Full wwPDB EM Validation Report

Nov 19, 2022 – 09:12 pm GMT

PDB ID	:	6EPE
EMDB ID	:	EMD-3915
Title	:	Substrate processing state 26S proteasome (SPS2)
Authors	:	Guo, Q.; Lehmer, C.; Martinez-Sanchez, A.; Rudack, T.; Beck, F.; Hartmann, H.; Hipp, M.S.; Hartl, F.U.; Edbauer, D.; Baumeister, W.; Fernandez-Busna diego, R.
Deposited on	:	2017-10-11
Resolution	:	12.80 Å(reported)

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

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

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

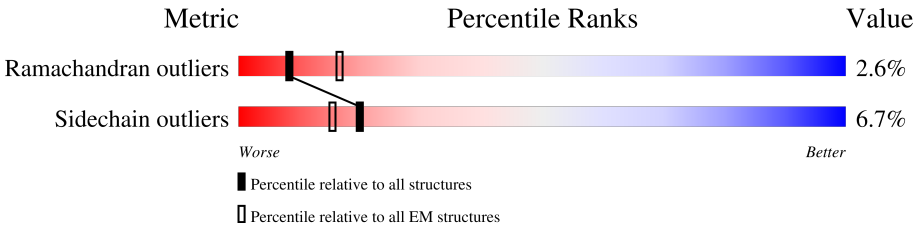
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 12.80 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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

Mol	Chain	Length	Quality of chain
1	A	246	11% 76% 22%
2	B	234	11% 73% 25%
3	C	261	13% 74% 18% 5%
4	D	254	14% 67% 25%
5	E	241	5% 78% 16%
6	F	263	70% 17% 10%
7	G	255	9% 73% 20%
8	1	238	10% 57% 23% 15%
9	2	277	17% 53% 21% 5% 21%

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Mol	Chain	Length	Quality of chain
10	3	205	13% 66% 27% 6%
11	4	201	17% 64% 27% 6%
12	5	263	10% 50% 22% 24%
13	6	240	18% 63% 23% 11%
14	7	263	15% 53% 24% 5% 18%
15	W	377	16% 40% 11% 48%
16	V	310	8% 74% 17% 7%
17	T	353	18% 55% 15% 5% 25%
18	Y	70	9% 27% 7% 66%
19	Z	908	39% 75% 21%
20	N	953	18% 74% 18% 5%
21	S	530	17% 68% 17% 5% 10%
22	P	456	28% 78% 19%
23	Q	422	22% 74% 23%
24	R	389	21% 73% 24%
25	U	320	17% 68% 17% 5% 10%
26	O	376	37% 76% 20%
27	H	433	12% 69% 18% 9%
28	I	440	14% 67% 17% 12%
29	K	418	15% 70% 20% 6%
30	L	403	21% 70% 23%
31	M	442	18% 71% 20% 6%
32	J	406	12% 73% 23%

2 Entry composition

There are 32 unique types of molecules in this entry. The entry contains 82758 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Proteasome subunit alpha type-6.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	246	1920	1215	322	369	14	0	0

- Molecule 2 is a protein called Proteasome subunit alpha type-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	234	1828	1166	311	344	7	0	0

- Molecule 3 is a protein called Proteasome subunit alpha type-4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	249	1960	1238	337	374	11	0	0

- Molecule 4 is a protein called Proteasome subunit alpha type-7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	246	1926	1209	340	371	6	0	0

- Molecule 5 is a protein called Proteasome subunit alpha type-5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E	233	1778	1114	296	358	10	0	0

- Molecule 6 is a protein called Proteasome subunit alpha type-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	F	238	1871	1170	337	353	11	0	0

- Molecule 7 is a protein called Proteasome subunit alpha type-3.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	G	245	Total	C	N	O	S	0	0
			1912	1212	326	362	12		

- Molecule 8 is a protein called Proteasome subunit beta type-6.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	1	202	Total	C	N	O	S	0	0
			1516	948	259	297	12		

- Molecule 9 is a protein called Proteasome subunit beta type-7.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	2	219	Total	C	N	O	S	0	0
			1651	1042	281	316	12		

- Molecule 10 is a protein called Proteasome subunit beta type-3.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	3	205	Total	C	N	O	S	0	0
			1600	1018	266	296	20		

- Molecule 11 is a protein called Proteasome subunit beta type-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	4	196	Total	C	N	O	S	0	0
			1572	1007	267	289	9		

- Molecule 12 is a protein called Proteasome subunit beta type-5.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	5	201	Total	C	N	O	S	0	0
			1560	984	272	295	9		

- Molecule 13 is a protein called Proteasome subunit beta type-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	6	213	Total	C	N	O	S	0	0
			1659	1050	284	315	10		

- Molecule 14 is a protein called Proteasome subunit beta type-4.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	7	216	Total	C	N	O	S	0	0
			1686	1065	292	317	12		

- Molecule 15 is a protein called 26S proteasome subunit S5a.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	W	195	Total	C	N	O	S	0	0
			1480	922	265	285	8		

- Molecule 16 is a protein called Proteasome (Prosome, macropain) 26S subunit, non-ATPase, 14.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	V	289	Total	C	N	O	S	0	0
			2272	1438	391	424	19		

- Molecule 17 is a protein called Proteasome 26S subunit, non-ATPase 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	T	263	Total	C	N	O	S	0	0
			2149	1390	351	398	10		

- Molecule 18 is a protein called RCG28037.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	Y	24	Total	C	N	O	S	0	0
			199	120	34	44	1		

- Molecule 19 is a protein called 26S proteasome non-ATPase regulatory subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	Z	896	Total	C	N	O	S	0	0
			6913	4342	1178	1346	47		

- Molecule 20 is a protein called 26S proteasome non-ATPase regulatory subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	N	905	Total	C	N	O	S	0	0
			7082	4487	1193	1356	46		

- Molecule 21 is a protein called Proteasome (Prosome, macropain) 26S subunit, non-ATPase, 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	S	476	Total	C	N	O	S	0	0
			3844	2438	685	707	14		

- Molecule 22 is a protein called Proteasome (Prosome, macropain) 26S subunit, non-ATPase, 12.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	P	456	Total	C	N	O	S	0	0
			3706	2338	635	709	24		

- Molecule 23 is a protein called 26S proteasome non-ATPase regulatory subunit 11.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	Q	422	Total	C	N	O	S	0	0
			3335	2116	567	639	13		

- Molecule 24 is a protein called Proteasome (Prosome, macropain) 26S subunit, non-ATPase, 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	R	389	Total	C	N	O	S	0	0
			3204	2042	542	600	20		

- Molecule 25 is a protein called Proteasome (Prosome, macropain) 26S subunit, non-ATPase, 7 (Predicted).

Mol	Chain	Residues	Atoms					AltConf	Trace
25	U	288	Total	C	N	O	S	0	0
			2299	1470	395	428	6		

- Molecule 26 is a protein called 26S proteasome non-ATPase regulatory subunit 13.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	O	376	Total	C	N	O	S	0	0
			3011	1918	514	564	15		

- Molecule 27 is a protein called 26S proteasome regulatory subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	H	396	Total	C	N	O	S	0	0
			3113	1960	546	589	18		

- Molecule 28 is a protein called 26S proteasome regulatory subunit 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	I	385	Total	C	N	O	S	0	0
			3042	1913	516	598	15		

- Molecule 29 is a protein called 26S proteasome regulatory subunit 6B.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	K	391	Total	C	N	O	S	0	0
			3126	1978	535	600	13		

- Molecule 30 is a protein called Proteasome 26S subunit, ATPase 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	L	389	Total	C	N	O	S	0	0
			3098	1947	552	582	17		

- Molecule 31 is a protein called 26S proteasome regulatory subunit 6A.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	M	415	Total	C	N	O	S	0	0
			3252	2038	561	635	18		

- Molecule 32 is a protein called 26S proteasome regulatory subunit 8.

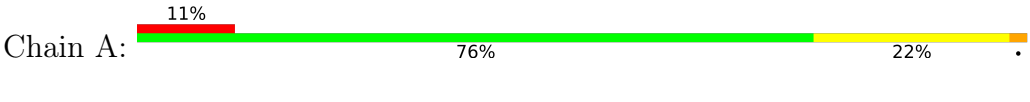
Mol	Chain	Residues	Atoms					AltConf	Trace
32	J	406	Total	C	N	O	S	0	0
			3194	2006	569	599	20		

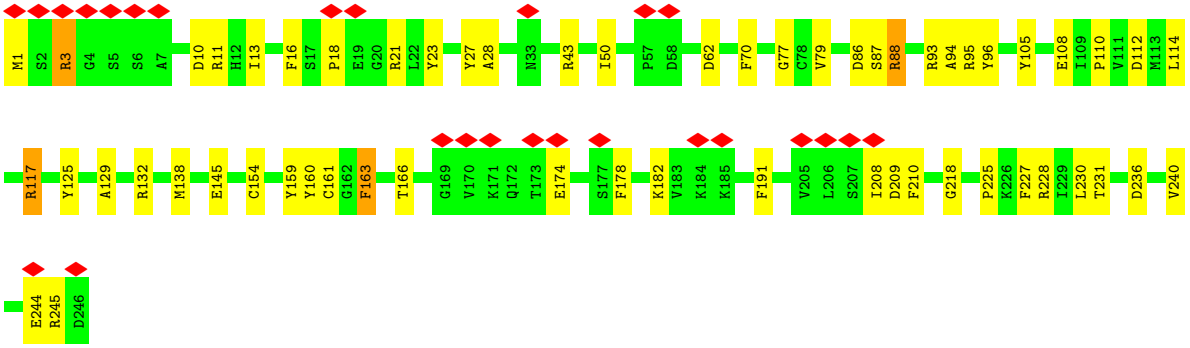
3 Residue-property plots (i)

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

• Molecule 1: Proteasome subunit alpha type-6

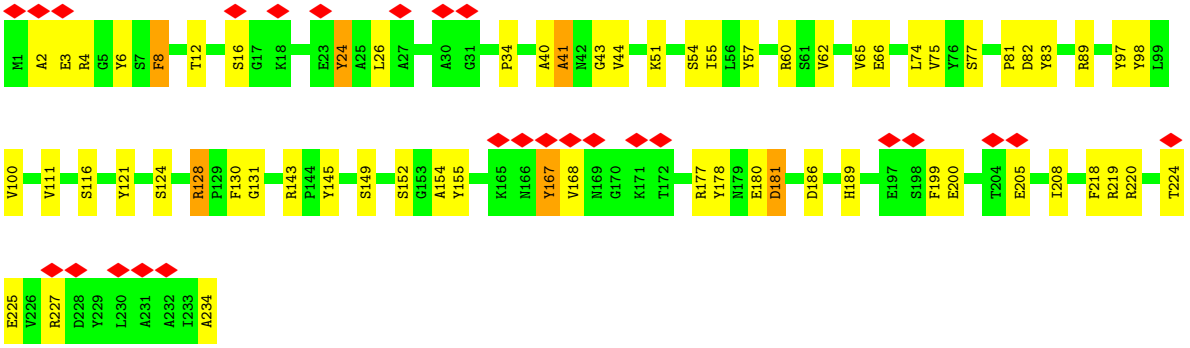
Chain A:





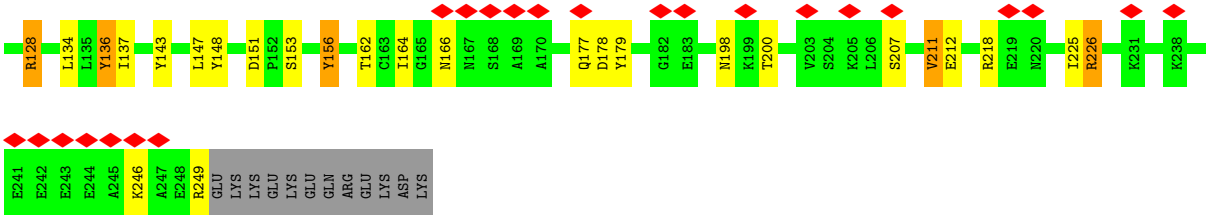
• Molecule 2: Proteasome subunit alpha type-2

Chain B:

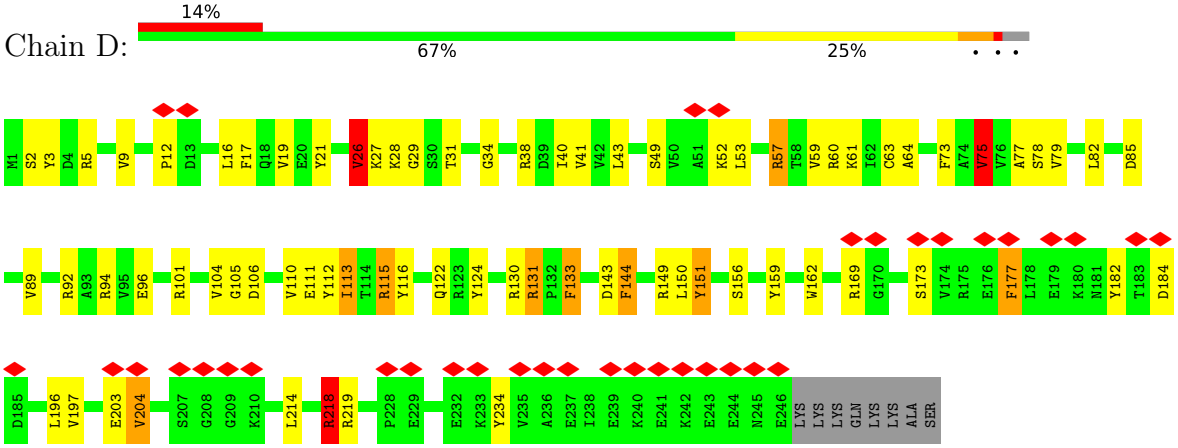


• Molecule 3: Proteasome subunit alpha type-4

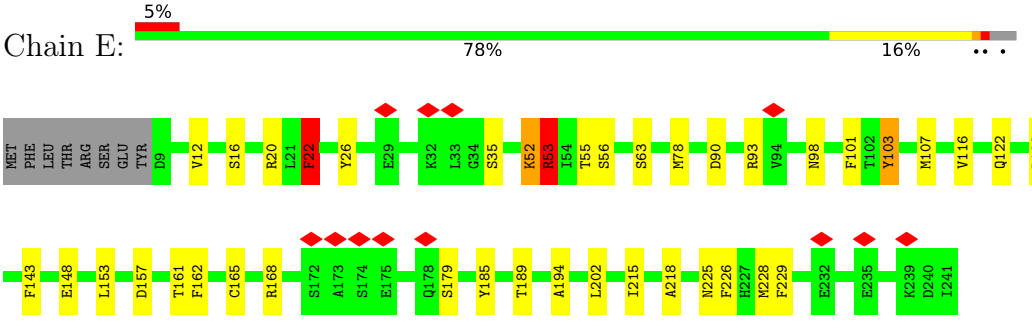
Chain C:



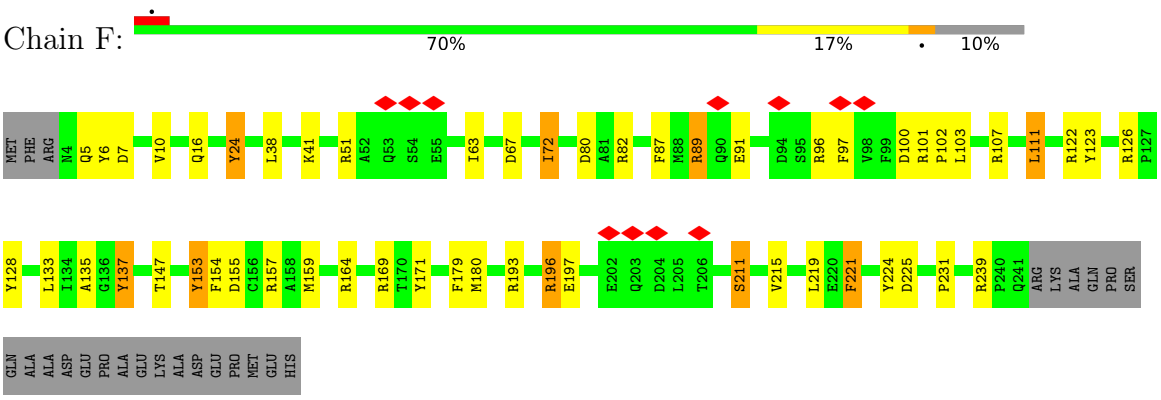
• Molecule 4: Proteasome subunit alpha type-7



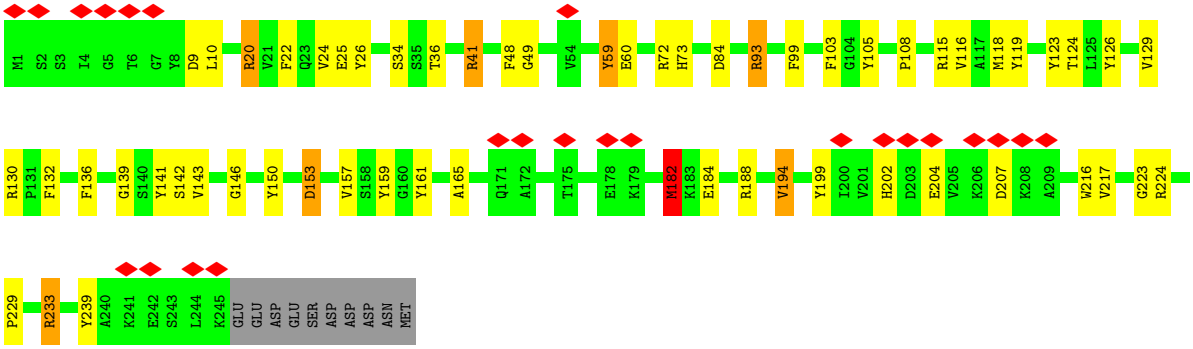
• Molecule 5: Proteasome subunit alpha type-5



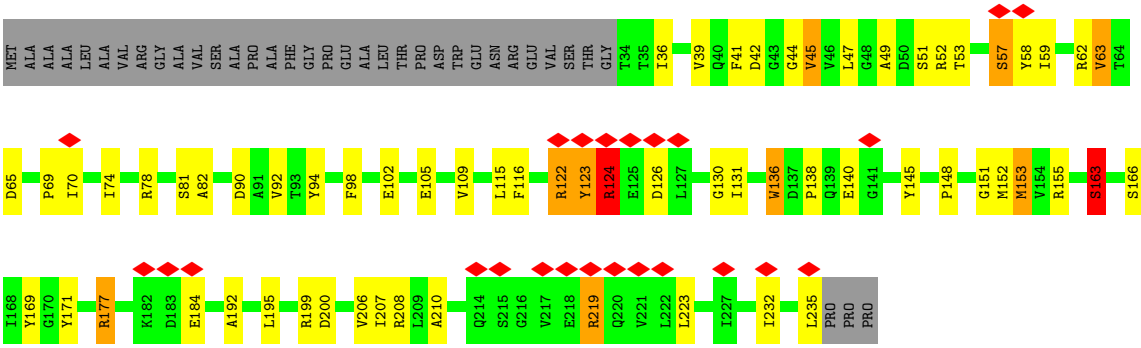
• Molecule 6: Proteasome subunit alpha type-1



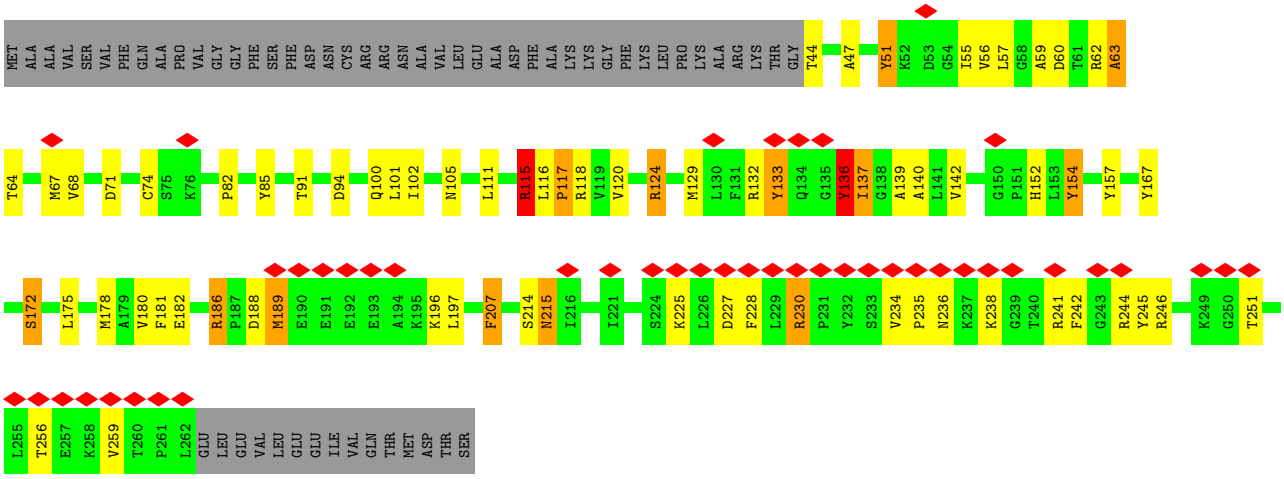
• Molecule 7: Proteasome subunit alpha type-3



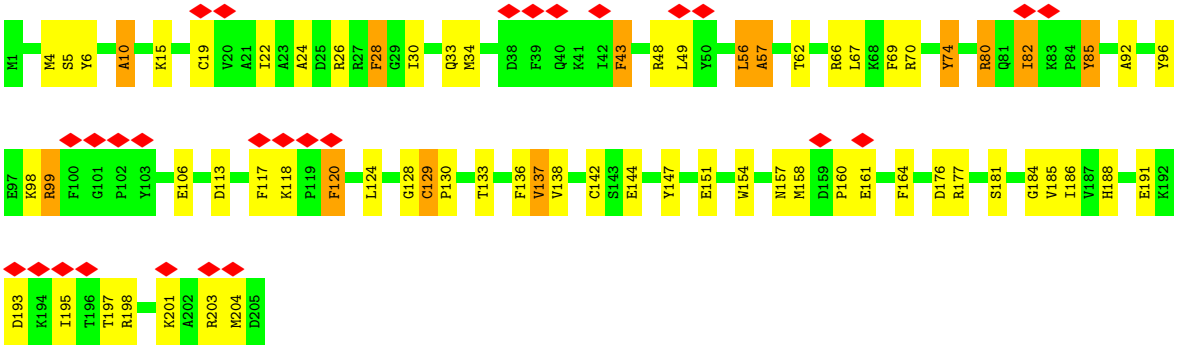
• Molecule 8: Proteasome subunit beta type-6



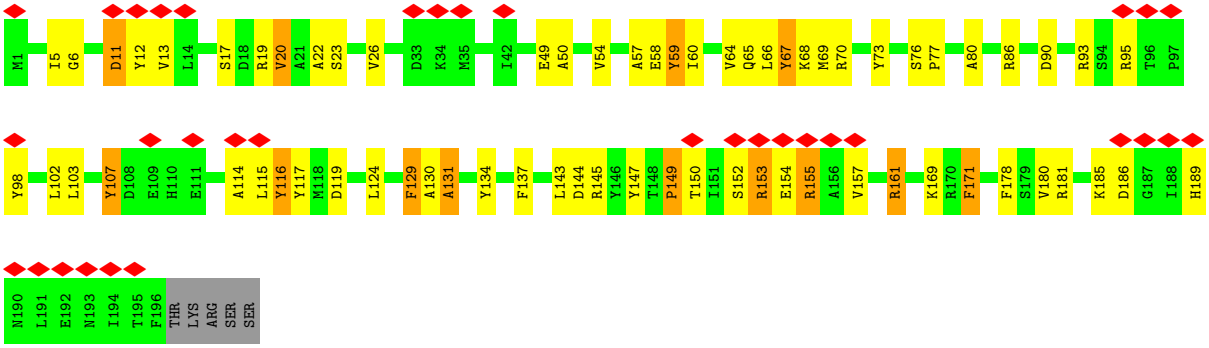
• Molecule 9: Proteasome subunit beta type-7



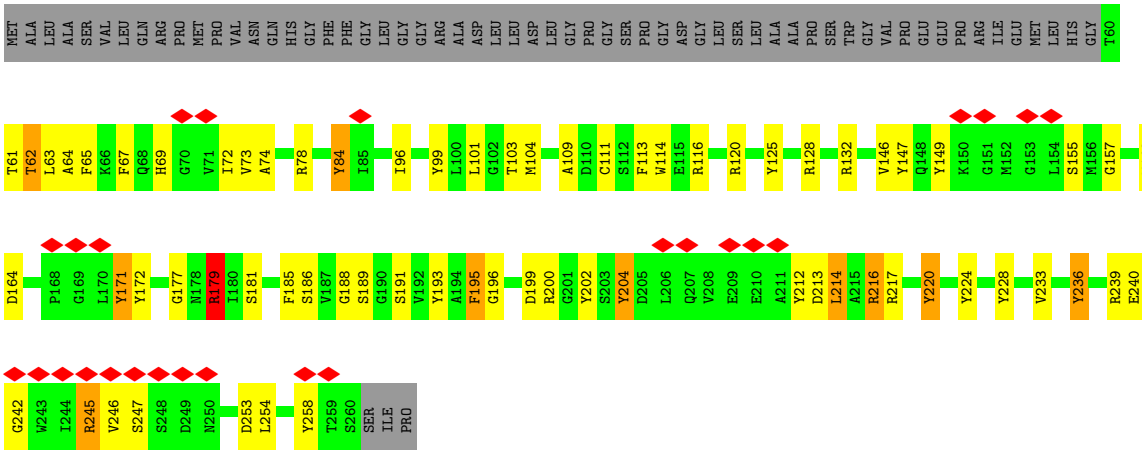
• Molecule 10: Proteasome subunit beta type-3



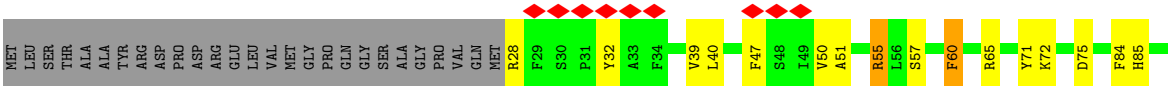
• Molecule 11: Proteasome subunit beta type-2

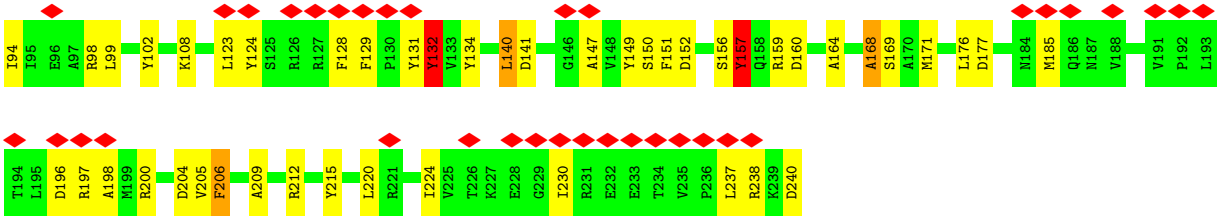


• Molecule 12: Proteasome subunit beta type-5



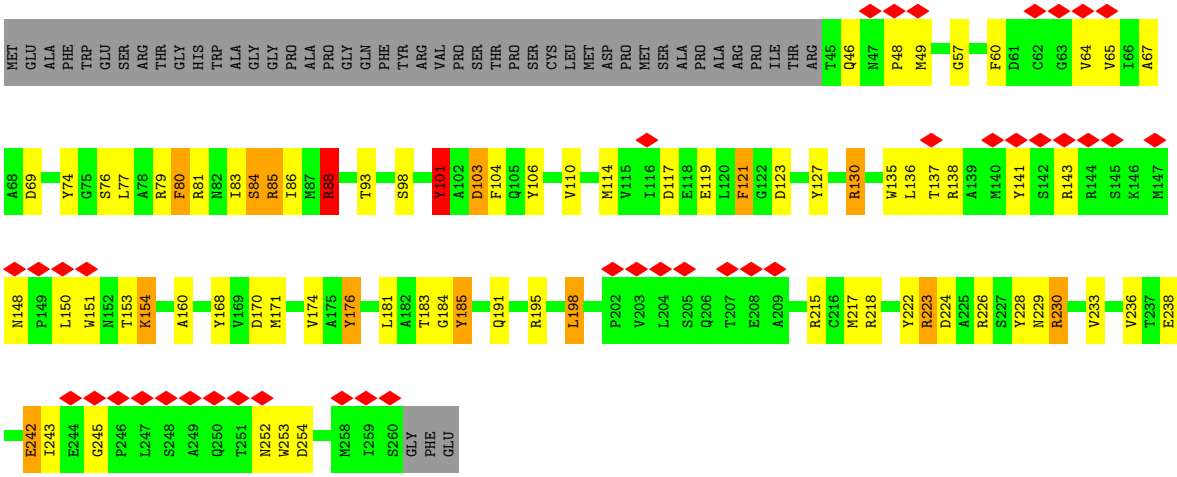
• Molecule 13: Proteasome subunit beta type-1





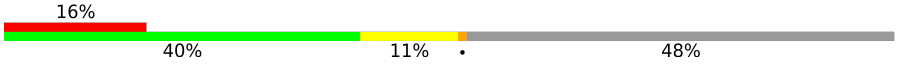
• Molecule 14: Proteasome subunit beta type-4

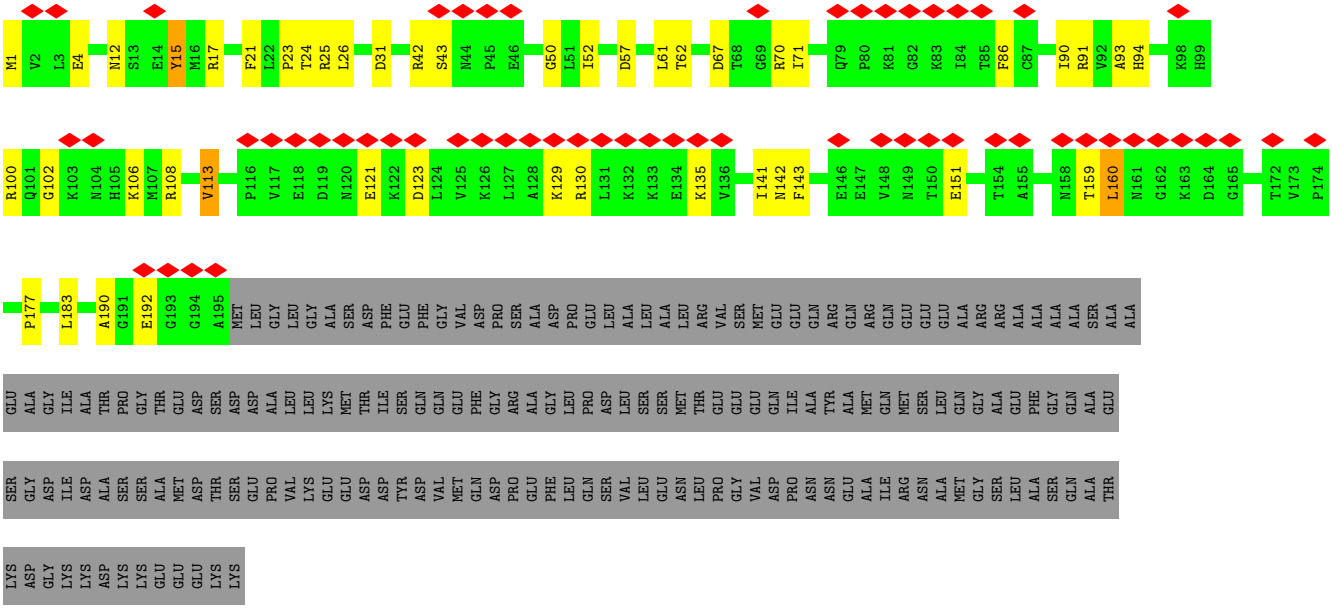
Chain 7:



• Molecule 15: 26S proteasome subunit S5a

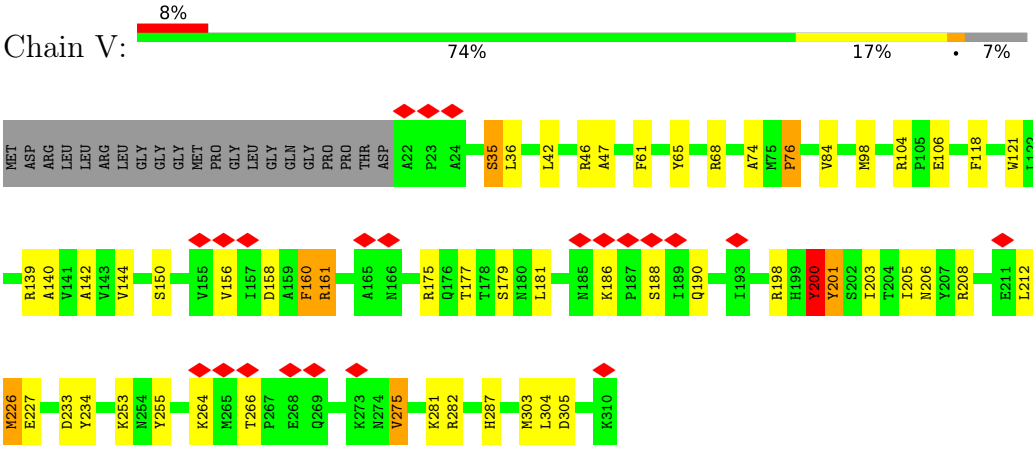
Chain W:





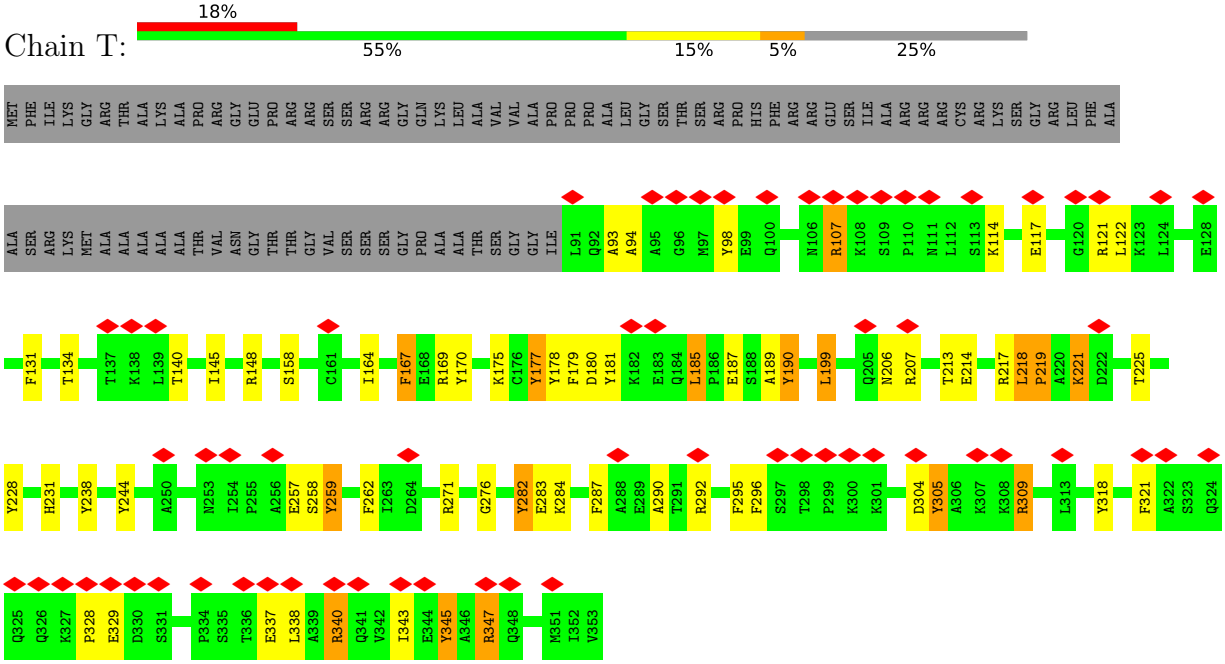
• Molecule 16: Proteasome (Prosome, macropain) 26S subunit, non-ATPase, 14

