f6	72	Total	C	N	O	S	0	0	0
			585	366	114	97	8			

- Molecule 9 is a protein called Receptor of activated protein C kinase 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
9	g1	313	Total	C	N	O	S	0	0	0
			2436	1535	424	465	12			
9	g2	313	Total	C	N	O	S	0	0	0
			2436	1535	424	465	12			
9	g3	313	Total	C	N	O	S	0	0	0
			2436	1535	424	465	12			
9	g4	313	Total	C	N	O	S	0	0	0
			2436	1535	424	465	12			
9	g5	313	Total	C	N	O	S	0	0	0
			2436	1535	424	465	12			
9	g6	313	Total	C	N	O	S	0	0	0
			2436	1535	424	465	12			

- Molecule 10 is a protein called 40S ribosomal protein S2.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
10	C1	222	Total	C	N	O	S	0	0	0
			1725	1115	298	302	10			
10	C2	222	Total	C	N	O	S	0	0	0
			1725	1115	298	302	10			
10	C3	222	Total	C	N	O	S	0	0	0
			1725	1115	298	302	10			
10	C4	222	Total	C	N	O	S	0	0	0
			1725	1115	298	302	10			
10	C5	222	Total	C	N	O	S	0	0	0
			1725	1115	298	302	10			
10	C6	222	Total	C	N	O	S	0	0	0
			1725	1115	298	302	10			

- Molecule 11 is a protein called 40S ribosomal protein S6.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	G1	237	Total	C	N	O	S	0	0	0
			1923	1200	387	329	7			
11	G2	237	Total	C	N	O	S	0	0	0
			1923	1200	387	329	7			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
11	G3	237	Total	C	N	O	S	0	0	0
			1923	1200	387	329	7			
11	G4	237	Total	C	N	O	S	0	0	0
			1923	1200	387	329	7			
11	G5	237	Total	C	N	O	S	0	0	0
			1923	1200	387	329	7			
11	G6	237	Total	C	N	O	S	0	0	0
			1923	1200	387	329	7			

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
12	J1	185	Total	C	N	O	S	0	0	0
			1525	969	306	248	2			
12	J2	185	Total	C	N	O	S	0	0	0
			1525	969	306	248	2			
12	J3	185	Total	C	N	O	S	0	0	0
			1525	969	306	248	2			
12	J4	185	Total	C	N	O	S	0	0	0
			1525	969	306	248	2			
12	J5	185	Total	C	N	O	S	0	0	0
			1525	969	306	248	2			
12	J6	185	Total	C	N	O	S	0	0	0
			1525	969	306	248	2			

- Molecule 13 is a protein called 40S ribosomal protein S12.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
13	M1	123	Total	C	N	O	S	0	0	0
			953	598	169	177	9			
13	M2	123	Total	C	N	O	S	0	0	0
			953	598	169	177	9			
13	M3	123	Total	C	N	O	S	0	0	0
			953	598	169	177	9			
13	M4	123	Total	C	N	O	S	0	0	0
			953	598	169	177	9			
13	M5	123	Total	C	N	O	S	0	0	0
			953	598	169	177	9			
13	M6	123	Total	C	N	O	S	0	0	0
			953	598	169	177	9			

- Molecule 14 is a protein called 40S ribosomal protein S13.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
14	N1	150	Total	C	N	O	S	0	0	0
			1208	773	229	205	1			
14	N2	150	Total	C	N	O	S	0	0	0
			1208	773	229	205	1			
14	N3	150	Total	C	N	O	S	0	0	0
			1208	773	229	205	1			
14	N4	150	Total	C	N	O	S	0	0	0
			1208	773	229	205	1			
14	N5	150	Total	C	N	O	S	0	0	0
			1208	773	229	205	1			
14	N6	150	Total	C	N	O	S	0	0	0
			1208	773	229	205	1			

- Molecule 15 is a protein called 40S ribosomal protein S14.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
15	O1	140	Total	C	N	O	S	0	0	0
			1049	642	204	197	6			
15	O2	140	Total	C	N	O	S	0	0	0
			1049	642	204	197	6			
15	O3	140	Total	C	N	O	S	0	0	0
			1049	642	204	197	6			
15	O4	140	Total	C	N	O	S	0	0	0
			1049	642	204	197	6			
15	O5	140	Total	C	N	O	S	0	0	0
			1049	642	204	197	6			
15	O6	140	Total	C	N	O	S	0	0	0
			1049	642	204	197	6			

- Molecule 16 is a protein called 40S ribosomal protein S15a.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
16	W1	129	Total	C	N	O	S	0	0	0
			1034	659	193	176	6			
16	W2	129	Total	C	N	O	S	0	0	0
			1034	659	193	176	6			
16	W3	129	Total	C	N	O	S	0	0	0
			1034	659	193	176	6			
16	W4	129	Total	C	N	O	S	0	0	0
			1034	659	193	176	6			
16	W5	129	Total	C	N	O	S	0	0	0
			1034	659	193	176	6			
16	W6	129	Total	C	N	O	S	0	0	0
			1034	659	193	176	6			

- Molecule 17 is a protein called 40S ribosomal protein S24.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
17	Y1	131	Total	C	N	O	S	0	0	0
			1065	673	209	178	5			
17	Y2	131	Total	C	N	O	S	0	0	0
			1065	673	209	178	5			
17	Y3	131	Total	C	N	O	S	0	0	0
			1065	673	209	178	5			
17	Y4	131	Total	C	N	O	S	0	0	0
			1065	673	209	178	5			
17	Y5	131	Total	C	N	O	S	0	0	0
			1065	673	209	178	5			
17	Y6	131	Total	C	N	O	S	0	0	0
			1065	673	209	178	5			

- Molecule 18 is a protein called 40S ribosomal protein S25.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
18	Z1	75	Total	C	N	O	S	0	0	0
			598	382	111	104	1			
18	Z2	75	Total	C	N	O	S	0	0	0
			598	382	111	104	1			
18	Z3	75	Total	C	N	O	S	0	0	0
			598	382	111	104	1			
18	Z4	75	Total	C	N	O	S	0	0	0
			598	382	111	104	1			
18	Z5	75	Total	C	N	O	S	0	0	0
			598	382	111	104	1			
18	Z6	75	Total	C	N	O	S	0	0	0
			598	382	111	104	1			

- Molecule 19 is a protein called 40S ribosomal protein S27.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	b1	83	Total	C	N	O	S	0	0	0
			651	408	121	115	7			
19	b2	83	Total	C	N	O	S	0	0	0
			651	408	121	115	7			
19	b3	83	Total	C	N	O	S	0	0	0
			651	408	121	115	7			
19	b4	83	Total	C	N	O	S	0	0	0
			651	408	121	115	7			
19	b5	83	Total	C	N	O	S	0	0	0
			651	408	121	115	7			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
19	b6	83	Total	C	N	O	S	0	0	0
			651	408	121	115	7			

- Molecule 20 is a protein called 40S ribosomal protein S30.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
20	e1	58	Total	C	N	O	S	0	0	0
			459	284	100	74	1			
20	e2	58	Total	C	N	O	S	0	0	0
			459	284	100	74	1			
20	e3	58	Total	C	N	O	S	0	0	0
			459	284	100	74	1			
20	e4	58	Total	C	N	O	S	0	0	0
			459	284	100	74	1			
20	e5	58	Total	C	N	O	S	0	0	0
			459	284	100	74	1			
20	e6	58	Total	C	N	O	S	0	0	0
			459	284	100	74	1			

There are 210 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
e1	-48	ALA	-	insertion	UNP E9PR30
e1	-47	HIS	-	insertion	UNP E9PR30
e1	-46	VAL	-	insertion	UNP E9PR30
e1	-45	ALA	-	insertion	UNP E9PR30
e1	-44	SER	-	insertion	UNP E9PR30
e1	-43	LEU	-	insertion	UNP E9PR30
e1	-42	GLU	-	insertion	UNP E9PR30
e1	-41	GLY	-	insertion	UNP E9PR30
e1	-40	ILE	-	insertion	UNP E9PR30
e1	-39	ALA	-	insertion	UNP E9PR30
e1	-38	PRO	-	insertion	UNP E9PR30
e1	-37	GLU	-	insertion	UNP E9PR30
e1	-36	ASP	-	insertion	UNP E9PR30
e1	-35	GLN	-	insertion	UNP E9PR30
e1	-34	VAL	-	insertion	UNP E9PR30
e1	-33	VAL	-	insertion	UNP E9PR30
e1	-32	LEU	-	insertion	UNP E9PR30
e1	-31	LEU	-	insertion	UNP E9PR30
e1	-30	ALA	-	insertion	UNP E9PR30
e1	-29	GLY	-	insertion	UNP E9PR30

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Chain	Residue	Modelled	Actual	Comment	Reference
e1	-28	ALA	-	insertion	UNP E9PR30
e1	-27	PRO	-	insertion	UNP E9PR30
e1	-26	LEU	-	insertion	UNP E9PR30
e1	-25	GLU	-	insertion	UNP E9PR30
e1	-24	ASP	-	insertion	UNP E9PR30
e1	-23	GLU	-	insertion	UNP E9PR30
e1	-22	ALA	-	insertion	UNP E9PR30
e1	-21	THR	-	insertion	UNP E9PR30
e1	-20	LEU	-	insertion	UNP E9PR30
e1	-19	GLY	-	insertion	UNP E9PR30
e1	-18	GLN	-	insertion	UNP E9PR30
e1	-17	CYS	-	insertion	UNP E9PR30
e1	-16	GLY	-	insertion	UNP E9PR30
e1	-15	VAL	-	insertion	UNP E9PR30
e1	-14	GLU	-	insertion	UNP E9PR30
e2	-48	ALA	-	insertion	UNP E9PR30
e2	-47	HIS	-	insertion	UNP E9PR30
e2	-46	VAL	-	insertion	UNP E9PR30
e2	-45	ALA	-	insertion	UNP E9PR30
e2	-44	SER	-	insertion	UNP E9PR30
e2	-43	LEU	-	insertion	UNP E9PR30
e2	-42	GLU	-	insertion	UNP E9PR30
e2	-41	GLY	-	insertion	UNP E9PR30
e2	-40	ILE	-	insertion	UNP E9PR30
e2	-39	ALA	-	insertion	UNP E9PR30
e2	-38	PRO	-	insertion	UNP E9PR30
e2	-37	GLU	-	insertion	UNP E9PR30
e2	-36	ASP	-	insertion	UNP E9PR30
e2	-35	GLN	-	insertion	UNP E9PR30
e2	-34	VAL	-	insertion	UNP E9PR30
e2	-33	VAL	-	insertion	UNP E9PR30
e2	-32	LEU	-	insertion	UNP E9PR30
e2	-31	LEU	-	insertion	UNP E9PR30
e2	-30	ALA	-	insertion	UNP E9PR30
e2	-29	GLY	-	insertion	UNP E9PR30
e2	-28	ALA	-	insertion	UNP E9PR30
e2	-27	PRO	-	insertion	UNP E9PR30
e2	-26	LEU	-	insertion	UNP E9PR30
e2	-25	GLU	-	insertion	UNP E9PR30
e2	-24	ASP	-	insertion	UNP E9PR30
e2	-23	GLU	-	insertion	UNP E9PR30
e2	-22	ALA	-	insertion	UNP E9PR30

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Chain	Residue	Modelled	Actual	Comment	Reference
e2	-21	THR	-	insertion	UNP E9PR30
e2	-20	LEU	-	insertion	UNP E9PR30
e2	-19	GLY	-	insertion	UNP E9PR30
e2	-18	GLN	-	insertion	UNP E9PR30
e2	-17	CYS	-	insertion	UNP E9PR30
e2	-16	GLY	-	insertion	UNP E9PR30
e2	-15	VAL	-	insertion	UNP E9PR30
e2	-14	GLU	-	insertion	UNP E9PR30
e3	-48	ALA	-	insertion	UNP E9PR30
e3	-47	HIS	-	insertion	UNP E9PR30
e3	-46	VAL	-	insertion	UNP E9PR30
e3	-45	ALA	-	insertion	UNP E9PR30
e3	-44	SER	-	insertion	UNP E9PR30
e3	-43	LEU	-	insertion	UNP E9PR30
e3	-42	GLU	-	insertion	UNP E9PR30
e3	-41	GLY	-	insertion	UNP E9PR30
e3	-40	ILE	-	insertion	UNP E9PR30
e3	-39	ALA	-	insertion	UNP E9PR30
e3	-38	PRO	-	insertion	UNP E9PR30
e3	-37	GLU	-	insertion	UNP E9PR30
e3	-36	ASP	-	insertion	UNP E9PR30
e3	-35	GLN	-	insertion	UNP E9PR30
e3	-34	VAL	-	insertion	UNP E9PR30
e3	-33	VAL	-	insertion	UNP E9PR30
e3	-32	LEU	-	insertion	UNP E9PR30
e3	-31	LEU	-	insertion	UNP E9PR30
e3	-30	ALA	-	insertion	UNP E9PR30
e3	-29	GLY	-	insertion	UNP E9PR30
e3	-28	ALA	-	insertion	UNP E9PR30
e3	-27	PRO	-	insertion	UNP E9PR30
e3	-26	LEU	-	insertion	UNP E9PR30
e3	-25	GLU	-	insertion	UNP E9PR30
e3	-24	ASP	-	insertion	UNP E9PR30
e3	-23	GLU	-	insertion	UNP E9PR30
e3	-22	ALA	-	insertion	UNP E9PR30
e3	-21	THR	-	insertion	UNP E9PR30
e3	-20	LEU	-	insertion	UNP E9PR30
e3	-19	GLY	-	insertion	UNP E9PR30
e3	-18	GLN	-	insertion	UNP E9PR30
e3	-17	CYS	-	insertion	UNP E9PR30
e3	-16	GLY	-	insertion	UNP E9PR30
e3	-15	VAL	-	insertion	UNP E9PR30

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Chain	Residue	Modelled	Actual	Comment	Reference
e3	-14	GLU	-	insertion	UNP E9PR30
e4	-48	ALA	-	insertion	UNP E9PR30
e4	-47	HIS	-	insertion	UNP E9PR30
e4	-46	VAL	-	insertion	UNP E9PR30
e4	-45	ALA	-	insertion	UNP E9PR30
e4	-44	SER	-	insertion	UNP E9PR30
e4	-43	LEU	-	insertion	UNP E9PR30
e4	-42	GLU	-	insertion	UNP E9PR30
e4	-41	GLY	-	insertion	UNP E9PR30
e4	-40	ILE	-	insertion	UNP E9PR30
e4	-39	ALA	-	insertion	UNP E9PR30
e4	-38	PRO	-	insertion	UNP E9PR30
e4	-37	GLU	-	insertion	UNP E9PR30
e4	-36	ASP	-	insertion	UNP E9PR30
e4	-35	GLN	-	insertion	UNP E9PR30
e4	-34	VAL	-	insertion	UNP E9PR30
e4	-33	VAL	-	insertion	UNP E9PR30
e4	-32	LEU	-	insertion	UNP E9PR30
e4	-31	LEU	-	insertion	UNP E9PR30
e4	-30	ALA	-	insertion	UNP E9PR30
e4	-29	GLY	-	insertion	UNP E9PR30
e4	-28	ALA	-	insertion	UNP E9PR30
e4	-27	PRO	-	insertion	UNP E9PR30
e4	-26	LEU	-	insertion	UNP E9PR30
e4	-25	GLU	-	insertion	UNP E9PR30
e4	-24	ASP	-	insertion	UNP E9PR30
e4	-23	GLU	-	insertion	UNP E9PR30
e4	-22	ALA	-	insertion	UNP E9PR30
e4	-21	THR	-	insertion	UNP E9PR30
e4	-20	LEU	-	insertion	UNP E9PR30
e4	-19	GLY	-	insertion	UNP E9PR30
e4	-18	GLN	-	insertion	UNP E9PR30
e4	-17	CYS	-	insertion	UNP E9PR30
e4	-16	GLY	-	insertion	UNP E9PR30
e4	-15	VAL	-	insertion	UNP E9PR30
e4	-14	GLU	-	insertion	UNP E9PR30
e5	-48	ALA	-	insertion	UNP E9PR30
e5	-47	HIS	-	insertion	UNP E9PR30
e5	-46	VAL	-	insertion	UNP E9PR30
e5	-45	ALA	-	insertion	UNP E9PR30
e5	-44	SER	-	insertion	UNP E9PR30
e5	-43	LEU	-	insertion	UNP E9PR30

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Chain	Residue	Modelled	Actual	Comment	Reference
e5	-42	GLU	-	insertion	UNP E9PR30
e5	-41	GLY	-	insertion	UNP E9PR30
e5	-40	ILE	-	insertion	UNP E9PR30
e5	-39	ALA	-	insertion	UNP E9PR30
e5	-38	PRO	-	insertion	UNP E9PR30
e5	-37	GLU	-	insertion	UNP E9PR30
e5	-36	ASP	-	insertion	UNP E9PR30
e5	-35	GLN	-	insertion	UNP E9PR30
e5	-34	VAL	-	insertion	UNP E9PR30
e5	-33	VAL	-	insertion	UNP E9PR30
e5	-32	LEU	-	insertion	UNP E9PR30
e5	-31	LEU	-	insertion	UNP E9PR30
e5	-30	ALA	-	insertion	UNP E9PR30
e5	-29	GLY	-	insertion	UNP E9PR30
e5	-28	ALA	-	insertion	UNP E9PR30
e5	-27	PRO	-	insertion	UNP E9PR30
e5	-26	LEU	-	insertion	UNP E9PR30
e5	-25	GLU	-	insertion	UNP E9PR30
e5	-24	ASP	-	insertion	UNP E9PR30
e5	-23	GLU	-	insertion	UNP E9PR30
e5	-22	ALA	-	insertion	UNP E9PR30
e5	-21	THR	-	insertion	UNP E9PR30
e5	-20	LEU	-	insertion	UNP E9PR30
e5	-19	GLY	-	insertion	UNP E9PR30
e5	-18	GLN	-	insertion	UNP E9PR30
e5	-17	CYS	-	insertion	UNP E9PR30
e5	-16	GLY	-	insertion	UNP E9PR30
e5	-15	VAL	-	insertion	UNP E9PR30
e5	-14	GLU	-	insertion	UNP E9PR30
e6	-48	ALA	-	insertion	UNP E9PR30
e6	-47	HIS	-	insertion	UNP E9PR30
e6	-46	VAL	-	insertion	UNP E9PR30
e6	-45	ALA	-	insertion	UNP E9PR30
e6	-44	SER	-	insertion	UNP E9PR30
e6	-43	LEU	-	insertion	UNP E9PR30
e6	-42	GLU	-	insertion	UNP E9PR30
e6	-41	GLY	-	insertion	UNP E9PR30
e6	-40	ILE	-	insertion	UNP E9PR30
e6	-39	ALA	-	insertion	UNP E9PR30
e6	-38	PRO	-	insertion	UNP E9PR30
e6	-37	GLU	-	insertion	UNP E9PR30
e6	-36	ASP	-	insertion	UNP E9PR30

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Chain	Residue	Modelled	Actual	Comment	Reference
e6	-35	GLN	-	insertion	UNP E9PR30
e6	-34	VAL	-	insertion	UNP E9PR30
e6	-33	VAL	-	insertion	UNP E9PR30
e6	-32	LEU	-	insertion	UNP E9PR30
e6	-31	LEU	-	insertion	UNP E9PR30
e6	-30	ALA	-	insertion	UNP E9PR30
e6	-29	GLY	-	insertion	UNP E9PR30
e6	-28	ALA	-	insertion	UNP E9PR30
e6	-27	PRO	-	insertion	UNP E9PR30
e6	-26	LEU	-	insertion	UNP E9PR30
e6	-25	GLU	-	insertion	UNP E9PR30
e6	-24	ASP	-	insertion	UNP E9PR30
e6	-23	GLU	-	insertion	UNP E9PR30
e6	-22	ALA	-	insertion	UNP E9PR30
e6	-21	THR	-	insertion	UNP E9PR30
e6	-20	LEU	-	insertion	UNP E9PR30
e6	-19	GLY	-	insertion	UNP E9PR30
e6	-18	GLN	-	insertion	UNP E9PR30
e6	-17	CYS	-	insertion	UNP E9PR30
e6	-16	GLY	-	insertion	UNP E9PR30
e6	-15	VAL	-	insertion	UNP E9PR30
e6	-14	GLU	-	insertion	UNP E9PR30

- Molecule 21 is a RNA chain called Human 18S ribosomal RNA.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
21	i1	1742	Total	C	N	O	P	0	0	0
			36900	16458	6595	12106	1741			
21	i2	1742	Total	C	N	O	P	0	0	0
			36900	16458	6595	12106	1741			
21	i3	1742	Total	C	N	O	P	0	0	0
			36900	16458	6595	12106	1741			
21	i4	1742	Total	C	N	O	P	0	0	0
			36900	16458	6595	12106	1741			
21	i5	1742	Total	C	N	O	P	0	0	0
			36900	16458	6595	12106	1741			
21	i6	1742	Total	C	N	O	P	0	0	0
			36900	16458	6595	12106	1741			

There are 30 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
i1	582	C	U	conflict	GB 36162

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Chain	Residue	Modelled	Actual	Comment	Reference
i1	583	C	A	conflict	GB 36162
i1	584	G	A	conflict	GB 36162
i1	798	A	G	conflict	GB 36162
i1	1095	U	C	conflict	GB 36162
i2	582	C	U	conflict	GB 36162
i2	583	C	A	conflict	GB 36162
i2	584	G	A	conflict	GB 36162
i2	798	A	G	conflict	GB 36162
i2	1095	U	C	conflict	GB 36162
i3	582	C	U	conflict	GB 36162
i3	583	C	A	conflict	GB 36162
i3	584	G	A	conflict	GB 36162
i3	798	A	G	conflict	GB 36162
i3	1095	U	C	conflict	GB 36162
i4	582	C	U	conflict	GB 36162
i4	583	C	A	conflict	GB 36162
i4	584	G	A	conflict	GB 36162
i4	798	A	G	conflict	GB 36162
i4	1095	U	C	conflict	GB 36162
i5	582	C	U	conflict	GB 36162
i5	583	C	A	conflict	GB 36162
i5	584	G	A	conflict	GB 36162
i5	798	A	G	conflict	GB 36162
i5	1095	U	C	conflict	GB 36162
i6	582	C	U	conflict	GB 36162
i6	583	C	A	conflict	GB 36162
i6	584	G	A	conflict	GB 36162
i6	798	A	G	conflict	GB 36162
i6	1095	U	C	conflict	GB 36162

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

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	A1	222	Total	C	N	O	S	0	0	0
			1747	1109	306	324	8			
22	A2	222	Total	C	N	O	S	0	0	0
			1747	1109	306	324	8			
22	A3	222	Total	C	N	O	S	0	0	0
			1747	1109	306	324	8			
22	A4	222	Total	C	N	O	S	0	0	0
			1747	1109	306	324	8			
22	A5	222	Total	C	N	O	S	0	0	0
			1747	1109	306	324	8			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
22	A6	222	Total	C	N	O	S	0	0	0
			1747	1109	306	324	8			

- Molecule 23 is a protein called 40S ribosomal protein S3a.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
23	B1	214	Total	C	N	O	S	0	0	0
			1738	1103	310	311	14			
23	B2	214	Total	C	N	O	S	0	0	0
			1738	1103	310	311	14			
23	B3	214	Total	C	N	O	S	0	0	0
			1738	1103	310	311	14			
23	B4	214	Total	C	N	O	S	0	0	0
			1738	1103	310	311	14			
23	B5	214	Total	C	N	O	S	0	0	0
			1738	1103	310	311	14			
23	B6	214	Total	C	N	O	S	0	0	0
			1738	1103	310	311	14			

- Molecule 24 is a protein called 40S ribosomal protein S3.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
24	D1	227	Total	C	N	O	S	0	0	0
			1765	1125	317	315	8			
24	D2	227	Total	C	N	O	S	0	0	0
			1765	1125	317	315	8			
24	D3	227	Total	C	N	O	S	0	0	0
			1765	1125	317	315	8			
24	D4	227	Total	C	N	O	S	0	0	0
			1765	1125	317	315	8			
24	D5	227	Total	C	N	O	S	0	0	0
			1765	1125	317	315	8			
24	D6	227	Total	C	N	O	S	0	0	0
			1765	1125	317	315	8			

- Molecule 25 is a protein called 40S ribosomal protein S4, X isoform.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	E1	262	Total	C	N	O	S	0	0	0
			2076	1324	386	358	8			
25	E2	262	Total	C	N	O	S	0	0	0
			2076	1324	386	358	8			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
25	E3	262	Total	C	N	O	S	0	0	0
			2076	1324	386	358	8			
25	E4	262	Total	C	N	O	S	0	0	0
			2076	1324	386	358	8			
25	E5	262	Total	C	N	O	S	0	0	0
			2076	1324	386	358	8			
25	E6	262	Total	C	N	O	S	0	0	0
			2076	1324	386	358	8			

- Molecule 26 is a protein called 40S ribosomal protein S5.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
26	F1	191	Total	C	N	O	S	0	0	0
			1509	943	286	273	7			
26	F2	191	Total	C	N	O	S	0	0	0
			1509	943	286	273	7			
26	F3	191	Total	C	N	O	S	0	0	0
			1509	943	286	273	7			
26	F4	191	Total	C	N	O	S	0	0	0
			1509	943	286	273	7			
26	F5	191	Total	C	N	O	S	0	0	0
			1509	943	286	273	7			
26	F6	191	Total	C	N	O	S	0	0	0
			1509	943	286	273	7			

- Molecule 27 is a protein called 40S ribosomal protein S7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
27	H1	189	Total	C	N	O	S	0	0	0
			1521	969	280	271	1			
27	H2	189	Total	C	N	O	S	0	0	0
			1521	969	280	271	1			
27	H3	189	Total	C	N	O	S	0	0	0
			1521	969	280	271	1			
27	H4	189	Total	C	N	O	S	0	0	0
			1521	969	280	271	1			
27	H5	189	Total	C	N	O	S	0	0	0
			1521	969	280	271	1			
27	H6	189	Total	C	N	O	S	0	0	0
			1521	969	280	271	1			

- Molecule 28 is a protein called 40S ribosomal protein S8.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
28	I1	206	Total	C	N	O	S	0	0	0
			1686	1058	332	291	5			
28	I2	206	Total	C	N	O	S	0	0	0
			1686	1058	332	291	5			
28	I3	206	Total	C	N	O	S	0	0	0
			1686	1058	332	291	5			
28	I4	206	Total	C	N	O	S	0	0	0
			1686	1058	332	291	5			
28	I5	206	Total	C	N	O	S	0	0	0
			1686	1058	332	291	5			
28	I6	206	Total	C	N	O	S	0	0	0
			1686	1058	332	291	5			

- Molecule 29 is a protein called 40S ribosomal protein S10.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
29	K1	98	Total	C	N	O	S	0	0	0
			827	539	148	134	6			
29	K2	98	Total	C	N	O	S	0	0	0
			827	539	148	134	6			
29	K3	98	Total	C	N	O	S	0	0	0
			827	539	148	134	6			
29	K4	98	Total	C	N	O	S	0	0	0
			827	539	148	134	6			
29	K5	98	Total	C	N	O	S	0	0	0
			827	539	148	134	6			
29	K6	98	Total	C	N	O	S	0	0	0
			827	539	148	134	6			

- Molecule 30 is a protein called 40S ribosomal protein S11.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
30	L1	153	Total	C	N	O	S	0	0	0
			1247	793	234	214	6			
30	L2	153	Total	C	N	O	S	0	0	0
			1247	793	234	214	6			
30	L3	153	Total	C	N	O	S	0	0	0
			1247	793	234	214	6			
30	L4	153	Total	C	N	O	S	0	0	0
			1247	793	234	214	6			
30	L5	153	Total	C	N	O	S	0	0	0
			1247	793	234	214	6			
30	L6	153	Total	C	N	O	S	0	0	0
			1247	793	234	214	6			

- Molecule 31 is a protein called 40S ribosomal protein S15.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
31	P1	125	Total	C	N	O	S	0	0	0
			1033	656	196	174	7			
31	P2	125	Total	C	N	O	S	0	0	0
			1033	656	196	174	7			
31	P3	125	Total	C	N	O	S	0	0	0
			1033	656	196	174	7			
31	P4	125	Total	C	N	O	S	0	0	0
			1033	656	196	174	7			
31	P5	125	Total	C	N	O	S	0	0	0
			1033	656	196	174	7			
31	P6	125	Total	C	N	O	S	0	0	0
			1033	656	196	174	7			

- Molecule 32 is a protein called 40S ribosomal protein S16.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
32	Q1	146	Total	C	N	O	S	0	0	0
			1158	736	218	200	4			
32	Q2	146	Total	C	N	O	S	0	0	0
			1158	736	218	200	4			
32	Q3	146	Total	C	N	O	S	0	0	0
			1158	736	218	200	4			
32	Q4	146	Total	C	N	O	S	0	0	0
			1158	736	218	200	4			
32	Q5	146	Total	C	N	O	S	0	0	0
			1158	736	218	200	4			
32	Q6	146	Total	C	N	O	S	0	0	0
			1158	736	218	200	4			

- Molecule 33 is a protein called 40S ribosomal protein S17.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	R1	132	Total	C	N	O	S	0	0	0
			1072	673	199	195	5			
33	R2	132	Total	C	N	O	S	0	0	0
			1072	673	199	195	5			
33	R3	132	Total	C	N	O	S	0	0	0
			1072	673	199	195	5			
33	R4	132	Total	C	N	O	S	0	0	0
			1072	673	199	195	5			
33	R5	132	Total	C	N	O	S	0	0	0
			1072	673	199	195	5			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
33	R6	132	Total	C	N	O	S	0	0	0
			1072	673	199	195	5			

- Molecule 34 is a protein called 40S ribosomal protein S18.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
34	S1	143	Total	C	N	O	S	0	0	0
			1184	743	240	200	1			
34	S2	143	Total	C	N	O	S	0	0	0
			1184	743	240	200	1			
34	S3	143	Total	C	N	O	S	0	0	0
			1184	743	240	200	1			
34	S4	143	Total	C	N	O	S	0	0	0
			1184	743	240	200	1			
34	S5	143	Total	C	N	O	S	0	0	0
			1184	743	240	200	1			
34	S6	143	Total	C	N	O	S	0	0	0
			1184	743	240	200	1			

- Molecule 35 is a protein called 60S ribosomal protein L41.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
35	j1	25	Total	C	N	O	S	0	0	0
			239	145	64	27	3			
35	j2	25	Total	C	N	O	S	0	0	0
			239	145	64	27	3			
35	j3	25	Total	C	N	O	S	0	0	0
			239	145	64	27	3			
35	j4	25	Total	C	N	O	S	0	0	0
			239	145	64	27	3			
35	j5	25	Total	C	N	O	S	0	0	0
			239	145	64	27	3			
35	j6	25	Total	C	N	O	S	0	0	0
			239	145	64	27	3			

- Molecule 36 is a protein called Malignant T-cell-amplified sequence 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	k1	181	Total	C	N	O	S	0	0	0
			1421	926	234	250	11			
36	k2	181	Total	C	N	O	S	0	0	0
			1421	926	234	250	11			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
36	k3	181	Total	C	N	O	S	0	0	0
			1421	926	234	250	11			
36	k4	181	Total	C	N	O	S	0	0	0
			1421	926	234	250	11			
36	k5	181	Total	C	N	O	S	0	0	0
			1421	926	234	250	11			
36	k6	181	Total	C	N	O	S	0	0	0
			1421	926	234	250	11			

- Molecule 37 is a protein called Density-regulated protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
37	l1	79	Total	C	N	O	S	0	0	0
			629	400	102	125	2			
37	l2	79	Total	C	N	O	S	0	0	0
			629	400	102	125	2			
37	l3	79	Total	C	N	O	S	0	0	0
			629	400	102	125	2			
37	l4	79	Total	C	N	O	S	0	0	0
			629	400	102	125	2			
37	l5	79	Total	C	N	O	S	0	0	0
			629	400	102	125	2			
37	l6	79	Total	C	N	O	S	0	0	0
			629	400	102	125	2			

- Molecule 38 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
38	f6	1	Total	Zn	0	0
			1	1		
38	f5	1	Total	Zn	0	0
			1	1		
38	f4	1	Total	Zn	0	0
			1	1		
38	f3	1	Total	Zn	0	0
			1	1		
38	f2	1	Total	Zn	0	0
			1	1		
38	f1	1	Total	Zn	0	0
			1	1		

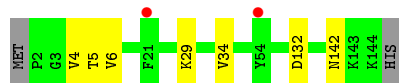
3 Residue-property plots [i](#)

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

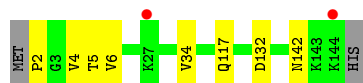
- Molecule 1: 40S ribosomal protein S19



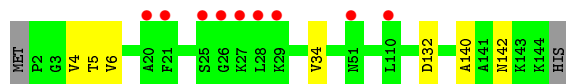
- Molecule 1: 40S ribosomal protein S19



- Molecule 1: 40S ribosomal protein S19



- Molecule 1: 40S ribosomal protein S19



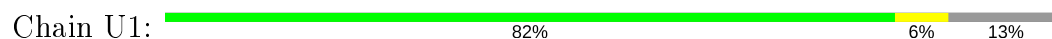
- Molecule 1: 40S ribosomal protein S19



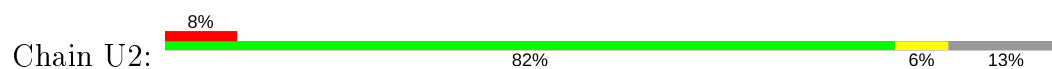
- Molecule 1: 40S ribosomal protein S19



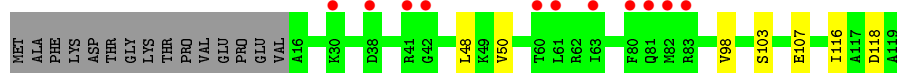
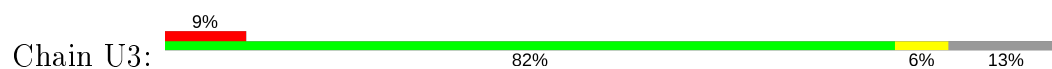
- Molecule 2: 40S ribosomal protein S20



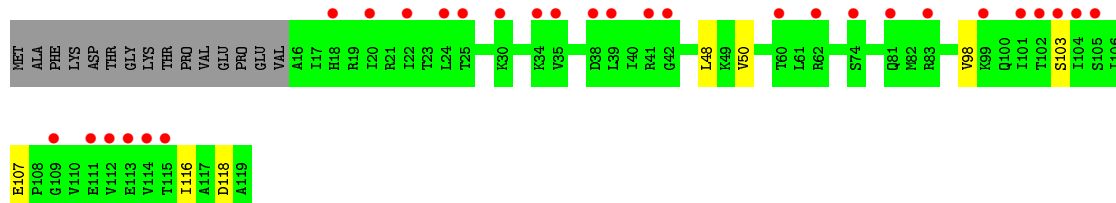
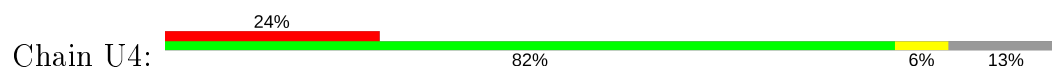
- Molecule 2: 40S ribosomal protein S20



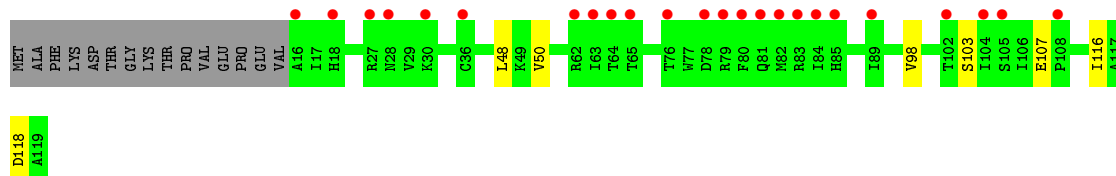
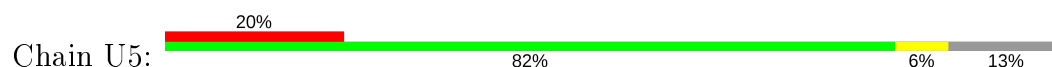
- Molecule 2: 40S ribosomal protein S20



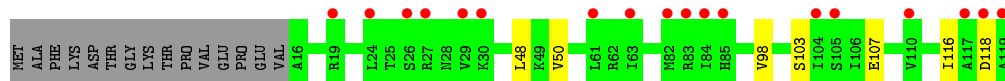
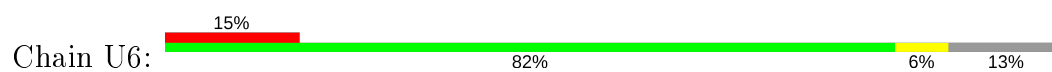
- Molecule 2: 40S ribosomal protein S20



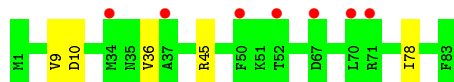
- Molecule 2: 40S ribosomal protein S20



- Molecule 2: 40S ribosomal protein S20



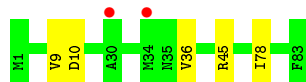
- Molecule 3: 40S ribosomal protein S21



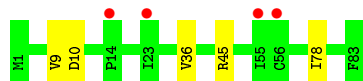
- Molecule 3: 40S ribosomal protein S21



- Molecule 3: 40S ribosomal protein S21



- Molecule 3: 40S ribosomal protein S21



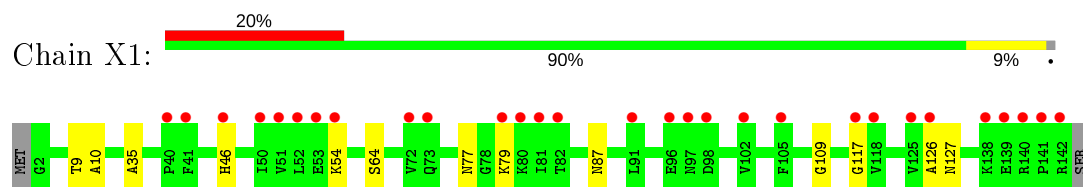
- Molecule 3: 40S ribosomal protein S21



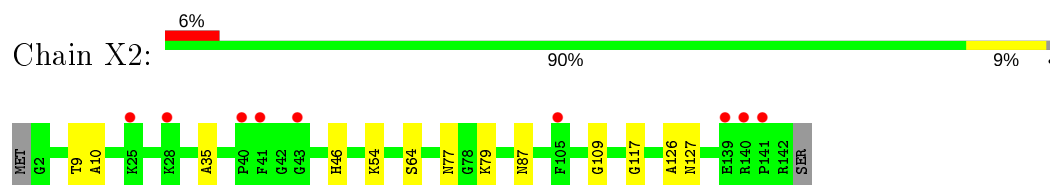
- Molecule 3: 40S ribosomal protein S21



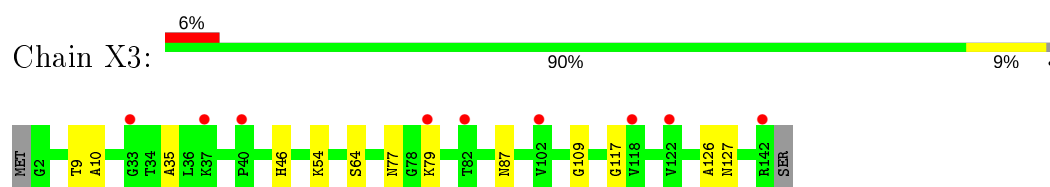
- Molecule 4: 40S ribosomal protein S23



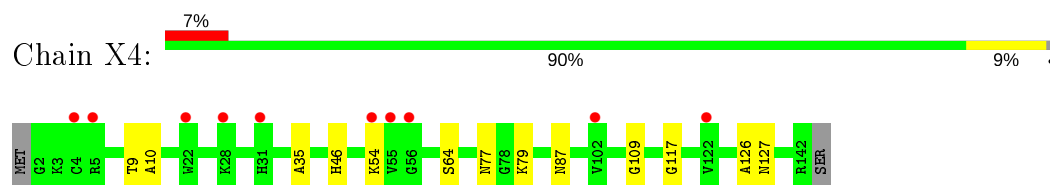
- Molecule 4: 40S ribosomal protein S23



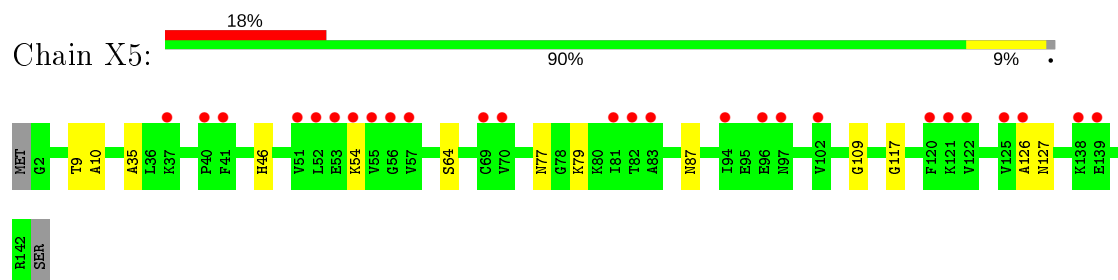
- Molecule 4: 40S ribosomal protein S23



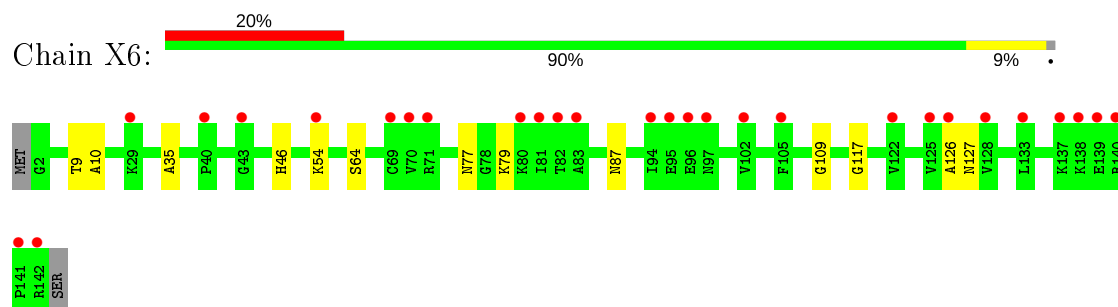
- Molecule 4: 40S ribosomal protein S23



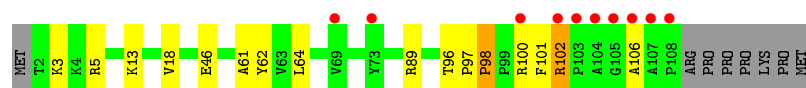
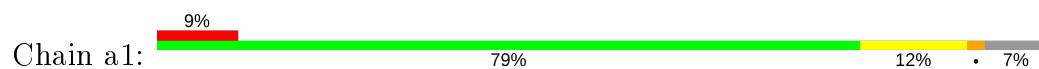
- Molecule 4: 40S ribosomal protein S23



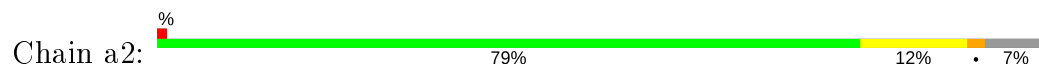
- Molecule 4: 40S ribosomal protein S23



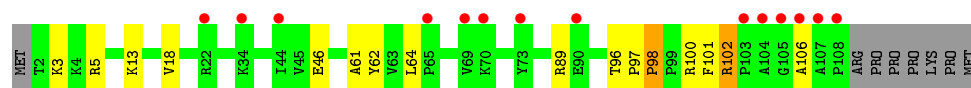
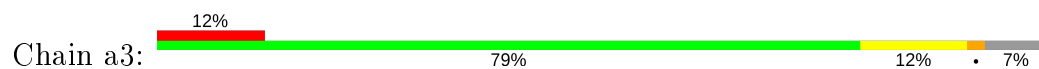
• Molecule 5: 40S ribosomal protein S26



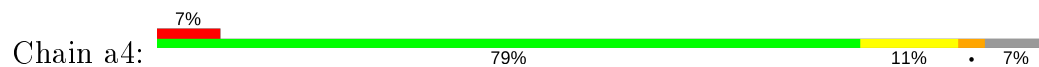
• Molecule 5: 40S ribosomal protein S26



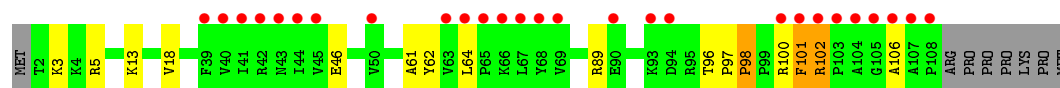
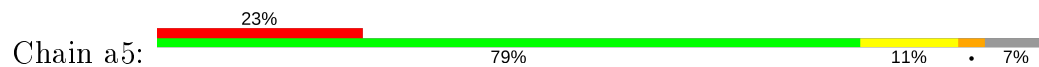
• Molecule 5: 40S ribosomal protein S26



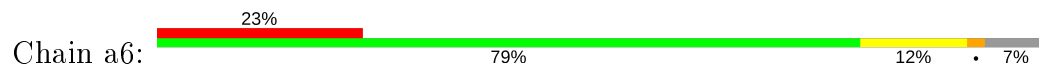
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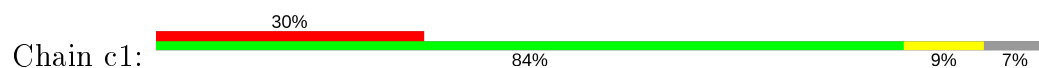
• Molecule 5: 40S ribosomal protein S26

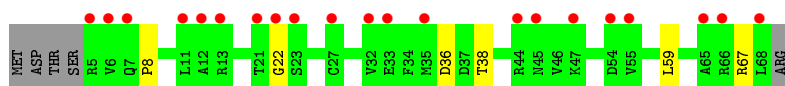


• Molecule 5: 40S ribosomal protein S26

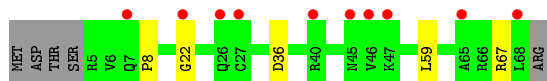
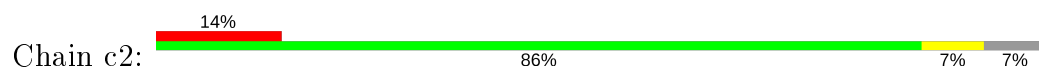


• Molecule 6: 40S ribosomal protein S28

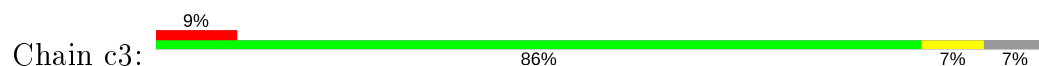




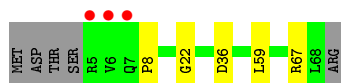
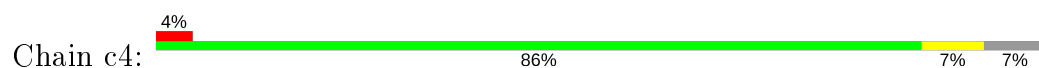
- Molecule 6: 40S ribosomal protein S28



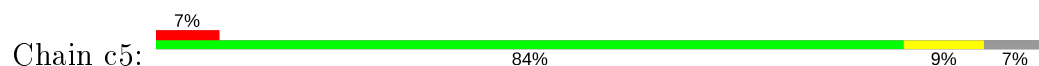
- Molecule 6: 40S ribosomal protein S28



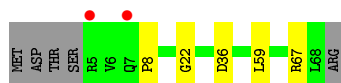
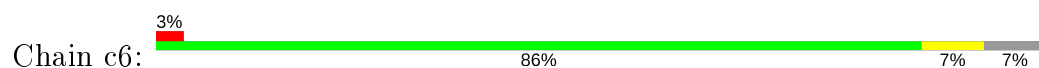
- Molecule 6: 40S ribosomal protein S28



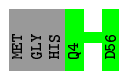
- Molecule 6: 40S ribosomal protein S28



- Molecule 6: 40S ribosomal protein S28



- Molecule 7: 40S ribosomal protein S29



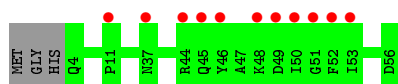
- Molecule 7: 40S ribosomal protein S29

Chain d2:  95% 5%



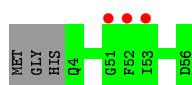
- Molecule 7: 40S ribosomal protein S29

Chain d3:  20% 95% 5%



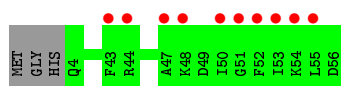
- Molecule 7: 40S ribosomal protein S29

Chain d4:  5% 95% 5%



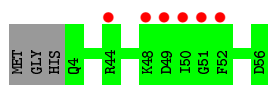
- Molecule 7: 40S ribosomal protein S29

Chain d5:  18% 95% 5%




- Molecule 7: 40S ribosomal protein S29

Chain d6:  11% 95% 5%




- Molecule 8: Ribosomal protein S27a

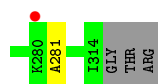
Chain f1:  3% 41% 5% 54%



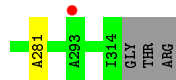
- Molecule 8: Ribosomal protein S27a

Chain f2:  3% 41% 5% 54%

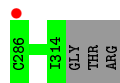
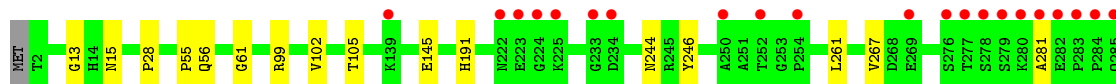




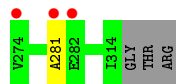
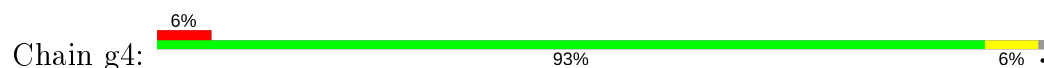
- Molecule 9: Receptor of activated protein C kinase 1



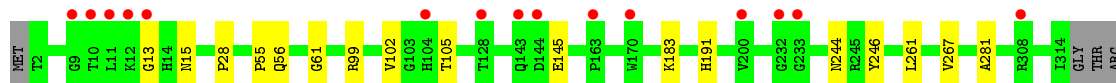
- Molecule 9: Receptor of activated protein C kinase 1



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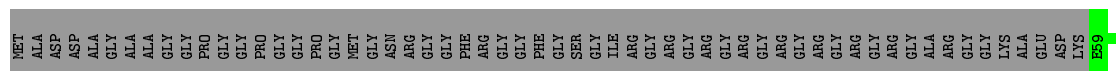
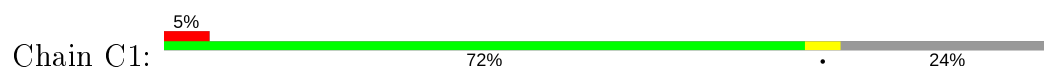


- Molecule 9: Receptor of activated protein C kinase 1

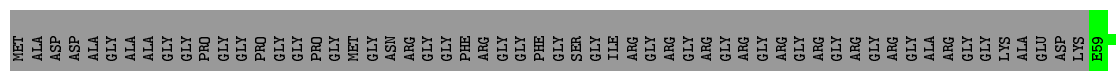
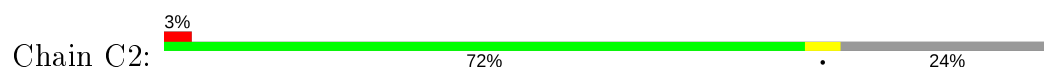




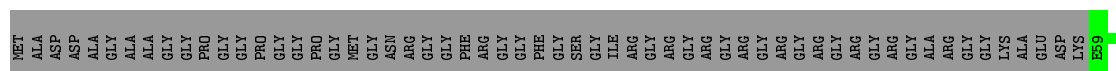
- Molecule 10: 40S ribosomal protein S2



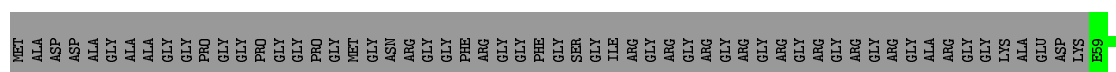
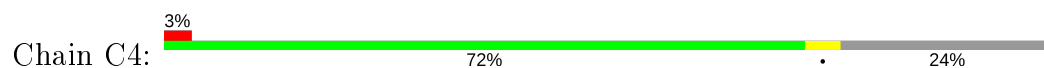
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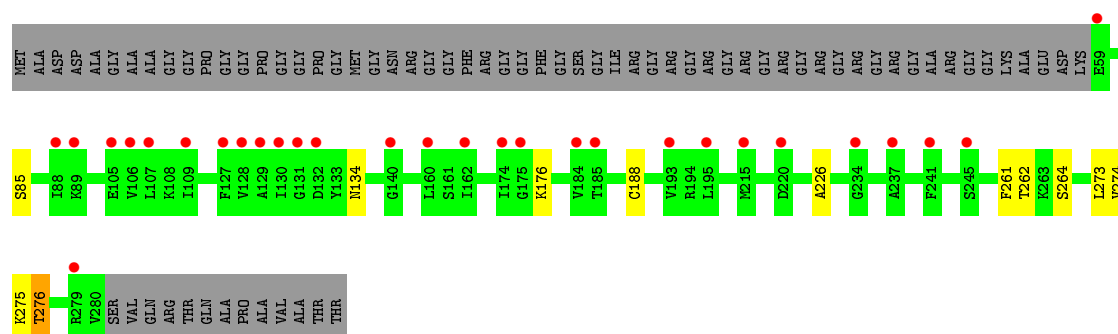


- Molecule 10: 40S ribosomal protein S2

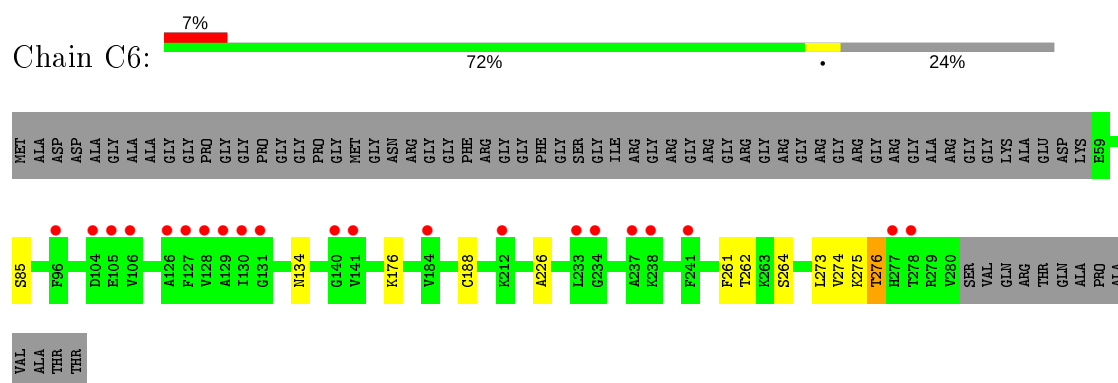


- Molecule 10: 40S ribosomal protein S2

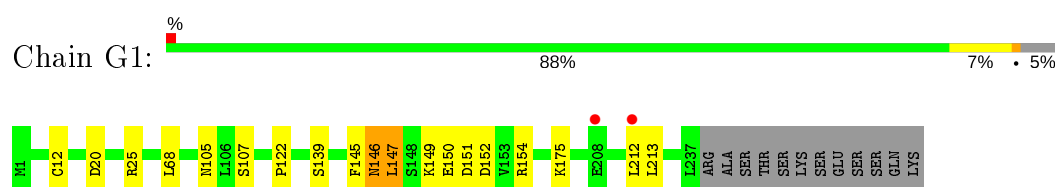




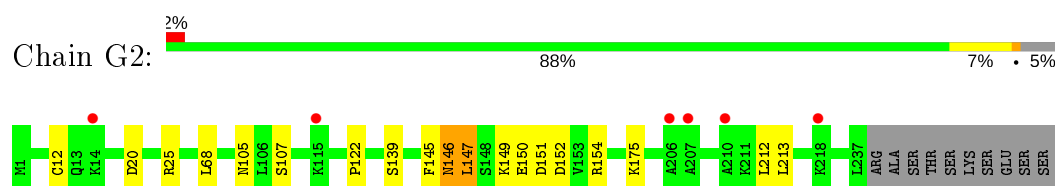
- Molecule 10: 40S ribosomal protein S2



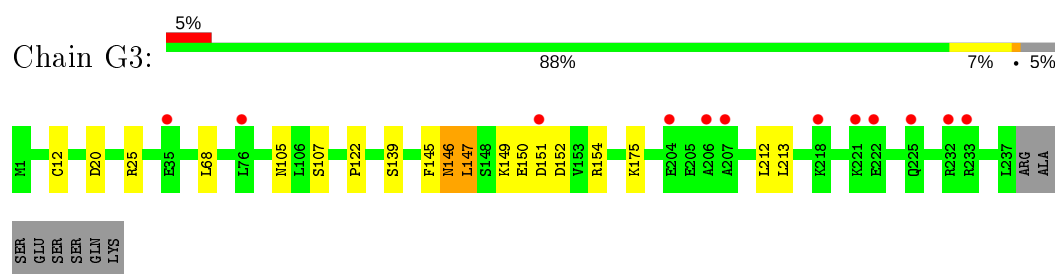
- Molecule 11: 40S ribosomal protein S6



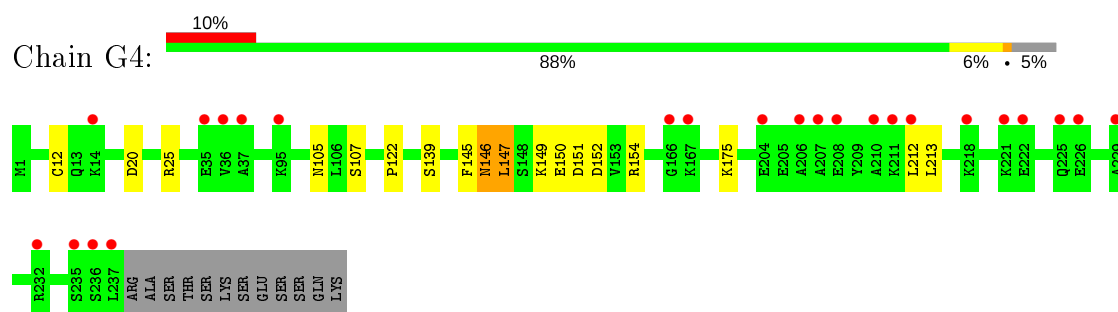
- Molecule 11: 40S ribosomal protein S6



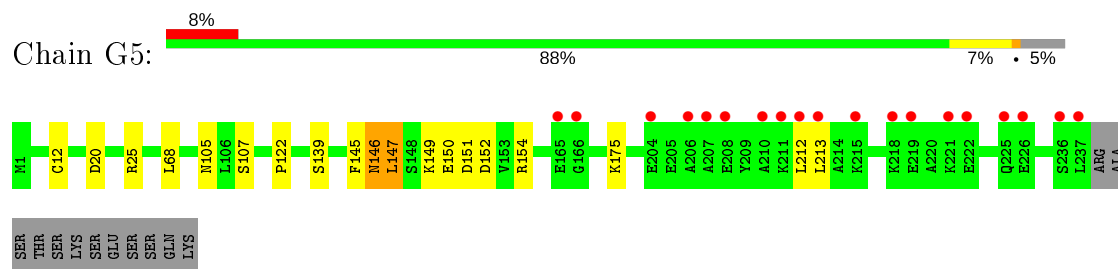
- Molecule 11: 40S ribosomal protein S6



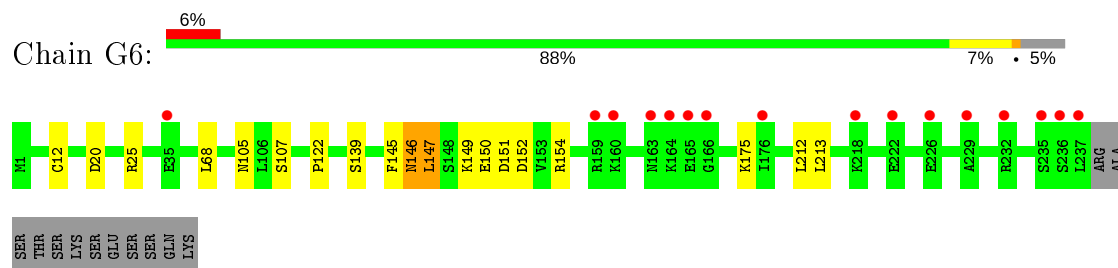
- Molecule 11: 40S ribosomal protein S6



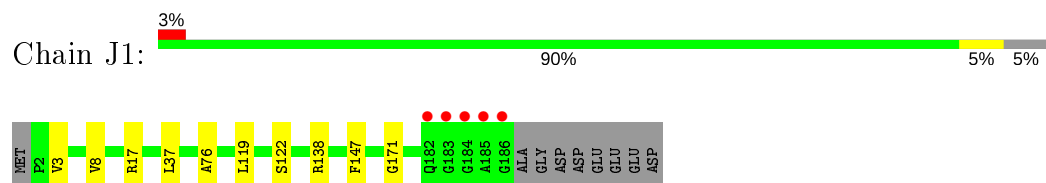
- Molecule 11: 40S ribosomal protein S6



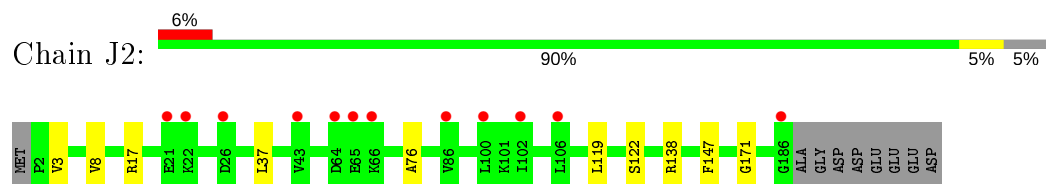
- Molecule 11: 40S ribosomal protein S6



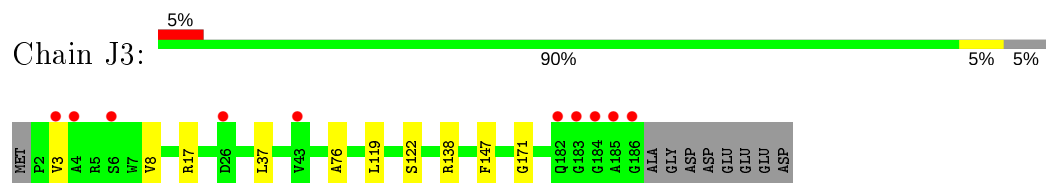
- Molecule 12: 40S ribosomal protein S9



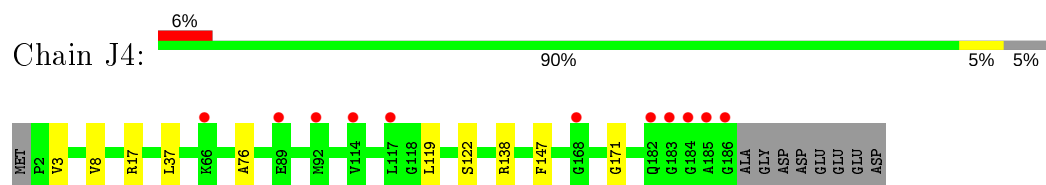
- Molecule 12: 40S ribosomal protein S9



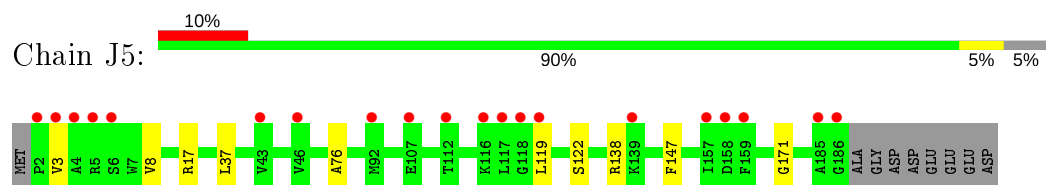
- Molecule 12: 40S ribosomal protein S9



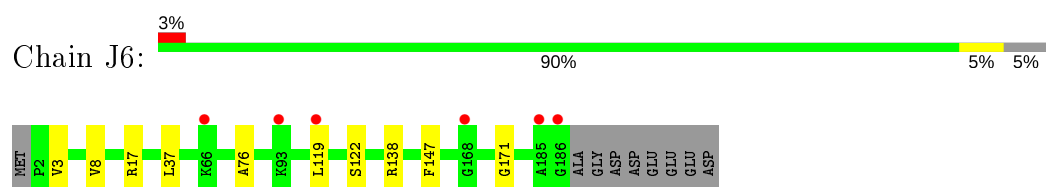
• Molecule 12: 40S ribosomal protein S9



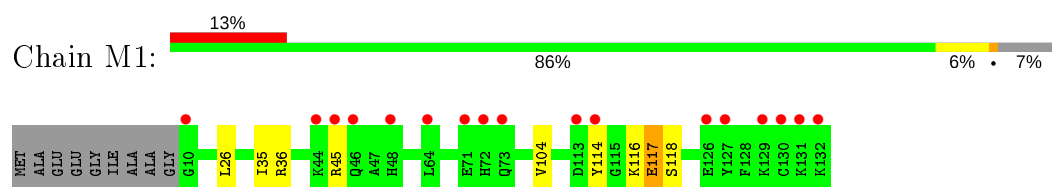
• Molecule 12: 40S ribosomal protein S9



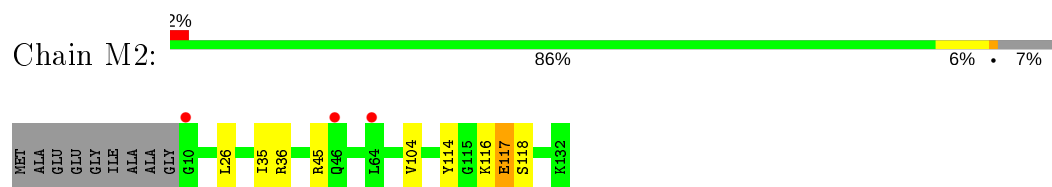
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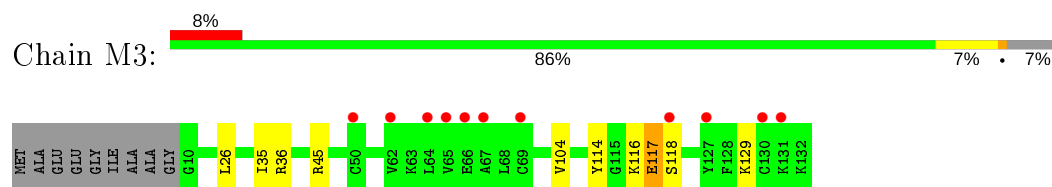
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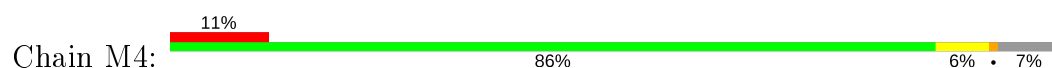
• Molecule 13: 40S ribosomal protein S12

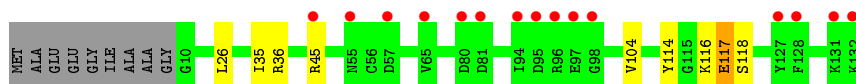


• Molecule 13: 40S ribosomal protein S12

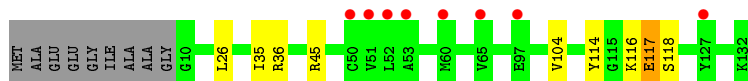
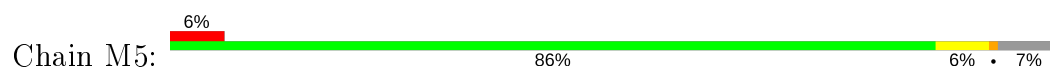


• Molecule 13: 40S ribosomal protein S12

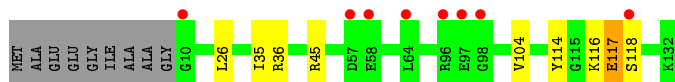
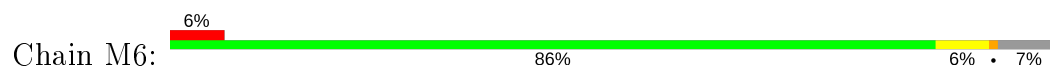




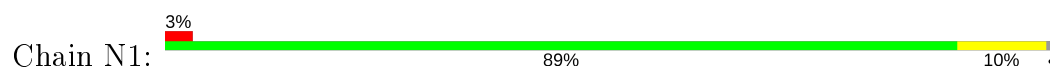
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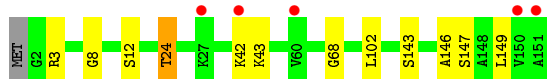
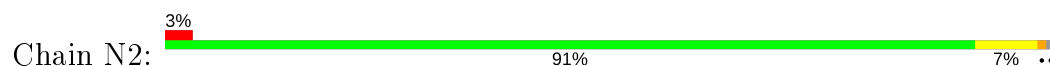
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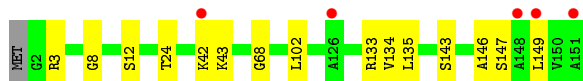
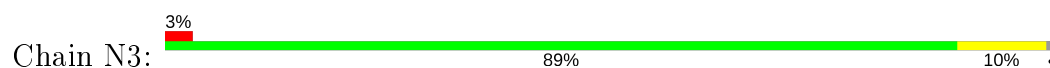
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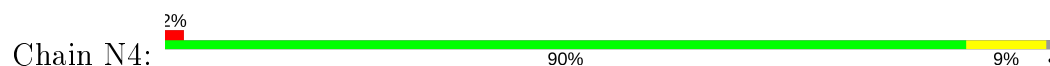
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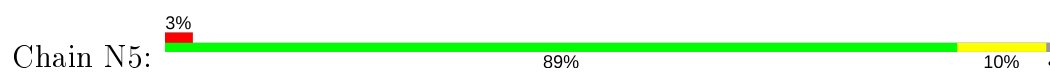
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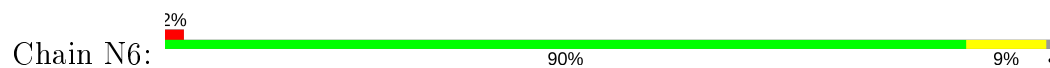
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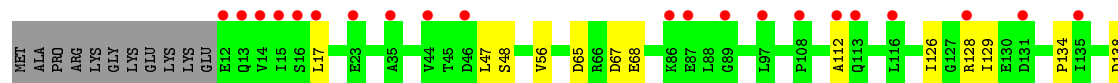
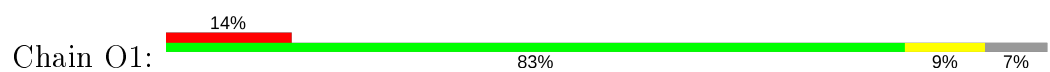
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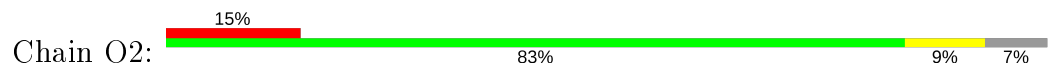
- Molecule 14: 40S ribosomal protein S13



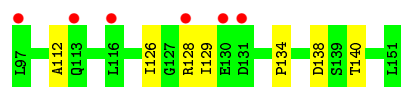
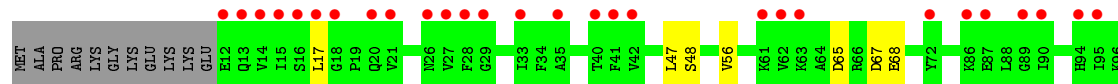
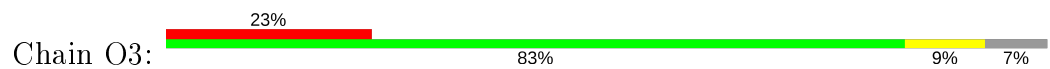
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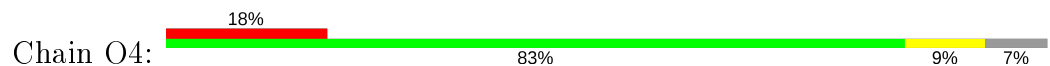
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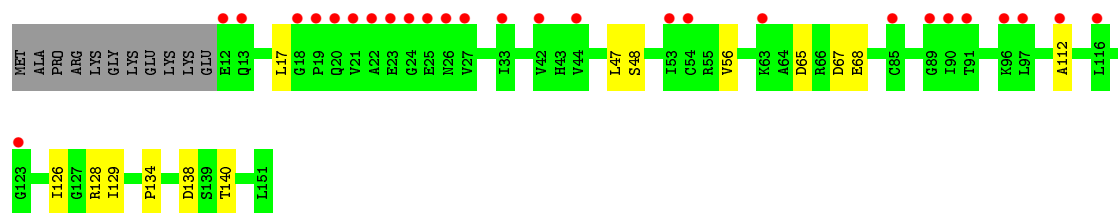


- Molecule 15: 40S ribosomal protein S14

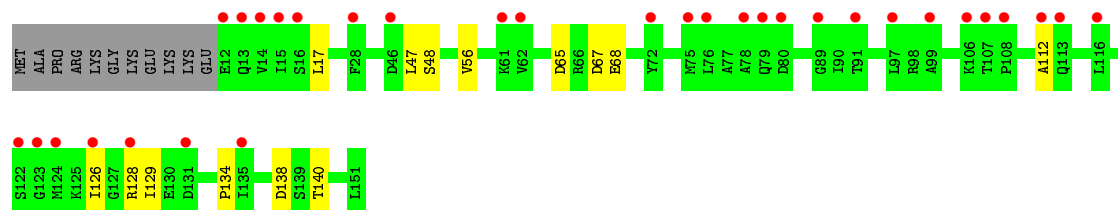
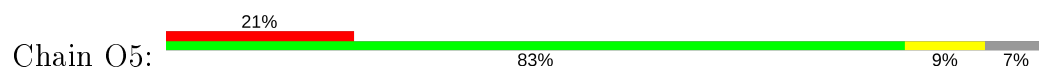


- Molecule 15: 40S ribosomal protein S14

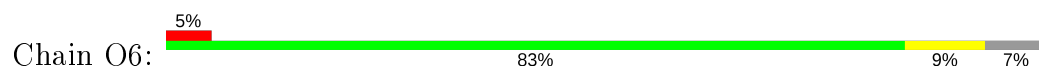




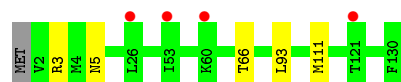
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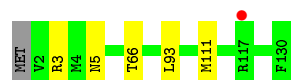
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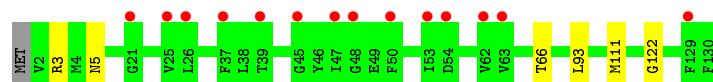
- Molecule 16: 40S ribosomal protein S15a



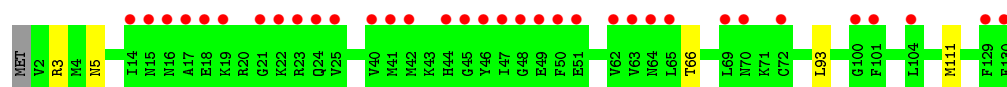
- Molecule 16: 40S ribosomal protein S15a



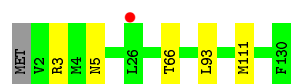
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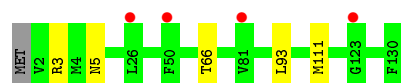
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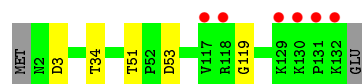
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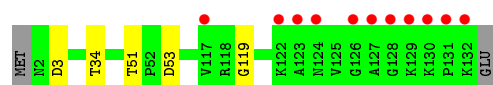
- Molecule 16: 40S ribosomal protein S15a



- Molecule 17: 40S ribosomal protein S24



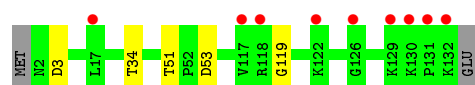
- Molecule 17: 40S ribosomal protein S24



- Molecule 17: 40S ribosomal protein S24



- Molecule 17: 40S ribosomal protein S24



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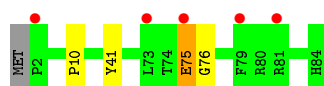
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- Diagram illustrating the positions of 15 amino acid residues (MET, N2, D3, Q22, T34, T51, P52, D53, V57, G73, M74, I75, L96, K100, G119, K129, K130, P131, K132, GLU) on the 12S ribosome structure. Red dots above the residues indicate specific sites of interest.

- | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| K98 | L99 | Q106 | Y109 | T110 | R111 | M112 | G115 | ASP | ALA | PRO | ALA | ALA | GLY | ASP | ASP | ALA | PRO | VAL | ASP | LYS | GLY | GLY | LYS | ALA | LYS | LYS | LYS | TRP | SER | LYS | GLY | LYS | VAL | R41 | D42 | R43 | L44 | M45 | L49 | L67 | R85 | L88 | Q89 | S93 | K94 | G95 | L96 | L97 |
|-----|-----|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|

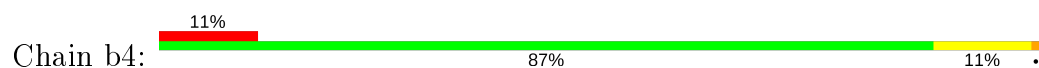
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- [illegible]

- WORLDWIDE
 PDB
PROTEIN DATA BANK



- Molecule 19: 40S ribosomal protein S27



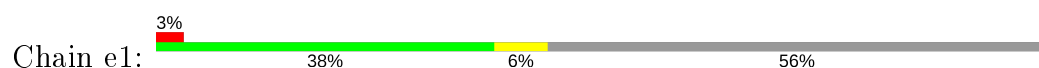
- Molecule 19: 40S ribosomal protein S27



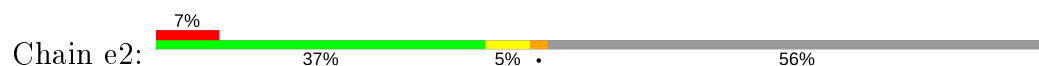
- Molecule 19: 40S ribosomal protein S27



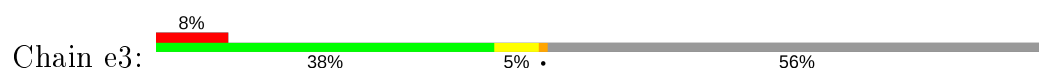
- Molecule 20: 40S ribosomal protein S30



- Molecule 20: 40S ribosomal protein S30

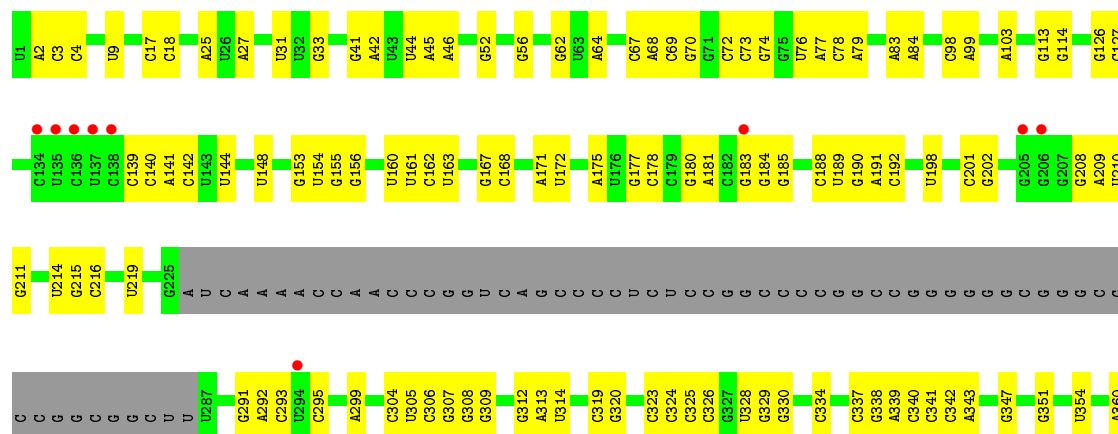


- Molecule 20: 40S ribosomal protein S30

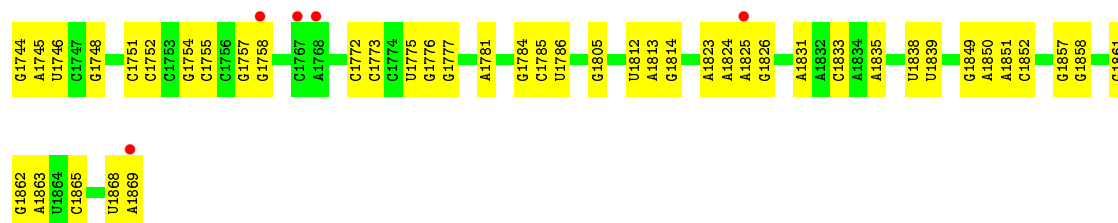




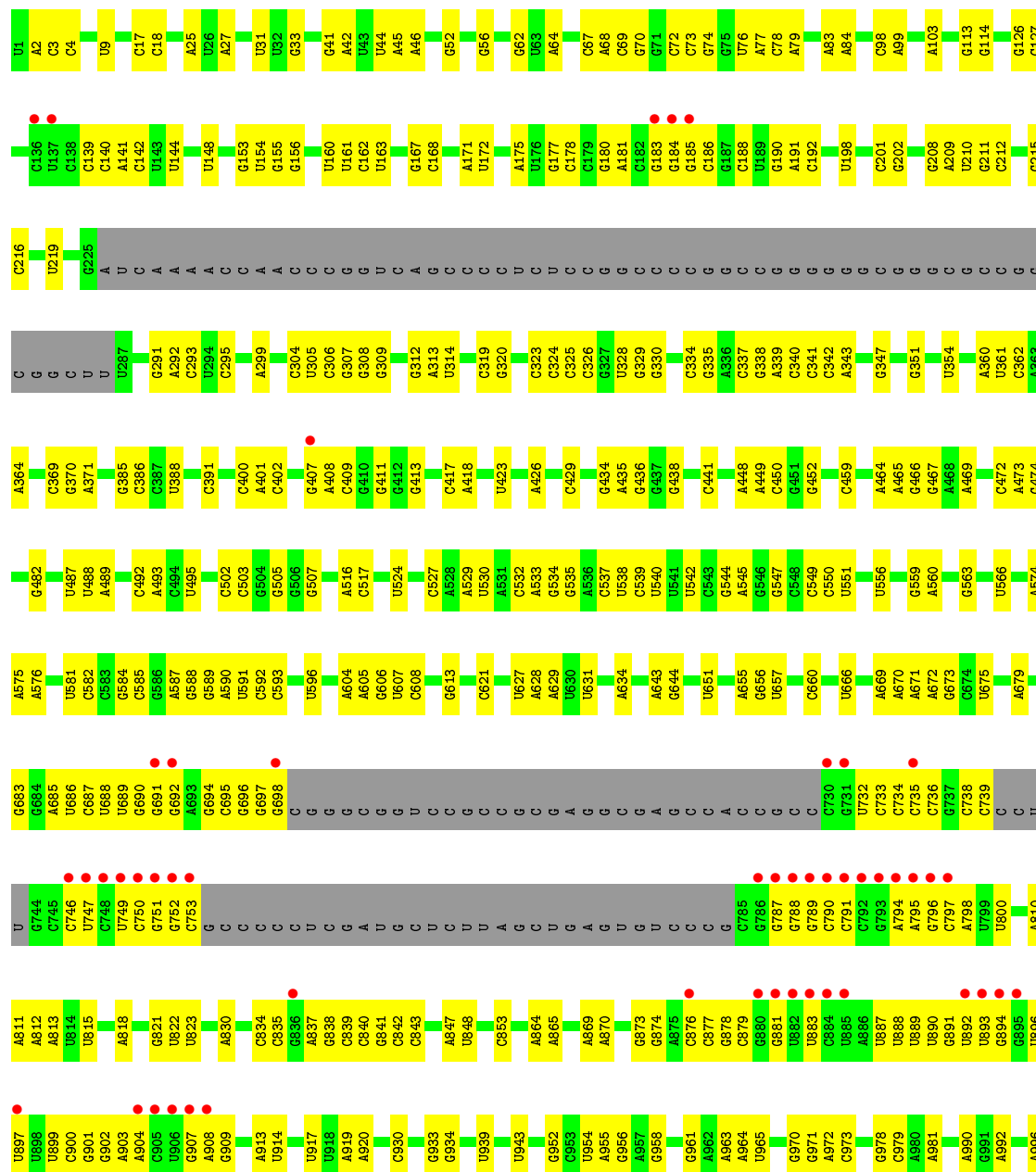


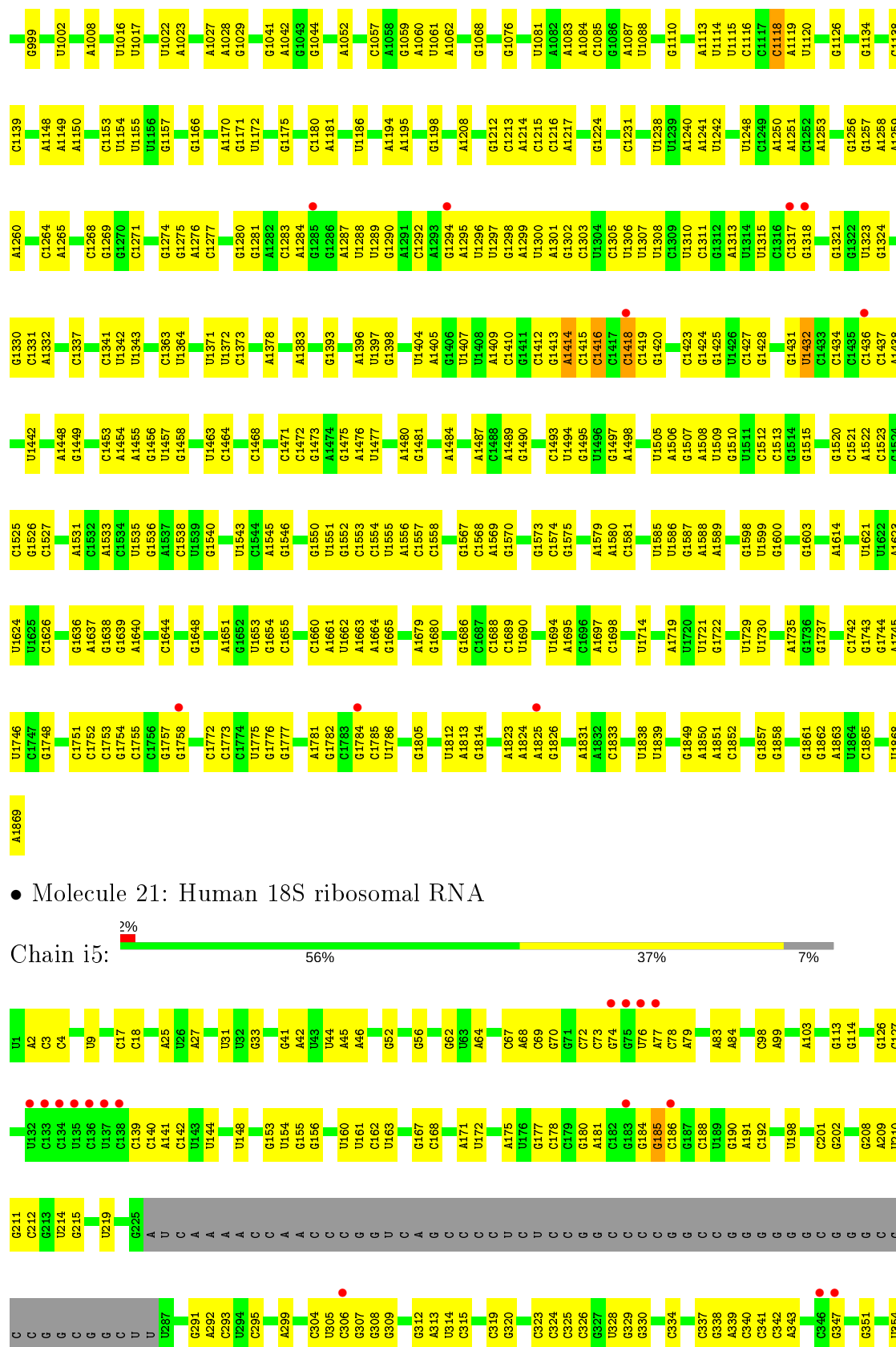


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G1636	C1532	C1453	U1342	G1270	C1153	U1016	G902	G821	C583	A489	A371
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	A1614	G1520	C1433	G1321	A1253	U1120	A990	G891	A796	C736	
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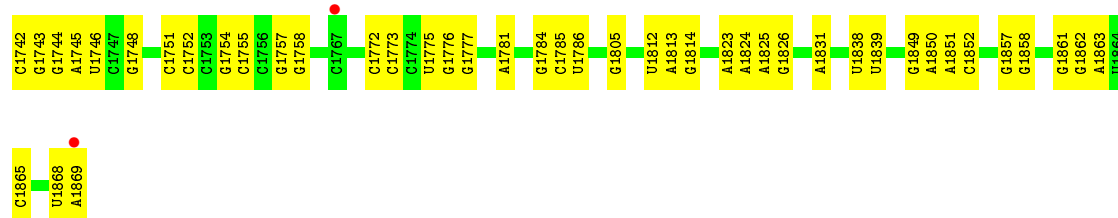


● Molecule 21: Human 18S ribosomal RNA

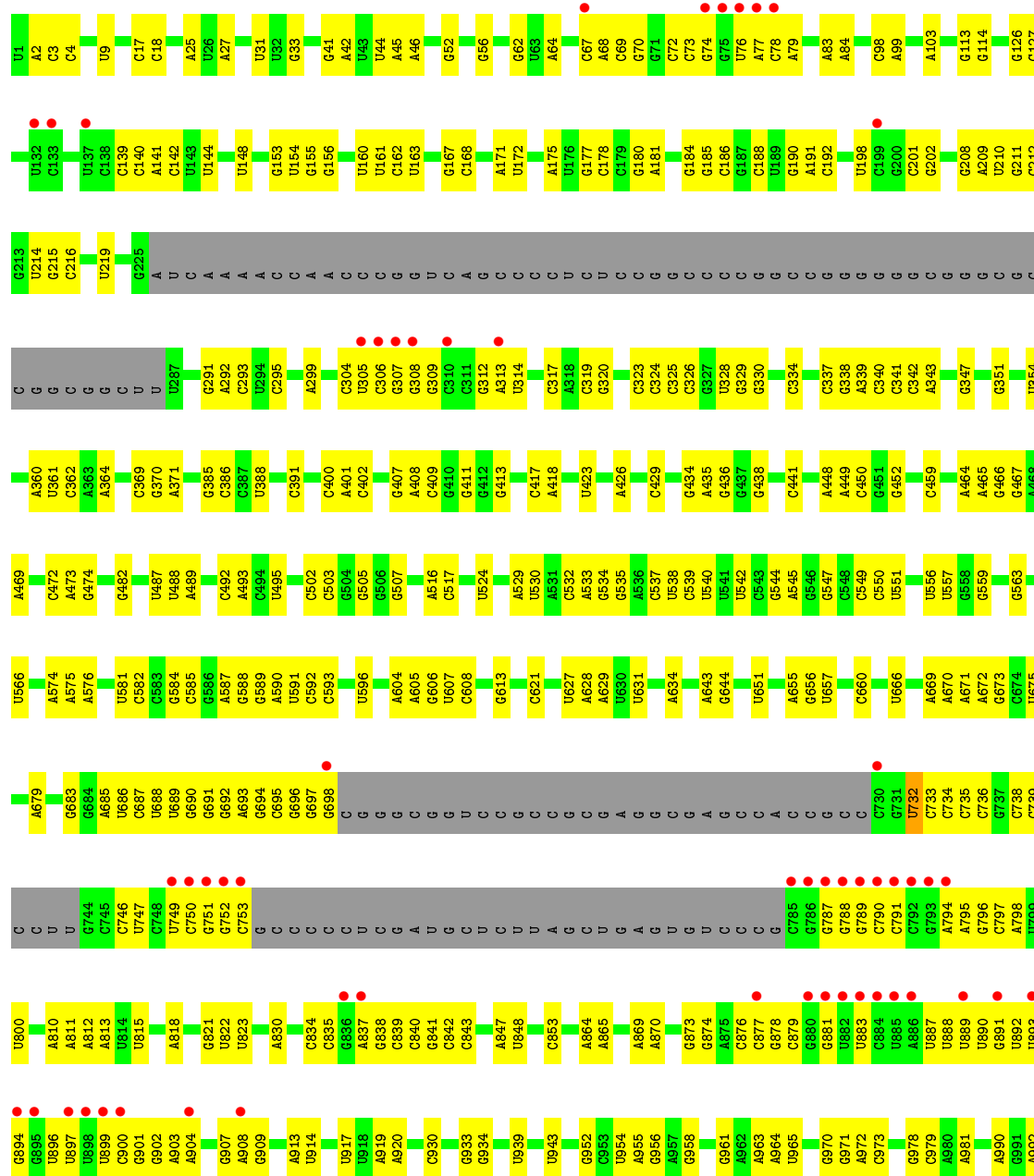


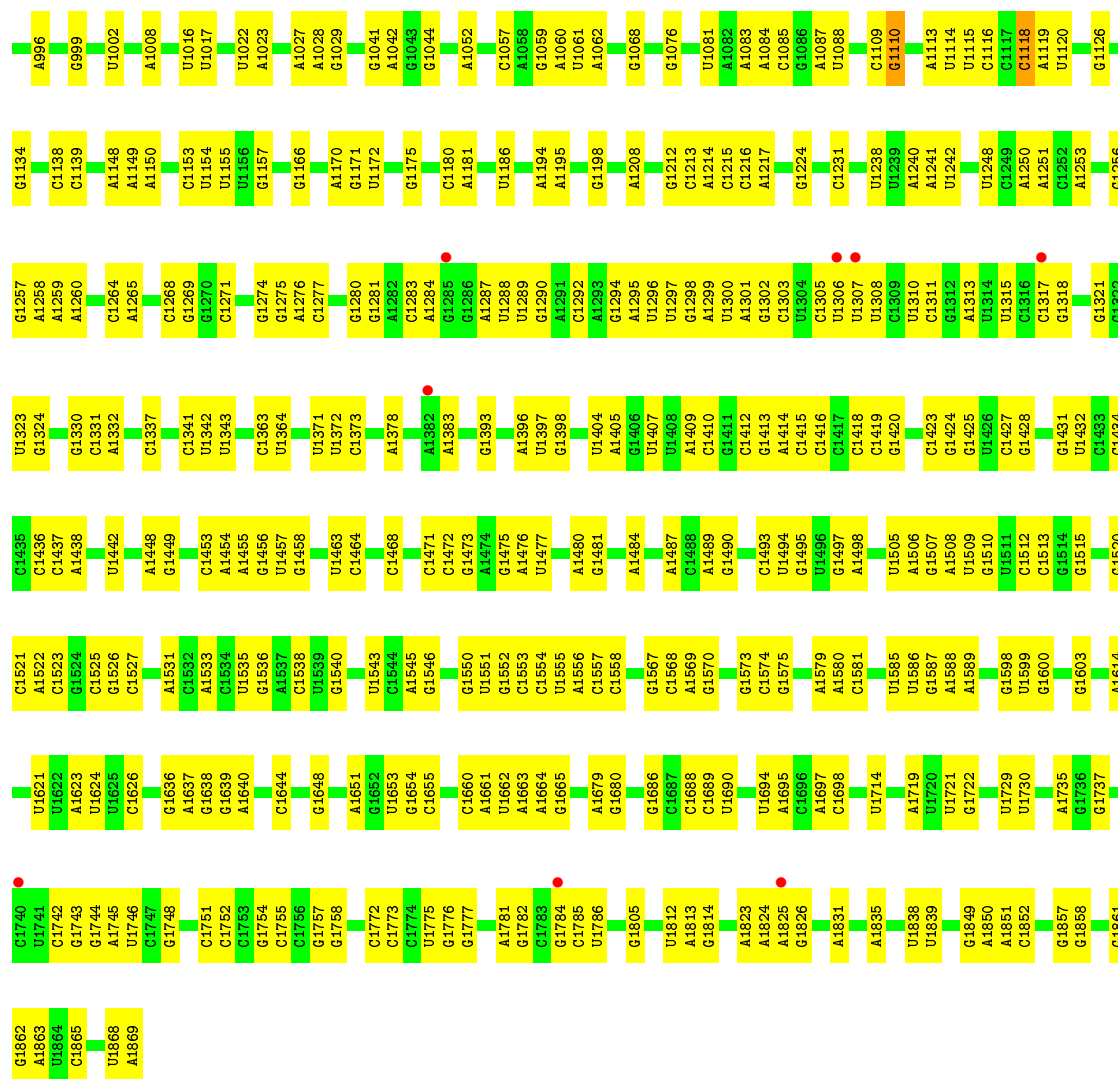




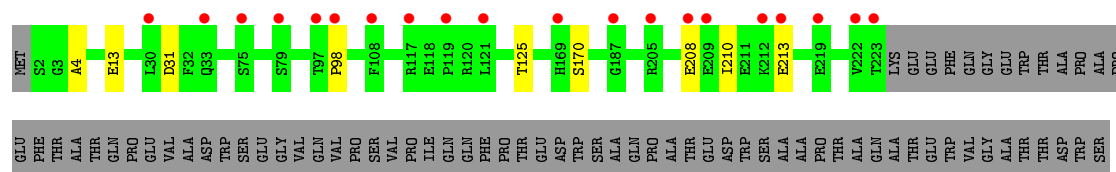
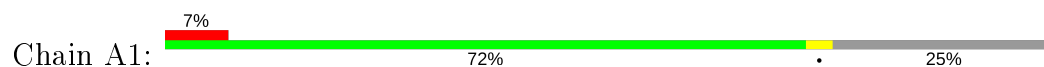


● Molecule 21: Human 18S ribosomal RNA

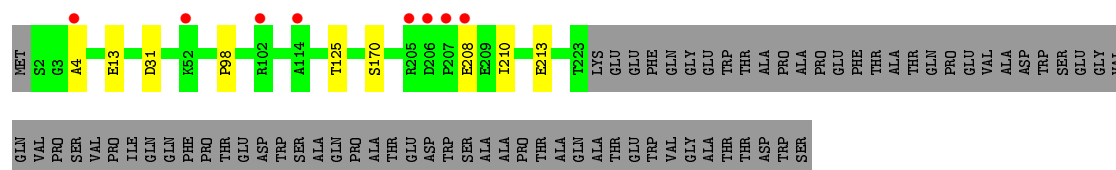
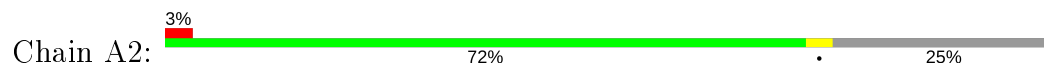




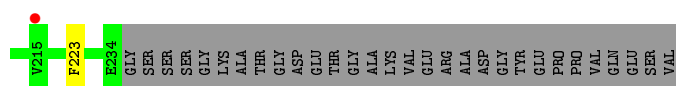
- Molecule 22: 40S ribosomal protein SA



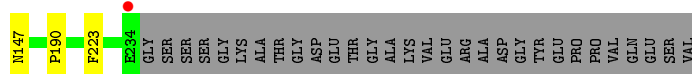
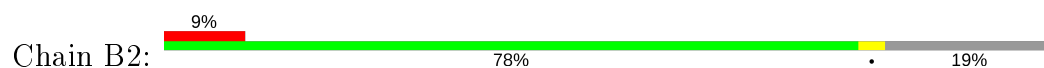
- Molecule 22: 40S ribosomal protein SA



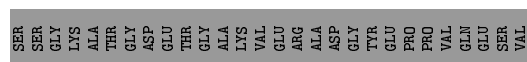
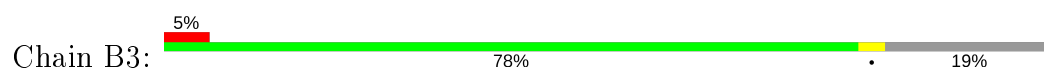
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|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|
| ALA | | | | | | | | | | | | | | | | | | | | | |
| VAL | | | | | | | | | | | | | | | | | | | | | |
| GLY | | | | | | | | | | | | | | | | | | | | | |
| LYS | | | | | | | | | | | | | | | | | | | | | |
| ASN | | | | | | | | | | | | | | | | | | | | | |
| ARG | | | | | | | | | | | | | | | | | | | | | |
| LEU | | | | | | | | | | | | | | | | | | | | | |
| THR | | | | | | | | | | | | | | | | | | | | | |
| LYS | | | | | | | | | | | | | | | | | | | | | |
| GLY | | | | | | | | | | | | | | | | | | | | | |
| GLY | | | | | | | | | | | | | | | | | | | | | |
| LYS | | | | | | | | | | | | | | | | | | | | | |
| LYS | | | | | | | | | | | | | | | | | | | | | |
| ALA | | | | | | | | | | | | | | | | | | | | | |
| LYS | | | | | | | | | | | | | | | | | | | | | |
| LYS | | | | | | | | | | | | | | | | | | | | | |
| LYS | | | | | | | | | | | | | | | | | | | | | |
| V21 | | | | | | | | | | | | | | | | | | | | | |
| V22 | | | | | | | | | | | | | | | | | | | | | |
| D23 | | | | | | | | | | | | | | | | | | | | | |
| A37 | | | | | | | | | | | | | | | | | | | | | |
| G54 | | | | | | | | | | | | | | | | | | | | | |
| T55 | | | | | | | | | | | | | | | | | | | | | |
| A58 | | | | | | | | | | | | | | | | | | | | | |
| S59 | | | | | | | | | | | | | | | | | | | | | |
| N76 | | | | | | | | | | | | | | | | | | | | | |
| R82 | | | | | | | | | | | | | | | | | | | | | |
| K83 | | | | | | | | | | | | | | | | | | | | | |
| L86 | | | | | | | | | | | | | | | | | | | | | |
| D90 | | | | | | | | | | | | | | | | | | | | | |
| K109 | | | | | | | | | | | | | | | | | | | | | |
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| M113 | | | | | | | | | | | | | | | | | | | | | |
| H124 | | | | | | | | | | | | | | | | | | | | | |
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| I126 | | | | | | | | | | | | | | | | | | | | | |
| V127 | | | | | | | | | | | | | | | | | | | | | |
| L135 | | | | | | | | | | | | | | | | | | | | | |
| R136 | | | | | | | | | | | | | | | | | | | | | |
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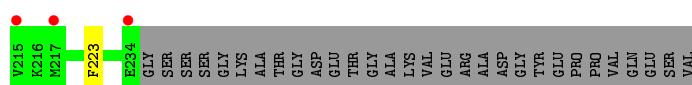
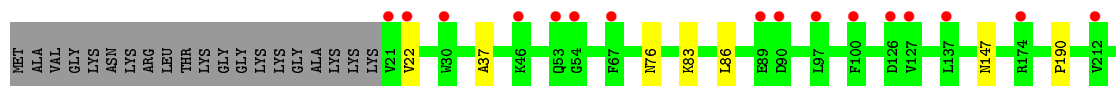
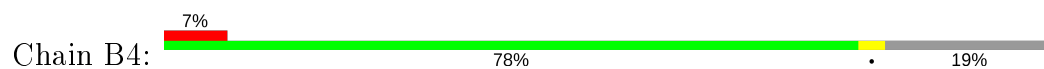
- Molecule 23: 40S ribosomal protein S3a



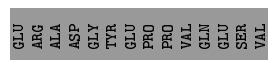
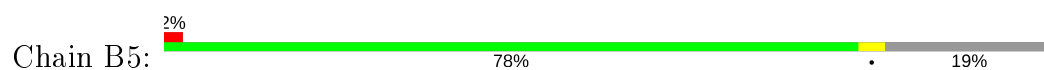
- Molecule 23: 40S ribosomal protein S3a



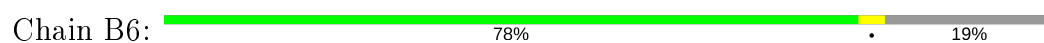
- Molecule 23: 40S ribosomal protein S3a

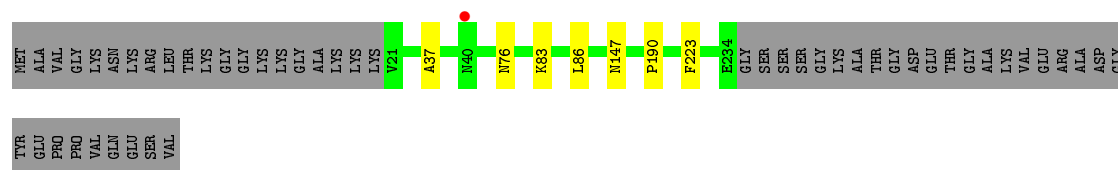


- Molecule 23: 40S ribosomal protein S3a



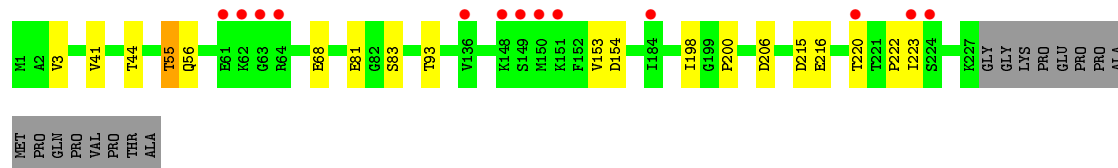
- Molecule 23: 40S ribosomal protein S3a





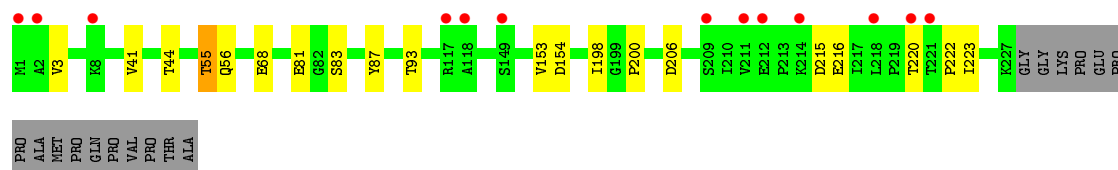
- Molecule 24: 40S ribosomal protein S3

Chain D1:



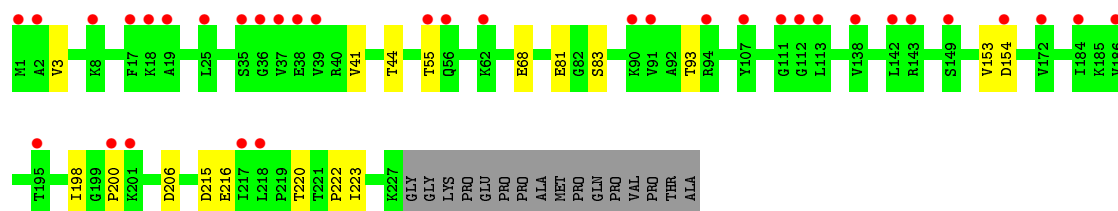
- Molecule 24: 40S ribosomal protein S3

Chain D2:



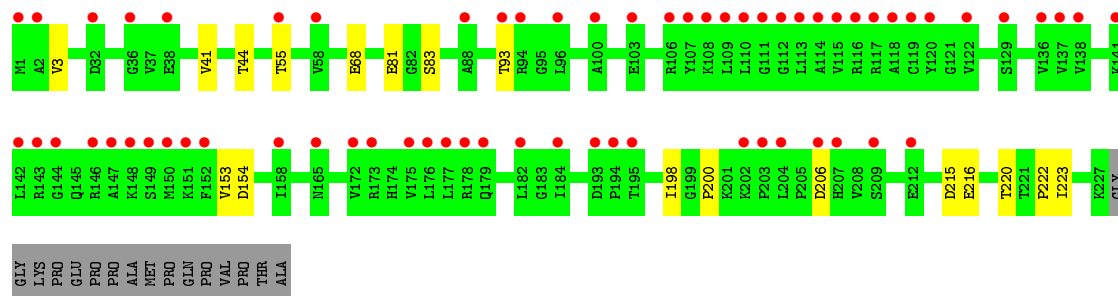
- Molecule 24: 40S ribosomal protein S3

Chain D3:

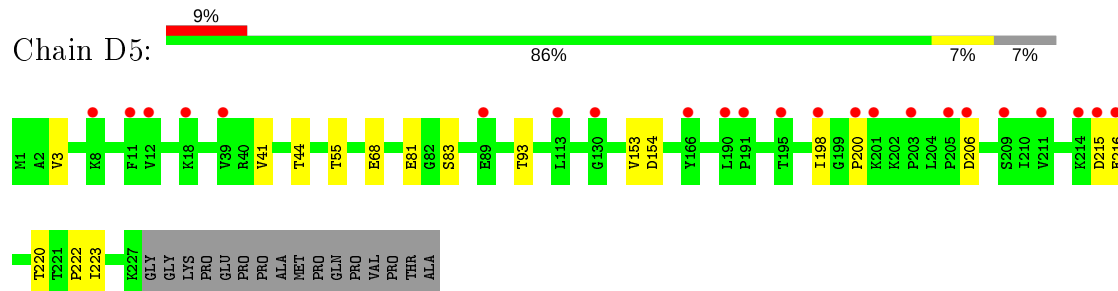


- Molecule 24: 40S ribosomal protein S3

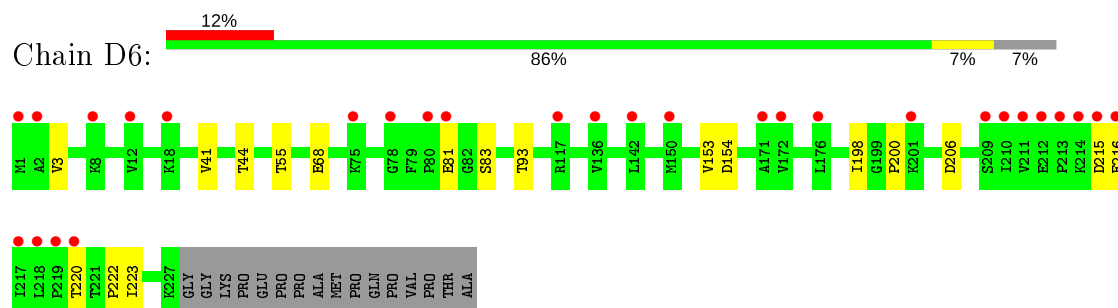
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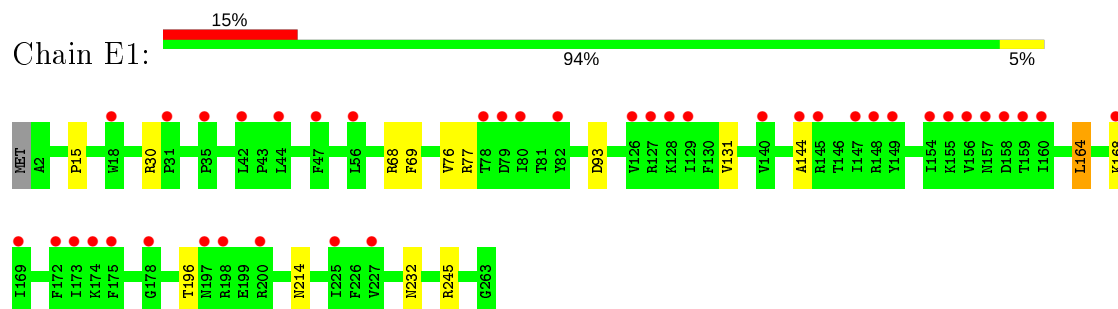
- Molecule 24: 40S ribosomal protein S3



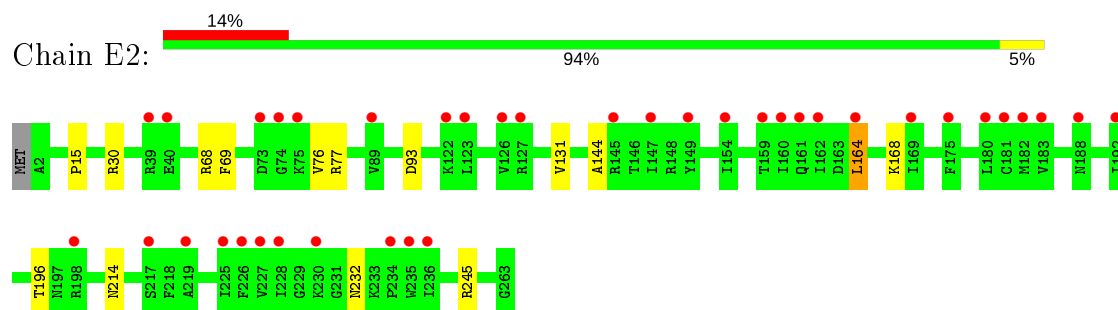
- Molecule 24: 40S ribosomal protein S3



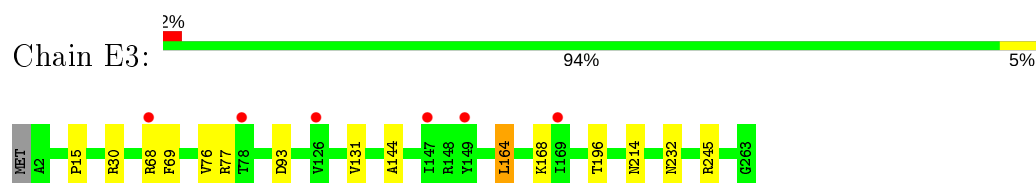
- Molecule 25: 40S ribosomal protein S4, X isoform



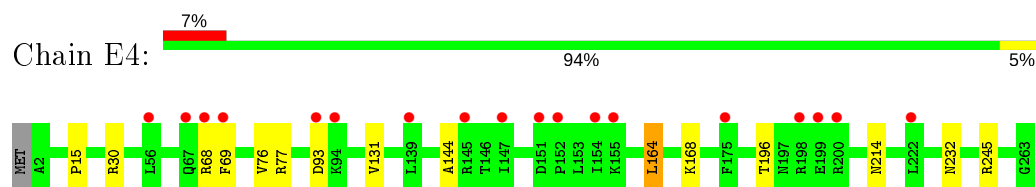
- Molecule 25: 40S ribosomal protein S4, X isoform



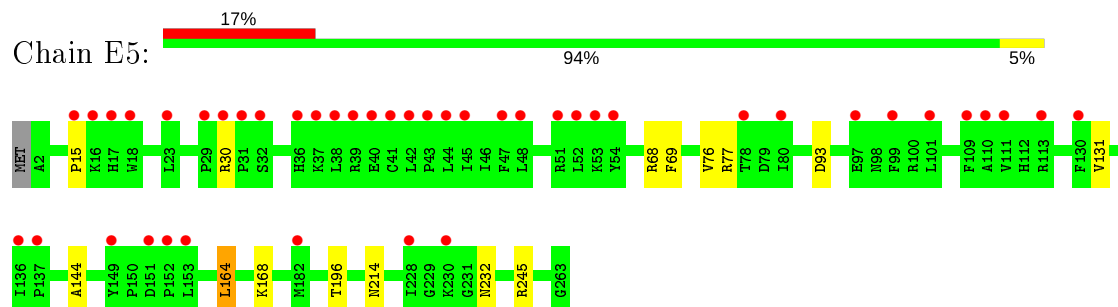
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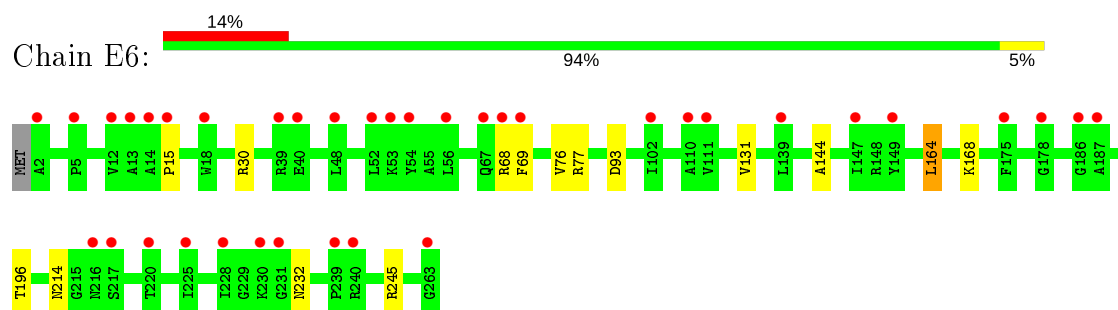
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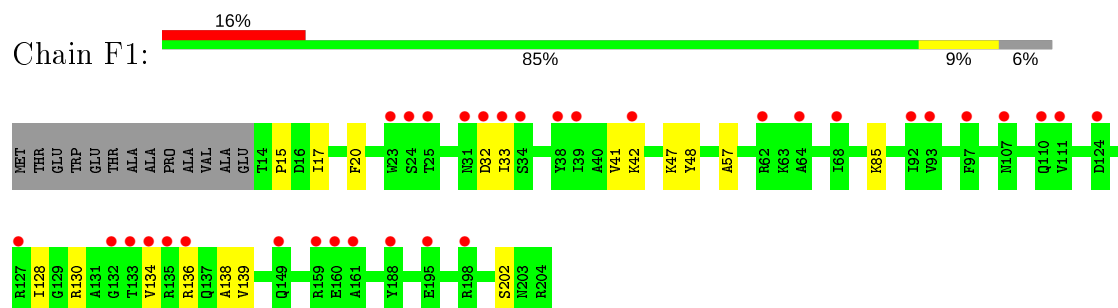
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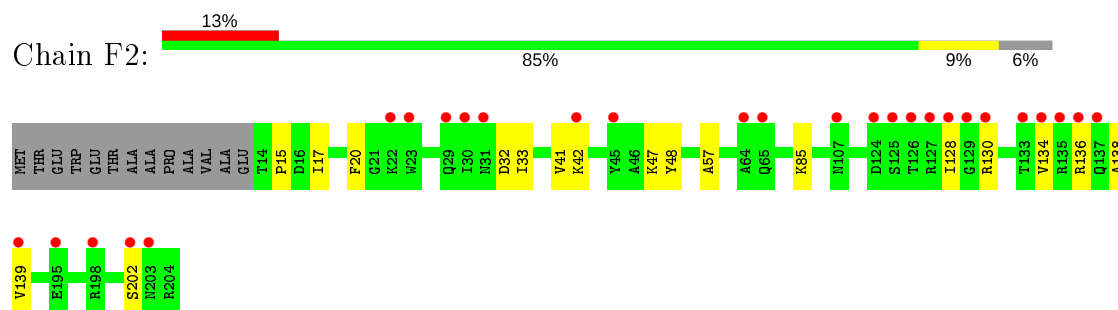
- Molecule 25: 40S ribosomal protein S4, X isoform



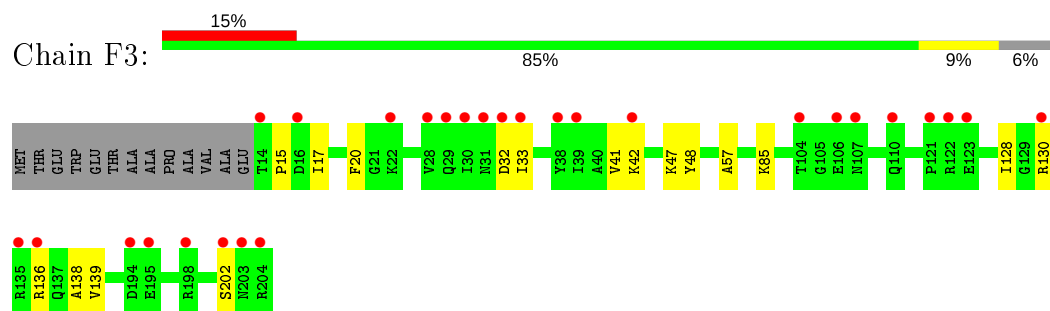
- Molecule 26: 40S ribosomal protein S5



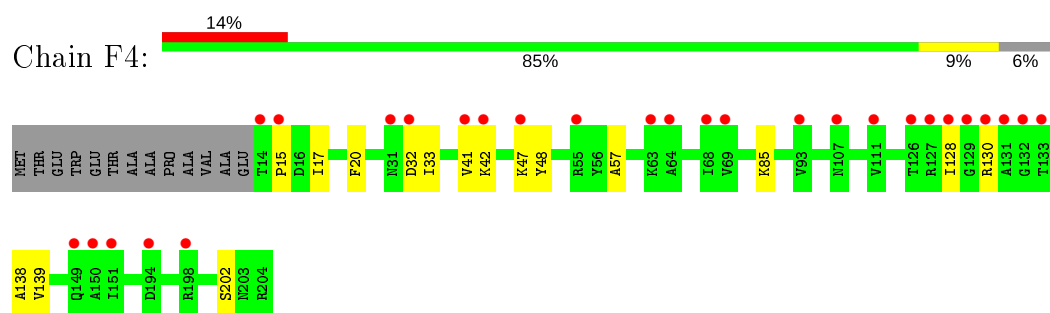
- Molecule 26: 40S ribosomal protein S5



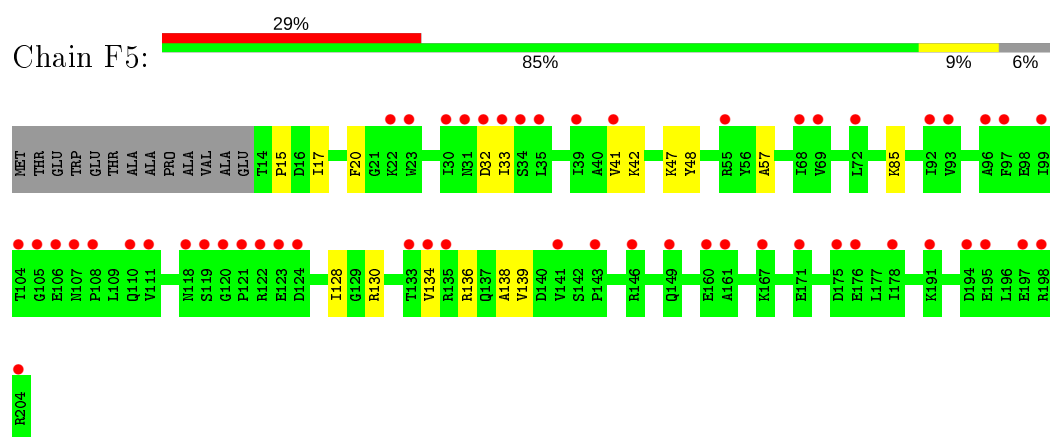
- Molecule 26: 40S ribosomal protein S5



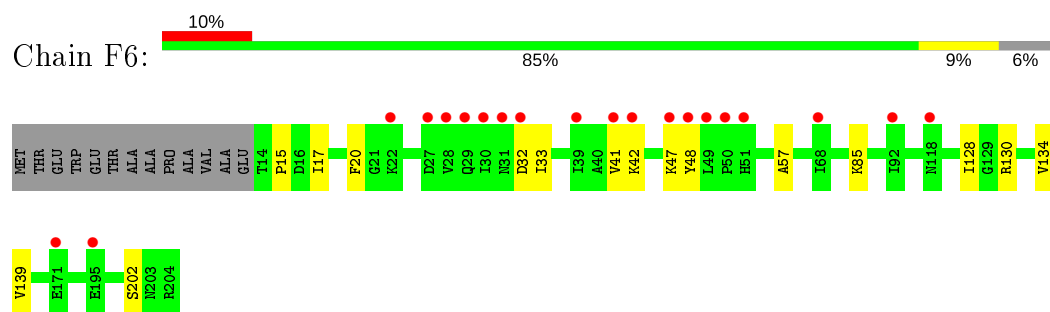
- Molecule 26: 40S ribosomal protein S5



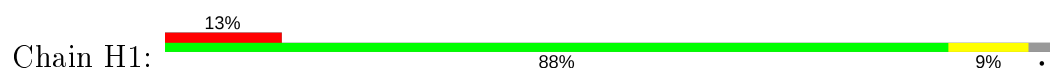
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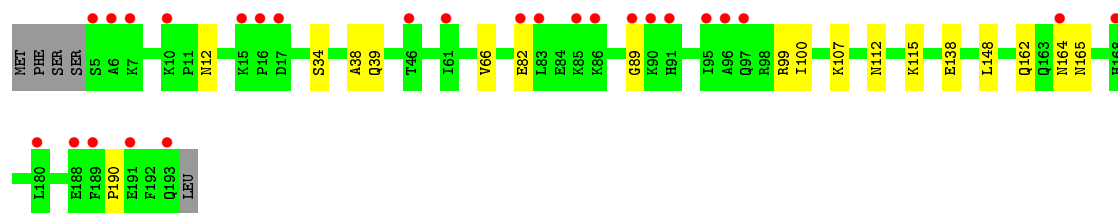


- Molecule 26: 40S ribosomal protein S5

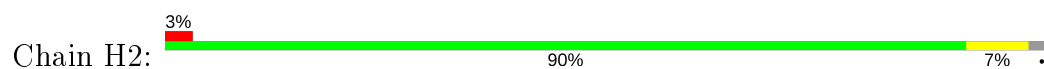


- Molecule 27: 40S ribosomal protein S7

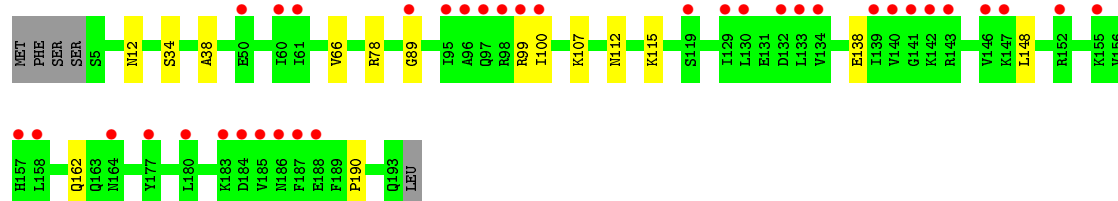
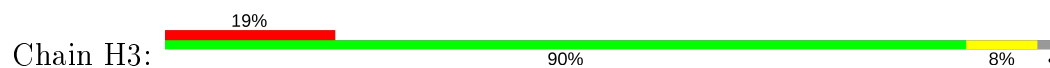




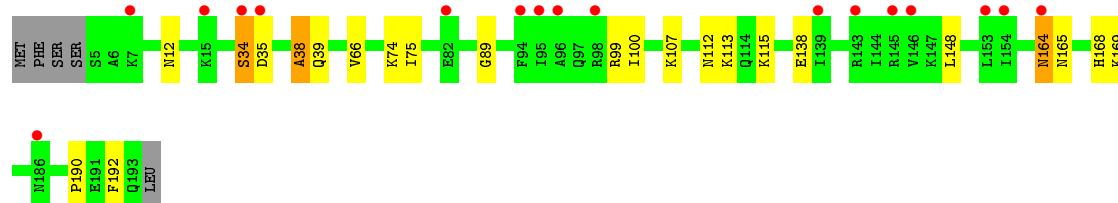
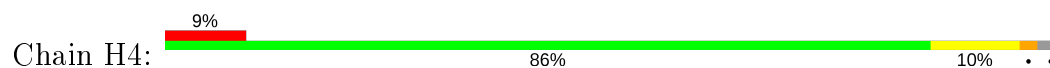
- Molecule 27: 40S ribosomal protein S7



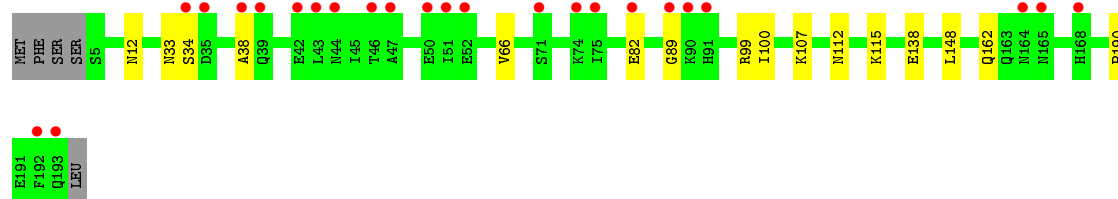
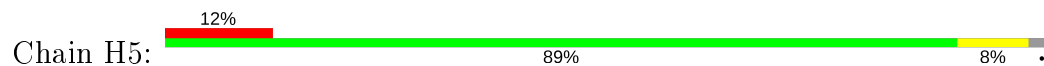
- Molecule 27: 40S ribosomal protein S7



- Molecule 27: 40S ribosomal protein S7

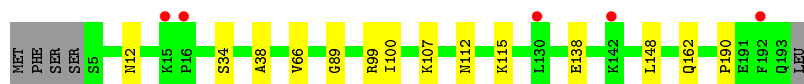


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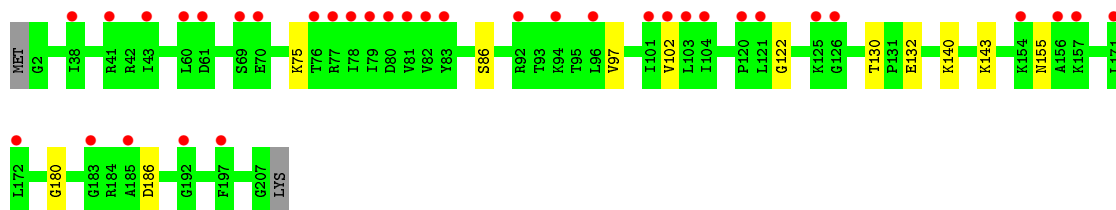


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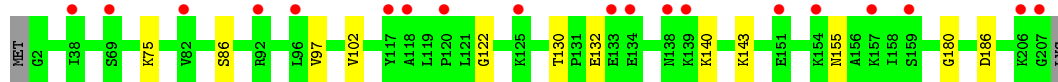
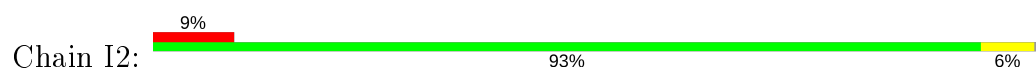




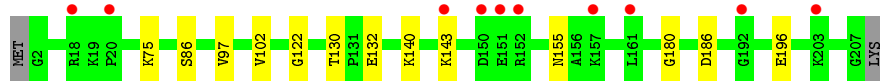
- Molecule 28: 40S ribosomal protein S8



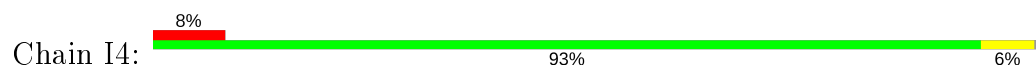
- Molecule 28: 40S ribosomal protein S8



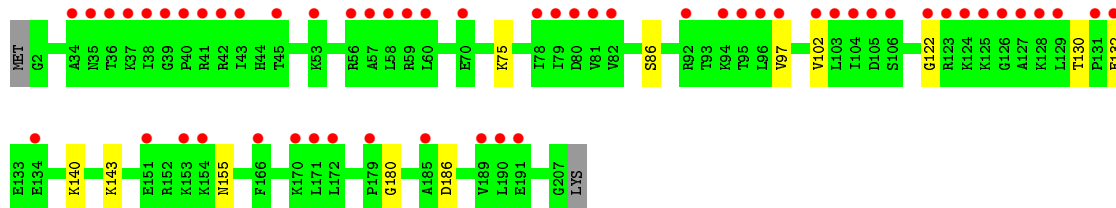
- Molecule 28: 40S ribosomal protein S8



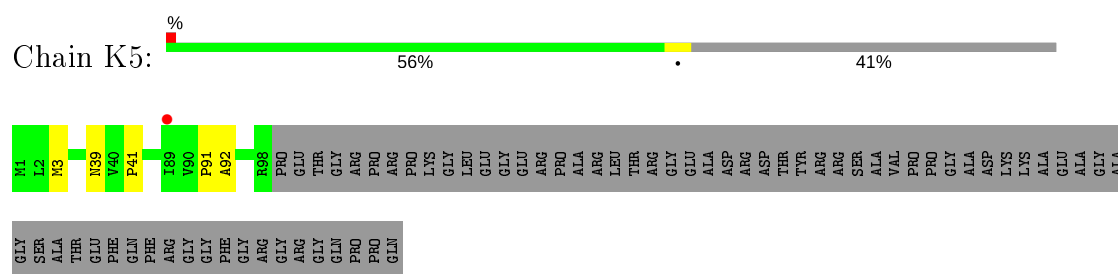
- Molecule 28: 40S ribosomal protein S8



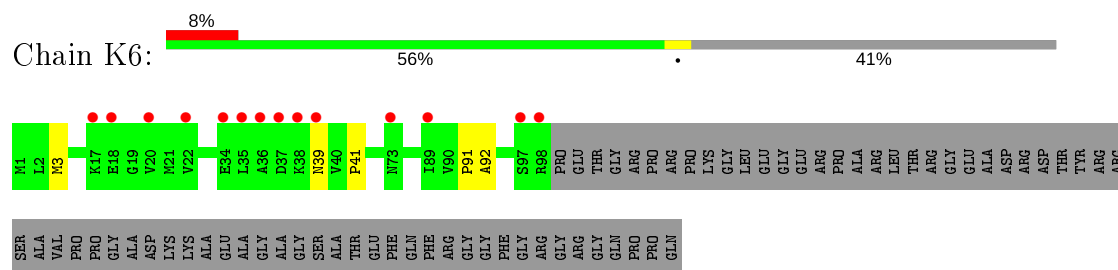
- Molecule 28: 40S ribosomal protein S8



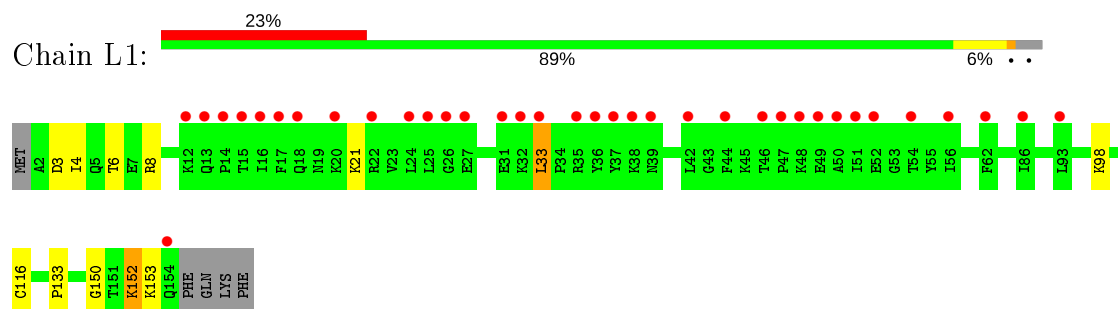
- Molecule 28: 40S ribosomal protein S8



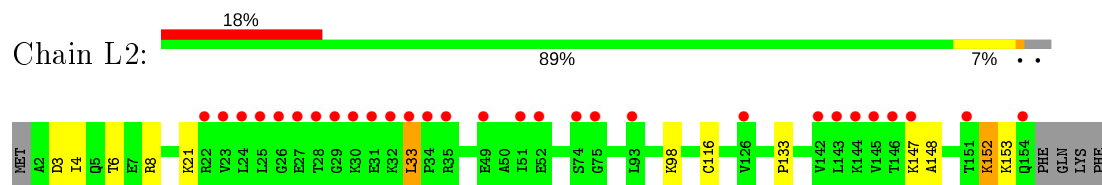
- Molecule 29: 40S ribosomal protein S10