Chain V:



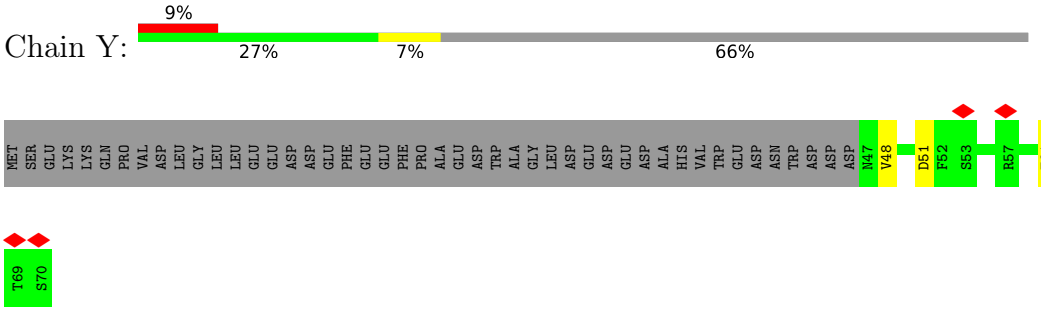
• Molecule 17: Proteasome 26S subunit, non-ATPase 8

Chain T:



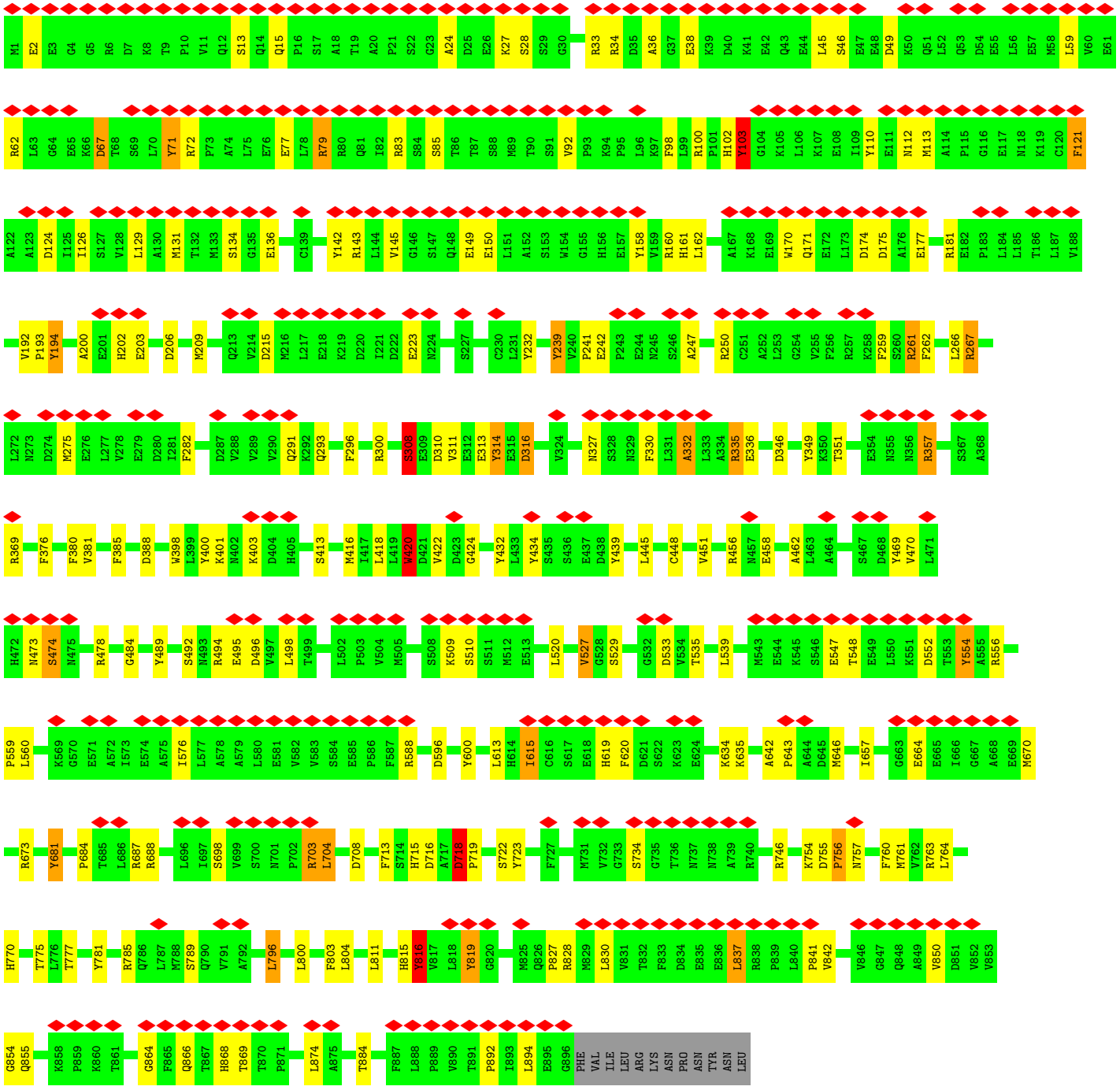
• Molecule 18: RCG28037

Chain Y:



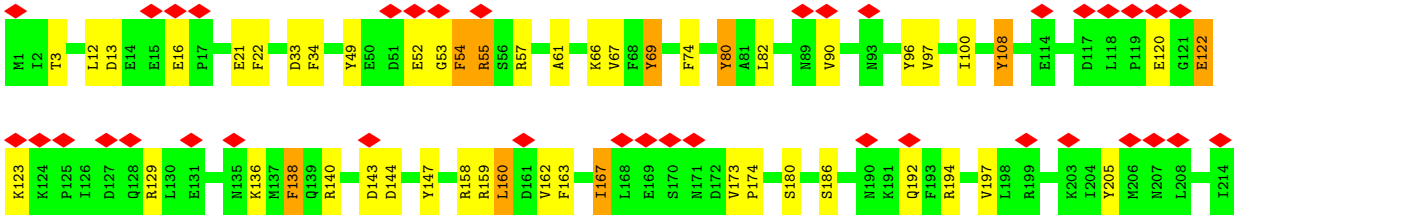
• Molecule 19: 26S proteasome non-ATPase regulatory subunit 2

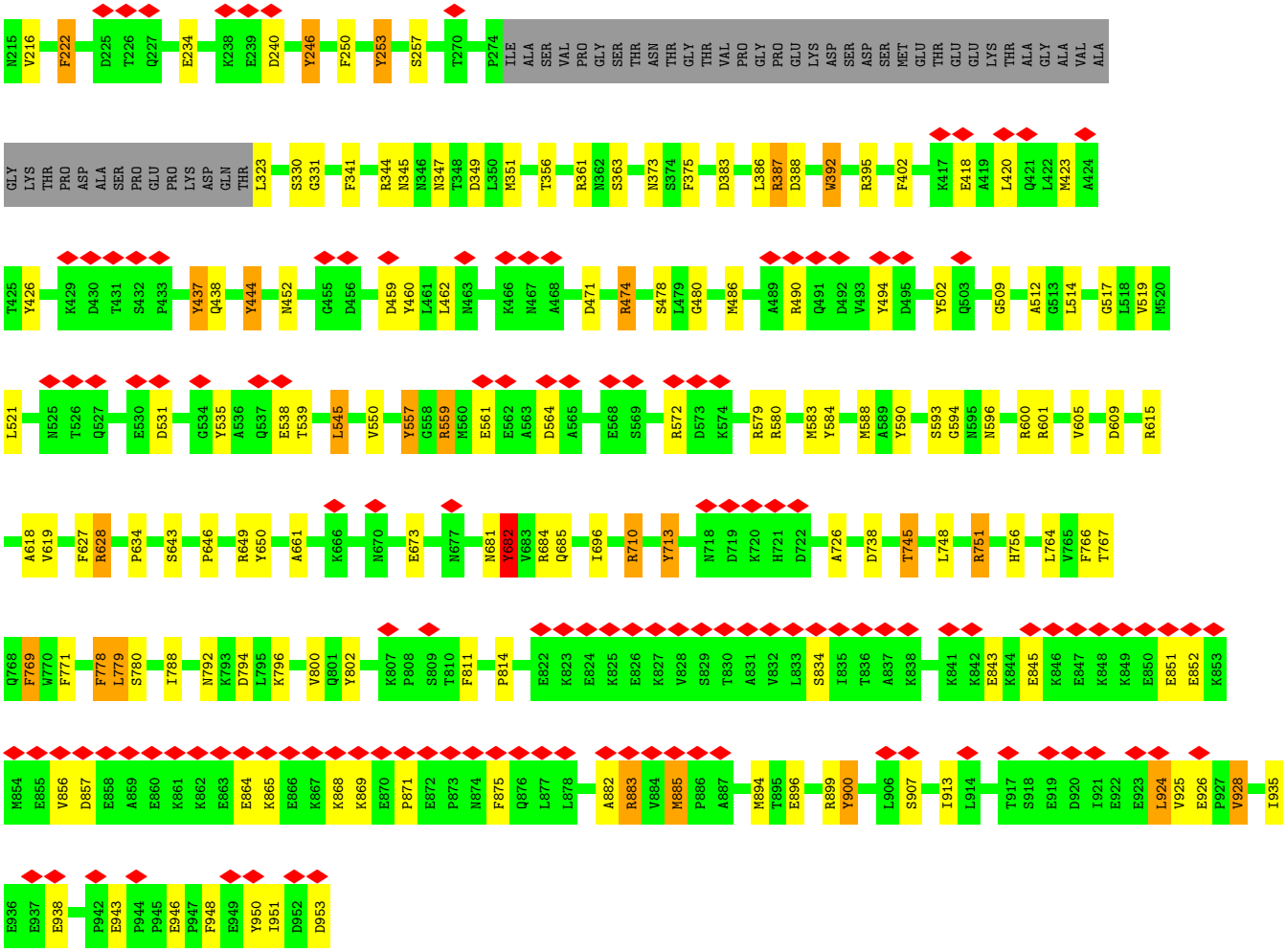
Chain Z:



• Molecule 20: 26S proteasome non-ATPase regulatory subunit 1

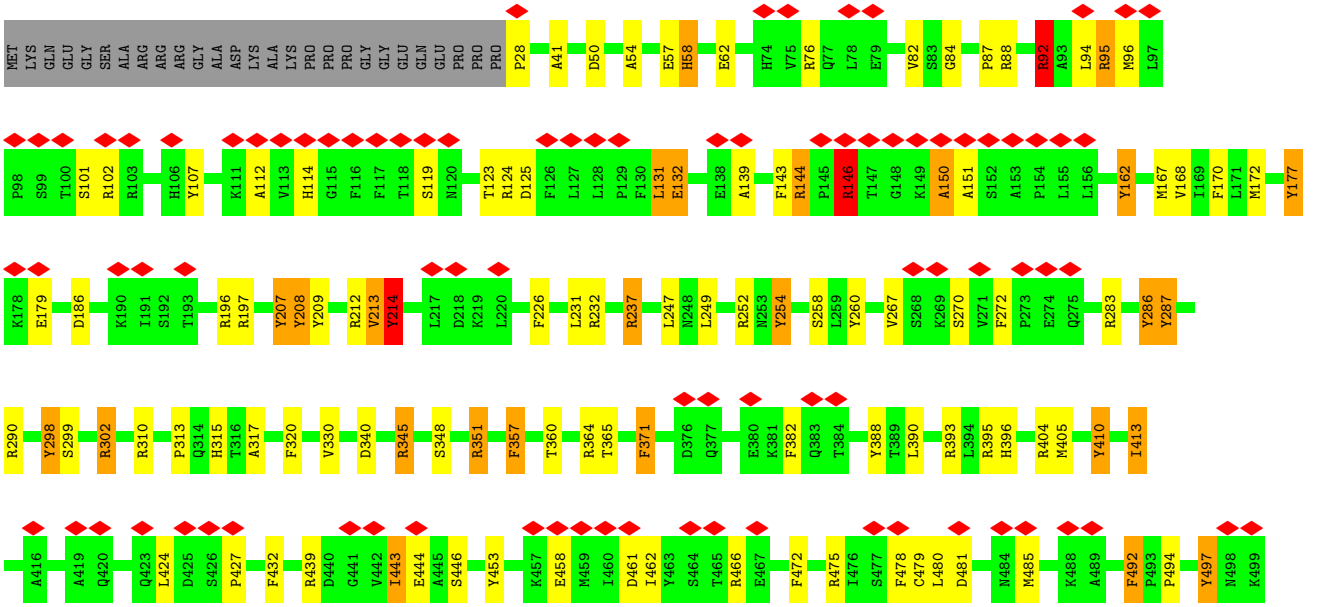
Chain N:

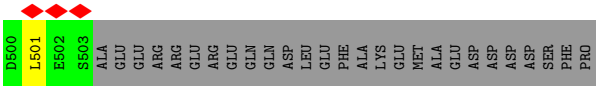




• Molecule 21: Proteasome (Prosome, macropain) 26S subunit, non-ATPase, 3

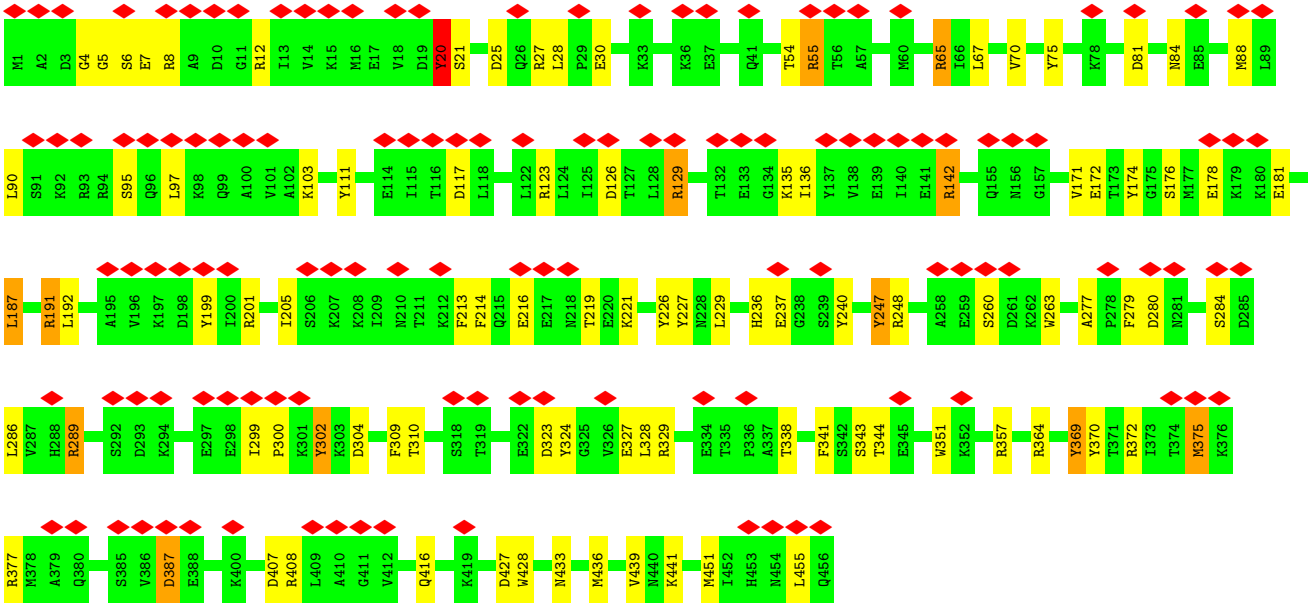
Chain S:





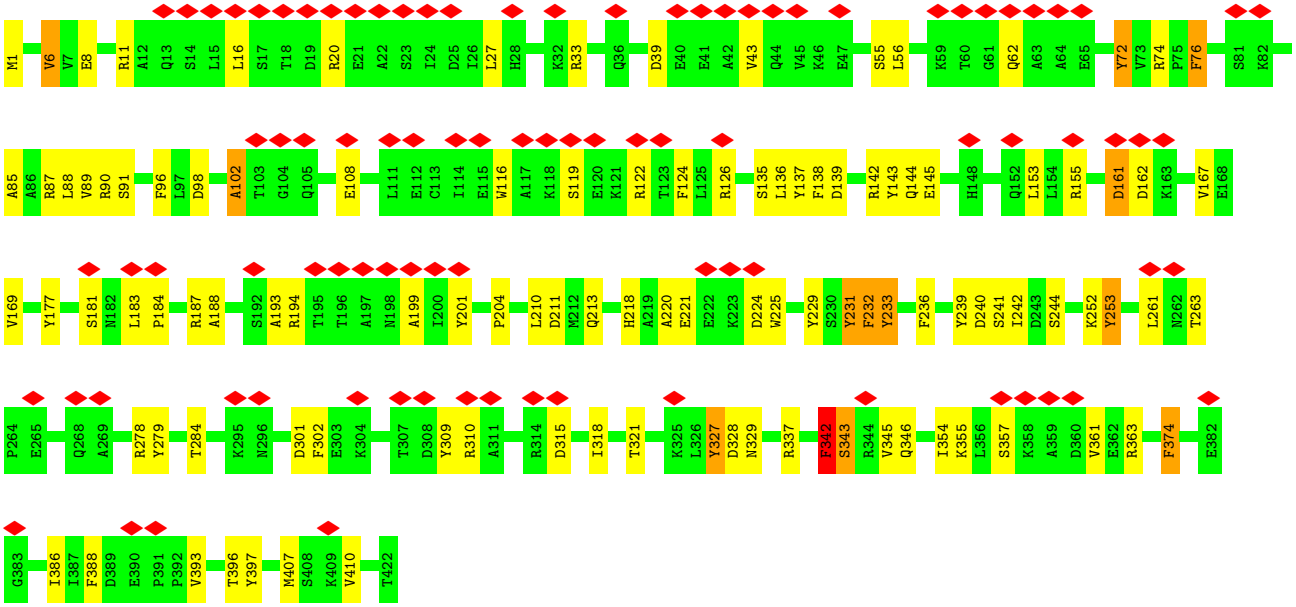
• Molecule 22: Proteasome (Prosome, macropain) 26S subunit, non-ATPase, 12

Chain P:



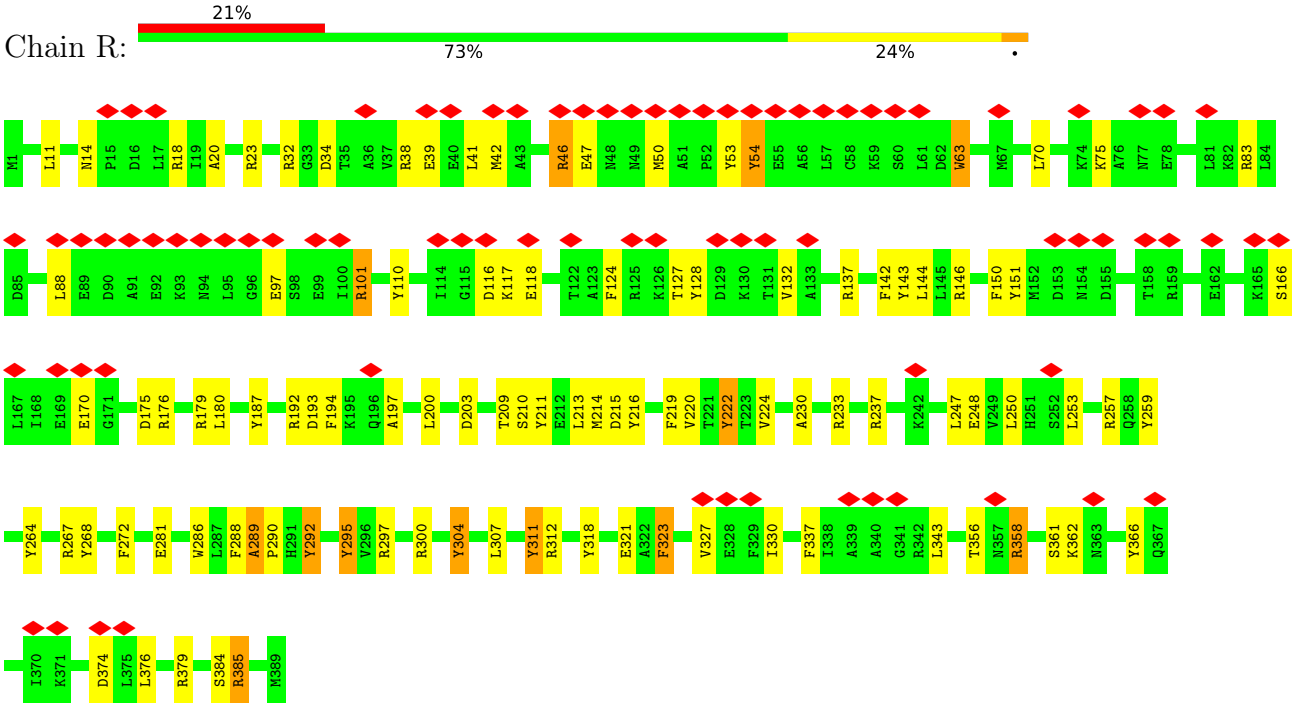
• Molecule 23: 26S proteasome non-ATPase regulatory subunit 11

Chain Q:



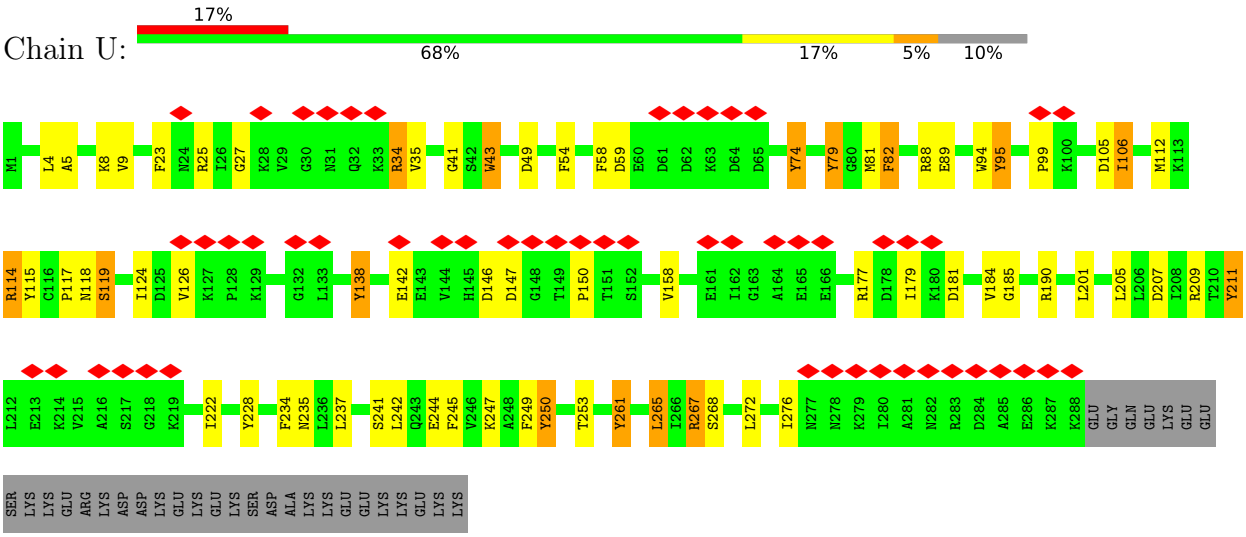
• Molecule 24: Proteasome (Prosome, macropain) 26S subunit, non-ATPase, 6

Chain R:



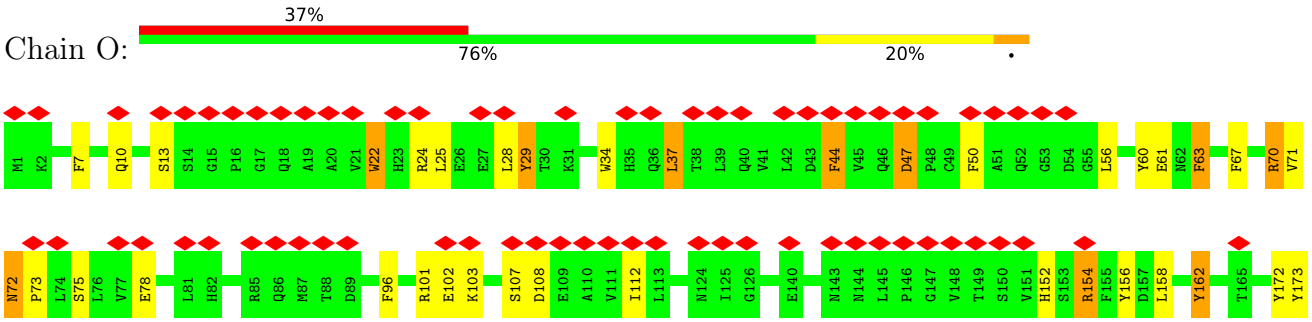
• Molecule 25: Proteasome (Prosome, macropain) 26S subunit, non-ATPase, 7 (Predicted)

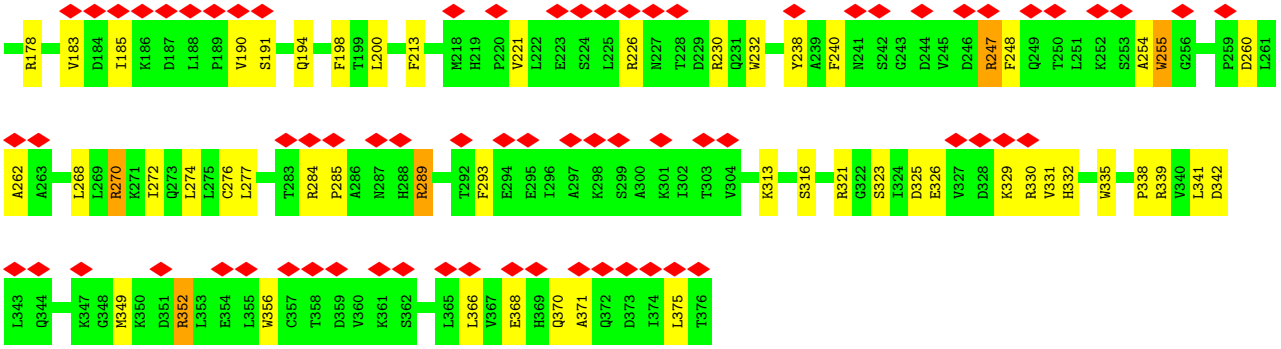
Chain U:



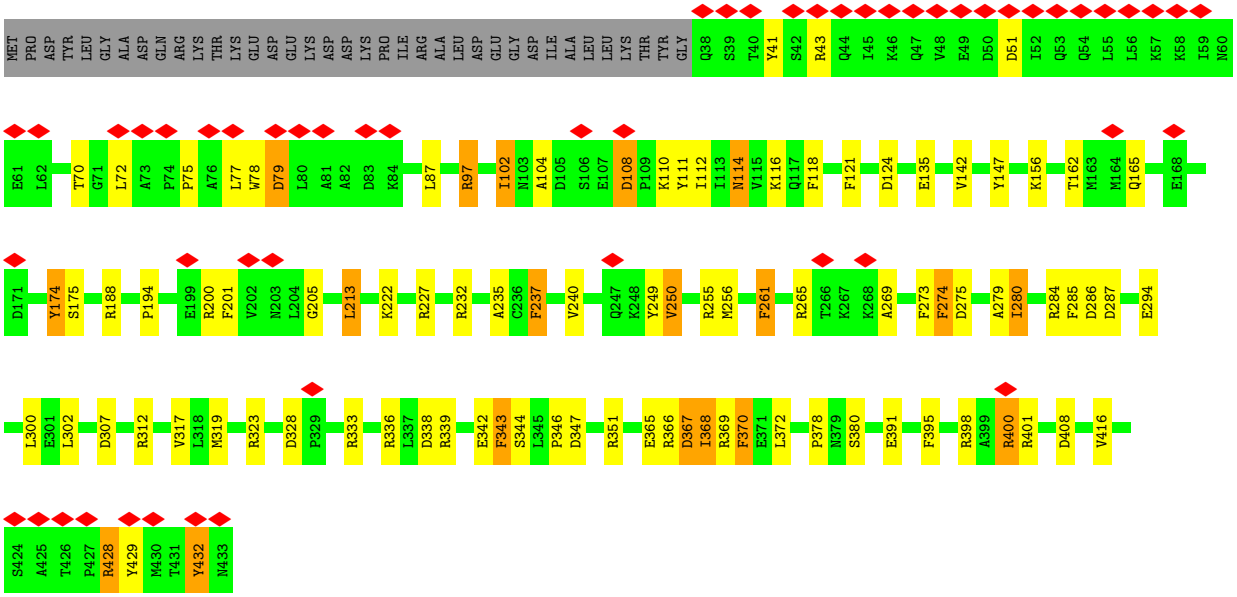
• Molecule 26: 26S proteasome non-ATPase regulatory subunit 13

Chain O:

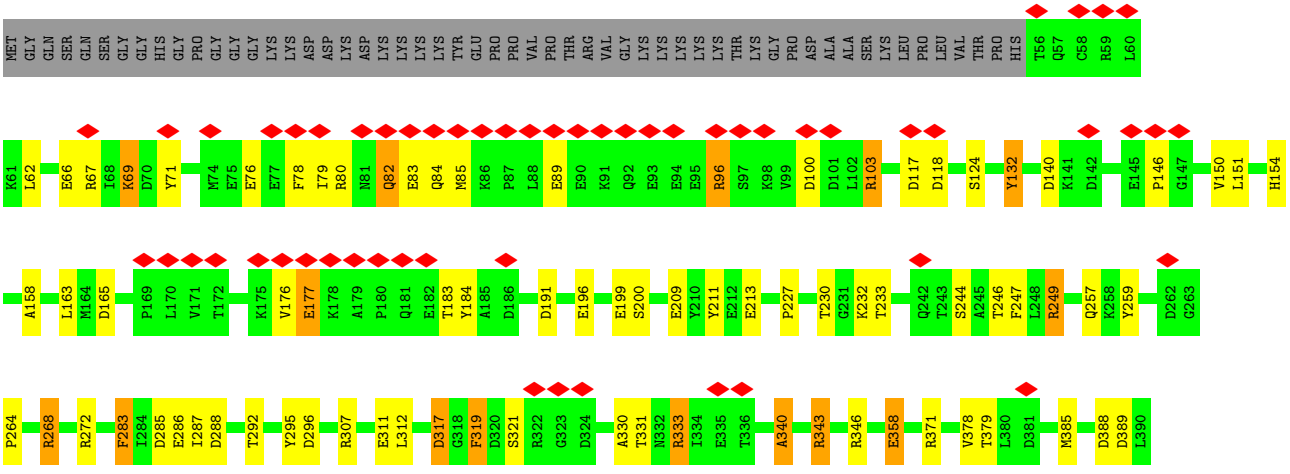




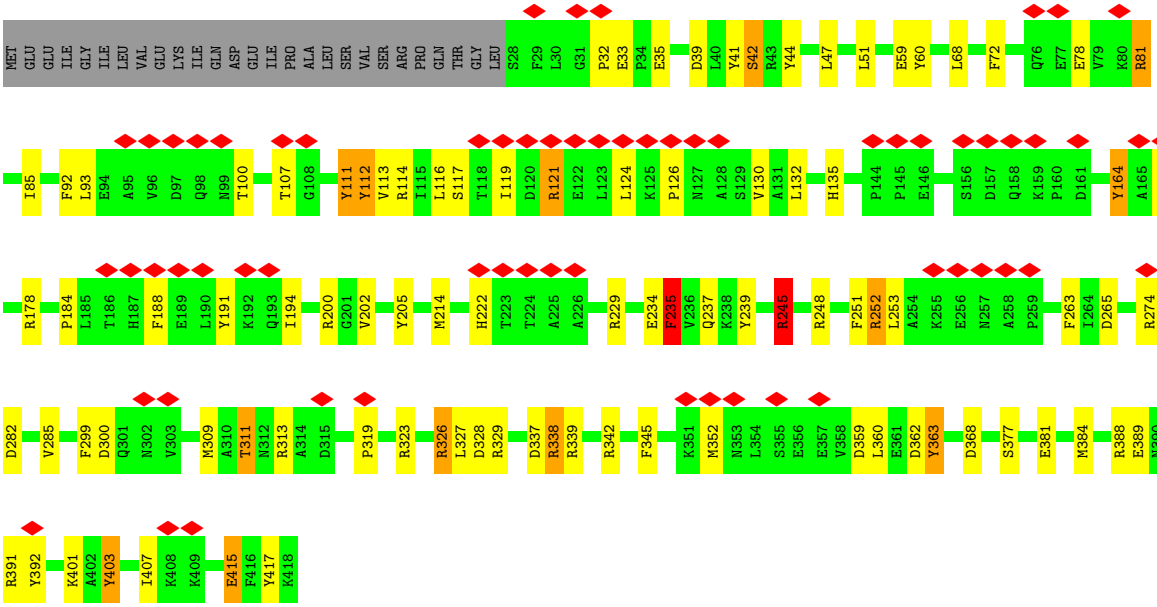
• Molecule 27: 26S proteasome regulatory subunit 7



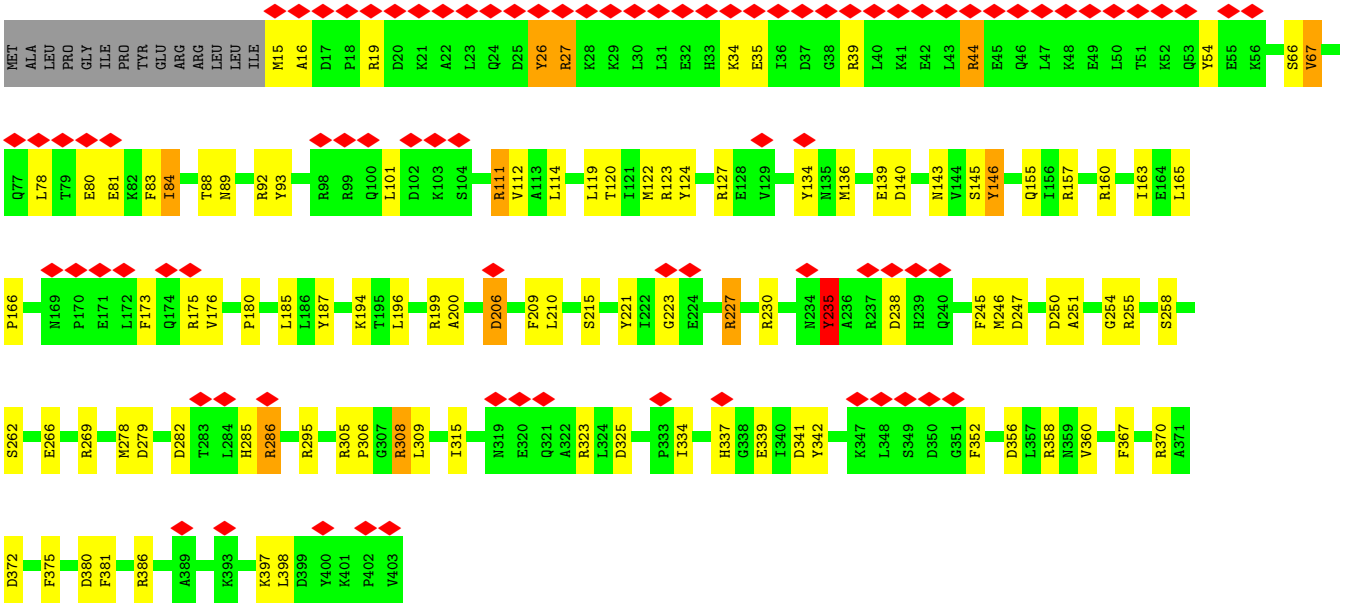
• Molecule 28: 26S proteasome regulatory subunit 4



• Molecule 29: 26S proteasome regulatory subunit 6B

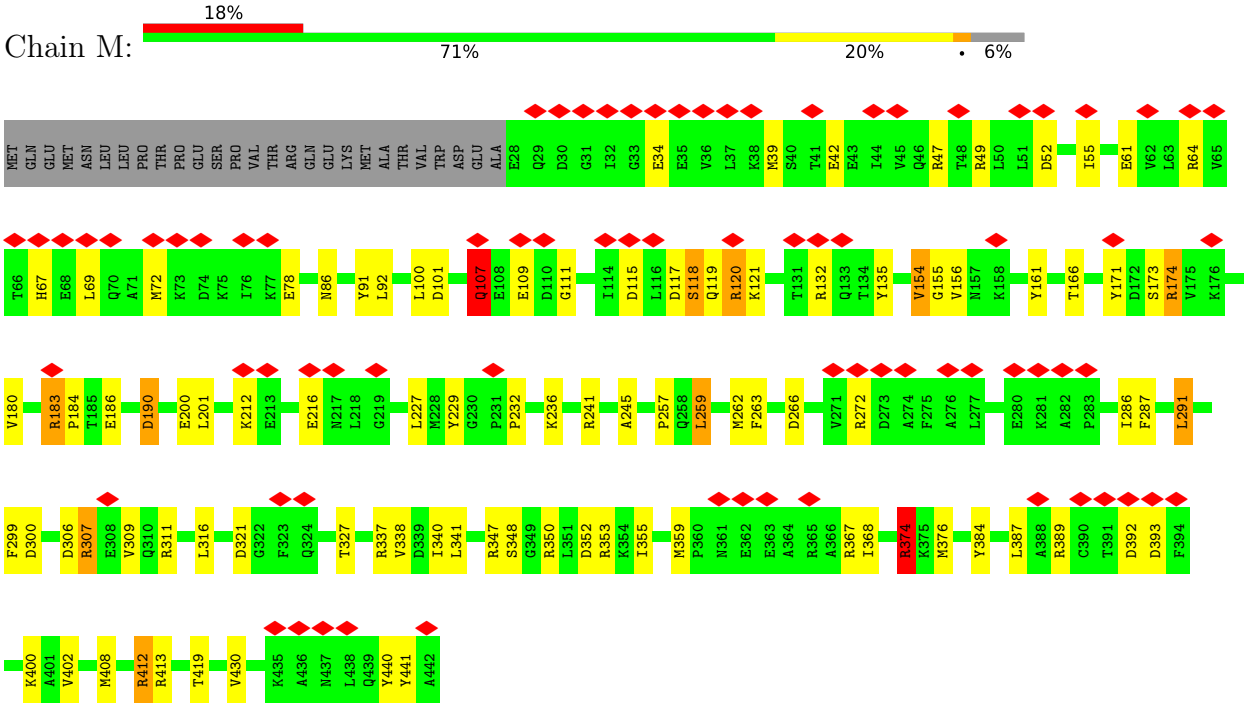


• Molecule 30: Proteasome 26S subunit, ATPase 6



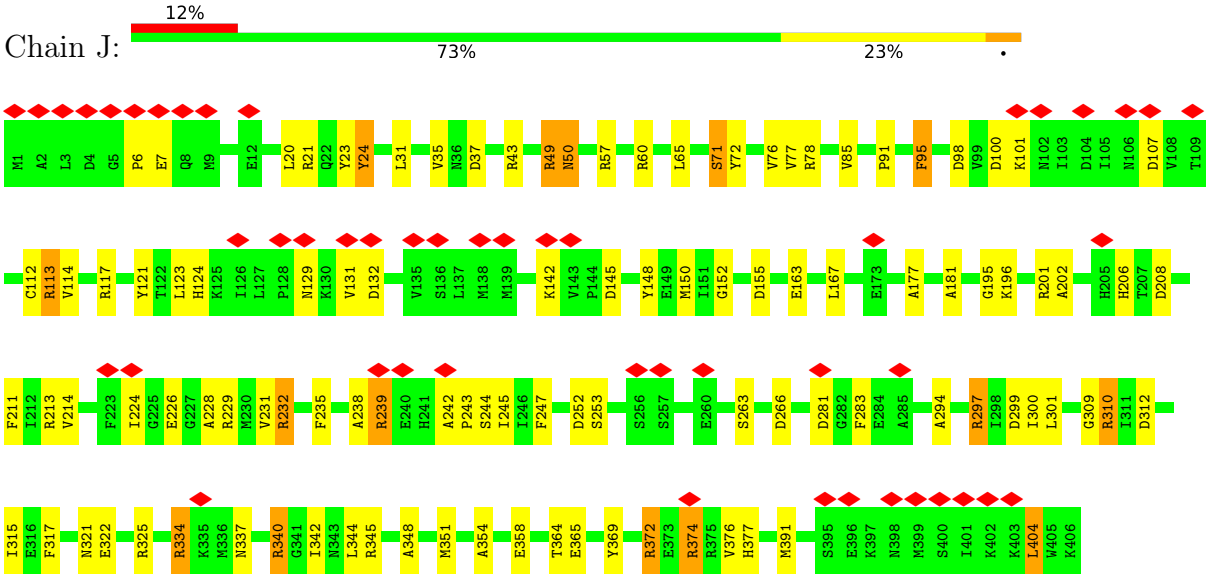
• Molecule 31: 26S proteasome regulatory subunit 6A

Chain M:



• Molecule 32: 26S proteasome regulatory subunit 8

Chain J:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SUBTOMOGRAM AVERAGING	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of subtomograms used	3482	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	1.8	Depositor
Minimum defocus (nm)	5000	Depositor
Maximum defocus (nm)	7000	Depositor
Magnification	42000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.748	Depositor
Minimum map value	-0.362	Depositor
Average map value	-0.005	Depositor
Map value standard deviation	0.162	Depositor
Recommended contour level	0.4	Depositor
Map size (Å)	307.80002, 307.80002, 307.80002	wwPDB
Map dimensions	90, 90, 90	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	3.4200003, 3.4200003, 3.4200003	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	1.72	16/1954 (0.8%)	2.01	53/2638 (2.0%)
2	B	1.81	27/1867 (1.4%)	1.87	44/2527 (1.7%)
3	C	1.73	17/1990 (0.9%)	1.92	40/2680 (1.5%)
4	D	1.72	20/1953 (1.0%)	1.95	51/2637 (1.9%)
5	E	1.70	15/1806 (0.8%)	1.86	26/2439 (1.1%)
6	F	1.74	16/1906 (0.8%)	2.04	51/2577 (2.0%)
7	G	1.77	22/1947 (1.1%)	1.99	50/2620 (1.9%)
8	1	1.73	13/1542 (0.8%)	2.07	52/2089 (2.5%)
9	2	1.72	16/1679 (1.0%)	2.11	55/2271 (2.4%)
10	3	1.71	15/1629 (0.9%)	2.06	54/2195 (2.5%)
11	4	1.73	11/1604 (0.7%)	1.96	40/2170 (1.8%)
12	5	1.81	21/1592 (1.3%)	2.25	57/2152 (2.6%)
13	6	1.75	16/1690 (0.9%)	2.10	51/2278 (2.2%)
14	7	1.76	16/1720 (0.9%)	2.10	58/2327 (2.5%)
15	W	1.62	12/1500 (0.8%)	1.88	36/2030 (1.8%)
16	V	1.70	18/2315 (0.8%)	1.94	48/3129 (1.5%)
17	T	1.72	25/2195 (1.1%)	1.98	51/2964 (1.7%)
18	Y	1.69	0/201	1.79	4/266 (1.5%)
19	Z	1.74	71/7026 (1.0%)	1.97	168/9495 (1.8%)
20	N	1.69	50/7207 (0.7%)	1.95	157/9741 (1.6%)
21	S	1.77	45/3918 (1.1%)	1.90	85/5287 (1.6%)
22	P	1.70	31/3754 (0.8%)	1.91	84/5049 (1.7%)
23	Q	1.70	29/3381 (0.9%)	1.95	89/4558 (2.0%)
24	R	1.80	40/3263 (1.2%)	1.96	77/4393 (1.8%)
25	U	1.67	17/2344 (0.7%)	1.94	59/3178 (1.9%)
26	O	1.74	31/3066 (1.0%)	1.93	79/4148 (1.9%)
27	H	1.72	27/3166 (0.9%)	1.95	78/4275 (1.8%)
28	I	1.72	23/3085 (0.7%)	1.94	68/4158 (1.6%)
29	K	1.74	29/3179 (0.9%)	1.97	79/4290 (1.8%)
30	L	1.71	32/3146 (1.0%)	1.93	91/4233 (2.1%)
31	M	1.73	38/3293 (1.2%)	1.90	69/4436 (1.6%)
32	J	1.76	31/3236 (1.0%)	1.91	82/4347 (1.9%)
All	All	1.73	790/84154 (0.9%)	1.96	2086/113577 (1.8%)

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
1	A	0	6
2	B	0	4
3	C	0	6
4	D	0	9
5	E	0	3
6	F	0	9
7	G	0	6
8	1	0	5
9	2	0	6
10	3	0	4
11	4	0	9
12	5	0	11
13	6	0	3
14	7	0	10
15	W	0	3
16	V	0	5
17	T	0	12
19	Z	0	14
20	N	0	21
21	S	0	17
22	P	0	14
23	Q	0	14
24	R	0	12
25	U	0	10
26	O	0	9
27	H	0	10
28	I	0	12
29	K	0	20
30	L	0	11
31	M	0	7
32	J	0	9
All	All	0	291