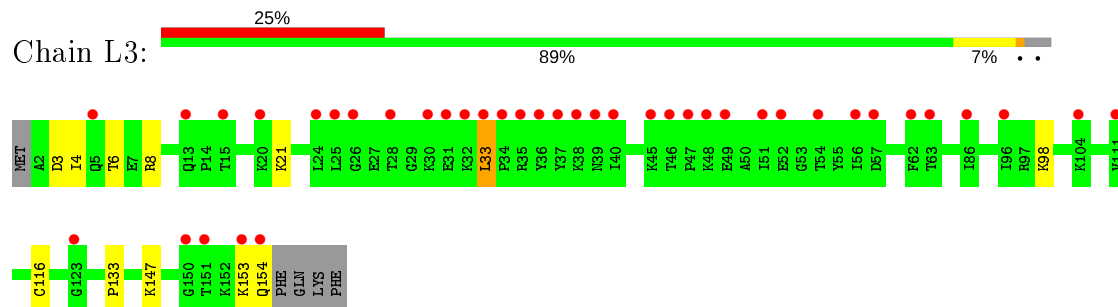
- Molecule 30: 40S ribosomal protein S11



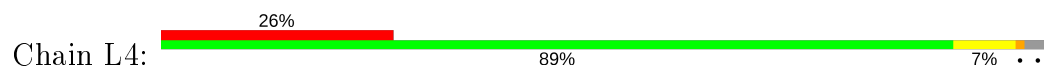
- Molecule 30: 40S ribosomal protein S11

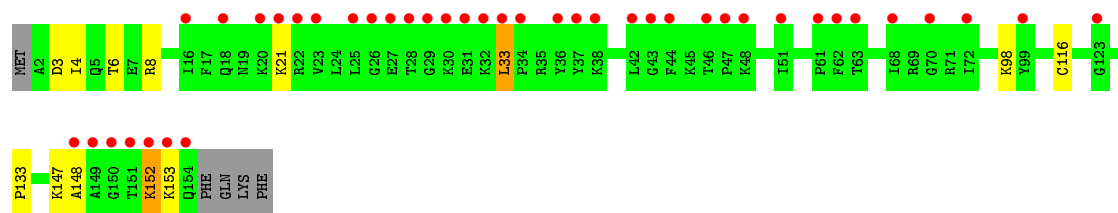


- Molecule 30: 40S ribosomal protein S11

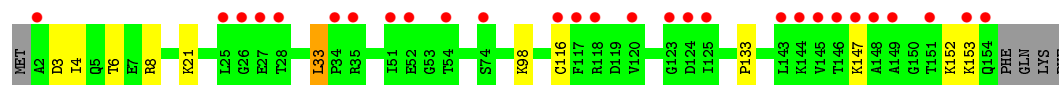
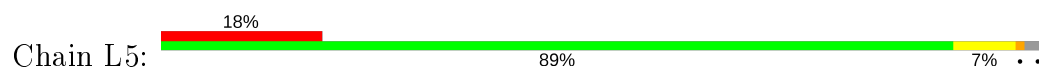


- Molecule 30: 40S ribosomal protein S11

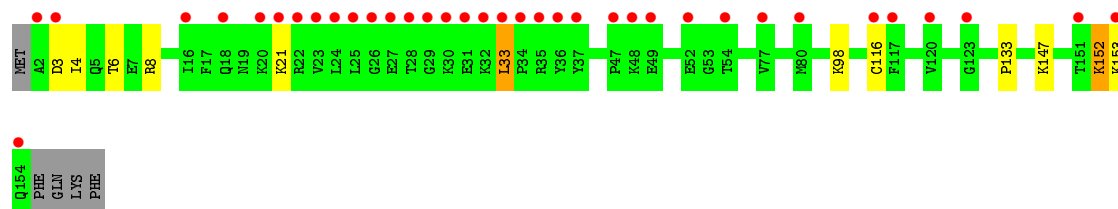
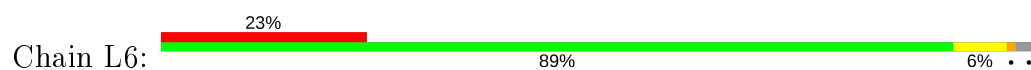




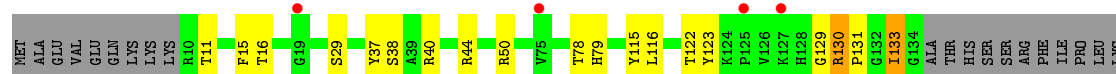
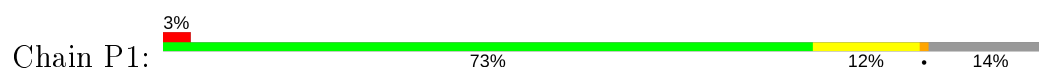
- Molecule 30: 40S ribosomal protein S11



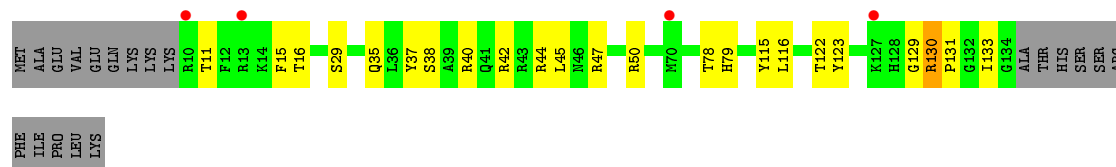
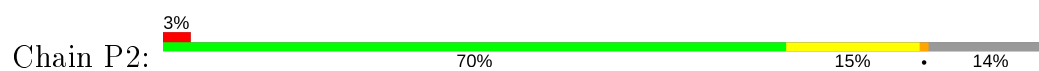
- Molecule 30: 40S ribosomal protein S11



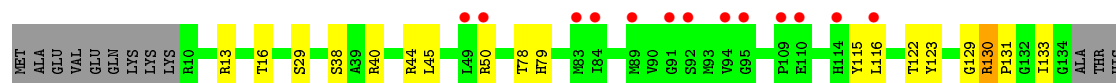
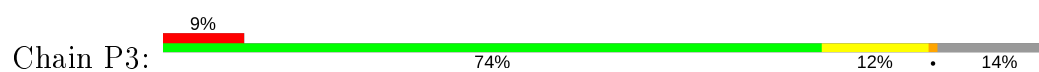
- Molecule 31: 40S ribosomal protein S15



- Molecule 31: 40S ribosomal protein S15

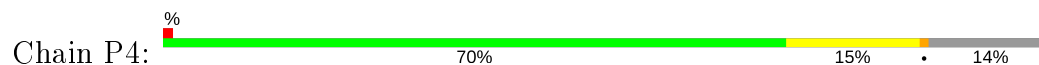


- Molecule 31: 40S ribosomal protein S15



SER
SER
GLU
ARG
PHE
ILE
PRO
LEU
LYS

- Molecule 31: 40S ribosomal protein S15



MET ALA GLU VAL GLN LYS LYS R10 T11 F15 T16 S29 Q35 Q36 Y37 S38 A39 R40 Q41 R42 R43 R44 L45 L49 R50 T78 H79 Y115 L116 T122 Y123 G129 R130 P131 G132 I133 G134 ALA THR HIS SER ARG PHE ILE PRO LEU LYS

- Molecule 31: 40S ribosomal protein S15



MET ALA GLU VAL GLN LYS LYS R10 K14 S29 Q35 L36 Y37 S38 A39 R40 Q41 R42 R43 R44 L45 R50 T78 H79 K108 P109 I112 Y115 L116 T122 Y123 G129 R130 P131 G132 I133 G134 ALA THR HIS SER ARG PHE ILE PRO LEU LYS

- Molecule 31: 40S ribosomal protein S15



MET ALA GLU VAL GLN LYS LYS R10 T11 F15 T16 S29 Y37 R40 R44 R45 R50 P69 M70 T77 T78 H79 P93 Q104 V105 E106 Y115 L116 T122 Y123 R124 P125 G129 R130 P131 G132 I133 G134 ALA THR HIS SER ARG PHE ILE PRO LEU LYS

ILE
PRO
LEU
LYS

- Molecule 32: 40S ribosomal protein S16



M1 G5 P6 K16 K17 L32 L39 I42 R45 T46 L47 Q48 L56 L57 V100 D101 R117 A122 D123 P135 S144 Y145 R146

- Molecule 32: 40S ribosomal protein S16



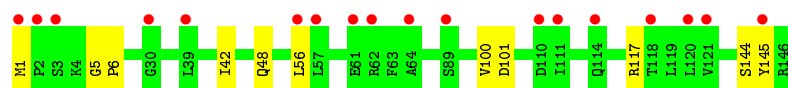
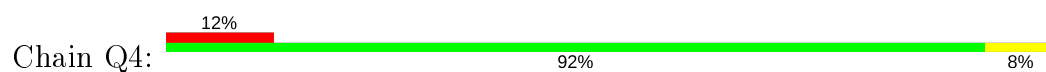
M1 P2 S3 K4 G5 P6 G14 L32 L39 I42 Q48 L52 L56 L57 V78 S89 L92 V100 D101 D110 R117 L120 V121 A122 S144 Y145 R146

- Molecule 32: 40S ribosomal protein S16

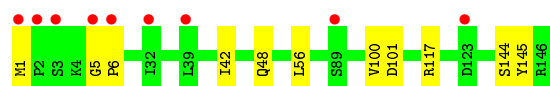


M1 P2 S3 K4 G5 P6 G30 I42 Q48 L56 L57 V100 D101 R117 L120 V121 S144 Y145 R146

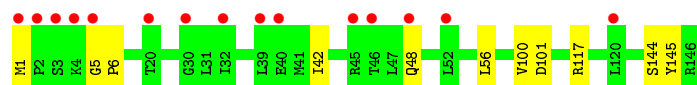
- Molecule 32: 40S ribosomal protein S16



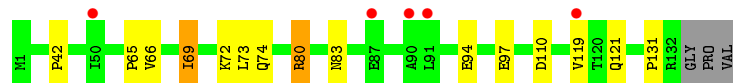
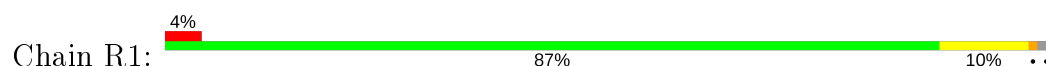
- Molecule 32: 40S ribosomal protein S16



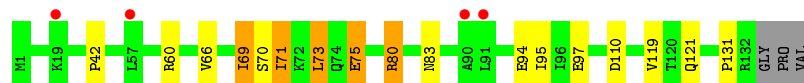
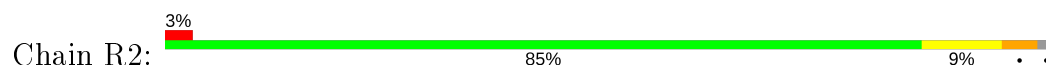
- Molecule 32: 40S ribosomal protein S16



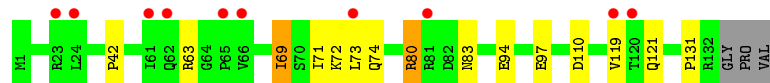
- Molecule 33: 40S ribosomal protein S17



- Molecule 33: 40S ribosomal protein S17



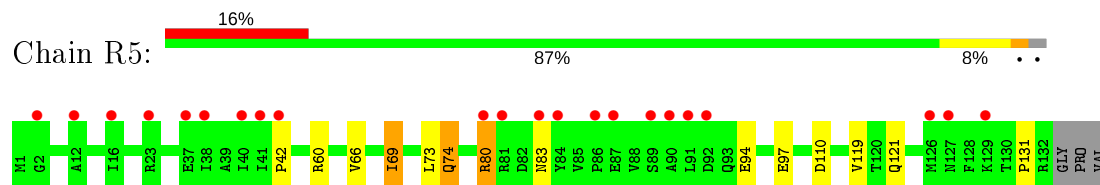
- Molecule 33: 40S ribosomal protein S17



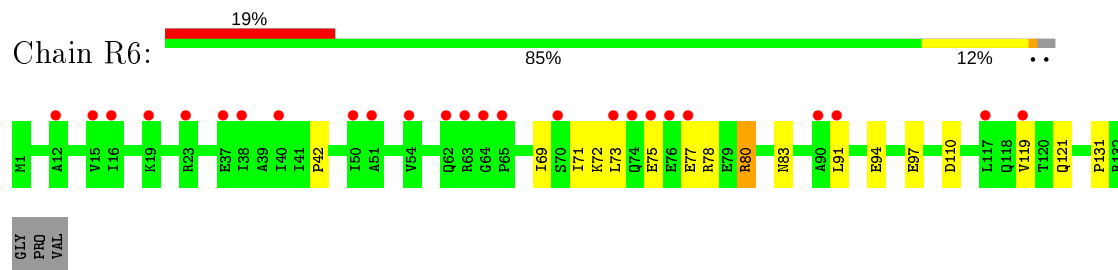
- Molecule 33: 40S ribosomal protein S17



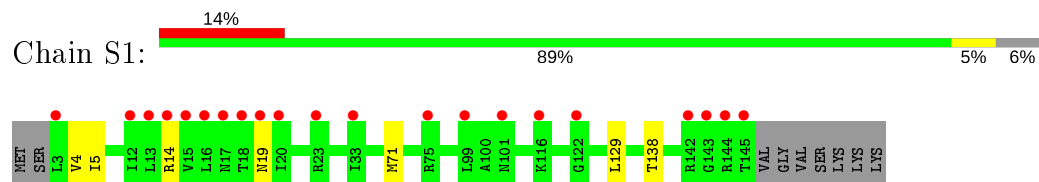
- Molecule 33: 40S ribosomal protein S17



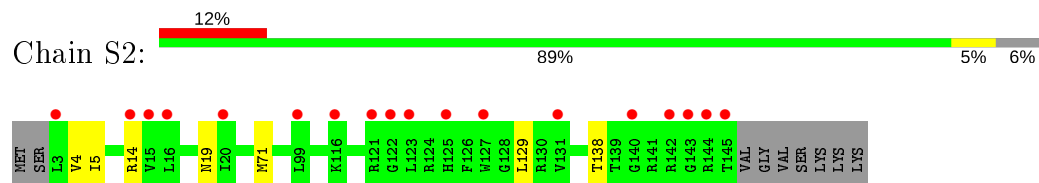
- Molecule 33: 40S ribosomal protein S17



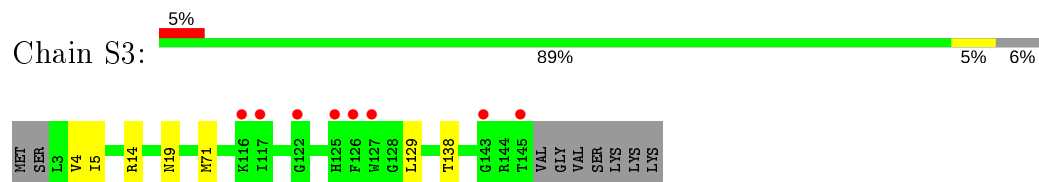
- Molecule 34: 40S ribosomal protein S18



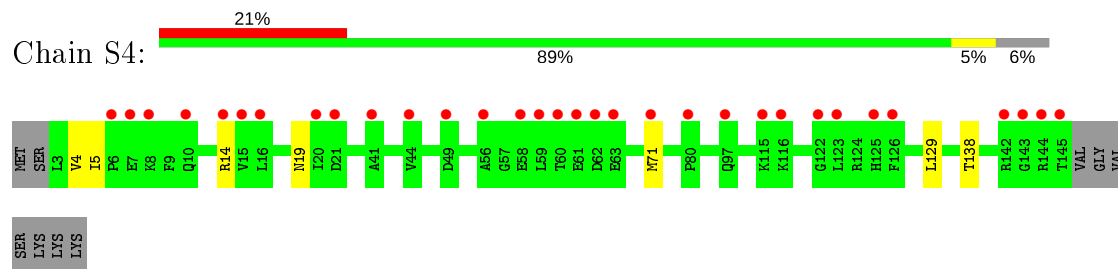
- Molecule 34: 40S ribosomal protein S18



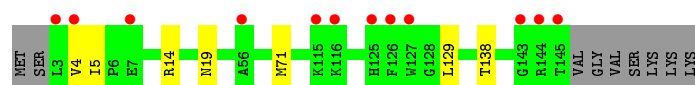
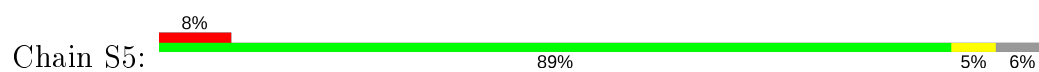
- Molecule 34: 40S ribosomal protein S18



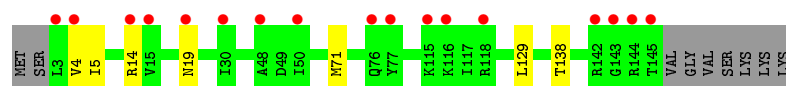
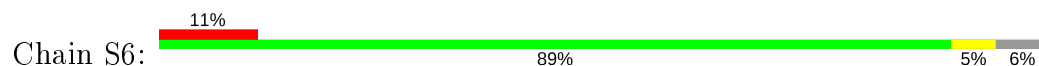
- Molecule 34: 40S ribosomal protein S18



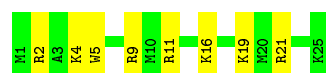
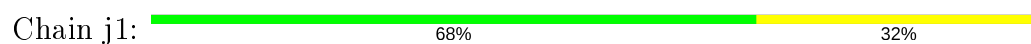
- Molecule 34: 40S ribosomal protein S18



- Molecule 34: 40S ribosomal protein S18



- Molecule 35: 60S ribosomal protein L41



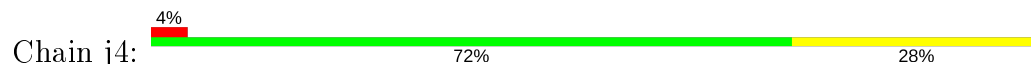
- Molecule 35: 60S ribosomal protein L41



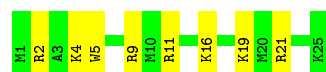
- Molecule 35: 60S ribosomal protein L41



- Molecule 35: 60S ribosomal protein L41



- Molecule 35: 60S ribosomal protein L41



- Molecule 35: 60S ribosomal protein L41

Chain j6:  68% 32%



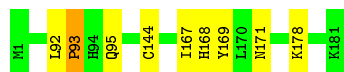
- Molecule 36: Malignant T-cell-amplified sequence 1

Chain k1:  4% 96%



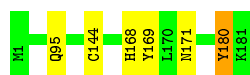
- Molecule 36: Malignant T-cell-amplified sequence 1

Chain k2:  95%



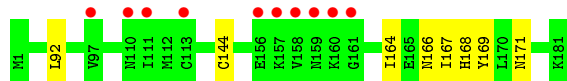
- Molecule 36: Malignant T-cell-amplified sequence 1

Chain k3:  97%



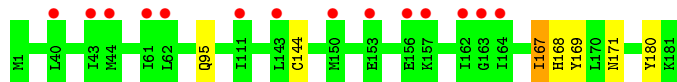
- Molecule 36: Malignant T-cell-amplified sequence 1

Chain k4:  6% 96%



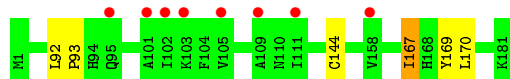
- Molecule 36: Malignant T-cell-amplified sequence 1

Chain k5:  8% 96%

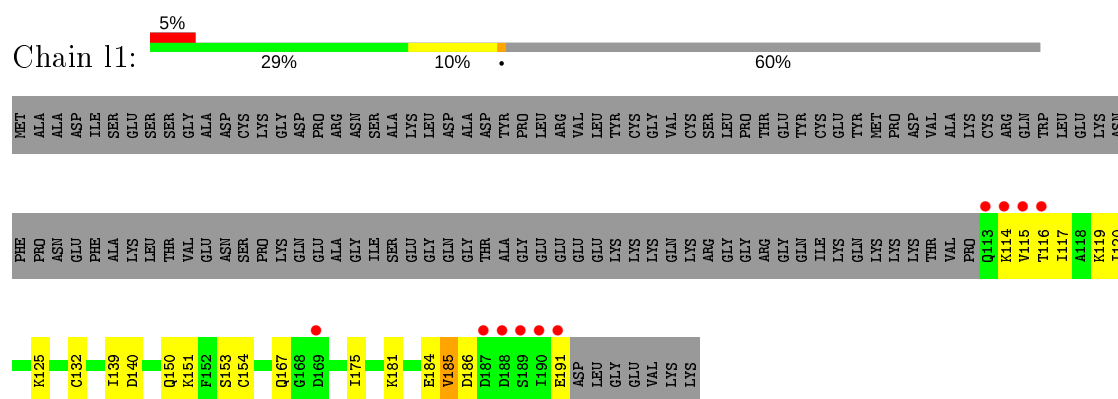


- Molecule 36: Malignant T-cell-amplified sequence 1

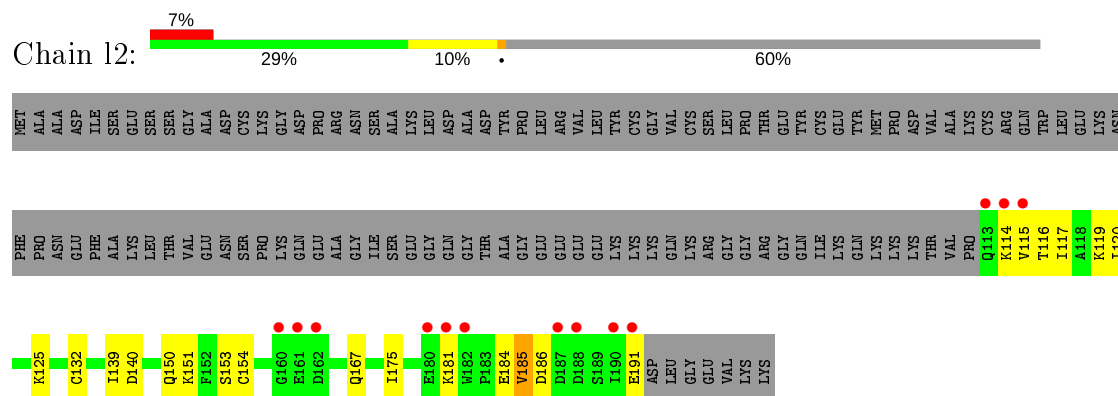
Chain k6:  4% 97%



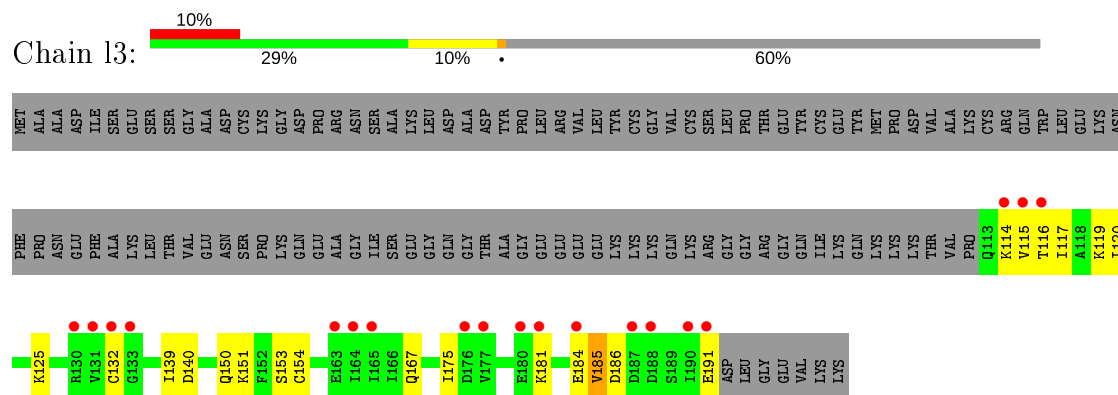
- Molecule 37: Density-regulated protein



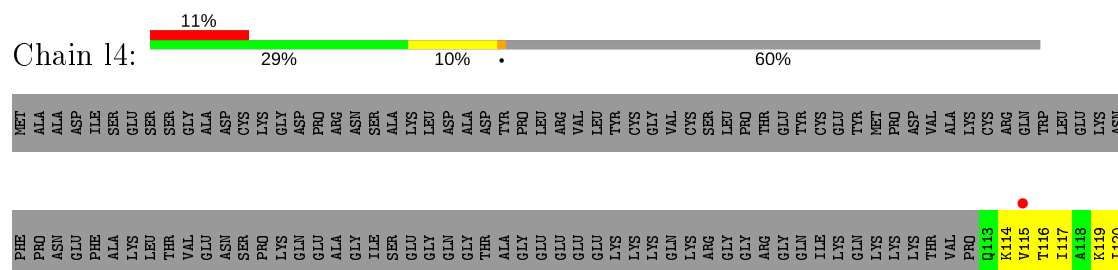
• Molecule 37: Density-regulated protein

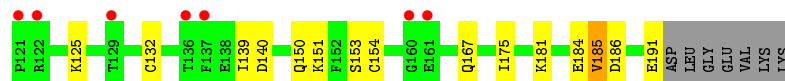


• Molecule 37: Density-regulated protein



• Molecule 37: Density-regulated protein





4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	334.67Å 597.13Å 336.50Å 90.00° 120.29° 90.00°	Depositor
Resolution (Å)	116.93 – 6.00 116.93 – 5.00	Depositor EDS
% Data completeness (in resolution range)	99.3 (116.93-6.00) 80.5 (116.93-5.00)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.00 (at 5.12Å)	Xtriage
Refinement program	PHENIX 1.8.2_1309	Depositor
R, R_{free}	0.323 , 0.321 0.322 , 0.319	Depositor DCC
R_{free} test set	19868 reflections (5.04%)	wwPDB-VP
Wilson B-factor (Å ²)	278.9	Xtriage
Anisotropy	0.061	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.21 , -31.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.33$, $\langle L^2 \rangle = 0.17$	Xtriage
Estimated twinning fraction	0.094 for -h-l,k,h 0.094 for l,k,-h-l 0.099 for l,-k,h 0.097 for h,-k,-h-l 0.118 for -h-l,-k,l	Xtriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	470574	wwPDB-VP
Average B, all atoms (Å ²)	204.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.47% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical 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 ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section:
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	T1	0.26	0/1131	0.48	0/1515
1	T2	0.26	0/1131	0.48	0/1515
1	T3	0.26	0/1131	0.48	0/1515
1	T4	0.26	0/1131	0.48	0/1515
1	T5	0.26	0/1131	0.48	0/1515
1	T6	0.26	0/1131	0.48	0/1515
2	U1	0.29	0/831	0.55	0/1115
2	U2	0.29	0/831	0.55	0/1115
2	U3	0.29	0/831	0.56	0/1115
2	U4	0.28	0/831	0.56	0/1115
2	U5	0.29	0/831	0.56	0/1115
2	U6	0.29	0/831	0.56	0/1115
3	V1	0.27	0/643	0.44	0/860
3	V2	0.27	0/643	0.45	0/860
3	V3	0.27	0/643	0.45	0/860
3	V4	0.27	0/643	0.45	0/860
3	V5	0.26	0/643	0.45	0/860
3	V6	0.27	0/643	0.45	0/860
4	X1	0.30	0/1116	0.48	0/1490
4	X2	0.30	0/1116	0.48	0/1490
4	X3	0.30	0/1116	0.47	0/1490
4	X4	0.30	0/1116	0.48	0/1490
4	X5	0.30	0/1116	0.48	0/1490
4	X6	0.30	0/1116	0.48	0/1490
5	a1	0.49	0/863	0.65	3/1159 (0.3%)
5	a2	0.50	0/863	0.65	3/1159 (0.3%)
5	a3	0.49	0/863	0.65	3/1159 (0.3%)
5	a4	0.50	0/863	0.65	3/1159 (0.3%)
5	a5	0.50	0/863	0.65	3/1159 (0.3%)
5	a6	0.49	0/863	0.65	3/1159 (0.3%)
6	c1	0.26	0/508	0.51	0/680
6	c2	0.26	0/508	0.51	0/680

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
6	c3	0.27	0/508	0.51	0/680
6	c4	0.27	0/508	0.51	0/680
6	c5	0.26	0/508	0.51	0/680
6	c6	0.26	0/508	0.51	0/680
7	d1	0.27	0/455	0.42	0/603
7	d2	0.27	0/455	0.42	0/603
7	d3	0.27	0/455	0.42	0/603
7	d4	0.27	0/455	0.42	0/603
7	d5	0.27	0/455	0.42	0/603
7	d6	0.28	0/455	0.42	0/603
8	f1	0.27	0/595	0.43	0/785
8	f2	0.27	0/595	0.43	0/785
8	f3	0.27	0/595	0.43	0/785
8	f4	0.27	0/595	0.43	0/785
8	f5	0.26	0/595	0.43	0/785
8	f6	0.27	0/595	0.43	0/785
9	g1	0.25	0/2493	0.50	0/3394
9	g2	0.25	0/2493	0.50	0/3394
9	g3	0.25	0/2493	0.50	0/3394
9	g4	0.25	0/2493	0.50	0/3394
9	g5	0.25	0/2493	0.50	0/3394
9	g6	0.25	0/2493	0.50	0/3394
10	C1	0.29	0/1762	0.48	0/2381
10	C2	0.29	0/1762	0.48	0/2381
10	C3	0.29	0/1762	0.48	0/2381
10	C4	0.29	0/1762	0.48	0/2381
10	C5	0.29	0/1762	0.48	0/2381
10	C6	0.29	0/1762	0.48	0/2381
11	G1	0.26	0/1946	0.49	0/2590
11	G2	0.26	0/1946	0.49	0/2590
11	G3	0.26	0/1946	0.49	0/2590
11	G4	0.26	0/1946	0.49	0/2590
11	G5	0.26	0/1946	0.49	0/2590
11	G6	0.26	0/1946	0.49	0/2590
12	J1	0.27	0/1550	0.47	0/2069
12	J2	0.27	0/1550	0.47	0/2069
12	J3	0.27	0/1550	0.47	0/2069
12	J4	0.27	0/1550	0.48	0/2069
12	J5	0.27	0/1550	0.48	0/2069
12	J6	0.27	0/1550	0.48	0/2069
13	M1	0.33	0/963	0.49	0/1291
13	M2	0.33	0/963	0.49	0/1291
13	M3	0.33	0/963	0.48	0/1291

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
13	M4	0.33	0/963	0.49	0/1291
13	M5	0.33	0/963	0.49	0/1291
13	M6	0.33	0/963	0.49	0/1291
14	N1	0.30	0/1232	0.47	0/1656
14	N2	0.30	0/1232	0.47	0/1656
14	N3	0.29	0/1232	0.46	0/1656
14	N4	0.30	0/1232	0.47	0/1656
14	N5	0.29	0/1232	0.46	0/1656
14	N6	0.29	0/1232	0.47	0/1656
15	O1	0.30	0/1062	0.58	1/1425 (0.1%)
15	O2	0.30	0/1062	0.58	1/1425 (0.1%)
15	O3	0.30	0/1062	0.58	1/1425 (0.1%)
15	O4	0.30	0/1062	0.58	1/1425 (0.1%)
15	O5	0.30	0/1062	0.58	1/1425 (0.1%)
15	O6	0.30	0/1062	0.58	1/1425 (0.1%)
16	W1	0.30	0/1051	0.52	0/1406
16	W2	0.30	0/1051	0.52	0/1406
16	W3	0.30	0/1051	0.52	0/1406
16	W4	0.30	0/1051	0.52	0/1406
16	W5	0.30	0/1051	0.52	0/1406
16	W6	0.30	0/1051	0.52	0/1406
17	Y1	0.27	0/1083	0.47	0/1438
17	Y2	0.27	0/1083	0.47	0/1438
17	Y3	0.27	0/1083	0.47	0/1438
17	Y4	0.27	0/1083	0.47	0/1438
17	Y5	0.27	0/1083	0.47	0/1438
17	Y6	0.26	0/1083	0.47	0/1438
18	Z1	0.26	0/604	0.55	0/810
18	Z2	0.27	0/604	0.55	0/810
18	Z3	0.26	0/604	0.55	0/810
18	Z4	0.26	0/604	0.55	0/810
18	Z5	0.26	0/604	0.55	0/810
18	Z6	0.27	0/604	0.55	0/810
19	b1	0.27	0/665	0.66	1/891 (0.1%)
19	b2	0.28	0/665	0.51	0/891
19	b3	0.28	0/665	0.51	0/891
19	b4	0.27	0/665	0.71	1/891 (0.1%)
19	b5	0.28	0/665	0.51	0/891
19	b6	0.28	0/665	0.51	0/891
20	e1	0.25	0/465	0.86	1/612 (0.2%)
20	e2	0.33	0/465	0.48	1/612 (0.2%)
20	e3	0.33	0/465	0.50	1/612 (0.2%)
20	e4	0.32	0/465	0.47	1/612 (0.2%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
20	e5	0.24	0/465	0.40	0/612
20	e6	0.33	0/465	0.50	1/612 (0.2%)
21	i1	0.37	1/41243 (0.0%)	0.78	14/64257 (0.0%)
21	i2	0.37	0/41242	0.77	11/64253 (0.0%)
21	i3	0.38	0/41242	0.77	9/64253 (0.0%)
21	i4	0.39	1/41243 (0.0%)	0.78	14/64257 (0.0%)
21	i5	0.44	1/41243 (0.0%)	0.78	14/64257 (0.0%)
21	i6	0.42	1/41243 (0.0%)	0.78	15/64257 (0.0%)
22	A1	0.26	0/1784	0.49	0/2424
22	A2	0.26	0/1784	0.48	0/2424
22	A3	0.27	0/1784	0.49	0/2424
22	A4	0.26	0/1784	0.49	0/2424
22	A5	0.27	0/1784	0.49	0/2424
22	A6	0.27	0/1784	0.49	0/2424
23	B1	0.29	0/1765	0.52	0/2362
23	B2	0.29	0/1765	0.53	0/2362
23	B3	0.29	0/1765	0.53	0/2362
23	B4	0.29	0/1765	0.53	0/2362
23	B5	0.29	0/1765	0.53	0/2362
23	B6	0.29	0/1765	0.52	0/2362
24	D1	0.27	0/1793	0.49	0/2414
24	D2	0.27	0/1793	0.49	0/2414
24	D3	0.27	0/1793	0.50	0/2414
24	D4	0.27	0/1793	0.50	0/2414
24	D5	0.27	0/1793	0.50	0/2414
24	D6	0.28	0/1793	0.50	0/2414
25	E1	0.27	0/2118	0.53	1/2849 (0.0%)
25	E2	0.27	0/2118	0.53	1/2849 (0.0%)
25	E3	0.27	0/2118	0.53	1/2849 (0.0%)
25	E4	0.27	0/2118	0.53	1/2849 (0.0%)
25	E5	0.27	0/2118	0.53	1/2849 (0.0%)
25	E6	0.27	0/2118	0.53	1/2849 (0.0%)
26	F1	0.28	0/1531	0.50	0/2059
26	F2	0.28	0/1531	0.50	0/2059
26	F3	0.28	0/1531	0.50	0/2059
26	F4	0.28	0/1531	0.50	0/2059
26	F5	0.28	0/1531	0.50	0/2059
26	F6	0.27	0/1531	0.50	0/2059
27	H1	0.27	0/1544	0.50	0/2068
27	H2	0.27	0/1544	0.50	0/2068
27	H3	0.27	0/1544	0.50	0/2068
27	H4	0.27	0/1544	0.50	0/2068
27	H5	0.27	0/1544	0.51	0/2068

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
27	H6	0.26	0/1544	0.50	0/2068
28	I1	0.28	0/1715	0.48	0/2287
28	I2	0.28	0/1715	0.49	0/2287
28	I3	0.28	0/1715	0.48	0/2287
28	I4	0.28	0/1715	0.48	0/2287
28	I5	0.28	0/1715	0.49	0/2287
28	I6	0.28	0/1715	0.48	0/2287
29	K1	0.27	0/851	0.49	0/1147
29	K2	0.28	0/851	0.49	0/1147
29	K3	0.28	0/851	0.49	0/1147
29	K4	0.28	0/851	0.49	0/1147
29	K5	0.28	0/851	0.49	0/1147
29	K6	0.28	0/851	0.49	0/1147
30	L1	0.30	0/1268	0.51	1/1696 (0.1%)
30	L2	0.30	0/1268	0.51	1/1696 (0.1%)
30	L3	0.30	0/1268	0.51	1/1696 (0.1%)
30	L4	0.30	0/1268	0.51	1/1696 (0.1%)
30	L5	0.30	0/1268	0.51	1/1696 (0.1%)
30	L6	0.30	0/1268	0.51	1/1696 (0.1%)
31	P1	0.28	0/1053	0.44	1/1406 (0.1%)
31	P2	0.28	0/1053	0.44	1/1406 (0.1%)
31	P3	0.28	0/1053	0.44	1/1406 (0.1%)
31	P4	0.28	0/1053	0.44	1/1406 (0.1%)
31	P5	0.27	0/1053	0.44	1/1406 (0.1%)
31	P6	0.28	0/1053	0.44	1/1406 (0.1%)
32	Q1	0.33	0/1177	0.50	0/1575
32	Q2	0.33	0/1177	0.50	0/1575
32	Q3	0.33	0/1177	0.51	0/1575
32	Q4	0.33	0/1177	0.51	0/1575
32	Q5	0.33	0/1177	0.50	0/1575
32	Q6	0.33	0/1177	0.51	0/1575
33	R1	0.27	0/1086	0.56	0/1457
33	R2	0.27	0/1086	0.56	0/1457
33	R3	0.27	0/1086	0.56	0/1457
33	R4	0.27	0/1086	0.55	0/1457
33	R5	0.27	0/1086	0.56	0/1457
33	R6	0.27	0/1086	0.56	0/1457
34	S1	0.36	0/1202	0.52	1/1610 (0.1%)
34	S2	0.36	0/1202	0.52	1/1610 (0.1%)
34	S3	0.36	0/1202	0.52	1/1610 (0.1%)
34	S4	0.36	0/1202	0.52	1/1610 (0.1%)
34	S5	0.36	0/1202	0.53	1/1610 (0.1%)
34	S6	0.36	0/1202	0.52	1/1610 (0.1%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
35	j1	0.19	0/240	0.27	0/305
35	j2	0.19	0/240	0.26	0/305
35	j3	0.20	0/240	0.26	0/305
35	j4	0.19	0/240	0.26	0/305
35	j5	0.20	0/240	0.26	0/305
35	j6	0.20	0/240	0.27	0/305
36	k1	0.57	0/1455	0.60	1/1968 (0.1%)
36	k2	0.67	2/1455 (0.1%)	0.78	6/1968 (0.3%)
36	k3	0.59	0/1455	1.24	3/1968 (0.2%)
36	k4	0.58	0/1455	0.54	0/1968
36	k5	0.60	1/1455 (0.1%)	0.86	3/1968 (0.2%)
36	k6	0.58	0/1455	0.55	0/1968
37	l1	0.40	0/638	0.72	4/859 (0.5%)
37	l2	0.40	0/638	0.72	4/859 (0.5%)
37	l3	0.40	0/638	0.71	4/859 (0.5%)
37	l4	0.40	0/638	0.71	4/859 (0.5%)
37	l5	0.40	0/638	0.72	4/859 (0.5%)
37	l6	0.40	0/638	0.72	4/859 (0.5%)
All	All	0.35	7/500884 (0.0%)	0.67	169/725470 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
33	R1	0	1
33	R2	0	1
33	R3	0	1
33	R4	0	1
33	R5	0	1
36	k2	0	1
36	k3	0	2
36	k5	0	1
All	All	0	9

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
21	i5	1689	C	O3'-P	44.78	2.14	1.61
21	i6	1689	C	O3'-P	38.40	2.07	1.61
21	i4	1689	C	O3'-P	25.06	1.91	1.61

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
36	k2	92	LEU	C-N	11.28	1.55	1.34
36	k2	93	PRO	C-N	6.37	1.48	1.34
21	i1	1689	C	O3'-P	5.09	1.67	1.61
36	k5	167	ILE	C-N	5.00	1.45	1.34

All (169) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
36	k3	180	TYR	O-C-N	-37.78	62.25	122.70
21	i1	1689	C	P-O3'-C3'	-30.42	83.20	119.70
36	k5	167	ILE	O-C-N	-26.56	80.21	122.70
36	k3	180	TYR	CA-C-N	25.08	172.38	117.20
21	i4	1689	C	P-O3'-C3'	-25.00	89.69	119.70
21	i5	1689	C	P-O3'-C3'	-21.04	94.45	119.70
36	k3	180	TYR	C-N-CA	19.23	169.78	121.70
20	e1	46	VAL	C-N-CD	-18.73	79.40	120.60
21	i6	1689	C	P-O3'-C3'	-18.53	97.46	119.70
21	i1	1689	C	OP2-P-O3'	16.75	142.05	105.20
21	i1	1689	C	OP1-P-O3'	-15.53	71.03	105.20
21	i4	1689	C	OP2-P-O3'	14.84	137.85	105.20
21	i5	1689	C	OP2-P-O3'	14.82	137.81	105.20
19	b4	37	CYS	C-N-CD	-14.80	88.03	120.60
36	k2	93	PRO	O-C-N	-14.59	99.36	122.70
21	i6	1689	C	OP2-P-O3'	13.71	135.36	105.20
19	b1	37	CYS	C-N-CD	-12.87	92.30	120.60
36	k2	92	LEU	O-C-N	12.26	144.39	121.10
21	i4	1689	C	OP1-P-O3'	-12.25	78.25	105.20
36	k1	92	LEU	C-N-CD	-12.05	94.08	120.60
37	l6	167	GLN	O-C-N	10.85	141.65	123.20
37	l1	167	GLN	O-C-N	10.75	141.47	123.20
37	l2	167	GLN	O-C-N	10.73	141.44	123.20
37	l3	167	GLN	O-C-N	10.73	141.45	123.20
37	l5	167	GLN	O-C-N	10.73	141.44	123.20
21	i6	1689	C	OP1-P-O3'	-10.71	81.64	105.20
37	l4	167	GLN	O-C-N	10.70	141.38	123.20
21	i5	1689	C	OP1-P-O3'	-10.65	81.76	105.20
36	k5	180	TYR	O-C-N	9.57	138.01	122.70
37	l6	167	GLN	CA-C-N	-9.36	97.49	116.20
37	l5	167	GLN	CA-C-N	-9.33	97.55	116.20
37	l2	167	GLN	CA-C-N	-9.30	97.61	116.20
37	l3	167	GLN	CA-C-N	-9.29	97.62	116.20
37	l1	167	GLN	CA-C-N	-9.28	97.64	116.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
37	l4	167	GLN	CA-C-N	-9.23	97.73	116.20
36	k2	93	PRO	CA-C-N	8.74	136.43	117.20
37	l6	167	GLN	C-N-CA	-8.41	104.64	122.30
37	l5	167	GLN	C-N-CA	-8.36	104.75	122.30
37	l3	167	GLN	C-N-CA	-8.32	104.82	122.30
37	l1	167	GLN	C-N-CA	-8.32	104.83	122.30
37	l2	167	GLN	C-N-CA	-8.31	104.85	122.30
37	l4	167	GLN	C-N-CA	-8.29	104.88	122.30
36	k2	92	LEU	CA-C-N	-7.99	94.72	117.10
36	k2	92	LEU	C-N-CA	-7.37	91.06	122.00
21	i5	1453	C	C2-N1-C1'	7.30	126.83	118.80
21	i1	1453	C	C2-N1-C1'	7.27	126.80	118.80
21	i4	1453	C	C2-N1-C1'	7.21	126.73	118.80
21	i6	1453	C	C2-N1-C1'	7.21	126.73	118.80
21	i2	1453	C	C2-N1-C1'	7.18	126.70	118.80
21	i3	1453	C	C2-N1-C1'	7.14	126.65	118.80
36	k2	93	PRO	C-N-CA	7.13	139.54	121.70
36	k5	180	TYR	CA-C-N	-7.11	101.56	117.20
21	i5	1016	U	C2-N1-C1'	7.09	126.21	117.70
21	i4	1016	U	C2-N1-C1'	7.08	126.20	117.70
21	i2	1016	U	C2-N1-C1'	7.04	126.15	117.70
21	i3	1016	U	C2-N1-C1'	7.03	126.13	117.70
21	i6	1016	U	C2-N1-C1'	7.01	126.12	117.70
21	i1	1016	U	C2-N1-C1'	6.95	126.04	117.70
21	i2	1453	C	N1-C2-O2	6.93	123.06	118.90
21	i4	1453	C	N1-C2-O2	6.92	123.05	118.90
21	i3	1453	C	N1-C2-O2	6.87	123.02	118.90
21	i1	1453	C	N1-C2-O2	6.83	123.00	118.90
21	i6	1453	C	N1-C2-O2	6.81	122.99	118.90
21	i5	1453	C	N1-C2-O2	6.71	122.93	118.90
21	i5	185	G	C2'-C3'-O3'	6.51	124.11	113.70
21	i1	185	G	C2'-C3'-O3'	6.50	124.10	113.70
21	i1	1016	U	N1-C2-O2	6.32	127.22	122.80
21	i3	1016	U	N1-C2-O2	6.13	127.09	122.80
21	i6	1016	U	N1-C2-O2	6.12	127.09	122.80
21	i4	1016	U	N1-C2-O2	6.06	127.04	122.80
21	i5	1016	U	N1-C2-O2	6.00	127.00	122.80
21	i2	1016	U	N1-C2-O2	5.95	126.97	122.80
31	P6	130	ARG	C-N-CD	-5.88	107.67	120.60
31	P4	130	ARG	C-N-CD	-5.86	107.71	120.60
31	P2	130	ARG	C-N-CD	-5.82	107.79	120.60
31	P5	130	ARG	C-N-CD	-5.81	107.82	120.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
31	P3	130	ARG	C-N-CD	-5.81	107.83	120.60
31	P1	130	ARG	C-N-CD	-5.80	107.84	120.60
30	L6	33	LEU	CA-CB-CG	5.66	128.31	115.30
30	L5	33	LEU	CA-CB-CG	5.63	128.24	115.30
30	L3	33	LEU	CA-CB-CG	5.61	128.21	115.30
30	L2	33	LEU	CA-CB-CG	5.59	128.16	115.30
30	L1	33	LEU	CA-CB-CG	5.58	128.14	115.30
30	L4	33	LEU	CA-CB-CG	5.55	128.07	115.30
21	i1	1016	U	N3-C2-O2	-5.54	118.32	122.20
15	O4	17	LEU	CA-CB-CG	5.51	127.97	115.30
15	O6	17	LEU	CA-CB-CG	5.51	127.97	115.30
15	O2	17	LEU	CA-CB-CG	5.47	127.89	115.30
15	O5	17	LEU	CA-CB-CG	5.47	127.89	115.30
15	O1	17	LEU	CA-CB-CG	5.46	127.86	115.30
15	O3	17	LEU	CA-CB-CG	5.42	127.78	115.30
21	i6	1016	U	N3-C2-O2	-5.40	118.42	122.20
21	i6	1118	C	C2-N1-C1'	5.39	124.73	118.80
21	i5	1016	U	N3-C2-O2	-5.35	118.46	122.20
21	i4	1016	U	N3-C2-O2	-5.33	118.47	122.20
21	i6	1453	C	C6-N1-C1'	-5.31	114.43	120.80
21	i5	1453	C	C6-N1-C1'	-5.30	114.44	120.80
21	i1	1453	C	C6-N1-C1'	-5.29	114.45	120.80
21	i3	1016	U	N3-C2-O2	-5.27	118.51	122.20
21	i2	1453	C	N3-C2-O2	-5.23	118.24	121.90
21	i3	1057	C	C2-N1-C1'	5.23	124.55	118.80
21	i2	1453	C	C6-N1-C1'	-5.22	114.53	120.80
21	i2	1057	C	N1-C2-O2	5.21	122.03	118.90
5	a6	97	PRO	C-N-CD	5.19	139.29	128.40
21	i4	1118	C	C2-N1-C1'	5.17	124.49	118.80
21	i6	1057	C	N1-C2-O2	5.17	122.00	118.90
21	i3	1118	C	C2-N1-C1'	5.17	124.48	118.80
5	a4	97	PRO	C-N-CD	5.16	139.23	128.40
5	a5	98	PRO	C-N-CD	5.16	139.23	128.40
5	a5	96	THR	C-N-CD	5.15	139.21	128.40
5	a1	97	PRO	C-N-CD	5.15	139.21	128.40
5	a4	96	THR	C-N-CD	5.14	139.20	128.40
21	i4	1453	C	N3-C2-O2	-5.14	118.30	121.90
21	i5	1057	C	C2-N1-C1'	5.14	124.46	118.80
5	a3	98	PRO	C-N-CD	5.14	139.19	128.40
5	a4	98	PRO	C-N-CD	5.13	139.18	128.40
21	i1	1057	C	C2-N1-C1'	5.13	124.44	118.80
20	e6	46	VAL	C-N-CD	5.12	139.16	128.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	a2	98	PRO	C-N-CD	5.12	139.15	128.40
21	i4	1453	C	C6-N1-C1'	-5.12	114.66	120.80
21	i1	1118	C	C2-N1-C1'	5.12	124.43	118.80
20	e3	46	VAL	C-N-CD	5.12	139.14	128.40
34	S3	5	ILE	C-N-CD	5.12	139.14	128.40
20	e2	46	VAL	C-N-CD	5.11	139.14	128.40
5	a3	97	PRO	C-N-CD	5.11	139.14	128.40
21	i3	1453	C	C6-N1-C1'	-5.11	114.67	120.80
34	S5	5	ILE	C-N-CD	5.10	139.12	128.40
5	a2	96	THR	C-N-CD	5.10	139.12	128.40
5	a5	97	PRO	C-N-CD	5.10	139.12	128.40
21	i2	1624	U	C2-N1-C1'	5.09	123.81	117.70
34	S6	5	ILE	C-N-CD	5.09	139.09	128.40
5	a2	97	PRO	C-N-CD	5.09	139.09	128.40
21	i6	1453	C	N3-C2-O2	-5.09	118.34	121.90
21	i2	1118	C	C2-N1-C1'	5.08	124.39	118.80
21	i5	1624	U	C2-N1-C1'	5.08	123.80	117.70
5	a3	96	THR	C-N-CD	5.08	139.07	128.40
20	e4	46	VAL	C-N-CD	5.08	139.07	128.40
21	i5	1453	C	N3-C2-O2	-5.08	118.34	121.90
34	S1	5	ILE	C-N-CD	5.08	139.06	128.40
25	E2	164	LEU	CA-CB-CG	5.08	126.98	115.30
21	i5	1118	C	C2-N1-C1'	5.08	124.38	118.80
25	E3	164	LEU	CA-CB-CG	5.07	126.95	115.30
21	i4	1624	U	C2-N1-C1'	5.07	123.78	117.70
5	a1	98	PRO	C-N-CD	5.06	139.03	128.40
21	i2	1016	U	N3-C2-O2	-5.06	118.66	122.20
25	E1	164	LEU	CA-CB-CG	5.06	126.94	115.30
21	i6	1624	U	C2-N1-C1'	5.06	123.77	117.70
34	S2	5	ILE	C-N-CD	5.06	139.02	128.40
25	E4	164	LEU	CA-CB-CG	5.05	126.93	115.30
5	a6	96	THR	C-N-CD	5.05	139.02	128.40
5	a1	96	THR	C-N-CD	5.04	138.99	128.40
37	l3	120	ILE	C-N-CD	5.04	138.99	128.40
37	l1	120	ILE	C-N-CD	5.04	138.98	128.40
37	l4	120	ILE	C-N-CD	5.04	138.98	128.40
21	i6	1057	C	C2-N1-C1'	5.04	124.34	118.80
34	S4	5	ILE	C-N-CD	5.03	138.97	128.40
21	i4	1057	C	C2-N1-C1'	5.03	124.33	118.80
21	i4	1057	C	N1-C2-O2	5.03	121.92	118.90
21	i2	1057	C	C2-N1-C1'	5.03	124.33	118.80
25	E6	164	LEU	CA-CB-CG	5.02	126.86	115.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
21	i1	732	U	C2'-C3'-O3'	5.02	121.73	113.70
37	l2	120	ILE	C-N-CD	5.02	138.94	128.40
5	a6	98	PRO	C-N-CD	5.01	138.93	128.40
21	i6	732	U	C2'-C3'-O3'	5.01	121.71	113.70
37	l5	120	ILE	C-N-CD	5.01	138.92	128.40
25	E5	164	LEU	CA-CB-CG	5.01	126.81	115.30
21	i1	1624	U	C2-N1-C1'	5.00	123.71	117.70
37	l6	120	ILE	C-N-CD	5.00	138.91	128.40
21	i3	1057	C	N1-C2-O2	5.00	121.90	118.90

There are no chirality outliers.

All (9) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
33	R1	69	ILE	Peptide
33	R2	69	ILE	Peptide
33	R3	69	ILE	Peptide
33	R4	69	ILE	Peptide
33	R5	69	ILE	Peptide
36	k2	93	PRO	Mainchain
36	k3	180	TYR	Mainchain,Peptide
36	k5	167	ILE	Mainchain

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	
1	T1	141/145 (97%)	119 (84%)	15 (11%)	7 (5%)	2	20

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	T2	141/145 (97%)	119 (84%)	15 (11%)	7 (5%)	2	20
1	T3	141/145 (97%)	119 (84%)	16 (11%)	6 (4%)	2	22
1	T4	141/145 (97%)	119 (84%)	16 (11%)	6 (4%)	2	22
1	T5	141/145 (97%)	119 (84%)	15 (11%)	7 (5%)	2	20
1	T6	141/145 (97%)	119 (84%)	16 (11%)	6 (4%)	2	22
2	U1	102/119 (86%)	84 (82%)	12 (12%)	6 (6%)	1	17
2	U2	102/119 (86%)	84 (82%)	12 (12%)	6 (6%)	1	17
2	U3	102/119 (86%)	84 (82%)	12 (12%)	6 (6%)	1	17
2	U4	102/119 (86%)	84 (82%)	12 (12%)	6 (6%)	1	17
2	U5	102/119 (86%)	84 (82%)	12 (12%)	6 (6%)	1	17
2	U6	102/119 (86%)	84 (82%)	12 (12%)	6 (6%)	1	17
3	V1	81/83 (98%)	65 (80%)	11 (14%)	5 (6%)	1	16
3	V2	81/83 (98%)	66 (82%)	10 (12%)	5 (6%)	1	16
3	V3	81/83 (98%)	65 (80%)	11 (14%)	5 (6%)	1	16
3	V4	81/83 (98%)	65 (80%)	11 (14%)	5 (6%)	1	16
3	V5	81/83 (98%)	65 (80%)	11 (14%)	5 (6%)	1	16
3	V6	81/83 (98%)	65 (80%)	11 (14%)	5 (6%)	1	16
4	X1	139/143 (97%)	114 (82%)	12 (9%)	13 (9%)	0	10
4	X2	139/143 (97%)	114 (82%)	12 (9%)	13 (9%)	0	10
4	X3	139/143 (97%)	114 (82%)	12 (9%)	13 (9%)	0	10
4	X4	139/143 (97%)	114 (82%)	12 (9%)	13 (9%)	0	10
4	X5	139/143 (97%)	114 (82%)	12 (9%)	13 (9%)	0	10
4	X6	139/143 (97%)	114 (82%)	12 (9%)	13 (9%)	0	10
5	a1	105/115 (91%)	73 (70%)	19 (18%)	13 (12%)	0	5
5	a2	105/115 (91%)	73 (70%)	19 (18%)	13 (12%)	0	5
5	a3	105/115 (91%)	73 (70%)	19 (18%)	13 (12%)	0	5
5	a4	105/115 (91%)	73 (70%)	19 (18%)	13 (12%)	0	5
5	a5	105/115 (91%)	73 (70%)	19 (18%)	13 (12%)	0	5
5	a6	105/115 (91%)	73 (70%)	19 (18%)	13 (12%)	0	5
6	c1	62/69 (90%)	47 (76%)	9 (14%)	6 (10%)	0	9
6	c2	62/69 (90%)	47 (76%)	10 (16%)	5 (8%)	1	12

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
6	c3	62/69 (90%)	47 (76%)	10 (16%)	5 (8%)	1	12
6	c4	62/69 (90%)	47 (76%)	10 (16%)	5 (8%)	1	12
6	c5	62/69 (90%)	47 (76%)	9 (14%)	6 (10%)	0	9
6	c6	62/69 (90%)	47 (76%)	10 (16%)	5 (8%)	1	12
7	d1	51/56 (91%)	44 (86%)	7 (14%)	0	100	100
7	d2	51/56 (91%)	44 (86%)	7 (14%)	0	100	100
7	d3	51/56 (91%)	44 (86%)	7 (14%)	0	100	100
7	d4	51/56 (91%)	44 (86%)	7 (14%)	0	100	100
7	d5	51/56 (91%)	44 (86%)	7 (14%)	0	100	100
7	d6	51/56 (91%)	44 (86%)	7 (14%)	0	100	100
8	f1	70/156 (45%)	56 (80%)	10 (14%)	4 (6%)	1	18
8	f2	70/156 (45%)	56 (80%)	10 (14%)	4 (6%)	1	18
8	f3	70/156 (45%)	56 (80%)	10 (14%)	4 (6%)	1	18
8	f4	70/156 (45%)	57 (81%)	9 (13%)	4 (6%)	1	18
8	f5	70/156 (45%)	56 (80%)	10 (14%)	4 (6%)	1	18
8	f6	70/156 (45%)	55 (79%)	11 (16%)	4 (6%)	1	18
9	g1	311/317 (98%)	237 (76%)	58 (19%)	16 (5%)	2	19
9	g2	311/317 (98%)	236 (76%)	59 (19%)	16 (5%)	2	19
9	g3	311/317 (98%)	236 (76%)	59 (19%)	16 (5%)	2	19
9	g4	311/317 (98%)	237 (76%)	58 (19%)	16 (5%)	2	19
9	g5	311/317 (98%)	237 (76%)	58 (19%)	16 (5%)	2	19
9	g6	311/317 (98%)	236 (76%)	59 (19%)	16 (5%)	2	19
10	C1	220/293 (75%)	182 (83%)	27 (12%)	11 (5%)	2	20
10	C2	220/293 (75%)	181 (82%)	28 (13%)	11 (5%)	2	20
10	C3	220/293 (75%)	182 (83%)	27 (12%)	11 (5%)	2	20
10	C4	220/293 (75%)	182 (83%)	27 (12%)	11 (5%)	2	20
10	C5	220/293 (75%)	182 (83%)	27 (12%)	11 (5%)	2	20
10	C6	220/293 (75%)	182 (83%)	27 (12%)	11 (5%)	2	20
11	G1	235/249 (94%)	194 (83%)	25 (11%)	16 (7%)	1	15
11	G2	235/249 (94%)	195 (83%)	24 (10%)	16 (7%)	1	15
11	G3	235/249 (94%)	194 (83%)	25 (11%)	16 (7%)	1	15

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
11	G4	235/249 (94%)	194 (83%)	26 (11%)	15 (6%)	1	16
11	G5	235/249 (94%)	194 (83%)	25 (11%)	16 (7%)	1	15
11	G6	235/249 (94%)	194 (83%)	25 (11%)	16 (7%)	1	15
12	J1	183/194 (94%)	157 (86%)	16 (9%)	10 (6%)	2	19
12	J2	183/194 (94%)	157 (86%)	16 (9%)	10 (6%)	2	19
12	J3	183/194 (94%)	157 (86%)	16 (9%)	10 (6%)	2	19
12	J4	183/194 (94%)	157 (86%)	16 (9%)	10 (6%)	2	19
12	J5	183/194 (94%)	157 (86%)	16 (9%)	10 (6%)	2	19
12	J6	183/194 (94%)	157 (86%)	16 (9%)	10 (6%)	2	19
13	M1	121/132 (92%)	111 (92%)	8 (7%)	2 (2%)	9	42
13	M2	121/132 (92%)	111 (92%)	8 (7%)	2 (2%)	9	42
13	M3	121/132 (92%)	111 (92%)	8 (7%)	2 (2%)	9	42
13	M4	121/132 (92%)	111 (92%)	8 (7%)	2 (2%)	9	42
13	M5	121/132 (92%)	111 (92%)	8 (7%)	2 (2%)	9	42
13	M6	121/132 (92%)	111 (92%)	8 (7%)	2 (2%)	9	42
14	N1	148/151 (98%)	125 (84%)	14 (10%)	9 (6%)	1	16
14	N2	148/151 (98%)	125 (84%)	14 (10%)	9 (6%)	1	16
14	N3	148/151 (98%)	124 (84%)	15 (10%)	9 (6%)	1	16
14	N4	148/151 (98%)	125 (84%)	14 (10%)	9 (6%)	1	16
14	N5	148/151 (98%)	124 (84%)	15 (10%)	9 (6%)	1	16
14	N6	148/151 (98%)	125 (84%)	13 (9%)	10 (7%)	1	15
15	O1	138/151 (91%)	101 (73%)	24 (17%)	13 (9%)	0	10
15	O2	138/151 (91%)	101 (73%)	24 (17%)	13 (9%)	0	10
15	O3	138/151 (91%)	101 (73%)	24 (17%)	13 (9%)	0	10
15	O4	138/151 (91%)	101 (73%)	24 (17%)	13 (9%)	0	10
15	O5	138/151 (91%)	101 (73%)	24 (17%)	13 (9%)	0	10
15	O6	138/151 (91%)	101 (73%)	24 (17%)	13 (9%)	0	10
16	W1	127/130 (98%)	109 (86%)	13 (10%)	5 (4%)	3	23
16	W2	127/130 (98%)	109 (86%)	13 (10%)	5 (4%)	3	23
16	W3	127/130 (98%)	108 (85%)	13 (10%)	6 (5%)	2	21
16	W4	127/130 (98%)	109 (86%)	13 (10%)	5 (4%)	3	23

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
16	W5	127/130 (98%)	109 (86%)	13 (10%)	5 (4%)	3	23
16	W6	127/130 (98%)	109 (86%)	13 (10%)	5 (4%)	3	23
17	Y1	129/133 (97%)	108 (84%)	16 (12%)	5 (4%)	3	23
17	Y2	129/133 (97%)	109 (84%)	15 (12%)	5 (4%)	3	23
17	Y3	129/133 (97%)	109 (84%)	15 (12%)	5 (4%)	3	23
17	Y4	129/133 (97%)	109 (84%)	15 (12%)	5 (4%)	3	23
17	Y5	129/133 (97%)	109 (84%)	15 (12%)	5 (4%)	3	23
17	Y6	129/133 (97%)	108 (84%)	16 (12%)	5 (4%)	3	23
18	Z1	73/125 (58%)	54 (74%)	15 (20%)	4 (6%)	2	19
18	Z2	73/125 (58%)	54 (74%)	15 (20%)	4 (6%)	2	19
18	Z3	73/125 (58%)	54 (74%)	15 (20%)	4 (6%)	2	19
18	Z4	73/125 (58%)	54 (74%)	15 (20%)	4 (6%)	2	19
18	Z5	73/125 (58%)	54 (74%)	15 (20%)	4 (6%)	2	19
18	Z6	73/125 (58%)	54 (74%)	15 (20%)	4 (6%)	2	19
19	b1	81/84 (96%)	64 (79%)	12 (15%)	5 (6%)	1	16
19	b2	81/84 (96%)	67 (83%)	12 (15%)	2 (2%)	5	32
19	b3	81/84 (96%)	67 (83%)	11 (14%)	3 (4%)	3	25
19	b4	81/84 (96%)	65 (80%)	11 (14%)	5 (6%)	1	16
19	b5	81/84 (96%)	67 (83%)	10 (12%)	4 (5%)	2	20
19	b6	81/84 (96%)	67 (83%)	12 (15%)	2 (2%)	5	32
20	e1	56/133 (42%)	41 (73%)	11 (20%)	4 (7%)	1	14
20	e2	56/133 (42%)	37 (66%)	12 (21%)	7 (12%)	0	5
20	e3	56/133 (42%)	38 (68%)	12 (21%)	6 (11%)	0	8
20	e4	56/133 (42%)	35 (62%)	15 (27%)	6 (11%)	0	8
20	e5	56/133 (42%)	38 (68%)	11 (20%)	7 (12%)	0	5
20	e6	56/133 (42%)	38 (68%)	12 (21%)	6 (11%)	0	8
22	A1	220/295 (75%)	181 (82%)	31 (14%)	8 (4%)	3	25
22	A2	220/295 (75%)	180 (82%)	32 (14%)	8 (4%)	3	25
22	A3	220/295 (75%)	181 (82%)	31 (14%)	8 (4%)	3	25
22	A4	220/295 (75%)	181 (82%)	31 (14%)	8 (4%)	3	25
22	A5	220/295 (75%)	181 (82%)	31 (14%)	8 (4%)	3	25