All (790) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
20	N	57	ARG	CZ-NH2	9.37	1.45	1.33
31	M	161	TYR	CB-CG	8.74	1.64	1.51
19	Z	746	ARG	CD-NE	8.63	1.61	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	5	200	ARG	NE-CZ	8.61	1.44	1.33
13	6	206	PHE	CG-CD1	8.59	1.51	1.38
27	H	365	GLU	CD-OE1	8.45	1.34	1.25
2	B	227	ARG	CD-NE	8.12	1.60	1.46
30	L	295	ARG	CD-NE	8.01	1.60	1.46
29	K	164	TYR	CE1-CZ	7.96	1.48	1.38
23	Q	194	ARG	CD-NE	7.95	1.59	1.46
9	2	133	TYR	CE2-CZ	7.92	1.48	1.38
20	N	843	GLU	CD-OE1	-7.87	1.17	1.25
1	A	3	ARG	CZ-NH2	7.85	1.43	1.33
19	Z	13	SER	CA-CB	7.84	1.64	1.52
21	S	252	ARG	NE-CZ	7.82	1.43	1.33
24	R	361	SER	CA-CB	7.79	1.64	1.52
20	N	257	SER	CA-CB	7.78	1.64	1.52
31	M	120	ARG	NE-CZ	7.77	1.43	1.33
5	E	16	SER	CA-CB	7.75	1.64	1.52
31	M	183	ARG	NE-CZ	7.67	1.43	1.33
22	P	260	SER	CA-CB	7.65	1.64	1.52
21	S	364	ARG	NE-CZ	7.64	1.43	1.33
32	J	340	ARG	CZ-NH2	7.58	1.42	1.33
11	4	95	ARG	NE-CZ	7.54	1.42	1.33
7	G	132	PHE	N-CA	-7.53	1.31	1.46
19	Z	400	TYR	CB-CG	7.49	1.62	1.51
3	C	143	TYR	CB-CG	7.46	1.62	1.51
19	Z	33	ARG	CZ-NH2	7.46	1.42	1.33
2	B	143	ARG	NE-CZ	7.45	1.42	1.33
31	M	34	GLU	CG-CD	7.43	1.63	1.51
29	K	388	ARG	CZ-NH1	7.43	1.42	1.33
21	S	119	SER	CA-CB	7.39	1.64	1.52
7	G	25	GLU	CB-CG	7.39	1.66	1.52
19	Z	103	TYR	CG-CD2	7.38	1.48	1.39
8	1	57	SER	CA-CB	7.37	1.64	1.52
19	Z	181	ARG	NE-CZ	7.36	1.42	1.33
21	S	320	PHE	CA-CB	7.35	1.70	1.53
32	J	374	ARG	CZ-NH2	7.32	1.42	1.33
2	B	155	TYR	CG-CD2	7.31	1.48	1.39
13	6	131	TYR	CE1-CZ	7.29	1.48	1.38
7	G	216	TRP	NE1-CE2	7.28	1.47	1.37
30	L	230	ARG	NE-CZ	7.28	1.42	1.33
2	B	149	SER	CA-CB	7.21	1.63	1.52
1	A	125	TYR	CE2-CZ	7.17	1.47	1.38
29	K	42	SER	CA-CB	7.17	1.63	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	5	111	CYS	CB-SG	7.16	1.94	1.82
21	S	466	ARG	CD-NE	7.16	1.58	1.46
4	D	38	ARG	NE-CZ	7.15	1.42	1.33
19	Z	734	SER	CA-CB	7.14	1.63	1.52
32	J	71	SER	CA-CB	7.13	1.63	1.52
1	A	160	TYR	CE2-CZ	7.10	1.47	1.38
7	G	130	ARG	CZ-NH2	7.09	1.42	1.33
16	V	161	ARG	NE-CZ	7.08	1.42	1.33
29	K	417	TYR	CB-CG	7.07	1.62	1.51
11	4	161	ARG	CZ-NH1	7.05	1.42	1.33
21	S	302	ARG	CD-NE	7.05	1.58	1.46
25	U	268	SER	CA-CB	7.05	1.63	1.52
16	V	208	ARG	CZ-NH2	7.04	1.42	1.33
30	L	80	GLU	CG-CD	7.03	1.62	1.51
31	M	413	ARG	NE-CZ	7.02	1.42	1.33
14	7	230	ARG	CZ-NH1	7.01	1.42	1.33
32	J	369	TYR	CB-CG	-7.01	1.41	1.51
12	5	228	TYR	CD1-CE1	6.98	1.49	1.39
13	6	169	SER	CA-CB	6.97	1.63	1.52
32	J	49	ARG	NE-CZ	6.97	1.42	1.33
29	K	338	ARG	CD-NE	6.95	1.58	1.46
1	A	93	ARG	NE-CZ	6.92	1.42	1.33
12	5	204	TYR	CE2-CZ	6.91	1.47	1.38
19	Z	143	ARG	CD-NE	6.91	1.58	1.46
19	Z	143	ARG	NE-CZ	6.89	1.42	1.33
19	Z	456	ARG	NE-CZ	6.88	1.42	1.33
19	Z	336	GLU	CG-CD	6.87	1.62	1.51
24	R	210	SER	CA-CB	6.84	1.63	1.52
19	Z	79	ARG	NE-CZ	6.83	1.42	1.33
24	R	83	ARG	NE-CZ	6.83	1.42	1.33
12	5	245	ARG	NE-CZ	6.82	1.42	1.33
6	F	96	ARG	CD-NE	6.82	1.58	1.46
20	N	444	TYR	CG-CD1	6.80	1.48	1.39
1	A	228	ARG	NE-CZ	6.79	1.41	1.33
26	O	75	SER	CB-OG	-6.79	1.33	1.42
23	Q	225	TRP	NE1-CE2	6.78	1.46	1.37
28	I	286	GLU	CG-CD	6.75	1.62	1.51
6	F	169	ARG	NE-CZ	6.75	1.41	1.33
16	V	224	SER	CA-CB	6.74	1.63	1.52
30	L	235	TYR	CE1-CZ	6.74	1.47	1.38
29	K	178	ARG	CD-NE	6.72	1.57	1.46
25	U	150	PRO	N-CD	-6.71	1.38	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	J	243	PRO	N-CD	-6.69	1.38	1.47
13	6	132	TYR	CZ-OH	6.68	1.49	1.37
21	S	260	TYR	CB-CG	-6.68	1.41	1.51
17	T	107	ARG	CZ-NH1	6.67	1.41	1.33
30	L	367	PHE	CG-CD1	6.67	1.48	1.38
19	Z	79	ARG	CZ-NH2	6.67	1.41	1.33
23	Q	126	ARG	NE-CZ	6.66	1.41	1.33
28	I	307	ARG	CZ-NH2	6.66	1.41	1.33
27	H	391	GLU	CA-CB	6.64	1.68	1.53
31	M	173	SER	CA-CB	6.64	1.62	1.52
26	O	289	ARG	CZ-NH2	6.64	1.41	1.33
15	W	15	TYR	CZ-OH	6.64	1.49	1.37
14	7	79	ARG	CZ-NH2	6.63	1.41	1.33
30	L	124	TYR	CB-CG	-6.63	1.41	1.51
22	P	129	ARG	CZ-NH2	6.63	1.41	1.33
2	B	116	SER	CA-CB	6.63	1.62	1.52
28	I	391	SER	C-N	6.62	1.45	1.33
4	D	115	ARG	CZ-NH1	6.62	1.41	1.33
20	N	194	ARG	CD-NE	6.62	1.57	1.46
32	J	57	ARG	CZ-NH1	6.61	1.41	1.33
19	Z	698	SER	CB-OG	6.60	1.50	1.42
31	M	353	ARG	CZ-NH1	6.59	1.41	1.33
27	H	369	ARG	NE-CZ	6.57	1.41	1.33
19	Z	478	ARG	CZ-NH2	6.56	1.41	1.33
6	F	193	ARG	CZ-NH2	6.56	1.41	1.33
24	R	146	ARG	CZ-NH1	6.55	1.41	1.33
27	H	294	GLU	CB-CG	6.55	1.64	1.52
29	K	245	ARG	CZ-NH1	6.55	1.41	1.33
23	Q	232	PHE	CG-CD1	6.54	1.48	1.38
19	Z	469	TYR	CE2-CZ	6.54	1.47	1.38
31	M	135	TYR	CZ-OH	6.54	1.49	1.37
14	7	127	TYR	CG-CD1	6.53	1.47	1.39
14	7	60	PHE	CA-CB	6.53	1.68	1.53
8	1	155	ARG	CD-NE	6.53	1.57	1.46
13	6	102	TYR	CE2-CZ	6.52	1.47	1.38
23	Q	397	TYR	CE2-CZ	6.52	1.47	1.38
23	Q	138	PHE	CG-CD1	6.51	1.48	1.38
16	V	282	ARG	NE-CZ	6.50	1.41	1.33
1	A	21	ARG	CD-NE	6.50	1.57	1.46
29	K	299	PHE	CG-CD1	6.50	1.48	1.38
19	Z	413	SER	CA-CB	6.49	1.62	1.52
20	N	120	GLU	CB-CG	6.49	1.64	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
8	1	219	ARG	CZ-NH1	6.49	1.41	1.33
8	1	94	TYR	CE2-CZ	6.48	1.47	1.38
2	B	57	TYR	CG-CD1	6.48	1.47	1.39
23	Q	337	ARG	CZ-NH2	6.47	1.41	1.33
26	O	323	SER	CB-OG	-6.47	1.33	1.42
1	A	77	GLY	CA-C	-6.46	1.41	1.51
4	D	21	TYR	CG-CD1	6.46	1.47	1.39
3	C	207	SER	CA-CB	6.46	1.62	1.52
21	S	197	ARG	CD-NE	6.46	1.57	1.46
30	L	54	TYR	CG-CD2	6.46	1.47	1.39
30	L	146	TYR	CG-CD1	6.46	1.47	1.39
31	M	347	ARG	NE-CZ	6.45	1.41	1.33
11	4	67	TYR	CG-CD2	6.45	1.47	1.39
21	S	196	ARG	CD-NE	6.45	1.57	1.46
30	L	308	ARG	CD-NE	6.44	1.57	1.46
15	W	42	ARG	NE-CZ	6.44	1.41	1.33
12	5	224	TYR	CE1-CZ	6.44	1.47	1.38
2	B	66	GLU	CG-CD	6.43	1.61	1.51
6	F	107	ARG	CZ-NH2	6.43	1.41	1.33
11	4	181	ARG	CZ-NH1	6.43	1.41	1.33
8	1	130	GLY	N-CA	-6.42	1.36	1.46
2	B	24	TYR	CZ-OH	6.41	1.48	1.37
20	N	673	GLU	CD-OE1	6.41	1.32	1.25
14	7	127	TYR	CE2-CZ	6.40	1.46	1.38
12	5	193	TYR	CE1-CZ	6.40	1.46	1.38
20	N	66	LYS	N-CA	-6.40	1.33	1.46
20	N	186	SER	CB-OG	-6.39	1.33	1.42
4	D	112	TYR	CE2-CZ	6.38	1.46	1.38
21	S	302	ARG	NE-CZ	6.38	1.41	1.33
21	S	146	ARG	CZ-NH2	6.36	1.41	1.33
21	S	466	ARG	CZ-NH1	6.36	1.41	1.33
28	I	311	GLU	CG-CD	6.36	1.61	1.51
32	J	117	ARG	NE-CZ	6.35	1.41	1.33
19	Z	232	TYR	CG-CD2	6.35	1.47	1.39
30	L	39	ARG	NE-CZ	6.35	1.41	1.33
6	F	153	TYR	CZ-OH	6.34	1.48	1.37
11	4	6	GLY	CA-C	-6.34	1.41	1.51
16	V	68	ARG	CZ-NH1	6.34	1.41	1.33
3	C	97	TYR	CZ-OH	6.34	1.48	1.37
29	K	81	ARG	CZ-NH2	6.33	1.41	1.33
31	M	78	GLU	CD-OE1	6.33	1.32	1.25
10	3	85	TYR	CE2-CZ	6.33	1.46	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	2	115	ARG	CZ-NH1	6.32	1.41	1.33
21	S	382	PHE	CG-CD1	6.32	1.48	1.38
7	G	159	TYR	CE2-CZ	6.32	1.46	1.38
5	E	26	TYR	CE1-CZ	6.30	1.46	1.38
24	R	237	ARG	CZ-NH2	6.30	1.41	1.33
26	O	238	TYR	CE1-CZ	6.29	1.46	1.38
30	L	35	GLU	CD-OE1	6.29	1.32	1.25
32	J	72	TYR	CG-CD1	6.28	1.47	1.39
21	S	270	SER	CA-CB	6.28	1.62	1.52
20	N	557	TYR	CZ-OH	6.28	1.48	1.37
15	W	70	ARG	NE-CZ	6.27	1.41	1.33
20	N	490	ARG	CZ-NH1	6.27	1.41	1.33
19	Z	202	HIS	CB-CG	6.27	1.61	1.50
27	H	312	ARG	CZ-NH2	6.25	1.41	1.33
20	N	883	ARG	CZ-NH2	6.24	1.41	1.33
19	Z	713	PHE	CB-CG	6.23	1.61	1.51
9	2	244	ARG	CD-NE	6.22	1.57	1.46
21	S	299	SER	CB-OG	6.22	1.50	1.42
28	I	428	TYR	CE1-CZ	6.22	1.46	1.38
10	3	151	GLU	CB-CG	6.21	1.64	1.52
13	6	28	ARG	NE-CZ	6.21	1.41	1.33
26	O	73	PRO	N-CD	6.21	1.56	1.47
31	M	299	PHE	CG-CD2	6.21	1.48	1.38
29	K	59	GLU	CG-CD	6.21	1.61	1.51
32	J	113	ARG	CZ-NH2	6.21	1.41	1.33
21	S	132	GLU	CD-OE1	6.20	1.32	1.25
31	M	91	TYR	CG-CD2	6.20	1.47	1.39
5	E	168	ARG	NE-CZ	6.19	1.41	1.33
12	5	177	GLY	N-CA	-6.19	1.36	1.46
31	M	307	ARG	NE-CZ	6.19	1.41	1.33
17	T	121	ARG	CZ-NH2	6.19	1.41	1.33
29	K	323	ARG	CZ-NH1	6.19	1.41	1.33
24	R	38	ARG	CD-NE	6.19	1.56	1.46
16	V	264	LYS	CA-CB	6.19	1.67	1.53
20	N	402	PHE	CG-CD2	6.19	1.48	1.38
24	R	288	PHE	CG-CD1	6.17	1.48	1.38
10	3	85	TYR	CG-CD1	6.16	1.47	1.39
24	R	97	GLU	CD-OE1	6.16	1.32	1.25
27	H	323	ARG	NE-CZ	6.15	1.41	1.33
6	F	24	TYR	CD1-CE1	6.14	1.48	1.39
9	2	124	ARG	NE-CZ	6.14	1.41	1.33
5	E	56	SER	CB-OG	6.14	1.50	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
14	7	143	ARG	NE-CZ	6.14	1.41	1.33
20	N	253	TYR	CG-CD1	6.14	1.47	1.39
31	M	350	ARG	NE-CZ	6.13	1.41	1.33
32	J	201	ARG	CZ-NH1	6.13	1.41	1.33
22	P	111	TYR	CZ-OH	6.13	1.48	1.37
27	H	255	ARG	CZ-NH1	6.13	1.41	1.33
23	Q	74	ARG	CZ-NH1	6.13	1.41	1.33
30	L	175	ARG	CD-NE	6.12	1.56	1.46
20	N	331	GLY	N-CA	-6.12	1.36	1.46
21	S	57	GLU	CA-CB	6.12	1.67	1.53
21	S	481	ASP	CA-CB	6.12	1.67	1.53
17	T	276	GLY	CA-C	-6.12	1.42	1.51
17	T	345	TYR	CE2-CZ	6.12	1.46	1.38
17	T	340	ARG	CZ-NH1	6.11	1.41	1.33
24	R	194	PHE	CG-CD2	6.11	1.48	1.38
26	O	255	TRP	CG-CD1	6.10	1.45	1.36
24	R	321	GLU	CB-CG	6.10	1.63	1.52
24	R	63	TRP	CD2-CE2	6.09	1.48	1.41
16	V	46	ARG	CD-NE	6.09	1.56	1.46
19	Z	854	GLY	CA-C	-6.09	1.42	1.51
12	5	191	SER	CA-CB	6.08	1.62	1.52
24	R	327	VAL	CB-CG1	6.08	1.65	1.52
4	D	130	ARG	NE-CZ	6.08	1.41	1.33
27	H	429	TYR	CB-CG	6.08	1.60	1.51
22	P	181	GLU	CD-OE1	6.08	1.32	1.25
11	4	19	ARG	CD-NE	6.07	1.56	1.46
23	Q	315	ASP	CA-CB	6.07	1.67	1.53
20	N	559	ARG	CZ-NH2	6.06	1.41	1.33
23	Q	33	ARG	CZ-NH1	6.06	1.41	1.33
4	D	101	ARG	CD-NE	6.06	1.56	1.46
26	O	238	TYR	CZ-OH	6.06	1.48	1.37
5	E	136	PRO	CA-C	-6.05	1.40	1.52
19	Z	510	SER	CA-CB	6.04	1.62	1.52
21	S	88	ARG	CZ-NH1	6.04	1.41	1.33
20	N	53	GLY	N-CA	-6.04	1.36	1.46
21	S	364	ARG	CZ-NH2	6.03	1.40	1.33
19	Z	314	TYR	CG-CD1	6.03	1.47	1.39
26	O	156	TYR	CE1-CZ	6.02	1.46	1.38
19	Z	484	GLY	CA-C	-6.01	1.42	1.51
24	R	385	ARG	CZ-NH1	6.01	1.40	1.33
9	2	51	TYR	CB-CG	6.01	1.60	1.51
14	7	76	SER	CA-CB	6.00	1.61	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
23	Q	145	GLU	CG-CD	6.00	1.60	1.51
25	U	88	ARG	NE-CZ	6.00	1.40	1.33
21	S	95	ARG	CD-NE	5.99	1.56	1.46
30	L	27	ARG	CD-NE	5.99	1.56	1.46
24	R	312	ARG	CD-NE	5.98	1.56	1.46
21	S	232	ARG	CZ-NH2	5.98	1.40	1.33
24	R	23	ARG	CZ-NH2	5.98	1.40	1.33
24	R	311	TYR	CG-CD1	5.97	1.47	1.39
7	G	41	ARG	CD-NE	5.97	1.56	1.46
22	P	408	ARG	CZ-NH2	5.96	1.40	1.33
2	B	6	TYR	CE2-CZ	5.96	1.46	1.38
23	Q	135	SER	CA-CB	5.96	1.61	1.52
26	O	13	SER	CA-CB	5.96	1.61	1.52
23	Q	204	PRO	N-CA	-5.95	1.37	1.47
13	6	157	TYR	CE1-CZ	5.95	1.46	1.38
17	T	345	TYR	CD1-CE1	5.95	1.48	1.39
21	S	209	TYR	CG-CD1	5.95	1.46	1.39
24	R	176	ARG	CZ-NH1	5.95	1.40	1.33
4	D	96	GLU	CG-CD	5.95	1.60	1.51
11	4	117	TYR	CE1-CZ	5.95	1.46	1.38
10	3	85	TYR	CE1-CZ	5.94	1.46	1.38
2	B	178	TYR	CE2-CZ	5.94	1.46	1.38
25	U	23	PHE	CG-CD1	5.94	1.47	1.38
29	K	263	PHE	CB-CG	5.93	1.61	1.51
31	M	174	ARG	NE-CZ	5.93	1.40	1.33
14	7	176	TYR	CE2-CZ	5.93	1.46	1.38
22	P	65	ARG	NE-CZ	5.92	1.40	1.33
22	P	289	ARG	CZ-NH2	5.92	1.40	1.33
2	B	54	SER	CA-CB	5.92	1.61	1.52
22	P	142	ARG	NE-CZ	5.92	1.40	1.33
21	S	283	ARG	CD-NE	5.91	1.56	1.46
15	W	100	ARG	CD-NE	5.90	1.56	1.46
19	Z	300	ARG	NE-CZ	5.90	1.40	1.33
2	B	177	ARG	CD-NE	5.90	1.56	1.46
26	O	289	ARG	NE-CZ	5.90	1.40	1.33
30	L	89	ASN	C-N	5.90	1.43	1.33
31	M	337	ARG	NE-CZ	5.90	1.40	1.33
23	Q	155	ARG	CD-NE	5.89	1.56	1.46
19	Z	664	GLU	CD-OE2	5.88	1.32	1.25
2	B	3	GLU	CG-CD	5.88	1.60	1.51
26	O	107	SER	CA-CB	5.88	1.61	1.52
31	M	441	TYR	CG-CD1	5.88	1.46	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
16	V	208	ARG	CZ-NH1	5.88	1.40	1.33
17	T	214	GLU	CD-OE1	5.87	1.32	1.25
27	H	200	ARG	NE-CZ	5.87	1.40	1.33
24	R	312	ARG	NE-CZ	5.87	1.40	1.33
27	H	205	GLY	N-CA	-5.87	1.37	1.46
5	E	143	PHE	CG-CD1	5.87	1.47	1.38
32	J	117	ARG	CZ-NH1	5.87	1.40	1.33
30	L	262	SER	CA-CB	5.86	1.61	1.52
19	Z	262	PHE	CG-CD1	5.86	1.47	1.38
26	O	191	SER	CB-OG	5.85	1.49	1.42
19	Z	478	ARG	NE-CZ	5.85	1.40	1.33
6	F	164	ARG	NE-CZ	5.85	1.40	1.33
20	N	579	ARG	CZ-NH1	5.84	1.40	1.33
19	Z	369	ARG	CZ-NH1	5.84	1.40	1.33
23	Q	221	GLU	CD-OE2	5.84	1.32	1.25
28	I	66	GLU	CD-OE2	5.84	1.32	1.25
30	L	258	SER	CA-CB	5.84	1.61	1.52
7	G	184	GLU	CB-CG	5.83	1.63	1.52
10	3	99	ARG	CZ-NH2	5.83	1.40	1.33
3	C	2	SER	CA-CB	5.82	1.61	1.52
7	G	229	PRO	N-CD	-5.82	1.39	1.47
8	1	78	ARG	CZ-NH2	5.82	1.40	1.33
31	M	184	PRO	N-CD	-5.82	1.39	1.47
3	C	136	TYR	CE1-CZ	5.81	1.46	1.38
29	K	188	PHE	CB-CG	5.81	1.61	1.51
26	O	102	GLU	CG-CD	5.80	1.60	1.51
24	R	281	GLU	CG-CD	5.80	1.60	1.51
16	V	106	GLU	N-CA	-5.80	1.34	1.46
28	I	199	GLU	CB-CG	5.80	1.63	1.52
26	O	313	LYS	CD-CE	5.79	1.65	1.51
30	L	127	ARG	CZ-NH2	5.79	1.40	1.33
31	M	374	ARG	NE-CZ	5.79	1.40	1.33
19	Z	664	GLU	CB-CG	5.79	1.63	1.52
24	R	54	TYR	CE1-CZ	5.79	1.46	1.38
3	C	96	ARG	CD-NE	5.78	1.56	1.46
15	W	86	PHE	CG-CD2	5.78	1.47	1.38
24	R	304	TYR	CZ-OH	5.78	1.47	1.37
14	7	101	TYR	CG-CD2	5.77	1.46	1.39
25	U	119	SER	CA-CB	5.77	1.61	1.52
29	K	323	ARG	CD-NE	5.77	1.56	1.46
24	R	166	SER	CA-CB	5.76	1.61	1.52
28	I	343	ARG	CZ-NH1	5.76	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
30	L	92	ARG	CZ-NH2	5.76	1.40	1.33
19	Z	267	ARG	CZ-NH2	5.76	1.40	1.33
19	Z	722	SER	CA-CB	5.75	1.61	1.52
27	H	428	ARG	CD-NE	5.75	1.56	1.46
22	P	176	SER	CA-CB	5.75	1.61	1.52
31	M	67	HIS	CB-CG	5.74	1.60	1.50
1	A	218	GLY	N-CA	-5.73	1.37	1.46
26	O	368	GLU	CG-CD	5.72	1.60	1.51
12	5	179	ARG	CZ-NH2	5.72	1.40	1.33
31	M	389	ARG	CZ-NH1	5.72	1.40	1.33
19	Z	673	ARG	CZ-NH2	5.72	1.40	1.33
32	J	297	ARG	CZ-NH1	5.71	1.40	1.33
5	E	93	ARG	CZ-NH2	5.71	1.40	1.33
2	B	180	GLU	CD-OE1	5.71	1.31	1.25
13	6	150	SER	CA-CB	5.71	1.61	1.52
17	T	345	TYR	CB-CG	-5.71	1.43	1.51
21	S	170	PHE	CG-CD2	5.71	1.47	1.38
9	2	246	ARG	CZ-NH1	5.71	1.40	1.33
30	L	124	TYR	CG-CD1	5.71	1.46	1.39
30	L	266	GLU	CD-OE1	5.71	1.31	1.25
5	E	20	ARG	CZ-NH2	5.70	1.40	1.33
29	K	363	TYR	CG-CD1	5.70	1.46	1.39
5	E	165	CYS	CB-SG	-5.70	1.72	1.81
28	I	209	GLU	CG-CD	5.69	1.60	1.51
32	J	247	PHE	CG-CD2	5.69	1.47	1.38
17	T	296	PHE	CG-CD2	5.69	1.47	1.38
32	J	117	ARG	N-CA	-5.68	1.34	1.46
28	I	295	TYR	CE1-CZ	5.68	1.46	1.38
29	K	114	ARG	NE-CZ	5.68	1.40	1.33
8	1	124	ARG	NE-CZ	5.68	1.40	1.33
19	Z	539	LEU	CA-CB	5.68	1.66	1.53
24	R	192	ARG	NE-CZ	5.68	1.40	1.33
23	Q	96	PHE	CG-CD1	5.68	1.47	1.38
24	R	216	TYR	CE1-CZ	5.67	1.46	1.38
27	H	342	GLU	CD-OE1	-5.67	1.19	1.25
21	S	162	TYR	CE2-CZ	5.67	1.46	1.38
24	R	179	ARG	CZ-NH1	5.67	1.40	1.33
9	2	230	ARG	CD-NE	5.67	1.56	1.46
4	D	173	SER	CA-CB	5.67	1.61	1.52
6	F	89	ARG	CZ-NH1	5.67	1.40	1.33
22	P	436	MET	CA-CB	-5.67	1.41	1.53
31	M	374	ARG	CD-NE	5.67	1.56	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
13	6	197	ARG	CZ-NH2	5.67	1.40	1.33
4	D	219	ARG	CZ-NH2	5.66	1.40	1.33
26	O	173	TYR	CG-CD1	5.66	1.46	1.39
22	P	237	GLU	CB-CG	5.66	1.62	1.52
23	Q	33	ARG	CZ-NH2	5.66	1.40	1.33
27	H	401	ARG	CZ-NH1	5.66	1.40	1.33
24	R	110	TYR	CE2-CZ	5.65	1.45	1.38
28	I	333	ARG	NE-CZ	5.65	1.40	1.33
25	U	261	TYR	CE2-CZ	5.65	1.45	1.38
31	M	132	ARG	CZ-NH2	5.64	1.40	1.33
10	3	80	ARG	CZ-NH2	5.64	1.40	1.33
9	2	238	LYS	CD-CE	5.64	1.65	1.51
27	H	380	SER	CA-CB	5.64	1.61	1.52
19	Z	715	HIS	CB-CG	5.63	1.60	1.50
22	P	327	GLU	CG-CD	5.63	1.60	1.51
31	M	272	ARG	CZ-NH1	5.63	1.40	1.33
28	I	422	SER	CA-CB	-5.62	1.44	1.52
5	E	226	PHE	CG-CD2	5.62	1.47	1.38
15	W	4	GLU	CD-OE2	-5.62	1.19	1.25
32	J	155	ASP	CA-CB	5.62	1.66	1.53
14	7	81	ARG	NE-CZ	5.61	1.40	1.33
19	Z	828	ARG	CD-NE	5.61	1.55	1.46
5	E	20	ARG	NE-CZ	5.61	1.40	1.33
19	Z	816	TYR	CZ-OH	5.60	1.47	1.37
20	N	857	ASP	CA-CB	5.60	1.66	1.53
25	U	79	TYR	C-N	5.60	1.43	1.33
23	Q	1	MET	N-CA	5.60	1.57	1.46
19	Z	27	LYS	CA-C	-5.60	1.38	1.52
17	T	217	ARG	CZ-NH1	5.60	1.40	1.33
2	B	54	SER	CB-OG	5.59	1.49	1.42
31	M	111	GLY	N-CA	-5.59	1.37	1.46
9	2	62	ARG	CD-NE	5.59	1.55	1.46
17	T	187	GLU	CG-CD	5.59	1.60	1.51
19	Z	434	TYR	CZ-OH	5.59	1.47	1.37
29	K	35	GLU	CB-CG	5.59	1.62	1.52
26	O	63	PHE	CG-CD2	5.59	1.47	1.38
12	5	195	PHE	CG-CD1	5.59	1.47	1.38
26	O	73	PRO	N-CA	-5.59	1.37	1.47
19	Z	687	ARG	CD-NE	5.58	1.55	1.46
21	S	84	GLY	CA-C	-5.58	1.43	1.51
20	N	834	SER	CA-CB	5.58	1.61	1.52
16	V	225	TRP	NE1-CE2	-5.58	1.30	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
16	V	35	SER	CB-OG	5.57	1.49	1.42
7	G	146	GLY	CA-C	-5.57	1.43	1.51
31	M	49	ARG	CZ-NH2	5.57	1.40	1.33
20	N	517	GLY	CA-C	-5.57	1.43	1.51
27	H	194	PRO	N-CD	-5.57	1.40	1.47
7	G	126	TYR	CG-CD2	5.56	1.46	1.39
3	C	3	ARG	CD-NE	5.56	1.55	1.46
31	M	350	ARG	CZ-NH1	5.56	1.40	1.33
6	F	193	ARG	CD-NE	5.55	1.55	1.46
28	I	358	GLU	CD-OE2	5.55	1.31	1.25
3	C	177	GLN	CG-CD	5.55	1.63	1.51
21	S	302	ARG	CZ-NH1	5.55	1.40	1.33
26	O	330	ARG	CD-NE	5.55	1.55	1.46
8	1	105	GLU	CG-CD	5.55	1.60	1.51
19	Z	494	ARG	NE-CZ	5.55	1.40	1.33
2	B	97	TYR	CZ-OH	5.54	1.47	1.37
26	O	276	CYS	CA-CB	5.54	1.66	1.53
16	V	106	GLU	CG-CD	5.53	1.60	1.51
25	U	249	PHE	CG-CD2	5.53	1.47	1.38
14	7	106	TYR	CG-CD2	5.53	1.46	1.39
15	W	91	ARG	CD-NE	5.52	1.55	1.46
4	D	156	SER	CA-CB	5.52	1.61	1.52
4	D	159	TYR	CB-CG	-5.52	1.43	1.51
29	K	234	GLU	CA-CB	5.51	1.66	1.53
6	F	211	SER	CA-CB	5.51	1.61	1.52
21	S	393	ARG	CZ-NH2	5.51	1.40	1.33
27	H	351	ARG	NE-CZ	5.51	1.40	1.33
30	L	93	TYR	CG-CD1	5.51	1.46	1.39
22	P	103	LYS	CD-CE	5.51	1.65	1.51
4	D	149	ARG	CZ-NH2	5.51	1.40	1.33
19	Z	92	VAL	CB-CG1	5.51	1.64	1.52
22	P	372	ARG	NE-CZ	5.51	1.40	1.33
9	2	230	ARG	NE-CZ	5.50	1.40	1.33
9	2	241	ARG	NE-CZ	5.50	1.40	1.33
2	B	89	ARG	CZ-NH2	5.50	1.40	1.33
30	L	199	ARG	NE-CZ	5.50	1.40	1.33
22	P	30	GLU	CG-CD	5.50	1.60	1.51
27	H	428	ARG	NE-CZ	5.50	1.40	1.33
11	4	73	TYR	CE1-CZ	5.50	1.45	1.38
23	Q	253	TYR	CZ-OH	5.50	1.47	1.37
20	N	438	GLN	CA-CB	5.50	1.66	1.53
7	G	126	TYR	CE2-CZ	5.49	1.45	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	J	228	ALA	CA-CB	5.49	1.64	1.52
20	N	509	GLY	CA-C	-5.49	1.43	1.51
30	L	111	ARG	CZ-NH2	5.49	1.40	1.33
7	G	59	TYR	CG-CD2	5.48	1.46	1.39
32	J	263	SER	CA-CB	5.47	1.61	1.52
14	7	101	TYR	CE2-CZ	5.47	1.45	1.38
4	D	94	ARG	CZ-NH2	5.47	1.40	1.33
6	F	197	GLU	CB-CG	5.47	1.62	1.52
2	B	128	ARG	CZ-NH1	5.47	1.40	1.33
8	1	49	ALA	CA-C	-5.47	1.38	1.52
9	2	132	ARG	NE-CZ	5.47	1.40	1.33
16	V	139	ARG	CZ-NH1	5.47	1.40	1.33
28	I	200	SER	N-CA	-5.47	1.35	1.46
22	P	7	GLU	CA-CB	5.46	1.66	1.53
21	S	124	ARG	NE-CZ	5.46	1.40	1.33
22	P	216	GLU	CB-CG	5.46	1.62	1.52
23	Q	20	ARG	CZ-NH1	5.46	1.40	1.33
10	3	177	ARG	NE-CZ	5.46	1.40	1.33
20	N	80	TYR	CG-CD2	5.46	1.46	1.39
27	H	339	ARG	NE-CZ	5.46	1.40	1.33
30	L	295	ARG	CZ-NH2	5.46	1.40	1.33
22	P	286	LEU	N-CA	-5.45	1.35	1.46
22	P	302	TYR	CE2-CZ	5.45	1.45	1.38
6	F	96	ARG	CZ-NH2	5.45	1.40	1.33
27	H	188	ARG	NE-CZ	5.45	1.40	1.33
27	H	114	ASN	CB-CG	5.45	1.63	1.51
14	7	228	TYR	CZ-OH	5.44	1.47	1.37
20	N	460	TYR	CE2-CZ	5.44	1.45	1.38
22	P	129	ARG	NE-CZ	5.44	1.40	1.33
31	M	135	TYR	CG-CD2	5.44	1.46	1.39
15	W	23	PRO	N-CA	-5.44	1.38	1.47
20	N	234	GLU	CG-CD	5.44	1.60	1.51
12	5	240	GLU	CD-OE2	5.43	1.31	1.25
32	J	78	ARG	NE-CZ	5.43	1.40	1.33
27	H	43	ARG	NE-CZ	5.43	1.40	1.33
25	U	245	PHE	CB-CG	-5.43	1.42	1.51
1	A	21	ARG	CZ-NH1	5.43	1.40	1.33
13	6	212	ARG	CZ-NH2	5.43	1.40	1.33
31	M	47	ARG	CZ-NH2	5.43	1.40	1.33
20	N	392	TRP	NE1-CE2	5.42	1.44	1.37
1	A	88	ARG	CZ-NH1	5.42	1.40	1.33
21	S	404	ARG	CZ-NH2	5.42	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	Z	756	PRO	N-CD	-5.42	1.40	1.47
26	O	247	ARG	CD-NE	5.42	1.55	1.46
1	A	96	TYR	CE2-CZ	5.41	1.45	1.38
30	L	305	ARG	CZ-NH1	5.41	1.40	1.33
20	N	802	TYR	CG-CD2	5.41	1.46	1.39
21	S	41	ALA	N-CA	-5.41	1.35	1.46
27	H	97	ARG	NE-CZ	5.41	1.40	1.33
27	H	201	PHE	CA-CB	5.41	1.65	1.53
29	K	178	ARG	NE-CZ	5.41	1.40	1.33
20	N	205	TYR	CD1-CE1	5.40	1.47	1.39
20	N	802	TYR	CZ-OH	5.40	1.47	1.37
24	R	54	TYR	CG-CD2	5.40	1.46	1.39
12	5	220	TYR	CZ-OH	5.40	1.47	1.37
20	N	925	VAL	CB-CG1	5.40	1.64	1.52
28	I	183	THR	N-CA	-5.40	1.35	1.46
9	2	157	TYR	CE1-CZ	5.39	1.45	1.38
19	Z	100	ARG	CZ-NH1	5.39	1.40	1.33
32	J	325	ARG	CD-NE	5.39	1.55	1.46
24	R	297	ARG	CZ-NH1	5.39	1.40	1.33
14	7	85	ARG	CZ-NH1	5.39	1.40	1.33
12	5	65	PHE	CB-CG	-5.38	1.42	1.51
26	O	230	ARG	CZ-NH2	5.38	1.40	1.33
32	J	107	ASP	CB-CG	5.38	1.63	1.51
31	M	186	GLU	CG-CD	5.38	1.60	1.51
28	I	249	ARG	CZ-NH2	5.38	1.40	1.33
2	B	124	SER	CA-CB	5.38	1.61	1.52
4	D	34	GLY	N-CA	-5.38	1.38	1.46
12	5	188	GLY	CA-C	-5.38	1.43	1.51
16	V	200	TYR	CG-CD1	5.38	1.46	1.39
20	N	330	SER	C-N	5.37	1.42	1.33
32	J	148	TYR	CB-CG	-5.37	1.43	1.51
27	H	285	PHE	CG-CD2	5.37	1.46	1.38
31	M	367	ARG	CZ-NH2	5.37	1.40	1.33
32	J	213	ARG	NE-CZ	5.37	1.40	1.33
5	E	134	SER	CA-CB	5.37	1.60	1.52
6	F	231	PRO	CA-C	5.37	1.63	1.52
19	Z	349	TYR	CE2-CZ	5.37	1.45	1.38
31	M	266	ASP	N-CA	-5.37	1.35	1.46
22	P	279	PHE	CG-CD2	5.36	1.46	1.38
29	K	117	SER	CA-CB	5.36	1.60	1.52
15	W	192	GLU	CD-OE1	5.36	1.31	1.25
31	M	367	ARG	NE-CZ	5.36	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	Z	46	SER	CA-CB	5.36	1.60	1.52
21	S	497	TYR	CG-CD1	5.36	1.46	1.39
25	U	177	ARG	CZ-NH2	5.36	1.40	1.33
31	M	42	GLU	CD-OE1	5.36	1.31	1.25
32	J	317	PHE	CG-CD2	5.35	1.46	1.38
22	P	329	ARG	CZ-NH2	5.35	1.40	1.33
10	3	181	SER	C-N	5.35	1.42	1.33
28	I	76	GLU	CD-OE1	5.35	1.31	1.25
17	T	217	ARG	NE-CZ	5.34	1.40	1.33
22	P	174	TYR	CB-CG	5.34	1.59	1.51
15	W	17	ARG	CD-NE	5.34	1.55	1.46
26	O	352	ARG	NE-CZ	5.34	1.40	1.33
3	C	48	GLU	CG-CD	5.34	1.59	1.51
14	7	67	ALA	CA-CB	5.34	1.63	1.52
22	P	227	TYR	CB-CG	-5.34	1.43	1.51
2	B	167	TYR	CG-CD1	5.33	1.46	1.39
23	Q	231	TYR	CG-CD1	5.33	1.46	1.39
22	P	20	TYR	CG-CD1	5.33	1.46	1.39
12	5	245	ARG	CZ-NH2	5.33	1.40	1.33
29	K	415	GLU	CA-CB	5.33	1.65	1.53
30	L	166	PRO	N-CD	-5.33	1.40	1.47
13	6	164	ALA	CA-CB	5.33	1.63	1.52
12	5	240	GLU	CD-OE1	-5.32	1.19	1.25
1	A	174	GLU	CG-CD	5.32	1.59	1.51
17	T	158	SER	CA-CB	5.32	1.60	1.52
21	S	313	PRO	N-CD	-5.32	1.40	1.47
6	F	107	ARG	CZ-NH1	5.31	1.40	1.33
19	Z	448	CYS	C-N	5.31	1.42	1.33
23	Q	16	LEU	CA-CB	5.30	1.66	1.53
24	R	264	TYR	CE1-CZ	5.30	1.45	1.38
20	N	136	LYS	CD-CE	5.30	1.64	1.51
20	N	684	ARG	CZ-NH2	5.29	1.40	1.33
12	5	216	ARG	CZ-NH1	5.29	1.40	1.33
16	V	68	ARG	NE-CZ	5.29	1.40	1.33
24	R	311	TYR	CE1-CZ	5.29	1.45	1.38
26	O	226	ARG	CZ-NH2	5.29	1.40	1.33
4	D	5	ARG	CZ-NH1	5.29	1.40	1.33
3	C	179	TYR	CZ-OH	5.29	1.46	1.37
7	G	103	PHE	CG-CD2	5.29	1.46	1.38
12	5	99	TYR	CE2-CZ	5.29	1.45	1.38
13	6	102	TYR	CG-CD1	5.28	1.46	1.39
3	C	49	ARG	CZ-NH1	5.28	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
27	H	319	MET	CA-C	-5.28	1.39	1.52
24	R	272	PHE	CE2-CZ	5.28	1.47	1.37
23	Q	11	ARG	NE-CZ	5.27	1.40	1.33
21	S	50	ASP	CA-CB	5.27	1.65	1.53
5	E	153	LEU	CA-CB	5.27	1.65	1.53
19	Z	439	TYR	CZ-OH	5.27	1.46	1.37
4	D	218	ARG	CD-NE	5.26	1.55	1.46
11	4	80	ALA	CA-C	-5.26	1.39	1.52
17	T	283	GLU	CG-CD	5.26	1.59	1.51
31	M	306	ASP	CB-CG	5.26	1.62	1.51
10	3	136	PHE	CE2-CZ	5.26	1.47	1.37
9	2	182	GLU	CD-OE1	5.26	1.31	1.25
32	J	345	ARG	CZ-NH2	5.26	1.39	1.33
27	H	175	SER	CB-OG	5.26	1.49	1.42
31	M	236	LYS	C-N	5.26	1.46	1.34
31	M	52	ASP	CA-CB	5.25	1.65	1.53
26	O	78	GLU	CD-OE2	5.25	1.31	1.25
28	I	124	SER	CB-OG	5.25	1.49	1.42
2	B	167	TYR	CZ-OH	5.25	1.46	1.37
19	Z	38	GLU	CD-OE2	5.25	1.31	1.25
19	Z	892	PRO	N-CD	-5.25	1.40	1.47
21	S	207	TYR	CD1-CE1	5.25	1.47	1.39
7	G	224	ARG	CZ-NH2	5.24	1.39	1.33
21	S	260	TYR	CZ-OH	5.24	1.46	1.37
26	O	10	GLN	CA-CB	5.24	1.65	1.53
19	Z	763	ARG	NE-CZ	5.24	1.39	1.33
25	U	114	ARG	CZ-NH1	5.24	1.39	1.33
24	R	137	ARG	CZ-NH1	5.23	1.39	1.33
24	R	170	GLU	CG-CD	5.23	1.59	1.51
8	1	122	ARG	CZ-NH2	5.23	1.39	1.33
6	F	100	ASP	CA-CB	5.23	1.65	1.53
21	S	272	PHE	C-N	5.23	1.44	1.34
13	6	71	TYR	CG-CD2	5.23	1.46	1.39
20	N	474	ARG	NE-CZ	5.23	1.39	1.33
20	N	907	SER	CB-OG	5.23	1.49	1.42
30	L	386	ARG	CZ-NH1	5.23	1.39	1.33
19	Z	495	GLU	CD-OE1	5.23	1.31	1.25
29	K	78	GLU	CD-OE2	5.23	1.31	1.25
29	K	326	ARG	CD-NE	5.22	1.55	1.46
20	N	494	TYR	CG-CD2	5.21	1.46	1.39
23	Q	55	SER	CA-CB	5.21	1.60	1.52
11	4	17	SER	CB-OG	-5.21	1.35	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
21	S	177	TYR	CA-CB	5.21	1.65	1.53
22	P	213	PHE	CE1-CZ	5.21	1.47	1.37
9	2	132	ARG	CD-NE	5.21	1.55	1.46
17	T	98	TYR	CZ-OH	5.21	1.46	1.37
20	N	52	GLU	CG-CD	5.21	1.59	1.51
19	Z	85	SER	CA-CB	5.21	1.60	1.52
4	D	17	PHE	CG-CD2	5.21	1.46	1.38
1	A	244	GLU	CG-CD	5.20	1.59	1.51
17	T	231	HIS	N-CA	-5.20	1.35	1.46
7	G	150	TYR	CE1-CZ	5.20	1.45	1.38
10	3	198	ARG	CZ-NH1	5.20	1.39	1.33
25	U	117	PRO	N-CD	-5.20	1.40	1.47
13	6	200	ARG	CZ-NH2	5.20	1.39	1.33
28	I	177	GLU	CG-CD	5.20	1.59	1.51
32	J	6	PRO	N-CD	-5.20	1.40	1.47
3	C	3	ARG	CZ-NH2	5.20	1.39	1.33
17	T	271	ARG	CZ-NH1	5.20	1.39	1.33
20	N	682	TYR	CE1-CZ	5.20	1.45	1.38
16	V	198	ARG	NE-CZ	5.19	1.39	1.33
11	4	70	ARG	NE-CZ	5.19	1.39	1.33
19	Z	369	ARG	NE-CZ	5.19	1.39	1.33
24	R	137	ARG	CZ-NH2	5.19	1.39	1.33
29	K	285	VAL	CB-CG2	5.19	1.63	1.52
12	5	236	TYR	CB-CG	-5.18	1.43	1.51
27	H	401	ARG	CD-NE	5.18	1.55	1.46
30	L	227	ARG	CZ-NH2	5.18	1.39	1.33
5	E	148	GLU	CB-CG	5.18	1.61	1.52
7	G	60	GLU	CD-OE1	5.18	1.31	1.25
15	W	190	ALA	C-N	5.18	1.42	1.33
21	S	196	ARG	CZ-NH1	5.18	1.39	1.33
32	J	322	GLU	CA-CB	5.18	1.65	1.53
7	G	22	PHE	CB-CG	-5.17	1.42	1.51
16	V	104	ARG	CZ-NH2	5.17	1.39	1.33
3	C	153	SER	CB-OG	5.17	1.49	1.42
17	T	309	ARG	NE-CZ	5.17	1.39	1.33
22	P	126	ASP	CB-CG	5.17	1.62	1.51
25	U	190	ARG	CZ-NH1	5.16	1.39	1.33
26	O	232	TRP	CZ3-CH2	5.16	1.48	1.40
3	C	43	VAL	CA-CB	-5.16	1.44	1.54
17	T	114	LYS	CD-CE	5.16	1.64	1.51
20	N	643	SER	CA-CB	5.16	1.60	1.52
24	R	118	GLU	CG-CD	5.16	1.59	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
24	R	264	TYR	CG-CD1	5.16	1.45	1.39
26	O	339	ARG	CD-NE	5.16	1.55	1.46
19	Z	470	VAL	CA-CB	-5.16	1.44	1.54
25	U	250	TYR	CE2-CZ	5.16	1.45	1.38
31	M	389	ARG	CD-NE	5.16	1.55	1.46
8	1	51	SER	CA-CB	5.15	1.60	1.52
25	U	106	ILE	N-CA	-5.15	1.36	1.46
29	K	121	ARG	CZ-NH1	5.15	1.39	1.33
30	L	175	ARG	NE-CZ	5.15	1.39	1.33
25	U	94	TRP	CE3-CZ3	5.14	1.47	1.38
10	3	48	ARG	NE-CZ	5.14	1.39	1.33
19	Z	308	SER	CA-CB	5.14	1.60	1.52
17	T	207	ARG	NE-CZ	5.14	1.39	1.33
22	P	309	PHE	CB-CG	5.14	1.60	1.51
19	Z	380	PHE	CG-CD1	5.13	1.46	1.38
26	O	156	TYR	CG-CD1	5.13	1.45	1.39
20	N	538	GLU	CA-CB	5.13	1.65	1.53
23	Q	142	ARG	NE-CZ	5.13	1.39	1.33
1	A	132	ARG	CD-NE	5.13	1.55	1.46
28	I	411	ARG	CZ-NH2	5.13	1.39	1.33
30	L	341	ASP	CA-CB	5.13	1.65	1.53
3	C	96	ARG	CZ-NH2	5.12	1.39	1.33
28	I	146	PRO	C-N	5.12	1.42	1.33
3	C	62	SER	CA-CB	5.12	1.60	1.52
15	W	17	ARG	CZ-NH1	5.12	1.39	1.33
10	3	113	ASP	CA-CB	5.12	1.65	1.53
19	Z	72	ARG	CZ-NH1	5.12	1.39	1.33
19	Z	547	GLU	CG-CD	5.12	1.59	1.51
7	G	130	ARG	C-N	5.12	1.44	1.34
19	Z	203	GLU	CD-OE1	-5.12	1.20	1.25
29	K	381	GLU	CG-CD	5.12	1.59	1.51
2	B	43	GLY	N-CA	-5.11	1.38	1.46
32	J	309	GLY	CA-C	-5.11	1.43	1.51
1	A	132	ARG	CZ-NH2	5.11	1.39	1.33
17	T	258	SER	CB-OG	5.11	1.48	1.42
7	G	49	GLY	CA-C	-5.11	1.43	1.51
8	1	140	GLU	CG-CD	-5.11	1.44	1.51
10	3	66	ARG	NE-CZ	5.10	1.39	1.33
16	V	46	ARG	CZ-NH1	5.10	1.39	1.33
29	K	329	ARG	NE-CZ	5.10	1.39	1.33
32	J	112	CYS	CB-SG	5.10	1.91	1.82
17	T	170	TYR	CD1-CE1	5.10	1.47	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	5	125	TYR	CE1-CZ	5.10	1.45	1.38
19	Z	559	PRO	CA-C	-5.09	1.42	1.52
3	C	125	GLY	CA-C	-5.09	1.43	1.51
22	P	338	THR	N-CA	-5.09	1.36	1.46
23	Q	87	ARG	CZ-NH1	5.09	1.39	1.33
4	D	162	TRP	CG-CD1	-5.08	1.29	1.36
29	K	114	ARG	CZ-NH1	5.08	1.39	1.33
2	B	121	TYR	CZ-OH	5.08	1.46	1.37
19	Z	215	ASP	CA-CB	5.08	1.65	1.53
20	N	618	ALA	CA-C	-5.08	1.39	1.52
23	Q	137	TYR	CE2-CZ	5.08	1.45	1.38
25	U	245	PHE	CA-CB	5.08	1.65	1.53
19	Z	335	ARG	NE-CZ	5.07	1.39	1.33
21	S	287	TYR	CE2-CZ	5.07	1.45	1.38
24	R	53	TYR	CZ-OH	5.07	1.46	1.37
19	Z	434	TYR	CG-CD2	5.07	1.45	1.39
19	Z	785	ARG	CD-NE	5.07	1.55	1.46
28	I	118	ASP	CA-CB	5.07	1.65	1.53
7	G	223	GLY	CA-C	-5.07	1.43	1.51
13	6	28	ARG	CB-CG	5.07	1.66	1.52
2	B	152	SER	CA-CB	5.06	1.60	1.52
23	Q	357	SER	CA-CB	5.06	1.60	1.52
20	N	771	PHE	CD2-CE2	5.06	1.49	1.39
17	T	238	TYR	CZ-OH	5.06	1.46	1.37
22	P	357	ARG	NE-CZ	5.05	1.39	1.33
14	7	119	GLU	CA-C	5.05	1.66	1.52
6	F	91	GLU	CG-CD	5.05	1.59	1.51
21	S	443	ILE	N-CA	-5.05	1.36	1.46
32	J	124	HIS	CG-CD2	5.05	1.44	1.35
32	J	244	SER	CA-CB	5.05	1.60	1.52
8	1	153	MET	CA-CB	5.05	1.65	1.53
22	P	8	ARG	CD-NE	5.05	1.55	1.46
24	R	219	PHE	CG-CD2	5.05	1.46	1.38
26	O	240	PHE	CE1-CZ	5.05	1.47	1.37
19	Z	830	LEU	CA-CB	5.05	1.65	1.53
20	N	780	SER	CA-CB	5.04	1.60	1.52
24	R	290	PRO	N-CA	-5.04	1.38	1.47
4	D	115	ARG	CZ-NH2	5.04	1.39	1.33
20	N	387	ARG	NE-CZ	5.04	1.39	1.33
10	3	176	ASP	CA-CB	5.04	1.65	1.53
20	N	681	ASN	CA-CB	5.04	1.66	1.53
30	L	358	ARG	CD-NE	5.04	1.55	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	T	185	LEU	CA-CB	5.03	1.65	1.53
19	Z	79	ARG	CD-NE	5.03	1.55	1.46
19	Z	62	ARG	CZ-NH1	5.03	1.39	1.33
21	S	395	ARG	CZ-NH1	5.03	1.39	1.33
5	E	53	ARG	CA-CB	5.03	1.65	1.53
9	2	133	TYR	CD1-CE1	5.03	1.46	1.39
20	N	594	GLY	CA-C	-5.03	1.43	1.51
20	N	899	ARG	NE-CZ	5.03	1.39	1.33
7	G	142	SER	N-CA	-5.02	1.36	1.46
2	B	100	VAL	N-CA	-5.02	1.36	1.46
21	S	162	TYR	CG-CD2	5.02	1.45	1.39
30	L	26	TYR	CZ-OH	5.02	1.46	1.37
2	B	16	SER	CA-CB	5.02	1.60	1.52
23	Q	96	PHE	CB-CG	5.02	1.59	1.51
26	O	178	ARG	CZ-NH2	5.02	1.39	1.33
10	3	5	SER	CA-CB	5.01	1.60	1.52
13	6	102	TYR	CB-CG	5.01	1.59	1.51
19	Z	646	MET	CA-CB	-5.01	1.43	1.53
29	K	377	SER	CB-OG	-5.01	1.35	1.42
21	S	453	TYR	CZ-OH	5.01	1.46	1.37
7	G	115	ARG	CZ-NH1	5.01	1.39	1.33
24	R	233	ARG	CZ-NH1	5.01	1.39	1.33
4	D	57	ARG	CD-NE	5.01	1.54	1.46
17	T	259	TYR	CB-CG	5.01	1.59	1.51
19	Z	136	GLU	N-CA	-5.01	1.36	1.46
20	N	852	GLU	CD-OE2	-5.01	1.20	1.25
28	I	401	GLU	CD-OE1	5.01	1.31	1.25
2	B	89	ARG	NE-CZ	5.00	1.39	1.33
19	Z	529	SER	CA-CB	5.00	1.60	1.52
1	A	108	GLU	CD-OE2	5.00	1.31	1.25
20	N	418	GLU	CG-CD	5.00	1.59	1.51

All (2086) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	5	239	ARG	NE-CZ-NH2	-19.68	110.46	120.30
20	N	684	ARG	NE-CZ-NH2	-18.89	110.86	120.30
29	K	339	ARG	NE-CZ-NH1	18.36	129.48	120.30
9	2	244	ARG	NE-CZ-NH2	-18.19	111.20	120.30
27	H	43	ARG	NE-CZ-NH1	17.85	129.22	120.30
20	N	883	ARG	NE-CZ-NH1	17.41	129.00	120.30
12	5	132	ARG	NE-CZ-NH2	-16.95	111.82	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
28	I	283	PHE	CB-CG-CD2	-16.28	109.40	120.80
14	7	185	TYR	CB-CG-CD1	-16.10	111.34	121.00
13	6	28	ARG	NE-CZ-NH1	15.63	128.11	120.30
6	F	82	ARG	NE-CZ-NH2	15.54	128.07	120.30
25	U	88	ARG	NE-CZ-NH1	15.45	128.03	120.30
19	Z	803	PHE	CB-CG-CD2	15.22	131.46	120.80
17	T	259	TYR	CB-CG-CD1	14.91	129.95	121.00
19	Z	380	PHE	CB-CG-CD1	14.68	131.07	120.80
3	C	121	TYR	CB-CG-CD1	14.67	129.80	121.00
24	R	337	PHE	CB-CG-CD2	-14.66	110.54	120.80
28	I	283	PHE	CB-CG-CD1	14.62	131.03	120.80
6	F	164	ARG	NE-CZ-NH2	-14.60	113.00	120.30
22	P	324	TYR	CB-CG-CD1	14.43	129.66	121.00
19	Z	494	ARG	NE-CZ-NH2	-14.42	113.09	120.30
31	M	441	TYR	CB-CG-CD1	14.38	129.63	121.00
7	G	126	TYR	CB-CG-CD1	14.27	129.56	121.00
8	1	58	TYR	CB-CG-CD1	-14.25	112.45	121.00
23	Q	72	TYR	CB-CG-CD1	-14.20	112.48	121.00
20	N	710	ARG	NE-CZ-NH2	-14.13	113.24	120.30
24	R	187	TYR	CB-CG-CD1	14.04	129.43	121.00
19	Z	62	ARG	NE-CZ-NH1	-14.00	113.30	120.30
20	N	684	ARG	NE-CZ-NH1	13.98	127.29	120.30
20	N	769	PHE	CB-CG-CD2	-13.97	111.02	120.80
22	P	309	PHE	CB-CG-CD1	13.91	130.54	120.80
19	Z	554	TYR	CB-CG-CD1	13.88	129.33	121.00
21	S	410	TYR	CB-CG-CD2	-13.87	112.68	121.00
9	2	124	ARG	NE-CZ-NH1	13.83	127.21	120.30
26	O	154	ARG	NE-CZ-NH2	-13.80	113.40	120.30
26	O	70	ARG	NE-CZ-NH1	13.77	127.19	120.30
6	F	96	ARG	NE-CZ-NH2	-13.74	113.43	120.30
3	C	121	TYR	CB-CG-CD2	-13.71	112.77	121.00
20	N	253	TYR	CB-CG-CD2	-13.69	112.79	121.00
32	J	374	ARG	NE-CZ-NH1	13.61	127.11	120.30
25	U	190	ARG	NE-CZ-NH2	-13.54	113.53	120.30
23	Q	33	ARG	NE-CZ-NH2	13.50	127.05	120.30
29	K	326	ARG	NE-CZ-NH2	-13.49	113.56	120.30
12	5	149	TYR	CB-CG-CD2	-13.49	112.91	121.00
10	3	147	TYR	CB-CG-CD1	-13.29	113.02	121.00
19	Z	688	ARG	NE-CZ-NH2	-13.28	113.66	120.30
24	R	187	TYR	CB-CG-CD2	-13.26	113.04	121.00
1	A	27	TYR	CB-CG-CD1	13.24	128.94	121.00
19	Z	600	TYR	CB-CG-CD1	13.18	128.91	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	1	122	ARG	NE-CZ-NH2	-13.14	113.73	120.30
12	5	224	TYR	CB-CG-CD1	-13.08	113.15	121.00
32	J	374	ARG	NE-CZ-NH2	-13.03	113.78	120.30
27	H	369	ARG	NE-CZ-NH1	12.99	126.79	120.30
20	N	341	PHE	CB-CG-CD2	-12.95	111.73	120.80
22	P	329	ARG	NE-CZ-NH1	12.91	126.75	120.30
20	N	875	PHE	CB-CG-CD2	12.90	129.83	120.80
29	K	41	TYR	CB-CG-CD1	-12.82	113.31	121.00
25	U	209	ARG	NE-CZ-NH1	12.79	126.70	120.30
13	6	131	TYR	CB-CG-CD2	-12.75	113.35	121.00
19	Z	746	ARG	NE-CZ-NH2	-12.66	113.97	120.30
28	I	80	ARG	NE-CZ-NH2	-12.65	113.98	120.30
25	U	88	ARG	NE-CZ-NH2	-12.63	113.98	120.30
10	3	147	TYR	CB-CG-CD2	12.63	128.58	121.00
19	Z	158	TYR	CB-CG-CD2	-12.60	113.44	121.00
13	6	151	PHE	CB-CG-CD2	-12.57	112.00	120.80
20	N	900	TYR	CB-CG-CD2	-12.49	113.50	121.00
12	5	149	TYR	CB-CG-CD1	12.46	128.47	121.00
15	W	108	ARG	NE-CZ-NH1	12.42	126.51	120.30
20	N	494	TYR	CB-CG-CD2	12.36	128.41	121.00
13	6	157	TYR	CB-CG-CD1	12.35	128.41	121.00
21	S	290	ARG	NE-CZ-NH1	-12.35	114.13	120.30
1	A	132	ARG	NE-CZ-NH2	-12.34	114.13	120.30
9	2	244	ARG	NE-CZ-NH1	12.17	126.39	120.30
24	R	312	ARG	NE-CZ-NH1	-12.16	114.22	120.30
19	Z	143	ARG	NE-CZ-NH2	-12.07	114.27	120.30
1	A	105	TYR	CB-CG-CD1	-12.06	113.76	121.00
23	Q	72	TYR	CB-CG-CD2	12.03	128.22	121.00
20	N	579	ARG	NE-CZ-NH2	-11.98	114.31	120.30
22	P	324	TYR	CB-CG-CD2	-11.97	113.82	121.00
13	6	157	TYR	CB-CG-CD2	-11.97	113.82	121.00
6	F	193	ARG	NE-CZ-NH1	11.93	126.26	120.30
27	H	43	ARG	NE-CZ-NH2	-11.90	114.35	120.30
24	R	32	ARG	NE-CZ-NH2	-11.87	114.37	120.30
24	R	237	ARG	NE-CZ-NH1	11.87	126.23	120.30
20	N	222	PHE	CB-CG-CD2	-11.85	112.50	120.80
1	A	228	ARG	NE-CZ-NH2	-11.78	114.41	120.30
21	S	232	ARG	NE-CZ-NH2	-11.77	114.41	120.30
21	S	196	ARG	NE-CZ-NH2	-11.76	114.42	120.30
2	B	219	ARG	NE-CZ-NH1	11.76	126.18	120.30
6	F	107	ARG	NE-CZ-NH1	11.76	126.18	120.30
32	J	60	ARG	NE-CZ-NH1	11.73	126.17	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	C	148	TYR	CB-CG-CD1	-11.70	113.98	121.00
29	K	388	ARG	NE-CZ-NH2	-11.68	114.46	120.30
15	W	130	ARG	NE-CZ-NH2	-11.62	114.49	120.30
7	G	188	ARG	NE-CZ-NH2	-11.59	114.50	120.30
19	Z	803	PHE	CB-CG-CD1	-11.58	112.70	120.80
28	I	211	TYR	CG-CD1-CE1	-11.56	112.05	121.30
28	I	132	TYR	CB-CG-CD2	-11.55	114.07	121.00
29	K	363	TYR	CB-CG-CD1	11.54	127.93	121.00
19	Z	98	PHE	CB-CG-CD2	-11.53	112.73	120.80
10	3	203	ARG	NE-CZ-NH2	-11.48	114.56	120.30
22	P	329	ARG	NE-CZ-NH2	-11.47	114.56	120.30
6	F	51	ARG	NE-CZ-NH2	-11.42	114.59	120.30
24	R	110	TYR	CB-CG-CD1	11.41	127.84	121.00
3	C	128	ARG	NE-CZ-NH2	-11.39	114.61	120.30
28	I	307	ARG	NE-CZ-NH1	11.38	125.99	120.30
20	N	144	ASP	CB-CG-OD1	11.34	128.50	118.30
29	K	299	PHE	CB-CG-CD1	11.32	128.72	120.80
24	R	323	PHE	CB-CG-CD2	-11.31	112.88	120.80
19	Z	380	PHE	CB-CG-CD2	-11.31	112.89	120.80
10	3	96	TYR	CB-CG-CD1	-11.27	114.24	121.00
19	Z	103	TYR	CB-CG-CD1	11.24	127.74	121.00
9	2	124	ARG	NE-CZ-NH2	-11.23	114.68	120.30
20	N	502	TYR	CB-CG-CD2	-11.17	114.30	121.00
20	N	460	TYR	CB-CG-CD1	11.17	127.70	121.00
27	H	323	ARG	NE-CZ-NH1	-11.17	114.72	120.30
3	C	5	TYR	CB-CG-CD2	-11.14	114.32	121.00
23	Q	20	ARG	NE-CZ-NH2	-11.13	114.74	120.30
20	N	222	PHE	CB-CG-CD1	11.09	128.56	120.80
12	5	125	TYR	CB-CG-CD2	-11.09	114.35	121.00
26	O	198	PHE	CB-CG-CD1	11.05	128.54	120.80
20	N	627	PHE	CB-CG-CD2	-11.04	113.07	120.80
28	I	103	ARG	NE-CZ-NH1	11.03	125.82	120.30
6	F	126	ARG	NE-CZ-NH1	10.98	125.79	120.30
29	K	205	TYR	CB-CG-CD2	10.97	127.58	121.00
25	U	267	ARG	NE-CZ-NH2	10.96	125.78	120.30
7	G	20	ARG	NE-CZ-NH2	-10.95	114.82	120.30
29	K	363	TYR	CB-CG-CD2	-10.96	114.43	121.00
20	N	437	TYR	CB-CG-CD1	-10.95	114.43	121.00
14	7	218	ARG	NE-CZ-NH1	10.93	125.76	120.30
20	N	13	ASP	CB-CG-OD1	10.92	128.13	118.30
8	1	123	TYR	CB-CG-CD2	10.90	127.54	121.00
20	N	159	ARG	NE-CZ-NH1	10.89	125.75	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	4	161	ARG	NE-CZ-NH2	10.89	125.74	120.30
20	N	769	PHE	CB-CG-CD1	10.88	128.42	120.80
17	T	177	TYR	CB-CG-CD1	10.85	127.51	121.00
16	V	65	TYR	CB-CG-CD2	-10.85	114.49	121.00
19	Z	723	TYR	CB-CG-CD2	-10.84	114.50	121.00
6	F	107	ARG	NE-CZ-NH2	-10.82	114.89	120.30
23	Q	239	TYR	CB-CG-CD2	-10.81	114.51	121.00
19	Z	262	PHE	CB-CG-CD2	10.78	128.35	120.80
20	N	710	ARG	NE-CZ-NH1	10.78	125.69	120.30
1	A	228	ARG	NE-CZ-NH1	10.76	125.68	120.30
19	Z	239	TYR	CB-CG-CD2	-10.74	114.56	121.00
22	P	129	ARG	NE-CZ-NH2	-10.74	114.93	120.30
6	F	123	TYR	CB-CG-CD2	-10.73	114.56	121.00
7	G	159	TYR	CB-CG-CD2	-10.72	114.56	121.00
20	N	395	ARG	NE-CZ-NH1	10.71	125.65	120.30
19	Z	158	TYR	CB-CG-CD1	10.69	127.41	121.00
28	I	419	PHE	CB-CG-CD2	10.68	128.27	120.80
28	I	249	ARG	NE-CZ-NH2	-10.65	114.97	120.30
17	T	148	ARG	NE-CZ-NH1	-10.64	114.98	120.30
30	L	199	ARG	NE-CZ-NH1	-10.64	114.98	120.30
3	C	96	ARG	NE-CZ-NH2	10.63	125.62	120.30
6	F	137	TYR	CB-CG-CD2	-10.59	114.64	121.00
22	P	55	ARG	NE-CZ-NH1	10.59	125.60	120.30
1	A	21	ARG	NE-CZ-NH1	10.58	125.59	120.30
16	V	200	TYR	CB-CG-CD1	10.55	127.33	121.00
3	C	249	ARG	NE-CZ-NH1	10.54	125.57	120.30
25	U	250	TYR	CB-CG-CD1	10.54	127.32	121.00
24	R	323	PHE	CB-CG-CD1	10.53	128.17	120.80
22	P	369	TYR	CB-CG-CD1	10.52	127.31	121.00
28	I	419	PHE	CB-CG-CD1	-10.50	113.45	120.80
24	R	337	PHE	CB-CG-CD1	10.50	128.15	120.80
29	K	323	ARG	NE-CZ-NH1	10.49	125.55	120.30
29	K	121	ARG	NE-CZ-NH2	-10.49	115.06	120.30
20	N	144	ASP	CB-CG-OD2	-10.47	108.87	118.30
17	T	259	TYR	CB-CG-CD2	-10.46	114.72	121.00
13	6	215	TYR	CB-CG-CD2	-10.46	114.72	121.00
14	7	143	ARG	NE-CZ-NH2	-10.44	115.08	120.30
24	R	137	ARG	NE-CZ-NH2	-10.44	115.08	120.30
13	6	151	PHE	CB-CG-CD1	10.42	128.09	120.80
22	P	111	TYR	CB-CG-CD2	10.38	127.23	121.00
17	T	347	ARG	NE-CZ-NH2	-10.38	115.11	120.30
1	A	3	ARG	NE-CZ-NH1	10.37	125.49	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
21	S	214	TYR	CB-CG-CD2	-10.37	114.78	121.00
10	3	203	ARG	NE-CZ-NH1	10.36	125.48	120.30
29	K	299	PHE	CB-CG-CD2	-10.32	113.58	120.80
19	Z	369	ARG	NE-CZ-NH2	-10.30	115.15	120.30
8	1	94	TYR	CB-CG-CD1	10.29	127.17	121.00
9	2	154	TYR	CB-CG-CD2	-10.28	114.83	121.00
1	A	27	TYR	CB-CG-CD2	-10.24	114.85	121.00
23	Q	122	ARG	NE-CZ-NH1	10.24	125.42	120.30
17	T	217	ARG	NE-CZ-NH1	-10.18	115.21	120.30
5	E	26	TYR	CB-CG-CD2	-10.15	114.91	121.00
9	2	154	TYR	CB-CG-CD1	10.12	127.07	121.00
4	D	124	TYR	CB-CG-CD2	-10.09	114.95	121.00
22	P	20	TYR	CB-CG-CD2	-10.08	114.95	121.00
4	D	177	PHE	CB-CG-CD1	10.08	127.86	120.80
31	M	374	ARG	NE-CZ-NH2	-10.06	115.27	120.30
4	D	60	ARG	NE-CZ-NH1	10.06	125.33	120.30
22	P	240	TYR	CB-CG-CD1	-10.05	114.97	121.00
21	S	143	PHE	CB-CG-CD1	10.04	127.83	120.80
16	V	118	PHE	CB-CG-CD2	-10.04	113.77	120.80
13	6	60	PHE	CB-CG-CD1	10.04	127.83	120.80
15	W	25	ARG	NE-CZ-NH1	10.04	125.32	120.30
19	Z	494	ARG	NE-CZ-NH1	10.04	125.32	120.30
19	Z	554	TYR	CZ-CE2-CD2	-10.00	110.80	119.80
7	G	119	TYR	CB-CG-CD1	-10.00	115.00	121.00
16	V	118	PHE	CB-CG-CD1	10.00	127.80	120.80
16	V	160	PHE	CB-CG-CD1	9.98	127.79	120.80
12	5	125	TYR	CB-CG-CD1	9.97	126.98	121.00
20	N	460	TYR	CB-CG-CD2	-9.97	115.02	121.00
24	R	179	ARG	NE-CZ-NH2	-9.97	115.32	120.30
22	P	214	PHE	CB-CG-CD1	-9.95	113.84	120.80
27	H	274	PHE	CB-CG-CD1	-9.93	113.85	120.80
32	J	24	TYR	CB-CG-CD2	-9.93	115.04	121.00
16	V	255	TYR	CB-CG-CD2	-9.92	115.05	121.00
20	N	601	ARG	NE-CZ-NH1	9.90	125.25	120.30
19	Z	98	PHE	CB-CG-CD1	9.90	127.73	120.80
16	V	208	ARG	NE-CZ-NH1	9.90	125.25	120.30
30	L	352	PHE	CB-CG-CD2	-9.89	113.88	120.80
11	4	153	ARG	NE-CZ-NH2	-9.88	115.36	120.30
13	6	200	ARG	NE-CZ-NH2	-9.88	115.36	120.30
9	2	132	ARG	NE-CZ-NH2	9.88	125.24	120.30
13	6	204	ASP	CB-CG-OD2	-9.87	109.42	118.30
21	S	207	TYR	CB-CG-CD1	-9.87	115.08	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	N	474	ARG	NE-CZ-NH2	-9.86	115.37	120.30
17	T	179	PHE	CB-CG-CD1	9.85	127.69	120.80
12	5	217	ARG	NE-CZ-NH2	-9.84	115.38	120.30
32	J	345	ARG	NE-CZ-NH2	-9.84	115.38	120.30
9	2	136	TYR	CB-CG-CD1	-9.83	115.10	121.00
30	L	227	ARG	NE-CZ-NH1	-9.83	115.39	120.30
29	K	252	ARG	NE-CZ-NH2	9.82	125.21	120.30
20	N	751	ARG	NE-CZ-NH1	9.82	125.21	120.30
16	V	226	MET	CG-SD-CE	-9.78	84.55	100.20
28	I	268	ARG	NE-CZ-NH1	-9.77	115.42	120.30
16	V	104	ARG	NE-CZ-NH1	9.76	125.18	120.30
27	H	343	PHE	CB-CG-CD1	-9.76	113.97	120.80
9	2	228	PHE	CB-CG-CD2	9.75	127.62	120.80
19	Z	332	ALA	N-CA-CB	9.75	123.75	110.10
20	N	601	ARG	NE-CZ-NH2	-9.73	115.44	120.30
28	I	259	TYR	CB-CG-CD2	-9.72	115.17	121.00
32	J	283	PHE	CB-CG-CD1	9.69	127.58	120.80
31	M	441	TYR	CB-CG-CD2	-9.68	115.19	121.00
21	S	388	TYR	CB-CG-CD1	-9.66	115.20	121.00
21	S	439	ARG	NE-CZ-NH2	-9.66	115.47	120.30
14	7	138	ARG	NE-CZ-NH1	9.65	125.13	120.30
14	7	176	TYR	CB-CG-CD1	-9.65	115.21	121.00
12	5	171	TYR	CB-CG-CD2	9.64	126.79	121.00
16	V	160	PHE	CB-CG-CD2	-9.64	114.05	120.80
13	6	238	ARG	NE-CZ-NH2	9.62	125.11	120.30
16	V	68	ARG	NE-CZ-NH1	9.62	125.11	120.30
20	N	158	ARG	NE-CZ-NH1	9.61	125.11	120.30
14	7	127	TYR	CB-CG-CD2	9.59	126.76	121.00
7	G	161	TYR	CB-CG-CD2	-9.59	115.25	121.00
14	7	101	TYR	CB-CG-CD1	-9.59	115.25	121.00
17	T	296	PHE	CB-CG-CD2	-9.58	114.09	120.80
31	M	49	ARG	NE-CZ-NH2	-9.58	115.51	120.30
26	O	156	TYR	CB-CG-CD2	-9.58	115.25	121.00
28	I	211	TYR	CB-CG-CD2	-9.56	115.26	121.00
8	1	65	ASP	CB-CG-OD1	9.56	126.90	118.30
15	W	100	ARG	NE-CZ-NH1	-9.55	115.53	120.30
3	C	249	ARG	NE-CZ-NH2	-9.54	115.53	120.30
19	Z	489	TYR	CB-CG-CD2	-9.52	115.29	121.00
11	4	155	ARG	NE-CZ-NH2	-9.51	115.55	120.30
32	J	49	ARG	NE-CZ-NH2	9.50	125.05	120.30
1	A	210	PHE	CB-CG-CD1	9.49	127.44	120.80
17	T	321	PHE	CB-CG-CD2	-9.48	114.16	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
32	J	283	PHE	CB-CG-CD2	-9.47	114.17	120.80
17	T	190	TYR	CB-CG-CD1	-9.43	115.34	121.00
12	5	239	ARG	NE-CZ-NH1	9.42	125.01	120.30
5	E	26	TYR	CB-CG-CD1	9.42	126.65	121.00
31	M	47	ARG	NE-CZ-NH2	-9.42	115.59	120.30
8	1	78	ARG	NE-CZ-NH1	9.38	124.99	120.30
2	B	34	PRO	N-CA-CB	9.38	114.56	103.30
20	N	402	PHE	CB-CG-CD2	-9.38	114.24	120.80
21	S	212	ARG	NE-CZ-NH2	9.35	124.98	120.30
12	5	120	ARG	NE-CZ-NH1	9.35	124.97	120.30
3	C	50	ARG	NE-CZ-NH2	9.34	124.97	120.30
19	Z	103	TYR	CB-CG-CD2	-9.34	115.39	121.00
19	Z	239	TYR	CB-CG-CD1	9.32	126.59	121.00
7	G	141	TYR	CB-CG-CD1	-9.27	115.44	121.00
29	K	388	ARG	NE-CZ-NH1	9.27	124.94	120.30
30	L	380	ASP	CB-CG-OD2	-9.27	109.96	118.30
20	N	875	PHE	CB-CG-CD1	-9.26	114.32	120.80
6	F	196	ARG	NE-CZ-NH1	9.26	124.93	120.30
19	Z	62	ARG	NE-CZ-NH2	9.24	124.92	120.30
28	I	331	THR	CA-CB-CG2	-9.24	99.47	112.40
19	Z	673	ARG	NE-CZ-NH2	-9.23	115.68	120.30
4	D	104	VAL	CA-CB-CG2	9.22	124.74	110.90
19	Z	346	ASP	CB-CG-OD1	9.22	126.60	118.30
24	R	194	PHE	CB-CG-CD2	9.21	127.25	120.80
21	S	144	ARG	NE-CZ-NH2	9.18	124.89	120.30
21	S	162	TYR	CB-CG-CD1	-9.17	115.50	121.00
24	R	295	TYR	CB-CG-CD1	9.17	126.50	121.00
26	O	321	ARG	NE-CZ-NH2	-9.16	115.72	120.30
9	2	245	TYR	CB-CG-CD1	-9.16	115.50	121.00
11	4	57	ALA	CB-CA-C	-9.15	96.37	110.10
32	J	60	ARG	NE-CZ-NH2	-9.14	115.73	120.30
23	Q	231	TYR	CB-CG-CD2	-9.13	115.52	121.00
7	G	119	TYR	CB-CG-CD2	9.13	126.48	121.00
32	J	43	ARG	NE-CZ-NH1	9.13	124.86	120.30
6	F	164	ARG	NE-CZ-NH1	9.11	124.85	120.30
4	D	115	ARG	NE-CZ-NH1	9.11	124.85	120.30
30	L	160	ARG	NE-CZ-NH1	9.10	124.85	120.30
30	L	39	ARG	NE-CZ-NH2	-9.10	115.75	120.30
26	O	67	PHE	CB-CG-CD2	-9.09	114.44	120.80
29	K	252	ARG	NE-CZ-NH1	-9.07	115.76	120.30
16	V	201	TYR	CB-CG-CD2	-9.07	115.56	121.00
20	N	138	PHE	CB-CG-CD2	-9.06	114.46	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	T	305	TYR	CB-CG-CD2	9.06	126.43	121.00
29	K	92	PHE	CB-CG-CD2	-9.05	114.46	120.80
22	P	20	TYR	CB-CG-CD1	9.05	126.43	121.00
23	Q	177	TYR	CB-CG-CD1	9.05	126.43	121.00
31	M	171	TYR	CB-CG-CD2	9.04	126.42	121.00
1	A	88	ARG	NE-CZ-NH2	-9.04	115.78	120.30
6	F	87	PHE	CB-CG-CD2	-9.02	114.49	120.80
24	R	23	ARG	NE-CZ-NH1	-9.01	115.80	120.30
14	7	224	ASP	CB-CG-OD1	9.00	126.40	118.30
19	Z	554	TYR	CG-CD2-CE2	8.99	128.49	121.30
21	S	143	PHE	CB-CG-CD2	-8.99	114.51	120.80
26	O	198	PHE	CB-CG-CD2	-8.98	114.52	120.80
24	R	32	ARG	NE-CZ-NH1	8.98	124.79	120.30
32	J	372	ARG	NE-CZ-NH2	-8.96	115.82	120.30
19	Z	194	TYR	CB-CG-CD2	-8.94	115.64	121.00
13	6	28	ARG	NE-CZ-NH2	-8.93	115.84	120.30
5	E	22	PHE	CB-CG-CD2	-8.92	114.56	120.80
19	Z	681	TYR	CB-CG-CD1	8.91	126.35	121.00
17	T	179	PHE	CB-CG-CD2	-8.91	114.56	120.80
21	S	283	ARG	NE-CZ-NH2	8.91	124.75	120.30
23	Q	231	TYR	CB-CG-CD1	8.90	126.34	121.00
8	1	52	ARG	NE-CZ-NH2	-8.90	115.85	120.30
30	L	255	ARG	NE-CZ-NH2	-8.89	115.85	120.30
31	M	229	TYR	CB-CG-CD1	-8.89	115.67	121.00
32	J	334	ARG	NE-CZ-NH1	8.89	124.75	120.30
12	5	171	TYR	CB-CG-CD1	-8.89	115.67	121.00
20	N	61	ALA	CB-CA-C	-8.87	96.79	110.10
14	7	176	TYR	CB-CG-CD2	8.86	126.32	121.00
11	4	93	ARG	NE-CZ-NH1	8.84	124.72	120.30
6	F	101	ARG	NE-CZ-NH2	-8.83	115.88	120.30
29	K	44	TYR	CB-CG-CD1	8.83	126.30	121.00
13	6	132	TYR	CB-CG-CD1	8.83	126.30	121.00
14	7	101	TYR	CB-CG-CD2	8.79	126.28	121.00
17	T	177	TYR	CB-CG-CD2	-8.76	115.74	121.00
23	Q	310	ARG	NE-CZ-NH2	8.76	124.68	120.30
3	C	97	TYR	CG-CD1-CE1	-8.76	114.29	121.30
29	K	251	PHE	CB-CG-CD2	-8.74	114.68	120.80
23	Q	76	PHE	CB-CG-CD2	-8.73	114.69	120.80
13	6	171	MET	CG-SD-CE	-8.72	86.25	100.20
22	P	309	PHE	CB-CG-CD2	-8.72	114.70	120.80
30	L	19	ARG	NE-CZ-NH1	8.72	124.66	120.30
32	J	372	ARG	NE-CZ-NH1	8.70	124.65	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	K	403	TYR	CB-CG-CD2	-8.69	115.79	121.00
23	Q	279	TYR	CB-CG-CD1	-8.67	115.80	121.00
14	7	185	TYR	CB-CG-CD2	8.67	126.20	121.00
8	1	41	PHE	CB-CG-CD1	-8.66	114.74	120.80
9	2	132	ARG	NE-CZ-NH1	-8.64	115.98	120.30
24	R	110	TYR	CB-CG-CD2	-8.64	115.81	121.00
16	V	233	ASP	CB-CG-OD1	8.64	126.08	118.30
21	S	124	ARG	NE-CZ-NH2	-8.64	115.98	120.30
16	V	175	ARG	NE-CZ-NH2	-8.63	115.98	120.30
19	Z	369	ARG	NE-CZ-NH1	8.63	124.61	120.30
24	R	101	ARG	NE-CZ-NH2	8.62	124.61	120.30
26	O	156	TYR	CB-CG-CD1	8.62	126.17	121.00
20	N	531	ASP	CB-CG-OD2	-8.61	110.55	118.30
22	P	357	ARG	NE-CZ-NH2	-8.60	116.00	120.30
5	E	133	MET	CG-SD-CE	-8.59	86.45	100.20
19	Z	160	ARG	NE-CZ-NH1	8.59	124.60	120.30
13	6	131	TYR	CB-CG-CD1	8.59	126.15	121.00
20	N	341	PHE	CB-CG-CD1	8.59	126.81	120.80
8	1	169	TYR	CB-CG-CD2	8.57	126.14	121.00
9	2	246	ARG	NE-CZ-NH1	-8.57	116.01	120.30
19	Z	376	PHE	CB-CG-CD1	8.57	126.80	120.80
24	R	143	TYR	CB-CG-CD1	-8.56	115.86	121.00
2	B	8	PHE	CB-CG-CD1	-8.56	114.81	120.80
7	G	103	PHE	CB-CG-CD2	8.55	126.79	120.80
19	Z	713	PHE	CB-CG-CD2	-8.54	114.82	120.80
32	J	391	MET	CG-SD-CE	-8.53	86.55	100.20
1	A	16	PHE	CB-CG-CD2	-8.52	114.84	120.80
25	U	95	TYR	CB-CG-CD1	-8.52	115.89	121.00
30	L	295	ARG	NE-CZ-NH1	8.52	124.56	120.30
24	R	358	ARG	NE-CZ-NH1	8.51	124.56	120.30
5	E	185	TYR	CB-CG-CD2	-8.51	115.90	121.00
1	A	125	TYR	CB-CG-CD1	-8.49	115.91	121.00
12	5	116	ARG	NE-CZ-NH2	8.47	124.53	120.30
19	Z	83	ARG	NE-CZ-NH2	-8.46	116.07	120.30
12	5	195	PHE	CB-CG-CD2	-8.45	114.88	120.80
6	F	196	ARG	NE-CZ-NH2	-8.44	116.08	120.30
22	P	55	ARG	NE-CZ-NH2	-8.44	116.08	120.30
8	1	171	TYR	CB-CG-CD2	-8.43	115.94	121.00
28	I	247	PHE	CB-CG-CD2	-8.43	114.90	120.80
6	F	154	PHE	CB-CG-CD1	-8.42	114.91	120.80
16	V	139	ARG	NE-CZ-NH1	8.41	124.50	120.30
15	W	130	ARG	NE-CZ-NH1	8.41	124.50	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	2	94	ASP	CB-CG-OD2	8.40	125.86	118.30
30	L	323	ARG	NE-CZ-NH2	-8.40	116.10	120.30
1	A	117	ARG	NE-CZ-NH1	8.39	124.50	120.30
32	J	312	ASP	CB-CG-OD2	-8.39	110.75	118.30
1	A	210	PHE	CB-CG-CD2	-8.38	114.93	120.80
21	S	76	ARG	NE-CZ-NH2	8.39	124.49	120.30
12	5	253	ASP	CB-CG-OD2	-8.38	110.75	118.30
6	F	96	ARG	NE-CZ-NH1	8.38	124.49	120.30
27	H	108	ASP	CB-CG-OD1	8.37	125.83	118.30
8	1	208	ARG	NE-CZ-NH2	-8.37	116.12	120.30
12	5	189	SER	C-N-CA	8.35	139.84	122.30
7	G	26	TYR	CB-CG-CD2	8.35	126.01	121.00
20	N	96	TYR	CB-CG-CD1	-8.35	115.99	121.00
1	A	16	PHE	CB-CG-CD1	8.34	126.64	120.80
6	F	67	ASP	CB-CG-OD1	-8.32	110.81	118.30
8	1	219	ARG	NE-CZ-NH1	8.31	124.45	120.30
8	1	163	SER	N-CA-CB	8.31	122.96	110.50
29	K	229	ARG	NE-CZ-NH2	8.31	124.45	120.30
1	A	191	PHE	CB-CG-CD1	8.30	126.61	120.80
30	L	157	ARG	NE-CZ-NH2	-8.28	116.16	120.30
20	N	766	PHE	CB-CG-CD1	8.27	126.59	120.80
9	2	136	TYR	CB-CG-CD2	8.26	125.96	121.00
20	N	375	PHE	CB-CG-CD2	-8.26	115.02	120.80
32	J	177	ALA	N-CA-CB	8.26	121.66	110.10
27	H	408	ASP	CB-CG-OD1	8.25	125.72	118.30
30	L	386	ARG	NE-CZ-NH1	8.25	124.42	120.30
20	N	57	ARG	NE-CZ-NH1	8.24	124.42	120.30
5	E	168	ARG	NE-CZ-NH2	-8.24	116.18	120.30
10	3	66	ARG	NE-CZ-NH2	-8.23	116.18	120.30
26	O	238	TYR	CG-CD1-CE1	8.23	127.88	121.30
3	C	218	ARG	NE-CZ-NH2	-8.22	116.19	120.30
24	R	289	ALA	N-CA-CB	8.22	121.60	110.10
23	Q	363	ARG	NE-CZ-NH2	8.21	124.41	120.30
15	W	42	ARG	NE-CZ-NH2	-8.20	116.20	120.30
27	H	432	TYR	CB-CG-CD1	-8.20	116.08	121.00
19	Z	209	MET	CG-SD-CE	-8.20	87.08	100.20
27	H	237	PHE	CB-CG-CD1	-8.20	115.06	120.80
10	3	136	PHE	CB-CG-CD2	-8.19	115.07	120.80
1	A	28	ALA	CB-CA-C	-8.18	97.83	110.10
1	A	191	PHE	CB-CG-CD2	-8.17	115.08	120.80
22	P	111	TYR	CB-CG-CD1	-8.17	116.10	121.00
23	Q	6	VAL	CB-CA-C	8.15	126.89	111.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	R	288	PHE	CB-CG-CD1	8.15	126.50	120.80
12	5	84	TYR	CB-CG-CD2	8.14	125.89	121.00
17	T	345	TYR	CG-CD2-CE2	8.14	127.81	121.30
14	7	106	TYR	CB-CG-CD1	-8.14	116.12	121.00
19	Z	232	TYR	CB-CG-CD1	8.13	125.88	121.00
22	P	12	ARG	NE-CZ-NH2	-8.13	116.23	120.30
22	P	407	ASP	CB-CG-OD2	8.11	125.60	118.30
24	R	23	ARG	NE-CZ-NH2	8.11	124.36	120.30
20	N	387	ARG	NE-CZ-NH1	-8.11	116.25	120.30
30	L	295	ARG	NE-CZ-NH2	-8.10	116.25	120.30
31	M	311	ARG	NE-CZ-NH1	8.10	124.35	120.30
22	P	142	ARG	NE-CZ-NH1	8.08	124.34	120.30
17	T	282	TYR	CB-CG-CD1	-8.06	116.17	121.00
28	I	389	ASP	CB-CG-OD2	8.05	125.55	118.30
32	J	312	ASP	CB-CG-OD1	8.05	125.54	118.30
21	S	475	ARG	NE-CZ-NH1	-8.04	116.28	120.30
6	F	239	ARG	NE-CZ-NH2	8.03	124.31	120.30
20	N	557	TYR	CB-CG-CD2	8.02	125.81	121.00
17	T	282	TYR	CB-CG-CD2	8.02	125.81	121.00
24	R	209	THR	CA-CB-CG2	-8.02	101.17	112.40
6	F	80	ASP	CB-CG-OD2	8.01	125.50	118.30
15	W	21	PHE	CB-CG-CD2	-8.01	115.20	120.80
4	D	92	ARG	NE-CZ-NH2	-8.00	116.30	120.30
2	B	24	TYR	CB-CG-CD2	-8.00	116.20	121.00
8	1	177	ARG	NE-CZ-NH2	-7.98	116.31	120.30
21	S	214	TYR	CB-CG-CD1	7.97	125.78	121.00
21	S	497	TYR	CZ-CE2-CD2	7.97	126.97	119.80
23	Q	124	PHE	CB-CG-CD1	-7.96	115.23	120.80
1	A	28	ALA	N-CA-CB	7.96	121.24	110.10