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
22	A6	220/295 (75%)	181 (82%)	31 (14%)	8 (4%)	3	25
23	B1	212/264 (80%)	174 (82%)	31 (15%)	7 (3%)	4	26
23	B2	212/264 (80%)	174 (82%)	29 (14%)	9 (4%)	3	22
23	B3	212/264 (80%)	174 (82%)	30 (14%)	8 (4%)	3	24
23	B4	212/264 (80%)	174 (82%)	30 (14%)	8 (4%)	3	24
23	B5	212/264 (80%)	174 (82%)	30 (14%)	8 (4%)	3	24
23	B6	212/264 (80%)	174 (82%)	31 (15%)	7 (3%)	4	26
24	D1	225/243 (93%)	183 (81%)	24 (11%)	18 (8%)	1	12
24	D2	225/243 (93%)	183 (81%)	24 (11%)	18 (8%)	1	12
24	D3	225/243 (93%)	183 (81%)	24 (11%)	18 (8%)	1	12
24	D4	225/243 (93%)	183 (81%)	24 (11%)	18 (8%)	1	12
24	D5	225/243 (93%)	183 (81%)	24 (11%)	18 (8%)	1	12
24	D6	225/243 (93%)	183 (81%)	24 (11%)	18 (8%)	1	12
25	E1	260/263 (99%)	215 (83%)	30 (12%)	15 (6%)	1	17
25	E2	260/263 (99%)	215 (83%)	30 (12%)	15 (6%)	1	17
25	E3	260/263 (99%)	215 (83%)	30 (12%)	15 (6%)	1	17
25	E4	260/263 (99%)	215 (83%)	30 (12%)	15 (6%)	1	17
25	E5	260/263 (99%)	215 (83%)	30 (12%)	15 (6%)	1	17
25	E6	260/263 (99%)	215 (83%)	30 (12%)	15 (6%)	1	17
26	F1	189/204 (93%)	144 (76%)	30 (16%)	15 (8%)	1	12
26	F2	189/204 (93%)	144 (76%)	30 (16%)	15 (8%)	1	12
26	F3	189/204 (93%)	144 (76%)	30 (16%)	15 (8%)	1	12
26	F4	189/204 (93%)	144 (76%)	30 (16%)	15 (8%)	1	12
26	F5	189/204 (93%)	144 (76%)	30 (16%)	15 (8%)	1	12
26	F6	189/204 (93%)	144 (76%)	30 (16%)	15 (8%)	1	12
27	H1	187/194 (96%)	145 (78%)	28 (15%)	14 (8%)	1	13
27	H2	187/194 (96%)	145 (78%)	28 (15%)	14 (8%)	1	13
27	H3	187/194 (96%)	145 (78%)	28 (15%)	14 (8%)	1	13
27	H4	187/194 (96%)	146 (78%)	27 (14%)	14 (8%)	1	13
27	H5	187/194 (96%)	146 (78%)	27 (14%)	14 (8%)	1	13
27	H6	187/194 (96%)	146 (78%)	27 (14%)	14 (8%)	1	13

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
28	I1	204/208 (98%)	168 (82%)	24 (12%)	12 (6%)	1	17
28	I2	204/208 (98%)	168 (82%)	24 (12%)	12 (6%)	1	17
28	I3	204/208 (98%)	168 (82%)	24 (12%)	12 (6%)	1	17
28	I4	204/208 (98%)	168 (82%)	24 (12%)	12 (6%)	1	17
28	I5	204/208 (98%)	168 (82%)	24 (12%)	12 (6%)	1	17
28	I6	204/208 (98%)	168 (82%)	24 (12%)	12 (6%)	1	17
29	K1	96/165 (58%)	76 (79%)	15 (16%)	5 (5%)	2	19
29	K2	96/165 (58%)	76 (79%)	15 (16%)	5 (5%)	2	19
29	K3	96/165 (58%)	76 (79%)	15 (16%)	5 (5%)	2	19
29	K4	96/165 (58%)	76 (79%)	15 (16%)	5 (5%)	2	19
29	K5	96/165 (58%)	76 (79%)	15 (16%)	5 (5%)	2	19
29	K6	96/165 (58%)	76 (79%)	15 (16%)	5 (5%)	2	19
30	L1	151/158 (96%)	129 (85%)	11 (7%)	11 (7%)	1	13
30	L2	151/158 (96%)	125 (83%)	15 (10%)	11 (7%)	1	13
30	L3	151/158 (96%)	128 (85%)	14 (9%)	9 (6%)	1	16
30	L4	151/158 (96%)	127 (84%)	13 (9%)	11 (7%)	1	13
30	L5	151/158 (96%)	128 (85%)	14 (9%)	9 (6%)	1	16
30	L6	151/158 (96%)	126 (83%)	15 (10%)	10 (7%)	1	15
31	P1	123/145 (85%)	111 (90%)	6 (5%)	6 (5%)	2	20
31	P2	123/145 (85%)	111 (90%)	6 (5%)	6 (5%)	2	20
31	P3	123/145 (85%)	108 (88%)	11 (9%)	4 (3%)	4	26
31	P4	123/145 (85%)	111 (90%)	6 (5%)	6 (5%)	2	20
31	P5	123/145 (85%)	112 (91%)	6 (5%)	5 (4%)	3	22
31	P6	123/145 (85%)	111 (90%)	6 (5%)	6 (5%)	2	20
32	Q1	144/146 (99%)	112 (78%)	22 (15%)	10 (7%)	1	14
32	Q2	144/146 (99%)	112 (78%)	22 (15%)	10 (7%)	1	14
32	Q3	144/146 (99%)	112 (78%)	22 (15%)	10 (7%)	1	14
32	Q4	144/146 (99%)	112 (78%)	22 (15%)	10 (7%)	1	14
32	Q5	144/146 (99%)	112 (78%)	22 (15%)	10 (7%)	1	14
32	Q6	144/146 (99%)	112 (78%)	22 (15%)	10 (7%)	1	14
33	R1	130/135 (96%)	94 (72%)	25 (19%)	11 (8%)	1	11

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
33	R2	130/135 (96%)	95 (73%)	22 (17%)	13 (10%)	0	9
33	R3	130/135 (96%)	95 (73%)	24 (18%)	11 (8%)	1	11
33	R4	130/135 (96%)	97 (75%)	23 (18%)	10 (8%)	1	13
33	R5	130/135 (96%)	93 (72%)	26 (20%)	11 (8%)	1	11
33	R6	130/135 (96%)	93 (72%)	27 (21%)	10 (8%)	1	13
34	S1	141/152 (93%)	135 (96%)	6 (4%)	0	100	100
34	S2	141/152 (93%)	135 (96%)	6 (4%)	0	100	100
34	S3	141/152 (93%)	135 (96%)	6 (4%)	0	100	100
34	S4	141/152 (93%)	135 (96%)	6 (4%)	0	100	100
34	S5	141/152 (93%)	135 (96%)	6 (4%)	0	100	100
34	S6	141/152 (93%)	135 (96%)	6 (4%)	0	100	100
35	j1	23/25 (92%)	23 (100%)	0	0	100	100
35	j2	23/25 (92%)	23 (100%)	0	0	100	100
35	j3	23/25 (92%)	23 (100%)	0	0	100	100
35	j4	23/25 (92%)	23 (100%)	0	0	100	100
35	j5	23/25 (92%)	23 (100%)	0	0	100	100
35	j6	23/25 (92%)	23 (100%)	0	0	100	100
36	k1	179/181 (99%)	162 (90%)	13 (7%)	4 (2%)	6	35
36	k2	179/181 (99%)	161 (90%)	16 (9%)	2 (1%)	14	52
36	k3	179/181 (99%)	164 (92%)	14 (8%)	1 (1%)	25	66
36	k4	179/181 (99%)	160 (89%)	17 (10%)	2 (1%)	14	52
36	k5	179/181 (99%)	164 (92%)	13 (7%)	2 (1%)	14	52
36	k6	179/181 (99%)	164 (92%)	13 (7%)	2 (1%)	14	52
37	l1	77/198 (39%)	44 (57%)	24 (31%)	9 (12%)	0	6
37	l2	77/198 (39%)	44 (57%)	24 (31%)	9 (12%)	0	6
37	l3	77/198 (39%)	44 (57%)	24 (31%)	9 (12%)	0	6
37	l4	77/198 (39%)	44 (57%)	24 (31%)	9 (12%)	0	6
37	l5	77/198 (39%)	44 (57%)	24 (31%)	9 (12%)	0	6
37	l6	77/198 (39%)	44 (57%)	24 (31%)	9 (12%)	0	6
All	All	30804/35724 (86%)	25074 (81%)	3953 (13%)	1777 (6%)	1	17

All (1777) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	T1	4	VAL
2	U1	50	VAL
2	U1	103	SER
2	U1	107	GLU
2	U1	116	ILE
4	X1	35	ALA
5	a1	3	LYS
5	a1	101	PHE
5	a1	106	ALA
6	c1	67	ARG
8	f1	99	LYS
9	g1	55	PRO
9	g1	99	ARG
9	g1	102	VAL
9	g1	281	ALA
10	C1	262	THR
11	G1	107	SER
11	G1	122	PRO
11	G1	145	PHE
11	G1	150	GLU
12	J1	3	VAL
12	J1	8	VAL
12	J1	17	ARG
14	N1	24	THR
14	N1	146	ALA
16	W1	66	THR
19	b1	37	CYS
19	b1	38	PRO
20	e1	47	PRO
22	A1	125	THR
22	A1	208	GLU
23	B1	147	ASN
24	D1	3	VAL
24	D1	55	THR
24	D1	81	GLU
25	E1	76	VAL
25	E1	164	LEU
26	F1	15	PRO
26	F1	33	ILE
27	H1	66	VAL
27	H1	107	LYS
28	I1	130	THR
29	K1	3	MET

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Mol	Chain	Res	Type
30	L1	8	ARG
30	L1	116	CYS
31	P1	131	PRO
32	Q1	42	ILE
32	Q1	117	ARG
33	R1	42	PRO
33	R1	94	GLU
33	R1	131	PRO
1	T2	4	VAL
2	U2	50	VAL
2	U2	103	SER
2	U2	107	GLU
2	U2	116	ILE
4	X2	35	ALA
5	a2	3	LYS
5	a2	18	VAL
5	a2	101	PHE
5	a2	106	ALA
6	c2	67	ARG
8	f2	99	LYS
9	g2	55	PRO
9	g2	99	ARG
9	g2	102	VAL
9	g2	281	ALA
10	C2	262	THR
11	G2	107	SER
11	G2	122	PRO
11	G2	145	PHE
11	G2	150	GLU
12	J2	3	VAL
12	J2	8	VAL
12	J2	17	ARG
14	N2	24	THR
14	N2	146	ALA
16	W2	66	THR
22	A2	125	THR
22	A2	208	GLU
23	B2	147	ASN
24	D2	3	VAL
24	D2	55	THR
24	D2	81	GLU
25	E2	76	VAL

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Mol	Chain	Res	Type
25	E2	164	LEU
26	F2	15	PRO
26	F2	33	ILE
27	H2	66	VAL
27	H2	107	LYS
28	I2	130	THR
29	K2	3	MET
30	L2	8	ARG
30	L2	116	CYS
31	P2	131	PRO
31	P2	133	ILE
32	Q2	42	ILE
32	Q2	117	ARG
33	R2	42	PRO
33	R2	70	SER
33	R2	94	GLU
33	R2	131	PRO
1	T3	4	VAL
2	U3	50	VAL
2	U3	103	SER
2	U3	107	GLU
2	U3	116	ILE
4	X3	35	ALA
5	a3	3	LYS
5	a3	18	VAL
5	a3	101	PHE
5	a3	106	ALA
6	c3	67	ARG
8	f3	99	LYS
9	g3	55	PRO
9	g3	99	ARG
9	g3	102	VAL
9	g3	281	ALA
10	C3	262	THR
11	G3	107	SER
11	G3	122	PRO
11	G3	145	PHE
11	G3	150	GLU
12	J3	3	VAL
12	J3	8	VAL
12	J3	17	ARG
14	N3	24	THR

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Mol	Chain	Res	Type
14	N3	146	ALA
16	W3	66	THR
22	A3	125	THR
22	A3	208	GLU
23	B3	147	ASN
24	D3	3	VAL
24	D3	55	THR
24	D3	81	GLU
25	E3	76	VAL
25	E3	164	LEU
26	F3	15	PRO
26	F3	33	ILE
27	H3	66	VAL
27	H3	107	LYS
28	I3	130	THR
29	K3	3	MET
30	L3	8	ARG
30	L3	116	CYS
31	P3	16	THR
31	P3	131	PRO
31	P3	133	ILE
32	Q3	42	ILE
32	Q3	117	ARG
33	R3	42	PRO
33	R3	71	ILE
33	R3	94	GLU
33	R3	131	PRO
1	T4	4	VAL
2	U4	50	VAL
2	U4	103	SER
2	U4	107	GLU
2	U4	116	ILE
4	X4	35	ALA
5	a4	3	LYS
5	a4	18	VAL
5	a4	101	PHE
5	a4	106	ALA
6	c4	67	ARG
8	f4	99	LYS
9	g4	55	PRO
9	g4	99	ARG
9	g4	102	VAL

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Mol	Chain	Res	Type
9	g4	281	ALA
10	C4	262	THR
11	G4	107	SER
11	G4	122	PRO
11	G4	145	PHE
11	G4	150	GLU
12	J4	3	VAL
12	J4	8	VAL
12	J4	17	ARG
14	N4	24	THR
14	N4	146	ALA
16	W4	66	THR
19	b4	37	CYS
19	b4	38	PRO
22	A4	125	THR
22	A4	208	GLU
23	B4	147	ASN
24	D4	3	VAL
24	D4	55	THR
24	D4	81	GLU
25	E4	76	VAL
25	E4	164	LEU
26	F4	15	PRO
26	F4	33	ILE
27	H4	66	VAL
27	H4	107	LYS
28	I4	130	THR
29	K4	3	MET
30	L4	8	ARG
30	L4	116	CYS
31	P4	131	PRO
31	P4	133	ILE
32	Q4	42	ILE
32	Q4	117	ARG
33	R4	42	PRO
33	R4	94	GLU
33	R4	131	PRO
1	T5	4	VAL
2	U5	50	VAL
2	U5	103	SER
2	U5	107	GLU
2	U5	116	ILE

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Mol	Chain	Res	Type
4	X5	35	ALA
5	a5	3	LYS
5	a5	101	PHE
5	a5	106	ALA
6	c5	67	ARG
8	f5	99	LYS
9	g5	55	PRO
9	g5	99	ARG
9	g5	102	VAL
9	g5	281	ALA
10	C5	262	THR
11	G5	107	SER
11	G5	122	PRO
11	G5	145	PHE
11	G5	150	GLU
12	J5	3	VAL
12	J5	8	VAL
12	J5	17	ARG
14	N5	24	THR
14	N5	146	ALA
16	W5	66	THR
20	e5	47	PRO
20	e5	51	LYS
22	A5	125	THR
22	A5	208	GLU
23	B5	147	ASN
24	D5	3	VAL
24	D5	55	THR
24	D5	81	GLU
25	E5	76	VAL
25	E5	164	LEU
26	F5	15	PRO
26	F5	33	ILE
27	H5	66	VAL
27	H5	107	LYS
28	I5	130	THR
29	K5	3	MET
30	L5	8	ARG
30	L5	116	CYS
31	P5	131	PRO
31	P5	133	ILE
32	Q5	42	ILE

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Mol	Chain	Res	Type
32	Q5	117	ARG
33	R5	42	PRO
33	R5	74	GLN
33	R5	94	GLU
33	R5	131	PRO
1	T6	4	VAL
2	U6	50	VAL
2	U6	103	SER
2	U6	107	GLU
2	U6	116	ILE
4	X6	35	ALA
5	a6	3	LYS
5	a6	101	PHE
5	a6	106	ALA
6	c6	67	ARG
8	f6	99	LYS
9	g6	55	PRO
9	g6	99	ARG
9	g6	102	VAL
9	g6	281	ALA
10	C6	262	THR
11	G6	107	SER
11	G6	122	PRO
11	G6	145	PHE
11	G6	150	GLU
12	J6	3	VAL
12	J6	8	VAL
12	J6	17	ARG
14	N6	30	SER
14	N6	146	ALA
16	W6	66	THR
22	A6	125	THR
22	A6	208	GLU
23	B6	147	ASN
24	D6	3	VAL
24	D6	55	THR
24	D6	81	GLU
25	E6	76	VAL
25	E6	164	LEU
26	F6	15	PRO
26	F6	33	ILE
27	H6	66	VAL

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Mol	Chain	Res	Type
27	H6	107	LYS
28	I6	130	THR
29	K6	3	MET
30	L6	8	ARG
30	L6	116	CYS
31	P6	131	PRO
31	P6	133	ILE
32	Q6	42	ILE
32	Q6	117	ARG
33	R6	42	PRO
33	R6	78	ARG
33	R6	94	GLU
33	R6	131	PRO
36	k2	171	ASN
36	k5	168	HIS
37	l1	125	LYS
37	l1	151	LYS
37	l1	184	GLU
37	l1	185	VAL
37	l2	125	LYS
37	l2	151	LYS
37	l2	184	GLU
37	l2	185	VAL
37	l3	125	LYS
37	l3	151	LYS
37	l3	184	GLU
37	l3	185	VAL
37	l4	125	LYS
37	l4	151	LYS
37	l4	184	GLU
37	l4	185	VAL
37	l5	125	LYS
37	l5	151	LYS
37	l5	184	GLU
37	l5	185	VAL
37	l6	125	LYS
37	l6	151	LYS
37	l6	184	GLU
37	l6	185	VAL
1	T1	5	THR
1	T1	132	ASP
3	V1	9	VAL

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Mol	Chain	Res	Type
3	V1	10	ASP
3	V1	78	ILE
4	X1	10	ALA
5	a1	13	LYS
5	a1	18	VAL
5	a1	46	GLU
5	a1	89	ARG
6	c1	59	LEU
9	g1	15	ASN
9	g1	28	PRO
9	g1	56	GLN
9	g1	145	GLU
9	g1	261	LEU
10	C1	261	PHE
11	G1	12	CYS
11	G1	20	ASP
11	G1	25	ARG
11	G1	154	ARG
12	J1	37	LEU
12	J1	147	PHE
14	N1	3	ARG
14	N1	102	LEU
14	N1	147	SER
15	O1	48	SER
15	O1	126	ILE
15	O1	128	ARG
16	W1	5	ASN
17	Y1	34	THR
17	Y1	119	GLY
18	Z1	93	SER
19	b1	10	PRO
19	b1	45	THR
19	b1	75	GLU
20	e1	29	THR
22	A1	13	GLU
22	A1	31	ASP
22	A1	170	SER
22	A1	210	ILE
23	B1	37	ALA
23	B1	83	LYS
23	B1	190	PRO
24	D1	93	THR

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Mol	Chain	Res	Type
24	D1	198	ILE
25	E1	144	ALA
25	E1	214	ASN
26	F1	17	ILE
26	F1	48	TYR
26	F1	57	ALA
26	F1	202	SER
27	H1	34	SER
27	H1	115	LYS
28	I1	75	LYS
28	I1	122	GLY
28	I1	140	LYS
28	I1	143	LYS
28	I1	155	ASN
28	I1	186	ASP
31	P1	133	ILE
32	Q1	5	GLY
32	Q1	100	VAL
33	R1	73	LEU
33	R1	83	ASN
33	R1	119	VAL
1	T2	5	THR
1	T2	132	ASP
3	V2	9	VAL
3	V2	10	ASP
3	V2	78	ILE
4	X2	10	ALA
5	a2	13	LYS
5	a2	46	GLU
5	a2	89	ARG
6	c2	59	LEU
9	g2	15	ASN
9	g2	28	PRO
9	g2	56	GLN
9	g2	145	GLU
9	g2	261	LEU
10	C2	261	PHE
11	G2	12	CYS
11	G2	20	ASP
11	G2	25	ARG
11	G2	154	ARG
12	J2	37	LEU

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Mol	Chain	Res	Type
12	J2	147	PHE
14	N2	3	ARG
14	N2	102	LEU
14	N2	147	SER
15	O2	48	SER
15	O2	126	ILE
15	O2	128	ARG
16	W2	5	ASN
17	Y2	34	THR
17	Y2	119	GLY
18	Z2	93	SER
19	b2	10	PRO
19	b2	75	GLU
20	e2	3	HIS
20	e2	29	THR
20	e2	49	PHE
22	A2	13	GLU
22	A2	31	ASP
22	A2	170	SER
22	A2	210	ILE
23	B2	22	VAL
23	B2	37	ALA
23	B2	83	LYS
23	B2	190	PRO
24	D2	93	THR
24	D2	198	ILE
25	E2	144	ALA
25	E2	214	ASN
26	F2	17	ILE
26	F2	48	TYR
26	F2	57	ALA
26	F2	202	SER
27	H2	34	SER
27	H2	112	ASN
27	H2	115	LYS
28	I2	75	LYS
28	I2	122	GLY
28	I2	140	LYS
28	I2	143	LYS
28	I2	155	ASN
28	I2	186	ASP
32	Q2	5	GLY

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Mol	Chain	Res	Type
32	Q2	100	VAL
33	R2	71	ILE
33	R2	83	ASN
33	R2	119	VAL
1	T3	5	THR
1	T3	132	ASP
3	V3	9	VAL
3	V3	10	ASP
3	V3	78	ILE
4	X3	10	ALA
5	a3	13	LYS
5	a3	46	GLU
5	a3	89	ARG
6	c3	59	LEU
9	g3	15	ASN
9	g3	28	PRO
9	g3	56	GLN
9	g3	145	GLU
9	g3	261	LEU
10	C3	261	PHE
11	G3	12	CYS
11	G3	20	ASP
11	G3	25	ARG
11	G3	154	ARG
12	J3	37	LEU
12	J3	147	PHE
14	N3	3	ARG
14	N3	102	LEU
14	N3	147	SER
15	O3	48	SER
15	O3	126	ILE
15	O3	128	ARG
16	W3	5	ASN
17	Y3	34	THR
17	Y3	119	GLY
18	Z3	93	SER
19	b3	10	PRO
19	b3	75	GLU
20	e3	29	THR
20	e3	49	PHE
22	A3	13	GLU
22	A3	31	ASP

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Mol	Chain	Res	Type
22	A3	170	SER
22	A3	210	ILE
23	B3	22	VAL
23	B3	37	ALA
23	B3	83	LYS
23	B3	190	PRO
24	D3	93	THR
24	D3	198	ILE
25	E3	144	ALA
25	E3	214	ASN
26	F3	17	ILE
26	F3	48	TYR
26	F3	57	ALA
26	F3	202	SER
27	H3	34	SER
27	H3	115	LYS
28	I3	75	LYS
28	I3	122	GLY
28	I3	140	LYS
28	I3	143	LYS
28	I3	155	ASN
28	I3	186	ASP
32	Q3	5	GLY
32	Q3	100	VAL
33	R3	73	LEU
33	R3	83	ASN
33	R3	119	VAL
1	T4	5	THR
1	T4	132	ASP
3	V4	9	VAL
3	V4	10	ASP
3	V4	78	ILE
4	X4	10	ALA
5	a4	13	LYS
5	a4	46	GLU
5	a4	89	ARG
6	c4	59	LEU
9	g4	15	ASN
9	g4	28	PRO
9	g4	56	GLN
9	g4	145	GLU
9	g4	261	LEU

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Mol	Chain	Res	Type
10	C4	261	PHE
11	G4	12	CYS
11	G4	20	ASP
11	G4	25	ARG
11	G4	154	ARG
12	J4	37	LEU
12	J4	147	PHE
14	N4	3	ARG
14	N4	102	LEU
14	N4	147	SER
15	O4	48	SER
15	O4	126	ILE
15	O4	128	ARG
16	W4	5	ASN
17	Y4	34	THR
17	Y4	119	GLY
18	Z4	93	SER
19	b4	10	PRO
19	b4	75	GLU
20	e4	14	GLY
20	e4	29	THR
20	e4	49	PHE
22	A4	13	GLU
22	A4	31	ASP
22	A4	170	SER
22	A4	210	ILE
23	B4	22	VAL
23	B4	37	ALA
23	B4	83	LYS
23	B4	190	PRO
24	D4	93	THR
24	D4	198	ILE
25	E4	144	ALA
25	E4	214	ASN
26	F4	17	ILE
26	F4	48	TYR
26	F4	57	ALA
26	F4	202	SER
27	H4	34	SER
27	H4	112	ASN
27	H4	115	LYS
28	I4	75	LYS

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Mol	Chain	Res	Type
28	I4	122	GLY
28	I4	140	LYS
28	I4	143	LYS
28	I4	155	ASN
28	I4	186	ASP
32	Q4	5	GLY
32	Q4	100	VAL
33	R4	83	ASN
33	R4	119	VAL
1	T5	5	THR
1	T5	132	ASP
3	V5	9	VAL
3	V5	10	ASP
3	V5	78	ILE
4	X5	10	ALA
5	a5	13	LYS
5	a5	18	VAL
5	a5	46	GLU
5	a5	89	ARG
6	c5	59	LEU
9	g5	15	ASN
9	g5	28	PRO
9	g5	56	GLN
9	g5	145	GLU
9	g5	261	LEU
10	C5	261	PHE
11	G5	12	CYS
11	G5	20	ASP
11	G5	25	ARG
11	G5	154	ARG
12	J5	37	LEU
12	J5	147	PHE
14	N5	3	ARG
14	N5	102	LEU
14	N5	147	SER
15	O5	48	SER
15	O5	126	ILE
15	O5	128	ARG
16	W5	5	ASN
17	Y5	34	THR
17	Y5	119	GLY
18	Z5	93	SER

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Mol	Chain	Res	Type
19	b5	10	PRO
19	b5	75	GLU
20	e5	29	THR
20	e5	45	VAL
20	e5	46	VAL
22	A5	13	GLU
22	A5	31	ASP
22	A5	170	SER
22	A5	210	ILE
23	B5	22	VAL
23	B5	37	ALA
23	B5	83	LYS
23	B5	190	PRO
24	D5	93	THR
24	D5	198	ILE
25	E5	144	ALA
25	E5	214	ASN
26	F5	17	ILE
26	F5	48	TYR
26	F5	57	ALA
26	F5	202	SER
27	H5	34	SER
27	H5	115	LYS
28	I5	75	LYS
28	I5	122	GLY
28	I5	140	LYS
28	I5	143	LYS
28	I5	155	ASN
28	I5	186	ASP
31	P5	108	LYS
32	Q5	5	GLY
32	Q5	100	VAL
33	R5	83	ASN
33	R5	119	VAL
1	T6	5	THR
1	T6	132	ASP
3	V6	9	VAL
3	V6	10	ASP
3	V6	78	ILE
4	X6	10	ALA
5	a6	13	LYS
5	a6	18	VAL

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Mol	Chain	Res	Type
5	a6	46	GLU
5	a6	89	ARG
6	c6	59	LEU
9	g6	15	ASN
9	g6	28	PRO
9	g6	56	GLN
9	g6	145	GLU
9	g6	261	LEU
10	C6	261	PHE
11	G6	12	CYS
11	G6	20	ASP
11	G6	25	ARG
11	G6	154	ARG
12	J6	37	LEU
12	J6	147	PHE
14	N6	3	ARG
14	N6	29	THR
14	N6	102	LEU
14	N6	147	SER
15	O6	48	SER
15	O6	126	ILE
15	O6	128	ARG
16	W6	5	ASN
17	Y6	34	THR
17	Y6	119	GLY
18	Z6	93	SER
19	b6	10	PRO
19	b6	75	GLU
20	e6	29	THR
20	e6	49	PHE
22	A6	13	GLU
22	A6	31	ASP
22	A6	170	SER
22	A6	210	ILE
23	B6	37	ALA
23	B6	83	LYS
23	B6	190	PRO
24	D6	93	THR
24	D6	198	ILE
25	E6	144	ALA
25	E6	214	ASN
26	F6	17	ILE

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Mol	Chain	Res	Type
26	F6	48	TYR
26	F6	57	ALA
26	F6	139	VAL
26	F6	202	SER
27	H6	34	SER
27	H6	115	LYS
28	I6	75	LYS
28	I6	122	GLY
28	I6	140	LYS
28	I6	143	LYS
28	I6	155	ASN
28	I6	186	ASP
32	Q6	5	GLY
32	Q6	100	VAL
33	R6	83	ASN
33	R6	119	VAL
36	k1	93	PRO
36	k1	171	ASN
36	k3	171	ASN
36	k4	171	ASN
36	k5	171	ASN
1	T1	34	VAL
3	V1	36	VAL
4	X1	46	HIS
4	X1	64	SER
4	X1	77	ASN
4	X1	79	LYS
4	X1	109	GLY
4	X1	126	ALA
5	a1	5	ARG
5	a1	61	ALA
5	a1	102	ARG
6	c1	36	ASP
8	f1	100	LEU
9	g1	105	THR
9	g1	244	ASN
9	g1	246	TYR
10	C1	188	CYS
10	C1	226	ALA
10	C1	273	LEU
11	G1	175	LYS
11	G1	212	LEU

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Mol	Chain	Res	Type
11	G1	213	LEU
12	J1	119	LEU
12	J1	122	SER
13	M1	114	TYR
14	N1	12	SER
15	O1	65	ASP
15	O1	67	ASP
15	O1	68	GLU
15	O1	138	ASP
15	O1	140	THR
16	W1	93	LEU
17	Y1	3	ASP
18	Z1	112	ASN
22	A1	98	PRO
23	B1	76	ASN
24	D1	44	THR
24	D1	215	ASP
24	D1	216	GLU
25	E1	77	ARG
25	E1	93	ASP
25	E1	196	THR
25	E1	232	ASN
26	F1	42	LYS
26	F1	47	LYS
26	F1	85	LYS
26	F1	139	VAL
27	H1	112	ASN
27	H1	148	LEU
28	I1	86	SER
28	I1	132	GLU
28	I1	180	GLY
30	L1	3	ASP
30	L1	21	LYS
30	L1	33	LEU
30	L1	133	PRO
30	L1	152	LYS
31	P1	11	THR
32	Q1	6	PRO
32	Q1	48	GLN
32	Q1	56	LEU
32	Q1	101	ASP
32	Q1	145	TYR

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Mol	Chain	Res	Type
1	T2	34	VAL
3	V2	36	VAL
4	X2	46	HIS
4	X2	64	SER
4	X2	77	ASN
4	X2	79	LYS
4	X2	109	GLY
4	X2	126	ALA
5	a2	61	ALA
5	a2	102	ARG
6	c2	36	ASP
8	f2	100	LEU
9	g2	105	THR
9	g2	244	ASN
9	g2	246	TYR
10	C2	188	CYS
10	C2	226	ALA
10	C2	273	LEU
11	G2	175	LYS
11	G2	212	LEU
11	G2	213	LEU
12	J2	119	LEU
12	J2	122	SER
13	M2	114	TYR
14	N2	12	SER
15	O2	65	ASP
15	O2	67	ASP
15	O2	68	GLU
15	O2	138	ASP
15	O2	140	THR
16	W2	93	LEU
17	Y2	3	ASP
18	Z2	112	ASN
20	e2	6	LEU
20	e2	51	LYS
22	A2	98	PRO
23	B2	76	ASN
24	D2	44	THR
24	D2	215	ASP
24	D2	216	GLU
25	E2	77	ARG
25	E2	93	ASP

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Mol	Chain	Res	Type
25	E2	196	THR
25	E2	232	ASN
26	F2	42	LYS
26	F2	47	LYS
26	F2	85	LYS
26	F2	139	VAL
27	H2	148	LEU
28	I2	86	SER
28	I2	132	GLU
28	I2	180	GLY
30	L2	3	ASP
30	L2	21	LYS
30	L2	33	LEU
30	L2	133	PRO
30	L2	152	LYS
31	P2	11	THR
32	Q2	6	PRO
32	Q2	48	GLN
32	Q2	56	LEU
32	Q2	101	ASP
32	Q2	145	TYR
33	R2	73	LEU
33	R2	75	GLU
1	T3	34	VAL
3	V3	36	VAL
4	X3	46	HIS
4	X3	64	SER
4	X3	77	ASN
4	X3	79	LYS
4	X3	109	GLY
4	X3	126	ALA
5	a3	61	ALA
5	a3	102	ARG
6	c3	36	ASP
8	f3	100	LEU
9	g3	105	THR
9	g3	244	ASN
9	g3	246	TYR
10	C3	188	CYS
10	C3	226	ALA
10	C3	273	LEU
11	G3	175	LYS

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Mol	Chain	Res	Type
11	G3	212	LEU
11	G3	213	LEU
12	J3	119	LEU
12	J3	122	SER
13	M3	114	TYR
14	N3	12	SER
15	O3	65	ASP
15	O3	67	ASP
15	O3	68	GLU
15	O3	138	ASP
15	O3	140	THR
16	W3	93	LEU
16	W3	122	GLY
17	Y3	3	ASP
18	Z3	112	ASN
20	e3	51	LYS
22	A3	98	PRO
23	B3	76	ASN
24	D3	44	THR
24	D3	215	ASP
24	D3	216	GLU
25	E3	77	ARG
25	E3	93	ASP
25	E3	196	THR
25	E3	232	ASN
26	F3	42	LYS
26	F3	47	LYS
26	F3	85	LYS
26	F3	139	VAL
27	H3	112	ASN
27	H3	148	LEU
28	I3	86	SER
28	I3	132	GLU
28	I3	180	GLY
30	L3	3	ASP
30	L3	21	LYS
30	L3	33	LEU
30	L3	133	PRO
32	Q3	6	PRO
32	Q3	48	GLN
32	Q3	56	LEU
32	Q3	101	ASP

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Mol	Chain	Res	Type
32	Q3	145	TYR
1	T4	34	VAL
3	V4	36	VAL
4	X4	46	HIS
4	X4	64	SER
4	X4	77	ASN
4	X4	79	LYS
4	X4	109	GLY
4	X4	126	ALA
5	a4	61	ALA
5	a4	102	ARG
6	c4	36	ASP
8	f4	100	LEU
9	g4	105	THR
9	g4	244	ASN
9	g4	246	TYR
10	C4	188	CYS
10	C4	226	ALA
10	C4	273	LEU
11	G4	175	LYS
11	G4	212	LEU
11	G4	213	LEU
12	J4	119	LEU
12	J4	122	SER
13	M4	114	TYR
14	N4	12	SER
15	O4	65	ASP
15	O4	67	ASP
15	O4	68	GLU
15	O4	138	ASP
15	O4	140	THR
16	W4	93	LEU
17	Y4	3	ASP
18	Z4	112	ASN
20	e4	4	GLY
20	e4	51	LYS
22	A4	98	PRO
24	D4	44	THR
24	D4	215	ASP
24	D4	216	GLU
25	E4	77	ARG
25	E4	93	ASP

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Mol	Chain	Res	Type
25	E4	196	THR
25	E4	232	ASN
26	F4	42	LYS
26	F4	47	LYS
26	F4	85	LYS
26	F4	139	VAL
27	H4	148	LEU
28	I4	86	SER
28	I4	132	GLU
28	I4	180	GLY
30	L4	3	ASP
30	L4	21	LYS
30	L4	33	LEU
30	L4	133	PRO
30	L4	152	LYS
31	P4	11	THR
32	Q4	6	PRO
32	Q4	48	GLN
32	Q4	56	LEU
32	Q4	101	ASP
32	Q4	145	TYR
33	R4	73	LEU
1	T5	34	VAL
3	V5	36	VAL
4	X5	46	HIS
4	X5	64	SER
4	X5	77	ASN
4	X5	79	LYS
4	X5	109	GLY
4	X5	126	ALA
5	a5	61	ALA
5	a5	102	ARG
6	c5	36	ASP
8	f5	100	LEU
9	g5	105	THR
9	g5	244	ASN
9	g5	246	TYR
10	C5	188	CYS
10	C5	226	ALA
10	C5	273	LEU
11	G5	175	LYS
11	G5	212	LEU

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Mol	Chain	Res	Type
11	G5	213	LEU
12	J5	119	LEU
12	J5	122	SER
13	M5	114	TYR
14	N5	12	SER
15	O5	65	ASP
15	O5	68	GLU
15	O5	138	ASP
15	O5	140	THR
16	W5	93	LEU
17	Y5	3	ASP
18	Z5	112	ASN
22	A5	98	PRO
24	D5	44	THR
24	D5	215	ASP
24	D5	216	GLU
25	E5	77	ARG
25	E5	93	ASP
25	E5	196	THR
25	E5	232	ASN
26	F5	42	LYS
26	F5	47	LYS
26	F5	85	LYS
26	F5	139	VAL
27	H5	112	ASN
27	H5	148	LEU
28	I5	86	SER
28	I5	132	GLU
28	I5	180	GLY
30	L5	3	ASP
30	L5	21	LYS
30	L5	33	LEU
30	L5	133	PRO
32	Q5	6	PRO
32	Q5	48	GLN
32	Q5	56	LEU
32	Q5	101	ASP
32	Q5	145	TYR
33	R5	73	LEU
1	T6	34	VAL
3	V6	36	VAL
4	X6	46	HIS

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Mol	Chain	Res	Type
4	X6	64	SER
4	X6	77	ASN
4	X6	79	LYS
4	X6	109	GLY
4	X6	126	ALA
5	a6	61	ALA
5	a6	102	ARG
6	c6	36	ASP
8	f6	100	LEU
9	g6	105	THR
9	g6	244	ASN
9	g6	246	TYR
10	C6	188	CYS
10	C6	226	ALA
10	C6	273	LEU
11	G6	175	LYS
11	G6	212	LEU
11	G6	213	LEU
12	J6	119	LEU
12	J6	122	SER
13	M6	114	TYR
14	N6	12	SER
15	O6	65	ASP
15	O6	67	ASP
15	O6	68	GLU
15	O6	138	ASP
15	O6	140	THR
16	W6	93	LEU
17	Y6	3	ASP
18	Z6	112	ASN
20	e6	51	LYS
22	A6	98	PRO
23	B6	76	ASN
24	D6	44	THR
24	D6	215	ASP
24	D6	216	GLU
25	E6	77	ARG
25	E6	93	ASP
25	E6	196	THR
25	E6	232	ASN
26	F6	42	LYS
26	F6	47	LYS

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Mol	Chain	Res	Type
26	F6	85	LYS
27	H6	112	ASN
27	H6	148	LEU
28	I6	86	SER
28	I6	132	GLU
28	I6	180	GLY
30	L6	3	ASP
30	L6	21	LYS
30	L6	33	LEU
30	L6	133	PRO
30	L6	152	LYS
31	P6	11	THR
32	Q6	6	PRO
32	Q6	48	GLN
32	Q6	56	LEU
32	Q6	101	ASP
32	Q6	145	TYR
37	l1	116	THR
37	l1	117	ILE
37	l2	116	THR
37	l2	117	ILE
37	l3	116	THR
37	l3	117	ILE
37	l4	116	THR
37	l4	117	ILE
37	l5	116	THR
37	l5	117	ILE
37	l6	116	THR
37	l6	117	ILE
1	T1	6	VAL
2	U1	48	LEU
4	X1	9	THR
4	X1	87	ASN
4	X1	117	GLY
5	a1	62	TYR
5	a1	64	LEU
8	f1	96	LYS
9	g1	191	HIS
10	C1	85	SER
10	C1	134	ASN
10	C1	264	SER
10	C1	276	THR

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Mol	Chain	Res	Type
11	G1	146	ASN
11	G1	147	LEU
11	G1	152	ASP
12	J1	138	ARG
13	M1	117	GLU
14	N1	143	SER
15	O1	47	LEU
15	O1	129	ILE
16	W1	111	MET
17	Y1	51	THR
17	Y1	53	ASP
18	Z1	49	LEU
22	A1	4	ALA
23	B1	86	LEU
23	B1	223	PHE
24	D1	83	SER
24	D1	153	VAL
24	D1	206	ASP
24	D1	222	PRO
24	D1	223	ILE
25	E1	131	VAL
25	E1	168	LYS
26	F1	138	ALA
27	H1	12	ASN
27	H1	38	ALA
27	H1	138	GLU
27	H1	162	GLN
29	K1	39	ASN
29	K1	41	PRO
29	K1	91	PRO
30	L1	4	ILE
30	L1	6	THR
30	L1	150	GLY
31	P1	16	THR
32	Q1	144	SER
33	R1	80	ARG
1	T2	6	VAL
2	U2	48	LEU
4	X2	9	THR
4	X2	87	ASN
4	X2	117	GLY
5	a2	5	ARG

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Mol	Chain	Res	Type
5	a2	62	TYR
5	a2	64	LEU
8	f2	96	LYS
9	g2	191	HIS
10	C2	85	SER
10	C2	134	ASN
10	C2	264	SER
10	C2	276	THR
11	G2	146	ASN
11	G2	147	LEU
11	G2	152	ASP
12	J2	138	ARG
13	M2	117	GLU
14	N2	143	SER
15	O2	47	LEU
15	O2	129	ILE
16	W2	111	MET
17	Y2	51	THR
17	Y2	53	ASP
18	Z2	49	LEU
22	A2	4	ALA
23	B2	86	LEU
23	B2	223	PHE
24	D2	153	VAL
24	D2	206	ASP
24	D2	222	PRO
24	D2	223	ILE
25	E2	131	VAL
25	E2	168	LYS
26	F2	138	ALA
27	H2	12	ASN
27	H2	38	ALA
27	H2	138	GLU
27	H2	162	GLN
29	K2	39	ASN
29	K2	41	PRO
29	K2	91	PRO
30	L2	4	ILE
30	L2	6	THR
30	L2	148	ALA
31	P2	16	THR
32	Q2	144	SER

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Mol	Chain	Res	Type
33	R2	80	ARG
1	T3	6	VAL
2	U3	48	LEU
4	X3	9	THR
4	X3	87	ASN
4	X3	117	GLY
5	a3	5	ARG
5	a3	62	TYR
5	a3	64	LEU
8	f3	96	LYS
9	g3	191	HIS
10	C3	85	SER
10	C3	134	ASN
10	C3	264	SER
10	C3	276	THR
11	G3	146	ASN
11	G3	147	LEU
11	G3	152	ASP
12	J3	138	ARG
13	M3	117	GLU
14	N3	143	SER
15	O3	47	LEU
15	O3	129	ILE
16	W3	3	ARG
16	W3	111	MET
17	Y3	51	THR
17	Y3	53	ASP
18	Z3	49	LEU
22	A3	4	ALA
23	B3	86	LEU
23	B3	223	PHE
24	D3	153	VAL
24	D3	206	ASP
24	D3	222	PRO
24	D3	223	ILE
25	E3	68	ARG
25	E3	131	VAL
26	F3	138	ALA
27	H3	12	ASN
27	H3	38	ALA
27	H3	138	GLU
27	H3	162	GLN

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Mol	Chain	Res	Type
29	K3	39	ASN
29	K3	41	PRO
29	K3	91	PRO
30	L3	4	ILE
30	L3	6	THR
32	Q3	144	SER
33	R3	80	ARG
1	T4	6	VAL
2	U4	48	LEU
4	X4	9	THR
4	X4	87	ASN
4	X4	117	GLY
5	a4	5	ARG
5	a4	62	TYR
5	a4	64	LEU
8	f4	96	LYS
9	g4	191	HIS
10	C4	85	SER
10	C4	134	ASN
10	C4	264	SER
10	C4	276	THR
11	G4	146	ASN
11	G4	147	LEU
11	G4	152	ASP
12	J4	138	ARG
13	M4	117	GLU
14	N4	143	SER
15	O4	47	LEU
15	O4	129	ILE
16	W4	3	ARG
16	W4	111	MET
17	Y4	51	THR
17	Y4	53	ASP
18	Z4	49	LEU
22	A4	4	ALA
23	B4	76	ASN
23	B4	86	LEU
23	B4	223	PHE
24	D4	83	SER
24	D4	153	VAL
24	D4	206	ASP
24	D4	222	PRO

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Mol	Chain	Res	Type
24	D4	223	ILE
25	E4	131	VAL
26	F4	138	ALA
27	H4	12	ASN
27	H4	38	ALA
27	H4	138	GLU
29	K4	39	ASN
29	K4	41	PRO
29	K4	91	PRO
30	L4	4	ILE
30	L4	6	THR
31	P4	16	THR
32	Q4	144	SER
33	R4	80	ARG
33	R4	110	ASP
1	T5	6	VAL
2	U5	48	LEU
4	X5	9	THR
4	X5	87	ASN
4	X5	117	GLY
5	a5	5	ARG
5	a5	62	TYR
5	a5	64	LEU
8	f5	96	LYS
9	g5	191	HIS
10	C5	85	SER
10	C5	134	ASN
10	C5	264	SER
10	C5	276	THR
11	G5	146	ASN
11	G5	147	LEU
11	G5	152	ASP
12	J5	138	ARG
13	M5	117	GLU
14	N5	143	SER
15	O5	47	LEU
15	O5	67	ASP
15	O5	129	ILE
16	W5	111	MET
17	Y5	51	THR
17	Y5	53	ASP
18	Z5	49	LEU

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Mol	Chain	Res	Type
22	A5	4	ALA
23	B5	76	ASN
23	B5	86	LEU
23	B5	223	PHE
24	D5	153	VAL
24	D5	206	ASP
24	D5	222	PRO
24	D5	223	ILE
25	E5	68	ARG
25	E5	131	VAL
26	F5	138	ALA
27	H5	12	ASN
27	H5	38	ALA
27	H5	138	GLU
27	H5	162	GLN
29	K5	39	ASN
29	K5	41	PRO
29	K5	91	PRO
30	L5	4	ILE
30	L5	6	THR
32	Q5	144	SER
33	R5	80	ARG
33	R5	110	ASP
1	T6	6	VAL
2	U6	48	LEU
4	X6	9	THR
4	X6	87	ASN
4	X6	117	GLY
5	a6	5	ARG
5	a6	62	TYR
5	a6	64	LEU
8	f6	96	LYS
9	g6	191	HIS
10	C6	85	SER
10	C6	134	ASN
10	C6	264	SER
10	C6	276	THR
11	G6	146	ASN
11	G6	147	LEU
11	G6	152	ASP
12	J6	138	ARG
13	M6	117	GLU

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Mol	Chain	Res	Type
14	N6	143	SER
15	O6	47	LEU
15	O6	129	ILE
16	W6	3	ARG
16	W6	111	MET
17	Y6	51	THR
17	Y6	53	ASP
18	Z6	49	LEU
22	A6	4	ALA
23	B6	86	LEU
23	B6	223	PHE
24	D6	153	VAL
24	D6	206	ASP
24	D6	222	PRO
24	D6	223	ILE
25	E6	68	ARG
25	E6	131	VAL
25	E6	168	LYS
26	F6	138	ALA
27	H6	12	ASN
27	H6	38	ALA
27	H6	138	GLU
27	H6	162	GLN
29	K6	39	ASN
29	K6	41	PRO
29	K6	91	PRO
30	L6	4	ILE
30	L6	6	THR
31	P6	16	THR
32	Q6	144	SER
33	R6	80	ARG
33	R6	110	ASP
36	k6	93	PRO
2	U1	98	VAL
3	V1	45	ARG
4	X1	54	LYS
4	X1	127	ASN
8	f1	93	HIS
10	C1	176	LYS
11	G1	105	ASN
12	J1	76	ALA
14	N1	8	GLY

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Mol	Chain	Res	Type
15	O1	56	VAL
15	O1	112	ALA
15	O1	134	PRO
16	W1	3	ARG
18	Z1	108	ILE
20	e1	4	GLY
20	e1	14	GLY
24	D1	68	GLU
24	D1	220	THR
25	E1	30	ARG
25	E1	68	ARG
25	E1	69	PHE
25	E1	245	ARG
26	F1	20	PHE
26	F1	32	ASP
27	H1	89	GLY
27	H1	99	ARG
27	H1	100	ILE
29	K1	92	ALA
31	P1	15	PHE
33	R1	65	PRO
33	R1	110	ASP
2	U2	98	VAL
3	V2	45	ARG
4	X2	54	LYS
4	X2	127	ASN
8	f2	93	HIS
10	C2	176	LYS
11	G2	105	ASN
14	N2	8	GLY
15	O2	56	VAL
15	O2	112	ALA
15	O2	134	PRO
16	W2	3	ARG
18	Z2	108	ILE
20	e2	14	GLY
20	e2	48	THR
24	D2	68	GLU
24	D2	83	SER
24	D2	220	THR
25	E2	30	ARG
25	E2	68	ARG

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Mol	Chain	Res	Type
25	E2	69	PHE
25	E2	245	ARG
26	F2	20	PHE
26	F2	32	ASP
27	H2	89	GLY
27	H2	99	ARG
27	H2	100	ILE
29	K2	92	ALA
31	P2	15	PHE
33	R2	110	ASP
2	U3	98	VAL
3	V3	45	ARG
4	X3	54	LYS
4	X3	127	ASN
8	f3	93	HIS
10	C3	176	LYS
11	G3	105	ASN
12	J3	76	ALA
14	N3	8	GLY
15	O3	56	VAL
15	O3	112	ALA
15	O3	134	PRO
18	Z3	108	ILE
20	e3	4	GLY
20	e3	14	GLY
20	e3	48	THR
24	D3	68	GLU
24	D3	83	SER
24	D3	220	THR
25	E3	30	ARG
25	E3	69	PHE
25	E3	168	LYS
25	E3	245	ARG
26	F3	20	PHE
26	F3	32	ASP
27	H3	89	GLY
27	H3	100	ILE
33	R3	110	ASP
2	U4	98	VAL
3	V4	45	ARG
4	X4	54	LYS
4	X4	127	ASN

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Mol	Chain	Res	Type
8	f4	93	HIS
10	C4	176	LYS
11	G4	105	ASN
12	J4	76	ALA
14	N4	8	GLY
15	O4	56	VAL
15	O4	134	PRO
18	Z4	108	ILE
20	e4	48	THR
24	D4	68	GLU
24	D4	220	THR
25	E4	30	ARG
25	E4	68	ARG
25	E4	69	PHE
25	E4	168	LYS
25	E4	245	ARG
26	F4	20	PHE
26	F4	32	ASP
27	H4	89	GLY
27	H4	99	ARG
27	H4	100	ILE
29	K4	92	ALA
30	L4	148	ALA
31	P4	15	PHE
2	U5	98	VAL
3	V5	45	ARG
4	X5	54	LYS
4	X5	127	ASN
8	f5	93	HIS
10	C5	176	LYS
11	G5	105	ASN
12	J5	76	ALA
14	N5	8	GLY
15	O5	56	VAL
15	O5	112	ALA
15	O5	134	PRO
16	W5	3	ARG
18	Z5	108	ILE
20	e5	4	GLY
20	e5	14	GLY
24	D5	68	GLU
24	D5	83	SER

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Mol	Chain	Res	Type
24	D5	220	THR
25	E5	30	ARG
25	E5	69	PHE
25	E5	168	LYS
25	E5	245	ARG
26	F5	20	PHE
26	F5	32	ASP
27	H5	89	GLY
27	H5	99	ARG
27	H5	100	ILE
2	U6	98	VAL
3	V6	45	ARG
4	X6	54	LYS
4	X6	127	ASN
8	f6	93	HIS
10	C6	176	LYS
11	G6	105	ASN
14	N6	8	GLY
15	O6	56	VAL
15	O6	112	ALA
15	O6	134	PRO
18	Z6	108	ILE
20	e6	4	GLY
20	e6	14	GLY
20	e6	48	THR
24	D6	68	GLU
24	D6	83	SER
24	D6	220	THR
25	E6	30	ARG
25	E6	69	PHE
25	E6	245	ARG
26	F6	20	PHE
26	F6	32	ASP
27	H6	89	GLY
27	H6	99	ARG
27	H6	100	ILE
29	K6	92	ALA
31	P6	15	PHE
36	k1	92	LEU
37	l3	139	ILE
37	l4	139	ILE
1	T1	29	LYS

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Mol	Chain	Res	Type
1	T1	142	ASN
5	a1	98	PRO
6	c1	38	THR
11	G1	68	LEU
24	D1	154	ASP
26	F1	41	VAL
27	H1	190	PRO
28	I1	97	VAL
30	L1	98	LYS
33	R1	97	GLU
1	T2	29	LYS
1	T2	142	ASN
5	a2	98	PRO
11	G2	68	LEU
12	J2	76	ALA
24	D2	154	ASP
26	F2	41	VAL
28	I2	97	VAL
30	L2	98	LYS
33	R2	97	GLU
1	T3	142	ASN
5	a3	98	PRO
10	C3	274	VAL
11	G3	68	LEU
24	D3	154	ASP
26	F3	41	VAL
27	H3	99	ARG
28	I3	97	VAL
29	K3	92	ALA
30	L3	98	LYS
33	R3	97	GLU
1	T4	142	ASN
5	a4	98	PRO
15	O4	112	ALA
24	D4	154	ASP
26	F4	41	VAL
27	H4	113	LYS
28	I4	97	VAL
30	L4	98	LYS
33	R4	97	GLU
1	T5	29	LYS
1	T5	142	ASN

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Mol	Chain	Res	Type
5	a5	98	PRO
6	c5	38	THR
10	C5	274	VAL
11	G5	68	LEU
14	N5	68	GLY
19	b5	22	LYS
24	D5	154	ASP
26	F5	41	VAL
27	H5	190	PRO
28	I5	97	VAL
29	K5	92	ALA
30	L5	98	LYS
33	R5	97	GLU
1	T6	142	ASN
5	a6	98	PRO
11	G6	68	LEU
12	J6	76	ALA
24	D6	154	ASP
26	F6	41	VAL
27	H6	190	PRO
28	I6	97	VAL
30	L6	98	LYS
33	R6	97	GLU
36	k1	177	MET
36	k2	167	ILE
37	l1	139	ILE
37	l1	175	ILE
37	l2	139	ILE
37	l2	175	ILE
37	l3	175	ILE
37	l4	175	ILE
37	l5	139	ILE
37	l5	175	ILE
37	l6	139	ILE
37	l6	175	ILE
6	c1	8	PRO
9	g1	13	GLY
10	C1	274	VAL
12	J1	171	GLY
14	N1	68	GLY
6	c2	8	PRO
9	g2	13	GLY

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Mol	Chain	Res	Type
10	C2	274	VAL
12	J2	171	GLY
14	N2	68	GLY
27	H2	190	PRO
6	c3	8	PRO
9	g3	13	GLY
12	J3	171	GLY
14	N3	68	GLY
27	H3	190	PRO
6	c4	8	PRO
9	g4	13	GLY
10	C4	274	VAL
12	J4	171	GLY
14	N4	68	GLY
27	H4	190	PRO
6	c5	8	PRO
9	g5	13	GLY
12	J5	171	GLY
31	P5	109	PRO
9	g6	13	GLY
10	C6	274	VAL
12	J6	171	GLY
14	N6	68	GLY
24	D1	41	VAL
24	D1	200	PRO
25	E1	15	PRO
24	D2	200	PRO
25	E2	15	PRO
24	D3	41	VAL
25	E3	15	PRO
25	E4	15	PRO
25	E5	15	PRO
6	c6	8	PRO
24	D6	41	VAL
24	D6	200	PRO
25	E6	15	PRO
36	k6	167	ILE
9	g1	61	GLY
9	g1	267	VAL
28	I1	102	VAL
31	P1	129	GLY
33	R1	121	GLN

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Mol	Chain	Res	Type
9	g2	61	GLY
9	g2	267	VAL
24	D2	41	VAL
28	I2	102	VAL
33	R2	121	GLN
9	g3	61	GLY
9	g3	267	VAL
24	D3	200	PRO
28	I3	102	VAL
33	R3	121	GLN
9	g4	61	GLY
9	g4	267	VAL
24	D4	41	VAL
24	D4	200	PRO
31	P4	129	GLY
33	R4	121	GLN
9	g5	61	GLY
9	g5	267	VAL
24	D5	41	VAL
24	D5	200	PRO
28	I5	102	VAL
33	R5	121	GLN
9	g6	61	GLY
9	g6	267	VAL
28	I6	102	VAL
33	R6	121	GLN
36	k4	167	ILE
26	F1	128	ILE
26	F2	128	ILE
31	P2	129	GLY
26	F3	128	ILE
31	P3	129	GLY
26	F4	128	ILE
28	I4	102	VAL
26	F5	128	ILE
31	P5	129	GLY
26	F6	128	ILE
31	P6	129	GLY
37	l1	115	VAL
37	l2	115	VAL
37	l3	115	VAL
37	l4	115	VAL

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Mol	Chain	Res	Type
37	l5	115	VAL
37	l6	115	VAL
6	c1	22	GLY
6	c2	22	GLY
23	B2	132	GLY
6	c3	22	GLY
19	b3	76	GLY
6	c4	22	GLY
19	b4	76	GLY
6	c5	22	GLY
19	b5	76	GLY
6	c6	22	GLY

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	
1	T1	113/115 (98%)	113 (100%)	0	100	100
1	T2	113/115 (98%)	113 (100%)	0	100	100
1	T3	113/115 (98%)	113 (100%)	0	100	100
1	T4	113/115 (98%)	113 (100%)	0	100	100
1	T5	113/115 (98%)	113 (100%)	0	100	100
1	T6	113/115 (98%)	113 (100%)	0	100	100
2	U1	94/107 (88%)	93 (99%)	1 (1%)	73	84
2	U2	94/107 (88%)	93 (99%)	1 (1%)	73	84
2	U3	94/107 (88%)	93 (99%)	1 (1%)	73	84
2	U4	94/107 (88%)	93 (99%)	1 (1%)	73	84
2	U5	94/107 (88%)	93 (99%)	1 (1%)	73	84
2	U6	94/107 (88%)	93 (99%)	1 (1%)	73	84
3	V1	67/67 (100%)	67 (100%)	0	100	100
3	V2	67/67 (100%)	67 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	V3	67/67 (100%)	67 (100%)	0	100	100
3	V4	67/67 (100%)	67 (100%)	0	100	100
3	V5	67/67 (100%)	67 (100%)	0	100	100
3	V6	67/67 (100%)	67 (100%)	0	100	100
4	X1	113/115 (98%)	113 (100%)	0	100	100
4	X2	113/115 (98%)	113 (100%)	0	100	100
4	X3	113/115 (98%)	113 (100%)	0	100	100
4	X4	113/115 (98%)	113 (100%)	0	100	100
4	X5	113/115 (98%)	113 (100%)	0	100	100
4	X6	113/115 (98%)	113 (100%)	0	100	100
5	a1	90/98 (92%)	88 (98%)	2 (2%)	52	71
5	a2	90/98 (92%)	88 (98%)	2 (2%)	52	71
5	a3	90/98 (92%)	88 (98%)	2 (2%)	52	71
5	a4	90/98 (92%)	87 (97%)	3 (3%)	38	61
5	a5	90/98 (92%)	87 (97%)	3 (3%)	38	61
5	a6	90/98 (92%)	88 (98%)	2 (2%)	52	71
6	c1	57/62 (92%)	57 (100%)	0	100	100
6	c2	57/62 (92%)	57 (100%)	0	100	100
6	c3	57/62 (92%)	57 (100%)	0	100	100
6	c4	57/62 (92%)	57 (100%)	0	100	100
6	c5	57/62 (92%)	57 (100%)	0	100	100
6	c6	57/62 (92%)	57 (100%)	0	100	100
7	d1	47/49 (96%)	47 (100%)	0	100	100
7	d2	47/49 (96%)	47 (100%)	0	100	100
7	d3	47/49 (96%)	47 (100%)	0	100	100
7	d4	47/49 (96%)	47 (100%)	0	100	100
7	d5	47/49 (96%)	47 (100%)	0	100	100
7	d6	47/49 (96%)	47 (100%)	0	100	100
8	f1	65/140 (46%)	61 (94%)	4 (6%)	18	43
8	f2	65/140 (46%)	61 (94%)	4 (6%)	18	43
8	f3	65/140 (46%)	60 (92%)	5 (8%)	13	37

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
8	f4	65/140 (46%)	59 (91%)	6 (9%)	9	29
8	f5	65/140 (46%)	60 (92%)	5 (8%)	13	37
8	f6	65/140 (46%)	60 (92%)	5 (8%)	13	37
9	g1	272/275 (99%)	272 (100%)	0	100	100
9	g2	272/275 (99%)	272 (100%)	0	100	100
9	g3	272/275 (99%)	272 (100%)	0	100	100
9	g4	272/275 (99%)	272 (100%)	0	100	100
9	g5	272/275 (99%)	272 (100%)	0	100	100
9	g6	272/275 (99%)	272 (100%)	0	100	100
10	C1	188/225 (84%)	186 (99%)	2 (1%)	73	84
10	C2	188/225 (84%)	186 (99%)	2 (1%)	73	84
10	C3	188/225 (84%)	186 (99%)	2 (1%)	73	84
10	C4	188/225 (84%)	186 (99%)	2 (1%)	73	84
10	C5	188/225 (84%)	186 (99%)	2 (1%)	73	84
10	C6	188/225 (84%)	186 (99%)	2 (1%)	73	84
11	G1	207/218 (95%)	202 (98%)	5 (2%)	49	69
11	G2	207/218 (95%)	202 (98%)	5 (2%)	49	69
11	G3	207/218 (95%)	202 (98%)	5 (2%)	49	69
11	G4	207/218 (95%)	202 (98%)	5 (2%)	49	69
11	G5	207/218 (95%)	202 (98%)	5 (2%)	49	69
11	G6	207/218 (95%)	202 (98%)	5 (2%)	49	69
12	J1	161/168 (96%)	161 (100%)	0	100	100
12	J2	161/168 (96%)	161 (100%)	0	100	100
12	J3	161/168 (96%)	161 (100%)	0	100	100
12	J4	161/168 (96%)	161 (100%)	0	100	100
12	J5	161/168 (96%)	161 (100%)	0	100	100
12	J6	161/168 (96%)	161 (100%)	0	100	100
13	M1	104/108 (96%)	96 (92%)	8 (8%)	13	37
13	M2	104/108 (96%)	96 (92%)	8 (8%)	13	37
13	M3	104/108 (96%)	96 (92%)	8 (8%)	13	37
13	M4	104/108 (96%)	96 (92%)	8 (8%)	13	37

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
13	M5	104/108 (96%)	96 (92%)	8 (8%)	13	37
13	M6	104/108 (96%)	96 (92%)	8 (8%)	13	37
14	N1	130/131 (99%)	127 (98%)	3 (2%)	50	71
14	N2	130/131 (99%)	127 (98%)	3 (2%)	50	71
14	N3	130/131 (99%)	124 (95%)	6 (5%)	27	52
14	N4	130/131 (99%)	127 (98%)	3 (2%)	50	71
14	N5	130/131 (99%)	124 (95%)	6 (5%)	27	52
14	N6	130/131 (99%)	127 (98%)	3 (2%)	50	71
15	O1	110/119 (92%)	110 (100%)	0	100	100
15	O2	110/119 (92%)	110 (100%)	0	100	100
15	O3	110/119 (92%)	110 (100%)	0	100	100
15	O4	110/119 (92%)	110 (100%)	0	100	100
15	O5	110/119 (92%)	110 (100%)	0	100	100
15	O6	110/119 (92%)	110 (100%)	0	100	100
16	W1	112/113 (99%)	112 (100%)	0	100	100
16	W2	112/113 (99%)	112 (100%)	0	100	100
16	W3	112/113 (99%)	112 (100%)	0	100	100
16	W4	112/113 (99%)	112 (100%)	0	100	100
16	W5	112/113 (99%)	112 (100%)	0	100	100
16	W6	112/113 (99%)	112 (100%)	0	100	100
17	Y1	113/115 (98%)	113 (100%)	0	100	100
17	Y2	113/115 (98%)	113 (100%)	0	100	100
17	Y3	113/115 (98%)	113 (100%)	0	100	100
17	Y4	113/115 (98%)	113 (100%)	0	100	100
17	Y5	113/115 (98%)	113 (100%)	0	100	100
17	Y6	113/115 (98%)	113 (100%)	0	100	100
18	Z1	66/103 (64%)	63 (96%)	3 (4%)	27	52
18	Z2	66/103 (64%)	63 (96%)	3 (4%)	27	52
18	Z3	66/103 (64%)	63 (96%)	3 (4%)	27	52
18	Z4	66/103 (64%)	63 (96%)	3 (4%)	27	52
18	Z5	66/103 (64%)	63 (96%)	3 (4%)	27	52

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
18	Z6	66/103 (64%)	63 (96%)	3 (4%)	27	52
19	b1	75/76 (99%)	75 (100%)	0	100	100
19	b2	75/76 (99%)	75 (100%)	0	100	100
19	b3	75/76 (99%)	75 (100%)	0	100	100
19	b4	75/76 (99%)	74 (99%)	1 (1%)	69	82
19	b5	75/76 (99%)	75 (100%)	0	100	100
19	b6	75/76 (99%)	75 (100%)	0	100	100
20	e1	47/104 (45%)	44 (94%)	3 (6%)	17	42
20	e2	47/104 (45%)	44 (94%)	3 (6%)	17	42
20	e3	47/104 (45%)	45 (96%)	2 (4%)	29	54
20	e4	47/104 (45%)	42 (89%)	5 (11%)	6	24
20	e5	47/104 (45%)	43 (92%)	4 (8%)	10	33
20	e6	47/104 (45%)	45 (96%)	2 (4%)	29	54
22	A1	184/243 (76%)	183 (100%)	1 (0%)	88	93
22	A2	184/243 (76%)	183 (100%)	1 (0%)	88	93
22	A3	184/243 (76%)	183 (100%)	1 (0%)	88	93
22	A4	184/243 (76%)	183 (100%)	1 (0%)	88	93
22	A5	184/243 (76%)	183 (100%)	1 (0%)	88	93
22	A6	184/243 (76%)	183 (100%)	1 (0%)	88	93
23	B1	195/231 (84%)	195 (100%)	0	100	100
23	B2	195/231 (84%)	195 (100%)	0	100	100
23	B3	195/231 (84%)	195 (100%)	0	100	100
23	B4	195/231 (84%)	195 (100%)	0	100	100
23	B5	195/231 (84%)	195 (100%)	0	100	100
23	B6	195/231 (84%)	195 (100%)	0	100	100
24	D1	190/202 (94%)	190 (100%)	0	100	100
24	D2	190/202 (94%)	190 (100%)	0	100	100
24	D3	190/202 (94%)	190 (100%)	0	100	100
24	D4	190/202 (94%)	190 (100%)	0	100	100
24	D5	190/202 (94%)	190 (100%)	0	100	100
24	D6	190/202 (94%)	190 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
25	E1	224/225 (100%)	224 (100%)	0	100	100
25	E2	224/225 (100%)	224 (100%)	0	100	100
25	E3	224/225 (100%)	224 (100%)	0	100	100
25	E4	224/225 (100%)	224 (100%)	0	100	100
25	E5	224/225 (100%)	224 (100%)	0	100	100
25	E6	224/225 (100%)	224 (100%)	0	100	100
26	F1	161/170 (95%)	158 (98%)	3 (2%)	57	75
26	F2	161/170 (95%)	158 (98%)	3 (2%)	57	75
26	F3	161/170 (95%)	158 (98%)	3 (2%)	57	75
26	F4	161/170 (95%)	158 (98%)	3 (2%)	57	75
26	F5	161/170 (95%)	158 (98%)	3 (2%)	57	75
26	F6	161/170 (95%)	158 (98%)	3 (2%)	57	75
27	H1	169/174 (97%)	169 (100%)	0	100	100
27	H2	169/174 (97%)	169 (100%)	0	100	100
27	H3	169/174 (97%)	169 (100%)	0	100	100
27	H4	169/174 (97%)	167 (99%)	2 (1%)	71	84
27	H5	169/174 (97%)	169 (100%)	0	100	100
27	H6	169/174 (97%)	169 (100%)	0	100	100
28	I1	178/180 (99%)	178 (100%)	0	100	100
28	I2	178/180 (99%)	178 (100%)	0	100	100
28	I3	178/180 (99%)	177 (99%)	1 (1%)	86	92
28	I4	178/180 (99%)	178 (100%)	0	100	100
28	I5	178/180 (99%)	178 (100%)	0	100	100
28	I6	178/180 (99%)	178 (100%)	0	100	100
29	K1	89/136 (65%)	89 (100%)	0	100	100
29	K2	89/136 (65%)	89 (100%)	0	100	100
29	K3	89/136 (65%)	89 (100%)	0	100	100
29	K4	89/136 (65%)	89 (100%)	0	100	100
29	K5	89/136 (65%)	89 (100%)	0	100	100
29	K6	89/136 (65%)	89 (100%)	0	100	100
30	L1	137/142 (96%)	135 (98%)	2 (2%)	65	80

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
30	L2	137/142 (96%)	134 (98%)	3 (2%)	52	71
30	L3	137/142 (96%)	134 (98%)	3 (2%)	52	71
30	L4	137/142 (96%)	134 (98%)	3 (2%)	52	71
30	L5	137/142 (96%)	134 (98%)	3 (2%)	52	71
30	L6	137/142 (96%)	134 (98%)	3 (2%)	52	71
31	P1	112/130 (86%)	98 (88%)	14 (12%)	4	19
31	P2	112/130 (86%)	95 (85%)	17 (15%)	3	15
31	P3	112/130 (86%)	98 (88%)	14 (12%)	4	19
31	P4	112/130 (86%)	95 (85%)	17 (15%)	3	15
31	P5	112/130 (86%)	94 (84%)	18 (16%)	2	13
31	P6	112/130 (86%)	99 (88%)	13 (12%)	5	21
32	Q1	121/121 (100%)	120 (99%)	1 (1%)	81	89
32	Q2	121/121 (100%)	120 (99%)	1 (1%)	81	89
32	Q3	121/121 (100%)	120 (99%)	1 (1%)	81	89
32	Q4	121/121 (100%)	120 (99%)	1 (1%)	81	89
32	Q5	121/121 (100%)	120 (99%)	1 (1%)	81	89
32	Q6	121/121 (100%)	120 (99%)	1 (1%)	81	89
33	R1	120/122 (98%)	115 (96%)	5 (4%)	30	54
33	R2	120/122 (98%)	113 (94%)	7 (6%)	20	45
33	R3	120/122 (98%)	115 (96%)	5 (4%)	30	54
33	R4	120/122 (98%)	113 (94%)	7 (6%)	20	45
33	R5	120/122 (98%)	115 (96%)	5 (4%)	30	54
33	R6	120/122 (98%)	113 (94%)	7 (6%)	20	45
34	S1	124/132 (94%)	118 (95%)	6 (5%)	25	51
34	S2	124/132 (94%)	118 (95%)	6 (5%)	25	51
34	S3	124/132 (94%)	118 (95%)	6 (5%)	25	51
34	S4	124/132 (94%)	118 (95%)	6 (5%)	25	51
34	S5	124/132 (94%)	118 (95%)	6 (5%)	25	51
34	S6	124/132 (94%)	118 (95%)	6 (5%)	25	51
35	j1	24/24 (100%)	16 (67%)	8 (33%)	0	2
35	j2	24/24 (100%)	16 (67%)	8 (33%)	0	2

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
35	j3	24/24 (100%)	16 (67%)	8 (33%)	0	2
35	j4	24/24 (100%)	17 (71%)	7 (29%)	0	2
35	j5	24/24 (100%)	16 (67%)	8 (33%)	0	2
35	j6	24/24 (100%)	16 (67%)	8 (33%)	0	2
36	k1	152/159 (96%)	149 (98%)	3 (2%)	55	74
36	k2	152/159 (96%)	147 (97%)	5 (3%)	38	61
36	k3	152/159 (96%)	148 (97%)	4 (3%)	46	67
36	k4	152/159 (96%)	146 (96%)	6 (4%)	32	56
36	k5	152/159 (96%)	149 (98%)	3 (2%)	55	74
36	k6	152/159 (96%)	147 (97%)	5 (3%)	38	61
37	l1	69/168 (41%)	58 (84%)	11 (16%)	2	14
37	l2	69/168 (41%)	58 (84%)	11 (16%)	2	14
37	l3	69/168 (41%)	58 (84%)	11 (16%)	2	14
37	l4	69/168 (41%)	58 (84%)	11 (16%)	2	14
37	l5	69/168 (41%)	58 (84%)	11 (16%)	2	14
37	l6	69/168 (41%)	58 (84%)	11 (16%)	2	14
All	All	26880/30402 (88%)	26325 (98%)	555 (2%)	53	72

All (555) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	U1	118	ASP
5	a1	100	ARG
5	a1	102	ARG
8	f1	86	THR
8	f1	94	LYS
8	f1	98	VAL
8	f1	116	ARG
10	C1	275	LYS
10	C1	276	THR
11	G1	139	SER
11	G1	146	ASN
11	G1	147	LEU
11	G1	149	LYS
11	G1	151	ASP
13	M1	26	LEU

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Mol	Chain	Res	Type
13	M1	35	ILE
13	M1	36	ARG
13	M1	45	ARG
13	M1	104	VAL
13	M1	116	LYS
13	M1	117	GLU
13	M1	118	SER
14	N1	42	LYS
14	N1	43	LYS
14	N1	149	LEU
18	Z1	85	ARG
18	Z1	88	LEU
18	Z1	89	GLN
20	e1	45	VAL
20	e1	49	PHE
20	e1	52	LYS
22	A1	213	GLU
26	F1	130	ARG
26	F1	134	VAL
26	F1	136	ARG
30	L1	152	LYS
30	L1	153	LYS
31	P1	29	SER
31	P1	37	TYR
31	P1	38	SER
31	P1	40	ARG
31	P1	44	ARG
31	P1	50	ARG
31	P1	78	THR
31	P1	79	HIS
31	P1	115	TYR
31	P1	116	LEU
31	P1	122	THR
31	P1	123	TYR
31	P1	130	ARG
31	P1	133	ILE
32	Q1	1	MET
33	R1	66	VAL
33	R1	69	ILE
33	R1	72	LYS
33	R1	74	GLN
33	R1	80	ARG

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Mol	Chain	Res	Type
34	S1	4	VAL
34	S1	14	ARG
34	S1	19	ASN
34	S1	71	MET
34	S1	129	LEU
34	S1	138	THR
35	j1	2	ARG
35	j1	4	LYS
35	j1	5	TRP
35	j1	9	ARG
35	j1	11	ARG
35	j1	16	LYS
35	j1	19	LYS
35	j1	21	ARG
2	U2	118	ASP
5	a2	100	ARG
5	a2	102	ARG
8	f2	86	THR
8	f2	94	LYS
8	f2	98	VAL
8	f2	116	ARG
10	C2	275	LYS
10	C2	276	THR
11	G2	139	SER
11	G2	146	ASN
11	G2	147	LEU
11	G2	149	LYS
11	G2	151	ASP
13	M2	26	LEU
13	M2	35	ILE
13	M2	36	ARG
13	M2	45	ARG
13	M2	104	VAL
13	M2	116	LYS
13	M2	117	GLU
13	M2	118	SER
14	N2	42	LYS
14	N2	43	LYS
14	N2	149	LEU
18	Z2	85	ARG
18	Z2	88	LEU
18	Z2	89	GLN

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Mol	Chain	Res	Type
20	e2	6	LEU
20	e2	48	THR
20	e2	52	LYS
22	A2	213	GLU
26	F2	130	ARG
26	F2	134	VAL
26	F2	136	ARG
30	L2	147	LYS
30	L2	152	LYS
30	L2	153	LYS
31	P2	29	SER
31	P2	35	GLN
31	P2	37	TYR
31	P2	38	SER
31	P2	40	ARG
31	P2	42	ARG
31	P2	44	ARG
31	P2	45	LEU
31	P2	47	ARG
31	P2	50	ARG
31	P2	78	THR
31	P2	79	HIS
31	P2	115	TYR
31	P2	116	LEU
31	P2	122	THR
31	P2	123	TYR
31	P2	130	ARG
32	Q2	1	MET
33	R2	60	ARG
33	R2	66	VAL
33	R2	69	ILE
33	R2	71	ILE
33	R2	73	LEU
33	R2	75	GLU
33	R2	80	ARG
34	S2	4	VAL
34	S2	14	ARG
34	S2	19	ASN
34	S2	71	MET
34	S2	129	LEU
34	S2	138	THR
35	j2	2	ARG

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Mol	Chain	Res	Type
35	j2	4	LYS
35	j2	5	TRP
35	j2	9	ARG
35	j2	11	ARG
35	j2	16	LYS
35	j2	19	LYS
35	j2	21	ARG
2	U3	118	ASP
5	a3	100	ARG
5	a3	102	ARG
8	f3	82	LYS
8	f3	86	THR
8	f3	94	LYS
8	f3	98	VAL
8	f3	116	ARG
10	C3	275	LYS
10	C3	276	THR
11	G3	139	SER
11	G3	146	ASN
11	G3	147	LEU
11	G3	149	LYS
11	G3	151	ASP
13	M3	26	LEU
13	M3	35	ILE
13	M3	36	ARG
13	M3	45	ARG
13	M3	104	VAL
13	M3	116	LYS
13	M3	117	GLU
13	M3	118	SER
14	N3	42	LYS
14	N3	43	LYS
14	N3	133	ARG
14	N3	134	VAL
14	N3	135	LEU
14	N3	149	LEU
18	Z3	85	ARG
18	Z3	88	LEU
18	Z3	89	GLN
20	e3	48	THR
20	e3	52	LYS
22	A3	213	GLU

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Mol	Chain	Res	Type
26	F3	130	ARG
26	F3	134	VAL
26	F3	136	ARG
28	I3	196	GLU
30	L3	147	LYS
30	L3	153	LYS
30	L3	154	GLN
31	P3	13	ARG
31	P3	29	SER
31	P3	38	SER
31	P3	40	ARG
31	P3	44	ARG
31	P3	45	LEU
31	P3	50	ARG
31	P3	78	THR
31	P3	79	HIS
31	P3	115	TYR
31	P3	116	LEU
31	P3	122	THR
31	P3	123	TYR
31	P3	130	ARG
32	Q3	1	MET
33	R3	63	ARG
33	R3	69	ILE
33	R3	72	LYS
33	R3	74	GLN
33	R3	80	ARG
34	S3	4	VAL
34	S3	14	ARG
34	S3	19	ASN
34	S3	71	MET
34	S3	129	LEU
34	S3	138	THR
35	j3	2	ARG
35	j3	4	LYS
35	j3	5	TRP
35	j3	9	ARG
35	j3	11	ARG
35	j3	16	LYS
35	j3	19	LYS
35	j3	21	ARG
2	U4	118	ASP

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Mol	Chain	Res	Type
5	a4	100	ARG
5	a4	101	PHE
5	a4	102	ARG
8	f4	81	LYS
8	f4	82	LYS
8	f4	86	THR
8	f4	94	LYS
8	f4	98	VAL
8	f4	116	ARG
10	C4	275	LYS
10	C4	276	THR
11	G4	139	SER
11	G4	146	ASN
11	G4	147	LEU
11	G4	149	LYS
11	G4	151	ASP
13	M4	26	LEU
13	M4	35	ILE
13	M4	36	ARG
13	M4	45	ARG
13	M4	104	VAL
13	M4	116	LYS
13	M4	117	GLU
13	M4	118	SER
14	N4	42	LYS
14	N4	43	LYS
14	N4	149	LEU
18	Z4	85	ARG
18	Z4	88	LEU
18	Z4	89	GLN
19	b4	35	VAL
20	e4	6	LEU
20	e4	11	LYS
20	e4	12	VAL
20	e4	48	THR
20	e4	52	LYS
22	A4	213	GLU
26	F4	130	ARG
26	F4	134	VAL
26	F4	136	ARG
27	H4	164	ASN
27	H4	169	LYS

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Mol	Chain	Res	Type
30	L4	147	LYS
30	L4	152	LYS
30	L4	153	LYS
31	P4	29	SER
31	P4	35	GLN
31	P4	37	TYR
31	P4	38	SER
31	P4	40	ARG
31	P4	42	ARG
31	P4	44	ARG
31	P4	45	LEU
31	P4	49	LEU
31	P4	50	ARG
31	P4	78	THR
31	P4	79	HIS
31	P4	115	TYR
31	P4	116	LEU
31	P4	122	THR
31	P4	123	TYR
31	P4	130	ARG
32	Q4	1	MET
33	R4	61	ILE
33	R4	66	VAL
33	R4	69	ILE
33	R4	71	ILE
33	R4	72	LYS
33	R4	73	LEU
33	R4	80	ARG
34	S4	4	VAL
34	S4	14	ARG
34	S4	19	ASN
34	S4	71	MET
34	S4	129	LEU
34	S4	138	THR
35	j4	4	LYS
35	j4	5	TRP
35	j4	9	ARG
35	j4	11	ARG
35	j4	16	LYS
35	j4	19	LYS
35	j4	21	ARG
2	U5	118	ASP

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Mol	Chain	Res	Type
5	a5	100	ARG
5	a5	101	PHE
5	a5	102	ARG
8	f5	82	LYS
8	f5	86	THR
8	f5	94	LYS
8	f5	98	VAL
8	f5	116	ARG
10	C5	275	LYS
10	C5	276	THR
11	G5	139	SER
11	G5	146	ASN
11	G5	147	LEU
11	G5	149	LYS
11	G5	151	ASP
13	M5	26	LEU
13	M5	35	ILE
13	M5	36	ARG
13	M5	45	ARG
13	M5	104	VAL
13	M5	116	LYS
13	M5	117	GLU
13	M5	118	SER
14	N5	42	LYS
14	N5	43	LYS
14	N5	133	ARG
14	N5	134	VAL
14	N5	135	LEU
14	N5	149	LEU
18	Z5	85	ARG
18	Z5	88	LEU
18	Z5	89	GLN
20	e5	33	LYS
20	e5	34	ARG
20	e5	40	ARG
20	e5	52	LYS
22	A5	213	GLU
26	F5	130	ARG
26	F5	134	VAL
26	F5	136	ARG
30	L5	147	LYS
30	L5	152	LYS

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Mol	Chain	Res	Type
30	L5	153	LYS
31	P5	14	LYS
31	P5	29	SER
31	P5	35	GLN
31	P5	37	TYR
31	P5	38	SER
31	P5	40	ARG
31	P5	42	ARG
31	P5	44	ARG
31	P5	45	LEU
31	P5	50	ARG
31	P5	78	THR
31	P5	79	HIS
31	P5	112	ILE
31	P5	115	TYR
31	P5	116	LEU
31	P5	122	THR
31	P5	123	TYR
31	P5	130	ARG
32	Q5	1	MET
33	R5	60	ARG
33	R5	66	VAL
33	R5	69	ILE
33	R5	74	GLN
33	R5	80	ARG
34	S5	4	VAL
34	S5	14	ARG
34	S5	19	ASN
34	S5	71	MET
34	S5	129	LEU
34	S5	138	THR
35	j5	2	ARG
35	j5	4	LYS
35	j5	5	TRP
35	j5	9	ARG
35	j5	11	ARG
35	j5	16	LYS
35	j5	19	LYS
35	j5	21	ARG
2	U6	118	ASP
5	a6	100	ARG
5	a6	102	ARG

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Mol	Chain	Res	Type
8	f6	81	LYS
8	f6	86	THR
8	f6	94	LYS
8	f6	98	VAL
8	f6	116	ARG
10	C6	275	LYS
10	C6	276	THR
11	G6	139	SER
11	G6	146	ASN
11	G6	147	LEU
11	G6	149	LYS
11	G6	151	ASP
13	M6	26	LEU
13	M6	35	ILE
13	M6	36	ARG
13	M6	45	ARG
13	M6	104	VAL
13	M6	116	LYS
13	M6	117	GLU
13	M6	118	SER
14	N6	42	LYS
14	N6	43	LYS
14	N6	149	LEU
18	Z6	85	ARG
18	Z6	88	LEU
18	Z6	89	GLN
20	e6	48	THR
20	e6	52	LYS
22	A6	213	GLU
26	F6	130	ARG
26	F6	134	VAL
26	F6	136	ARG
30	L6	147	LYS
30	L6	152	LYS
30	L6	153	LYS
31	P6	29	SER
31	P6	37	TYR
31	P6	40	ARG
31	P6	44	ARG
31	P6	45	LEU
31	P6	50	ARG
31	P6	78	THR

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Mol	Chain	Res	Type
31	P6	79	HIS
31	P6	115	TYR
31	P6	116	LEU
31	P6	122	THR
31	P6	123	TYR
31	P6	130	ARG
32	Q6	1	MET
33	R6	69	ILE
33	R6	71	ILE
33	R6	72	LYS
33	R6	73	LEU
33	R6	75	GLU
33	R6	77	GLU
33	R6	80	ARG
34	S6	4	VAL
34	S6	14	ARG
34	S6	19	ASN
34	S6	71	MET
34	S6	129	LEU
34	S6	138	THR
35	j6	2	ARG
35	j6	4	LYS
35	j6	5	TRP
35	j6	9	ARG
35	j6	11	ARG
35	j6	16	LYS
35	j6	19	LYS
35	j6	21	ARG
36	k1	95	GLN
36	k1	144	CYS
36	k1	169	TYR
36	k2	95	GLN
36	k2	144	CYS
36	k2	168	HIS
36	k2	169	TYR
36	k2	178	LYS
36	k3	95	GLN
36	k3	144	CYS
36	k3	168	HIS
36	k3	169	TYR
36	k4	92	LEU
36	k4	144	CYS

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Mol	Chain	Res	Type
36	k4	164	ILE
36	k4	166	ASN
36	k4	168	HIS
36	k4	169	TYR
36	k5	95	GLN
36	k5	144	CYS
36	k5	169	TYR
36	k6	92	LEU
36	k6	144	CYS
36	k6	167	ILE
36	k6	169	TYR
36	k6	170	LEU
37	l1	114	LYS
37	l1	119	LYS
37	l1	132	CYS
37	l1	140	ASP
37	l1	150	GLN
37	l1	153	SER
37	l1	154	CYS
37	l1	181	LYS
37	l1	185	VAL
37	l1	186	ASP
37	l1	191	GLU
37	l2	114	LYS
37	l2	119	LYS
37	l2	132	CYS
37	l2	140	ASP
37	l2	150	GLN
37	l2	153	SER
37	l2	154	CYS
37	l2	181	LYS
37	l2	185	VAL
37	l2	186	ASP
37	l2	191	GLU
37	l3	114	LYS
37	l3	119	LYS
37	l3	132	CYS
37	l3	140	ASP
37	l3	150	GLN
37	l3	153	SER
37	l3	154	CYS
37	l3	181	LYS

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Mol	Chain	Res	Type
37	l3	185	VAL
37	l3	186	ASP
37	l3	191	GLU
37	l4	114	LYS
37	l4	119	LYS
37	l4	132	CYS
37	l4	140	ASP
37	l4	150	GLN
37	l4	153	SER
37	l4	154	CYS
37	l4	181	LYS
37	l4	185	VAL
37	l4	186	ASP
37	l4	191	GLU
37	l5	114	LYS
37	l5	119	LYS
37	l5	132	CYS
37	l5	140	ASP
37	l5	150	GLN
37	l5	153	SER
37	l5	154	CYS
37	l5	181	LYS
37	l5	185	VAL
37	l5	186	ASP
37	l5	191	GLU
37	l6	114	LYS
37	l6	119	LYS
37	l6	132	CYS
37	l6	140	ASP
37	l6	150	GLN
37	l6	153	SER
37	l6	154	CYS
37	l6	181	LYS
37	l6	185	VAL
37	l6	186	ASP
37	l6	191	GLU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (297) such sidechains are listed below:

Mol	Chain	Res	Type
1	T1	126	GLN
2	U1	81	GLN

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Mol	Chain	Res	Type
4	X1	63	ASN
4	X1	110	HIS
8	f1	111	ASN
9	g1	62	HIS
9	g1	187	ASN
9	g1	188	HIS
9	g1	285	GLN
10	C1	115	GLN
10	C1	277	HIS
11	G1	4	ASN
11	G1	65	GLN
11	G1	146	ASN
12	J1	156	HIS
13	M1	28	HIS
14	N1	58	HIS
14	N1	105	ASN
15	O1	13	GLN
15	O1	26	ASN
15	O1	103	ASN
16	W1	15	ASN
20	e1	44	ASN
23	B1	202	GLN
24	D1	57	ASN
24	D1	226	GLN
25	E1	67	GLN
26	F1	83	ASN
26	F1	118	ASN
27	H1	33	ASN
27	H1	76	GLN
27	H1	163	GLN
29	K1	50	GLN
29	K1	73	ASN
30	L1	13	GLN
30	L1	141	ASN
31	P1	79	HIS
32	Q1	35	ASN
33	R1	74	GLN
34	S1	72	GLN
34	S1	85	ASN
34	S1	101	ASN
34	S1	105	ASN
34	S1	134	GLN

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Mol	Chain	Res	Type
2	U2	18	HIS
2	U2	81	GLN
4	X2	63	ASN
4	X2	110	HIS
9	g2	62	HIS
9	g2	187	ASN
9	g2	188	HIS
9	g2	285	GLN
10	C2	115	GLN
10	C2	272	HIS
10	C2	277	HIS
11	G2	4	ASN
11	G2	65	GLN
11	G2	146	ASN
11	G2	187	HIS
12	J2	125	HIS
12	J2	156	HIS
13	M2	28	HIS
14	N2	58	HIS
14	N2	105	ASN
15	O2	13	GLN
15	O2	26	ASN
15	O2	103	ASN
16	W2	15	ASN
22	A2	36	GLN
23	B2	202	GLN
24	D2	57	ASN
24	D2	226	GLN
25	E2	67	GLN
26	F2	83	ASN
26	F2	118	ASN
27	H2	33	ASN
27	H2	76	GLN
27	H2	163	GLN
29	K2	50	GLN
29	K2	73	ASN
30	L2	13	GLN
30	L2	141	ASN
31	P2	79	HIS
32	Q2	35	ASN
33	R2	74	GLN
34	S2	72	GLN

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Mol	Chain	Res	Type
34	S2	85	ASN
34	S2	101	ASN
34	S2	134	GLN
1	T3	126	GLN
2	U3	18	HIS
2	U3	81	GLN
4	X3	63	ASN
4	X3	110	HIS
8	f3	111	ASN
9	g3	62	HIS
9	g3	187	ASN
9	g3	188	HIS
9	g3	285	GLN
10	C3	115	GLN
10	C3	272	HIS
10	C3	277	HIS
11	G3	4	ASN
11	G3	65	GLN
11	G3	146	ASN
11	G3	186	GLN
12	J3	156	HIS
13	M3	28	HIS
14	N3	58	HIS
14	N3	105	ASN
15	O3	13	GLN
15	O3	26	ASN
15	O3	103	ASN
16	W3	15	ASN
16	W3	113	HIS
23	B3	202	GLN
24	D3	57	ASN
24	D3	226	GLN
25	E3	67	GLN
26	F3	83	ASN
26	F3	118	ASN
27	H3	33	ASN
27	H3	76	GLN
27	H3	163	GLN
29	K3	50	GLN
29	K3	73	ASN
30	L3	13	GLN
30	L3	141	ASN

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Mol	Chain	Res	Type
30	L3	154	GLN
31	P3	79	HIS
32	Q3	35	ASN
33	R3	74	GLN
34	S3	72	GLN
34	S3	85	ASN
34	S3	101	ASN
34	S3	134	GLN
1	T4	126	GLN
2	U4	81	GLN
4	X4	63	ASN
4	X4	92	ASN
4	X4	110	HIS
8	f4	111	ASN
9	g4	62	HIS
9	g4	187	ASN
9	g4	188	HIS
9	g4	285	GLN
10	C4	115	GLN
10	C4	277	HIS
11	G4	4	ASN
11	G4	65	GLN
11	G4	146	ASN
12	J4	125	HIS
12	J4	156	HIS
13	M4	28	HIS
14	N4	58	HIS
14	N4	105	ASN
15	O4	13	GLN
15	O4	26	ASN
15	O4	103	ASN
16	W4	15	ASN
23	B4	202	GLN
24	D4	57	ASN
24	D4	226	GLN
25	E4	67	GLN
26	F4	83	ASN
26	F4	118	ASN
27	H4	33	ASN
27	H4	76	GLN
27	H4	91	HIS
27	H4	164	ASN

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Mol	Chain	Res	Type
28	I4	146	GLN
29	K4	50	GLN
29	K4	73	ASN
29	K4	84	HIS
30	L4	13	GLN
30	L4	141	ASN
31	P4	79	HIS
32	Q4	35	ASN
34	S4	72	GLN
34	S4	85	ASN
34	S4	101	ASN
34	S4	105	ASN
34	S4	134	GLN
1	T5	126	GLN
2	U5	81	GLN
4	X5	63	ASN
4	X5	110	HIS
8	f5	111	ASN
9	g5	62	HIS
9	g5	187	ASN
9	g5	188	HIS
9	g5	285	GLN
10	C5	115	GLN
10	C5	277	HIS
11	G5	4	ASN
11	G5	65	GLN
11	G5	146	ASN
11	G5	187	HIS
12	J5	156	HIS
13	M5	28	HIS
14	N5	58	HIS
14	N5	105	ASN
15	O5	13	GLN
15	O5	26	ASN
15	O5	103	ASN
16	W5	15	ASN
20	e5	37	GLN
22	A5	36	GLN
23	B5	202	GLN
24	D5	57	ASN
24	D5	226	GLN
25	E5	67	GLN

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Mol	Chain	Res	Type
26	F5	83	ASN
26	F5	118	ASN
27	H5	33	ASN
27	H5	76	GLN
27	H5	163	GLN
29	K5	50	GLN
29	K5	73	ASN
30	L5	13	GLN
30	L5	141	ASN
30	L5	154	GLN
31	P5	79	HIS
32	Q5	35	ASN
34	S5	72	GLN
34	S5	85	ASN
34	S5	101	ASN
34	S5	105	ASN
34	S5	134	GLN
2	U6	18	HIS
2	U6	81	GLN
4	X6	63	ASN
4	X6	110	HIS
8	f6	111	ASN
9	g6	62	HIS
9	g6	187	ASN
9	g6	188	HIS
9	g6	285	GLN
10	C6	115	GLN
10	C6	277	HIS
11	G6	4	ASN
11	G6	65	GLN
11	G6	146	ASN
12	J6	156	HIS
13	M6	28	HIS
14	N6	58	HIS
14	N6	105	ASN
15	O6	13	GLN
15	O6	26	ASN
15	O6	103	ASN
16	W6	15	ASN
19	b6	84	HIS
22	A6	132	GLN
23	B6	202	GLN

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Mol	Chain	Res	Type
24	D6	57	ASN
24	D6	226	GLN
25	E6	67	GLN
26	F6	83	ASN
26	F6	118	ASN
27	H6	33	ASN
27	H6	76	GLN
27	H6	163	GLN
28	I6	138	ASN
29	K6	50	GLN
29	K6	73	ASN
29	K6	84	HIS
30	L6	13	GLN
30	L6	141	ASN
31	P6	79	HIS
32	Q6	35	ASN
34	S6	72	GLN
34	S6	85	ASN
34	S6	101	ASN
34	S6	134	GLN
36	k1	10	ASN
36	k1	16	GLN
36	k1	56	HIS
36	k1	96	GLN
36	k1	141	HIS
36	k2	16	GLN
36	k2	96	GLN
36	k2	141	HIS
36	k2	166	ASN
36	k3	16	GLN
36	k3	96	GLN
36	k3	141	HIS
36	k4	16	GLN
36	k4	96	GLN
36	k4	141	HIS
36	k4	168	HIS
36	k5	96	GLN
36	k5	141	HIS
36	k6	16	GLN
36	k6	56	HIS
36	k6	96	GLN
36	k6	141	HIS

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Mol	Chain	Res	Type
36	k6	166	ASN

5.3.3 RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
21	i1	1716/1869 (91%)	685 (39%)	0
21	i2	1715/1869 (91%)	687 (40%)	0
21	i3	1715/1869 (91%)	683 (39%)	0
21	i4	1716/1869 (91%)	684 (39%)	0
21	i5	1716/1869 (91%)	683 (39%)	0
21	i6	1716/1869 (91%)	683 (39%)	0
All	All	10294/11214 (91%)	4105 (39%)	0

All (4105) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
21	i1	2	A
21	i1	3	C
21	i1	4	C
21	i1	9	U
21	i1	17	C
21	i1	18	C
21	i1	25	A
21	i1	27	A
21	i1	31	U
21	i1	33	G
21	i1	41	G
21	i1	42	A
21	i1	44	U
21	i1	45	A
21	i1	46	A
21	i1	52	G
21	i1	56	G
21	i1	62	G
21	i1	64	A
21	i1	67	C
21	i1	68	A
21	i1	69	C
21	i1	70	G
21	i1	72	C
21	i1	73	C

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Mol	Chain	Res	Type
21	i1	74	G
21	i1	76	U
21	i1	77	A
21	i1	78	C
21	i1	79	A
21	i1	83	A
21	i1	84	A
21	i1	98	C
21	i1	99	A
21	i1	103	A
21	i1	113	G
21	i1	114	G
21	i1	126	G
21	i1	127	C
21	i1	139	C
21	i1	140	C
21	i1	141	A
21	i1	142	C
21	i1	144	U
21	i1	148	U
21	i1	153	G
21	i1	154	U
21	i1	155	G
21	i1	156	G
21	i1	160	U
21	i1	161	U
21	i1	162	C
21	i1	163	U
21	i1	167	G
21	i1	168	C
21	i1	171	A
21	i1	172	U
21	i1	175	A
21	i1	177	G
21	i1	178	C
21	i1	180	G
21	i1	181	A
21	i1	184	G
21	i1	185	G
21	i1	186	C
21	i1	188	C
21	i1	190	G

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Mol	Chain	Res	Type
21	i1	191	A
21	i1	192	C
21	i1	198	U
21	i1	201	C
21	i1	202	G
21	i1	208	G
21	i1	209	A
21	i1	210	U
21	i1	211	G
21	i1	214	U
21	i1	215	G
21	i1	216	C
21	i1	219	U
21	i1	291	G
21	i1	292	A
21	i1	293	C
21	i1	295	C
21	i1	299	A
21	i1	304	C
21	i1	305	U
21	i1	306	C
21	i1	307	G
21	i1	308	G
21	i1	309	G
21	i1	312	G
21	i1	313	A
21	i1	314	U
21	i1	319	C
21	i1	320	G
21	i1	323	C
21	i1	324	C
21	i1	325	C
21	i1	326	C
21	i1	328	U
21	i1	329	G
21	i1	330	G
21	i1	333	G
21	i1	334	C
21	i1	337	C
21	i1	338	G
21	i1	339	A
21	i1	340	C

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Mol	Chain	Res	Type
21	i1	341	C
21	i1	342	C
21	i1	343	A
21	i1	347	G
21	i1	351	G
21	i1	354	U
21	i1	360	A
21	i1	361	U
21	i1	362	C
21	i1	364	A
21	i1	369	C
21	i1	370	G
21	i1	371	A
21	i1	385	G
21	i1	386	C
21	i1	388	U
21	i1	391	C
21	i1	400	C
21	i1	401	A
21	i1	402	C
21	i1	407	G
21	i1	408	A
21	i1	409	C
21	i1	411	G
21	i1	413	G
21	i1	417	C
21	i1	418	A
21	i1	423	U
21	i1	426	A
21	i1	429	C
21	i1	434	G
21	i1	435	A
21	i1	436	G
21	i1	438	G
21	i1	441	C
21	i1	448	A
21	i1	449	A
21	i1	450	C
21	i1	452	G
21	i1	459	C
21	i1	464	A
21	i1	465	A

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Mol	Chain	Res	Type
21	i1	466	G
21	i1	467	G
21	i1	469	A
21	i1	472	C
21	i1	473	A
21	i1	474	G
21	i1	482	G
21	i1	487	U
21	i1	488	U
21	i1	489	A
21	i1	492	C
21	i1	493	A
21	i1	495	U
21	i1	502	C
21	i1	503	C
21	i1	505	G
21	i1	507	G
21	i1	516	A
21	i1	517	C
21	i1	524	U
21	i1	528	A
21	i1	529	A
21	i1	530	U
21	i1	532	C
21	i1	533	A
21	i1	534	G
21	i1	535	G
21	i1	537	C
21	i1	538	U
21	i1	539	C
21	i1	540	U
21	i1	542	U
21	i1	544	G
21	i1	545	A
21	i1	547	G
21	i1	549	C
21	i1	550	C
21	i1	551	U
21	i1	556	U
21	i1	557	U
21	i1	559	G
21	i1	560	A

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Mol	Chain	Res	Type
21	i1	561	A
21	i1	563	G
21	i1	566	U
21	i1	574	A
21	i1	575	A
21	i1	576	A
21	i1	581	U
21	i1	582	C
21	i1	584	G
21	i1	585	C
21	i1	587	A
21	i1	588	G
21	i1	589	G
21	i1	590	A
21	i1	591	U
21	i1	592	C
21	i1	593	C
21	i1	596	U
21	i1	604	A
21	i1	605	A
21	i1	606	G
21	i1	607	U
21	i1	608	C
21	i1	613	G
21	i1	621	C
21	i1	627	U
21	i1	628	A
21	i1	629	A
21	i1	631	U
21	i1	634	A
21	i1	638	C
21	i1	643	A
21	i1	644	G
21	i1	651	U
21	i1	655	A
21	i1	656	G
21	i1	657	U
21	i1	660	C
21	i1	666	U
21	i1	669	A
21	i1	670	A
21	i1	671	A

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Mol	Chain	Res	Type
21	i1	672	A
21	i1	673	G
21	i1	675	U
21	i1	679	A
21	i1	683	G
21	i1	685	A
21	i1	686	U
21	i1	687	C
21	i1	688	U
21	i1	689	U
21	i1	690	G
21	i1	691	G
21	i1	692	G
21	i1	693	A
21	i1	694	G
21	i1	695	C
21	i1	696	G
21	i1	697	G
21	i1	698	G
21	i1	732	U
21	i1	733	C
21	i1	734	C
21	i1	735	C
21	i1	736	C
21	i1	738	C
21	i1	739	C
21	i1	746	C
21	i1	747	U
21	i1	749	U
21	i1	750	C
21	i1	751	G
21	i1	752	G
21	i1	753	C
21	i1	787	G
21	i1	788	G
21	i1	789	G
21	i1	790	C
21	i1	791	C
21	i1	794	A
21	i1	795	A
21	i1	796	G
21	i1	797	C

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Mol	Chain	Res	Type
21	i1	798	A
21	i1	800	U
21	i1	810	A
21	i1	811	A
21	i1	812	A
21	i1	813	A
21	i1	815	U
21	i1	818	A
21	i1	821	G
21	i1	822	U
21	i1	823	U
21	i1	830	A
21	i1	834	C
21	i1	835	C
21	i1	837	A
21	i1	838	G
21	i1	839	C
21	i1	840	C
21	i1	841	G
21	i1	842	C
21	i1	843	C
21	i1	847	A
21	i1	848	U
21	i1	853	C
21	i1	864	A
21	i1	865	A
21	i1	869	A
21	i1	870	A
21	i1	873	G
21	i1	874	G
21	i1	876	C
21	i1	877	C
21	i1	878	G
21	i1	879	C
21	i1	881	G
21	i1	883	U
21	i1	887	U
21	i1	888	U
21	i1	889	U
21	i1	890	U
21	i1	891	G
21	i1	892	U

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Mol	Chain	Res	Type
21	i1	893	U
21	i1	894	G
21	i1	896	U
21	i1	897	U
21	i1	899	U
21	i1	900	C
21	i1	901	G
21	i1	902	G
21	i1	903	A
21	i1	904	A
21	i1	907	G
21	i1	908	A
21	i1	909	G
21	i1	913	A
21	i1	914	U
21	i1	917	U
21	i1	919	A
21	i1	920	A
21	i1	930	C
21	i1	933	G
21	i1	934	G
21	i1	939	U
21	i1	943	U
21	i1	952	G
21	i1	954	U
21	i1	955	A
21	i1	956	G
21	i1	958	G
21	i1	961	G
21	i1	963	A
21	i1	964	A
21	i1	965	U
21	i1	969	U
21	i1	970	G
21	i1	971	G
21	i1	972	A
21	i1	973	C
21	i1	978	G
21	i1	979	C
21	i1	981	A
21	i1	990	A
21	i1	992	A

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Mol	Chain	Res	Type
21	i1	996	A
21	i1	999	G
21	i1	1002	U
21	i1	1008	A
21	i1	1017	U
21	i1	1022	U
21	i1	1023	A
21	i1	1027	A
21	i1	1028	A
21	i1	1029	G
21	i1	1041	G
21	i1	1042	A
21	i1	1044	G
21	i1	1052	A
21	i1	1059	G
21	i1	1060	A
21	i1	1061	U
21	i1	1062	A
21	i1	1068	G
21	i1	1076	G
21	i1	1081	U
21	i1	1083	A
21	i1	1084	A
21	i1	1085	C
21	i1	1087	A
21	i1	1088	U
21	i1	1110	G
21	i1	1113	A
21	i1	1114	U
21	i1	1115	U
21	i1	1116	C
21	i1	1118	C
21	i1	1119	A
21	i1	1120	U
21	i1	1126	G
21	i1	1134	G
21	i1	1138	C
21	i1	1139	C
21	i1	1148	A
21	i1	1149	A
21	i1	1150	A
21	i1	1153	C

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Mol	Chain	Res	Type
21	i1	1154	U
21	i1	1155	U
21	i1	1157	G
21	i1	1166	G
21	i1	1170	A
21	i1	1171	G
21	i1	1172	U
21	i1	1175	G
21	i1	1180	C
21	i1	1181	A
21	i1	1186	U
21	i1	1194	A
21	i1	1195	A
21	i1	1198	G
21	i1	1208	A
21	i1	1212	G
21	i1	1213	C
21	i1	1214	A
21	i1	1215	C
21	i1	1216	C
21	i1	1217	A
21	i1	1224	G
21	i1	1231	C
21	i1	1238	U
21	i1	1240	A
21	i1	1241	A
21	i1	1242	U
21	i1	1248	U
21	i1	1250	A
21	i1	1251	A
21	i1	1253	A
21	i1	1256	G
21	i1	1257	G
21	i1	1258	A
21	i1	1259	A
21	i1	1260	A
21	i1	1264	C
21	i1	1265	A
21	i1	1268	C
21	i1	1269	G
21	i1	1271	C
21	i1	1274	G

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Mol	Chain	Res	Type
21	i1	1275	G
21	i1	1276	A
21	i1	1277	C
21	i1	1280	G
21	i1	1281	G
21	i1	1283	C
21	i1	1284	A
21	i1	1287	A
21	i1	1288	U
21	i1	1289	U
21	i1	1290	G
21	i1	1292	C
21	i1	1294	G
21	i1	1295	A
21	i1	1296	U
21	i1	1297	U
21	i1	1298	G
21	i1	1299	A
21	i1	1300	U
21	i1	1301	A
21	i1	1302	G
21	i1	1303	C
21	i1	1305	C
21	i1	1306	U
21	i1	1307	U
21	i1	1308	U
21	i1	1310	U
21	i1	1311	C
21	i1	1313	A
21	i1	1315	U
21	i1	1317	C
21	i1	1318	G
21	i1	1321	G
21	i1	1323	U
21	i1	1324	G
21	i1	1330	G
21	i1	1331	C
21	i1	1332	A
21	i1	1337	C
21	i1	1341	C
21	i1	1342	U
21	i1	1343	U

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Mol	Chain	Res	Type
21	i1	1363	C
21	i1	1364	U
21	i1	1371	U
21	i1	1372	U
21	i1	1373	C
21	i1	1378	A
21	i1	1383	A
21	i1	1393	G
21	i1	1396	A
21	i1	1397	U
21	i1	1398	G
21	i1	1404	U
21	i1	1405	A
21	i1	1407	U
21	i1	1409	A
21	i1	1410	C
21	i1	1412	C
21	i1	1413	G
21	i1	1414	A
21	i1	1415	C
21	i1	1416	C
21	i1	1418	C
21	i1	1419	C
21	i1	1420	G
21	i1	1423	C
21	i1	1424	G
21	i1	1425	G
21	i1	1427	C
21	i1	1428	G
21	i1	1431	G
21	i1	1432	U
21	i1	1434	C
21	i1	1436	C
21	i1	1437	C
21	i1	1438	A
21	i1	1442	U
21	i1	1448	A
21	i1	1449	G
21	i1	1454	A
21	i1	1455	A
21	i1	1456	G
21	i1	1457	U

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Mol	Chain	Res	Type
21	i1	1458	G
21	i1	1463	U
21	i1	1464	C
21	i1	1468	C
21	i1	1471	C
21	i1	1472	C
21	i1	1473	G
21	i1	1475	G
21	i1	1476	A
21	i1	1477	U
21	i1	1480	A
21	i1	1481	G
21	i1	1484	A
21	i1	1487	A
21	i1	1489	A
21	i1	1490	G
21	i1	1493	C
21	i1	1494	U
21	i1	1495	G
21	i1	1497	G
21	i1	1498	A
21	i1	1505	U
21	i1	1506	A
21	i1	1507	G
21	i1	1508	A
21	i1	1509	U
21	i1	1510	G
21	i1	1512	C
21	i1	1513	C
21	i1	1515	G
21	i1	1520	G
21	i1	1521	C
21	i1	1522	A
21	i1	1523	C
21	i1	1525	C
21	i1	1526	G
21	i1	1527	C
21	i1	1531	A
21	i1	1533	A
21	i1	1535	U
21	i1	1536	G
21	i1	1538	C

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Mol	Chain	Res	Type
21	i1	1540	G
21	i1	1543	U
21	i1	1545	A
21	i1	1546	G
21	i1	1550	G
21	i1	1551	U
21	i1	1552	G
21	i1	1553	C
21	i1	1554	C
21	i1	1555	U
21	i1	1556	A
21	i1	1557	C
21	i1	1558	C
21	i1	1567	G
21	i1	1568	C
21	i1	1569	A
21	i1	1570	G
21	i1	1573	G
21	i1	1574	C
21	i1	1575	G
21	i1	1579	A
21	i1	1580	A
21	i1	1581	C
21	i1	1585	U
21	i1	1586	U
21	i1	1587	G
21	i1	1588	A
21	i1	1589	A
21	i1	1598	G
21	i1	1599	U
21	i1	1600	G
21	i1	1603	G
21	i1	1614	A
21	i1	1621	U
21	i1	1623	A
21	i1	1626	C
21	i1	1636	G
21	i1	1637	A
21	i1	1638	G
21	i1	1639	G
21	i1	1640	A
21	i1	1644	C

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Mol	Chain	Res	Type
21	i1	1648	G
21	i1	1651	A
21	i1	1653	U
21	i1	1654	G
21	i1	1655	C
21	i1	1660	C
21	i1	1661	A
21	i1	1662	U
21	i1	1663	A
21	i1	1664	A
21	i1	1665	G
21	i1	1679	A
21	i1	1680	G
21	i1	1686	G
21	i1	1688	C
21	i1	1690	U
21	i1	1694	U
21	i1	1695	A
21	i1	1697	A
21	i1	1698	C
21	i1	1714	U
21	i1	1719	A
21	i1	1721	U
21	i1	1722	G
21	i1	1729	U
21	i1	1730	U
21	i1	1735	A
21	i1	1737	G
21	i1	1742	C
21	i1	1743	G
21	i1	1744	G
21	i1	1745	A
21	i1	1746	U
21	i1	1748	G
21	i1	1751	C
21	i1	1752	C
21	i1	1754	G
21	i1	1755	C
21	i1	1757	G
21	i1	1758	G
21	i1	1772	C
21	i1	1773	C

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Mol	Chain	Res	Type
21	i1	1775	U
21	i1	1776	G
21	i1	1777	G
21	i1	1781	A
21	i1	1783	C
21	i1	1784	G
21	i1	1786	U
21	i1	1805	G
21	i1	1812	U
21	i1	1813	A
21	i1	1814	G
21	i1	1823	A
21	i1	1824	A
21	i1	1825	A
21	i1	1826	G
21	i1	1831	A
21	i1	1838	U
21	i1	1839	U
21	i1	1849	G
21	i1	1850	A
21	i1	1851	A
21	i1	1852	C
21	i1	1857	G
21	i1	1858	G
21	i1	1861	G
21	i1	1862	G
21	i1	1863	A
21	i1	1865	C
21	i1	1868	U
21	i1	1869	A
21	i2	2	A
21	i2	3	C
21	i2	4	C
21	i2	9	U
21	i2	17	C
21	i2	18	C
21	i2	25	A
21	i2	27	A
21	i2	31	U
21	i2	33	G
21	i2	41	G
21	i2	42	A

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Mol	Chain	Res	Type
21	i2	44	U
21	i2	45	A
21	i2	46	A
21	i2	52	G
21	i2	56	G
21	i2	62	G
21	i2	64	A
21	i2	67	C
21	i2	68	A
21	i2	69	C
21	i2	70	G
21	i2	72	C
21	i2	73	C
21	i2	74	G
21	i2	76	U
21	i2	77	A
21	i2	78	C
21	i2	79	A
21	i2	83	A
21	i2	84	A
21	i2	98	C
21	i2	99	A
21	i2	103	A
21	i2	113	G
21	i2	114	G
21	i2	126	G
21	i2	127	C
21	i2	139	C
21	i2	140	C
21	i2	141	A
21	i2	142	C
21	i2	144	U
21	i2	148	U
21	i2	153	G
21	i2	154	U
21	i2	155	G
21	i2	156	G
21	i2	160	U
21	i2	161	U
21	i2	162	C
21	i2	163	U
21	i2	167	G

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Mol	Chain	Res	Type
21	i2	168	C
21	i2	171	A
21	i2	172	U
21	i2	175	A
21	i2	177	G
21	i2	178	C
21	i2	180	G
21	i2	181	A
21	i2	183	G
21	i2	184	G
21	i2	185	G
21	i2	188	C
21	i2	189	U
21	i2	190	G
21	i2	191	A
21	i2	192	C
21	i2	198	U
21	i2	201	C
21	i2	202	G
21	i2	208	G
21	i2	209	A
21	i2	210	U
21	i2	211	G
21	i2	214	U
21	i2	215	G
21	i2	219	U
21	i2	291	G
21	i2	292	A
21	i2	293	C
21	i2	295	C
21	i2	299	A
21	i2	304	C
21	i2	305	U
21	i2	306	C
21	i2	307	G
21	i2	308	G
21	i2	309	G
21	i2	312	G
21	i2	313	A
21	i2	314	U
21	i2	316	G
21	i2	319	C

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Mol	Chain	Res	Type
21	i2	320	G
21	i2	323	C
21	i2	324	C
21	i2	325	C
21	i2	326	C
21	i2	328	U
21	i2	329	G
21	i2	330	G
21	i2	333	G
21	i2	334	C
21	i2	337	C
21	i2	338	G
21	i2	339	A
21	i2	340	C
21	i2	341	C
21	i2	342	C
21	i2	343	A
21	i2	347	G
21	i2	351	G
21	i2	354	U
21	i2	360	A
21	i2	361	U
21	i2	362	C
21	i2	364	A
21	i2	369	C
21	i2	370	G
21	i2	371	A
21	i2	385	G
21	i2	386	C
21	i2	388	U
21	i2	391	C
21	i2	400	C
21	i2	401	A
21	i2	402	C
21	i2	407	G
21	i2	408	A
21	i2	409	C
21	i2	411	G
21	i2	413	G
21	i2	417	C
21	i2	418	A
21	i2	423	U

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Mol	Chain	Res	Type
21	i2	426	A
21	i2	429	C
21	i2	434	G
21	i2	435	A
21	i2	436	G
21	i2	438	G
21	i2	441	C
21	i2	448	A
21	i2	449	A
21	i2	450	C
21	i2	452	G
21	i2	459	C
21	i2	464	A
21	i2	465	A
21	i2	466	G
21	i2	467	G
21	i2	469	A
21	i2	472	C
21	i2	473	A
21	i2	474	G
21	i2	482	G
21	i2	487	U
21	i2	488	U
21	i2	489	A
21	i2	492	C
21	i2	493	A
21	i2	495	U
21	i2	502	C
21	i2	503	C
21	i2	505	G
21	i2	507	G
21	i2	516	A
21	i2	517	C
21	i2	524	U
21	i2	526	A
21	i2	529	A
21	i2	530	U
21	i2	532	C
21	i2	533	A
21	i2	534	G
21	i2	535	G
21	i2	537	C

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Mol	Chain	Res	Type
21	i2	538	U
21	i2	539	C
21	i2	540	U
21	i2	542	U
21	i2	544	G
21	i2	545	A
21	i2	547	G
21	i2	549	C
21	i2	550	C
21	i2	551	U
21	i2	556	U
21	i2	557	U
21	i2	559	G
21	i2	560	A
21	i2	561	A
21	i2	563	G
21	i2	566	U
21	i2	574	A
21	i2	575	A
21	i2	576	A
21	i2	581	U
21	i2	582	C
21	i2	584	G
21	i2	585	C
21	i2	587	A
21	i2	588	G
21	i2	589	G
21	i2	590	A
21	i2	591	U
21	i2	592	C
21	i2	593	C
21	i2	596	U
21	i2	604	A
21	i2	605	A
21	i2	606	G
21	i2	607	U
21	i2	608	C
21	i2	613	G
21	i2	621	C
21	i2	627	U
21	i2	628	A
21	i2	629	A

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Mol	Chain	Res	Type
21	i2	631	U
21	i2	634	A
21	i2	643	A
21	i2	644	G
21	i2	651	U
21	i2	655	A
21	i2	656	G
21	i2	657	U
21	i2	660	C
21	i2	666	U
21	i2	669	A
21	i2	670	A
21	i2	671	A
21	i2	672	A
21	i2	673	G
21	i2	675	U
21	i2	679	A
21	i2	683	G
21	i2	685	A
21	i2	686	U
21	i2	687	C
21	i2	688	U
21	i2	689	U
21	i2	690	G
21	i2	691	G
21	i2	692	G
21	i2	693	A
21	i2	694	G
21	i2	695	C
21	i2	696	G
21	i2	697	G
21	i2	698	G
21	i2	731	G
21	i2	732	U
21	i2	733	C
21	i2	734	C
21	i2	735	C
21	i2	736	C
21	i2	737	G
21	i2	738	C
21	i2	739	C
21	i2	746	C

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Mol	Chain	Res	Type
21	i2	747	U
21	i2	749	U
21	i2	750	C
21	i2	751	G
21	i2	752	G
21	i2	753	C
21	i2	787	G
21	i2	788	G
21	i2	789	G
21	i2	790	C
21	i2	791	C
21	i2	794	A
21	i2	795	A
21	i2	796	G
21	i2	797	C
21	i2	798	A
21	i2	800	U
21	i2	810	A
21	i2	811	A
21	i2	812	A
21	i2	813	A
21	i2	815	U
21	i2	818	A
21	i2	821	G
21	i2	822	U
21	i2	823	U
21	i2	830	A
21	i2	834	C
21	i2	835	C
21	i2	837	A
21	i2	838	G
21	i2	839	C
21	i2	840	C
21	i2	841	G
21	i2	842	C
21	i2	843	C
21	i2	847	A
21	i2	848	U
21	i2	853	C
21	i2	864	A
21	i2	865	A
21	i2	869	A

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Mol	Chain	Res	Type
21	i2	870	A
21	i2	873	G
21	i2	874	G
21	i2	876	C
21	i2	877	C
21	i2	878	G
21	i2	879	C
21	i2	881	G
21	i2	883	U
21	i2	887	U
21	i2	888	U
21	i2	889	U
21	i2	890	U
21	i2	891	G
21	i2	892	U
21	i2	893	U
21	i2	894	G
21	i2	896	U
21	i2	897	U
21	i2	899	U
21	i2	900	C
21	i2	901	G
21	i2	902	G
21	i2	903	A
21	i2	904	A
21	i2	907	G
21	i2	908	A
21	i2	909	G
21	i2	913	A
21	i2	914	U
21	i2	917	U
21	i2	919	A
21	i2	920	A
21	i2	930	C
21	i2	933	G
21	i2	934	G
21	i2	939	U
21	i2	943	U
21	i2	952	G
21	i2	954	U
21	i2	955	A
21	i2	956	G

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Mol	Chain	Res	Type
21	i2	958	G
21	i2	961	G
21	i2	963	A
21	i2	964	A
21	i2	965	U
21	i2	970	G
21	i2	971	G
21	i2	972	A
21	i2	973	C
21	i2	978	G
21	i2	979	C
21	i2	981	A
21	i2	990	A
21	i2	992	A
21	i2	996	A
21	i2	999	G
21	i2	1002	U
21	i2	1008	A
21	i2	1017	U
21	i2	1022	U
21	i2	1023	A
21	i2	1027	A
21	i2	1028	A
21	i2	1029	G
21	i2	1041	G
21	i2	1042	A
21	i2	1044	G
21	i2	1050	A
21	i2	1052	A
21	i2	1059	G
21	i2	1060	A
21	i2	1061	U
21	i2	1062	A
21	i2	1068	G
21	i2	1076	G
21	i2	1081	U
21	i2	1083	A
21	i2	1084	A
21	i2	1085	C
21	i2	1087	A
21	i2	1088	U
21	i2	1110	G

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Mol	Chain	Res	Type
21	i2	1113	A
21	i2	1114	U
21	i2	1115	U
21	i2	1116	C
21	i2	1118	C
21	i2	1119	A
21	i2	1120	U
21	i2	1126	G
21	i2	1134	G
21	i2	1138	C
21	i2	1139	C
21	i2	1148	A
21	i2	1149	A
21	i2	1150	A
21	i2	1153	C
21	i2	1154	U
21	i2	1155	U
21	i2	1157	G
21	i2	1166	G
21	i2	1170	A
21	i2	1171	G
21	i2	1172	U
21	i2	1175	G
21	i2	1180	C
21	i2	1181	A
21	i2	1186	U
21	i2	1194	A
21	i2	1195	A
21	i2	1198	G
21	i2	1208	A
21	i2	1212	G
21	i2	1213	C
21	i2	1214	A
21	i2	1215	C
21	i2	1216	C
21	i2	1217	A
21	i2	1224	G
21	i2	1231	C
21	i2	1238	U
21	i2	1240	A
21	i2	1241	A
21	i2	1242	U

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Mol	Chain	Res	Type
21	i2	1248	U
21	i2	1250	A
21	i2	1251	A
21	i2	1253	A
21	i2	1256	G
21	i2	1257	G
21	i2	1258	A
21	i2	1259	A
21	i2	1260	A
21	i2	1264	C
21	i2	1265	A
21	i2	1268	C
21	i2	1269	G
21	i2	1271	C
21	i2	1274	G
21	i2	1275	G
21	i2	1276	A
21	i2	1277	C
21	i2	1280	G
21	i2	1281	G
21	i2	1283	C
21	i2	1284	A
21	i2	1287	A
21	i2	1288	U
21	i2	1289	U
21	i2	1290	G
21	i2	1292	C
21	i2	1294	G
21	i2	1295	A
21	i2	1296	U
21	i2	1297	U
21	i2	1298	G
21	i2	1299	A
21	i2	1300	U
21	i2	1301	A
21	i2	1302	G
21	i2	1303	C
21	i2	1305	C
21	i2	1306	U
21	i2	1307	U
21	i2	1308	U
21	i2	1310	U

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Mol	Chain	Res	Type
21	i2	1311	C
21	i2	1313	A
21	i2	1315	U
21	i2	1317	C
21	i2	1318	G
21	i2	1321	G
21	i2	1323	U
21	i2	1324	G
21	i2	1330	G
21	i2	1331	C
21	i2	1332	A
21	i2	1337	C
21	i2	1341	C
21	i2	1342	U
21	i2	1343	U
21	i2	1363	C
21	i2	1364	U
21	i2	1371	U
21	i2	1372	U
21	i2	1373	C
21	i2	1378	A
21	i2	1383	A
21	i2	1393	G
21	i2	1396	A
21	i2	1397	U
21	i2	1398	G
21	i2	1404	U
21	i2	1405	A
21	i2	1407	U
21	i2	1409	A
21	i2	1410	C
21	i2	1412	C
21	i2	1413	G
21	i2	1414	A
21	i2	1415	C
21	i2	1416	C
21	i2	1418	C
21	i2	1419	C
21	i2	1420	G
21	i2	1423	C
21	i2	1424	G
21	i2	1425	G

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Mol	Chain	Res	Type
21	i2	1427	C
21	i2	1428	G
21	i2	1431	G
21	i2	1432	U
21	i2	1434	C
21	i2	1436	C
21	i2	1437	C
21	i2	1438	A
21	i2	1442	U
21	i2	1448	A
21	i2	1449	G
21	i2	1454	A
21	i2	1455	A
21	i2	1456	G
21	i2	1457	U
21	i2	1458	G
21	i2	1463	U
21	i2	1464	C
21	i2	1468	C
21	i2	1471	C
21	i2	1472	C
21	i2	1473	G
21	i2	1475	G
21	i2	1476	A
21	i2	1477	U
21	i2	1480	A
21	i2	1481	G
21	i2	1484	A
21	i2	1487	A
21	i2	1489	A
21	i2	1490	G
21	i2	1493	C
21	i2	1494	U
21	i2	1495	G
21	i2	1497	G
21	i2	1498	A
21	i2	1505	U
21	i2	1506	A
21	i2	1507	G
21	i2	1508	A
21	i2	1509	U
21	i2	1510	G

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Mol	Chain	Res	Type
21	i2	1512	C
21	i2	1513	C
21	i2	1515	G
21	i2	1520	G
21	i2	1521	C
21	i2	1522	A
21	i2	1523	C
21	i2	1525	C
21	i2	1526	G
21	i2	1527	C
21	i2	1531	A
21	i2	1533	A
21	i2	1535	U
21	i2	1536	G
21	i2	1538	C
21	i2	1540	G
21	i2	1543	U
21	i2	1545	A
21	i2	1546	G
21	i2	1550	G
21	i2	1551	U
21	i2	1552	G
21	i2	1553	C
21	i2	1554	C
21	i2	1555	U
21	i2	1556	A
21	i2	1557	C
21	i2	1558	C
21	i2	1567	G
21	i2	1568	C
21	i2	1569	A
21	i2	1570	G
21	i2	1573	G
21	i2	1574	C
21	i2	1575	G
21	i2	1579	A
21	i2	1580	A
21	i2	1581	C
21	i2	1585	U
21	i2	1586	U
21	i2	1587	G
21	i2	1588	A

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Mol	Chain	Res	Type
21	i2	1589	A
21	i2	1598	G
21	i2	1599	U
21	i2	1600	G
21	i2	1603	G
21	i2	1614	A
21	i2	1621	U
21	i2	1623	A
21	i2	1626	C
21	i2	1636	G
21	i2	1637	A
21	i2	1638	G
21	i2	1639	G
21	i2	1640	A
21	i2	1644	C
21	i2	1648	G
21	i2	1651	A
21	i2	1653	U
21	i2	1654	G
21	i2	1655	C
21	i2	1660	C
21	i2	1661	A
21	i2	1662	U
21	i2	1663	A
21	i2	1664	A
21	i2	1665	G
21	i2	1679	A
21	i2	1680	G
21	i2	1686	G
21	i2	1688	C
21	i2	1694	U
21	i2	1695	A
21	i2	1697	A
21	i2	1698	C
21	i2	1714	U
21	i2	1719	A
21	i2	1721	U
21	i2	1722	G
21	i2	1729	U
21	i2	1730	U
21	i2	1735	A
21	i2	1737	G

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Mol	Chain	Res	Type
21	i2	1742	C
21	i2	1743	G
21	i2	1744	G
21	i2	1745	A
21	i2	1746	U
21	i2	1748	G
21	i2	1751	C
21	i2	1752	C
21	i2	1754	G
21	i2	1755	C
21	i2	1757	G
21	i2	1758	G
21	i2	1772	C
21	i2	1773	C
21	i2	1775	U
21	i2	1776	G
21	i2	1777	G
21	i2	1781	A
21	i2	1784	G
21	i2	1786	U
21	i2	1805	G
21	i2	1812	U
21	i2	1813	A
21	i2	1814	G
21	i2	1823	A
21	i2	1824	A
21	i2	1825	A
21	i2	1826	G
21	i2	1829	G
21	i2	1831	A
21	i2	1835	A
21	i2	1838	U
21	i2	1839	U
21	i2	1849	G
21	i2	1850	A
21	i2	1851	A
21	i2	1852	C
21	i2	1857	G
21	i2	1858	G
21	i2	1861	G
21	i2	1862	G
21	i2	1863	A

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Mol	Chain	Res	Type
21	i2	1865	C
21	i2	1868	U
21	i2	1869	A
21	i3	2	A
21	i3	3	C
21	i3	4	C
21	i3	9	U
21	i3	17	C
21	i3	18	C
21	i3	25	A
21	i3	27	A
21	i3	31	U
21	i3	33	G
21	i3	41	G
21	i3	42	A
21	i3	44	U
21	i3	45	A
21	i3	46	A
21	i3	52	G
21	i3	56	G
21	i3	62	G
21	i3	64	A
21	i3	67	C
21	i3	68	A
21	i3	69	C
21	i3	70	G
21	i3	72	C
21	i3	73	C
21	i3	74	G
21	i3	76	U
21	i3	77	A
21	i3	78	C
21	i3	79	A
21	i3	83	A
21	i3	84	A
21	i3	98	C
21	i3	99	A
21	i3	103	A
21	i3	113	G
21	i3	114	G
21	i3	126	G
21	i3	127	C

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Mol	Chain	Res	Type
21	i3	139	C
21	i3	140	C
21	i3	141	A
21	i3	142	C
21	i3	144	U
21	i3	148	U
21	i3	153	G
21	i3	154	U
21	i3	155	G
21	i3	156	G
21	i3	160	U
21	i3	161	U
21	i3	162	C
21	i3	163	U
21	i3	167	G
21	i3	168	C
21	i3	171	A
21	i3	172	U
21	i3	175	A
21	i3	177	G
21	i3	178	C
21	i3	180	G
21	i3	181	A
21	i3	183	G
21	i3	184	G
21	i3	185	G
21	i3	188	C
21	i3	189	U
21	i3	190	G
21	i3	191	A
21	i3	192	C
21	i3	198	U
21	i3	201	C
21	i3	202	G
21	i3	208	G
21	i3	209	A
21	i3	210	U
21	i3	211	G
21	i3	214	U
21	i3	215	G
21	i3	216	C
21	i3	219	U

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Mol	Chain	Res	Type
21	i3	291	G
21	i3	292	A
21	i3	293	C
21	i3	295	C
21	i3	299	A
21	i3	304	C
21	i3	305	U
21	i3	306	C
21	i3	307	G
21	i3	308	G
21	i3	309	G
21	i3	312	G
21	i3	313	A
21	i3	314	U
21	i3	319	C
21	i3	320	G
21	i3	323	C
21	i3	324	C
21	i3	325	C
21	i3	326	C
21	i3	328	U
21	i3	329	G
21	i3	330	G
21	i3	334	C
21	i3	337	C
21	i3	338	G
21	i3	339	A
21	i3	340	C
21	i3	341	C
21	i3	342	C
21	i3	343	A
21	i3	347	G
21	i3	351	G
21	i3	354	U
21	i3	360	A
21	i3	361	U
21	i3	362	C
21	i3	364	A
21	i3	369	C
21	i3	370	G
21	i3	371	A
21	i3	385	G

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Mol	Chain	Res	Type
21	i3	386	C
21	i3	388	U
21	i3	391	C
21	i3	400	C
21	i3	401	A
21	i3	402	C
21	i3	407	G
21	i3	408	A
21	i3	409	C
21	i3	411	G
21	i3	413	G
21	i3	417	C
21	i3	418	A
21	i3	423	U
21	i3	426	A
21	i3	429	C
21	i3	434	G
21	i3	435	A
21	i3	436	G
21	i3	438	G
21	i3	441	C
21	i3	448	A
21	i3	449	A
21	i3	450	C
21	i3	452	G
21	i3	459	C
21	i3	464	A
21	i3	465	A
21	i3	466	G
21	i3	467	G
21	i3	469	A
21	i3	472	C
21	i3	473	A
21	i3	474	G
21	i3	482	G
21	i3	487	U
21	i3	488	U
21	i3	489	A
21	i3	492	C
21	i3	493	A
21	i3	495	U
21	i3	502	C

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Mol	Chain	Res	Type
21	i3	503	C
21	i3	505	G
21	i3	507	G
21	i3	516	A
21	i3	517	C
21	i3	528	A
21	i3	529	A
21	i3	530	U
21	i3	532	C
21	i3	533	A
21	i3	534	G
21	i3	535	G
21	i3	537	C
21	i3	538	U
21	i3	539	C
21	i3	540	U
21	i3	542	U
21	i3	544	G
21	i3	545	A
21	i3	547	G
21	i3	549	C
21	i3	550	C
21	i3	551	U
21	i3	556	U
21	i3	557	U
21	i3	559	G
21	i3	560	A
21	i3	561	A
21	i3	563	G
21	i3	566	U
21	i3	574	A
21	i3	575	A
21	i3	576	A
21	i3	581	U
21	i3	582	C
21	i3	584	G
21	i3	585	C
21	i3	587	A
21	i3	588	G
21	i3	589	G
21	i3	590	A
21	i3	591	U

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Mol	Chain	Res	Type
21	i3	592	C
21	i3	593	C
21	i3	596	U
21	i3	604	A
21	i3	605	A
21	i3	606	G
21	i3	607	U
21	i3	608	C
21	i3	613	G
21	i3	621	C
21	i3	627	U
21	i3	628	A
21	i3	629	A
21	i3	631	U
21	i3	634	A
21	i3	643	A
21	i3	644	G
21	i3	651	U
21	i3	655	A
21	i3	656	G
21	i3	657	U
21	i3	660	C
21	i3	666	U
21	i3	669	A
21	i3	670	A
21	i3	671	A
21	i3	672	A
21	i3	673	G
21	i3	675	U
21	i3	679	A
21	i3	683	G
21	i3	685	A
21	i3	686	U
21	i3	687	C
21	i3	688	U
21	i3	689	U
21	i3	690	G
21	i3	692	G
21	i3	693	A
21	i3	694	G
21	i3	695	C
21	i3	696	G

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Mol	Chain	Res	Type
21	i3	697	G
21	i3	698	G
21	i3	732	U
21	i3	733	C
21	i3	734	C
21	i3	735	C
21	i3	736	C
21	i3	737	G
21	i3	738	C
21	i3	739	C
21	i3	746	C
21	i3	747	U
21	i3	749	U
21	i3	750	C
21	i3	751	G
21	i3	752	G
21	i3	753	C
21	i3	787	G
21	i3	788	G
21	i3	789	G
21	i3	790	C
21	i3	791	C
21	i3	794	A
21	i3	795	A
21	i3	796	G
21	i3	797	C
21	i3	798	A
21	i3	800	U
21	i3	810	A
21	i3	811	A
21	i3	812	A
21	i3	813	A
21	i3	815	U
21	i3	818	A
21	i3	821	G
21	i3	822	U
21	i3	823	U
21	i3	830	A
21	i3	834	C
21	i3	835	C
21	i3	837	A
21	i3	838	G

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Mol	Chain	Res	Type
21	i3	839	C
21	i3	840	C
21	i3	841	G
21	i3	842	C
21	i3	843	C
21	i3	847	A
21	i3	848	U
21	i3	853	C
21	i3	864	A
21	i3	865	A
21	i3	869	A
21	i3	870	A
21	i3	873	G
21	i3	874	G
21	i3	876	C
21	i3	877	C
21	i3	878	G
21	i3	879	C
21	i3	881	G
21	i3	883	U
21	i3	887	U
21	i3	888	U
21	i3	889	U
21	i3	890	U
21	i3	891	G
21	i3	892	U
21	i3	893	U
21	i3	894	G
21	i3	896	U
21	i3	897	U
21	i3	899	U
21	i3	900	C
21	i3	901	G
21	i3	902	G
21	i3	903	A
21	i3	904	A
21	i3	907	G
21	i3	908	A
21	i3	909	G
21	i3	913	A
21	i3	914	U
21	i3	917	U