11	4	153	ARG	NE-CZ-NH1	7.95	124.28	120.30
4	D	89	VAL	CA-CB-CG2	-7.95	98.97	110.90
4	D	101	ARG	NE-CZ-NH2	-7.95	116.33	120.30
13	6	149	TYR	CG-CD2-CE2	-7.95	114.94	121.30
19	Z	496	ASP	CB-CG-OD1	7.94	125.44	118.30
2	B	177	ARG	NE-CZ-NH2	-7.94	116.33	120.30
3	C	156	TYR	CB-CG-CD1	7.93	125.76	121.00
4	D	143	ASP	CB-CG-OD2	-7.93	111.16	118.30
21	S	310	ARG	NE-CZ-NH2	-7.93	116.33	120.30
26	O	270	ARG	NE-CZ-NH1	7.92	124.26	120.30
20	N	894	MET	CG-SD-CE	-7.92	87.53	100.20
12	5	132	ARG	NE-CZ-NH1	7.91	124.26	120.30
21	S	345	ARG	NE-CZ-NH1	-7.91	116.34	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
19	Z	250	ARG	NE-CZ-NH1	7.90	124.25	120.30
1	A	240	VAL	CA-CB-CG2	7.90	122.75	110.90
30	L	235	TYR	CB-CG-CD1	-7.90	116.26	121.00
24	R	292	TYR	CB-CG-CD2	7.89	125.73	121.00
27	H	261	PHE	CB-CG-CD1	-7.89	115.28	120.80
21	S	410	TYR	CB-CG-CD1	7.89	125.73	121.00
17	T	282	TYR	CZ-CE2-CD2	-7.88	112.71	119.80
16	V	61	PHE	CB-CG-CD1	7.88	126.31	120.80
31	M	174	ARG	NE-CZ-NH2	-7.88	116.36	120.30
13	6	205	VAL	CA-CB-CG2	-7.88	99.09	110.90
22	P	70	VAL	CA-CB-CG1	7.87	122.71	110.90
12	5	185	PHE	CB-CG-CD1	7.87	126.31	120.80
29	K	251	PHE	CB-CG-CD1	7.86	126.30	120.80
7	G	22	PHE	CB-CG-CD2	-7.86	115.30	120.80
16	V	126	ASP	CB-CG-OD2	-7.85	111.23	118.30
12	5	258	TYR	CB-CG-CD2	-7.85	116.29	121.00
20	N	572	ARG	NE-CZ-NH2	7.84	124.22	120.30
14	7	127	TYR	CB-CG-CD1	-7.84	116.30	121.00
9	2	47	ALA	N-CA-CB	7.83	121.07	110.10
24	R	216	TYR	CB-CG-CD1	7.83	125.70	121.00
30	L	286	ARG	NE-CZ-NH1	7.82	124.21	120.30
4	D	77	ALA	N-CA-CB	7.81	121.03	110.10
26	O	37	LEU	CB-CG-CD1	7.81	124.28	111.00
30	L	245	PHE	CB-CG-CD1	7.80	126.26	120.80
26	O	96	PHE	CB-CG-CD2	-7.80	115.34	120.80
19	Z	554	TYR	CB-CG-CD2	-7.79	116.33	121.00
23	Q	177	TYR	CZ-CE2-CD2	-7.78	112.80	119.80
4	D	57	ARG	NE-CZ-NH2	-7.77	116.41	120.30
29	K	166	ASP	CB-CG-OD2	-7.77	111.31	118.30
19	Z	478	ARG	NE-CZ-NH1	7.77	124.18	120.30
20	N	899	ARG	NE-CZ-NH1	-7.76	116.42	120.30
31	M	321	ASP	CB-CG-OD1	7.76	125.28	118.30
23	Q	87	ARG	NE-CZ-NH1	7.75	124.17	120.30
19	Z	703	ARG	NE-CZ-NH1	7.74	124.17	120.30
16	V	161	ARG	NE-CZ-NH1	-7.74	116.43	120.30
19	Z	688	ARG	NH1-CZ-NH2	7.74	127.92	119.40
14	7	80	PHE	CB-CG-CD1	-7.74	115.38	120.80
15	W	1	MET	CG-SD-CE	-7.74	87.83	100.20
8	1	98	PHE	CB-CG-CD1	7.73	126.21	120.80
10	3	57	ALA	N-CA-CB	7.71	120.90	110.10
28	I	67	ARG	NE-CZ-NH1	7.71	124.15	120.30
16	V	139	ARG	NE-CZ-NH2	-7.70	116.45	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	2	118	ARG	NE-CZ-NH1	7.70	124.15	120.30
23	Q	232	PHE	CG-CD2-CE2	-7.70	112.33	120.80
2	B	218	PHE	CB-CG-CD2	-7.69	115.42	120.80
26	O	330	ARG	NE-CZ-NH2	-7.68	116.46	120.30
19	Z	420	TRP	CB-CG-CD1	-7.68	117.01	127.00
19	Z	828	ARG	NE-CZ-NH1	7.68	124.14	120.30
31	M	171	TYR	CB-CG-CD1	-7.68	116.39	121.00
16	V	84	VAL	CA-CB-CG1	-7.66	99.41	110.90
20	N	74	PHE	CB-CG-CD1	7.66	126.16	120.80
19	Z	703	ARG	NE-CZ-NH2	-7.66	116.47	120.30
5	E	129	ASP	CB-CG-OD2	-7.65	111.41	118.30
26	O	339	ARG	NE-CZ-NH2	7.65	124.12	120.30
28	I	410	ARG	NE-CZ-NH2	-7.65	116.48	120.30
31	M	132	ARG	NE-CZ-NH1	7.64	124.12	120.30
7	G	159	TYR	CB-CG-CD1	7.64	125.58	121.00
29	K	92	PHE	CB-CG-CD1	7.63	126.14	120.80
25	U	25	ARG	NE-CZ-NH2	-7.62	116.49	120.30
22	P	408	ARG	NE-CZ-NH1	7.62	124.11	120.30
20	N	13	ASP	CB-CG-OD2	-7.62	111.45	118.30
21	S	497	TYR	CG-CD2-CE2	-7.62	115.21	121.30
23	Q	122	ARG	NE-CZ-NH2	-7.61	116.50	120.30
32	J	21	ARG	NE-CZ-NH2	-7.58	116.51	120.30
30	L	375	PHE	CB-CG-CD2	7.57	126.10	120.80
30	L	139	GLU	OE1-CD-OE2	7.56	132.37	123.30
27	H	369	ARG	NE-CZ-NH2	-7.54	116.53	120.30
24	R	175	ASP	CB-CG-OD2	-7.54	111.51	118.30
23	Q	139	ASP	CB-CG-OD2	-7.54	111.52	118.30
7	G	188	ARG	NE-CZ-NH1	7.53	124.07	120.30
4	D	144	PHE	CB-CG-CD2	-7.52	115.53	120.80
6	F	179	PHE	CB-CG-CD2	-7.52	115.54	120.80
11	4	90	ASP	CB-CG-OD1	7.52	125.07	118.30
29	K	345	PHE	CB-CG-CD2	-7.52	115.54	120.80
30	L	227	ARG	NE-CZ-NH2	7.51	124.06	120.30
11	4	129	PHE	CB-CG-CD1	-7.51	115.54	120.80
19	Z	262	PHE	CB-CG-CD1	-7.51	115.54	120.80
27	H	237	PHE	CB-CG-CD2	7.51	126.06	120.80
30	L	127	ARG	NE-CZ-NH1	-7.49	116.55	120.30
19	Z	781	TYR	CB-CG-CD1	7.49	125.50	121.00
27	H	201	PHE	CB-CG-CD1	7.49	126.04	120.80
32	J	345	ARG	NE-CZ-NH1	7.49	124.05	120.30
32	J	145	ASP	CB-CG-OD1	-7.49	111.56	118.30
5	E	229	PHE	CB-CG-CD1	7.49	126.04	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	N	490	ARG	NE-CZ-NH2	-7.48	116.56	120.30
7	G	84	ASP	N-CA-CB	7.48	124.07	110.60
27	H	274	PHE	CB-CG-CD2	7.48	126.04	120.80
32	J	310	ARG	NE-CZ-NH2	-7.48	116.56	120.30
6	F	128	TYR	N-CA-CB	7.47	124.05	110.60
22	P	214	PHE	CB-CG-CD2	7.47	126.03	120.80
28	I	319	PHE	CB-CG-CD1	-7.47	115.57	120.80
21	S	92	ARG	NE-CZ-NH1	-7.46	116.57	120.30
11	4	73	TYR	CB-CG-CD2	-7.46	116.52	121.00
26	O	255	TRP	CB-CG-CD2	7.46	136.30	126.60
19	Z	335	ARG	NE-CZ-NH1	-7.46	116.57	120.30
29	K	392	TYR	CB-CG-CD2	-7.44	116.54	121.00
19	Z	462	ALA	N-CA-CB	7.44	120.51	110.10
14	7	106	TYR	CB-CG-CD2	7.43	125.46	121.00
20	N	459	ASP	CB-CG-OD1	-7.43	111.61	118.30
23	Q	89	VAL	CA-CB-CG2	-7.43	99.75	110.90
28	I	85	MET	CG-SD-CE	-7.43	88.31	100.20
32	J	49	ARG	NE-CZ-NH1	-7.42	116.59	120.30
31	M	49	ARG	NE-CZ-NH1	7.42	124.01	120.30
7	G	161	TYR	CB-CG-CD1	7.41	125.44	121.00
21	S	254	TYR	CB-CG-CD2	-7.40	116.56	121.00
24	R	142	PHE	CB-CG-CD2	-7.39	115.62	120.80
3	C	8	ARG	NE-CZ-NH2	7.39	124.00	120.30
1	A	163	PHE	CB-CG-CD1	-7.39	115.63	120.80
24	R	116	ASP	N-CA-C	-7.39	91.06	111.00
25	U	190	ARG	NE-CZ-NH1	7.39	123.99	120.30
1	A	70	PHE	CB-CG-CD1	7.38	125.97	120.80
9	2	228	PHE	CB-CG-CD1	-7.38	115.63	120.80
20	N	756	HIS	CA-CB-CG	7.38	126.15	113.60
2	B	234	ALA	N-CA-CB	7.38	120.43	110.10
6	F	123	TYR	CG-CD2-CE2	-7.37	115.40	121.30
32	J	208	ASP	N-CA-CB	7.37	123.86	110.60
14	7	84	SER	N-CA-CB	7.36	121.54	110.50
17	T	290	ALA	CB-CA-C	-7.36	99.07	110.10
12	5	258	TYR	CB-CG-CD1	7.35	125.41	121.00
28	I	78	PHE	CB-CG-CD2	-7.35	115.66	120.80
23	Q	167	VAL	CA-CB-CG2	7.34	121.92	110.90
10	3	177	ARG	CA-CB-CG	7.34	129.55	113.40
24	R	219	PHE	CB-CG-CD2	-7.34	115.66	120.80
29	K	282	ASP	CB-CG-OD2	7.34	124.91	118.30
28	I	346	ARG	NE-CZ-NH2	-7.34	116.63	120.30
6	F	157	ARG	NE-CZ-NH2	-7.34	116.63	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	T	292	ARG	NE-CZ-NH2	-7.33	116.63	120.30
26	O	321	ARG	NE-CZ-NH1	7.33	123.97	120.30
26	O	255	TRP	CB-CG-CD1	-7.33	117.47	127.00
28	I	82	GLN	N-CA-CB	7.33	123.80	110.60
21	S	298	TYR	CB-CG-CD2	-7.33	116.60	121.00
30	L	323	ARG	NE-CZ-NH1	7.33	123.97	120.30
5	E	225	ASN	N-CA-CB	7.33	123.79	110.60
23	Q	177	TYR	CB-CG-CD2	-7.32	116.61	121.00
7	G	207	ASP	CB-CG-OD1	7.32	124.89	118.30
25	U	82	PHE	CB-CG-CD1	-7.32	115.68	120.80
13	6	60	PHE	CB-CG-CD2	-7.32	115.68	120.80
12	5	193	TYR	N-CA-CB	7.32	123.77	110.60
20	N	361	ARG	NE-CZ-NH1	7.32	123.96	120.30
19	Z	142	TYR	CB-CG-CD2	-7.32	116.61	121.00
12	5	179	ARG	NE-CZ-NH2	7.31	123.96	120.30
19	Z	478	ARG	NE-CZ-NH2	-7.31	116.64	120.30
25	U	54	PHE	CB-CG-CD1	-7.31	115.68	120.80
28	I	268	ARG	NE-CZ-NH2	7.30	123.95	120.30
20	N	54	PHE	CB-CG-CD1	7.29	125.90	120.80
30	L	282	ASP	CB-CG-OD2	-7.28	111.75	118.30
26	O	232	TRP	CE3-CZ3-CH2	-7.26	113.21	121.20
26	O	178	ARG	NE-CZ-NH2	-7.26	116.67	120.30
11	4	93	ARG	NE-CZ-NH2	-7.26	116.67	120.30
23	Q	116	TRP	CE3-CZ3-CH2	-7.25	113.23	121.20
31	M	117	ASP	CB-CG-OD2	-7.24	111.78	118.30
11	4	186	ASP	CB-CG-OD1	7.24	124.81	118.30
14	7	110	VAL	CA-CB-CG2	7.23	121.75	110.90
3	C	19	TYR	CB-CG-CD2	7.22	125.33	121.00
7	G	150	TYR	CZ-CE2-CD2	7.22	126.30	119.80
12	5	181	SER	N-CA-CB	7.22	121.33	110.50
22	P	191	ARG	NE-CZ-NH2	-7.22	116.69	120.30
12	5	216	ARG	NE-CZ-NH2	7.20	123.90	120.30
4	D	177	PHE	CB-CG-CD2	-7.20	115.76	120.80
19	Z	527	VAL	CA-CB-CG2	7.20	121.70	110.90
21	S	472	PHE	CB-CG-CD1	7.20	125.84	120.80
17	T	244	TYR	CB-CG-CD2	-7.19	116.69	121.00
19	Z	113	MET	CG-SD-CE	-7.18	88.71	100.20
27	H	347	ASP	CB-CG-OD2	7.18	124.76	118.30
20	N	953	ASP	CB-CG-OD2	-7.18	111.84	118.30
6	F	123	TYR	CG-CD1-CE1	-7.17	115.56	121.30
29	K	384	MET	CG-SD-CE	-7.17	88.73	100.20
12	5	179	ARG	N-CA-CB	7.16	123.49	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
26	O	154	ARG	NH1-CZ-NH2	7.15	127.26	119.40
32	J	245	ILE	CA-CB-CG1	-7.15	97.42	111.00
7	G	233	ARG	NE-CZ-NH2	-7.14	116.73	120.30
14	7	174	VAL	CA-CB-CG1	7.14	121.61	110.90
28	I	140	ASP	CB-CG-OD2	7.14	124.72	118.30
19	Z	357	ARG	NE-CZ-NH1	-7.14	116.73	120.30
20	N	738	ASP	CB-CG-OD2	-7.14	111.88	118.30
17	T	175	LYS	CB-CA-C	-7.14	96.13	110.40
19	Z	456	ARG	NE-CZ-NH2	-7.14	116.73	120.30
32	J	242	ALA	CB-CA-C	-7.12	99.41	110.10
23	Q	396	THR	CA-CB-CG2	-7.12	102.43	112.40
24	R	20	ALA	CB-CA-C	-7.12	99.41	110.10
30	L	230	ARG	NE-CZ-NH2	-7.12	116.74	120.30
6	F	137	TYR	CB-CG-CD1	7.12	125.27	121.00
19	Z	746	ARG	NE-CZ-NH1	7.12	123.86	120.30
27	H	395	PHE	CB-CG-CD1	7.11	125.78	120.80
21	S	371	PHE	CB-CG-CD2	-7.10	115.83	120.80
23	Q	315	ASP	CB-CG-OD1	7.09	124.68	118.30
28	I	96	ARG	NE-CZ-NH2	-7.08	116.76	120.30
20	N	531	ASP	CB-CG-OD1	7.08	124.67	118.30
14	7	160	ALA	CB-CA-C	-7.07	99.49	110.10
24	R	312	ARG	NE-CZ-NH2	7.07	123.83	120.30
11	4	131	ALA	N-CA-CB	7.07	119.99	110.10
7	G	150	TYR	CB-CG-CD1	-7.06	116.76	121.00
20	N	802	TYR	CD1-CE1-CZ	7.06	126.15	119.80
5	E	168	ARG	NE-CZ-NH1	7.05	123.83	120.30
10	3	136	PHE	CB-CG-CD1	7.05	125.73	120.80
14	7	88	ARG	NE-CZ-NH2	-7.04	116.78	120.30
17	T	228	TYR	O-C-N	7.04	133.97	122.70
19	Z	79	ARG	NE-CZ-NH2	-7.04	116.78	120.30
24	R	268	TYR	CB-CG-CD2	7.04	125.22	121.00
26	O	29	TYR	CZ-CE2-CD2	7.04	126.13	119.80
3	C	143	TYR	CB-CG-CD1	7.04	125.22	121.00
16	V	68	ARG	NE-CZ-NH2	-7.04	116.78	120.30
8	1	58	TYR	CB-CG-CD2	7.03	125.22	121.00
14	7	121	PHE	CB-CG-CD1	-7.02	115.88	120.80
16	V	61	PHE	CB-CG-CD2	-7.02	115.89	120.80
13	6	140	LEU	CB-CG-CD2	7.02	122.94	111.00
29	K	119	ILE	N-CA-C	-7.02	92.05	111.00
7	G	48	PHE	CB-CG-CD1	-7.02	115.89	120.80
23	Q	388	PHE	CB-CG-CD2	7.01	125.71	120.80
30	L	19	ARG	NE-CZ-NH2	-7.01	116.80	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
13	6	102	TYR	CB-CG-CD1	7.01	125.20	121.00
25	U	265	LEU	CB-CG-CD1	7.01	122.91	111.00
4	D	203	GLU	OE1-CD-OE2	7.00	131.70	123.30
30	L	27	ARG	NE-CZ-NH2	7.00	123.80	120.30
23	Q	278	ARG	NE-CZ-NH2	-7.00	116.80	120.30
22	P	70	VAL	CG1-CB-CG2	-7.00	99.70	110.90
27	H	370	PHE	CB-CG-CD2	7.00	125.70	120.80
2	B	8	PHE	CB-CG-CD2	7.00	125.70	120.80
8	1	192	ALA	N-CA-CB	7.00	119.90	110.10
22	P	323	ASP	CB-CG-OD1	-7.00	112.00	118.30
19	Z	451	VAL	CA-CB-CG1	6.99	121.39	110.90
25	U	241	SER	N-CA-CB	6.99	120.98	110.50
22	P	240	TYR	CG-CD1-CE1	-6.98	115.71	121.30
19	Z	718	ASP	CB-CG-OD1	6.97	124.57	118.30
2	B	181	ASP	CB-CG-OD2	6.97	124.57	118.30
19	Z	781	TYR	CB-CG-CD2	-6.96	116.82	121.00
19	Z	232	TYR	CB-CG-CD2	-6.96	116.82	121.00
23	Q	98	ASP	CB-CG-OD1	-6.95	112.04	118.30
16	V	140	ALA	N-CA-CB	6.95	119.83	110.10
19	Z	310	ASP	CB-CG-OD2	-6.94	112.05	118.30
32	J	107	ASP	CB-CG-OD2	-6.94	112.05	118.30
25	U	114	ARG	NE-CZ-NH1	-6.94	116.83	120.30
2	B	178	TYR	CG-CD2-CE2	6.93	126.84	121.30
29	K	39	ASP	CB-CG-OD2	-6.93	112.06	118.30
4	D	21	TYR	CG-CD2-CE2	-6.92	115.76	121.30
4	D	149	ARG	NE-CZ-NH2	6.91	123.76	120.30
32	J	354	ALA	CB-CA-C	-6.90	99.75	110.10
28	I	233	THR	CA-CB-CG2	-6.89	102.75	112.40
12	5	213	ASP	CB-CG-OD1	-6.89	112.10	118.30
21	S	357	PHE	CB-CG-CD1	-6.88	115.98	120.80
28	I	132	TYR	CB-CG-CD1	6.88	125.13	121.00
11	4	23	SER	N-CA-CB	6.88	120.82	110.50
10	3	154	TRP	CB-CG-CD2	-6.86	117.68	126.60
21	S	453	TYR	CB-CG-CD1	-6.86	116.88	121.00
30	L	146	TYR	CG-CD1-CE1	-6.86	115.82	121.30
25	U	253	THR	CA-CB-CG2	-6.85	102.81	112.40
4	D	116	TYR	CB-CG-CD1	-6.85	116.89	121.00
14	7	153	THR	CA-CB-CG2	-6.85	102.81	112.40
19	Z	816	TYR	CB-CG-CD2	6.85	125.11	121.00
8	1	124	ARG	NE-CZ-NH1	6.84	123.72	120.30
20	N	344	ARG	NE-CZ-NH2	-6.83	116.88	120.30
6	F	7	ASP	CB-CG-OD1	-6.83	112.15	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	D	64	ALA	N-CA-CB	6.83	119.66	110.10
19	Z	819	TYR	CG-CD1-CE1	-6.83	115.84	121.30
6	F	171	TYR	CB-CG-CD2	-6.82	116.91	121.00
30	L	375	PHE	CB-CG-CD1	-6.82	116.03	120.80
26	O	152	HIS	CA-CB-CG	6.82	125.20	113.60
29	K	235	PHE	CB-CG-CD2	-6.82	116.03	120.80
6	F	180	MET	CG-SD-CE	-6.82	89.30	100.20
12	5	185	PHE	CB-CG-CD2	-6.81	116.03	120.80
8	1	136	TRP	N-CA-CB	6.81	122.85	110.60
13	6	209	ALA	N-CA-CB	-6.80	100.57	110.10
9	2	118	ARG	N-CA-CB	6.80	122.84	110.60
22	P	302	TYR	CB-CG-CD2	-6.80	116.92	121.00
20	N	452	ASN	N-CA-CB	6.80	122.83	110.60
19	Z	296	PHE	CB-CG-CD1	-6.79	116.05	120.80
23	Q	279	TYR	CZ-CE2-CD2	-6.79	113.69	119.80
27	H	121	PHE	CG-CD2-CE2	-6.78	113.34	120.80
27	H	70	THR	CA-CB-CG2	-6.78	102.91	112.40
4	D	234	TYR	CB-CG-CD2	-6.78	116.94	121.00
25	U	146	ASP	CB-CG-OD2	6.77	124.39	118.30
14	7	130	ARG	NE-CZ-NH2	-6.77	116.92	120.30
4	D	60	ARG	NE-CZ-NH2	-6.77	116.92	120.30
32	J	98	ASP	CB-CG-OD1	-6.77	112.21	118.30
25	U	138	TYR	CB-CG-CD2	-6.76	116.94	121.00
30	L	66	SER	C-N-CA	6.76	138.60	121.70
10	3	158	MET	CG-SD-CE	-6.75	89.39	100.20
25	U	209	ARG	NE-CZ-NH2	-6.75	116.92	120.30
26	O	284	ARG	NE-CZ-NH1	-6.75	116.92	120.30
3	C	107	CYS	CA-CB-SG	-6.75	101.85	114.00
2	B	60	ARG	NE-CZ-NH2	-6.75	116.93	120.30
4	D	218	ARG	NE-CZ-NH1	6.74	123.67	120.30
22	P	171	VAL	CG1-CB-CG2	-6.74	100.12	110.90
30	L	245	PHE	CB-CG-CD2	-6.74	116.08	120.80
28	I	176	VAL	C-N-CA	6.73	138.52	121.70
26	O	24	ARG	NE-CZ-NH2	-6.72	116.94	120.30
10	3	138	VAL	N-CA-C	-6.72	92.86	111.00
31	M	227	LEU	O-C-N	6.72	133.45	122.70
1	A	160	TYR	CD1-CE1-CZ	6.71	125.84	119.80
17	T	282	TYR	CG-CD2-CE2	6.71	126.67	121.30
21	S	351	ARG	NE-CZ-NH1	6.70	123.65	120.30
32	J	253	SER	CB-CA-C	-6.70	97.36	110.10
12	5	245	ARG	NE-CZ-NH1	6.70	123.65	120.30
23	Q	87	ARG	NH1-CZ-NH2	-6.69	112.04	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	1	235	LEU	CB-CG-CD1	6.69	122.37	111.00
30	L	370	ARG	NE-CZ-NH2	-6.69	116.95	120.30
30	L	358	ARG	NE-CZ-NH1	6.69	123.64	120.30
27	H	398	ARG	NE-CZ-NH2	-6.67	116.97	120.30
24	R	259	TYR	CG-CD1-CE1	-6.67	115.97	121.30
30	L	127	ARG	NE-CZ-NH2	6.66	123.63	120.30
32	J	117	ARG	NE-CZ-NH2	-6.66	116.97	120.30
10	3	120	PHE	CB-CG-CD2	-6.66	116.14	120.80
29	K	337	ASP	CB-CG-OD2	-6.66	112.31	118.30
19	Z	259	PHE	CB-CG-CD1	-6.66	116.14	120.80
16	V	98	MET	CG-SD-CE	-6.66	89.55	100.20
27	H	121	PHE	CD1-CE1-CZ	-6.66	112.11	120.10
20	N	34	PHE	CB-CG-CD2	-6.65	116.14	120.80
9	2	245	TYR	CB-CG-CD2	6.65	124.99	121.00
23	Q	328	ASP	N-CA-CB	6.65	122.56	110.60
19	Z	194	TYR	CB-CG-CD1	6.65	124.99	121.00
31	M	262	MET	N-CA-CB	6.64	122.56	110.60
16	V	287	HIS	N-CA-CB	6.64	122.56	110.60
29	K	171	ASP	CB-CG-OD1	-6.64	112.32	118.30
21	S	472	PHE	CB-CG-CD2	-6.64	116.15	120.80
7	G	239	TYR	CB-CG-CD1	6.64	124.98	121.00
20	N	627	PHE	CB-CG-CD1	6.63	125.44	120.80
31	M	259	LEU	CB-CG-CD1	6.63	122.28	111.00
30	L	342	TYR	CB-CG-CD2	-6.63	117.02	121.00
19	Z	262	PHE	CA-C-N	6.63	135.66	117.10
2	B	24	TYR	CZ-CE2-CD2	-6.63	113.83	119.80
32	J	232	ARG	NE-CZ-NH2	-6.63	116.98	120.30
22	P	65	ARG	NE-CZ-NH1	6.63	123.61	120.30
4	D	133	PHE	CB-CG-CD1	-6.62	116.16	120.80
14	7	137	THR	N-CA-CB	6.62	122.89	110.30
25	U	126	VAL	CA-CB-CG2	-6.62	100.97	110.90
27	H	255	ARG	NE-CZ-NH1	-6.62	116.99	120.30
20	N	67	VAL	CG1-CB-CG2	-6.62	100.30	110.90
30	L	309	LEU	CB-CG-CD2	6.62	122.25	111.00
20	N	564	ASP	CB-CG-OD1	6.62	124.25	118.30
26	O	341	LEU	N-CA-CB	6.61	123.63	110.40
32	J	167	LEU	CB-CG-CD1	6.61	122.24	111.00
25	U	34	ARG	NE-CZ-NH1	6.61	123.61	120.30
6	F	82	ARG	NH1-CZ-NH2	-6.61	112.13	119.40
21	S	196	ARG	NE-CZ-NH1	6.61	123.61	120.30
30	L	199	ARG	NH1-CZ-NH2	6.61	126.67	119.40
14	7	245	GLY	N-CA-C	-6.60	96.60	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
21	S	405	MET	CG-SD-CE	-6.60	89.64	100.20
21	S	170	PHE	CB-CG-CD2	-6.59	116.18	120.80
23	Q	74	ARG	NE-CZ-NH1	6.58	123.59	120.30
26	O	277	LEU	CB-CG-CD2	6.58	122.18	111.00
21	S	76	ARG	NE-CZ-NH1	-6.57	117.01	120.30
30	L	119	LEU	CB-CG-CD1	-6.57	99.83	111.00
20	N	619	VAL	CG1-CB-CG2	6.57	121.41	110.90
25	U	99	PRO	N-CA-CB	6.57	111.18	103.30
24	R	343	LEU	CB-CG-CD2	6.56	122.15	111.00
26	O	238	TYR	CB-CG-CD2	6.56	124.93	121.00
32	J	113	ARG	NE-CZ-NH2	-6.55	117.02	120.30
3	C	218	ARG	NE-CZ-NH1	6.55	123.58	120.30
16	V	74	ALA	N-CA-CB	6.55	119.27	110.10
23	Q	20	ARG	NE-CZ-NH1	6.55	123.58	120.30
16	V	142	ALA	CB-CA-C	-6.55	100.28	110.10
19	Z	332	ALA	CB-CA-C	-6.54	100.29	110.10
27	H	174	TYR	CB-CG-CD2	-6.54	117.08	121.00
28	I	211	TYR	CD1-CG-CD2	6.54	125.09	117.90
24	R	374	ASP	CB-CG-OD2	6.54	124.18	118.30
20	N	375	PHE	CB-CG-CD1	6.54	125.38	120.80
14	7	130	ARG	CD-NE-CZ	6.53	132.75	123.60
19	Z	718	ASP	CB-CG-OD2	-6.53	112.42	118.30
27	H	333	ARG	NE-CZ-NH2	-6.53	117.03	120.30
18	Y	51	ASP	CB-CG-OD2	-6.53	112.42	118.30
19	Z	335	ARG	CB-CA-C	-6.53	97.34	110.40
7	G	99	PHE	CB-CG-CD2	-6.53	116.23	120.80
7	G	165	ALA	CB-CA-C	-6.52	100.32	110.10
17	T	304	ASP	CB-CG-OD2	-6.52	112.43	118.30
17	T	345	TYR	CB-CA-C	6.52	123.44	110.40
16	V	287	HIS	CB-CA-C	-6.52	97.36	110.40
12	5	146	VAL	CA-CB-CG1	6.52	120.67	110.90
11	4	5	ILE	CA-CB-CG1	6.51	123.38	111.00
21	S	260	TYR	CD1-CE1-CZ	6.51	125.66	119.80
1	A	43	ARG	NE-CZ-NH1	6.51	123.56	120.30
32	J	181	ALA	N-CA-CB	6.50	119.21	110.10
16	V	126	ASP	CB-CG-OD1	6.50	124.15	118.30
17	T	305	TYR	CB-CG-CD1	-6.50	117.10	121.00
25	U	43	TRP	CA-CB-CG	6.50	126.05	113.70
16	V	255	TYR	CG-CD1-CE1	-6.50	116.10	121.30
19	Z	376	PHE	CB-CG-CD2	-6.50	116.25	120.80
32	J	78	ARG	NE-CZ-NH1	6.50	123.55	120.30
6	F	215	VAL	CG1-CB-CG2	6.49	121.29	110.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	2	167	TYR	CB-CG-CD1	-6.49	117.11	121.00
8	1	171	TYR	N-CA-CB	6.48	122.27	110.60
20	N	383	ASP	CB-CG-OD2	-6.48	112.47	118.30
15	W	24	THR	CA-CB-CG2	-6.48	103.33	112.40
20	N	426	TYR	CB-CG-CD2	-6.48	117.11	121.00
21	S	494	PRO	N-CD-CG	6.47	112.91	103.20
22	P	451	MET	CG-SD-CE	6.47	110.55	100.20
25	U	211	TYR	CB-CG-CD2	6.47	124.88	121.00
4	D	112	TYR	CB-CG-CD1	-6.46	117.12	121.00
30	L	119	LEU	CB-CG-CD2	6.46	121.99	111.00
4	D	26	VAL	CB-CA-C	-6.46	99.12	111.40
13	6	197	ARG	NE-CZ-NH2	-6.46	117.07	120.30
20	N	738	ASP	CB-CA-C	-6.46	97.48	110.40
22	P	344	THR	CA-CB-CG2	-6.45	103.37	112.40
28	I	246	THR	CA-CB-CG2	-6.45	103.37	112.40
13	6	156	SER	N-CA-CB	6.45	120.17	110.50
22	P	341	PHE	CB-CG-CD1	-6.45	116.29	120.80
20	N	253	TYR	CB-CG-CD1	6.45	124.87	121.00
28	I	80	ARG	NE-CZ-NH1	6.45	123.52	120.30
24	R	150	PHE	CB-CG-CD1	6.44	125.31	120.80
29	K	41	TYR	CB-CG-CD2	6.43	124.86	121.00
13	6	204	ASP	CB-CG-OD1	6.43	124.09	118.30
22	P	240	TYR	CZ-CE2-CD2	-6.43	114.01	119.80
25	U	222	ILE	O-C-N	6.43	132.98	122.70
10	3	69	PHE	CB-CG-CD1	-6.42	116.31	120.80
19	Z	34	ARG	NE-CZ-NH1	-6.42	117.09	120.30
28	I	285	ASP	CB-CG-OD2	-6.42	112.52	118.30
21	S	186	ASP	CB-CG-OD1	6.42	124.08	118.30
21	S	232	ARG	NE-CZ-NH1	6.42	123.51	120.30
2	B	218	PHE	CB-CG-CD1	6.41	125.29	120.80
20	N	386	LEU	CB-CG-CD1	6.41	121.90	111.00
23	Q	220	ALA	N-CA-CB	6.41	119.08	110.10
25	U	267	ARG	NE-CZ-NH1	-6.41	117.09	120.30
20	N	395	ARG	NH1-CZ-NH2	-6.41	112.35	119.40
26	O	342	ASP	CB-CG-OD2	-6.41	112.53	118.30
23	Q	240	ASP	CB-CG-OD2	6.41	124.06	118.30
27	H	250	VAL	CG1-CB-CG2	-6.41	100.65	110.90
23	Q	278	ARG	NE-CZ-NH1	6.40	123.50	120.30
24	R	219	PHE	CG-CD1-CE1	-6.40	113.76	120.80
30	L	215	SER	N-CA-CB	-6.40	100.90	110.50
13	6	196	ASP	CB-CG-OD1	-6.40	112.54	118.30
10	3	157	ASN	N-CA-C	-6.40	93.73	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	Q	220	ALA	CB-CA-C	-6.40	100.51	110.10
19	Z	349	TYR	CB-CG-CD2	-6.39	117.17	121.00
20	N	140	ARG	NE-CZ-NH2	-6.39	117.11	120.30
24	R	83	ARG	NE-CZ-NH2	-6.39	117.11	120.30
1	A	105	TYR	CB-CG-CD2	6.38	124.83	121.00
19	Z	71	TYR	CD1-CE1-CZ	6.38	125.54	119.80
29	K	403	TYR	CG-CD2-CE2	-6.38	116.19	121.30
20	N	811	PHE	CB-CG-CD2	-6.38	116.34	120.80
26	O	270	ARG	NH1-CZ-NH2	-6.38	112.39	119.40
14	7	135	TRP	CB-CG-CD1	-6.37	118.71	127.00
30	L	44	ARG	NE-CZ-NH2	-6.37	117.12	120.30
8	1	41	PHE	CB-CG-CD2	6.37	125.26	120.80
9	2	59	ALA	O-C-N	-6.37	112.52	122.70
14	7	181	LEU	CB-CG-CD2	6.36	121.82	111.00
30	L	247	ASP	CB-CG-OD2	-6.36	112.57	118.30
2	B	74	LEU	CB-CA-C	-6.36	98.11	110.20
7	G	93	ARG	NE-CZ-NH1	-6.36	117.12	120.30
19	Z	850	VAL	CA-CB-CG1	6.36	120.44	110.90
27	H	284	ARG	NE-CZ-NH2	6.36	123.48	120.30
26	O	29	TYR	CB-CG-CD2	-6.35	117.19	121.00
27	H	273	PHE	CB-CG-CD2	-6.34	116.36	120.80
20	N	615	ARG	NE-CZ-NH2	-6.34	117.13	120.30
30	L	123	ARG	NE-CZ-NH2	-6.34	117.13	120.30
11	4	131	ALA	CB-CA-C	-6.33	100.60	110.10
28	I	385	MET	CG-SD-CE	-6.33	90.07	100.20
31	M	299	PHE	CB-CG-CD1	-6.33	116.37	120.80
32	J	358	GLU	CB-CA-C	-6.33	97.74	110.40
10	3	49	LEU	CB-CG-CD1	6.33	121.76	111.00
24	R	384	SER	N-CA-CB	6.33	119.99	110.50
29	K	417	TYR	CB-CG-CD2	-6.33	117.20	121.00
19	Z	181	ARG	NE-CZ-NH2	-6.32	117.14	120.30
29	K	184	PRO	O-C-N	6.32	132.81	122.70
27	H	279	ALA	CB-CA-C	-6.32	100.62	110.10
28	I	404	LEU	CB-CG-CD2	-6.32	100.26	111.00
13	6	131	TYR	CZ-CE2-CD2	6.32	125.48	119.80
20	N	356	THR	CA-CB-CG2	-6.32	103.56	112.40
24	R	385	ARG	N-CA-CB	6.32	121.97	110.60
19	Z	346	ASP	CB-CG-OD2	-6.31	112.62	118.30
17	T	218	LEU	C-N-CD	-6.31	106.72	120.60
19	Z	381	VAL	CA-CB-CG1	6.31	120.36	110.90
9	2	71	ASP	N-CA-CB	6.31	121.95	110.60
20	N	713	TYR	CG-CD2-CE2	-6.30	116.26	121.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
21	S	478	PHE	CB-CG-CD2	-6.30	116.39	120.80
17	T	189	ALA	N-CA-CB	6.30	118.92	110.10
19	Z	291	GLN	CA-CB-CG	6.30	127.25	113.40
27	H	344	SER	N-CA-CB	6.29	119.94	110.50
32	J	72	TYR	CB-CG-CD1	-6.29	117.22	121.00
10	3	74	TYR	CZ-CE2-CD2	-6.28	114.15	119.80
9	2	63	ALA	N-CA-CB	6.28	118.89	110.10
1	A	230	LEU	CB-CA-C	-6.28	98.28	110.20
7	G	116	VAL	CA-CB-CG2	-6.28	101.49	110.90
20	N	387	ARG	NH1-CZ-NH2	6.28	126.30	119.40
30	L	279	ASP	CB-CG-OD1	-6.28	112.65	118.30
28	I	346	ARG	CD-NE-CZ	-6.27	114.82	123.60
30	L	134	TYR	CB-CG-CD1	6.27	124.77	121.00
15	W	159	THR	CA-CB-CG2	-6.27	103.62	112.40
2	B	34	PRO	N-CD-CG	6.27	112.60	103.20
19	Z	687	ARG	NE-CZ-NH2	-6.27	117.17	120.30
27	H	339	ARG	N-CA-CB	6.27	121.88	110.60
20	N	147	TYR	CB-CG-CD1	6.26	124.76	121.00
30	L	269	ARG	NE-CZ-NH2	6.26	123.43	120.30
31	M	118	SER	N-CA-CB	6.26	119.89	110.50
8	1	62	ARG	NE-CZ-NH2	-6.26	117.17	120.30
12	5	224	TYR	CD1-CG-CD2	6.26	124.78	117.90
30	L	305	ARG	NE-CZ-NH2	-6.26	117.17	120.30
9	2	186	ARG	NE-CZ-NH2	-6.26	117.17	120.30
29	K	112	TYR	CB-CG-CD2	-6.25	117.25	121.00
19	Z	131	MET	CG-SD-CE	-6.25	90.20	100.20
19	Z	300	ARG	NE-CZ-NH2	6.25	123.42	120.30
21	S	226	PHE	CB-CG-CD1	-6.25	116.43	120.80
22	P	302	TYR	CB-CG-CD1	6.25	124.75	121.00
31	M	393	ASP	CB-CG-OD1	-6.24	112.68	118.30
21	S	287	TYR	CG-CD1-CE1	6.24	126.29	121.30
26	O	22	TRP	CD1-CG-CD2	-6.24	101.31	106.30
31	M	72	MET	C-N-CA	6.24	137.30	121.70
24	R	356	THR	CA-CB-CG2	-6.24	103.67	112.40
1	A	1	MET	CB-CA-C	6.23	122.86	110.40
19	Z	894	LEU	CB-CG-CD2	6.23	121.59	111.00
4	D	63	CYS	CB-CA-C	-6.23	97.94	110.40
19	Z	474	SER	N-CA-CB	6.23	119.84	110.50
19	Z	434	TYR	CG-CD1-CE1	6.23	126.28	121.30
5	E	218	ALA	CB-CA-C	-6.22	100.77	110.10
19	Z	785	ARG	NE-CZ-NH2	-6.22	117.19	120.30
30	L	235	TYR	CG-CD1-CE1	-6.22	116.32	121.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	K	337	ASP	CB-CG-OD1	6.22	123.90	118.30
19	Z	400	TYR	CB-CG-CD2	-6.21	117.27	121.00
14	7	121	PHE	N-CA-CB	6.21	121.78	110.60
22	P	95	SER	N-CA-CB	6.21	119.81	110.50
7	G	41	ARG	NE-CZ-NH2	-6.21	117.20	120.30
11	4	73	TYR	CB-CG-CD1	6.21	124.72	121.00
19	Z	556	ARG	NE-CZ-NH1	-6.21	117.20	120.30
26	O	108	ASP	CB-CG-OD1	-6.21	112.71	118.30
28	I	78	PHE	CB-CG-CD1	6.21	125.14	120.80
19	Z	59	LEU	CB-CG-CD2	6.20	121.54	111.00
23	Q	233	TYR	CA-CB-CG	-6.20	101.62	113.40
22	P	219	THR	CA-CB-CG2	-6.20	103.72	112.40
16	V	225	TRP	CD1-CG-CD2	-6.19	101.34	106.30
22	P	227	TYR	CB-CG-CD1	-6.19	117.28	121.00
31	M	245	ALA	N-CA-CB	6.18	118.75	110.10
7	G	24	VAL	CA-CB-CG2	-6.18	101.63	110.90
11	4	65	GLN	CA-CB-CG	6.18	126.99	113.40
20	N	162	VAL	CA-CB-CG2	-6.18	101.64	110.90
8	1	126	ASP	CB-CG-OD2	-6.17	112.74	118.30
15	W	12	ASN	N-CA-C	-6.17	94.33	111.00
26	O	29	TYR	CG-CD2-CE2	-6.17	116.36	121.30
13	6	240	ASP	CB-CG-OD1	6.17	123.85	118.30
13	6	84	PHE	CB-CG-CD1	-6.16	116.48	120.80
3	C	148	TYR	CB-CG-CD2	6.16	124.70	121.00
2	B	62	VAL	CA-CB-CG1	-6.16	101.66	110.90
12	5	65	PHE	CB-CG-CD1	6.16	125.11	120.80
21	S	320	PHE	CD1-CE1-CZ	-6.16	112.71	120.10
28	I	371	ARG	NE-CZ-NH2	-6.15	117.22	120.30
2	B	154	ALA	N-CA-CB	6.15	118.71	110.10
19	Z	175	ASP	CB-CG-OD1	-6.15	112.77	118.30
32	J	76	VAL	CA-CB-CG2	-6.15	101.68	110.90
7	G	59	TYR	CG-CD2-CE2	-6.14	116.38	121.30
10	3	6	TYR	CB-CG-CD2	6.14	124.69	121.00
23	Q	218	HIS	CA-CB-CG	-6.14	103.15	113.60
13	6	129	PHE	CB-CG-CD1	-6.14	116.50	120.80
1	A	3	ARG	NE-CZ-NH2	-6.14	117.23	120.30
23	Q	327	TYR	CB-CG-CD1	-6.14	117.32	121.00
21	S	317	ALA	CB-CA-C	-6.13	100.90	110.10
13	6	159	ARG	NE-CZ-NH2	-6.13	117.23	120.30
23	Q	87	ARG	NE-CZ-NH2	6.13	123.36	120.30
28	I	423	LYS	CB-CA-C	-6.13	98.14	110.40
26	O	44	PHE	CB-CG-CD2	6.13	125.09	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	87	SER	N-CA-CB	6.12	119.68	110.50
1	A	95	ARG	NE-CZ-NH1	-6.12	117.24	120.30
7	G	126	TYR	CG-CD2-CE2	6.12	126.20	121.30
31	M	107	GLN	N-CA-CB	6.12	121.62	110.60
27	H	416	VAL	CA-CB-CG1	-6.12	101.72	110.90
29	K	309	MET	CG-SD-CE	-6.12	90.41	100.20
32	J	72	TYR	CG-CD2-CE2	-6.12	116.41	121.30
20	N	661	ALA	CB-CA-C	-6.11	100.93	110.10
25	U	59	ASP	CB-CG-OD1	6.11	123.80	118.30
29	K	339	ARG	CD-NE-CZ	-6.11	115.04	123.60
19	Z	763	ARG	NE-CZ-NH1	6.11	123.36	120.30
2	B	98	TYR	CG-CD1-CE1	-6.11	116.41	121.30
2	B	199	PHE	CB-CG-CD2	6.11	125.08	120.80
16	V	161	ARG	NE-CZ-NH2	6.11	123.35	120.30
30	L	44	ARG	NE-CZ-NH1	6.11	123.35	120.30
3	C	143	TYR	CA-CB-CG	-6.10	101.81	113.40
26	O	29	TYR	CG-CD1-CE1	-6.10	116.42	121.30
13	6	212	ARG	NE-CZ-NH1	6.10	123.35	120.30
19	Z	33	ARG	NE-CZ-NH2	-6.10	117.25	120.30
28	I	196	GLU	CA-CB-CG	-6.09	99.99	113.40
14	7	130	ARG	NE-CZ-NH1	6.09	123.35	120.30
20	N	462	LEU	CB-CA-C	-6.09	98.62	110.20
8	1	63	VAL	CA-CB-CG1	6.09	120.03	110.90
31	M	440	TYR	CD1-CE1-CZ	-6.09	114.32	119.80
8	1	47	LEU	CB-CG-CD2	6.09	121.35	111.00
21	S	286	TYR	CB-CG-CD2	-6.09	117.35	121.00
30	L	342	TYR	CG-CD2-CE2	-6.09	116.43	121.30
12	5	65	PHE	CB-CG-CD2	-6.08	116.54	120.80
13	6	32	TYR	CB-CG-CD2	-6.08	117.35	121.00
17	T	318	TYR	CG-CD1-CE1	6.08	126.16	121.30
20	N	143	ASP	CB-CG-OD1	6.08	123.77	118.30
21	S	298	TYR	CG-CD1-CE1	-6.08	116.44	121.30
31	M	55	ILE	CA-CB-CG1	6.08	122.55	111.00
10	3	147	TYR	CG-CD1-CE1	-6.07	116.44	121.30
11	4	145	ARG	NE-CZ-NH2	6.07	123.33	120.30
19	Z	71	TYR	CG-CD1-CE1	-6.07	116.44	121.30
24	R	259	TYR	CB-CG-CD2	-6.07	117.36	121.00
20	N	502	TYR	CB-CG-CD1	6.06	124.64	121.00
4	D	133	PHE	CB-CG-CD2	6.06	125.04	120.80
29	K	60	TYR	CG-CD2-CE2	-6.06	116.45	121.30
6	F	135	ALA	N-CA-CB	6.06	118.58	110.10
9	2	242	PHE	CB-CG-CD2	-6.06	116.56	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	R	192	ARG	NE-CZ-NH2	-6.06	117.27	120.30
24	R	288	PHE	CB-CG-CD2	-6.06	116.56	120.80
30	L	185	LEU	CB-CG-CD2	6.06	121.30	111.00
20	N	590	TYR	CB-CG-CD1	6.06	124.63	121.00
20	N	779	LEU	CB-CG-CD2	6.06	121.30	111.00
29	K	279	THR	O-C-N	-6.06	112.90	123.20
9	2	64	THR	N-CA-C	-6.06	94.65	111.00
26	O	194	GLN	CB-CA-C	-6.05	98.29	110.40
13	6	149	TYR	CB-CG-CD2	-6.05	117.37	121.00
21	S	340	ASP	CB-CG-OD1	6.05	123.74	118.30
24	R	222	TYR	CB-CG-CD2	-6.05	117.37	121.00
12	5	245	ARG	NE-CZ-NH2	-6.05	117.28	120.30
9	2	60	ASP	CB-CG-OD2	-6.05	112.86	118.30
21	S	453	TYR	CG-CD1-CE1	-6.05	116.46	121.30
24	R	128	TYR	CD1-CE1-CZ	-6.05	114.36	119.80
32	J	23	TYR	CZ-CE2-CD2	-6.05	114.36	119.80
8	1	167	TYR	CB-CG-CD1	-6.04	117.37	121.00
1	A	96	TYR	CZ-CE2-CD2	-6.04	114.36	119.80
20	N	864	GLU	CB-CA-C	-6.04	98.32	110.40
31	M	200	GLU	OE1-CD-OE2	-6.04	116.05	123.30
20	N	796	LYS	N-CA-CB	6.04	121.47	110.60
20	N	108	TYR	CB-CG-CD1	-6.03	117.38	121.00
23	Q	8	GLU	N-CA-CB	6.03	121.46	110.60
12	5	61	THR	C-N-CA	6.03	136.78	121.70
25	U	250	TYR	CG-CD2-CE2	6.03	126.12	121.30
7	G	22	PHE	CB-CG-CD1	6.03	125.02	120.80
22	P	364	ARG	NE-CZ-NH2	-6.03	117.29	120.30
7	G	139	GLY	N-CA-C	-6.02	98.04	113.10
27	H	372	LEU	CB-CG-CD1	6.02	121.24	111.00
20	N	946	GLU	CA-C-O	-6.02	107.46	120.10
21	S	237	ARG	N-CA-CB	6.02	121.44	110.60
27	H	317	VAL	CA-CB-CG2	-6.02	101.87	110.90
7	G	130	ARG	NE-CZ-NH1	6.02	123.31	120.30
17	T	257	GLU	C-N-CA	6.02	136.74	121.70
19	Z	142	TYR	CB-CG-CD1	6.02	124.61	121.00
27	H	79	ASP	CB-CG-OD2	-6.02	112.89	118.30
31	M	227	LEU	CB-CG-CD2	6.01	121.22	111.00
5	E	90	ASP	CB-CG-OD2	-6.01	112.89	118.30
22	P	227	TYR	CB-CG-CD2	6.01	124.60	121.00
27	H	256	MET	CB-CA-C	-6.01	98.39	110.40
3	C	211	VAL	CA-CB-CG1	6.00	119.90	110.90
4	D	3	TYR	CZ-CE2-CD2	6.00	125.20	119.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	N	387	ARG	NE-CZ-NH2	-6.00	117.30	120.30
3	C	226	ARG	NE-CZ-NH2	-6.00	117.30	120.30
28	I	379	THR	CA-CB-CG2	-6.00	104.00	112.40
6	F	224	TYR	CZ-CE2-CD2	5.99	125.19	119.80
20	N	160	LEU	CB-CG-CD2	5.99	121.19	111.00
22	P	357	ARG	NE-CZ-NH1	5.99	123.30	120.30
14	7	114	MET	CG-SD-CE	-5.99	90.62	100.20
31	M	440	TYR	CG-CD1-CE1	5.99	126.09	121.30
10	3	154	TRP	CB-CG-CD1	5.98	134.78	127.00
25	U	89	GLU	N-CA-CB	5.98	121.37	110.60
20	N	402	PHE	CB-CG-CD1	5.98	124.99	120.80
31	M	47	ARG	NE-CZ-NH1	5.98	123.29	120.30
11	4	11	ASP	CB-CG-OD1	5.98	123.68	118.30
8	1	94	TYR	CB-CG-CD2	-5.98	117.42	121.00
17	T	189	ALA	CB-CA-C	-5.97	101.14	110.10
29	K	274	ARG	NE-CZ-NH2	-5.97	117.31	120.30
31	M	183	ARG	NE-CZ-NH2	-5.97	117.31	120.30
19	Z	150	GLU	CA-CB-CG	5.97	126.53	113.40
29	K	338	ARG	NE-CZ-NH1	5.97	123.28	120.30
10	3	120	PHE	CB-CG-CD1	5.96	124.98	120.80
28	I	333	ARG	NE-CZ-NH1	-5.96	117.32	120.30
30	L	200	ALA	N-CA-CB	5.96	118.45	110.10
22	P	277	ALA	CB-CA-C	-5.96	101.17	110.10
27	H	200	ARG	NE-CZ-NH1	5.96	123.28	120.30
1	A	231	THR	N-CA-CB	5.95	121.61	110.30
27	H	347	ASP	CB-CG-OD1	-5.95	112.94	118.30
28	I	388	ASP	CB-CG-OD1	-5.95	112.94	118.30
15	W	61	LEU	CB-CG-CD1	-5.95	100.89	111.00
17	T	167	PHE	CB-CG-CD1	-5.95	116.64	120.80
29	K	339	ARG	NH1-CZ-NH2	-5.95	112.86	119.40
21	S	479	CYS	CA-CB-SG	5.95	124.70	114.00
27	H	41	TYR	CD1-CE1-CZ	5.95	125.15	119.80
31	M	39	MET	CG-SD-CE	5.95	109.72	100.20
20	N	596	ASN	N-CA-CB	-5.94	99.90	110.60
12	5	74	ALA	CB-CA-C	-5.94	101.19	110.10
6	F	225	ASP	CB-CG-OD2	5.94	123.64	118.30
1	A	236	ASP	CB-CG-OD2	-5.94	112.96	118.30
29	K	327	LEU	N-CA-C	-5.94	94.97	111.00
1	A	21	ARG	NE-CZ-NH2	-5.93	117.33	120.30
31	M	115	ASP	CB-CG-OD1	5.93	123.64	118.30
10	3	82	ILE	C-N-CA	5.93	136.53	121.70
1	A	182	LYS	CB-CG-CD	5.93	127.01	111.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	5	116	ARG	NE-CZ-NH1	-5.93	117.34	120.30
17	T	262	PHE	CB-CG-CD1	-5.92	116.65	120.80
27	H	261	PHE	CB-CG-CD2	5.92	124.94	120.80
14	7	81	ARG	NE-CZ-NH2	-5.92	117.34	120.30
23	Q	346	GLN	N-CA-CB	5.92	121.25	110.60
9	2	47	ALA	CB-CA-C	-5.92	101.23	110.10
13	6	124	TYR	CB-CG-CD2	5.92	124.55	121.00
8	1	171	TYR	CG-CD1-CE1	-5.91	116.57	121.30
10	3	62	THR	CA-CB-CG2	-5.91	104.12	112.40
15	W	100	ARG	NH1-CZ-NH2	5.91	125.90	119.40
26	O	352	ARG	NE-CZ-NH1	5.91	123.25	120.30
8	1	92	VAL	CA-CB-CG2	5.91	119.76	110.90
29	K	319	PRO	N-CA-CB	5.91	110.39	103.30
1	A	112	ASP	CB-CG-OD2	-5.90	112.99	118.30
2	B	41	ALA	N-CA-CB	5.90	118.36	110.10
24	R	14	ASN	CA-CB-CG	-5.90	100.42	113.40
10	3	69	PHE	CB-CA-C	-5.90	98.60	110.40
30	L	341	ASP	CB-CA-C	-5.90	98.61	110.40
15	W	102	GLY	N-CA-C	-5.89	98.36	113.10
5	E	202	LEU	CB-CG-CD2	5.89	121.02	111.00
21	S	390	LEU	CB-CG-CD2	5.89	121.01	111.00
22	P	54	THR	CA-CB-CG2	-5.89	104.15	112.40
23	Q	213	GLN	CA-CB-CG	5.89	126.36	113.40
26	O	370	GLN	CG-CD-OE1	-5.89	109.82	121.60
23	Q	142	ARG	NE-CZ-NH2	-5.89	117.36	120.30
14	7	101	TYR	N-CA-CB	5.89	121.20	110.60
14	7	236	VAL	O-C-N	-5.89	113.28	122.70
26	O	71	VAL	C-N-CA	5.89	136.42	121.70
25	U	115	TYR	CZ-CE2-CD2	5.89	125.10	119.80
31	M	154	VAL	CA-CB-CG1	-5.89	102.07	110.90
9	2	100	GLN	CA-CB-CG	5.88	126.35	113.40
20	N	22	PHE	CB-CG-CD1	-5.88	116.68	120.80
21	S	125	ASP	CB-CG-OD2	-5.88	113.00	118.30
23	Q	1	MET	CG-SD-CE	-5.88	90.78	100.20
20	N	158	ARG	NE-CZ-NH2	-5.88	117.36	120.30
24	R	272	PHE	N-CA-CB	5.88	121.18	110.60
27	H	51	ASP	N-CA-CB	5.88	121.19	110.60
20	N	502	TYR	CG-CD1-CE1	-5.88	116.60	121.30
28	I	311	GLU	CA-CB-CG	5.88	126.33	113.40
5	E	52	LYS	CB-CA-C	-5.88	98.65	110.40
7	G	153	ASP	CB-CG-OD1	5.88	123.59	118.30
19	Z	855	GLN	N-CA-CB	5.88	121.18	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
15	W	93	ALA	N-CA-CB	5.88	118.33	110.10
3	C	18	LEU	CA-C-O	5.87	132.43	120.10
10	3	48	ARG	NE-CZ-NH2	-5.87	117.36	120.30
10	3	26	ARG	NE-CZ-NH2	-5.87	117.36	120.30
20	N	96	TYR	CG-CD1-CE1	-5.87	116.60	121.30
4	D	113	ILE	CA-CB-CG1	5.87	122.15	111.00
6	F	63	ILE	N-CA-C	-5.87	95.16	111.00
7	G	126	TYR	CB-CG-CD2	-5.87	117.48	121.00
20	N	246	TYR	CB-CG-CD2	-5.87	117.48	121.00
28	I	371	ARG	NE-CZ-NH1	5.87	123.23	120.30
7	G	229	PRO	N-CD-CG	5.87	112.00	103.20
12	5	179	ARG	NH1-CZ-NH2	-5.87	112.95	119.40
30	L	196	LEU	CB-CG-CD2	-5.87	101.03	111.00
3	C	5	TYR	CB-CG-CD1	5.86	124.52	121.00
6	F	128	TYR	CD1-CE1-CZ	-5.86	114.53	119.80
19	Z	242	GLU	CA-C-N	5.86	133.50	117.10
12	5	163	TRP	CE3-CZ3-CH2	-5.86	114.76	121.20
11	4	144	ASP	CB-CG-OD1	5.85	123.57	118.30
30	L	84	ILE	N-CA-C	-5.85	95.19	111.00
19	Z	704	LEU	CB-CA-C	-5.85	99.08	110.20
3	C	178	ASP	CB-CG-OD2	-5.85	113.04	118.30
23	Q	410	VAL	CA-CB-CG1	5.85	119.67	110.90
31	M	229	TYR	CB-CG-CD2	5.85	124.51	121.00
10	3	4	MET	CA-CB-CG	5.85	123.24	113.30
28	I	176	VAL	CG1-CB-CG2	5.85	120.26	110.90
28	I	428	TYR	CB-CG-CD1	-5.85	117.49	121.00
29	K	342	ARG	NE-CZ-NH1	5.85	123.22	120.30
16	V	118	PHE	N-CA-CB	5.84	121.12	110.60
26	O	101	ARG	NE-CZ-NH1	5.84	123.22	120.30
23	Q	240	ASP	CB-CG-OD1	-5.84	113.04	118.30
11	4	147	TYR	CD1-CE1-CZ	5.84	125.06	119.80
20	N	882	ALA	N-CA-CB	5.84	118.28	110.10
21	S	320	PHE	CG-CD1-CE1	5.84	127.22	120.80
6	F	154	PHE	CB-CG-CD2	5.84	124.89	120.80
9	2	180	VAL	CA-CB-CG1	-5.83	102.15	110.90
21	S	348	SER	N-CA-CB	5.83	119.25	110.50
21	S	439	ARG	NE-CZ-NH1	5.83	123.22	120.30
25	U	235	ASN	N-CA-CB	5.83	121.09	110.60
11	4	130	ALA	N-CA-CB	5.83	118.25	110.10
21	S	209	TYR	CG-CD1-CE1	-5.82	116.64	121.30
22	P	439	VAL	CG1-CB-CG2	5.82	120.22	110.90
13	6	177	ASP	CB-CG-OD2	-5.82	113.06	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	5	113	PHE	CB-CG-CD1	-5.82	116.73	120.80
20	N	682	TYR	CD1-CE1-CZ	-5.82	114.56	119.80
27	H	232	ARG	NE-CZ-NH2	-5.82	117.39	120.30
10	3	118	LYS	CA-CB-CG	5.82	126.20	113.40
15	W	67	ASP	N-CA-CB	5.82	121.07	110.60
32	J	35	VAL	CG1-CB-CG2	5.82	120.20	110.90
9	2	215	ASN	C-N-CA	5.81	136.23	121.70
20	N	197	VAL	CA-CB-CG2	-5.81	102.18	110.90
28	I	71	TYR	CB-CA-C	-5.81	98.78	110.40
19	Z	804	LEU	CB-CG-CD1	5.81	120.87	111.00
30	L	230	ARG	NE-CZ-NH1	5.81	123.20	120.30
15	W	67	ASP	CB-CA-C	-5.80	98.79	110.40
20	N	748	LEU	CB-CG-CD1	5.80	120.86	111.00
21	S	167	MET	CA-CB-CG	5.80	123.16	113.30
4	D	53	LEU	CB-CG-CD1	5.80	120.86	111.00
23	Q	232	PHE	CZ-CE2-CD2	5.80	127.06	120.10
2	B	77	SER	N-CA-CB	5.79	119.19	110.50
7	G	153	ASP	CB-CG-OD2	-5.79	113.09	118.30
14	7	80	PHE	CG-CD2-CE2	-5.79	114.43	120.80
26	O	47	ASP	CA-C-N	5.79	133.32	117.10
13	6	220	LEU	N-CA-CB	5.79	121.98	110.40
20	N	883	ARG	NH1-CZ-NH2	-5.79	113.03	119.40
30	L	381	PHE	CB-CG-CD1	-5.79	116.75	120.80
16	V	42	LEU	CB-CG-CD2	5.79	120.84	111.00
27	H	41	TYR	O-C-N	-5.79	113.44	122.70
1	A	94	ALA	CB-CA-C	-5.79	101.42	110.10
1	A	178	PHE	CB-CG-CD1	5.79	124.85	120.80
20	N	437	TYR	CB-CG-CD2	5.79	124.47	121.00
22	P	126	ASP	CB-CG-OD2	-5.79	113.09	118.30
24	R	150	PHE	CB-CG-CD2	-5.79	116.75	120.80
23	Q	43	VAL	CA-CB-CG2	-5.78	102.22	110.90
31	M	69	LEU	CB-CG-CD1	-5.78	101.17	111.00
9	2	189	MET	N-CA-CB	5.78	121.00	110.60
20	N	82	LEU	CB-CG-CD1	5.78	120.83	111.00
12	5	84	TYR	CB-CA-C	5.78	121.96	110.40
16	V	133	PHE	CB-CG-CD2	-5.78	116.76	120.80
26	O	190	VAL	CG1-CB-CG2	-5.78	101.66	110.90
3	C	39	ALA	CB-CA-C	5.77	118.76	110.10
16	V	47	ALA	N-CA-CB	5.77	118.18	110.10
21	S	58	HIS	CA-CB-CG	5.77	123.41	113.60
31	M	309	VAL	CA-CB-CG2	-5.77	102.24	110.90
2	B	224	THR	CA-CB-OG1	5.77	121.11	109.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	T	93	ALA	CB-CA-C	-5.77	101.44	110.10
21	S	283	ARG	NH1-CZ-NH2	-5.77	113.06	119.40
5	E	53	ARG	N-CA-CB	5.77	120.98	110.60
7	G	224	ARG	NE-CZ-NH1	5.76	123.18	120.30
30	L	210	LEU	N-CA-C	-5.76	95.45	111.00
7	G	10	LEU	CB-CG-CD2	5.75	120.78	111.00
32	J	37	ASP	CB-CG-OD1	-5.75	113.12	118.30
2	B	121	TYR	CG-CD1-CE1	-5.75	116.70	121.30
22	P	178	GLU	N-CA-CB	5.75	120.94	110.60
19	Z	316	ASP	CB-CG-OD2	5.74	123.47	118.30
15	W	160	LEU	CB-CG-CD1	5.74	120.76	111.00
10	3	26	ARG	NE-CZ-NH1	5.74	123.17	120.30
14	7	57	GLY	N-CA-C	-5.74	98.75	113.10
29	K	235	PHE	CB-CG-CD1	5.74	124.82	120.80
21	S	208	TYR	CB-CG-CD1	-5.74	117.56	121.00
1	A	245	ARG	NE-CZ-NH2	5.74	123.17	120.30
16	V	305	ASP	CB-CG-OD1	5.74	123.46	118.30
22	P	428	TRP	CB-CG-CD2	5.74	134.06	126.60
24	R	215	ASP	CB-CG-OD1	-5.74	113.14	118.30
7	G	26	TYR	CG-CD1-CE1	5.73	125.89	121.30
9	2	207	PHE	CB-CG-CD1	-5.73	116.79	120.80
16	V	156	VAL	CA-CB-CG1	5.73	119.50	110.90
19	Z	193	PRO	N-CA-CB	5.73	110.18	103.30
23	Q	137	TYR	CG-CD1-CE1	5.73	125.88	121.30
20	N	494	TYR	CB-CG-CD1	-5.73	117.56	121.00
15	W	62	THR	CA-CB-CG2	-5.73	104.38	112.40
30	L	341	ASP	CB-CG-OD1	5.73	123.45	118.30
8	1	123	TYR	CD1-CG-CD2	-5.72	111.60	117.90
28	I	319	PHE	CB-CG-CD2	5.72	124.81	120.80
20	N	646	PRO	N-CA-CB	5.72	110.17	103.30
10	3	66	ARG	CB-CA-C	-5.72	98.96	110.40
12	5	214	LEU	CB-CG-CD1	5.72	120.72	111.00
23	Q	91	SER	CB-CA-C	-5.72	99.24	110.10
24	R	192	ARG	NE-CZ-NH1	5.72	123.16	120.30
3	C	91	ARG	NE-CZ-NH1	5.71	123.16	120.30
25	U	35	VAL	CA-CB-CG2	-5.71	102.33	110.90
30	L	372	ASP	CB-CG-OD2	-5.71	113.16	118.30
22	P	248	ARG	CD-NE-CZ	5.71	131.59	123.60
28	I	288	ASP	CB-CA-C	-5.71	98.98	110.40
27	H	188	ARG	NE-CZ-NH2	-5.71	117.45	120.30
27	H	328	ASP	CB-CG-OD2	5.71	123.44	118.30
32	J	376	VAL	CG1-CB-CG2	5.71	120.03	110.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	Q	321	THR	CA-CB-CG2	5.70	120.39	112.40
22	P	427	ASP	CB-CG-OD1	-5.70	113.17	118.30
32	J	281	ASP	N-CA-CB	5.70	120.85	110.60
30	L	122	MET	CG-SD-CE	-5.69	91.09	100.20
31	M	374	ARG	NE-CZ-NH1	5.69	123.15	120.30
11	4	90	ASP	CB-CG-OD2	-5.69	113.18	118.30
25	U	94	TRP	CH2-CZ2-CE2	5.69	123.09	117.40
26	O	289	ARG	NE-CZ-NH2	-5.69	117.46	120.30
32	J	229	ARG	NE-CZ-NH2	-5.69	117.46	120.30
5	E	229	PHE	CB-CG-CD2	-5.68	116.82	120.80
22	P	369	TYR	CG-CD1-CE1	5.68	125.85	121.30
21	S	62	GLU	OE1-CD-OE2	-5.68	116.48	123.30
2	B	111	VAL	CA-CB-CG2	5.68	119.42	110.90
25	U	59	ASP	CB-CG-OD2	-5.68	113.19	118.30
8	1	52	ARG	C-N-CA	5.68	135.89	121.70
27	H	269	ALA	N-CA-CB	5.67	118.04	110.10
29	K	202	VAL	CG1-CB-CG2	-5.67	101.82	110.90
7	G	182	MET	CG-SD-CE	-5.67	91.12	100.20
30	L	176	VAL	CA-CB-CG2	-5.67	102.39	110.90
8	1	45	VAL	CA-C-N	5.67	129.68	117.20
21	S	424	LEU	CB-CG-CD2	5.67	120.64	111.00
31	M	266	ASP	CB-CG-OD2	5.67	123.40	118.30
9	2	129	MET	CG-SD-CE	5.67	109.27	100.20
14	7	223	ARG	CG-CD-NE	-5.67	99.89	111.80
26	O	226	ARG	NE-CZ-NH1	5.67	123.13	120.30
28	I	340	ALA	N-CA-CB	5.67	118.04	110.10
30	L	67	VAL	CA-CB-CG2	-5.67	102.40	110.90
3	C	200	THR	CA-CB-CG2	-5.67	104.47	112.40
20	N	745	THR	CA-CB-CG2	-5.66	104.47	112.40
22	P	428	TRP	CB-CG-CD1	-5.66	119.64	127.00
10	3	96	TYR	CB-CG-CD2	5.66	124.40	121.00
25	U	115	TYR	CB-CA-C	-5.66	99.08	110.40
2	B	130	PHE	CB-CG-CD2	-5.66	116.84	120.80
17	T	328	PRO	N-CD-CG	5.66	111.68	103.20
27	H	41	TYR	CB-CG-CD1	-5.66	117.61	121.00
28	I	331	THR	N-CA-CB	5.66	121.05	110.30
26	O	173	TYR	CB-CG-CD1	5.65	124.39	121.00
26	O	221	VAL	CA-CB-CG1	-5.65	102.42	110.90
32	J	344	LEU	CB-CG-CD2	5.65	120.61	111.00
27	H	200	ARG	NE-CZ-NH2	-5.65	117.47	120.30
32	J	365	GLU	CB-CA-C	-5.65	99.10	110.40
19	Z	884	THR	CA-CB-CG2	-5.65	104.49	112.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	88	ARG	NH1-CZ-NH2	5.65	125.61	119.40
4	D	101	ARG	NE-CZ-NH1	5.65	123.12	120.30
30	L	325	ASP	N-CA-CB	5.65	120.77	110.60
3	C	11	ILE	N-CA-C	-5.64	95.76	111.00
13	6	238	ARG	NH1-CZ-NH2	-5.64	113.19	119.40
28	I	330	ALA	N-CA-CB	5.64	118.00	110.10
32	J	31	LEU	CB-CG-CD2	5.64	120.60	111.00
21	S	283	ARG	N-CA-CB	5.64	120.76	110.60
8	1	210	ALA	CB-CA-C	-5.64	101.64	110.10
29	K	44	TYR	CB-CG-CD2	-5.64	117.62	121.00
8	1	167	TYR	CB-CG-CD2	5.64	124.38	121.00
23	Q	102	ALA	CB-CA-C	-5.63	101.65	110.10
21	S	413	ILE	CA-CB-CG1	5.63	121.70	111.00
2	B	57	TYR	CG-CD1-CE1	-5.63	116.80	121.30
26	O	172	TYR	CB-CG-CD1	-5.63	117.62	121.00
30	L	136	MET	CG-SD-CE	-5.63	91.19	100.20
32	J	358	GLU	N-CA-CB	5.63	120.74	110.60
19	Z	206	ASP	N-CA-CB	5.63	120.73	110.60
19	Z	535	THR	CA-CB-CG2	-5.63	104.52	112.40
21	S	443	ILE	O-C-N	5.63	131.70	122.70
21	S	92	ARG	N-CA-CB	5.62	120.72	110.60
29	K	171	ASP	CB-CG-OD2	5.62	123.36	118.30
5	E	143	PHE	CB-CG-CD1	5.62	124.73	120.80
10	3	106	GLU	OE1-CD-OE2	-5.62	116.55	123.30
24	R	193	ASP	C-N-CA	5.62	135.75	121.70
14	7	215	ARG	NE-CZ-NH2	-5.62	117.49	120.30
21	S	432	PHE	CB-CG-CD2	5.62	124.73	120.80
27	H	222	LYS	CB-CA-C	-5.62	99.17	110.40
7	G	239	TYR	CG-CD1-CE1	5.61	125.79	121.30
32	J	369	TYR	CB-CG-CD1	-5.61	117.63	121.00
10	3	56	LEU	N-CA-CB	5.61	121.62	110.40
19	Z	145	VAL	CA-CB-CG1	5.61	119.31	110.90
24	R	257	ARG	NE-CZ-NH1	5.61	123.10	120.30
29	K	326	ARG	NH1-CZ-NH2	5.61	125.57	119.40
32	J	232	ARG	NE-CZ-NH1	5.61	123.10	120.30
2	B	81	PRO	O-C-N	5.61	131.67	122.70
15	W	121	GLU	OE1-CD-OE2	5.61	130.03	123.30
3	C	148	TYR	CG-CD1-CE1	-5.60	116.82	121.30