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Mol	Chain	Res	Type
21	i3	919	A
21	i3	920	A
21	i3	930	C
21	i3	933	G
21	i3	934	G
21	i3	939	U
21	i3	943	U
21	i3	952	G
21	i3	954	U
21	i3	955	A
21	i3	956	G
21	i3	958	G
21	i3	961	G
21	i3	963	A
21	i3	964	A
21	i3	965	U
21	i3	970	G
21	i3	971	G
21	i3	972	A
21	i3	973	C
21	i3	978	G
21	i3	979	C
21	i3	981	A
21	i3	990	A
21	i3	992	A
21	i3	996	A
21	i3	999	G
21	i3	1002	U
21	i3	1008	A
21	i3	1017	U
21	i3	1022	U
21	i3	1023	A
21	i3	1027	A
21	i3	1028	A
21	i3	1029	G
21	i3	1041	G
21	i3	1042	A
21	i3	1044	G
21	i3	1052	A
21	i3	1059	G
21	i3	1060	A
21	i3	1061	U

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Mol	Chain	Res	Type
21	i3	1062	A
21	i3	1068	G
21	i3	1076	G
21	i3	1081	U
21	i3	1083	A
21	i3	1084	A
21	i3	1085	C
21	i3	1087	A
21	i3	1088	U
21	i3	1110	G
21	i3	1113	A
21	i3	1114	U
21	i3	1115	U
21	i3	1116	C
21	i3	1118	C
21	i3	1119	A
21	i3	1120	U
21	i3	1126	G
21	i3	1134	G
21	i3	1138	C
21	i3	1139	C
21	i3	1148	A
21	i3	1149	A
21	i3	1150	A
21	i3	1153	C
21	i3	1154	U
21	i3	1155	U
21	i3	1157	G
21	i3	1166	G
21	i3	1170	A
21	i3	1171	G
21	i3	1172	U
21	i3	1175	G
21	i3	1180	C
21	i3	1181	A
21	i3	1186	U
21	i3	1194	A
21	i3	1195	A
21	i3	1198	G
21	i3	1208	A
21	i3	1212	G
21	i3	1213	C

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Mol	Chain	Res	Type
21	i3	1214	A
21	i3	1215	C
21	i3	1216	C
21	i3	1217	A
21	i3	1224	G
21	i3	1231	C
21	i3	1238	U
21	i3	1240	A
21	i3	1241	A
21	i3	1242	U
21	i3	1248	U
21	i3	1250	A
21	i3	1251	A
21	i3	1253	A
21	i3	1256	G
21	i3	1257	G
21	i3	1258	A
21	i3	1259	A
21	i3	1260	A
21	i3	1264	C
21	i3	1265	A
21	i3	1268	C
21	i3	1269	G
21	i3	1271	C
21	i3	1274	G
21	i3	1275	G
21	i3	1276	A
21	i3	1277	C
21	i3	1280	G
21	i3	1281	G
21	i3	1283	C
21	i3	1284	A
21	i3	1287	A
21	i3	1288	U
21	i3	1289	U
21	i3	1290	G
21	i3	1292	C
21	i3	1294	G
21	i3	1295	A
21	i3	1296	U
21	i3	1297	U
21	i3	1298	G

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Mol	Chain	Res	Type
21	i3	1299	A
21	i3	1300	U
21	i3	1301	A
21	i3	1302	G
21	i3	1303	C
21	i3	1305	C
21	i3	1306	U
21	i3	1307	U
21	i3	1308	U
21	i3	1310	U
21	i3	1311	C
21	i3	1313	A
21	i3	1315	U
21	i3	1317	C
21	i3	1318	G
21	i3	1321	G
21	i3	1323	U
21	i3	1324	G
21	i3	1330	G
21	i3	1331	C
21	i3	1332	A
21	i3	1337	C
21	i3	1341	C
21	i3	1342	U
21	i3	1343	U
21	i3	1363	C
21	i3	1364	U
21	i3	1371	U
21	i3	1372	U
21	i3	1373	C
21	i3	1378	A
21	i3	1383	A
21	i3	1393	G
21	i3	1396	A
21	i3	1397	U
21	i3	1398	G
21	i3	1404	U
21	i3	1405	A
21	i3	1407	U
21	i3	1409	A
21	i3	1410	C
21	i3	1412	C

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Mol	Chain	Res	Type
21	i3	1413	G
21	i3	1414	A
21	i3	1415	C
21	i3	1416	C
21	i3	1418	C
21	i3	1419	C
21	i3	1420	G
21	i3	1423	C
21	i3	1424	G
21	i3	1425	G
21	i3	1427	C
21	i3	1428	G
21	i3	1431	G
21	i3	1432	U
21	i3	1434	C
21	i3	1436	C
21	i3	1437	C
21	i3	1438	A
21	i3	1442	U
21	i3	1448	A
21	i3	1449	G
21	i3	1454	A
21	i3	1455	A
21	i3	1456	G
21	i3	1457	U
21	i3	1458	G
21	i3	1463	U
21	i3	1464	C
21	i3	1468	C
21	i3	1471	C
21	i3	1472	C
21	i3	1473	G
21	i3	1475	G
21	i3	1476	A
21	i3	1477	U
21	i3	1480	A
21	i3	1481	G
21	i3	1484	A
21	i3	1487	A
21	i3	1489	A
21	i3	1490	G
21	i3	1493	C

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Mol	Chain	Res	Type
21	i3	1494	U
21	i3	1495	G
21	i3	1497	G
21	i3	1498	A
21	i3	1505	U
21	i3	1506	A
21	i3	1507	G
21	i3	1508	A
21	i3	1509	U
21	i3	1510	G
21	i3	1512	C
21	i3	1513	C
21	i3	1515	G
21	i3	1520	G
21	i3	1521	C
21	i3	1522	A
21	i3	1523	C
21	i3	1525	C
21	i3	1526	G
21	i3	1527	C
21	i3	1531	A
21	i3	1533	A
21	i3	1535	U
21	i3	1536	G
21	i3	1538	C
21	i3	1540	G
21	i3	1543	U
21	i3	1545	A
21	i3	1546	G
21	i3	1550	G
21	i3	1551	U
21	i3	1552	G
21	i3	1553	C
21	i3	1554	C
21	i3	1555	U
21	i3	1556	A
21	i3	1557	C
21	i3	1558	C
21	i3	1567	G
21	i3	1568	C
21	i3	1569	A
21	i3	1570	G

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Mol	Chain	Res	Type
21	i3	1573	G
21	i3	1574	C
21	i3	1575	G
21	i3	1579	A
21	i3	1580	A
21	i3	1581	C
21	i3	1585	U
21	i3	1586	U
21	i3	1587	G
21	i3	1588	A
21	i3	1589	A
21	i3	1598	G
21	i3	1599	U
21	i3	1600	G
21	i3	1603	G
21	i3	1614	A
21	i3	1621	U
21	i3	1623	A
21	i3	1626	C
21	i3	1636	G
21	i3	1637	A
21	i3	1638	G
21	i3	1639	G
21	i3	1640	A
21	i3	1644	C
21	i3	1648	G
21	i3	1651	A
21	i3	1653	U
21	i3	1654	G
21	i3	1655	C
21	i3	1660	C
21	i3	1661	A
21	i3	1662	U
21	i3	1663	A
21	i3	1664	A
21	i3	1665	G
21	i3	1679	A
21	i3	1680	G
21	i3	1686	G
21	i3	1688	C
21	i3	1694	U
21	i3	1695	A

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Mol	Chain	Res	Type
21	i3	1697	A
21	i3	1698	C
21	i3	1714	U
21	i3	1719	A
21	i3	1721	U
21	i3	1722	G
21	i3	1729	U
21	i3	1730	U
21	i3	1735	A
21	i3	1737	G
21	i3	1742	C
21	i3	1743	G
21	i3	1744	G
21	i3	1745	A
21	i3	1746	U
21	i3	1748	G
21	i3	1751	C
21	i3	1752	C
21	i3	1754	G
21	i3	1755	C
21	i3	1757	G
21	i3	1758	G
21	i3	1772	C
21	i3	1773	C
21	i3	1775	U
21	i3	1776	G
21	i3	1777	G
21	i3	1781	A
21	i3	1784	G
21	i3	1785	C
21	i3	1786	U
21	i3	1805	G
21	i3	1812	U
21	i3	1813	A
21	i3	1814	G
21	i3	1823	A
21	i3	1824	A
21	i3	1825	A
21	i3	1826	G
21	i3	1831	A
21	i3	1833	C
21	i3	1835	A

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Mol	Chain	Res	Type
21	i3	1838	U
21	i3	1839	U
21	i3	1849	G
21	i3	1850	A
21	i3	1851	A
21	i3	1852	C
21	i3	1857	G
21	i3	1858	G
21	i3	1861	G
21	i3	1862	G
21	i3	1863	A
21	i3	1865	C
21	i3	1868	U
21	i3	1869	A
21	i4	2	A
21	i4	3	C
21	i4	4	C
21	i4	9	U
21	i4	17	C
21	i4	18	C
21	i4	25	A
21	i4	27	A
21	i4	31	U
21	i4	33	G
21	i4	41	G
21	i4	42	A
21	i4	44	U
21	i4	45	A
21	i4	46	A
21	i4	52	G
21	i4	56	G
21	i4	62	G
21	i4	64	A
21	i4	67	C
21	i4	68	A
21	i4	69	C
21	i4	70	G
21	i4	72	C
21	i4	73	C
21	i4	74	G
21	i4	76	U
21	i4	77	A

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Mol	Chain	Res	Type
21	i4	78	C
21	i4	79	A
21	i4	83	A
21	i4	84	A
21	i4	98	C
21	i4	99	A
21	i4	103	A
21	i4	113	G
21	i4	114	G
21	i4	126	G
21	i4	127	C
21	i4	139	C
21	i4	140	C
21	i4	141	A
21	i4	142	C
21	i4	144	U
21	i4	148	U
21	i4	153	G
21	i4	154	U
21	i4	155	G
21	i4	156	G
21	i4	160	U
21	i4	161	U
21	i4	162	C
21	i4	163	U
21	i4	167	G
21	i4	168	C
21	i4	171	A
21	i4	172	U
21	i4	175	A
21	i4	177	G
21	i4	178	C
21	i4	180	G
21	i4	181	A
21	i4	183	G
21	i4	184	G
21	i4	185	G
21	i4	186	C
21	i4	188	C
21	i4	190	G
21	i4	191	A
21	i4	192	C

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Mol	Chain	Res	Type
21	i4	198	U
21	i4	201	C
21	i4	202	G
21	i4	208	G
21	i4	209	A
21	i4	210	U
21	i4	211	G
21	i4	212	C
21	i4	215	G
21	i4	216	C
21	i4	219	U
21	i4	291	G
21	i4	292	A
21	i4	293	C
21	i4	295	C
21	i4	299	A
21	i4	304	C
21	i4	305	U
21	i4	306	C
21	i4	307	G
21	i4	308	G
21	i4	309	G
21	i4	312	G
21	i4	313	A
21	i4	314	U
21	i4	319	C
21	i4	320	G
21	i4	323	C
21	i4	324	C
21	i4	325	C
21	i4	326	C
21	i4	328	U
21	i4	329	G
21	i4	330	G
21	i4	334	C
21	i4	335	G
21	i4	337	C
21	i4	338	G
21	i4	339	A
21	i4	340	C
21	i4	341	C
21	i4	342	C

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Mol	Chain	Res	Type
21	i4	343	A
21	i4	347	G
21	i4	351	G
21	i4	354	U
21	i4	360	A
21	i4	361	U
21	i4	362	C
21	i4	364	A
21	i4	369	C
21	i4	370	G
21	i4	371	A
21	i4	385	G
21	i4	386	C
21	i4	388	U
21	i4	391	C
21	i4	400	C
21	i4	401	A
21	i4	402	C
21	i4	407	G
21	i4	408	A
21	i4	409	C
21	i4	411	G
21	i4	413	G
21	i4	417	C
21	i4	418	A
21	i4	423	U
21	i4	426	A
21	i4	429	C
21	i4	434	G
21	i4	435	A
21	i4	436	G
21	i4	438	G
21	i4	441	C
21	i4	448	A
21	i4	449	A
21	i4	450	C
21	i4	452	G
21	i4	459	C
21	i4	464	A
21	i4	465	A
21	i4	466	G
21	i4	467	G

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Mol	Chain	Res	Type
21	i4	469	A
21	i4	472	C
21	i4	473	A
21	i4	474	G
21	i4	482	G
21	i4	487	U
21	i4	488	U
21	i4	489	A
21	i4	492	C
21	i4	493	A
21	i4	495	U
21	i4	502	C
21	i4	503	C
21	i4	505	G
21	i4	507	G
21	i4	516	A
21	i4	517	C
21	i4	524	U
21	i4	527	C
21	i4	529	A
21	i4	530	U
21	i4	532	C
21	i4	533	A
21	i4	534	G
21	i4	535	G
21	i4	537	C
21	i4	538	U
21	i4	539	C
21	i4	540	U
21	i4	542	U
21	i4	544	G
21	i4	545	A
21	i4	547	G
21	i4	549	C
21	i4	550	C
21	i4	551	U
21	i4	556	U
21	i4	559	G
21	i4	560	A
21	i4	563	G
21	i4	566	U
21	i4	574	A

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Mol	Chain	Res	Type
21	i4	575	A
21	i4	576	A
21	i4	581	U
21	i4	582	C
21	i4	584	G
21	i4	585	C
21	i4	587	A
21	i4	588	G
21	i4	589	G
21	i4	590	A
21	i4	591	U
21	i4	592	C
21	i4	593	C
21	i4	596	U
21	i4	604	A
21	i4	605	A
21	i4	606	G
21	i4	607	U
21	i4	608	C
21	i4	613	G
21	i4	621	C
21	i4	627	U
21	i4	628	A
21	i4	629	A
21	i4	631	U
21	i4	634	A
21	i4	643	A
21	i4	644	G
21	i4	651	U
21	i4	655	A
21	i4	656	G
21	i4	657	U
21	i4	660	C
21	i4	666	U
21	i4	669	A
21	i4	670	A
21	i4	671	A
21	i4	672	A
21	i4	673	G
21	i4	675	U
21	i4	679	A
21	i4	683	G

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Mol	Chain	Res	Type
21	i4	685	A
21	i4	686	U
21	i4	687	C
21	i4	688	U
21	i4	689	U
21	i4	690	G
21	i4	691	G
21	i4	692	G
21	i4	694	G
21	i4	695	C
21	i4	696	G
21	i4	697	G
21	i4	698	G
21	i4	732	U
21	i4	733	C
21	i4	734	C
21	i4	735	C
21	i4	736	C
21	i4	738	C
21	i4	739	C
21	i4	746	C
21	i4	747	U
21	i4	749	U
21	i4	750	C
21	i4	751	G
21	i4	752	G
21	i4	753	C
21	i4	787	G
21	i4	788	G
21	i4	789	G
21	i4	790	C
21	i4	791	C
21	i4	794	A
21	i4	795	A
21	i4	796	G
21	i4	797	C
21	i4	798	A
21	i4	800	U
21	i4	810	A
21	i4	811	A
21	i4	812	A
21	i4	813	A

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Mol	Chain	Res	Type
21	i4	815	U
21	i4	818	A
21	i4	821	G
21	i4	822	U
21	i4	823	U
21	i4	830	A
21	i4	834	C
21	i4	835	C
21	i4	837	A
21	i4	838	G
21	i4	839	C
21	i4	840	C
21	i4	841	G
21	i4	842	C
21	i4	843	C
21	i4	847	A
21	i4	848	U
21	i4	853	C
21	i4	864	A
21	i4	865	A
21	i4	869	A
21	i4	870	A
21	i4	873	G
21	i4	874	G
21	i4	876	C
21	i4	877	C
21	i4	878	G
21	i4	879	C
21	i4	881	G
21	i4	883	U
21	i4	887	U
21	i4	888	U
21	i4	889	U
21	i4	890	U
21	i4	891	G
21	i4	892	U
21	i4	893	U
21	i4	894	G
21	i4	896	U
21	i4	897	U
21	i4	899	U
21	i4	900	C

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Mol	Chain	Res	Type
21	i4	901	G
21	i4	902	G
21	i4	903	A
21	i4	904	A
21	i4	907	G
21	i4	908	A
21	i4	909	G
21	i4	913	A
21	i4	914	U
21	i4	917	U
21	i4	919	A
21	i4	920	A
21	i4	930	C
21	i4	933	G
21	i4	934	G
21	i4	939	U
21	i4	943	U
21	i4	952	G
21	i4	954	U
21	i4	955	A
21	i4	956	G
21	i4	958	G
21	i4	961	G
21	i4	963	A
21	i4	964	A
21	i4	965	U
21	i4	970	G
21	i4	971	G
21	i4	972	A
21	i4	973	C
21	i4	978	G
21	i4	979	C
21	i4	981	A
21	i4	990	A
21	i4	992	A
21	i4	996	A
21	i4	999	G
21	i4	1002	U
21	i4	1008	A
21	i4	1017	U
21	i4	1022	U
21	i4	1023	A

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Mol	Chain	Res	Type
21	i4	1027	A
21	i4	1028	A
21	i4	1029	G
21	i4	1041	G
21	i4	1042	A
21	i4	1044	G
21	i4	1052	A
21	i4	1059	G
21	i4	1060	A
21	i4	1061	U
21	i4	1062	A
21	i4	1068	G
21	i4	1076	G
21	i4	1081	U
21	i4	1083	A
21	i4	1084	A
21	i4	1085	C
21	i4	1087	A
21	i4	1088	U
21	i4	1110	G
21	i4	1113	A
21	i4	1114	U
21	i4	1115	U
21	i4	1116	C
21	i4	1118	C
21	i4	1119	A
21	i4	1120	U
21	i4	1126	G
21	i4	1134	G
21	i4	1138	C
21	i4	1139	C
21	i4	1148	A
21	i4	1149	A
21	i4	1150	A
21	i4	1153	C
21	i4	1154	U
21	i4	1155	U
21	i4	1157	G
21	i4	1166	G
21	i4	1170	A
21	i4	1171	G
21	i4	1172	U

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Mol	Chain	Res	Type
21	i4	1175	G
21	i4	1180	C
21	i4	1181	A
21	i4	1186	U
21	i4	1194	A
21	i4	1195	A
21	i4	1198	G
21	i4	1208	A
21	i4	1212	G
21	i4	1213	C
21	i4	1214	A
21	i4	1215	C
21	i4	1216	C
21	i4	1217	A
21	i4	1224	G
21	i4	1231	C
21	i4	1238	U
21	i4	1240	A
21	i4	1241	A
21	i4	1242	U
21	i4	1248	U
21	i4	1250	A
21	i4	1251	A
21	i4	1253	A
21	i4	1256	G
21	i4	1257	G
21	i4	1258	A
21	i4	1259	A
21	i4	1260	A
21	i4	1264	C
21	i4	1265	A
21	i4	1268	C
21	i4	1269	G
21	i4	1271	C
21	i4	1274	G
21	i4	1275	G
21	i4	1276	A
21	i4	1277	C
21	i4	1280	G
21	i4	1281	G
21	i4	1283	C
21	i4	1284	A

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Mol	Chain	Res	Type
21	i4	1287	A
21	i4	1288	U
21	i4	1289	U
21	i4	1290	G
21	i4	1292	C
21	i4	1294	G
21	i4	1295	A
21	i4	1296	U
21	i4	1297	U
21	i4	1298	G
21	i4	1299	A
21	i4	1300	U
21	i4	1301	A
21	i4	1302	G
21	i4	1303	C
21	i4	1305	C
21	i4	1306	U
21	i4	1307	U
21	i4	1308	U
21	i4	1310	U
21	i4	1311	C
21	i4	1313	A
21	i4	1315	U
21	i4	1317	C
21	i4	1318	G
21	i4	1321	G
21	i4	1323	U
21	i4	1324	G
21	i4	1330	G
21	i4	1331	C
21	i4	1332	A
21	i4	1337	C
21	i4	1341	C
21	i4	1342	U
21	i4	1343	U
21	i4	1363	C
21	i4	1364	U
21	i4	1371	U
21	i4	1372	U
21	i4	1373	C
21	i4	1378	A
21	i4	1383	A

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Mol	Chain	Res	Type
21	i4	1393	G
21	i4	1396	A
21	i4	1397	U
21	i4	1398	G
21	i4	1404	U
21	i4	1405	A
21	i4	1407	U
21	i4	1409	A
21	i4	1410	C
21	i4	1412	C
21	i4	1413	G
21	i4	1414	A
21	i4	1415	C
21	i4	1416	C
21	i4	1418	C
21	i4	1419	C
21	i4	1420	G
21	i4	1423	C
21	i4	1424	G
21	i4	1425	G
21	i4	1427	C
21	i4	1428	G
21	i4	1431	G
21	i4	1432	U
21	i4	1434	C
21	i4	1436	C
21	i4	1437	C
21	i4	1438	A
21	i4	1442	U
21	i4	1448	A
21	i4	1449	G
21	i4	1454	A
21	i4	1455	A
21	i4	1456	G
21	i4	1457	U
21	i4	1458	G
21	i4	1463	U
21	i4	1464	C
21	i4	1468	C
21	i4	1471	C
21	i4	1472	C
21	i4	1473	G

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Mol	Chain	Res	Type
21	i4	1475	G
21	i4	1476	A
21	i4	1477	U
21	i4	1480	A
21	i4	1481	G
21	i4	1484	A
21	i4	1487	A
21	i4	1489	A
21	i4	1490	G
21	i4	1493	C
21	i4	1494	U
21	i4	1495	G
21	i4	1497	G
21	i4	1498	A
21	i4	1505	U
21	i4	1506	A
21	i4	1507	G
21	i4	1508	A
21	i4	1509	U
21	i4	1510	G
21	i4	1512	C
21	i4	1513	C
21	i4	1515	G
21	i4	1520	G
21	i4	1521	C
21	i4	1522	A
21	i4	1523	C
21	i4	1525	C
21	i4	1526	G
21	i4	1527	C
21	i4	1531	A
21	i4	1533	A
21	i4	1535	U
21	i4	1536	G
21	i4	1538	C
21	i4	1540	G
21	i4	1543	U
21	i4	1545	A
21	i4	1546	G
21	i4	1550	G
21	i4	1551	U
21	i4	1552	G

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Mol	Chain	Res	Type
21	i4	1553	C
21	i4	1554	C
21	i4	1555	U
21	i4	1556	A
21	i4	1557	C
21	i4	1558	C
21	i4	1567	G
21	i4	1568	C
21	i4	1569	A
21	i4	1570	G
21	i4	1573	G
21	i4	1574	C
21	i4	1575	G
21	i4	1579	A
21	i4	1580	A
21	i4	1581	C
21	i4	1585	U
21	i4	1586	U
21	i4	1587	G
21	i4	1588	A
21	i4	1589	A
21	i4	1598	G
21	i4	1599	U
21	i4	1600	G
21	i4	1603	G
21	i4	1614	A
21	i4	1621	U
21	i4	1623	A
21	i4	1626	C
21	i4	1636	G
21	i4	1637	A
21	i4	1638	G
21	i4	1639	G
21	i4	1640	A
21	i4	1644	C
21	i4	1648	G
21	i4	1651	A
21	i4	1653	U
21	i4	1654	G
21	i4	1655	C
21	i4	1660	C
21	i4	1661	A

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Mol	Chain	Res	Type
21	i4	1662	U
21	i4	1663	A
21	i4	1664	A
21	i4	1665	G
21	i4	1679	A
21	i4	1680	G
21	i4	1686	G
21	i4	1688	C
21	i4	1690	U
21	i4	1694	U
21	i4	1695	A
21	i4	1697	A
21	i4	1698	C
21	i4	1714	U
21	i4	1719	A
21	i4	1721	U
21	i4	1722	G
21	i4	1729	U
21	i4	1730	U
21	i4	1735	A
21	i4	1737	G
21	i4	1742	C
21	i4	1743	G
21	i4	1744	G
21	i4	1745	A
21	i4	1746	U
21	i4	1748	G
21	i4	1751	C
21	i4	1752	C
21	i4	1753	C
21	i4	1754	G
21	i4	1755	C
21	i4	1757	G
21	i4	1758	G
21	i4	1772	C
21	i4	1773	C
21	i4	1775	U
21	i4	1776	G
21	i4	1777	G
21	i4	1781	A
21	i4	1782	G
21	i4	1784	G

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Mol	Chain	Res	Type
21	i4	1785	C
21	i4	1786	U
21	i4	1805	G
21	i4	1812	U
21	i4	1813	A
21	i4	1814	G
21	i4	1823	A
21	i4	1824	A
21	i4	1825	A
21	i4	1826	G
21	i4	1831	A
21	i4	1833	C
21	i4	1838	U
21	i4	1839	U
21	i4	1849	G
21	i4	1850	A
21	i4	1851	A
21	i4	1852	C
21	i4	1857	G
21	i4	1858	G
21	i4	1861	G
21	i4	1862	G
21	i4	1863	A
21	i4	1865	C
21	i4	1868	U
21	i4	1869	A
21	i5	2	A
21	i5	3	C
21	i5	4	C
21	i5	9	U
21	i5	17	C
21	i5	18	C
21	i5	25	A
21	i5	27	A
21	i5	31	U
21	i5	33	G
21	i5	41	G
21	i5	42	A
21	i5	44	U
21	i5	45	A
21	i5	46	A
21	i5	52	G

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Mol	Chain	Res	Type
21	i5	56	G
21	i5	62	G
21	i5	64	A
21	i5	67	C
21	i5	68	A
21	i5	69	C
21	i5	70	G
21	i5	72	C
21	i5	73	C
21	i5	74	G
21	i5	76	U
21	i5	77	A
21	i5	78	C
21	i5	79	A
21	i5	83	A
21	i5	84	A
21	i5	98	C
21	i5	99	A
21	i5	103	A
21	i5	113	G
21	i5	114	G
21	i5	126	G
21	i5	127	C
21	i5	139	C
21	i5	140	C
21	i5	141	A
21	i5	142	C
21	i5	144	U
21	i5	148	U
21	i5	153	G
21	i5	154	U
21	i5	155	G
21	i5	156	G
21	i5	160	U
21	i5	161	U
21	i5	162	C
21	i5	163	U
21	i5	167	G
21	i5	168	C
21	i5	171	A
21	i5	172	U
21	i5	175	A

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Mol	Chain	Res	Type
21	i5	177	G
21	i5	178	C
21	i5	180	G
21	i5	181	A
21	i5	184	G
21	i5	185	G
21	i5	186	C
21	i5	188	C
21	i5	190	G
21	i5	191	A
21	i5	192	C
21	i5	198	U
21	i5	201	C
21	i5	202	G
21	i5	208	G
21	i5	209	A
21	i5	210	U
21	i5	211	G
21	i5	212	C
21	i5	214	U
21	i5	215	G
21	i5	219	U
21	i5	291	G
21	i5	292	A
21	i5	293	C
21	i5	295	C
21	i5	299	A
21	i5	304	C
21	i5	305	U
21	i5	306	C
21	i5	307	G
21	i5	308	G
21	i5	309	G
21	i5	312	G
21	i5	313	A
21	i5	314	U
21	i5	315	C
21	i5	319	C
21	i5	320	G
21	i5	323	C
21	i5	324	C
21	i5	325	C

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Mol	Chain	Res	Type
21	i5	326	C
21	i5	328	U
21	i5	329	G
21	i5	330	G
21	i5	334	C
21	i5	337	C
21	i5	338	G
21	i5	339	A
21	i5	340	C
21	i5	341	C
21	i5	342	C
21	i5	343	A
21	i5	347	G
21	i5	351	G
21	i5	354	U
21	i5	360	A
21	i5	361	U
21	i5	362	C
21	i5	364	A
21	i5	369	C
21	i5	370	G
21	i5	371	A
21	i5	385	G
21	i5	386	C
21	i5	388	U
21	i5	391	C
21	i5	400	C
21	i5	401	A
21	i5	402	C
21	i5	407	G
21	i5	408	A
21	i5	409	C
21	i5	411	G
21	i5	413	G
21	i5	417	C
21	i5	418	A
21	i5	423	U
21	i5	426	A
21	i5	429	C
21	i5	434	G
21	i5	435	A
21	i5	436	G

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Mol	Chain	Res	Type
21	i5	438	G
21	i5	441	C
21	i5	448	A
21	i5	449	A
21	i5	450	C
21	i5	452	G
21	i5	459	C
21	i5	464	A
21	i5	465	A
21	i5	466	G
21	i5	467	G
21	i5	469	A
21	i5	472	C
21	i5	473	A
21	i5	474	G
21	i5	482	G
21	i5	487	U
21	i5	488	U
21	i5	489	A
21	i5	492	C
21	i5	493	A
21	i5	495	U
21	i5	502	C
21	i5	503	C
21	i5	505	G
21	i5	507	G
21	i5	516	A
21	i5	517	C
21	i5	524	U
21	i5	526	A
21	i5	529	A
21	i5	530	U
21	i5	532	C
21	i5	533	A
21	i5	534	G
21	i5	535	G
21	i5	537	C
21	i5	538	U
21	i5	539	C
21	i5	540	U
21	i5	542	U
21	i5	544	G

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Mol	Chain	Res	Type
21	i5	545	A
21	i5	547	G
21	i5	549	C
21	i5	550	C
21	i5	551	U
21	i5	556	U
21	i5	557	U
21	i5	559	G
21	i5	560	A
21	i5	563	G
21	i5	566	U
21	i5	574	A
21	i5	575	A
21	i5	576	A
21	i5	581	U
21	i5	582	C
21	i5	584	G
21	i5	585	C
21	i5	587	A
21	i5	588	G
21	i5	589	G
21	i5	590	A
21	i5	591	U
21	i5	592	C
21	i5	593	C
21	i5	596	U
21	i5	604	A
21	i5	605	A
21	i5	606	G
21	i5	607	U
21	i5	608	C
21	i5	613	G
21	i5	621	C
21	i5	627	U
21	i5	628	A
21	i5	629	A
21	i5	631	U
21	i5	634	A
21	i5	643	A
21	i5	644	G
21	i5	651	U
21	i5	655	A

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Mol	Chain	Res	Type
21	i5	656	G
21	i5	657	U
21	i5	660	C
21	i5	666	U
21	i5	669	A
21	i5	670	A
21	i5	671	A
21	i5	672	A
21	i5	673	G
21	i5	675	U
21	i5	679	A
21	i5	683	G
21	i5	685	A
21	i5	686	U
21	i5	687	C
21	i5	688	U
21	i5	689	U
21	i5	690	G
21	i5	691	G
21	i5	692	G
21	i5	693	A
21	i5	694	G
21	i5	695	C
21	i5	696	G
21	i5	697	G
21	i5	698	G
21	i5	732	U
21	i5	733	C
21	i5	734	C
21	i5	735	C
21	i5	736	C
21	i5	738	C
21	i5	739	C
21	i5	746	C
21	i5	747	U
21	i5	749	U
21	i5	750	C
21	i5	751	G
21	i5	752	G
21	i5	753	C
21	i5	787	G
21	i5	788	G

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Mol	Chain	Res	Type
21	i5	789	G
21	i5	790	C
21	i5	791	C
21	i5	794	A
21	i5	795	A
21	i5	796	G
21	i5	797	C
21	i5	798	A
21	i5	800	U
21	i5	810	A
21	i5	811	A
21	i5	812	A
21	i5	813	A
21	i5	815	U
21	i5	818	A
21	i5	821	G
21	i5	822	U
21	i5	823	U
21	i5	830	A
21	i5	834	C
21	i5	835	C
21	i5	837	A
21	i5	838	G
21	i5	839	C
21	i5	840	C
21	i5	841	G
21	i5	842	C
21	i5	843	C
21	i5	847	A
21	i5	848	U
21	i5	853	C
21	i5	864	A
21	i5	865	A
21	i5	869	A
21	i5	870	A
21	i5	873	G
21	i5	874	G
21	i5	876	C
21	i5	877	C
21	i5	878	G
21	i5	879	C
21	i5	881	G

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Mol	Chain	Res	Type
21	i5	883	U
21	i5	887	U
21	i5	888	U
21	i5	889	U
21	i5	890	U
21	i5	891	G
21	i5	892	U
21	i5	893	U
21	i5	894	G
21	i5	896	U
21	i5	897	U
21	i5	899	U
21	i5	900	C
21	i5	901	G
21	i5	902	G
21	i5	903	A
21	i5	904	A
21	i5	907	G
21	i5	908	A
21	i5	909	G
21	i5	913	A
21	i5	914	U
21	i5	917	U
21	i5	919	A
21	i5	920	A
21	i5	930	C
21	i5	933	G
21	i5	934	G
21	i5	939	U
21	i5	943	U
21	i5	952	G
21	i5	954	U
21	i5	955	A
21	i5	956	G
21	i5	958	G
21	i5	961	G
21	i5	963	A
21	i5	964	A
21	i5	965	U
21	i5	970	G
21	i5	971	G
21	i5	972	A

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Mol	Chain	Res	Type
21	i5	973	C
21	i5	978	G
21	i5	979	C
21	i5	981	A
21	i5	990	A
21	i5	992	A
21	i5	996	A
21	i5	999	G
21	i5	1002	U
21	i5	1008	A
21	i5	1017	U
21	i5	1022	U
21	i5	1023	A
21	i5	1027	A
21	i5	1028	A
21	i5	1029	G
21	i5	1041	G
21	i5	1042	A
21	i5	1044	G
21	i5	1052	A
21	i5	1059	G
21	i5	1060	A
21	i5	1061	U
21	i5	1062	A
21	i5	1068	G
21	i5	1076	G
21	i5	1081	U
21	i5	1083	A
21	i5	1084	A
21	i5	1085	C
21	i5	1087	A
21	i5	1088	U
21	i5	1110	G
21	i5	1113	A
21	i5	1114	U
21	i5	1115	U
21	i5	1116	C
21	i5	1118	C
21	i5	1119	A
21	i5	1120	U
21	i5	1126	G
21	i5	1134	G

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Mol	Chain	Res	Type
21	i5	1138	C
21	i5	1139	C
21	i5	1148	A
21	i5	1149	A
21	i5	1150	A
21	i5	1153	C
21	i5	1154	U
21	i5	1155	U
21	i5	1157	G
21	i5	1166	G
21	i5	1170	A
21	i5	1171	G
21	i5	1172	U
21	i5	1175	G
21	i5	1180	C
21	i5	1181	A
21	i5	1186	U
21	i5	1194	A
21	i5	1195	A
21	i5	1198	G
21	i5	1208	A
21	i5	1210	G
21	i5	1212	G
21	i5	1213	C
21	i5	1214	A
21	i5	1215	C
21	i5	1216	C
21	i5	1217	A
21	i5	1224	G
21	i5	1231	C
21	i5	1238	U
21	i5	1240	A
21	i5	1241	A
21	i5	1242	U
21	i5	1248	U
21	i5	1250	A
21	i5	1251	A
21	i5	1253	A
21	i5	1256	G
21	i5	1257	G
21	i5	1258	A
21	i5	1259	A

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Mol	Chain	Res	Type
21	i5	1260	A
21	i5	1264	C
21	i5	1265	A
21	i5	1268	C
21	i5	1269	G
21	i5	1271	C
21	i5	1274	G
21	i5	1275	G
21	i5	1276	A
21	i5	1277	C
21	i5	1280	G
21	i5	1281	G
21	i5	1283	C
21	i5	1284	A
21	i5	1287	A
21	i5	1288	U
21	i5	1289	U
21	i5	1290	G
21	i5	1292	C
21	i5	1294	G
21	i5	1295	A
21	i5	1296	U
21	i5	1297	U
21	i5	1298	G
21	i5	1299	A
21	i5	1300	U
21	i5	1301	A
21	i5	1302	G
21	i5	1303	C
21	i5	1305	C
21	i5	1306	U
21	i5	1307	U
21	i5	1308	U
21	i5	1310	U
21	i5	1311	C
21	i5	1313	A
21	i5	1315	U
21	i5	1317	C
21	i5	1318	G
21	i5	1321	G
21	i5	1323	U
21	i5	1324	G

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Mol	Chain	Res	Type
21	i5	1330	G
21	i5	1331	C
21	i5	1332	A
21	i5	1337	C
21	i5	1341	C
21	i5	1342	U
21	i5	1343	U
21	i5	1363	C
21	i5	1364	U
21	i5	1371	U
21	i5	1372	U
21	i5	1373	C
21	i5	1378	A
21	i5	1383	A
21	i5	1393	G
21	i5	1396	A
21	i5	1397	U
21	i5	1398	G
21	i5	1404	U
21	i5	1405	A
21	i5	1407	U
21	i5	1409	A
21	i5	1410	C
21	i5	1412	C
21	i5	1413	G
21	i5	1414	A
21	i5	1415	C
21	i5	1416	C
21	i5	1418	C
21	i5	1419	C
21	i5	1420	G
21	i5	1423	C
21	i5	1424	G
21	i5	1425	G
21	i5	1427	C
21	i5	1428	G
21	i5	1431	G
21	i5	1432	U
21	i5	1434	C
21	i5	1436	C
21	i5	1437	C
21	i5	1438	A

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Mol	Chain	Res	Type
21	i5	1442	U
21	i5	1448	A
21	i5	1449	G
21	i5	1454	A
21	i5	1455	A
21	i5	1456	G
21	i5	1457	U
21	i5	1458	G
21	i5	1463	U
21	i5	1464	C
21	i5	1468	C
21	i5	1471	C
21	i5	1472	C
21	i5	1473	G
21	i5	1475	G
21	i5	1476	A
21	i5	1477	U
21	i5	1480	A
21	i5	1481	G
21	i5	1484	A
21	i5	1487	A
21	i5	1489	A
21	i5	1490	G
21	i5	1493	C
21	i5	1494	U
21	i5	1495	G
21	i5	1497	G
21	i5	1498	A
21	i5	1505	U
21	i5	1506	A
21	i5	1507	G
21	i5	1508	A
21	i5	1509	U
21	i5	1510	G
21	i5	1512	C
21	i5	1513	C
21	i5	1515	G
21	i5	1520	G
21	i5	1521	C
21	i5	1522	A
21	i5	1523	C
21	i5	1525	C

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Mol	Chain	Res	Type
21	i5	1526	G
21	i5	1527	C
21	i5	1531	A
21	i5	1533	A
21	i5	1535	U
21	i5	1536	G
21	i5	1538	C
21	i5	1540	G
21	i5	1543	U
21	i5	1545	A
21	i5	1546	G
21	i5	1550	G
21	i5	1551	U
21	i5	1552	G
21	i5	1553	C
21	i5	1554	C
21	i5	1555	U
21	i5	1556	A
21	i5	1557	C
21	i5	1558	C
21	i5	1567	G
21	i5	1568	C
21	i5	1569	A
21	i5	1570	G
21	i5	1573	G
21	i5	1574	C
21	i5	1575	G
21	i5	1579	A
21	i5	1580	A
21	i5	1581	C
21	i5	1585	U
21	i5	1586	U
21	i5	1587	G
21	i5	1588	A
21	i5	1589	A
21	i5	1598	G
21	i5	1599	U
21	i5	1600	G
21	i5	1603	G
21	i5	1614	A
21	i5	1621	U
21	i5	1623	A

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Mol	Chain	Res	Type
21	i5	1626	C
21	i5	1636	G
21	i5	1637	A
21	i5	1638	G
21	i5	1639	G
21	i5	1640	A
21	i5	1644	C
21	i5	1648	G
21	i5	1651	A
21	i5	1653	U
21	i5	1654	G
21	i5	1655	C
21	i5	1660	C
21	i5	1661	A
21	i5	1662	U
21	i5	1663	A
21	i5	1664	A
21	i5	1665	G
21	i5	1679	A
21	i5	1680	G
21	i5	1686	G
21	i5	1688	C
21	i5	1690	U
21	i5	1694	U
21	i5	1695	A
21	i5	1697	A
21	i5	1698	C
21	i5	1714	U
21	i5	1719	A
21	i5	1721	U
21	i5	1722	G
21	i5	1729	U
21	i5	1730	U
21	i5	1735	A
21	i5	1737	G
21	i5	1742	C
21	i5	1743	G
21	i5	1744	G
21	i5	1745	A
21	i5	1746	U
21	i5	1748	G
21	i5	1751	C

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Mol	Chain	Res	Type
21	i5	1752	C
21	i5	1754	G
21	i5	1755	C
21	i5	1757	G
21	i5	1758	G
21	i5	1772	C
21	i5	1773	C
21	i5	1775	U
21	i5	1776	G
21	i5	1777	G
21	i5	1781	A
21	i5	1784	G
21	i5	1785	C
21	i5	1786	U
21	i5	1805	G
21	i5	1812	U
21	i5	1813	A
21	i5	1814	G
21	i5	1823	A
21	i5	1824	A
21	i5	1825	A
21	i5	1826	G
21	i5	1831	A
21	i5	1838	U
21	i5	1839	U
21	i5	1849	G
21	i5	1850	A
21	i5	1851	A
21	i5	1852	C
21	i5	1857	G
21	i5	1858	G
21	i5	1861	G
21	i5	1862	G
21	i5	1863	A
21	i5	1865	C
21	i5	1868	U
21	i5	1869	A
21	i6	2	A
21	i6	3	C
21	i6	4	C
21	i6	9	U
21	i6	17	C

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Mol	Chain	Res	Type
21	i6	18	C
21	i6	25	A
21	i6	27	A
21	i6	31	U
21	i6	33	G
21	i6	41	G
21	i6	42	A
21	i6	44	U
21	i6	45	A
21	i6	46	A
21	i6	52	G
21	i6	56	G
21	i6	62	G
21	i6	64	A
21	i6	67	C
21	i6	68	A
21	i6	69	C
21	i6	70	G
21	i6	72	C
21	i6	73	C
21	i6	74	G
21	i6	76	U
21	i6	77	A
21	i6	78	C
21	i6	79	A
21	i6	83	A
21	i6	84	A
21	i6	98	C
21	i6	99	A
21	i6	103	A
21	i6	113	G
21	i6	114	G
21	i6	126	G
21	i6	127	C
21	i6	139	C
21	i6	140	C
21	i6	141	A
21	i6	142	C
21	i6	144	U
21	i6	148	U
21	i6	153	G
21	i6	154	U

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Mol	Chain	Res	Type
21	i6	155	G
21	i6	156	G
21	i6	160	U
21	i6	161	U
21	i6	162	C
21	i6	163	U
21	i6	167	G
21	i6	168	C
21	i6	171	A
21	i6	172	U
21	i6	175	A
21	i6	177	G
21	i6	178	C
21	i6	180	G
21	i6	181	A
21	i6	184	G
21	i6	185	G
21	i6	186	C
21	i6	188	C
21	i6	190	G
21	i6	191	A
21	i6	192	C
21	i6	198	U
21	i6	201	C
21	i6	202	G
21	i6	208	G
21	i6	209	A
21	i6	210	U
21	i6	211	G
21	i6	212	C
21	i6	214	U
21	i6	215	G
21	i6	216	C
21	i6	219	U
21	i6	291	G
21	i6	292	A
21	i6	293	C
21	i6	295	C
21	i6	299	A
21	i6	304	C
21	i6	305	U
21	i6	306	C

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Mol	Chain	Res	Type
21	i6	307	G
21	i6	308	G
21	i6	309	G
21	i6	312	G
21	i6	313	A
21	i6	314	U
21	i6	317	C
21	i6	319	C
21	i6	320	G
21	i6	323	C
21	i6	324	C
21	i6	325	C
21	i6	326	C
21	i6	328	U
21	i6	329	G
21	i6	330	G
21	i6	334	C
21	i6	337	C
21	i6	338	G
21	i6	339	A
21	i6	340	C
21	i6	341	C
21	i6	342	C
21	i6	343	A
21	i6	347	G
21	i6	351	G
21	i6	354	U
21	i6	360	A
21	i6	361	U
21	i6	362	C
21	i6	364	A
21	i6	369	C
21	i6	370	G
21	i6	371	A
21	i6	385	G
21	i6	386	C
21	i6	388	U
21	i6	391	C
21	i6	400	C
21	i6	401	A
21	i6	402	C
21	i6	407	G

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Mol	Chain	Res	Type
21	i6	408	A
21	i6	409	C
21	i6	411	G
21	i6	413	G
21	i6	417	C
21	i6	418	A
21	i6	423	U
21	i6	426	A
21	i6	429	C
21	i6	434	G
21	i6	435	A
21	i6	436	G
21	i6	438	G
21	i6	441	C
21	i6	448	A
21	i6	449	A
21	i6	450	C
21	i6	452	G
21	i6	459	C
21	i6	464	A
21	i6	465	A
21	i6	466	G
21	i6	467	G
21	i6	469	A
21	i6	472	C
21	i6	473	A
21	i6	474	G
21	i6	482	G
21	i6	487	U
21	i6	488	U
21	i6	489	A
21	i6	492	C
21	i6	493	A
21	i6	495	U
21	i6	502	C
21	i6	503	C
21	i6	505	G
21	i6	507	G
21	i6	516	A
21	i6	517	C
21	i6	524	U
21	i6	529	A

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Mol	Chain	Res	Type
21	i6	530	U
21	i6	532	C
21	i6	533	A
21	i6	534	G
21	i6	535	G
21	i6	537	C
21	i6	538	U
21	i6	539	C
21	i6	540	U
21	i6	542	U
21	i6	544	G
21	i6	545	A
21	i6	547	G
21	i6	549	C
21	i6	550	C
21	i6	551	U
21	i6	556	U
21	i6	557	U
21	i6	559	G
21	i6	563	G
21	i6	566	U
21	i6	574	A
21	i6	575	A
21	i6	576	A
21	i6	581	U
21	i6	582	C
21	i6	584	G
21	i6	585	C
21	i6	587	A
21	i6	588	G
21	i6	589	G
21	i6	590	A
21	i6	591	U
21	i6	592	C
21	i6	593	C
21	i6	596	U
21	i6	604	A
21	i6	605	A
21	i6	606	G
21	i6	607	U
21	i6	608	C
21	i6	613	G

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Mol	Chain	Res	Type
21	i6	621	C
21	i6	627	U
21	i6	628	A
21	i6	629	A
21	i6	631	U
21	i6	634	A
21	i6	643	A
21	i6	644	G
21	i6	651	U
21	i6	655	A
21	i6	656	G
21	i6	657	U
21	i6	660	C
21	i6	666	U
21	i6	669	A
21	i6	670	A
21	i6	671	A
21	i6	672	A
21	i6	673	G
21	i6	675	U
21	i6	679	A
21	i6	683	G
21	i6	685	A
21	i6	686	U
21	i6	687	C
21	i6	688	U
21	i6	689	U
21	i6	690	G
21	i6	691	G
21	i6	692	G
21	i6	693	A
21	i6	694	G
21	i6	695	C
21	i6	696	G
21	i6	697	G
21	i6	698	G
21	i6	732	U
21	i6	733	C
21	i6	734	C
21	i6	735	C
21	i6	736	C
21	i6	738	C

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Mol	Chain	Res	Type
21	i6	739	C
21	i6	746	C
21	i6	747	U
21	i6	749	U
21	i6	750	C
21	i6	751	G
21	i6	752	G
21	i6	753	C
21	i6	787	G
21	i6	788	G
21	i6	789	G
21	i6	790	C
21	i6	791	C
21	i6	794	A
21	i6	795	A
21	i6	796	G
21	i6	797	C
21	i6	798	A
21	i6	800	U
21	i6	810	A
21	i6	811	A
21	i6	812	A
21	i6	813	A
21	i6	815	U
21	i6	818	A
21	i6	821	G
21	i6	822	U
21	i6	823	U
21	i6	830	A
21	i6	834	C
21	i6	835	C
21	i6	837	A
21	i6	838	G
21	i6	839	C
21	i6	840	C
21	i6	841	G
21	i6	842	C
21	i6	843	C
21	i6	847	A
21	i6	848	U
21	i6	853	C
21	i6	864	A

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Mol	Chain	Res	Type
21	i6	865	A
21	i6	869	A
21	i6	870	A
21	i6	873	G
21	i6	874	G
21	i6	876	C
21	i6	877	C
21	i6	878	G
21	i6	879	C
21	i6	881	G
21	i6	883	U
21	i6	887	U
21	i6	888	U
21	i6	889	U
21	i6	890	U
21	i6	891	G
21	i6	892	U
21	i6	893	U
21	i6	894	G
21	i6	896	U
21	i6	897	U
21	i6	899	U
21	i6	900	C
21	i6	901	G
21	i6	902	G
21	i6	903	A
21	i6	904	A
21	i6	907	G
21	i6	908	A
21	i6	909	G
21	i6	913	A
21	i6	914	U
21	i6	917	U
21	i6	919	A
21	i6	920	A
21	i6	930	C
21	i6	933	G
21	i6	934	G
21	i6	939	U
21	i6	943	U
21	i6	952	G
21	i6	954	U

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Mol	Chain	Res	Type
21	i6	955	A
21	i6	956	G
21	i6	958	G
21	i6	961	G
21	i6	963	A
21	i6	964	A
21	i6	965	U
21	i6	970	G
21	i6	971	G
21	i6	972	A
21	i6	973	C
21	i6	978	G
21	i6	979	C
21	i6	981	A
21	i6	990	A
21	i6	992	A
21	i6	996	A
21	i6	999	G
21	i6	1002	U
21	i6	1008	A
21	i6	1017	U
21	i6	1022	U
21	i6	1023	A
21	i6	1027	A
21	i6	1028	A
21	i6	1029	G
21	i6	1041	G
21	i6	1042	A
21	i6	1044	G
21	i6	1052	A
21	i6	1059	G
21	i6	1060	A
21	i6	1061	U
21	i6	1062	A
21	i6	1068	G
21	i6	1076	G
21	i6	1081	U
21	i6	1083	A
21	i6	1084	A
21	i6	1085	C
21	i6	1087	A
21	i6	1088	U

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Mol	Chain	Res	Type
21	i6	1110	G
21	i6	1113	A
21	i6	1114	U
21	i6	1115	U
21	i6	1116	C
21	i6	1118	C
21	i6	1119	A
21	i6	1120	U
21	i6	1126	G
21	i6	1134	G
21	i6	1138	C
21	i6	1139	C
21	i6	1148	A
21	i6	1149	A
21	i6	1150	A
21	i6	1153	C
21	i6	1154	U
21	i6	1155	U
21	i6	1157	G
21	i6	1166	G
21	i6	1170	A
21	i6	1171	G
21	i6	1172	U
21	i6	1175	G
21	i6	1180	C
21	i6	1181	A
21	i6	1186	U
21	i6	1194	A
21	i6	1195	A
21	i6	1198	G
21	i6	1208	A
21	i6	1212	G
21	i6	1213	C
21	i6	1214	A
21	i6	1215	C
21	i6	1216	C
21	i6	1217	A
21	i6	1224	G
21	i6	1231	C
21	i6	1238	U
21	i6	1240	A
21	i6	1241	A

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Mol	Chain	Res	Type
21	i6	1242	U
21	i6	1248	U
21	i6	1250	A
21	i6	1251	A
21	i6	1253	A
21	i6	1256	G
21	i6	1257	G
21	i6	1258	A
21	i6	1259	A
21	i6	1260	A
21	i6	1264	C
21	i6	1265	A
21	i6	1268	C
21	i6	1269	G
21	i6	1271	C
21	i6	1274	G
21	i6	1275	G
21	i6	1276	A
21	i6	1277	C
21	i6	1280	G
21	i6	1281	G
21	i6	1283	C
21	i6	1284	A
21	i6	1287	A
21	i6	1288	U
21	i6	1289	U
21	i6	1290	G
21	i6	1292	C
21	i6	1294	G
21	i6	1295	A
21	i6	1296	U
21	i6	1297	U
21	i6	1298	G
21	i6	1299	A
21	i6	1300	U
21	i6	1301	A
21	i6	1302	G
21	i6	1303	C
21	i6	1305	C
21	i6	1306	U
21	i6	1307	U
21	i6	1308	U

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Mol	Chain	Res	Type
21	i6	1310	U
21	i6	1311	C
21	i6	1313	A
21	i6	1315	U
21	i6	1317	C
21	i6	1318	G
21	i6	1321	G
21	i6	1323	U
21	i6	1324	G
21	i6	1330	G
21	i6	1331	C
21	i6	1332	A
21	i6	1337	C
21	i6	1341	C
21	i6	1342	U
21	i6	1343	U
21	i6	1363	C
21	i6	1364	U
21	i6	1371	U
21	i6	1372	U
21	i6	1373	C
21	i6	1378	A
21	i6	1383	A
21	i6	1393	G
21	i6	1396	A
21	i6	1397	U
21	i6	1398	G
21	i6	1404	U
21	i6	1405	A
21	i6	1407	U
21	i6	1409	A
21	i6	1410	C
21	i6	1412	C
21	i6	1413	G
21	i6	1414	A
21	i6	1415	C
21	i6	1416	C
21	i6	1418	C
21	i6	1419	C
21	i6	1420	G
21	i6	1423	C
21	i6	1424	G

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Mol	Chain	Res	Type
21	i6	1425	G
21	i6	1427	C
21	i6	1428	G
21	i6	1431	G
21	i6	1432	U
21	i6	1434	C
21	i6	1436	C
21	i6	1437	C
21	i6	1438	A
21	i6	1442	U
21	i6	1448	A
21	i6	1449	G
21	i6	1454	A
21	i6	1455	A
21	i6	1456	G
21	i6	1457	U
21	i6	1458	G
21	i6	1463	U
21	i6	1464	C
21	i6	1468	C
21	i6	1471	C
21	i6	1472	C
21	i6	1473	G
21	i6	1475	G
21	i6	1476	A
21	i6	1477	U
21	i6	1480	A
21	i6	1481	G
21	i6	1484	A
21	i6	1487	A
21	i6	1489	A
21	i6	1490	G
21	i6	1493	C
21	i6	1494	U
21	i6	1495	G
21	i6	1497	G
21	i6	1498	A
21	i6	1505	U
21	i6	1506	A
21	i6	1507	G
21	i6	1508	A
21	i6	1509	U

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Mol	Chain	Res	Type
21	i6	1510	G
21	i6	1512	C
21	i6	1513	C
21	i6	1515	G
21	i6	1520	G
21	i6	1521	C
21	i6	1522	A
21	i6	1523	C
21	i6	1525	C
21	i6	1526	G
21	i6	1527	C
21	i6	1531	A
21	i6	1533	A
21	i6	1535	U
21	i6	1536	G
21	i6	1538	C
21	i6	1540	G
21	i6	1543	U
21	i6	1545	A
21	i6	1546	G
21	i6	1550	G
21	i6	1551	U
21	i6	1552	G
21	i6	1553	C
21	i6	1554	C
21	i6	1555	U
21	i6	1556	A
21	i6	1557	C
21	i6	1558	C
21	i6	1567	G
21	i6	1568	C
21	i6	1569	A
21	i6	1570	G
21	i6	1573	G
21	i6	1574	C
21	i6	1575	G
21	i6	1579	A
21	i6	1580	A
21	i6	1581	C
21	i6	1585	U
21	i6	1586	U
21	i6	1587	G

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Mol	Chain	Res	Type
21	i6	1588	A
21	i6	1589	A
21	i6	1598	G
21	i6	1599	U
21	i6	1600	G
21	i6	1603	G
21	i6	1614	A
21	i6	1621	U
21	i6	1623	A
21	i6	1626	C
21	i6	1636	G
21	i6	1637	A
21	i6	1638	G
21	i6	1639	G
21	i6	1640	A
21	i6	1644	C
21	i6	1648	G
21	i6	1651	A
21	i6	1653	U
21	i6	1654	G
21	i6	1655	C
21	i6	1660	C
21	i6	1661	A
21	i6	1662	U
21	i6	1663	A
21	i6	1664	A
21	i6	1665	G
21	i6	1679	A
21	i6	1680	G
21	i6	1686	G
21	i6	1688	C
21	i6	1690	U
21	i6	1694	U
21	i6	1695	A
21	i6	1697	A
21	i6	1698	C
21	i6	1714	U
21	i6	1719	A
21	i6	1721	U
21	i6	1722	G
21	i6	1729	U
21	i6	1730	U

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Mol	Chain	Res	Type
21	i6	1735	A
21	i6	1737	G
21	i6	1742	C
21	i6	1743	G
21	i6	1744	G
21	i6	1745	A
21	i6	1746	U
21	i6	1748	G
21	i6	1751	C
21	i6	1752	C
21	i6	1754	G
21	i6	1755	C
21	i6	1757	G
21	i6	1758	G
21	i6	1772	C
21	i6	1773	C
21	i6	1775	U
21	i6	1776	G
21	i6	1777	G
21	i6	1781	A
21	i6	1782	G
21	i6	1784	G
21	i6	1785	C
21	i6	1786	U
21	i6	1805	G
21	i6	1812	U
21	i6	1813	A
21	i6	1814	G
21	i6	1823	A
21	i6	1824	A
21	i6	1825	A
21	i6	1826	G
21	i6	1831	A
21	i6	1835	A
21	i6	1838	U
21	i6	1839	U
21	i6	1849	G
21	i6	1850	A
21	i6	1851	A
21	i6	1852	C
21	i6	1857	G
21	i6	1858	G

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Mol	Chain	Res	Type
21	i6	1861	G
21	i6	1862	G
21	i6	1863	A
21	i6	1865	C
21	i6	1868	U
21	i6	1869	A

There are no RNA pucker outliers to report.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 6 ligands modelled in this entry, 6 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers [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
21	i2	1
21	i4	1
21	i3	1
21	i6	1
21	i5	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	i2	1689:C	O3'	1690:U	P	2.39
1	i3	1689:C	O3'	1690:U	P	2.27
1	i5	1689:C	O3'	1690:U	P	2.14
1	i6	1689:C	O3'	1690:U	P	2.07
1	i4	1689:C	O3'	1690:U	P	1.91

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

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, 95th 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 ²)	Q<0.9
1	T1	143/145 (98%)	-0.54	4 (2%)	53	46	166, 196, 227, 240	0
1	T2	143/145 (98%)	-0.44	2 (1%)	75	66	164, 191, 211, 219	0
1	T3	143/145 (98%)	-0.22	2 (1%)	75	66	235, 251, 270, 279	0
1	T4	143/145 (98%)	-0.20	9 (6%)	20	19	302, 349, 376, 382	0
1	T5	143/145 (98%)	-0.20	4 (2%)	53	46	182, 217, 239, 247	0
1	T6	143/145 (98%)	-0.43	3 (2%)	63	56	177, 203, 220, 229	0
2	U1	104/119 (87%)	-0.38	0	100	100	155, 178, 205, 213	0
2	U2	104/119 (87%)	0.28	10 (9%)	8	10	153, 168, 189, 197	0
2	U3	104/119 (87%)	0.18	11 (10%)	6	8	222, 235, 250, 257	0
2	U4	104/119 (87%)	0.98	29 (27%)	0	2	241, 266, 296, 311	0
2	U5	104/119 (87%)	1.25	24 (23%)	0	2	173, 200, 224, 233	0
2	U6	104/119 (87%)	0.51	18 (17%)	1	4	168, 180, 196, 203	0
3	V1	83/83 (100%)	0.37	7 (8%)	11	13	134, 163, 202, 215	0
3	V2	83/83 (100%)	-0.28	0	100	100	128, 151, 181, 191	0
3	V3	83/83 (100%)	-0.04	2 (2%)	59	52	169, 194, 239, 250	0
3	V4	83/83 (100%)	-0.14	4 (4%)	30	29	161, 194, 236, 248	0
3	V5	83/83 (100%)	-0.11	2 (2%)	59	52	162, 193, 232, 245	0
3	V6	83/83 (100%)	0.12	5 (6%)	21	21	153, 179, 211, 222	0
4	X1	141/143 (98%)	0.74	29 (20%)	1	3	112, 126, 143, 151	0
4	X2	141/143 (98%)	0.11	9 (6%)	19	18	116, 130, 146, 153	0
4	X3	141/143 (98%)	0.15	9 (6%)	19	18	131, 151, 176, 187	0
4	X4	141/143 (98%)	0.27	10 (7%)	16	16	129, 166, 204, 218	0
4	X5	141/143 (98%)	0.76	26 (18%)	1	3	137, 151, 168, 180	0
4	X6	141/143 (98%)	0.64	28 (19%)	1	3	138, 152, 169, 180	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
5	a1	107/115 (93%)	0.18	10 (9%) 8 11	111, 122, 148, 157	0
5	a2	107/115 (93%)	-0.34	1 (0%) 84 77	113, 123, 149, 155	0
5	a3	107/115 (93%)	0.57	14 (13%) 3 7	144, 161, 211, 220	0
5	a4	107/115 (93%)	0.24	8 (7%) 14 15	136, 154, 197, 204	0
5	a5	107/115 (93%)	1.31	27 (25%) 0 2	135, 144, 180, 188	0
5	a6	107/115 (93%)	1.02	27 (25%) 0 2	133, 141, 171, 176	0
6	c1	64/69 (92%)	1.21	21 (32%) 0 2	182, 206, 232, 243	0
6	c2	64/69 (92%)	0.66	10 (15%) 2 4	191, 213, 235, 252	0
6	c3	64/69 (92%)	0.58	6 (9%) 8 11	209, 217, 229, 241	0
6	c4	64/69 (92%)	-0.03	3 (4%) 31 30	237, 252, 280, 296	0
6	c5	64/69 (92%)	0.53	5 (7%) 13 14	187, 203, 217, 222	0
6	c6	64/69 (92%)	-0.31	2 (3%) 49 42	196, 216, 234, 238	0
7	d1	53/56 (94%)	-0.35	0 100 100	156, 160, 181, 189	0
7	d2	53/56 (94%)	-0.31	0 100 100	154, 156, 172, 179	0
7	d3	53/56 (94%)	0.93	11 (20%) 1 3	217, 249, 308, 321	0
7	d4	53/56 (94%)	-0.19	3 (5%) 23 23	244, 285, 361, 375	0
7	d5	53/56 (94%)	0.37	10 (18%) 1 3	175, 179, 191, 197	0
7	d6	53/56 (94%)	-0.02	6 (11%) 5 8	169, 171, 191, 199	0
8	f1	72/156 (46%)	0.04	4 (5%) 24 24	179, 218, 268, 285	0
8	f2	72/156 (46%)	-0.06	4 (5%) 24 24	174, 207, 248, 257	0
8	f3	72/156 (46%)	0.20	10 (13%) 2 6	282, 365, 385, 393	0
8	f4	72/156 (46%)	-0.48	1 (1%) 75 66	317, 397, 425, 435	0
8	f5	72/156 (46%)	0.09	8 (11%) 5 8	182, 223, 255, 263	0
8	f6	72/156 (46%)	0.21	6 (8%) 11 13	185, 229, 268, 282	0
9	g1	313/317 (98%)	0.06	21 (6%) 17 17	191, 230, 269, 290	0
9	g2	313/317 (98%)	-0.04	20 (6%) 19 18	175, 207, 237, 248	0
9	g3	313/317 (98%)	0.02	22 (7%) 16 16	208, 228, 248, 255	0
9	g4	313/317 (98%)	-0.11	18 (5%) 23 23	223, 250, 276, 286	0
9	g5	313/317 (98%)	0.07	15 (4%) 30 29	204, 232, 260, 267	0
9	g6	313/317 (98%)	-0.16	15 (4%) 30 29	191, 224, 256, 271	0
10	C1	222/293 (75%)	0.16	15 (6%) 17 17	117, 147, 182, 192	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
10	C2	222/293 (75%)	-0.08	8 (3%) 42 38	118, 140, 168, 176	0
10	C3	222/293 (75%)	-0.44	1 (0%) 91 86	145, 179, 221, 235	0
10	C4	222/293 (75%)	-0.19	8 (3%) 42 38	145, 186, 226, 241	0
10	C5	222/293 (75%)	0.31	29 (13%) 3 7	144, 176, 211, 221	0
10	C6	222/293 (75%)	0.25	21 (9%) 8 10	141, 166, 194, 203	0
11	G1	237/249 (95%)	-0.43	2 (0%) 86 79	160, 218, 269, 295	0
11	G2	237/249 (95%)	-0.30	6 (2%) 57 50	168, 228, 256, 271	0
11	G3	237/249 (95%)	-0.20	12 (5%) 28 27	166, 225, 250, 256	0
11	G4	237/249 (95%)	0.07	24 (10%) 7 9	174, 239, 267, 288	0
11	G5	237/249 (95%)	-0.19	19 (8%) 12 14	209, 290, 320, 341	0
11	G6	237/249 (95%)	-0.05	16 (6%) 17 17	212, 290, 318, 339	0
12	J1	185/194 (95%)	-0.30	5 (2%) 54 47	129, 171, 222, 262	0
12	J2	185/194 (95%)	-0.05	12 (6%) 18 18	128, 162, 204, 236	0
12	J3	185/194 (95%)	-0.20	10 (5%) 25 26	157, 197, 258, 306	0
12	J4	185/194 (95%)	-0.06	11 (5%) 22 22	164, 213, 300, 317	0
12	J5	185/194 (95%)	0.17	20 (10%) 5 8	158, 209, 259, 296	0
12	J6	185/194 (95%)	-0.35	6 (3%) 47 41	154, 195, 238, 271	0
13	M1	123/132 (93%)	0.42	17 (13%) 2 6	215, 248, 278, 291	0
13	M2	123/132 (93%)	-0.23	3 (2%) 59 52	201, 226, 255, 268	0
13	M3	123/132 (93%)	0.13	11 (8%) 9 12	339, 364, 377, 381	0
13	M4	123/132 (93%)	0.34	15 (12%) 4 8	369, 398, 417, 422	0
13	M5	123/132 (93%)	-0.06	8 (6%) 18 18	217, 237, 257, 269	0
13	M6	123/132 (93%)	-0.04	8 (6%) 18 18	212, 236, 257, 268	0
14	N1	150/151 (99%)	-0.08	4 (2%) 54 47	130, 172, 211, 221	0
14	N2	150/151 (99%)	-0.13	5 (3%) 46 40	124, 158, 185, 191	0
14	N3	150/151 (99%)	-0.17	5 (3%) 46 40	144, 166, 206, 219	0
14	N4	150/151 (99%)	-0.24	3 (2%) 65 58	138, 166, 208, 222	0
14	N5	150/151 (99%)	-0.32	5 (3%) 46 40	148, 182, 217, 230	0
14	N6	150/151 (99%)	-0.39	3 (2%) 65 58	144, 178, 207, 216	0
15	O1	140/151 (92%)	0.73	21 (15%) 2 5	121, 151, 185, 197	0
15	O2	140/151 (92%)	0.60	22 (15%) 2 4	124, 154, 181, 195	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
15	O3	140/151 (92%)	1.16	34 (24%) 0 2	150, 202, 247, 260	0
15	O4	140/151 (92%)	0.73	27 (19%) 1 3	147, 199, 237, 259	0
15	O5	140/151 (92%)	0.76	32 (22%) 0 2	139, 177, 213, 227	0
15	O6	140/151 (92%)	-0.11	8 (5%) 23 23	138, 169, 197, 211	0
16	W1	129/130 (99%)	0.02	4 (3%) 49 42	132, 149, 167, 175	0
16	W2	129/130 (99%)	0.07	1 (0%) 86 79	127, 141, 155, 162	0
16	W3	129/130 (99%)	0.69	14 (10%) 5 8	146, 165, 180, 186	0
16	W4	129/130 (99%)	1.11	34 (26%) 0 2	140, 162, 178, 187	0
16	W5	129/130 (99%)	-0.25	1 (0%) 86 79	156, 178, 195, 207	0
16	W6	129/130 (99%)	0.05	4 (3%) 49 42	152, 169, 184, 194	0
17	Y1	131/133 (98%)	-0.35	6 (4%) 32 30	159, 196, 223, 237	0
17	Y2	131/133 (98%)	-0.22	11 (8%) 11 13	164, 191, 214, 225	0
17	Y3	131/133 (98%)	0.05	13 (9%) 7 10	180, 221, 252, 267	0
17	Y4	131/133 (98%)	-0.11	9 (6%) 16 16	191, 239, 278, 300	0
17	Y5	131/133 (98%)	0.16	10 (7%) 13 15	210, 252, 285, 302	0
17	Y6	131/133 (98%)	0.16	12 (9%) 9 11	208, 239, 266, 280	0
18	Z1	75/125 (60%)	0.60	11 (14%) 2 5	196, 226, 255, 258	0
18	Z2	75/125 (60%)	0.71	14 (18%) 1 3	191, 228, 254, 264	0
18	Z3	75/125 (60%)	-0.07	6 (8%) 12 14	241, 264, 288, 300	0
18	Z4	75/125 (60%)	-0.11	6 (8%) 12 14	325, 359, 372, 379	0
18	Z5	75/125 (60%)	1.62	24 (32%) 0 2	205, 223, 244, 248	0
18	Z6	75/125 (60%)	1.13	18 (24%) 0 2	195, 217, 236, 244	0
19	b1	83/84 (98%)	0.62	11 (13%) 3 6	146, 177, 216, 229	0
19	b2	83/84 (98%)	-0.34	0 100 100	136, 156, 185, 194	0
19	b3	83/84 (98%)	0.03	5 (6%) 21 21	166, 192, 221, 235	0
19	b4	83/84 (98%)	0.01	9 (10%) 5 8	157, 182, 219, 236	0
19	b5	83/84 (98%)	0.20	4 (4%) 30 29	169, 191, 221, 235	0
19	b6	83/84 (98%)	0.41	6 (7%) 15 16	160, 179, 207, 219	0
20	e1	58/133 (43%)	0.10	4 (6%) 16 16	134, 160, 176, 179	0
20	e2	58/133 (43%)	0.33	9 (15%) 2 4	143, 155, 166, 168	0
20	e3	58/133 (43%)	0.48	10 (17%) 1 4	163, 198, 215, 218	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
20	e4	58/133 (43%)	0.41	10 (17%) 1 4	199, 226, 246, 253	0
20	e5	58/133 (43%)	0.14	7 (12%) 4 8	154, 186, 202, 204	0
20	e6	58/133 (43%)	0.01	7 (12%) 4 8	158, 181, 191, 194	0
21	i1	1742/1869 (93%)	0.10	49 (2%) 53 46	110, 170, 323, 428	0
21	i2	1742/1869 (93%)	0.01	34 (1%) 65 58	113, 169, 301, 421	0
21	i3	1742/1869 (93%)	-0.05	37 (2%) 63 56	130, 200, 353, 478	0
21	i4	1742/1869 (93%)	0.07	59 (3%) 45 40	128, 212, 362, 457	0
21	i5	1742/1869 (93%)	-0.00	36 (2%) 63 56	133, 191, 362, 430	0
21	i6	1742/1869 (93%)	0.09	62 (3%) 42 38	132, 188, 335, 417	0
22	A1	222/295 (75%)	0.28	20 (9%) 9 11	134, 159, 193, 212	0
22	A2	222/295 (75%)	-0.11	8 (3%) 42 38	128, 149, 178, 190	0
22	A3	222/295 (75%)	-0.04	13 (5%) 22 22	172, 206, 247, 272	0
22	A4	222/295 (75%)	-0.52	0 100 100	161, 197, 237, 252	0
22	A5	222/295 (75%)	0.26	29 (13%) 3 7	162, 191, 229, 245	0
22	A6	222/295 (75%)	0.02	11 (4%) 28 28	154, 177, 211, 222	0
23	B1	214/264 (81%)	0.24	19 (8%) 9 12	127, 168, 205, 214	0
23	B2	214/264 (81%)	0.18	23 (10%) 6 9	124, 157, 193, 204	0
23	B3	214/264 (81%)	-0.02	13 (6%) 21 20	166, 208, 248, 254	0
23	B4	214/264 (81%)	0.33	19 (8%) 9 12	151, 197, 248, 262	0
23	B5	214/264 (81%)	-0.35	5 (2%) 60 53	150, 186, 220, 228	0
23	B6	214/264 (81%)	-0.42	1 (0%) 91 86	144, 172, 204, 210	0
24	D1	227/243 (93%)	0.20	13 (5%) 23 23	159, 173, 203, 250	0
24	D2	227/243 (93%)	-0.07	13 (5%) 23 23	156, 173, 205, 233	0
24	D3	227/243 (93%)	0.72	35 (15%) 2 5	211, 244, 269, 286	0
24	D4	227/243 (93%)	1.26	65 (28%) 0 2	217, 260, 298, 310	0
24	D5	227/243 (93%)	0.27	23 (10%) 7 9	180, 191, 221, 254	0
24	D6	227/243 (93%)	0.42	29 (12%) 3 7	171, 184, 221, 250	0
25	E1	262/263 (99%)	0.72	40 (15%) 2 5	149, 195, 227, 237	0
25	E2	262/263 (99%)	0.59	38 (14%) 2 5	151, 188, 219, 227	0
25	E3	262/263 (99%)	-0.23	6 (2%) 60 53	154, 197, 221, 238	0
25	E4	262/263 (99%)	0.10	18 (6%) 16 16	158, 209, 239, 261	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å ²)	Q<0.9
25	E5	262/263 (99%)	0.72	44 (16%)	1	4	190, 242, 280, 296	0
25	E6	262/263 (99%)	0.59	37 (14%)	2	6	189, 232, 270, 280	0
26	F1	191/204 (93%)	0.81	33 (17%)	1	4	175, 204, 228, 236	0
26	F2	191/204 (93%)	0.70	27 (14%)	2	6	172, 203, 224, 232	0
26	F3	191/204 (93%)	0.51	30 (15%)	2	4	209, 229, 245, 255	0
26	F4	191/204 (93%)	0.28	29 (15%)	2	5	242, 289, 324, 338	0
26	F5	191/204 (93%)	1.38	59 (30%)	0	2	185, 201, 218, 223	0
26	F6	191/204 (93%)	0.30	20 (10%)	6	9	180, 203, 216, 221	0
27	H1	189/194 (97%)	0.40	26 (13%)	2	6	173, 225, 287, 300	0
27	H2	189/194 (97%)	-0.16	5 (2%)	56	49	156, 196, 245, 258	0
27	H3	189/194 (97%)	0.58	36 (19%)	1	3	172, 222, 267, 278	0
27	H4	189/194 (97%)	0.22	17 (8%)	9	11	176, 228, 290, 303	0
27	H5	189/194 (97%)	0.35	24 (12%)	3	7	196, 242, 297, 312	0
27	H6	189/194 (97%)	-0.31	5 (2%)	56	49	183, 227, 279, 291	0
28	I1	206/208 (99%)	0.71	35 (16%)	1	4	135, 223, 315, 326	0
28	I2	206/208 (99%)	0.18	19 (9%)	9	11	139, 220, 301, 318	0
28	I3	206/208 (99%)	-0.09	10 (4%)	29	28	136, 188, 250, 272	0
28	I4	206/208 (99%)	0.07	17 (8%)	11	13	139, 204, 286, 313	0
28	I5	206/208 (99%)	1.03	56 (27%)	0	2	163, 250, 344, 364	0
28	I6	206/208 (99%)	1.06	53 (25%)	0	2	166, 255, 345, 361	0
29	K1	98/165 (59%)	1.14	24 (24%)	0	2	164, 190, 213, 221	0
29	K2	98/165 (59%)	0.19	8 (8%)	11	13	159, 181, 202, 210	0
29	K3	98/165 (59%)	-0.00	4 (4%)	37	34	255, 297, 324, 332	0
29	K4	98/165 (59%)	-0.11	7 (7%)	16	16	283, 331, 365, 374	0
29	K5	98/165 (59%)	-0.23	1 (1%)	82	75	182, 201, 219, 224	0
29	K6	98/165 (59%)	0.27	14 (14%)	2	5	174, 192, 204, 210	0
30	L1	153/158 (96%)	0.92	36 (23%)	0	2	124, 177, 257, 284	0
30	L2	153/158 (96%)	1.04	29 (18%)	1	3	124, 169, 239, 265	0
30	L3	153/158 (96%)	1.27	40 (26%)	0	2	138, 161, 209, 227	0
30	L4	153/158 (96%)	1.20	41 (26%)	0	2	136, 167, 234, 258	0
30	L5	153/158 (96%)	0.70	28 (18%)	1	3	152, 202, 272, 302	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
30	L6	153/158 (96%)	1.24	36 (23%) 0 2	150, 200, 273, 303	0
31	P1	125/145 (86%)	-0.27	4 (3%) 47 41	174, 193, 217, 230	0
31	P2	125/145 (86%)	-0.33	4 (3%) 47 41	174, 193, 222, 231	0
31	P3	125/145 (86%)	0.03	13 (10%) 6 9	265, 327, 365, 374	0
31	P4	125/145 (86%)	-0.33	2 (1%) 72 64	306, 383, 399, 409	0
31	P5	125/145 (86%)	-0.31	0 100 100	182, 204, 223, 228	0
31	P6	125/145 (86%)	-0.07	9 (7%) 15 16	187, 212, 240, 251	0
32	Q1	146/146 (100%)	0.01	10 (6%) 17 17	156, 200, 232, 265	0
32	Q2	146/146 (100%)	0.56	17 (11%) 4 8	156, 182, 200, 218	0
32	Q3	146/146 (100%)	-0.04	11 (7%) 14 15	212, 223, 233, 243	0
32	Q4	146/146 (100%)	0.31	18 (12%) 4 8	249, 279, 311, 317	0
32	Q5	146/146 (100%)	0.01	9 (6%) 20 20	174, 209, 233, 258	0
32	Q6	146/146 (100%)	0.45	15 (10%) 6 9	170, 194, 210, 229	0
33	R1	132/135 (97%)	-0.13	5 (3%) 40 36	127, 177, 194, 201	0
33	R2	132/135 (97%)	-0.26	4 (3%) 50 43	124, 171, 196, 202	0
33	R3	132/135 (97%)	0.06	10 (7%) 13 15	171, 211, 240, 249	0
33	R4	132/135 (97%)	-0.03	6 (4%) 33 31	154, 216, 227, 235	0
33	R5	132/135 (97%)	0.56	22 (16%) 1 4	153, 202, 220, 228	0
33	R6	132/135 (97%)	0.62	25 (18%) 1 3	146, 196, 217, 224	0
34	S1	143/152 (94%)	0.54	21 (14%) 2 5	171, 201, 229, 247	0
34	S2	143/152 (94%)	0.25	18 (12%) 3 7	172, 210, 240, 258	0
34	S3	143/152 (94%)	-0.31	8 (5%) 24 24	268, 296, 323, 339	0
34	S4	143/152 (94%)	0.92	32 (22%) 0 2	321, 375, 385, 388	0
34	S5	143/152 (94%)	-0.12	12 (8%) 11 13	181, 213, 234, 246	0
34	S6	143/152 (94%)	0.28	17 (11%) 4 8	183, 215, 233, 243	0
35	j1	25/25 (100%)	0.21	0 100 100	113, 121, 137, 140	0
35	j2	25/25 (100%)	-0.13	0 100 100	119, 127, 143, 146	0
35	j3	25/25 (100%)	-0.56	0 100 100	137, 141, 145, 149	0
35	j4	25/25 (100%)	-0.26	1 (4%) 38 34	139, 147, 157, 163	0
35	j5	25/25 (100%)	-0.89	0 100 100	133, 138, 152, 153	0
35	j6	25/25 (100%)	-0.11	0 100 100	134, 141, 155, 157	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
36	k1	181/181 (100%)	-0.04	8 (4%) 34 32	146, 198, 267, 284	0
36	k2	181/181 (100%)	-0.41	0 100 100	147, 195, 253, 268	0
36	k3	181/181 (100%)	-0.54	0 100 100	158, 205, 256, 270	0
36	k4	181/181 (100%)	-0.12	10 (5%) 25 25	168, 233, 302, 315	0
36	k5	181/181 (100%)	0.26	14 (7%) 13 14	157, 199, 256, 270	0
36	k6	181/181 (100%)	-0.06	8 (4%) 34 32	155, 193, 242, 252	0
37	l1	79/198 (39%)	0.63	10 (12%) 3 7	174, 212, 268, 279	0
37	l2	79/198 (39%)	0.74	13 (16%) 1 4	185, 206, 233, 240	0
37	l3	79/198 (39%)	0.70	19 (24%) 0 2	237, 298, 351, 357	0
37	l4	79/198 (39%)	1.21	22 (27%) 0 2	237, 274, 309, 327	0
37	l5	79/198 (39%)	0.13	6 (7%) 13 15	199, 234, 288, 302	0
37	l6	79/198 (39%)	0.36	8 (10%) 7 9	185, 220, 273, 287	0
All	All	41688/46938 (88%)	0.15	3270 (7%) 13 14	110, 198, 315, 478	0

All (3270) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
30	L6	28	THR	20.9
32	Q5	2	PRO	19.7
21	i6	788	G	18.8
5	a4	105	GLY	18.4
15	O1	12	GLU	18.0
32	Q4	3	SER	17.0
5	a5	105	GLY	16.0
21	i4	788	G	15.9
21	i1	789	G	15.3
32	Q3	3	SER	14.5
21	i6	883	U	14.2
30	L6	29	GLY	13.9
21	i5	75	G	13.6
15	O3	12	GLU	13.3
32	Q6	2	PRO	13.2
15	O1	13	GLN	13.1
28	I6	126	GLY	12.9
15	O2	12	GLU	12.8
21	i5	698	G	12.5
30	L2	29	GLY	12.2
15	O3	14	VAL	12.1

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Mol	Chain	Res	Type	RSRZ
21	i1	793	G	12.0
21	i4	906	U	12.0
9	g1	224	GLY	11.7
30	L6	26	GLY	11.4
5	a4	107	ALA	11.3
21	i4	789	G	11.2
15	O3	13	GLN	11.2
21	i6	884	C	11.1
21	i6	75	G	11.0
21	i4	883	U	11.0
30	L6	31	GLU	10.8
26	F2	126	THR	10.8
30	L6	32	LYS	10.8
21	i1	788	G	10.8
21	i5	836	G	10.7
22	A3	221	ALA	10.7
21	i4	792	C	10.5
15	O1	14	VAL	10.5
21	i4	905	C	10.5
5	a3	105	GLY	10.5
34	S6	3	LEU	10.4
15	O2	13	GLN	10.4
5	a5	104	ALA	10.2
32	Q6	3	SER	10.2
21	i6	787	G	10.1
21	i4	752	G	10.0
21	i6	789	G	9.8
21	i4	787	G	9.8
23	B5	21	VAL	9.8
28	I5	38	ILE	9.7
22	A3	223	THR	9.7
21	i6	786	G	9.7
21	i1	794	A	9.7
21	i1	790	C	9.5
21	i4	793	G	9.5
21	i6	785	C	9.5
32	Q4	2	PRO	9.5
30	L6	33	LEU	9.5
21	i6	894	G	9.5
30	L2	30	LYS	9.3
2	U4	105	SER	9.2
2	U4	104	ILE	9.1

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Mol	Chain	Res	Type	RSRZ
28	I5	96	LEU	9.0
21	i4	1825	A	8.9
7	d3	49	ASP	8.8
22	A3	219	GLU	8.7
28	I1	80	ASP	8.6
21	i1	753	C	8.6
30	L6	34	PRO	8.6
30	L6	30	LYS	8.6
21	i6	77	A	8.5
21	i1	752	G	8.5
21	i6	882	U	8.5
7	d3	50	ILE	8.5
32	Q3	2	PRO	8.4
15	O4	13	GLN	8.4
29	K4	39	ASN	8.4
37	l4	191	GLU	8.4
30	L4	27	GLU	8.3
30	L6	27	GLU	8.3
21	i1	748	C	8.2
26	F2	31	ASN	8.2
28	I6	123	ARG	8.2
12	J4	184	GLY	8.1
21	i4	751	G	8.1
21	i1	791	C	8.1
24	D4	113	LEU	8.1
5	a5	103	PRO	8.1
12	J4	185	ALA	8.1
5	a4	104	ALA	8.0
32	Q6	5	GLY	8.0
21	i5	697	G	8.0
15	O2	16	SER	7.9
26	F2	129	GLY	7.9
8	f3	111	ASN	7.9
21	i4	884	C	7.9
22	A3	220	LYS	7.8
21	i1	792	C	7.8
32	Q5	3	SER	7.8
18	Z5	67	LEU	7.8
30	L2	28	THR	7.8
17	Y1	130	LYS	7.8
5	a3	104	ALA	7.8
18	Z5	51	ASP	7.7

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Mol	Chain	Res	Type	RSRZ
9	g3	279	SER	7.7
21	i6	74	G	7.7
21	i2	698	G	7.7
30	L4	21	LYS	7.6
15	O3	16	SER	7.6
21	i6	885	U	7.6
5	a4	106	ALA	7.6
15	O3	17	LEU	7.6
17	Y3	127	ALA	7.6
21	i4	791	C	7.6
27	H1	5	SER	7.6
28	I5	126	GLY	7.5
27	H2	193	GLN	7.5
32	Q6	1	MET	7.5
2	U5	82	MET	7.4
21	i4	882	U	7.4
26	F3	31	ASN	7.4
21	i3	136	C	7.4
21	i4	137	U	7.4
15	O4	24	GLY	7.4
26	F5	121	PRO	7.4
20	e1	3	HIS	7.3
26	F1	32	ASP	7.3
26	F2	30	ILE	7.3
15	O2	14	VAL	7.3
30	L2	24	LEU	7.3
7	d3	51	GLY	7.2
9	g5	13	GLY	7.2
30	L4	34	PRO	7.2
25	E5	39	ARG	7.2
30	L2	31	GLU	7.2
23	B2	22	VAL	7.2
21	i5	76	U	7.2
24	D4	111	GLY	7.1
17	Y3	130	LYS	7.1
21	i1	1317	C	7.1
28	I4	126	GLY	7.1
23	B2	23	ASP	7.1
17	Y2	132	LYS	7.1
5	a3	106	ALA	7.0
34	S5	145	THR	7.0
5	a5	107	ALA	7.0

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Mol	Chain	Res	Type	RSRZ
28	I1	78	ILE	7.0
24	D4	142	LEU	7.0
26	F3	29	GLN	7.0
30	L4	154	GLN	7.0
30	L4	33	LEU	7.0
30	L2	27	GLU	6.9
32	Q3	57	LEU	6.9
30	L4	29	GLY	6.9
28	I1	79	ILE	6.9
25	E6	40	GLU	6.9
32	Q5	1	MET	6.9
25	E6	239	PRO	6.9
25	E6	39	ARG	6.9
8	f3	112	GLY	6.9
21	i1	751	G	6.9
24	D3	1	MET	6.9
15	O2	15	ILE	6.8
15	O4	12	GLU	6.8
26	F6	31	ASN	6.8
37	l4	190	ILE	6.8
9	g3	277	THR	6.8
28	I6	45	THR	6.7
11	G6	236	SER	6.7
2	U5	105	SER	6.7
33	R6	62	GLN	6.7
34	S1	16	LEU	6.7
26	F2	127	ARG	6.7
34	S1	144	ARG	6.7
28	I6	125	LYS	6.7
25	E1	173	ILE	6.7
30	L6	24	LEU	6.6
28	I6	53	LYS	6.6
2	U5	83	ARG	6.6
28	I5	79	ILE	6.6
10	C6	130	ILE	6.6
21	i4	698	G	6.6
28	I6	127	ALA	6.6
15	O5	13	GLN	6.6
30	L4	151	THR	6.6
9	g4	13	GLY	6.6
21	i4	753	C	6.6
12	J3	185	ALA	6.6

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Mol	Chain	Res	Type	RSRZ
28	I6	122	GLY	6.6
23	B3	22	VAL	6.5
9	g3	278	SER	6.5
5	a5	41	ILE	6.5
26	F4	14	THR	6.5
27	H5	89	GLY	6.5
34	S4	7	GLU	6.5
30	L1	37	TYR	6.4
21	i4	907	G	6.4
33	R5	90	ALA	6.4
21	i5	136	C	6.4
27	H5	43	LEU	6.4
30	L4	26	GLY	6.4
34	S1	15	VAL	6.4
13	M3	127	TYR	6.4
24	D4	114	ALA	6.4
21	i5	77	A	6.3
5	a5	66	LYS	6.3
30	L1	36	TYR	6.3
25	E5	38	LEU	6.3
15	O3	15	ILE	6.3
21	i6	751	G	6.3
28	I5	41	ARG	6.3
24	D4	112	GLY	6.3
30	L1	13	GLN	6.3
25	E1	198	ARG	6.3
26	F5	32	ASP	6.3
30	L4	32	LYS	6.2
8	f6	84	SER	6.2
25	E5	54	TYR	6.2
11	G5	212	LEU	6.2
33	R6	63	ARG	6.2
5	a4	103	PRO	6.2
26	F2	195	GLU	6.2
30	L2	23	VAL	6.2
30	L5	34	PRO	6.2
9	g6	280	LYS	6.2
30	L2	26	GLY	6.2
34	S1	14	ARG	6.2
15	O5	12	GLU	6.1
15	O1	89	GLY	6.1
21	i1	747	U	6.1

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Mol	Chain	Res	Type	RSRZ
13	M4	97	GLU	6.1
21	i3	137	U	6.1
15	O2	89	GLY	6.1
29	K1	90	VAL	6.1
28	I5	80	ASP	6.1
34	S4	143	GLY	6.1
26	F5	106	GLU	6.1
17	Y2	131	PRO	6.1
21	i5	74	G	6.1
9	g5	12	LYS	6.1
30	L4	28	THR	6.1
5	a4	108	PRO	6.0
2	U3	82	MET	6.0
28	I1	82	VAL	6.0
6	c5	7	GLN	6.0
18	Z5	76	ARG	6.0
11	G4	236	SER	6.0
6	c2	45	ASN	6.0
30	L3	34	PRO	6.0
28	I6	124	LYS	6.0
25	E5	111	VAL	6.0
21	i5	137	U	6.0
23	B3	21	VAL	6.0
21	i6	1825	A	6.0
33	R5	91	LEU	6.0
25	E5	40	GLU	6.0
26	F2	135	ARG	6.0
9	g3	280	LYS	6.0
21	i6	1784	G	5.9
21	i4	750	C	5.9
28	I6	121	LEU	5.9
20	e5	6	LEU	5.9
34	S1	17	ASN	5.9
5	a3	103	PRO	5.9
13	M1	130	CYS	5.9
30	L3	36	TYR	5.9
18	Z5	96	LEU	5.9
26	F5	105	GLY	5.9
27	H1	7	LYS	5.9
2	U4	114	VAL	5.9
21	i6	836	G	5.9
20	e5	2	VAL	5.9

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Mol	Chain	Res	Type	RSRZ
26	F6	29	GLN	5.9
37	I3	191	GLU	5.9
28	I5	125	LYS	5.9
21	i1	750	C	5.9
2	U5	80	PHE	5.9
4	X1	141	PRO	5.9
12	J4	186	GLY	5.9
29	K1	89	ILE	5.9
30	L3	47	PRO	5.9
30	L4	18	GLN	5.9
6	c4	6	VAL	5.8
29	K4	38	LYS	5.8
18	Z5	52	LYS	5.8
15	O4	21	VAL	5.8
26	F2	29	GLN	5.8
29	K1	21	MET	5.8
21	i1	897	U	5.8
20	e6	59	SER	5.8
29	K6	35	LEU	5.8
17	Y3	131	PRO	5.8
37	I1	188	ASP	5.8
5	a6	72	HIS	5.8
32	Q2	120	LEU	5.8
34	S1	19	ASN	5.7
21	i5	135	U	5.7
18	Z5	93	SER	5.7
21	i4	794	A	5.7
32	Q5	32	ILE	5.7
34	S2	144	ARG	5.7
25	E6	54	TYR	5.7
30	L2	145	VAL	5.7
25	E1	157	ASN	5.7
28	I5	129	LEU	5.7
17	Y4	130	LYS	5.7
25	E5	137	PRO	5.7
7	d5	52	PHE	5.7
28	I1	101	ILE	5.7
25	E5	31	PRO	5.7
37	I1	189	SER	5.7
13	M4	131	LYS	5.7
21	i4	904	A	5.7
30	L6	153	LYS	5.6

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Mol	Chain	Res	Type	RSRZ
9	g5	10	THR	5.6
26	F5	104	THR	5.6
18	Z5	68	ILE	5.6
26	F2	125	SER	5.6
25	E1	174	LYS	5.6
37	l5	191	GLU	5.6
15	O4	53	ILE	5.6
9	g1	225	LYS	5.6
27	H5	164	ASN	5.6
23	B2	54	GLY	5.6
30	L6	154	GLN	5.6
28	I5	127	ALA	5.6
21	i2	1418	C	5.6
2	U5	81	GLN	5.6
21	i3	746	C	5.6
25	E2	73	ASP	5.6
37	l4	187	ASP	5.6
21	i6	78	C	5.5
28	I1	81	VAL	5.5
4	X5	82	THR	5.5
20	e6	48	THR	5.5
21	i3	1618	C	5.5
13	M1	131	LYS	5.5
11	G6	165	GLU	5.5
20	e3	59	SER	5.5
30	L4	31	GLU	5.5
17	Y6	130	LYS	5.5
10	C2	280	VAL	5.5
24	D4	203	PRO	5.5
25	E6	56	LEU	5.5
26	F5	110	GLN	5.5
4	X6	138	LYS	5.5
26	F2	198	ARG	5.5
30	L2	143	LEU	5.5
25	E1	149	TYR	5.5
34	S4	6	PRO	5.5
21	i4	786	G	5.5
26	F5	31	ASN	5.5
34	S1	145	THR	5.5
34	S2	145	THR	5.4
16	W4	49	GLU	5.4
25	E2	39	ARG	5.4

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Mol	Chain	Res	Type	RSRZ
21	i2	1425	G	5.4
5	a5	65	PRO	5.4
26	F3	110	GLN	5.4
20	e4	58	ASN	5.4
20	e3	48	THR	5.4
18	Z6	67	LEU	5.4
34	S6	4	VAL	5.4
24	D6	215	ASP	5.4
17	Y3	129	LYS	5.4
7	d5	53	ILE	5.4
22	A1	209	GLU	5.4
26	F3	32	ASP	5.4
13	M3	131	LYS	5.4
5	a5	93	LYS	5.4
29	K6	73	ASN	5.4
33	R3	62	GLN	5.4
26	F5	122	ARG	5.3
17	Y5	131	PRO	5.3
37	l1	191	GLU	5.3
18	Z1	41	ARG	5.3
26	F2	64	ALA	5.3
26	F5	111	VAL	5.3
5	a5	106	ALA	5.3
27	H1	89	GLY	5.3
20	e3	47	PRO	5.3
21	i4	797	C	5.3
9	g3	223	GLU	5.3
19	b4	2	PRO	5.3
2	U5	79	ARG	5.3
11	G6	166	GLY	5.3
21	i6	753	C	5.3
21	i6	881	G	5.3
29	K4	97	SER	5.3
4	X5	54	LYS	5.3
27	H3	89	GLY	5.3
24	D4	143	ARG	5.3
30	L6	21	LYS	5.3
26	F2	136	ARG	5.2
24	D4	107	TYR	5.2
37	l4	161	GLU	5.2
26	F3	204	ARG	5.2
30	L3	46	THR	5.2

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Mol	Chain	Res	Type	RSRZ
14	N2	151	ALA	5.2
25	E2	160	ILE	5.2
22	A5	223	THR	5.2
24	D4	148	LYS	5.2
21	i4	136	C	5.2
26	F5	171	GLU	5.2
30	L3	48	LYS	5.2
24	D6	2	ALA	5.2
26	F5	202	SER	5.2
1	T1	144	LYS	5.2
30	L3	32	LYS	5.2
37	l3	176	ASP	5.2
26	F1	160	GLU	5.2
26	F3	104	THR	5.2
34	S6	50	ILE	5.2
24	D4	58	VAL	5.2
17	Y3	128	GLY	5.2
26	F2	139	VAL	5.2
2	U5	104	ILE	5.1
37	l1	115	VAL	5.1
5	a6	18	VAL	5.1
8	f6	85	CYS	5.1
17	Y5	130	LYS	5.1
27	H3	98	ARG	5.1
2	U6	105	SER	5.1
9	g3	224	GLY	5.1
15	O3	63	LYS	5.1
25	E2	147	ILE	5.1
28	I6	46	VAL	5.1
37	l3	115	VAL	5.1
28	I1	83	TYR	5.1
21	i6	886	A	5.1
32	Q5	5	GLY	5.1
22	A3	222	VAL	5.1
9	g6	281	ALA	5.1
11	G4	207	ALA	5.1
16	W4	48	GLY	5.1
4	X1	140	ARG	5.1
27	H4	95	ILE	5.1
26	F5	194	ASP	5.1
28	I6	38	ILE	5.1
17	Y6	131	PRO	5.1

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Mol	Chain	Res	Type	RSRZ
30	L3	35	ARG	5.1
25	E5	110	ALA	5.1
12	J4	183	GLY	5.1
15	O1	15	ILE	5.1
15	O1	16	SER	5.1
15	O4	26	ASN	5.1
30	L1	51	ILE	5.1
24	D6	1	MET	5.0
28	I6	129	LEU	5.0
30	L3	38	LYS	5.0
15	O1	131	ASP	5.0
23	B3	23	ASP	5.0
5	a6	103	PRO	5.0
28	I6	120	PRO	5.0
26	F2	128	ILE	5.0
30	L5	26	GLY	5.0
2	U3	83	ARG	5.0
6	c3	7	GLN	5.0
34	S6	145	THR	5.0
21	i6	67	C	5.0
9	g6	269	GLU	5.0
30	L1	18	GLN	5.0
26	F5	161	ALA	5.0
21	i6	792	C	5.0
21	i6	897	U	5.0
4	X6	139	GLU	5.0
33	R6	74	GLN	5.0
33	R6	90	ALA	5.0
11	G4	229	ALA	5.0
4	X1	40	PRO	5.0
20	e4	59	SER	5.0
16	W4	47	ILE	4.9
4	X3	33	GLY	4.9
17	Y3	3	ASP	4.9
21	i3	138	C	4.9
18	Z2	110	THR	4.9
29	K3	98	ARG	4.9
2	U5	78	ASP	4.9
5	a6	73	TYR	4.9
17	Y3	126	GLY	4.9
17	Y3	132	LYS	4.9
37	l1	113	GLN	4.9

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Mol	Chain	Res	Type	RSRZ
34	S4	62	ASP	4.9
21	i4	894	G	4.9
21	i6	791	C	4.9
25	E1	175	PHE	4.9
26	F6	50	PRO	4.9
15	O2	17	LEU	4.9
26	F2	130	ARG	4.9
21	i6	1307	U	4.9
26	F3	30	ILE	4.9
28	I6	60	LEU	4.9
32	Q4	1	MET	4.9
9	g1	223	GLU	4.9
30	L3	33	LEU	4.9
12	J3	184	GLY	4.9
4	X1	139	GLU	4.9
12	J3	186	GLY	4.9
32	Q2	121	VAL	4.9
32	Q6	39	LEU	4.9
37	l2	188	ASP	4.9
4	X6	125	VAL	4.9
28	I6	128	LYS	4.9
32	Q2	4	LYS	4.9
12	J1	185	ALA	4.8
30	L3	31	GLU	4.8
24	D1	61	GLU	4.8
37	l1	114	LYS	4.8
30	L2	32	LYS	4.8
21	i6	76	U	4.8
1	T4	21	PHE	4.8
25	E6	147	ILE	4.8
15	O3	131	ASP	4.8
18	Z6	51	ASP	4.8
4	X6	141	PRO	4.8
5	a3	107	ALA	4.8
25	E4	145	ARG	4.8
37	l4	133	GLY	4.8
24	D5	8	LYS	4.8
32	Q2	122	ALA	4.8
34	S4	59	LEU	4.8
25	E4	154	ILE	4.8
26	F4	149	GLN	4.8
11	G5	211	LYS	4.8

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Mol	Chain	Res	Type	RSRZ
30	L1	38	LYS	4.8
26	F1	161	ALA	4.8
15	O5	107	THR	4.8
30	L6	3	ASP	4.8
37	l2	113	GLN	4.8
12	J5	119	LEU	4.8
11	G5	218	LYS	4.8
24	D4	184	ILE	4.8
24	D6	219	PRO	4.8
33	R5	87	GLU	4.8
26	F5	107	ASN	4.8
24	D3	218	LEU	4.7
21	i6	308	G	4.7
30	L4	44	PHE	4.7
10	C2	234	GLY	4.7
20	e4	50	GLY	4.7
12	J2	64	ASP	4.7
15	O1	97	LEU	4.7
18	Z2	41	ARG	4.7
24	D4	94	ARG	4.7
18	Z2	96	LEU	4.7
15	O5	123	GLY	4.7
23	B4	22	VAL	4.7
28	I5	128	LYS	4.7
37	l2	187	ASP	4.7
15	O4	20	GLN	4.7
16	W3	26	LEU	4.7
18	Z1	99	LEU	4.7
13	M3	64	LEU	4.7
8	f5	82	LYS	4.7
20	e3	50	GLY	4.7
30	L4	20	LYS	4.7
37	l6	122	ARG	4.7
27	H3	96	ALA	4.7
5	a5	108	PRO	4.7
18	Z5	65	TYR	4.7
30	L1	12	LYS	4.6
18	Z2	95	GLY	4.6
25	E4	67	GLN	4.6
24	D4	176	LEU	4.6
18	Z6	76	ARG	4.6
15	O4	19	PRO	4.6

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Mol	Chain	Res	Type	RSRZ
28	I5	94	LYS	4.6
18	Z1	42	ASP	4.6
33	R3	120	THR	4.6
24	D4	118	ALA	4.6
1	T5	3	GLY	4.6
17	Y5	128	GLY	4.6
24	D2	212	GLU	4.6
27	H4	94	PHE	4.6
4	X1	142	ARG	4.6
6	c1	68	LEU	4.6
25	E6	240	ARG	4.6
26	F6	51	HIS	4.6
15	O3	62	VAL	4.6
28	I6	80	ASP	4.6
28	I6	118	ALA	4.6
25	E5	99	PHE	4.6
4	X1	54	LYS	4.6
5	a1	107	ALA	4.6
8	f5	87	THR	4.6
21	i1	749	U	4.6
30	L3	37	TYR	4.6
9	g1	21	ILE	4.6
21	i4	407	G	4.6
28	I1	92	ARG	4.6
20	e1	59	SER	4.6
30	L2	34	PRO	4.6
29	K2	38	LYS	4.6
33	R3	65	PRO	4.5
12	J3	182	GLN	4.5
32	Q1	32	ILE	4.5
19	b4	4	ALA	4.5
24	D4	110	LEU	4.5
20	e4	48	THR	4.5
24	D3	112	GLY	4.5
28	I4	155	ASN	4.5
10	C2	278	THR	4.5
13	M6	97	GLU	4.5
20	e2	48	THR	4.5
28	I5	57	ALA	4.5
28	I6	167	GLN	4.5
6	c4	7	GLN	4.5
22	A5	219	GLU	4.5

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Mol	Chain	Res	Type	RSRZ
27	H2	191	GLU	4.5
8	f5	84	SER	4.5
28	I6	79	ILE	4.5
28	I4	154	LYS	4.5
4	X1	97	ASN	4.5
11	G6	163	ASN	4.5
16	W4	24	GLN	4.5
18	Z5	72	VAL	4.5
18	Z6	52	LYS	4.5
24	D4	151	LYS	4.5
32	Q2	2	PRO	4.5
2	U3	81	GLN	4.5
15	O6	13	GLN	4.5
28	I5	39	GLY	4.5
22	A5	214	GLU	4.5
4	X1	126	ALA	4.5
6	c5	5	ARG	4.5
24	D6	172	VAL	4.5
8	f3	149	CYS	4.5
5	a5	69	VAL	4.5
28	I5	105	ASP	4.5
15	O3	27	VAL	4.5
21	i1	883	U	4.5
26	F5	143	PRO	4.5
17	Y2	130	LYS	4.5
10	C6	234	GLY	4.5
4	X5	41	PHE	4.4
21	i4	895	G	4.4
6	c1	5	ARG	4.4
24	D4	195	THR	4.4
16	W4	72	CYS	4.4
25	E5	113	ARG	4.4
30	L5	117	PHE	4.4
29	K6	98	ARG	4.4
28	I6	151	GLU	4.4
20	e4	49	PHE	4.4
27	H2	192	PHE	4.4
24	D6	220	THR	4.4
11	G5	207	ALA	4.4
33	R6	19	LYS	4.4
21	i3	698	G	4.4
28	I5	36	THR	4.4

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Mol	Chain	Res	Type	RSRZ
27	H5	44	ASN	4.4
30	L5	148	ALA	4.4
15	O3	28	PHE	4.4
28	I1	77	ARG	4.4
28	I2	154	LYS	4.4
5	a5	68	TYR	4.4
23	B1	127	VAL	4.4
24	D6	212	GLU	4.4
24	D6	214	LYS	4.4
9	g1	280	LYS	4.4
21	i4	731	G	4.4
21	i6	1306	U	4.4
21	i4	893	U	4.4
21	i2	787	G	4.4
21	i3	836	G	4.4
24	D4	204	LEU	4.4
2	U4	101	ILE	4.4
5	a6	71	LEU	4.4
12	J6	185	ALA	4.4
21	i3	135	U	4.4
25	E5	53	LYS	4.4
23	B2	26	SER	4.4
24	D4	144	GLY	4.4
32	Q3	5	GLY	4.4
22	A1	30	LEU	4.4
25	E4	200	ARG	4.4
28	I5	171	LEU	4.4
33	R3	61	ILE	4.4
12	J2	26	ASP	4.4
17	Y3	4	THR	4.4
7	d4	53	ILE	4.4
12	J1	186	GLY	4.3
4	X6	140	ARG	4.3
24	D4	172	VAL	4.3
33	R5	81	ARG	4.3
7	d5	54	LYS	4.3
11	G4	210	ALA	4.3
21	i1	787	G	4.3
26	F1	42	LYS	4.3
2	U4	113	GLU	4.3
12	J1	184	GLY	4.3
7	d5	51	GLY	4.3

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Mol	Chain	Res	Type	RSRZ
6	c5	6	VAL	4.3
17	Y5	132	LYS	4.3
21	i3	883	U	4.3
25	E6	230	LYS	4.3
9	g3	225	LYS	4.3
24	D3	38	GLU	4.3
21	i4	795	A	4.3
16	W4	25	VAL	4.3
21	i5	183	G	4.3
16	W4	50	PHE	4.3
26	F3	28	VAL	4.3
21	i1	795	A	4.3
26	F5	123	GLU	4.3
28	I5	37	LYS	4.3
30	L5	153	LYS	4.3
11	G4	225	GLN	4.3
23	B2	55	THR	4.3
24	D4	149	SER	4.3
32	Q4	145	TYR	4.3
34	S1	20	ILE	4.3
20	e1	2	VAL	4.2
32	Q3	1	MET	4.2
5	a5	39	PHE	4.2
2	U4	102	THR	4.2
12	J1	183	GLY	4.2
13	M6	10	GLY	4.2
24	D6	209	SER	4.2
28	I6	119	LEU	4.2
9	g3	281	ALA	4.2
21	i6	793	G	4.2
25	E1	172	PHE	4.2
18	Z6	65	TYR	4.2
20	e3	51	LYS	4.2
23	B2	53	GLN	4.2
16	W3	25	VAL	4.2
34	S1	12	ILE	4.2
11	G5	166	GLY	4.2
15	O5	61	LYS	4.2
17	Y6	57	VAL	4.2
5	a3	44	ILE	4.2
24	D6	216	GLU	4.2
1	T5	118	ASP	4.2

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Mol	Chain	Res	Type	RSRZ
17	Y6	73	GLY	4.2
26	F5	167	LYS	4.2
28	I1	103	LEU	4.2
30	L5	25	LEU	4.2
33	R4	119	VAL	4.2
24	D1	224	SER	4.2
28	I5	78	ILE	4.2
7	d3	44	ARG	4.2
26	F3	122	ARG	4.2
21	i6	750	C	4.2
29	K3	97	SER	4.2
30	L2	25	LEU	4.2
5	a1	108	PRO	4.2
12	J5	117	LEU	4.2
15	O1	112	ALA	4.2
25	E4	198	ARG	4.1
23	B3	90	ASP	4.1
27	H5	91	HIS	4.1
17	Y5	127	ALA	4.1
34	S3	145	THR	4.1
27	H1	82	GLU	4.1
19	b1	25	VAL	4.1
28	I5	104	ILE	4.1
18	Z2	109	TYR	4.1
24	D6	81	GLU	4.1
30	L4	62	PHE	4.1
34	S6	143	GLY	4.1
6	c4	5	ARG	4.1
24	D3	113	LEU	4.1
17	Y4	131	PRO	4.1
26	F6	42	LYS	4.1
4	X5	83	ALA	4.1
2	U4	41	ARG	4.1
25	E5	17	HIS	4.1
21	i2	791	C	4.1
10	C6	141	VAL	4.1
25	E5	149	TYR	4.1
30	L6	123	GLY	4.1
8	f5	79	LYS	4.1
9	g5	9	GLY	4.1
12	J6	186	GLY	4.1
22	A5	215	GLN	4.1

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Mol	Chain	Res	Type	RSRZ
5	a5	42	ARG	4.1
11	G3	232	ARG	4.1
30	L4	30	LYS	4.1
5	a5	102	ARG	4.1
24	D4	109	LEU	4.1
29	K6	37	ASP	4.1
23	B1	135	LEU	4.1
25	E1	128	LYS	4.1
16	W5	26	LEU	4.1
25	E2	145	ARG	4.1
32	Q6	4	LYS	4.0
20	e2	49	PHE	4.0
5	a6	22	ARG	4.0
15	O4	23	GLU	4.0
26	F1	111	VAL	4.0
11	G5	210	ALA	4.0
15	O5	97	LEU	4.0
29	K3	38	LYS	4.0
10	C5	105	GLU	4.0
17	Y5	25	ILE	4.0
18	Z5	97	ILE	4.0
5	a5	43	ASN	4.0
9	g3	282	GLU	4.0
19	b3	79	PHE	4.0
5	a4	102	ARG	4.0
30	L1	154	GLN	4.0
28	I5	154	LYS	4.0
31	P6	104	GLN	4.0
30	L1	35	ARG	4.0
6	c6	5	ARG	4.0
21	i1	884	C	4.0
37	l1	187	ASP	4.0
17	Y1	131	PRO	4.0
21	i4	185	G	4.0
31	P3	109	PRO	4.0
13	M3	65	VAL	4.0
30	L4	22	ARG	4.0
30	L6	54	THR	4.0
1	T5	117	GLN	4.0
21	i6	895	G	4.0
23	B1	126	ASP	4.0
11	G3	206	ALA	4.0

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Mol	Chain	Res	Type	RSRZ
26	F1	110	GLN	4.0
24	D2	1	MET	4.0
28	I5	35	ASN	4.0
10	C1	89	LYS	4.0
25	E5	42	LEU	4.0
34	S4	122	GLY	4.0
5	a5	40	VAL	4.0
32	Q1	46	THR	4.0
30	L5	154	GLN	4.0
30	L5	145	VAL	4.0
20	e5	3	HIS	4.0
2	U2	118	ASP	4.0
24	D1	62	LYS	4.0
28	I5	166	PHE	4.0
15	O4	96	LYS	4.0
18	Z5	66	LYS	4.0
1	T4	26	GLY	4.0
15	O4	25	GLU	4.0
22	A5	218	ALA	4.0
28	I5	40	PRO	4.0
2	U5	28	ASN	4.0
33	R4	118	GLN	4.0
4	X5	56	GLY	3.9
28	I6	138	ASN	3.9
22	A1	98	PRO	3.9
23	B4	90	ASP	3.9
30	L4	152	LYS	3.9
34	S1	143	GLY	3.9
24	D3	2	ALA	3.9
32	Q6	32	ILE	3.9
29	K1	12	TYR	3.9
30	L3	153	LYS	3.9
19	b1	24	LEU	3.9
21	i3	183	G	3.9
25	E1	155	LYS	3.9
26	F5	39	ILE	3.9
1	T4	25	SER	3.9
9	g1	264	LYS	3.9
9	g2	45	LEU	3.9
24	D3	35	SER	3.9
25	E6	53	LYS	3.9
36	k4	160	LYS	3.9

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Mol	Chain	Res	Type	RSRZ
30	L5	151	THR	3.9
4	X5	40	PRO	3.9
8	f3	110	GLU	3.9
32	Q4	39	LEU	3.9
21	i6	900	C	3.9
7	d3	45	GLN	3.9
9	g1	31	ILE	3.9
15	O3	97	LEU	3.9
24	D3	39	VAL	3.9
36	k6	105	VAL	3.9
26	F1	31	ASN	3.9
28	I6	160	SER	3.9
4	X5	69	CYS	3.9
18	Z2	99	LEU	3.9
21	i4	747	U	3.9
22	A5	217	ALA	3.9
26	F3	133	THR	3.9
11	G2	207	ALA	3.9
13	M4	98	GLY	3.9
30	L1	16	ILE	3.9
28	I6	171	LEU	3.9
30	L5	28	THR	3.9
9	g1	103	GLY	3.9
17	Y4	132	LYS	3.9
20	e3	52	LYS	3.9
22	A5	222	VAL	3.9
24	D2	8	LYS	3.9
21	i6	1285	G	3.9
5	a6	104	ALA	3.9
13	M1	127	TYR	3.9
24	D3	111	GLY	3.9
16	W4	129	PHE	3.9
23	B2	25	PHE	3.9
37	l3	190	ILE	3.9
26	F2	42	LYS	3.9
5	a5	94	ASP	3.9
10	C4	102	LEU	3.9
34	S5	3	LEU	3.9
12	J5	5	ARG	3.8
28	I4	153	LYS	3.8
25	E4	151	ASP	3.8
19	b4	24	LEU	3.8

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Mol	Chain	Res	Type	RSRZ
25	E6	67	GLN	3.8
28	I1	70	GLU	3.8
37	I4	162	ASP	3.8
9	g5	11	LEU	3.8
30	L5	149	ALA	3.8
33	R6	12	ALA	3.8
34	S2	3	LEU	3.8
37	I4	181	LYS	3.8
21	i5	138	C	3.8
27	H1	6	ALA	3.8
32	Q4	62	ARG	3.8
25	E5	43	PRO	3.8
4	X4	54	LYS	3.8
30	L4	150	GLY	3.8
34	S3	143	GLY	3.8
29	K3	39	ASN	3.8
28	I1	38	ILE	3.8
30	L6	151	THR	3.8
2	U5	63	ILE	3.8
32	Q6	40	GLU	3.8
6	c6	7	GLN	3.8
3	V1	34	MET	3.8
32	Q6	120	LEU	3.8
2	U6	85	HIS	3.8
15	O4	90	ILE	3.8
21	i2	306	C	3.8
11	G6	235	SER	3.8
30	L1	52	GLU	3.8
4	X5	55	VAL	3.8
26	F1	34	SER	3.8
26	F1	136	ARG	3.8
28	I4	127	ALA	3.8
16	W4	18	GLU	3.8
26	F3	39	ILE	3.8
9	g4	76	GLN	3.8
24	D5	166	TYR	3.8
4	X5	81	ILE	3.8
8	f1	81	LYS	3.8
24	D1	149	SER	3.8
30	L3	52	GLU	3.8
6	c3	5	ARG	3.8
30	L1	62	PHE	3.8

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Mol	Chain	Res	Type	RSRZ
32	Q4	114	GLN	3.8
21	i4	184	G	3.8
17	Y6	132	LYS	3.8
23	B1	55	THR	3.8
26	F6	32	ASP	3.8
30	L3	154	GLN	3.8
9	g1	10	THR	3.8
13	M3	66	GLU	3.8
24	D4	115	VAL	3.8
24	D4	207	HIS	3.8
21	i2	753	C	3.8
21	i4	790	C	3.8
36	k4	161	GLY	3.8
23	B2	21	VAL	3.8
24	D5	215	ASP	3.8
25	E6	139	LEU	3.8
34	S4	123	LEU	3.8
36	k5	44	MET	3.8
26	F5	23	TRP	3.7
15	O4	97	LEU	3.7
28	I2	134	GLU	3.7
28	I5	106	SER	3.7
20	e3	53	LYS	3.7
27	H1	16	PRO	3.7
34	S4	126	PHE	3.7
21	i5	1869	A	3.7
21	i2	792	C	3.7
32	Q4	111	ILE	3.7
37	l1	190	ILE	3.7
11	G6	237	LEU	3.7
15	O6	12	GLU	3.7
6	c1	12	ALA	3.7
12	J3	183	GLY	3.7
21	i4	881	G	3.7
30	L3	51	ILE	3.7
36	k1	102	ILE	3.7
30	L3	49	GLU	3.7
17	Y2	123	ALA	3.7
17	Y4	118	ARG	3.7
26	F3	195	GLU	3.7
5	a6	34	LYS	3.7
34	S6	19	ASN	3.7

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Mol	Chain	Res	Type	RSRZ
12	J3	4	ALA	3.7
21	i6	790	C	3.7
34	S1	13	LEU	3.7
11	G5	165	GLU	3.7
7	d6	52	PHE	3.7
25	E5	101	LEU	3.7
26	F5	160	GLU	3.7
29	K4	98	ARG	3.7
25	E5	109	PHE	3.7
10	C5	106	VAL	3.7
19	b1	5	LYS	3.7
24	D2	220	THR	3.7
26	F5	22	LYS	3.7
15	O4	89	GLY	3.7
21	i2	788	G	3.7
21	i6	893	U	3.7
28	I5	81	VAL	3.7
17	Y4	129	LYS	3.7
31	P6	125	PRO	3.7
34	S4	80	PRO	3.7
18	Z1	67	LEU	3.7
21	i6	889	U	3.7
28	I5	60	LEU	3.7
2	U5	27	ARG	3.7
16	W4	70	ASN	3.7
26	F5	92	ILE	3.7
11	G5	222	GLU	3.7
15	O2	27	VAL	3.7
21	i2	789	G	3.7
23	B4	215	VAL	3.7
5	a6	100	ARG	3.7
37	l6	160	GLY	3.7
27	H3	188	GLU	3.7
28	I5	185	ALA	3.7
29	K6	20	VAL	3.7
22	A1	213	GLU	3.7
28	I6	54	LYS	3.7
36	k5	111	ILE	3.7
16	W4	45	GLY	3.7
12	J1	182	GLN	3.7
28	I1	102	VAL	3.6
16	W2	117	ARG	3.6

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Mol	Chain	Res	Type	RSRZ
34	S2	16	LEU	3.6
21	i3	407	G	3.6
25	E1	200	ARG	3.6
15	O5	79	GLN	3.6
5	a1	103	PRO	3.6
5	a1	104	ALA	3.6
28	I1	96	LEU	3.6
14	N5	151	ALA	3.6
8	f5	81	LYS	3.6
36	k5	157	LYS	3.6
8	f3	84	SER	3.6
15	O5	91	THR	3.6
24	D4	136	VAL	3.6
25	E2	126	VAL	3.6
24	D3	36	GLY	3.6
24	D3	217	ILE	3.6
25	E1	148	ARG	3.6
37	l4	188	ASP	3.6
1	T4	27	LYS	3.6
22	A1	223	THR	3.6
30	L5	143	LEU	3.6
17	Y2	127	ALA	3.6
27	H3	184	ASP	3.6
12	J5	6	SER	3.6
30	L4	46	THR	3.6
4	X5	70	VAL	3.6
28	I2	157	LYS	3.6
16	W4	15	ASN	3.6
25	E2	228	ILE	3.6
19	b1	2	PRO	3.6
25	E5	151	ASP	3.6
29	K6	34	GLU	3.6
30	L3	63	THR	3.6
2	U2	112	VAL	3.6
10	C6	128	VAL	3.6
33	R5	84	TYR	3.6
27	H5	38	ALA	3.6
24	D4	193	ASP	3.6
33	R6	65	PRO	3.6
5	a6	70	LYS	3.6
11	G6	159	ARG	3.6
6	c1	55	VAL	3.6

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Mol	Chain	Res	Type	RSRZ
28	I6	131	PRO	3.6
27	H3	183	LYS	3.6
30	L1	46	THR	3.6
15	O4	112	ALA	3.6
30	L3	39	ASN	3.6
8	f5	86	THR	3.6
10	C2	275	LYS	3.6
21	i1	895	G	3.6
26	F2	124	ASP	3.6
34	S4	145	THR	3.6
17	Y2	122	LYS	3.6
21	i1	730	C	3.6
11	G4	208	GLU	3.6
21	i6	880	G	3.6
24	D2	211	VAL	3.6
2	U6	82	MET	3.6
24	D5	200	PRO	3.6
18	Z3	96	LEU	3.6
28	I5	172	LEU	3.6
33	R6	91	LEU	3.6
18	Z5	94	LYS	3.6
20	e5	7	ALA	3.6
3	V1	71	ARG	3.6
11	G5	221	LYS	3.6
13	M3	69	CYS	3.6
17	Y2	129	LYS	3.6
34	S1	18	THR	3.6
4	X6	142	ARG	3.6
21	i3	881	G	3.5
22	A6	51	LEU	3.5
28	I4	134	GLU	3.5
30	L2	144	LYS	3.5
18	Z2	94	LYS	3.5
4	X6	95	GLU	3.5
34	S2	125	HIS	3.5
26	F5	119	SER	3.5
13	M2	10	GLY	3.5
21	i1	136	C	3.5
5	a6	36	ILE	3.5
37	I4	131	VAL	3.5
25	E5	152	PRO	3.5
21	i3	882	U	3.5

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Mol	Chain	Res	Type	RSRZ
28	I1	171	LEU	3.5
26	F5	124	ASP	3.5
15	O4	91	THR	3.5
27	H1	193	GLN	3.5
28	I6	154	LYS	3.5
8	f3	109	ASP	3.5
17	Y4	122	LYS	3.5
32	Q2	5	GLY	3.5
7	d3	52	PHE	3.5
9	g6	271	LYS	3.5
27	H1	15	LYS	3.5
34	S4	60	THR	3.5
12	J5	139	LYS	3.5
15	O5	131	ASP	3.5
22	A5	220	LYS	3.5
25	E3	78	THR	3.5
29	K6	38	LYS	3.5
37	l3	114	LYS	3.5
28	I2	207	GLY	3.5
15	O2	117	ARG	3.5
28	I6	134	GLU	3.5
19	b4	25	VAL	3.5
20	e2	50	GLY	3.5
24	D6	78	GLY	3.5
8	f5	85	CYS	3.5
30	L6	25	LEU	3.5
11	G4	204	GLU	3.5
26	F1	135	ARG	3.5
26	F1	39	ILE	3.5
25	E4	175	PHE	3.5
32	Q2	3	SER	3.5
11	G4	36	VAL	3.5
15	O2	88	LEU	3.5
19	b5	13	GLU	3.5
28	I5	123	ARG	3.5
32	Q3	4	LYS	3.5
33	R6	119	VAL	3.5
34	S4	15	VAL	3.5
15	O5	108	PRO	3.5
23	B2	24	PRO	3.5
34	S4	56	ALA	3.5
21	i5	134	C	3.5

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Mol	Chain	Res	Type	RSRZ
21	i2	891	G	3.5
22	A3	218	ALA	3.5
37	l3	188	ASP	3.5
30	L6	20	LYS	3.5
37	l2	161	GLU	3.5
5	a5	44	ILE	3.5
17	Y5	129	LYS	3.4
30	L3	104	LYS	3.4
24	D4	152	PHE	3.4
26	F5	93	VAL	3.4
28	I5	103	LEU	3.4
30	L1	15	THR	3.4
5	a6	35	ALA	3.4
15	O5	15	ILE	3.4
18	Z5	114	LYS	3.4
27	H3	186	ASN	3.4
32	Q4	57	LEU	3.4
9	g6	262	GLU	3.4
11	G3	218	LYS	3.4
30	L4	148	ALA	3.4
10	C5	184	VAL	3.4
21	i6	752	G	3.4
32	Q4	61	GLU	3.4
36	k5	163	GLY	3.4
2	U5	102	THR	3.4
11	G5	208	GLU	3.4
21	i4	1317	C	3.4
5	a6	24	THR	3.4
9	g2	264	LYS	3.4
16	W3	50	PHE	3.4
18	Z4	52	LYS	3.4
21	i6	899	U	3.4
25	E5	44	LEU	3.4
36	k1	111	ILE	3.4
24	D4	138	VAL	3.4
27	H3	61	ILE	3.4
37	l5	113	GLN	3.4
2	U5	64	THR	3.4
4	X6	83	ALA	3.4
6	c1	47	LYS	3.4
21	i3	697	G	3.4
32	Q2	89	SER	3.4

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Mol	Chain	Res	Type	RSRZ
37	I2	182	TRP	3.4
11	G2	218	LYS	3.4
15	O5	14	VAL	3.4
28	I1	61	ASP	3.4
30	L4	153	LYS	3.4
28	I1	104	ILE	3.4
26	F6	30	ILE	3.4
34	S4	61	GLU	3.4
30	L6	23	VAL	3.4
22	A1	117	ARG	3.4
9	g4	77	PHE	3.4
26	F6	171	GLU	3.4
9	g4	10	THR	3.4
16	W4	19	LYS	3.4
9	g3	286	CYS	3.4
24	D4	175	VAL	3.4
28	I5	82	VAL	3.4
21	i3	1767	C	3.4
21	i3	891	G	3.4
23	B3	48	LEU	3.4
9	g2	224	GLY	3.4
18	Z2	68	ILE	3.4
26	F4	127	ARG	3.4
12	J2	100	LEU	3.4
13	M4	57	ASP	3.4
26	F4	133	THR	3.4
32	Q2	39	LEU	3.4
18	Z5	53	ALA	3.4
22	A5	221	ALA	3.4
24	D4	119	CYS	3.4
24	D6	171	ALA	3.4
26	F5	101	HIS	3.4
34	S1	101	ASN	3.4
5	a6	30	VAL	3.4
24	D3	8	LYS	3.4
34	S2	121	ARG	3.4
34	S6	14	ARG	3.4
15	O3	72	TYR	3.4
18	Z4	95	GLY	3.4
24	D5	214	LYS	3.4
33	R5	37	GLU	3.4
27	H3	140	VAL	3.4

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Mol	Chain	Res	Type	RSRZ
30	L4	68	ILE	3.4
9	g3	234	ASP	3.4
12	J3	26	ASP	3.4
13	M5	50	CYS	3.4
10	C6	238	LYS	3.3
24	D5	18	LYS	3.3
34	S2	122	GLY	3.3
15	O6	15	ILE	3.3
16	W4	16	ASN	3.3
28	I6	161	LEU	3.3
15	O1	113	GLN	3.3
28	I1	126	GLY	3.3
36	k1	105	VAL	3.3
16	W4	23	ARG	3.3
24	D4	93	THR	3.3
4	X2	25	LYS	3.3
4	X6	94	ILE	3.3
15	O3	87	GLU	3.3
22	A3	143	PRO	3.3
26	F2	134	VAL	3.3
28	I4	125	LYS	3.3
33	R6	75	GLU	3.3
30	L5	35	ARG	3.3
10	C5	131	GLY	3.3
25	E2	182	MET	3.3
28	I6	103	LEU	3.3
37	I6	121	PRO	3.3
10	C6	237	ALA	3.3
21	i1	746	C	3.3
26	F2	137	GLN	3.3
13	M4	65	VAL	3.3
24	D1	184	ILE	3.3
25	E2	225	ILE	3.3
26	F6	27	ASP	3.3
30	L3	62	PHE	3.3
2	U2	113	GLU	3.3
16	W4	51	GLU	3.3
36	k4	159	ASN	3.3
26	F5	204	ARG	3.3
5	a5	67	LEU	3.3
10	C5	130	ILE	3.3
18	Z5	99	LEU	3.3

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Mol	Chain	Res	Type	RSRZ
25	E6	225	ILE	3.3
33	R2	91	LEU	3.3
33	R3	24	LEU	3.3
11	G4	211	LYS	3.3
21	i3	884	C	3.3
21	i5	133	C	3.3
12	J5	3	VAL	3.3
2	U6	30	LYS	3.3
30	L4	38	LYS	3.3
32	Q4	30	GLY	3.3
24	D1	64	ARG	3.3
26	F4	130	ARG	3.3
21	i4	908	A	3.3
24	D3	201	LYS	3.3
24	D4	103	GLU	3.3
25	E4	68	ARG	3.3
25	E5	51	ARG	3.3
27	H5	34	SER	3.3
16	W3	129	PHE	3.3
28	I5	170	LYS	3.3
13	M6	118	SER	3.3
16	W4	21	GLY	3.3
23	B1	215	VAL	3.3
27	H1	96	ALA	3.3
18	Z5	69	THR	3.3
33	R4	117	LEU	3.3
1	T3	144	LYS	3.3
2	U4	20	ILE	3.3
9	g2	250	ALA	3.3
13	M6	96	ARG	3.3
24	D3	55	THR	3.3
15	O3	89	GLY	3.3
18	Z6	53	ALA	3.3
21	i2	1825	A	3.3
27	H4	186	ASN	3.3
29	K1	15	LEU	3.3
9	g2	262	GLU	3.3
37	l4	130	ARG	3.3
24	D2	2	ALA	3.3
37	l3	133	GLY	3.3
3	V6	34	MET	3.3
17	Y6	96	LEU	3.3

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Mol	Chain	Res	Type	RSRZ
21	i6	698	G	3.3
24	D4	96	LEU	3.3
26	F5	178	ILE	3.3
2	U5	84	ILE	3.3
27	H1	46	THR	3.3
7	d6	51	GLY	3.3
4	X5	122	VAL	3.3
5	a3	69	VAL	3.3
10	C2	279	ARG	3.3
1	T6	118	ASP	3.3
7	d5	55	LEU	3.3
26	F1	92	ILE	3.2
32	Q1	45	ARG	3.2
33	R3	66	VAL	3.2
2	U5	16	ALA	3.2
37	l1	116	THR	3.2
13	M4	80	ASP	3.2
2	U3	63	ILE	3.2
25	E1	227	VAL	3.2
10	C6	127	PHE	3.2
13	M6	98	GLY	3.2
26	F3	121	PRO	3.2
30	L1	31	GLU	3.2
4	X5	51	VAL	3.2
10	C1	106	VAL	3.2
10	C6	129	ALA	3.2
2	U4	112	VAL	3.2
15	O4	27	VAL	3.2
36	k4	158	VAL	3.2
36	k6	158	VAL	3.2
4	X1	98	ASP	3.2
32	Q5	39	LEU	3.2
5	a6	29	CYS	3.2
25	E2	235	TRP	3.2
25	E1	129	ILE	3.2
18	Z2	101	SER	3.2
21	i2	1317	C	3.2
21	i1	893	U	3.2
15	O5	113	GLN	3.2
21	i1	894	G	3.2
4	X6	128	VAL	3.2
7	d3	46	TYR	3.2

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Mol	Chain	Res	Type	RSRZ
11	G2	210	ALA	3.2
4	X6	40	PRO	3.2
24	D3	149	SER	3.2
24	D4	129	SER	3.2
25	E1	156	VAL	3.2
29	K1	95	ARG	3.2
32	Q3	30	GLY	3.2
34	S4	115	LYS	3.2
34	S4	116	LYS	3.2
37	I3	184	GLU	3.2
16	W4	17	ALA	3.2
4	X1	125	VAL	3.2
23	B3	93	GLY	3.2
26	F5	100	ILE	3.2
26	F6	118	ASN	3.2
32	Q4	120	LEU	3.2
21	i4	746	C	3.2
28	I5	151	GLU	3.2
23	B4	54	GLY	3.2
34	S2	143	GLY	3.2
11	G5	236	SER	3.2
26	F3	136	ARG	3.2
29	K1	73	ASN	3.2
33	R5	89	SER	3.2
9	g2	293	ALA	3.2
19	b1	55	LEU	3.2
24	D4	38	GLU	3.2
25	E5	52	LEU	3.2
6	c1	13	ARG	3.2
36	k5	164	ILE	3.2
21	i5	891	G	3.2
21	i6	891	G	3.2
7	d3	11	PRO	3.2
10	C1	63	VAL	3.2
19	b1	3	LEU	3.2
19	b4	5	LYS	3.2
2	U4	103	SER	3.2
17	Y1	129	LYS	3.2
18	Z2	98	LYS	3.2
20	e4	47	PRO	3.2
28	I1	157	LYS	3.2
30	L2	126	VAL	3.2

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Mol	Chain	Res	Type	RSRZ
21	i5	730	C	3.2
28	I1	76	THR	3.2
31	P3	110	GLU	3.2
6	c1	66	ARG	3.2
8	f6	99	LYS	3.2
22	A5	154	LEU	3.2
24	D2	117	ARG	3.2
32	Q4	121	VAL	3.2
9	g2	231	ASP	3.2
12	J2	65	GLU	3.2
11	G6	232	ARG	3.2
13	M1	114	TYR	3.2
21	i1	1463	U	3.2
21	i2	747	U	3.2
17	Y6	22	GLN	3.2
22	A1	108	PHE	3.2
26	F4	126	THR	3.2
5	a6	19	GLN	3.2
24	D4	150	MET	3.2
9	g3	269	GLU	3.2
26	F6	49	LEU	3.2
10	C5	128	VAL	3.2
15	O6	103	ASN	3.2
30	L3	45	LYS	3.2
18	Z5	91	LEU	3.1
4	X1	96	GLU	3.1
5	a6	16	GLY	3.1
15	O3	40	THR	3.1
23	B1	174	ARG	3.1
24	D3	142	LEU	3.1
10	C4	130	ILE	3.1
25	E2	217	SER	3.1
32	Q5	89	SER	3.1
8	f2	117	LEU	3.1
27	H5	165	ASN	3.1
5	a1	105	GLY	3.1
5	a6	21	ILE	3.1
24	D2	218	LEU	3.1
28	I6	153	LYS	3.1
10	C4	131	GLY	3.1
10	C6	131	GLY	3.1
15	O3	42	VAL	3.1

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Mol	Chain	Res	Type	RSRZ
11	G3	207	ALA	3.1
10	C2	227	ARG	3.1
30	L2	146	THR	3.1
21	i6	305	U	3.1
30	L1	26	GLY	3.1
18	Z1	43	LYS	3.1
23	B4	174	ARG	3.1
28	I1	154	LYS	3.1
34	S6	115	LYS	3.1
21	i5	837	A	3.1
2	U5	62	ARG	3.1
16	W3	63	VAL	3.1
21	i2	200	G	3.1
26	F5	34	SER	3.1
36	k6	95	GLN	3.1
21	i4	892	U	3.1
30	L3	13	GLN	3.1
4	X1	53	GLU	3.1
22	A1	208	GLU	3.1
32	Q6	46	THR	3.1
19	b6	58	GLY	3.1
3	V3	34	MET	3.1
18	Z6	68	ILE	3.1
27	H3	100	ILE	3.1
33	R5	16	ILE	3.1
23	B5	22	VAL	3.1
27	H5	42	GLU	3.1
30	L6	35	ARG	3.1
11	G4	37	ALA	3.1
25	E5	16	LYS	3.1
26	F3	202	SER	3.1
36	k5	43	ILE	3.1
37	l4	165	ILE	3.1
4	X5	37	LYS	3.1
22	A2	206	ASP	3.1
37	l4	134	LEU	3.1
37	l6	161	GLU	3.1
25	E6	5	PRO	3.1
26	F5	30	ILE	3.1
21	i2	1416	C	3.1
21	i5	921	G	3.1
26	F5	201	LYS	3.1

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Mol	Chain	Res	Type	RSRZ
12	J5	4	ALA	3.1
4	X5	102	VAL	3.1
26	F5	69	VAL	3.1
15	O5	126	ILE	3.1
30	L1	22	ARG	3.1
11	G5	237	LEU	3.1
7	d3	48	LYS	3.1
27	H3	134	VAL	3.1
4	X6	96	GLU	3.1
9	g4	282	GLU	3.1
11	G5	225	GLN	3.1
9	g2	46	THR	3.1
15	O2	123	GLY	3.1
25	E4	199	GLU	3.1
18	Z6	96	LEU	3.1
25	E5	15	PRO	3.1
14	N2	150	VAL	3.1
17	Y6	52	PRO	3.1
31	P3	91	GLY	3.1
15	O4	42	VAL	3.1
11	G2	14	LYS	3.1
15	O3	61	LYS	3.1
2	U4	24	LEU	3.1
15	O5	128	ARG	3.1
25	E1	56	LEU	3.1
3	V1	67	ASP	3.1
30	L5	146	THR	3.1
30	L6	2	ALA	3.1
26	F3	132	GLY	3.1
5	a6	108	PRO	3.1
20	e6	2	VAL	3.1
21	i1	698	G	3.1
21	i2	327	G	3.1
21	i6	837	A	3.1
12	J4	92	MET	3.1
29	K1	20	VAL	3.1
17	Y6	75	ILE	3.1
18	Z6	109	TYR	3.1
10	C5	175	GLY	3.1
27	H5	39	GLN	3.1
7	d5	50	ILE	3.1
15	O5	106	LYS	3.1

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Mol	Chain	Res	Type	RSRZ
31	P3	83	MET	3.1
37	I4	132	CYS	3.1
25	E6	178	GLY	3.1
26	F4	151	ILE	3.0
1	T6	144	LYS	3.0
32	Q1	16	LYS	3.0
24	D3	19	ALA	3.0
37	I3	187	ASP	3.0
15	O2	87	GLU	3.0
16	W1	53	ILE	3.0
18	Z1	96	LEU	3.0
27	H3	152	ARG	3.0
29	K4	96	ARG	3.0
36	k6	111	ILE	3.0
11	G4	14	LYS	3.0
28	I6	130	THR	3.0
13	M1	71	GLU	3.0
26	F4	15	PRO	3.0
24	D3	107	TYR	3.0
28	I6	61	ASP	3.0
30	L5	74	SER	3.0
9	g6	272	GLN	3.0
28	I2	151	GLU	3.0
8	f6	83	LYS	3.0
28	I2	125	LYS	3.0
6	c1	22	GLY	3.0
25	E1	160	ILE	3.0
32	Q1	39	LEU	3.0
8	f4	111	ASN	3.0
24	D3	143	ARG	3.0
28	I6	132	GLU	3.0
30	L1	49	GLU	3.0
4	X6	80	LYS	3.0
22	A2	52	LYS	3.0
29	K2	39	ASN	3.0
34	S5	115	LYS	3.0
2	U3	80	PHE	3.0
9	g1	71	ILE	3.0
3	V1	50	PHE	3.0
15	O3	29	GLY	3.0
21	i1	1476	A	3.0
23	B3	92	GLN	3.0

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Mol	Chain	Res	Type	RSRZ
27	H3	95	ILE	3.0
25	E1	158	ASP	3.0
9	g4	43	TRP	3.0
12	J5	118	GLY	3.0
26	F4	132	GLY	3.0
33	R2	90	ALA	3.0
3	V4	23	ILE	3.0
18	Z5	107	VAL	3.0
11	G2	206	ALA	3.0
17	Y5	26	ASP	3.0
24	D5	201	LYS	3.0
25	E1	147	ILE	3.0
27	H2	160	LYS	3.0
28	I5	43	ILE	3.0
27	H3	97	GLN	3.0
9	g2	229	THR	3.0
19	b3	73	LEU	3.0
21	i6	133	C	3.0
32	Q2	1	MET	3.0
32	Q2	78	VAL	3.0
21	i3	206	G	3.0
23	B2	27	LYS	3.0
29	K1	16	PHE	3.0
32	Q3	120	LEU	3.0
33	R6	37	GLU	3.0
14	N6	66	VAL	3.0
25	E1	145	ARG	3.0
14	N5	16	LEU	3.0
26	F4	150	ALA	3.0
28	I1	60	LEU	3.0
28	I1	94	LYS	3.0
9	g5	143	GLN	3.0
30	L5	124	ASP	3.0
3	V3	30	ALA	3.0
27	H4	145	ARG	3.0
28	I5	42	ARG	3.0
34	S5	144	ARG	3.0
4	X2	28	LYS	3.0
26	F5	108	PRO	3.0
5	a5	45	VAL	3.0
15	O1	46	ASP	3.0
18	Z6	73	VAL	3.0

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Mol	Chain	Res	Type	RSRZ
37	l5	188	ASP	3.0
33	R5	80	ARG	3.0
34	S1	142	ARG	3.0
19	b5	12	PRO	3.0
24	D5	209	SER	3.0
37	l5	161	GLU	3.0
15	O3	41	PHE	3.0
26	F2	133	THR	3.0
21	i2	201	C	3.0
33	R6	70	SER	3.0
15	O4	116	LEU	3.0
25	E1	79	ASP	3.0
8	f1	111	ASN	3.0
16	W4	22	LYS	3.0
26	F3	198	ARG	3.0
25	E4	152	PRO	3.0
28	I3	157	LYS	3.0
37	l3	132	CYS	3.0
24	D6	8	LYS	3.0
29	K6	97	SER	3.0
37	l2	115	VAL	3.0
9	g4	7	LEU	3.0
11	G6	222	GLU	3.0
26	F5	195	GLU	3.0
11	G4	218	LYS	3.0
24	D4	106	ARG	3.0
19	b6	2	PRO	3.0
25	E4	94	LYS	3.0
23	B4	234	GLU	3.0
24	D4	1	MET	3.0
26	F5	120	GLY	3.0
4	X5	97	ASN	3.0
29	K4	60	GLU	3.0
2	U2	117	ALA	3.0
25	E5	18	TRP	2.9
28	I2	118	ALA	3.0
18	Z6	115	GLY	2.9
21	i5	838	G	2.9
24	D1	220	THR	2.9
26	F3	194	ASP	2.9
11	G5	226	GLU	2.9
27	H5	82	GLU	2.9

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Mol	Chain	Res	Type	RSRZ
23	B1	136	ARG	2.9
30	L2	33	LEU	2.9
11	G3	222	GLU	2.9
12	J2	21	GLU	2.9
14	N6	60	VAL	2.9
24	D4	147	ALA	2.9
27	H1	95	ILE	2.9
1	T2	54	TYR	2.9
24	D2	214	LYS	2.9
10	C5	132	ASP	2.9
20	e2	47	PRO	2.9
24	D6	142	LEU	2.9
25	E1	154	ILE	2.9
30	L4	149	ALA	2.9
19	b1	10	PRO	2.9
18	Z6	56	ASP	2.9
11	G3	225	GLN	2.9
27	H3	155	LYS	2.9
27	H5	193	GLN	2.9
29	K1	56	GLY	2.9
2	U6	29	VAL	2.9
18	Z6	77	LEU	2.9
37	l3	165	ILE	2.9
2	U3	41	ARG	2.9
15	O5	124	MET	2.9
15	O4	33	ILE	2.9
28	I5	53	LYS	2.9
16	W4	64	ASN	2.9
4	X5	126	ALA	2.9
13	M5	53	ALA	2.9
22	A6	223	THR	2.9
27	H3	187	PHE	2.9
24	D5	206	ASP	2.9
2	U5	18	HIS	2.9
21	i1	407	G	2.9
21	i3	788	G	2.9
28	I3	203	LYS	2.9
15	O6	14	VAL	2.9
22	A5	216	ALA	2.9
28	I5	131	PRO	2.9
16	W4	14	ILE	2.9
26	F5	191	LYS	2.9

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Mol	Chain	Res	Type	RSRZ
27	H4	98	ARG	2.9
25	E1	31	PRO	2.9
26	F4	131	ALA	2.9
28	I5	95	THR	2.9
16	W4	46	TYR	2.9
21	i1	796	G	2.9
32	Q4	56	LEU	2.9
15	O3	20	GLN	2.9
15	O4	54	CYS	2.9
31	P4	34	MET	2.9
24	D4	173	ARG	2.9
26	F1	134	VAL	2.9
29	K6	36	ALA	2.9
27	H1	189	PHE	2.9
10	C1	105	GLU	2.9
20	e4	46	VAL	2.9
24	D6	211	VAL	2.9
28	I2	206	LYS	2.9
30	L5	147	LYS	2.9
25	E2	226	PHE	2.9
28	I6	166	PHE	2.9
12	J4	89	GLU	2.9
34	S2	15	VAL	2.9
37	l4	176	ASP	2.9
9	g4	12	LYS	2.9
21	i2	308	G	2.9
27	H4	96	ALA	2.9
25	E2	40	GLU	2.9
27	H5	192	PHE	2.9
15	O2	112	ALA	2.9
22	A3	160	ALA	2.9
25	E5	136	ILE	2.9
28	I3	151	GLU	2.9
28	I6	78	ILE	2.9
28	I5	189	VAL	2.9
34	S4	44	VAL	2.9
4	X1	82	THR	2.9
7	d5	48	LYS	2.9
25	E6	110	ALA	2.9
30	L4	25	LEU	2.9
10	C1	88	ILE	2.9
26	F6	195	GLU	2.9

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Mol	Chain	Res	Type	RSRZ
28	I6	52	ASN	2.9
21	i6	898	U	2.9
23	B4	46	LYS	2.9
28	I5	34	ALA	2.9
9	g5	200	VAL	2.9
34	S4	58	GLU	2.9
24	D6	18	LYS	2.9
25	E1	225	ILE	2.9
26	F2	23	TRP	2.9
5	a1	106	ALA	2.9
25	E4	93	ASP	2.9
27	H5	90	LYS	2.9
30	L5	144	LYS	2.9
25	E1	126	VAL	2.9
26	F3	123	GLU	2.9
33	R6	73	LEU	2.9
32	Q1	122	ALA	2.8
14	N5	60	VAL	2.8
18	Z5	75	GLU	2.8
25	E2	164	LEU	2.8
25	E2	227	VAL	2.8
26	F4	198	ARG	2.8
28	I5	132	GLU	2.8
21	i5	753	C	2.8
9	g6	10	THR	2.8
17	Y1	132	LYS	2.8
24	D3	56	GLN	2.8
27	H3	164	ASN	2.8
30	L4	43	GLY	2.8
11	G6	35	GLU	2.8
21	i1	137	U	2.8
21	i2	1782	G	2.8
36	k6	103	LYS	2.8
33	R6	77	GLU	2.8
9	g3	283	PRO	2.8
2	U5	30	LYS	2.8
5	a6	105	GLY	2.8
17	Y2	128	GLY	2.8
19	b1	8	LEU	2.8
25	E6	48	LEU	2.8
27	H3	158	LEU	2.8
32	Q1	57	LEU	2.8

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Mol	Chain	Res	Type	RSRZ
4	X2	139	GLU	2.8
13	M4	81	ASP	2.8
5	a3	70	LYS	2.8
10	C6	126	ALA	2.8
12	J2	22	LYS	2.8
13	M1	10	GLY	2.8
20	e3	46	VAL	2.8
36	k5	162	ILE	2.8
4	X4	31	HIS	2.8
16	W4	63	VAL	2.8
10	C5	88	ILE	2.8
25	E1	144	ALA	2.8
25	E3	149	TYR	2.8
34	S5	7	GLU	2.8
36	k1	60	GLU	2.8
2	U5	85	HIS	2.8
37	l3	131	VAL	2.8
21	i3	1768	A	2.8
24	D4	55	THR	2.8
27	H3	139	ILE	2.8
11	G4	226	GLU	2.8
22	A5	122	LEU	2.8
28	I6	41	ARG	2.8
33	R1	91	LEU	2.8
34	S1	3	LEU	2.8
6	c2	22	GLY	2.8
7	d4	51	GLY	2.8
13	M1	72	HIS	2.8
16	W4	44	HIS	2.8
30	L3	26	GLY	2.8
34	S2	131	VAL	2.8
21	i1	305	U	2.8
21	i2	790	C	2.8
24	D1	223	ILE	2.8
24	D2	221	THR	2.8
23	B2	234	GLU	2.8
25	E2	219	ALA	2.8
26	F5	149	GLN	2.8
31	P3	50	ARG	2.8
26	F1	68	ILE	2.8
28	I1	121	LEU	2.8
4	X6	70	VAL	2.8

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Mol	Chain	Res	Type	RSRZ
10	C6	241	PHE	2.8
21	i3	1418	C	2.8
23	B1	22	VAL	2.8
29	K1	88	GLU	2.8
31	P6	93	MET	2.8
36	k6	101	ALA	2.8
12	J5	116	LYS	2.8
24	D5	205	PRO	2.8
27	H6	142	LYS	2.8
30	L2	51	ILE	2.8
3	V1	37	ALA	2.8
16	W6	81	VAL	2.8
2	U4	22	ILE	2.8
11	G3	221	LYS	2.8
27	H3	147	LYS	2.8
21	i6	132	U	2.8
9	g2	47	ARG	2.8
10	C5	193	VAL	2.8
9	g2	223	GLU	2.8
26	F1	133	THR	2.8
31	P6	77	LYS	2.8
36	k4	157	LYS	2.8
25	E5	47	PHE	2.8
7	d6	50	ILE	2.8
15	O1	135	ILE	2.8
23	B1	137	LEU	2.8
23	B4	53	GLN	2.8
28	I5	134	GLU	2.8
34	S5	143	GLY	2.8
21	i4	749	U	2.8
4	X4	55	VAL	2.8
27	H3	177	TYR	2.8
11	G4	206	ALA	2.8
25	E6	14	ALA	2.8
30	L5	51	ILE	2.8
29	K1	13	GLU	2.8
8	f3	108	VAL	2.8
19	b4	3	LEU	2.8
20	e5	4	GLY	2.8
24	D4	117	ARG	2.8
28	I5	92	ARG	2.8
37	l2	190	ILE	2.8

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Mol	Chain	Res	Type	RSRZ
20	e5	5	SER	2.8
21	i6	199	C	2.8
28	I4	28	GLU	2.8
30	L6	47	PRO	2.8
15	O4	22	ALA	2.8
17	Y3	2	ASN	2.8
2	U4	81	GLN	2.8
8	f1	79	LYS	2.8
25	E6	217	SER	2.8
34	S6	116	LYS	2.8
36	k5	150	MET	2.8
5	a6	20	PRO	2.8
9	g1	102	VAL	2.8
27	H5	74	LYS	2.8
37	l2	162	ASP	2.8
21	i3	1869	A	2.8
2	U4	111	GLU	2.8
11	G1	212	LEU	2.8
14	N2	42	LYS	2.8
22	A1	222	VAL	2.8
27	H5	35	ASP	2.8
34	S4	16	LEU	2.8
5	a3	108	PRO	2.8
5	a6	31	PRO	2.8
1	T2	21	PHE	2.8
9	g2	228	TYR	2.8
30	L2	142	VAL	2.8
25	E5	41	CYS	2.8
10	C1	193	VAL	2.8
20	e1	4	GLY	2.8
1	T1	143	LYS	2.8
11	G6	164	LYS	2.8
21	i5	1364	U	2.8
30	L1	20	LYS	2.8
28	I1	69	SER	2.7
6	c2	46	VAL	2.7
10	C4	132	ASP	2.7
30	L5	27	GLU	2.7
6	c3	9	ILE	2.7
22	A2	205	ARG	2.7
26	F3	135	ARG	2.7
30	L3	40	ILE	2.7

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Mol	Chain	Res	Type	RSRZ
14	N1	146	ALA	2.7
9	g6	270	LEU	2.7
9	g4	79	LEU	2.7
28	I4	156	ALA	2.7
4	X1	51	VAL	2.7
4	X5	53	GLU	2.7
25	E2	234	PRO	2.7
18	Z3	115	GLY	2.7
23	B1	23	ASP	2.7
26	F1	124	ASP	2.7
2	U2	46	LYS	2.7
3	V6	70	LEU	2.7
14	N3	151	ALA	2.7
25	E4	69	PHE	2.7
26	F4	42	LYS	2.7
4	X3	142	ARG	2.7
14	N1	84	LEU	2.7
9	g2	53	GLY	2.7
22	A5	213	GLU	2.7
23	B2	30	TRP	2.7
17	Y6	129	LYS	2.7
30	L5	2	ALA	2.7
34	S4	144	ARG	2.7
6	c1	33	GLU	2.7
9	g3	284	PRO	2.7
27	H3	129	ILE	2.7
34	S2	20	ILE	2.7
18	Z1	95	GLY	2.7
21	i4	885	U	2.7
27	H3	130	LEU	2.7
34	S3	126	PHE	2.7
10	C5	237	ALA	2.7
22	A6	150	THR	2.7
30	L2	74	SER	2.7
30	L6	49	GLU	2.7
34	S3	125	HIS	2.7
36	k1	116	LEU	2.7
2	U6	19	ARG	2.7
3	V4	55	ILE	2.7
4	X3	102	VAL	2.7
19	b1	4	ALA	2.7
10	C1	104	ASP	2.7

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Mol	Chain	Res	Type	RSRZ
21	i1	1477	U	2.7
27	H3	132	ASP	2.7
7	d4	52	PHE	2.7
12	J4	117	LEU	2.7
24	D4	209	SER	2.7
25	E1	42	LEU	2.7
25	E2	175	PHE	2.7
27	H4	82	GLU	2.7
23	B3	46	LYS	2.7
25	E1	82	TYR	2.7
30	L4	36	TYR	2.7
5	a5	64	LEU	2.7
11	G4	237	LEU	2.7
4	X5	139	GLU	2.7
27	H5	52	GLU	2.7
27	H1	97	GLN	2.7
10	C6	104	ASP	2.7
12	J5	186	GLY	2.7
4	X3	118	VAL	2.7
9	g6	143	GLN	2.7
11	G5	215	LYS	2.7
23	B2	56	LYS	2.7
24	D4	2	ALA	2.7
28	I6	152	ARG	2.7
20	e6	58	ASN	2.7
8	f6	98	VAL	2.7
14	N4	151	ALA	2.7
25	E3	147	ILE	2.7
28	I5	45	THR	2.7
28	I5	97	VAL	2.7
10	C1	65	LYS	2.7
34	S5	127	TRP	2.7
9	g6	54	ILE	2.7
24	D6	80	PRO	2.7
26	F5	175	ASP	2.7
2	U5	65	THR	2.7
10	C5	185	THR	2.7
30	L2	151	THR	2.7
25	E2	154	ILE	2.7
24	D3	154	ASP	2.7
2	U2	102	THR	2.7
15	O5	116	LEU	2.7

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Mol	Chain	Res	Type	RSRZ
9	g5	144	ASP	2.7
4	X3	122	VAL	2.7
21	i6	1317	C	2.7
12	J5	185	ALA	2.7
30	L6	36	TYR	2.7
33	R5	2	GLY	2.7
4	X6	137	LYS	2.7
18	Z5	78	LYS	2.7
27	H1	17	ASP	2.7
27	H3	157	HIS	2.7
27	H6	15	LYS	2.7
28	I4	78	ILE	2.7
24	D5	130	GLY	2.7
2	U6	63	ILE	2.7
4	X4	4	CYS	2.7
22	A2	208	GLU	2.7
32	Q1	17	LYS	2.7
4	X4	102	VAL	2.7
8	f2	111	ASN	2.7
9	g2	230	LEU	2.7
16	W4	104	LEU	2.7
26	F4	69	VAL	2.7
21	i1	1462	U	2.7
24	D3	200	PRO	2.7
29	K1	91	PRO	2.7
14	N3	149	LEU	2.7
22	A1	205	ARG	2.7
25	E1	169	ILE	2.7
30	L6	22	ARG	2.7
33	R3	73	LEU	2.7
4	X4	22	TRP	2.7
6	c3	65	ALA	2.7
13	M4	128	PHE	2.7
21	i5	791	C	2.7
25	E5	45	ILE	2.7
9	g6	98	THR	2.7
9	g6	279	SER	2.7
17	Y3	125	VAL	2.7
20	e3	49	PHE	2.6
26	F5	135	ARG	2.7
32	Q6	48	GLN	2.6
24	D5	113	LEU	2.6

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Mol	Chain	Res	Type	RSRZ
28	I5	179	PRO	2.6
4	X6	54	LYS	2.6
6	c5	55	VAL	2.6
8	f3	79	LYS	2.6
14	N2	60	VAL	2.6
25	E4	155	LYS	2.6
20	e6	3	HIS	2.6
18	Z2	42	ASP	2.6
18	Z5	95	GLY	2.6
26	F5	96	ALA	2.6
13	M4	55	ASN	2.6
21	i2	746	C	2.6
12	J5	46	VAL	2.6
26	F6	28	VAL	2.6
21	i3	1825	A	2.6
28	I4	138	ASN	2.6
36	k4	97	VAL	2.6
5	a6	106	ALA	2.6
6	c1	65	ALA	2.6
10	C1	278	THR	2.6
26	F1	25	THR	2.6
30	L1	50	ALA	2.6
21	i6	137	U	2.6
33	R6	38	ILE	2.6
18	Z6	57	LYS	2.6
28	I3	143	LYS	2.6
30	L1	32	LYS	2.6
24	D6	217	ILE	2.6
31	P3	92	SER	2.6
4	X1	118	VAL	2.6
24	D4	206	ASP	2.6
12	J2	106	LEU	2.6
25	E4	139	LEU	2.6
30	L2	75	GLY	2.6
17	Y1	117	VAL	2.6
27	H3	185	VAL	2.6
26	F5	35	LEU	2.6
26	F5	203	ASN	2.6
28	I5	190	LEU	2.6
33	R5	83	ASN	2.6
9	g1	80	SER	2.6
19	b4	53	VAL	2.6

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Mol	Chain	Res	Type	RSRZ
24	D3	91	VAL	2.6
13	M1	73	GLN	2.6
24	D6	75	LYS	2.6
1	T4	20	ALA	2.6
29	K6	89	ILE	2.6
21	i5	347	G	2.6
32	Q6	45	ARG	2.6
30	L3	54	THR	2.6
30	L3	25	LEU	2.6
5	a6	17	HIS	2.6
15	O3	128	ARG	2.6
26	F4	64	ALA	2.6
24	D3	172	VAL	2.6
2	U3	42	GLY	2.6
11	G4	166	GLY	2.6
12	J5	107	GLU	2.6
27	H1	91	HIS	2.6
9	g2	44	LYS	2.6
20	e4	52	LYS	2.6
22	A2	114	ALA	2.6
24	D3	18	LYS	2.6
24	D4	202	LYS	2.6
9	g5	308	ARG	2.6
28	I4	151	GLU	2.6
32	Q4	110	ASP	2.6
32	Q5	123	ASP	2.6
33	R6	76	GLU	2.6
16	W1	121	THR	2.6
25	E1	78	THR	2.6
11	G4	35	GLU	2.6
26	F1	107	ASN	2.6
33	R6	50	ILE	2.6
14	N2	27	LYS	2.6
27	H4	146	VAL	2.6
30	L2	35	ARG	2.6
5	a3	34	LYS	2.6
19	b5	2	PRO	2.6
27	H6	16	PRO	2.6
30	L6	120	VAL	2.6
37	l3	116	THR	2.6
21	i4	836	G	2.6
34	S5	125	HIS	2.6

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Mol	Chain	Res	Type	RSRZ
4	X6	102	VAL	2.6
8	f3	122	PRO	2.6
26	F6	39	ILE	2.6
29	K1	11	ILE	2.6
10	C5	127	PHE	2.6
4	X5	57	VAL	2.6
13	M3	50	CYS	2.6
20	e2	51	LYS	2.6
30	L1	42	LEU	2.6
33	R5	92	ASP	2.6
21	i4	1294	G	2.6
26	F3	203	ASN	2.6
29	K2	7	ASN	2.6
5	a3	65	PRO	2.6
15	O5	75	MET	2.6
8	f5	83	LYS	2.6
15	O3	130	GLU	2.6
25	E2	89	VAL	2.6
30	L4	42	LEU	2.6
16	W4	100	GLY	2.6
6	c3	6	VAL	2.6
21	i5	1418	C	2.6
21	i6	1740	C	2.6
26	F1	149	GLN	2.6
26	F6	41	VAL	2.6
28	I1	41	ARG	2.6
28	I2	138	ASN	2.6
28	I4	129	LEU	2.6
28	I6	62	VAL	2.6
11	G6	218	LYS	2.6
23	B2	141	GLY	2.6
24	D6	218	LEU	2.6
30	L4	47	PRO	2.6
20	e4	15	GLN	2.6
24	D4	165	ASN	2.6
25	E5	230	LYS	2.6
10	C5	234	GLY	2.6
21	i2	133	C	2.6
2	U6	83	ARG	2.5
21	i4	183	G	2.5
29	K4	37	ASP	2.6
4	X5	96	GLU	2.5

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Mol	Chain	Res	Type	RSRZ
6	c1	7	GLN	2.5
25	E5	37	LYS	2.5
27	H5	51	ILE	2.5
37	l2	114	LYS	2.5
26	F1	64	ALA	2.5
16	W4	101	PHE	2.5
30	L3	56	ILE	2.5
37	l4	139	ILE	2.5
13	M5	51	VAL	2.5
24	D2	209	SER	2.5
4	X6	126	ALA	2.5
21	i2	752	G	2.5
10	C1	109	ILE	2.5
22	A5	100	ALA	2.5
13	M3	130	CYS	2.5
15	O2	86	LYS	2.5
17	Y5	126	GLY	2.5
32	Q2	14	GLY	2.5
5	a1	102	ARG	2.5
30	L5	54	THR	2.5
25	E2	149	TYR	2.5
33	R5	38	ILE	2.5
21	i1	132	U	2.5
21	i3	785	C	2.5
24	D1	63	GLY	2.5
27	H3	142	LYS	2.5
34	S1	116	LYS	2.5
17	Y2	117	VAL	2.5
4	X6	133	LEU	2.5
11	G4	232	ARG	2.5
17	Y3	113	ARG	2.5
25	E4	56	LEU	2.5
30	L1	24	LEU	2.5
15	O3	94	HIS	2.5
24	D4	108	LYS	2.5
27	H3	141	GLY	2.5
33	R6	64	GLY	2.5
15	O5	16	SER	2.5
25	E1	44	LEU	2.5
30	L1	44	PHE	2.5
30	L4	99	TYR	2.5
36	k1	62	LEU	2.5

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Mol	Chain	Res	Type	RSRZ
37	l6	129	THR	2.5
9	g5	104	HIS	2.5
13	M4	132	LYS	2.5
21	i6	1382	A	2.5
27	H1	90	LYS	2.5
28	I4	139	LYS	2.5
25	E1	18	TRP	2.5
23	B3	26	SER	2.5
26	F6	92	ILE	2.5
30	L6	117	PHE	2.5
30	L2	22	ARG	2.5
24	D3	62	LYS	2.5
30	L3	20	LYS	2.5
24	D4	212	GLU	2.5
25	E2	161	GLN	2.5
25	E5	23	LEU	2.5
27	H3	180	LEU	2.5
2	U5	76	THR	2.5
34	S4	8	LYS	2.5
24	D5	198	ILE	2.5
1	T6	26	GLY	2.5
16	W1	60	LYS	2.5
17	Y1	118	ARG	2.5
18	Z1	45	ASN	2.5
25	E1	197	ASN	2.5
27	H3	143	ARG	2.5
10	C2	277	HIS	2.5
10	C6	277	HIS	2.5
15	O1	23	GLU	2.5
16	W4	41	MET	2.5
22	A1	169	HIS	2.5
26	F5	68	ILE	2.5
30	L1	93	LEU	2.5
37	l3	180	GLU	2.5
9	g1	11	LEU	2.5
16	W4	62	VAL	2.5
18	Z3	52	LYS	2.5
23	B2	95	ASN	2.5
26	F5	198	ARG	2.5
28	I1	172	LEU	2.5
28	I5	59	ARG	2.5
33	R4	120	THR	2.5

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Mol	Chain	Res	Type	RSRZ
26	F1	38	TYR	2.5
30	L5	52	GLU	2.5
24	D1	151	LYS	2.5
26	F1	33	ILE	2.5
26	F1	159	ARG	2.5
33	R3	23	ARG	2.5
11	G5	204	GLU	2.5
18	Z1	106	GLN	2.5
24	D4	120	TYR	2.5
13	M3	118	SER	2.5
21	i1	1825	A	2.5
27	H1	188	GLU	2.5
29	K6	18	GLU	2.5
10	C6	212	LYS	2.5
18	Z1	98	LYS	2.5
27	H4	154	ILE	2.5
30	L4	70	GLY	2.5
5	a5	50	VAL	2.5
6	c1	11	LEU	2.5
25	E5	48	LEU	2.5
28	I6	82	VAL	2.5
30	L5	116	CYS	2.5
2	U4	99	LYS	2.5
4	X1	105	PHE	2.5
28	I1	43	ILE	2.5
15	O4	63	LYS	2.5
26	F6	47	LYS	2.5
11	G5	206	ALA	2.5
11	G6	176	ILE	2.5
20	e6	47	PRO	2.5
33	R6	15	VAL	2.5
19	b1	60	SER	2.5
22	A5	102	ARG	2.5
28	I3	152	ARG	2.5
34	S3	127	TRP	2.5
34	S6	142	ARG	2.5
2	U6	117	ALA	2.5
1	T5	32	GLU	2.5
4	X2	141	PRO	2.5
7	d5	43	PHE	2.5
21	i1	1425	G	2.5
21	i4	730	C	2.5

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Mol	Chain	Res	Type	RSRZ
28	I6	44	HIS	2.5
29	K6	22	VAL	2.5
34	S6	76	GLN	2.5
9	g5	232	GLY	2.5
12	J2	66	LYS	2.5
25	E3	68	ARG	2.5
34	S4	14	ARG	2.5
15	O6	140	THR	2.5
16	W6	26	LEU	2.5
26	F5	133	THR	2.5
37	I4	164	ILE	2.5
16	W3	45	GLY	2.5
21	i2	884	C	2.5
36	k6	102	ILE	2.5
21	i3	852	G	2.5
11	G6	160	LYS	2.5
13	M1	132	LYS	2.5
15	O3	113	GLN	2.5
26	F2	203	ASN	2.5
33	R5	127	ASN	2.5
26	F5	55	ARG	2.5
15	O5	80	ASP	2.5
28	I3	161	LEU	2.5
23	B4	100	PHE	2.5
4	X1	73	GLN	2.5
6	c1	45	ASN	2.5
6	c2	47	LYS	2.5
18	Z4	51	ASP	2.5
21	i2	325	C	2.5
26	F4	136	ARG	2.5
23	B5	90	ASP	2.5
24	D5	11	PHE	2.5
27	H1	61	ILE	2.5
31	P6	78	THR	2.5
37	I1	169	ASP	2.5
37	I4	137	PHE	2.5
11	G4	212	LEU	2.5
18	Z3	99	LEU	2.5
7	d6	48	LYS	2.5
18	Z6	78	LYS	2.5
22	A5	139	TYR	2.5
26	F5	141	VAL	2.5

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Mol	Chain	Res	Type	RSRZ
27	H1	86	LYS	2.5
28	I2	38	ILE	2.5
30	L6	16	ILE	2.5
34	S2	14	ARG	2.5
23	B1	90	ASP	2.5
10	C5	89	LYS	2.4
10	C5	129	ALA	2.4
11	G3	35	GLU	2.4
26	F2	45	TYR	2.4
28	I2	133	GLU	2.4
34	S6	144	ARG	2.4
36	k1	97	VAL	2.4
36	k6	109	ALA	2.4
32	Q2	110	ASP	2.4
4	X1	102	VAL	2.4
5	a6	102	ARG	2.4
9	g3	233	GLY	2.4
24	D3	94	ARG	2.4
24	D6	117	ARG	2.4
26	F3	22	LYS	2.4
32	Q4	64	ALA	2.4
33	R1	90	ALA	2.4
34	S1	33	ILE	2.4
34	S6	15	VAL	2.4
2	U3	60	THR	2.4
25	E6	18	TRP	2.4
26	F5	103	LEU	2.4
32	Q2	57	LEU	2.4
34	S1	99	LEU	2.4
15	O5	46	ASP	2.4
27	H1	10	LYS	2.4
27	H1	191	GLU	2.4
28	I6	104	ILE	2.4
31	P6	106	GLU	2.4
33	R5	23	ARG	2.4
20	e2	59	SER	2.4
33	R4	110	ASP	2.4
34	S3	117	ILE	2.4
37	l6	136	THR	2.4
5	a1	100	ARG	2.4
9	g1	12	LYS	2.4
28	I3	192	GLY	2.4

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Mol	Chain	Res	Type	RSRZ
16	W4	69	LEU	2.4
25	E5	153	LEU	2.4
2	U4	115	THR	2.4
3	V6	82	ASN	2.4
13	M5	127	TYR	2.4
23	B3	69	VAL	2.4
24	D6	136	VAL	2.4
25	E6	220	THR	2.4
31	P3	89	MET	2.4
3	V4	14	PRO	2.4
30	L1	33	LEU	2.4
21	i4	880	G	2.4
22	A6	34	MET	2.4
2	U3	61	LEU	2.4
11	G3	204	GLU	2.4
12	J5	2	PRO	2.4
27	H3	133	LEU	2.4
25	E2	198	ARG	2.4
27	H5	50	GLU	2.4
37	l2	191	GLU	2.4
15	O2	113	GLN	2.4
24	D4	137	VAL	2.4
27	H5	75	ILE	2.4
6	c1	21	THR	2.4
11	G3	76	LEU	2.4
4	X5	121	LYS	2.4
4	X6	29	LYS	2.4
9	g6	44	LYS	2.4
17	Y4	126	GLY	2.4
13	M4	95	ASP	2.4
24	D3	90	LYS	2.4
29	K2	30	PRO	2.4
30	L3	30	LYS	2.4
21	i6	749	U	2.4
21	i6	877	C	2.4
26	F2	107	ASN	2.4
34	S2	116	LYS	2.4
36	k4	110	ASN	2.4
9	g1	265	ILE	2.4
18	Z6	61	GLU	2.4
24	D5	89	GLU	2.4
26	F5	33	ILE	2.4

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Mol	Chain	Res	Type	RSRZ
28	I5	191	GLU	2.4
30	L4	51	ILE	2.4
2	U4	39	LEU	2.4
27	H4	34	SER	2.4
12	J4	66	LYS	2.4
25	E1	168	LYS	2.4
29	K1	19	GLY	2.4
16	W3	37	PHE	2.4
1	T4	110	LEU	2.4
6	c1	6	VAL	2.4
7	d5	44	ARG	2.4
10	C6	105	GLU	2.4
10	C6	106	VAL	2.4
11	G6	226	GLU	2.4
13	M2	64	LEU	2.4
18	Z4	96	LEU	2.4
22	A2	102	ARG	2.4
29	K6	39	ASN	2.4
33	R5	126	MET	2.4
5	a6	107	ALA	2.4
22	A1	33	GLN	2.4
13	M6	58	GLU	2.4
24	D4	146	ARG	2.4
4	X1	117	GLY	2.4
9	g4	281	ALA	2.4
23	B4	126	ASP	2.4
30	L1	17	PHE	2.4
22	A5	30	LEU	2.4
30	L2	52	GLU	2.4
30	L5	120	VAL	2.4
1	T4	51	ASN	2.4
21	i1	731	G	2.4
21	i5	306	C	2.4
25	E6	2	ALA	2.4
28	I6	159	SER	2.4
4	X5	94	ILE	2.4
5	a3	73	TYR	2.4
11	G5	213	LEU	2.4
23	B2	52	THR	2.4
26	F5	99	ILE	2.4
28	I5	124	LYS	2.4
37	l6	119	LYS	2.4

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Mol	Chain	Res	Type	RSRZ
17	Y6	74	MET	2.4
21	i3	294	U	2.4
26	F1	198	ARG	2.4
30	L5	118	ARG	2.4
15	O5	112	ALA	2.4
4	X1	50	ILE	2.4
28	I4	157	LYS	2.4
33	R5	40	ILE	2.4
4	X4	5	ARG	2.4
5	a5	90	GLU	2.4
24	D5	216	GLU	2.4
37	l3	130	ARG	2.4
5	a5	63	VAL	2.4
15	O2	116	LEU	2.4
23	B1	54	GLY	2.4
23	B3	43	ASN	2.4
25	E3	169	ILE	2.4
26	F2	22	LYS	2.4
32	Q3	56	LEU	2.4
4	X1	41	PHE	2.4
16	W3	47	ILE	2.4
22	A5	211	GLU	2.4
25	E5	97	GLU	2.4
30	L5	125	ILE	2.4
20	e3	15	GLN	2.4
22	A1	75	SER	2.4
26	F3	42	LYS	2.4
27	H3	146	VAL	2.4
6	c3	57	THR	2.4
15	O4	85	CYS	2.4
19	b1	12	PRO	2.4
30	L3	28	THR	2.4
30	L4	63	THR	2.4
31	P3	114	HIS	2.4
10	C5	107	LEU	2.4
26	F5	197	GLU	2.4
15	O1	44	VAL	2.4
15	O2	29	GLY	2.4
28	I5	122	GLY	2.4
37	l2	181	LYS	2.4
4	X3	40	PRO	2.4
5	a5	101	PHE	2.4

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Mol	Chain	Res	Type	RSRZ
23	B1	58	ALA	2.4
12	J2	43	VAL	2.4
4	X1	91	LEU	2.4
6	c2	26	GLN	2.4
13	M1	46	GLN	2.4
27	H4	153	LEU	2.4
34	S6	48	ALA	2.4
16	W6	123	GLY	2.4
21	i2	307	G	2.4
26	F4	41	VAL	2.4
33	R3	119	VAL	2.4
9	g4	225	LYS	2.4
28	I5	153	LYS	2.4
9	g5	163	PRO	2.4
10	C5	160	LEU	2.4
15	O3	26	ASN	2.4
15	O3	90	ILE	2.4
18	Z6	64	ASN	2.4
25	E2	123	LEU	2.4
25	E6	216	ASN	2.4
25	E6	186	GLY	2.4
15	O3	86	LYS	2.4
4	X1	81	ILE	2.4
22	A6	60	LEU	2.4
30	L4	16	ILE	2.4
9	g4	134	THR	2.4
15	O2	46	ASP	2.4
27	H5	168	HIS	2.4
28	I1	197	PHE	2.3
22	A3	159	ILE	2.3
9	g4	180	ALA	2.3
4	X6	97	ASN	2.3
7	d6	44	ARG	2.3
22	A1	119	PRO	2.3
27	H1	168	HIS	2.3
30	L4	61	PRO	2.3
10	C1	124	PHE	2.3
16	W3	54	ASP	2.3
27	H3	50	GLU	2.3
13	M1	45	ARG	2.3
2	U4	109	GLY	2.3
18	Z3	110	THR	2.3

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Mol	Chain	Res	Type	RSRZ
24	D4	182	LEU	2.3
28	I1	192	GLY	2.3
6	c5	47	LYS	2.3
25	E2	122	LYS	2.3
29	K6	17	LYS	2.3
30	L3	111	VAL	2.3
25	E2	181	CYS	2.3
26	F1	132	GLY	2.3
26	F3	130	ARG	2.3
25	E2	75	LYS	2.3
12	J4	114	VAL	2.3
2	U6	24	LEU	2.3
15	O5	122	SER	2.3
34	S5	4	VAL	2.3
10	C5	162	ILE	2.3
13	M4	96	ARG	2.3
25	E1	47	PHE	2.3
25	E6	15	PRO	2.3
28	I1	183	GLY	2.3
24	D5	211	VAL	2.3
30	L6	37	TYR	2.3
2	U2	104	ILE	2.3
2	U4	83	ARG	2.3
31	P3	95	GLY	2.3
1	T1	141	ALA	2.3
22	A6	149	ASN	2.3
23	B4	127	VAL	2.3
33	R6	51	ALA	2.3
2	U4	74	SER	2.3
37	l5	137	PHE	2.3
12	J5	112	THR	2.3
21	i5	1767	C	2.3
25	E6	102	ILE	2.3
30	L1	86	ILE	2.3
34	S4	97	GLN	2.3
34	S4	142	ARG	2.3
36	k4	111	ILE	2.3
25	E5	36	HIS	2.3
26	F3	14	THR	2.3
23	B6	40	ASN	2.3
24	D4	32	ASP	2.3
25	E6	263	GLY	2.3

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Mol	Chain	Res	Type	RSRZ
13	M3	62	VAL	2.3
14	N3	148	ALA	2.3
22	A5	124	VAL	2.3
22	A5	156	TYR	2.3
24	D4	141	LYS	2.3
30	L6	52	GLU	2.3
10	C2	109	ILE	2.3
27	H2	139	ILE	2.3
34	S6	30	ILE	2.3
33	R5	42	PRO	2.3
6	c1	32	VAL	2.3
11	G4	221	LYS	2.3
13	M1	48	HIS	2.3
13	M1	126	GLU	2.3
15	O5	28	PHE	2.3
16	W3	62	VAL	2.3
18	Z1	110	THR	2.3
22	A1	212	LYS	2.3
30	L4	23	VAL	2.3
34	S2	99	LEU	2.3
23	B2	121	ILE	2.3
24	D6	210	ILE	2.3
3	V1	70	LEU	2.3
9	g1	261	LEU	2.3
25	E1	127	ARG	2.3
26	F1	127	ARG	2.3
27	H6	130	LEU	2.3
28	I5	58	LEU	2.3
30	L1	25	LEU	2.3
30	L3	123	GLY	2.3
32	Q1	135	PRO	2.3
15	O2	28	PHE	2.3
15	O5	135	ILE	2.3
22	A1	97	THR	2.3
22	A3	114	ALA	2.3
23	B2	94	LYS	2.3
28	I6	157	LYS	2.3
34	S5	126	PHE	2.3
21	i4	1418	C	2.3
4	X1	72	VAL	2.3
5	a6	69	VAL	2.3
15	O1	116	LEU	2.3

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Mol	Chain	Res	Type	RSRZ
18	Z5	111	ARG	2.3
24	D3	138	VAL	2.3
24	D4	116	ARG	2.3
26	F1	24	SER	2.3
21	i3	867	G	2.3
7	d3	53	ILE	2.3
26	F4	128	ILE	2.3
29	K1	77	GLN	2.3
23	B1	110	MET	2.3
12	J6	168	GLY	2.3
35	j4	23	ARG	2.3
4	X1	138	LYS	2.3
11	G4	167	LYS	2.3
25	E2	162	ILE	2.3
28	I6	158	ILE	2.3
15	O5	76	LEU	2.3
4	X2	41	PHE	2.3
5	a3	22	ARG	2.3
12	J3	43	VAL	2.3
19	b6	53	VAL	2.3
26	F4	55	ARG	2.3
30	L1	47	PRO	2.3
33	R1	119	VAL	2.3
9	g1	260	ASP	2.3
21	i2	786	G	2.3
21	i6	794	A	2.3
21	i6	908	A	2.3
34	S2	142	ARG	2.3
34	S4	71	MET	2.3
21	i1	745	C	2.3
31	P2	10	ARG	2.3
9	g1	6	THR	2.3
12	J2	102	ILE	2.3
12	J5	92	MET	2.3
13	M3	67	ALA	2.3
21	i5	731	G	2.3
23	B5	97	LEU	2.3
27	H1	85	LYS	2.3
28	I2	69	SER	2.3
33	R6	16	ILE	2.3
20	e2	22	GLN	2.3
26	F2	65	GLN	2.3

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Mol	Chain	Res	Type	RSRZ
4	X2	43	GLY	2.3
21	i5	346	C	2.3
24	D6	213	PRO	2.3
36	k5	61	ILE	2.3
2	U3	38	ASP	2.3
3	V4	56	CYS	2.3
29	K1	61	GLN	2.3
34	S4	49	ASP	2.3
30	L3	15	THR	2.3
21	i3	731	G	2.3
23	B2	51	ARG	2.3
9	g1	220	ASP	2.3
15	O4	44	VAL	2.3
28	I3	150	ASP	2.3
15	O1	17	LEU	2.3
23	B4	89	GLU	2.3
33	R5	41	ILE	2.3
10	C5	245	SER	2.3
22	A5	108	PHE	2.3
22	A5	123	VAL	2.3
28	I2	159	SER	2.3
30	L6	48	LYS	2.3
23	B1	124	HIS	2.3
9	g1	98	THR	2.3
12	J4	168	GLY	2.3
26	F3	106	GLU	2.3
26	F4	31	ASN	2.3
34	S3	122	GLY	2.3
37	l3	163	GLU	2.3
5	a1	69	VAL	2.3
10	C5	279	ARG	2.3
13	M1	129	LYS	2.3
15	O1	108	PRO	2.3
24	D1	148	LYS	2.3
24	D2	149	SER	2.3
32	Q5	6	PRO	2.3
10	C1	277	HIS	2.3
21	i1	896	U	2.3
28	I6	55	TYR	2.3
30	L4	37	TYR	2.3
37	l3	177	VAL	2.3
25	E5	80	ILE	2.3

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Mol	Chain	Res	Type	RSRZ
2	U4	25	THR	2.3
19	b6	13	GLU	2.3
22	A6	36	GLN	2.3
25	E6	52	LEU	2.3
32	Q6	30	GLY	2.3
2	U4	34	LYS	2.3
14	N1	85	PRO	2.3
26	F5	146	ARG	2.3
32	Q3	6	PRO	2.3
5	a2	81	SER	2.2
12	J6	119	LEU	2.2
13	M6	64	LEU	2.2
21	i1	904	A	2.2
23	B4	30	TRP	2.2
30	L3	96	ILE	2.2
18	Z5	115	GLY	2.2
21	i4	897	U	2.2
15	O3	95	ILE	2.2
15	O5	72	TYR	2.2
21	i6	307	G	2.2
16	W1	26	LEU	2.2
25	E5	78	THR	2.2
25	E5	182	MET	2.2
1	T4	29	LYS	2.2
29	K1	22	VAL	2.2
2	U5	89	ILE	2.2
22	A3	51	LEU	2.2
32	Q6	52	LEU	2.2
4	X6	43	GLY	2.2
2	U4	38	ASP	2.2
10	C1	192	LEU	2.2
11	G1	208	GLU	2.2
13	M6	57	ASP	2.2
24	D1	136	VAL	2.2
21	i5	788	G	2.2
24	D3	195	THR	2.2
28	I2	120	PRO	2.2
29	K5	89	ILE	2.2
9	g3	222	ASN	2.2
31	P2	13	ARG	2.2
4	X5	125	VAL	2.2
15	O3	18	GLY	2.2

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Mol	Chain	Res	Type	RSRZ
23	B4	67	PHE	2.2
4	X4	28	LYS	2.2
28	I6	163	GLU	2.2
10	C6	96	PHE	2.2
12	J3	6	SER	2.2
24	D4	177	LEU	2.2
25	E1	178	GLY	2.2
15	O3	33	ILE	2.2
29	K2	85	LEU	2.2
12	J5	43	VAL	2.2
15	O5	99	ALA	2.2
17	Y2	124	ASN	2.2
24	D4	36	GLY	2.2
24	D4	100	ALA	2.2
25	E6	12	VAL	2.2
27	H1	83	LEU	2.2
30	L1	56	ILE	2.2
4	X1	79	LYS	2.2
18	Z3	98	LYS	2.2
2	U6	61	LEU	2.2
6	c1	27	CYS	2.2
28	I1	185	ALA	2.2
34	S2	140	GLY	2.2
37	l2	160	GLY	2.2
26	F3	38	TYR	2.2
2	U4	30	LYS	2.2
2	U4	62	ARG	2.2
2	U6	27	ARG	2.2
16	W3	39	THR	2.2
10	C6	233	LEU	2.2
11	G3	151	ASP	2.2
36	k5	40	LEU	2.2
2	U5	36	CYS	2.2
19	b4	59	CYS	2.2
8	f1	113	LYS	2.2
16	W4	130	PHE	2.2
25	E2	188	ASN	2.2
9	g3	252	THR	2.2
13	M5	52	LEU	2.2
18	Z4	41	ARG	2.2
22	A1	121	LEU	2.2
28	I3	18	ARG	2.2

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Mol	Chain	Res	Type	RSRZ
9	g4	224	GLY	2.2
10	C5	220	ASP	2.2
11	G6	229	ALA	2.2
13	M4	127	TYR	2.2
15	O4	123	GLY	2.2
24	D4	122	VAL	2.2
25	E6	187	ALA	2.2
25	E6	228	ILE	2.2
25	E6	231	GLY	2.2
33	R6	54	VAL	2.2
26	F3	16	ASP	2.2
29	K1	70	TYR	2.2
6	c1	44	ARG	2.2
11	G2	115	LYS	2.2
16	W4	65	LEU	2.2
21	i1	1318	G	2.2
29	K1	38	LYS	2.2
34	S2	127	TRP	2.2
26	F3	33	ILE	2.2
30	L3	5	GLN	2.2
26	F4	32	ASP	2.2
28	I2	117	TYR	2.2
2	U2	24	LEU	2.2
21	i2	1436	C	2.2
2	U4	60	THR	2.2
15	O1	35	ALA	2.2
19	b3	75	GLU	2.2
19	b3	81	ARG	2.2
25	E6	13	ALA	2.2
37	l3	164	ILE	2.2
2	U6	26	SER	2.2
21	i1	898	U	2.2
21	i5	1306	U	2.2
26	F1	97	PHE	2.2
26	F5	97	PHE	2.2
2	U2	114	VAL	2.2
2	U6	104	ILE	2.2
4	X6	81	ILE	2.2
21	i1	691	G	2.2
21	i4	691	G	2.2
32	Q6	20	THR	2.2
34	S5	56	ALA	2.2

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Mol	Chain	Res	Type	RSRZ
12	J6	93	LYS	2.2
16	W3	53	ILE	2.2
26	F4	194	ASP	2.2
31	P3	94	VAL	2.2
4	X3	82	THR	2.2
4	X1	52	LEU	2.2
12	J4	182	GLN	2.2
24	D5	203	PRO	2.2
28	I1	120	PRO	2.2
31	P6	69	PRO	2.2
9	g3	254	PRO	2.2
9	g4	49	GLU	2.2
10	C5	59	GLU	2.2
19	b6	32	PHE	2.2
21	i2	785	C	2.2
21	i4	748	C	2.2
21	i4	876	C	2.2
25	E1	35	PRO	2.2
28	I2	92	ARG	2.2
33	R5	12	ALA	2.2
28	I6	96	LEU	2.2
1	T3	27	LYS	2.2
4	X6	122	VAL	2.2
17	Y4	117	VAL	2.2
24	D1	150	MET	2.2
5	a4	73	TYR	2.2
13	M1	64	LEU	2.2
15	O1	128	ARG	2.2
18	Z2	111	ARG	2.2
25	E5	30	ARG	2.2
27	H4	143	ARG	2.2
24	D4	179	GLN	2.2
28	I6	135	GLU	2.2
27	H4	164	ASN	2.2
12	J2	86	VAL	2.2
25	E2	183	VAL	2.2
15	O1	86	LYS	2.2
10	C4	251	LEU	2.2
21	i1	697	G	2.2
25	E6	175	PHE	2.2
29	K2	84	HIS	2.2
30	L4	48	LYS	2.2

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Mol	Chain	Res	Type	RSRZ
26	F1	195	GLU	2.2
36	k4	156	GLU	2.2
12	J5	157	ILE	2.2
25	E4	147	ILE	2.2
8	f2	103	LEU	2.2
22	A5	129	ALA	2.2
23	B1	59	SER	2.2
5	a5	100	ARG	2.2
28	I5	56	ARG	2.2
34	S4	21	ASP	2.2
3	V1	52	THR	2.2
14	N4	22	VAL	2.2
4	X3	37	LYS	2.2
10	C4	136	HIS	2.2
10	C5	241	PHE	2.2
11	G4	95	LYS	2.2
21	i2	1783	C	2.2
26	F1	188	TYR	2.2
27	H5	47	ALA	2.2
32	Q2	52	LEU	2.2
30	L4	123	GLY	2.2
30	L5	123	GLY	2.2
26	F5	134	VAL	2.2
1	T1	142	ASN	2.2
4	X6	105	PHE	2.2
24	D4	88	ALA	2.2
24	D6	201	LYS	2.2
31	P3	116	LEU	2.2
19	b4	60	SER	2.2
2	U6	84	ILE	2.2
25	E2	169	ILE	2.2
15	O2	47	LEU	2.2
21	i3	134	C	2.2
21	i3	730	C	2.2
26	F4	93	VAL	2.2
30	L3	24	LEU	2.2
30	L3	57	ASP	2.2
30	L6	77	VAL	2.2
23	B4	97	LEU	2.2
4	X1	80	LYS	2.2
27	H4	15	LYS	2.2
32	Q4	89	SER	2.2

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Mol	Chain	Res	Type	RSRZ
25	E6	68	ARG	2.1
26	F1	62	ARG	2.1
4	X5	52	LEU	2.1
15	O6	97	LEU	2.1
16	W6	50	PHE	2.1
31	P3	49	LEU	2.1
23	B2	47	THR	2.1
21	i3	885	U	2.1
27	H1	164	ASN	2.1
24	D4	194	PRO	2.1
28	I2	82	VAL	2.1
29	K1	84	HIS	2.1
30	L1	39	ASN	2.1
21	i4	735	C	2.1
22	A5	209	GLU	2.1
24	D6	150	MET	2.1
15	O3	35	ALA	2.1
19	b5	50	ALA	2.1
21	i1	786	G	2.1
21	i4	692	G	2.1
22	A3	11	LYS	2.1
22	A5	33	GLN	2.1
29	K2	37	ASP	2.1
33	R2	19	LYS	2.1
12	J2	186	GLY	2.1
14	N1	58	HIS	2.1
25	E2	74	GLY	2.1
28	I5	70	GLU	2.1
31	P1	125	PRO	2.1
37	l6	137	PHE	2.1
9	g5	128	THR	2.1
22	A5	144	THR	2.1
25	E2	159	THR	2.1
4	X1	46	HIS	2.1
4	X4	122	VAL	2.1
30	L2	147	LYS	2.1
30	L3	86	ILE	2.1
26	F4	129	GLY	2.1
31	P6	129	GLY	2.1
10	C5	215	MET	2.1
15	O1	87	GLU	2.1
30	L1	27	GLU	2.1

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Mol	Chain	Res	Type	RSRZ
33	R1	87	GLU	2.1
4	X3	79	LYS	2.1
6	c1	54	ASP	2.1
13	M4	94	ILE	2.1
17	Y6	100	LYS	2.1
21	i5	751	G	2.1
23	B1	109	LYS	2.1
23	B3	30	TRP	2.1
24	D5	190	LEU	2.1
24	D6	12	VAL	2.1
30	L2	93	LEU	2.1
31	P4	35	GLN	2.1
21	i2	137	U	2.1
21	i3	689	U	2.1
23	B1	82	ARG	2.1
28	I6	192	GLY	2.1
3	V6	55	ILE	2.1
10	C5	174	ILE	2.1
14	N3	126	ALA	2.1
18	Z2	100	VAL	2.1
28	I2	96	LEU	2.1
30	L6	18	GLN	2.1
36	k5	62	LEU	2.1
2	U4	18	HIS	2.1
8	f3	124	ASP	2.1
37	l4	115	VAL	2.1
22	A1	79	SER	2.1
24	D3	184	ILE	2.1
27	H6	192	PHE	2.1
30	L2	49	GLU	2.1
21	i3	205	G	2.1
9	g3	276	SER	2.1
33	R5	86	PRO	2.1
34	S1	75	ARG	2.1
2	U6	119	ALA	2.1
23	B3	80	ALA	2.1
24	D3	25	LEU	2.1
20	e6	53	LYS	2.1
25	E6	111	VAL	2.1
26	F1	23	TRP	2.1
6	c1	35	MET	2.1
22	A1	187	GLY	2.1

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Mol	Chain	Res	Type	RSRZ
36	k4	113	CYS	2.1
37	l4	160	GLY	2.1
25	E1	80	ILE	2.1
26	F2	202	SER	2.1
25	E5	29	PRO	2.1
27	H3	60	ILE	2.1
3	V5	64	GLU	2.1
28	I1	125	LYS	2.1
37	l3	181	LYS	2.1
31	P2	70	MET	2.1
10	C1	81	ILE	2.1
4	X2	105	PHE	2.1
6	c2	40	ARG	2.1
21	i6	730	C	2.1
9	g6	55	PRO	2.1
11	G3	233	ARG	2.1
22	A2	207	PRO	2.1
24	D4	178	ARG	2.1
8	f2	81	LYS	2.1
11	G5	219	GLU	2.1
20	e4	53	LYS	2.1
22	A3	35	GLU	2.1
28	I6	133	GLU	2.1
15	O4	18	GLY	2.1
25	E2	236	ILE	2.1
2	U4	35	VAL	2.1
7	d6	49	ASP	2.1
9	g4	274	VAL	2.1
14	N6	61	ALA	2.1
22	A6	157	VAL	2.1
26	F4	111	VAL	2.1
30	L6	116	CYS	2.1
10	C5	140	GLY	2.1
10	C6	140	GLY	2.1
14	N5	138	ASN	2.1
15	O3	116	LEU	2.1
21	i1	867	G	2.1
21	i3	744	G	2.1
25	E2	230	LYS	2.1
25	E1	159	THR	2.1
26	F4	68	ILE	2.1
4	X6	71	ARG	2.1

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Mol	Chain	Res	Type	RSRZ
14	N4	150	VAL	2.1
27	H5	71	SER	2.1
30	L2	154	GLN	2.1
34	S4	125	HIS	2.1
9	g2	271	LYS	2.1
10	C4	145	LYS	2.1
21	i6	904	A	2.1
26	F5	72	LEU	2.1
26	F6	22	LYS	2.1
22	A5	65	ILE	2.1
25	E2	192	ILE	2.1
37	l4	180	GLU	2.1
17	Y3	123	ALA	2.1
26	F4	107	ASN	2.1
27	H5	46	THR	2.1
2	U2	86	LYS	2.1
2	U4	42	GLY	2.1
21	i4	1436	C	2.1
23	B2	126	ASP	2.1
34	S3	116	LYS	2.1
34	S6	77	TYR	2.1
13	M2	46	GLN	2.1
15	O5	62	VAL	2.1
21	i2	305	U	2.1
30	L6	80	MET	2.1
33	R2	57	LEU	2.1
18	Z5	42	ASP	2.1
12	J3	3	VAL	2.1
24	D3	37	VAL	2.1
24	D5	39	VAL	2.1
32	Q3	121	VAL	2.1
21	i6	310	C	2.1
25	E6	69	PHE	2.1
26	F4	63	LYS	2.1
26	F6	68	ILE	2.1
13	M1	113	ASP	2.1
21	i2	697	G	2.1
15	O5	78	ALA	2.1
23	B4	21	VAL	2.1
2	U5	108	PRO	2.1
8	f6	148	TYR	2.1
9	g3	285	GLN	2.1

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Mol	Chain	Res	Type	RSRZ
9	g2	225	LYS	2.1
9	g4	163	PRO	2.1
28	I4	146	GLN	2.1
25	E5	130	PHE	2.1
30	L4	72	ILE	2.1
34	S5	116	LYS	2.1
15	O6	112	ALA	2.1
24	D5	12	VAL	2.1
25	E5	32	SER	2.1
26	F6	48	TYR	2.1
4	X5	138	LYS	2.1
31	P6	70	MET	2.1
18	Z2	107	VAL	2.1
21	i3	1758	G	2.1
21	i4	796	G	2.1
36	k5	143	LEU	2.1
4	X6	82	THR	2.1
23	B4	217	MET	2.1
25	E6	149	TYR	2.1
32	Q2	32	ILE	2.1
9	g3	139	LYS	2.1
11	G4	235	SER	2.1
18	Z4	94	LYS	2.1
19	b3	2	PRO	2.1
24	D3	186	VAL	2.1
29	K2	87	PRO	2.1
30	L1	14	PRO	2.1
30	L1	48	LYS	2.1
33	R5	129	LYS	2.1
3	V6	19	ALA	2.1
12	J5	158	ASP	2.1
21	i6	306	C	2.1
24	D2	118	ALA	2.1
12	J5	159	PHE	2.1
29	K1	46	MET	2.1
9	g2	215	GLN	2.1
9	g5	233	GLY	2.1
13	M5	65	VAL	2.1
28	I3	20	PRO	2.1
34	S4	10	GLN	2.1
5	a3	90	GLU	2.1
21	i4	1784	G	2.1

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Mol	Chain	Res	Type	RSRZ
29	K1	30	PRO	2.1
32	Q2	92	LEU	2.1
33	R6	117	LEU	2.1
22	A2	4	ALA	2.1
34	S1	122	GLY	2.1
2	U6	118	ASP	2.0
4	X6	69	CYS	2.0
23	B4	212	VAL	2.0
25	E1	140	VAL	2.0
7	d5	47	ALA	2.0
9	g6	256	ILE	2.0
21	i3	880	G	2.0
21	i5	744	G	2.0
31	P3	84	ILE	2.0
26	F3	107	ASN	2.0
36	k5	156	GLU	2.0
4	X2	140	ARG	2.0
6	c2	68	LEU	2.0
10	C4	255	LEU	2.0
17	Y4	17	LEU	2.0
17	Y5	68	LYS	2.0
21	i5	186	C	2.0
23	B2	48	LEU	2.0
23	B4	137	LEU	2.0
29	K1	79	LEU	2.0
26	F4	47	LYS	2.0
28	I4	79	ILE	2.0
1	T4	28	LEU	2.0
28	I6	102	VAL	2.0
23	B2	46	LYS	2.0
30	L3	150	GLY	2.0
31	P1	127	LYS	2.0
33	R6	23	ARG	2.0
3	V5	19	ALA	2.0
4	X5	120	PHE	2.0
20	e2	20	ALA	2.0
21	i3	1382	A	2.0
22	A6	26	GLY	2.0
24	D4	158	ILE	2.0
24	D5	191	PRO	2.0
28	I1	156	ALA	2.0
23	B1	113	MET	2.0

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Mol	Chain	Res	Type	RSRZ
27	H1	180	LEU	2.0
4	X4	56	GLY	2.0
9	g3	250	ALA	2.0
22	A6	27	GLY	2.0
23	B5	100	PHE	2.0
24	D5	195	THR	2.0
31	P1	19	GLY	2.0
31	P2	127	LYS	2.0
32	Q4	118	THR	2.0
33	R1	50	ILE	2.0
19	b6	63	LEU	2.0
25	E2	180	LEU	2.0
9	g1	49	GLU	2.0
11	G4	222	GLU	2.0
26	F5	41	VAL	2.0
9	g2	12	LYS	2.0
9	g2	31	ILE	2.0
13	M4	45	ARG	2.0
14	N3	42	LYS	2.0
16	W3	21	GLY	2.0
9	g4	179	LEU	2.0
10	C3	277	HIS	2.0
10	C6	278	THR	2.0
24	D3	17	PHE	2.0
27	H4	7	LYS	2.0
28	I2	139	LYS	2.0
30	L1	54	THR	2.0
33	R4	129	LYS	2.0
21	i5	696	G	2.0
25	E4	222	LEU	2.0
27	H4	35	ASP	2.0
32	Q1	123	ASP	2.0
22	A5	140	VAL	2.0
36	k5	153	GLU	2.0
37	l2	180	GLU	2.0
7	d3	37	ASN	2.0
10	C5	195	LEU	2.0
13	M1	44	LYS	2.0
34	S4	41	ALA	2.0
37	l4	125	LYS	2.0
2	U6	110	VAL	2.0
16	W4	42	MET	2.0

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Mol	Chain	Res	Type	RSRZ
28	I5	102	VAL	2.0
13	M5	97	GLU	2.0
15	O2	90	ILE	2.0
34	S6	118	ARG	2.0
37	I4	138	GLU	2.0
6	c2	65	ALA	2.0
12	J6	66	LYS	2.0
15	O5	89	GLY	2.0
10	C1	209	VAL	2.0
21	i1	1507	G	2.0
27	H4	139	ILE	2.0
34	S4	20	ILE	2.0
15	O2	84	ARG	2.0
27	H3	99	ARG	2.0
34	S1	23	ARG	2.0
34	S4	63	GLU	2.0
17	Y2	126	GLY	2.0
6	c2	27	CYS	2.0
15	O3	21	VAL	2.0
16	W4	40	VAL	2.0
20	e2	3	HIS	2.0
22	A5	133	PRO	2.0
26	F5	118	ASN	2.0
30	L3	151	THR	2.0
31	P1	75	VAL	2.0
37	I5	136	THR	2.0
27	H3	119	SER	2.0
33	R6	40	ILE	2.0
9	g5	170	TRP	2.0
14	N5	54	LEU	2.0
21	i6	313	A	2.0
20	e5	51	LYS	2.0
22	A1	219	GLU	2.0
26	F5	176	GLU	2.0
34	S2	123	LEU	2.0
4	X2	40	PRO	2.0
13	M5	60	MET	2.0
18	Z6	62	VAL	2.0
21	i4	1285	G	2.0
21	i4	1318	G	2.0
21	i4	1758	G	2.0
6	c1	23	SER	2.0

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Mol	Chain	Res	Type	RSRZ
10	C5	109	ILE	2.0
6	c2	7	GLN	2.0
21	i5	132	U	2.0
25	E5	228	ILE	2.0
24	D6	176	LEU	2.0
36	k1	70	PHE	2.0
2	U3	30	LYS	2.0
5	a1	73	TYR	2.0
16	W3	48	GLY	2.0
22	A6	219	GLU	2.0
10	C6	184	VAL	2.0
25	E2	127	ARG	2.0
25	E3	126	VAL	2.0
26	F1	93	VAL	2.0
33	R3	81	ARG	2.0

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

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

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, 95th 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(\AA^2)	Q<0.9
38	ZN	f5	500	1/1	0.34	0.07	80,80,80,80	0
38	ZN	f4	500	1/1	0.59	0.10	80,80,80,80	0
38	ZN	f6	500	1/1	0.72	0.07	80,80,80,80	0
38	ZN	f2	500	1/1	0.84	0.12	80,80,80,80	0
38	ZN	f3	500	1/1	0.91	0.12	80,80,80,80	0
38	ZN	f1	500	1/1	0.98	0.13	80,80,80,80	0

6.5 Other polymers [i](#)

There are no such residues in this entry.