29	K	253	LEU	N-CA-CB	5.60	121.61	110.40
22	P	387	ASP	CB-CG-OD2	5.60	123.34	118.30
4	D	41	VAL	N-CA-C	-5.60	95.88	111.00
12	5	114	TRP	CE3-CZ3-CH2	-5.60	115.04	121.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
19	Z	613	LEU	N-CA-C	-5.60	95.89	111.00
23	Q	239	TYR	CG-CD2-CE2	-5.60	116.82	121.30
4	D	197	VAL	CA-CB-CG2	-5.60	102.51	110.90
19	Z	194	TYR	CG-CD1-CE1	-5.59	116.83	121.30
10	3	193	ASP	CB-CG-OD1	5.59	123.33	118.30
31	M	155	GLY	N-CA-C	-5.59	99.12	113.10
14	7	151	TRP	CG-CD2-CE3	-5.59	128.87	133.90
29	K	121	ARG	NH1-CZ-NH2	5.59	125.55	119.40
29	K	345	PHE	CB-CG-CD1	5.59	124.71	120.80
15	W	57	ASP	CB-CG-OD1	5.59	123.33	118.30
29	K	93	LEU	CB-CA-C	-5.59	99.58	110.20
16	V	275	VAL	CG1-CB-CG2	-5.59	101.96	110.90
20	N	953	ASP	CB-CG-OD1	5.59	123.33	118.30
30	L	112	VAL	CA-CB-CG1	5.58	119.28	110.90
12	5	202	TYR	CG-CD1-CE1	5.58	125.77	121.30
8	1	39	VAL	C-N-CA	5.58	135.66	121.70
5	E	161	THR	O-C-N	5.58	131.63	122.70
31	M	201	LEU	CB-CG-CD2	5.58	120.49	111.00
20	N	420	LEU	CB-CG-CD1	5.58	120.48	111.00
20	N	69	TYR	CG-CD1-CE1	5.58	125.76	121.30
32	J	208	ASP	CB-CG-OD2	-5.58	113.28	118.30
31	M	412	ARG	NE-CZ-NH1	-5.57	117.51	120.30
12	5	213	ASP	CB-CG-OD2	5.57	123.31	118.30
21	S	150	ALA	N-CA-CB	5.57	117.90	110.10
19	Z	71	TYR	CB-CG-CD1	-5.57	117.66	121.00
26	O	260	ASP	CB-CG-OD1	5.57	123.31	118.30
12	5	224	TYR	CG-CD1-CE1	-5.56	116.85	121.30
13	6	198	ALA	N-CA-CB	5.56	117.89	110.10
10	3	197	THR	N-CA-C	-5.56	95.98	111.00
11	4	180	VAL	N-CA-C	-5.56	95.98	111.00
14	7	86	ILE	N-CA-C	-5.56	95.99	111.00
7	G	103	PHE	CB-CG-CD1	-5.56	116.91	120.80
22	P	263	TRP	N-CA-CB	5.56	120.60	110.60
31	M	156	VAL	N-CA-C	-5.56	96.00	111.00
20	N	767	THR	CA-CB-CG2	-5.56	104.62	112.40
22	P	199	TYR	CB-CG-CD1	-5.56	117.67	121.00
12	5	236	TYR	CD1-CE1-CZ	-5.55	114.80	119.80
22	P	81	ASP	CB-CG-OD1	5.55	123.30	118.30
25	U	158	VAL	CA-CB-CG1	-5.55	102.57	110.90
32	J	364	THR	CA-CB-CG2	-5.55	104.63	112.40
1	A	62	ASP	CB-CG-OD2	-5.55	113.31	118.30
6	F	147	THR	N-CA-C	-5.55	96.02	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
10	3	24	ALA	N-CA-CB	5.55	117.87	110.10
10	3	56	LEU	C-N-CA	5.55	135.58	121.70
19	Z	121	PHE	CB-CG-CD2	-5.55	116.92	120.80
19	Z	775	THR	CA-CB-CG2	5.55	120.17	112.40
31	M	174	ARG	NE-CZ-NH1	5.55	123.07	120.30
15	W	130	ARG	CA-CB-CG	5.55	125.60	113.40
22	P	408	ARG	NE-CZ-NH2	-5.55	117.53	120.30
29	K	126	PRO	O-C-N	5.55	131.57	122.70
6	F	101	ARG	NE-CZ-NH1	5.54	123.07	120.30
14	7	253	TRP	CB-CG-CD1	5.54	134.21	127.00
23	Q	361	VAL	CA-CB-CG1	5.54	119.21	110.90
31	M	338	VAL	CG1-CB-CG2	5.54	119.77	110.90
4	D	151	TYR	CG-CD2-CE2	5.54	125.73	121.30
29	K	311	THR	CA-CB-CG2	-5.54	104.65	112.40
9	2	234	VAL	CA-CB-CG1	-5.54	102.60	110.90
20	N	240	ASP	N-CA-CB	5.54	120.56	110.60
22	P	88	MET	N-CA-CB	5.54	120.56	110.60
25	U	115	TYR	CG-CD2-CE2	-5.54	116.87	121.30
24	R	197	ALA	N-CA-CB	5.53	117.84	110.10
10	3	10	ALA	N-CA-CB	5.53	117.84	110.10
20	N	628	ARG	NE-CZ-NH1	-5.53	117.54	120.30
25	U	181	ASP	CB-CG-OD2	-5.53	113.32	118.30
25	U	272	LEU	CB-CG-CD2	5.52	120.39	111.00
2	B	131	GLY	CA-C-O	-5.52	110.66	120.60
4	D	218	ARG	NE-CZ-NH2	-5.52	117.54	120.30
24	R	300	ARG	NE-CZ-NH2	5.52	123.06	120.30
21	S	290	ARG	NH1-CZ-NH2	5.52	125.47	119.40
27	H	110	LYS	N-CA-CB	-5.52	100.66	110.60
32	J	239	ARG	NE-CZ-NH1	-5.52	117.54	120.30
5	E	194	ALA	CB-CA-C	-5.52	101.82	110.10
16	V	255	TYR	CD1-CG-CD2	5.52	123.97	117.90
25	U	49	ASP	CB-CG-OD1	-5.52	113.33	118.30
4	D	169	ARG	NE-CZ-NH1	-5.52	117.54	120.30
31	M	392	ASP	CB-CG-OD2	-5.52	113.33	118.30
6	F	16	GLN	CA-CB-CG	5.51	125.53	113.40
17	T	345	TYR	CA-CB-CG	5.51	123.87	113.40
21	S	162	TYR	CB-CG-CD2	5.51	124.31	121.00
20	N	926	GLU	N-CA-CB	5.51	120.52	110.60
22	P	192	LEU	CB-CG-CD1	5.51	120.37	111.00
30	L	315	ILE	O-C-N	5.51	131.52	122.70
11	4	107	TYR	CB-CG-CD2	-5.51	117.69	121.00
14	7	103	ASP	CB-CG-OD2	5.51	123.26	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	34	PRO	CA-N-CD	-5.51	103.79	111.50
9	2	102	ILE	CA-CB-CG1	5.51	121.46	111.00
31	M	100	LEU	CB-CA-C	-5.51	99.74	110.20
4	D	21	TYR	CZ-CE2-CD2	5.50	124.75	119.80
14	7	171	MET	N-CA-C	-5.50	96.14	111.00
23	Q	188	ALA	N-CA-CB	5.50	117.81	110.10
28	I	317	ASP	N-CA-CB	-5.50	100.69	110.60
19	Z	241	PRO	N-CA-CB	5.50	109.90	103.30
22	P	88	MET	CA-CB-CG	5.50	122.65	113.30
32	J	253	SER	C-N-CA	5.50	135.46	121.70
11	4	171	PHE	CB-CG-CD2	-5.50	116.95	120.80
10	3	85	TYR	CB-CG-CD2	5.50	124.30	121.00
17	T	178	TYR	CB-CG-CD2	-5.50	117.70	121.00
8	1	169	TYR	CG-CD1-CE1	5.50	125.70	121.30
9	2	188	ASP	C-N-CA	5.50	135.44	121.70
9	2	186	ARG	CD-NE-CZ	-5.49	115.91	123.60
31	M	430	VAL	CA-CB-CG2	-5.49	102.66	110.90
30	L	247	ASP	CB-CG-OD1	5.49	123.24	118.30
5	E	116	VAL	CA-CB-CG1	5.49	119.13	110.90
21	S	492	PHE	CB-CG-CD1	5.49	124.64	120.80
27	H	346	PRO	N-CA-CB	5.49	109.88	103.30
28	I	411	ARG	N-CA-CB	5.49	120.47	110.60
26	O	293	PHE	CB-CG-CD2	-5.48	116.96	120.80
19	Z	296	PHE	CB-CG-CD2	5.48	124.64	120.80
20	N	609	ASP	CB-CA-C	-5.48	99.44	110.40
26	O	173	TYR	CB-CG-CD2	-5.48	117.71	121.00
32	J	113	ARG	NE-CZ-NH1	5.48	123.04	120.30
22	P	369	TYR	CB-CG-CD2	-5.48	117.71	121.00
27	H	78	TRP	CB-CG-CD2	-5.48	119.47	126.60
28	I	151	LEU	CB-CG-CD1	-5.48	101.68	111.00
30	L	381	PHE	CB-CG-CD2	5.48	124.64	120.80
32	J	348	ALA	N-CA-CB	5.48	117.77	110.10
20	N	122	GLU	CA-CB-CG	5.48	125.45	113.40
13	6	132	TYR	CB-CG-CD2	-5.48	117.71	121.00
17	T	213	THR	CA-CB-CG2	-5.47	104.73	112.40
29	K	132	LEU	O-C-N	-5.47	113.94	122.70
19	Z	398	TRP	CA-CB-CG	5.47	124.10	113.70
20	N	778	PHE	CG-CD2-CE2	5.47	126.82	120.80
22	P	247	TYR	CG-CD1-CE1	-5.47	116.92	121.30
21	S	260	TYR	CB-CG-CD2	-5.47	117.72	121.00
25	U	41	GLY	N-CA-C	-5.47	99.43	113.10
8	1	153	MET	N-CA-CB	5.46	120.44	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
18	Y	66	LYS	CB-CA-C	-5.46	99.47	110.40
30	L	269	ARG	NE-CZ-NH1	-5.46	117.57	120.30
15	W	106	LYS	N-CA-CB	5.46	120.43	110.60
19	Z	552	ASP	CA-CB-CG	-5.46	101.38	113.40
20	N	480	GLY	C-N-CA	5.46	135.35	121.70
25	U	81	MET	CG-SD-CE	-5.46	91.46	100.20
25	U	58	PHE	CB-CG-CD2	-5.46	116.98	120.80
27	H	249	TYR	CG-CD2-CE2	-5.46	116.93	121.30
22	P	90	LEU	O-C-N	5.46	131.43	122.70
19	Z	470	VAL	CA-CB-CG2	5.46	119.08	110.90
24	R	379	ARG	NE-CZ-NH1	5.46	123.03	120.30
25	U	234	PHE	CB-CG-CD2	5.46	124.62	120.80
16	V	205	ILE	N-CA-C	-5.45	96.28	111.00
23	Q	162	ASP	CB-CG-OD2	-5.45	113.39	118.30
29	K	282	ASP	CB-CG-OD1	-5.45	113.39	118.30
29	K	326	ARG	CG-CD-NE	-5.45	100.35	111.80
29	K	111	TYR	CG-CD2-CE2	5.45	125.66	121.30
19	Z	83	ARG	NE-CZ-NH1	5.45	123.02	120.30
20	N	600	ARG	NE-CZ-NH1	5.45	123.02	120.30
2	B	178	TYR	CZ-CE2-CD2	-5.45	114.90	119.80
26	O	213	PHE	CB-CG-CD2	-5.45	116.99	120.80
29	K	338	ARG	CD-NE-CZ	-5.45	115.97	123.60
20	N	557	TYR	CB-CG-CD1	-5.44	117.73	121.00
27	H	367	ASP	N-CA-CB	5.44	120.40	110.60
28	I	378	VAL	CA-CB-CG2	-5.44	102.74	110.90
19	Z	349	TYR	CB-CG-CD1	5.44	124.26	121.00
29	K	72	PHE	CD1-CE1-CZ	-5.44	113.57	120.10
32	J	322	GLU	OE1-CD-OE2	5.44	129.83	123.30
14	7	69	ASP	CB-CG-OD2	5.44	123.19	118.30
5	E	22	PHE	CB-CG-CD1	5.44	124.61	120.80
7	G	157	VAL	CA-CB-CG1	-5.44	102.75	110.90
9	2	51	TYR	CB-CG-CD2	-5.43	117.74	121.00
22	P	187	LEU	CB-CG-CD1	5.43	120.24	111.00
23	Q	211	ASP	CB-CG-OD1	5.43	123.19	118.30
27	H	124	ASP	N-CA-CB	5.43	120.38	110.60
26	O	61	GLU	O-C-N	-5.43	114.01	122.70
6	F	155	ASP	N-CA-CB	5.43	120.37	110.60
22	P	351	TRP	CE3-CZ3-CH2	-5.43	115.23	121.20
30	L	356	ASP	CB-CG-OD1	-5.43	113.41	118.30
27	H	273	PHE	CD1-CE1-CZ	-5.43	113.59	120.10
9	2	246	ARG	NE-CZ-NH2	5.42	123.01	120.30
17	T	140	THR	CA-CB-OG1	5.42	120.39	109.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	225	GLU	CA-C-N	-5.42	105.27	117.20
23	Q	116	TRP	CZ3-CH2-CZ2	5.42	128.10	121.60
26	O	262	ALA	CB-CA-C	-5.42	101.97	110.10
3	C	134	LEU	CB-CA-C	-5.42	99.91	110.20
10	3	92	ALA	CB-CA-C	-5.42	101.97	110.10
14	7	184	GLY	N-CA-C	-5.42	99.56	113.10
25	U	179	ILE	CB-CA-C	5.42	122.43	111.60
30	L	286	ARG	NH1-CZ-NH2	-5.41	113.44	119.40
8	1	167	TYR	CD1-CE1-CZ	-5.41	114.93	119.80
32	J	266	ASP	CB-CG-OD1	-5.41	113.43	118.30
17	T	345	TYR	CB-CG-CD2	5.41	124.25	121.00
4	D	17	PHE	CB-CG-CD2	5.41	124.58	120.80
9	2	139	ALA	N-CA-C	-5.41	96.41	111.00
10	3	160	PRO	N-CA-CB	5.41	109.79	103.30
26	O	326	GLU	OE1-CD-OE2	-5.41	116.81	123.30
27	H	428	ARG	NE-CZ-NH1	-5.41	117.60	120.30
30	L	397	LYS	N-CA-CB	5.41	120.33	110.60
20	N	572	ARG	NE-CZ-NH1	-5.40	117.60	120.30
20	N	814	PRO	N-CD-CG	5.40	111.31	103.20
26	O	356	TRP	CB-CG-CD1	5.40	134.02	127.00
23	Q	85	ALA	O-C-N	-5.40	114.06	122.70
24	R	248	GLU	N-CA-CB	5.40	120.32	110.60
26	O	7	PHE	CB-CG-CD1	5.40	124.58	120.80
2	B	154	ALA	CB-CA-C	-5.40	102.00	110.10
24	R	230	ALA	CB-CA-C	-5.40	102.00	110.10
32	J	100	ASP	CB-CG-OD2	5.40	123.16	118.30
13	6	65	ARG	NE-CZ-NH2	5.40	123.00	120.30
23	Q	236	PHE	CB-CG-CD1	5.40	124.58	120.80
32	J	315	ILE	CA-CB-CG1	5.40	121.25	111.00
19	Z	760	PHE	CB-CG-CD1	-5.39	117.02	120.80
8	1	78	ARG	NE-CZ-NH2	-5.39	117.60	120.30
22	P	12	ARG	NE-CZ-NH1	5.39	123.00	120.30
23	Q	199	ALA	N-CA-CB	5.39	117.65	110.10
12	5	147	TYR	CG-CD1-CE1	-5.39	116.99	121.30
17	T	178	TYR	CB-CG-CD1	5.39	124.23	121.00
20	N	514	LEU	CB-CG-CD2	5.39	120.16	111.00
32	J	299	ASP	N-CA-CB	5.39	120.30	110.60
15	W	25	ARG	NH1-CZ-NH2	-5.38	113.48	119.40
26	O	325	ASP	CB-CG-OD1	5.38	123.15	118.30
10	3	67	LEU	CB-CA-C	5.38	120.43	110.20
9	2	44	THR	CA-CB-CG2	-5.38	104.86	112.40
12	5	147	TYR	CB-CG-CD2	-5.38	117.77	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
15	W	31	ASP	CB-CG-OD1	-5.38	113.46	118.30
9	2	197	LEU	CB-CA-C	-5.38	99.98	110.20
8	1	153	MET	CB-CA-C	-5.38	99.64	110.40
16	V	225	TRP	CB-CG-CD2	5.38	133.59	126.60
6	F	103	LEU	CB-CG-CD1	5.38	120.14	111.00
11	4	98	TYR	CB-CG-CD1	5.38	124.23	121.00
29	K	339	ARG	NE-CZ-NH2	-5.38	117.61	120.30
24	R	20	ALA	N-CA-CB	5.38	117.62	110.10
25	U	94	TRP	CZ3-CH2-CZ2	-5.37	115.15	121.60
17	T	296	PHE	CB-CG-CD1	5.37	124.56	120.80
23	Q	33	ARG	NH1-CZ-NH2	-5.37	113.49	119.40
26	O	25	LEU	CB-CG-CD1	5.37	120.13	111.00
24	R	253	LEU	CA-C-N	5.37	132.13	117.10
3	C	9	THR	CA-CB-CG2	-5.37	104.89	112.40
5	E	63	SER	N-CA-CB	5.37	118.55	110.50
14	7	154	LYS	N-CA-C	-5.37	96.51	111.00
31	M	368	ILE	CA-CB-CG1	5.37	121.20	111.00
31	M	408	MET	CG-SD-CE	-5.37	91.61	100.20
5	E	135	ARG	NE-CZ-NH1	5.36	122.98	120.30
4	D	124	TYR	CB-CG-CD1	5.36	124.22	121.00
15	W	43	SER	O-C-N	5.36	131.28	122.70
16	V	144	VAL	CA-CB-CG2	-5.36	102.86	110.90
19	Z	498	LEU	CB-CG-CD1	5.36	120.11	111.00
29	K	248	ARG	NE-CZ-NH2	5.36	122.98	120.30
9	2	227	ASP	CB-CG-OD1	-5.36	113.48	118.30
12	5	125	TYR	CG-CD1-CE1	5.36	125.58	121.30
16	V	123	SER	N-CA-CB	5.36	118.53	110.50
22	P	213	PHE	CG-CD2-CE2	5.36	126.69	120.80
19	Z	874	LEU	CB-CG-CD1	5.35	120.10	111.00
25	U	9	VAL	CA-CB-CG2	5.35	118.93	110.90
30	L	360	VAL	O-C-N	-5.35	114.14	122.70
31	M	61	GLU	OE1-CD-OE2	5.35	129.72	123.30
32	J	152	GLY	N-CA-C	-5.35	99.72	113.10
15	W	123	ASP	CB-CG-OD2	5.35	123.11	118.30
21	S	213	VAL	CA-CB-CG1	-5.35	102.88	110.90
19	Z	49	ASP	CB-CG-OD1	-5.35	113.49	118.30
22	P	300	PRO	N-CA-CB	5.35	109.72	103.30
8	1	208	ARG	NE-CZ-NH1	5.34	122.97	120.30
11	4	150	THR	CA-CB-CG2	-5.34	104.92	112.40
14	7	243	ILE	CA-CB-CG1	5.34	121.15	111.00
20	N	550	VAL	CA-CB-CG2	-5.34	102.89	110.90
7	G	84	ASP	CB-CA-C	-5.34	99.72	110.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
23	Q	284	THR	O-C-N	5.34	131.24	122.70
20	N	174	PRO	N-CA-CB	5.34	109.70	103.30
20	N	845	GLU	N-CA-C	-5.34	96.59	111.00
6	F	103	LEU	CB-CG-CD2	-5.34	101.93	111.00
19	Z	620	PHE	CB-CG-CD2	-5.34	117.06	120.80
20	N	943	GLU	CB-CA-C	-5.34	99.73	110.40
24	R	70	LEU	CB-CG-CD1	5.34	120.07	111.00
24	R	272	PHE	CA-CB-CG	-5.34	101.09	113.90
32	J	334	ARG	CD-NE-CZ	-5.33	116.13	123.60
4	D	73	PHE	CB-CG-CD1	-5.33	117.07	120.80
6	F	179	PHE	CB-CG-CD1	5.33	124.53	120.80
16	V	121	TRP	CE2-CD2-CG	-5.33	103.03	107.30
22	P	67	LEU	CB-CA-C	-5.33	100.07	110.20
19	Z	708	ASP	CB-CG-OD2	5.33	123.09	118.30
32	J	252	ASP	CB-CG-OD1	5.33	123.09	118.30
31	M	86	ASN	CA-CB-CG	-5.32	101.69	113.40
6	F	96	ARG	CB-CA-C	5.32	121.04	110.40
13	6	168	ALA	N-CA-CB	5.32	117.55	110.10
19	Z	247	ALA	N-CA-CB	5.32	117.55	110.10
19	Z	262	PHE	CA-C-O	-5.32	108.94	120.10
26	O	293	PHE	CB-CG-CD1	5.32	124.52	120.80
23	Q	194	ARG	NE-CZ-NH2	-5.32	117.64	120.30
28	I	69	LYS	CA-CB-CG	5.32	125.09	113.40
20	N	100	ILE	CA-CB-CG1	5.31	121.10	111.00
11	4	103	LEU	N-CA-C	-5.31	96.66	111.00
19	Z	314	TYR	CB-CG-CD1	5.31	124.19	121.00
26	O	238	TYR	CZ-CE2-CD2	5.31	124.58	119.80
17	T	318	TYR	CB-CG-CD1	5.31	124.18	121.00
22	P	375	MET	CG-SD-CE	5.31	108.69	100.20
24	R	46	ARG	NE-CZ-NH1	5.31	122.95	120.30
26	O	284	ARG	CB-CA-C	-5.31	99.79	110.40
3	C	151	ASP	CB-CG-OD1	5.31	123.08	118.30
4	D	234	TYR	CG-CD1-CE1	-5.31	117.06	121.30
14	7	252	ASN	CB-CA-C	-5.31	99.79	110.40
17	T	181	TYR	CG-CD1-CE1	-5.31	117.06	121.30
3	C	17	ARG	NE-CZ-NH1	5.30	122.95	120.30
19	Z	681	TYR	CB-CG-CD2	-5.30	117.82	121.00
7	G	194	VAL	CA-CB-CG2	5.30	118.85	110.90
11	4	59	TYR	CB-CG-CD2	-5.30	117.82	121.00
23	Q	184	PRO	N-CD-CG	5.30	111.15	103.20
13	6	123	LEU	CB-CG-CD2	5.30	120.01	111.00
31	M	183	ARG	NE-CZ-NH1	5.30	122.95	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	F	225	ASP	CB-CG-OD1	-5.29	113.53	118.30
16	V	201	TYR	CB-CG-CD1	5.29	124.18	121.00
26	O	70	ARG	NH1-CZ-NH2	-5.29	113.58	119.40
4	D	61	LYS	C-N-CA	5.29	134.93	121.70
23	Q	261	LEU	CB-CG-CD2	-5.29	102.00	111.00
1	A	159	TYR	N-CA-CB	5.29	120.12	110.60
11	4	116	TYR	CG-CD1-CE1	-5.29	117.07	121.30
20	N	140	ARG	NE-CZ-NH1	5.29	122.94	120.30
1	A	154	CYS	N-CA-CB	5.29	120.12	110.60
14	7	138	ARG	NE-CZ-NH2	-5.29	117.66	120.30
19	Z	445	LEU	CB-CG-CD1	-5.29	102.01	111.00
22	P	123	ARG	NE-CZ-NH2	-5.29	117.66	120.30
25	U	228	TYR	CG-CD2-CE2	-5.29	117.07	121.30
32	J	95	PHE	O-C-N	-5.29	114.24	122.70
32	J	60	ARG	CD-NE-CZ	5.28	131.00	123.60
10	3	70	ARG	NE-CZ-NH2	5.28	122.94	120.30
22	P	284	SER	CB-CA-C	-5.28	100.06	110.10
6	F	72	ILE	CA-CB-CG1	5.28	121.03	111.00
15	W	15	TYR	CB-CG-CD2	-5.27	117.84	121.00
4	D	19	VAL	CG1-CB-CG2	-5.27	102.46	110.90
9	2	51	TYR	CD1-CE1-CZ	5.27	124.55	119.80
13	6	51	ALA	N-CA-CB	5.27	117.48	110.10
15	W	61	LEU	CB-CG-CD2	5.27	119.96	111.00
20	N	162	VAL	CA-CB-CG1	-5.27	102.99	110.90
20	N	713	TYR	CB-CG-CD1	-5.27	117.84	121.00
32	J	238	ALA	CB-CA-C	-5.27	102.19	110.10
26	O	331	VAL	N-CA-C	-5.27	96.77	111.00
31	M	109	GLU	OE1-CD-OE2	5.27	129.62	123.30
3	C	82	ASP	CB-CG-OD2	5.27	123.04	118.30
3	C	136	TYR	CA-CB-CG	-5.27	103.39	113.40
26	O	329	LYS	O-C-N	5.27	131.13	122.70
8	1	58	TYR	CG-CD1-CE1	-5.27	117.09	121.30
19	Z	642	ALA	N-CA-CB	5.27	117.47	110.10
1	A	13	ILE	N-CA-C	-5.26	96.79	111.00
6	F	171	TYR	CG-CD2-CE2	-5.26	117.09	121.30
25	U	146	ASP	CB-CG-OD1	-5.26	113.56	118.30
32	J	123	LEU	CB-CG-CD2	5.26	119.95	111.00
27	H	275	ASP	CB-CG-OD2	5.26	123.03	118.30
31	M	92	LEU	CB-CG-CD1	5.26	119.94	111.00
11	4	20	VAL	CB-CA-C	-5.26	101.41	111.40
23	Q	345	VAL	CA-CB-CG1	-5.26	103.02	110.90
10	3	144	GLU	C-N-CA	5.25	134.84	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	5	64	ALA	N-CA-CB	5.25	117.46	110.10
7	G	108	PRO	N-CA-CB	5.25	109.60	103.30
30	L	247	ASP	CB-CA-C	-5.25	99.89	110.40
3	C	147	LEU	CB-CG-CD1	5.25	119.93	111.00
4	D	38	ARG	NE-CZ-NH2	-5.25	117.67	120.30
19	Z	67	ASP	CB-CG-OD1	-5.25	113.57	118.30
23	Q	161	ASP	CB-CG-OD1	-5.25	113.57	118.30
24	R	222	TYR	CB-CG-CD1	5.25	124.15	121.00
30	L	398	LEU	CB-CG-CD2	5.25	119.93	111.00
21	S	427	PRO	N-CD-CG	5.25	111.07	103.20
13	6	212	ARG	CB-CA-C	-5.25	99.91	110.40
7	G	159	TYR	CD1-CE1-CZ	5.25	124.52	119.80
19	Z	242	GLU	CA-C-O	-5.25	109.08	120.10
19	Z	401	LYS	C-N-CA	5.24	134.81	121.70
19	Z	600	TYR	CB-CG-CD2	-5.24	117.85	121.00
31	M	299	PHE	CG-CD1-CE1	-5.24	115.03	120.80
5	E	107	MET	CG-SD-CE	-5.24	91.81	100.20
22	P	172	GLU	N-CA-CB	5.24	120.04	110.60
24	R	376	LEU	CB-CG-CD1	5.24	119.91	111.00
8	1	171	TYR	CD1-CG-CD2	5.24	123.67	117.90
17	T	180	ASP	CB-CG-OD2	-5.24	113.58	118.30
20	N	726	ALA	CB-CA-C	-5.24	102.24	110.10
21	S	254	TYR	CB-CG-CD1	5.24	124.14	121.00
19	Z	121	PHE	N-CA-CB	5.24	120.03	110.60
26	O	272	ILE	N-CA-CB	5.24	122.85	110.80
24	R	41	LEU	CB-CA-C	-5.24	100.25	110.20
29	K	60	TYR	CB-CG-CD1	-5.24	117.86	121.00
9	2	140	ALA	N-CA-C	-5.24	96.86	111.00
19	Z	36	ALA	N-CA-CB	5.24	117.43	110.10
28	I	158	ALA	N-CA-C	-5.24	96.86	111.00
32	J	50	ASN	N-CA-CB	5.24	120.03	110.60
15	W	151	GLU	N-CA-CB	5.23	120.02	110.60
25	U	234	PHE	CB-CA-C	-5.23	99.94	110.40
10	3	191	GLU	N-CA-CB	5.23	120.02	110.60
22	P	280	ASP	CB-CG-OD2	-5.23	113.59	118.30
27	H	87	LEU	CB-CG-CD1	5.23	119.89	111.00
10	3	193	ASP	CB-CG-OD2	-5.23	113.59	118.30
19	Z	261	ARG	NE-CZ-NH2	-5.23	117.69	120.30
22	P	129	ARG	NE-CZ-NH1	5.23	122.92	120.30
1	A	18	PRO	N-CA-CB	5.23	109.57	103.30
21	S	96	MET	CG-SD-CE	-5.23	91.84	100.20
23	Q	74	ARG	CA-C-N	5.23	131.74	117.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
30	L	352	PHE	CB-CG-CD1	5.23	124.46	120.80
21	S	151	ALA	N-CA-CB	5.23	117.42	110.10
26	O	316	SER	CB-CA-C	-5.23	100.17	110.10
12	5	199	ASP	CB-CG-OD2	5.22	123.00	118.30
14	7	185	TYR	CG-CD1-CE1	-5.22	117.12	121.30
8	1	122	ARG	NE-CZ-NH1	5.22	122.91	120.30
10	3	99	ARG	NE-CZ-NH2	-5.22	117.69	120.30
25	U	241	SER	C-N-CA	5.22	134.74	121.70
23	Q	137	TYR	N-CA-CB	5.21	119.99	110.60
4	D	31	THR	N-CA-C	-5.21	96.93	111.00
19	Z	868	HIS	N-CA-CB	5.21	119.98	110.60
9	2	68	VAL	CA-CB-CG1	-5.21	103.09	110.90
26	O	190	VAL	CA-CB-CG2	-5.21	103.09	110.90
2	B	2	ALA	N-CA-C	-5.21	96.94	111.00
15	W	15	TYR	CG-CD2-CE2	-5.20	117.14	121.30
25	U	82	PHE	CB-CG-CD2	5.20	124.44	120.80
27	H	249	TYR	CB-CG-CD1	-5.20	117.88	121.00
30	L	255	ARG	N-CA-CB	5.20	119.97	110.60
24	R	286	TRP	CA-CB-CG	-5.20	103.81	113.70
25	U	8	LYS	N-CA-CB	5.20	119.96	110.60
27	H	400	ARG	NE-CZ-NH2	-5.20	117.70	120.30
1	A	129	ALA	N-CA-CB	-5.20	102.82	110.10
30	L	81	GLU	CA-CB-CG	5.19	124.83	113.40
30	L	282	ASP	CB-CG-OD1	5.19	122.97	118.30
32	J	131	VAL	CA-CB-CG2	5.19	118.69	110.90
1	A	96	TYR	CB-CG-CD2	-5.19	117.89	121.00
10	3	184	GLY	N-CA-C	-5.19	100.13	113.10
19	Z	434	TYR	CB-CG-CD2	5.19	124.11	121.00
19	Z	684	PRO	N-CA-CB	5.19	109.53	103.30
30	L	206	ASP	N-CA-CB	5.19	119.94	110.60
31	M	39	MET	O-C-N	-5.19	114.39	122.70
31	M	291	LEU	CB-CG-CD2	5.19	119.82	111.00
20	N	351	MET	CG-SD-CE	-5.19	91.90	100.20
28	I	191	ASP	CB-CG-OD2	-5.19	113.63	118.30
13	6	185	MET	C-N-CA	5.19	134.67	121.70
19	Z	200	ALA	N-CA-CB	5.19	117.36	110.10
4	D	111	GLU	CB-CG-CD	-5.18	100.20	114.20
22	P	375	MET	CA-CB-CG	5.18	122.11	113.30
13	6	224	ILE	N-CA-C	-5.18	97.00	111.00
19	Z	432	TYR	N-CA-CB	5.18	119.93	110.60
20	N	924	LEU	CB-CG-CD2	5.18	119.81	111.00
20	N	167	ILE	N-CA-C	-5.18	97.01	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	86	ASP	CB-CG-OD2	-5.18	113.64	118.30
26	O	335	TRP	O-C-N	5.18	130.99	122.70
2	B	40	ALA	C-N-CA	5.18	134.64	121.70
19	Z	418	LEU	CB-CG-CD1	5.18	119.80	111.00
20	N	584	TYR	CZ-CE2-CD2	-5.18	115.14	119.80
32	J	301	LEU	O-C-N	5.18	130.98	122.70
8	1	151	GLY	C-N-CA	5.17	134.63	121.70
20	N	33	ASP	CB-CG-OD1	-5.17	113.65	118.30
20	N	899	ARG	NH1-CZ-NH2	5.17	125.09	119.40
12	5	164	ASP	O-C-N	-5.17	114.43	122.70
29	K	60	TYR	CD1-CG-CD2	5.17	123.59	117.90
13	6	98	ARG	NE-CZ-NH2	5.17	122.88	120.30
17	T	329	GLU	CG-CD-OE2	-5.17	107.97	118.30
23	Q	224	ASP	CB-CG-OD1	5.17	122.95	118.30
30	L	34	LYS	O-C-N	5.17	130.97	122.70
31	M	352	ASP	C-N-CA	5.17	134.62	121.70
32	J	100	ASP	CB-CG-OD1	-5.17	113.65	118.30
2	B	51	LYS	C-N-CA	5.17	134.62	121.70
23	Q	229	TYR	CB-CG-CD1	-5.17	117.90	121.00
24	R	233	ARG	CA-C-N	5.17	131.56	117.10
26	O	162	TYR	CB-CG-CD2	-5.17	117.90	121.00
28	I	292	THR	CA-CB-CG2	-5.17	105.17	112.40
3	C	162	THR	N-CA-CB	5.17	120.11	110.30
14	7	150	LEU	CB-CG-CD1	5.17	119.78	111.00
18	Y	67	MET	CG-SD-CE	-5.17	91.94	100.20
2	B	227	ARG	NE-CZ-NH1	-5.16	117.72	120.30
13	6	147	ALA	N-CA-CB	5.16	117.33	110.10
27	H	323	ARG	CD-NE-CZ	5.16	130.83	123.60
27	H	323	ARG	NH1-CZ-NH2	5.16	125.08	119.40
30	L	146	TYR	N-CA-CB	5.16	119.89	110.60
5	E	179	SER	N-CA-CB	5.16	118.24	110.50
9	2	116	LEU	CB-CA-C	5.16	120.00	110.20
12	5	247	SER	N-CA-CB	5.16	118.24	110.50
16	V	150	SER	N-CA-CB	5.16	118.24	110.50
19	Z	385	PHE	CB-CG-CD1	-5.16	117.19	120.80
24	R	203	ASP	N-CA-CB	5.16	119.89	110.60
25	U	43	TRP	CG-CD1-NE1	5.16	115.26	110.10
27	H	286	ASP	CB-CG-OD2	-5.16	113.66	118.30
8	1	74	ILE	CB-CA-C	-5.16	101.29	111.60
11	4	157	VAL	CG1-CB-CG2	5.16	119.15	110.90
14	7	198	LEU	CB-CG-CD1	5.16	119.77	111.00
19	Z	796	LEU	CB-CG-CD2	5.16	119.76	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	N	55	ARG	NE-CZ-NH1	5.15	122.88	120.30
24	R	179	ARG	NE-CZ-NH1	5.15	122.88	120.30
7	G	161	TYR	CG-CD1-CE1	-5.15	117.18	121.30
10	3	48	ARG	N-CA-C	-5.15	97.09	111.00
26	O	270	ARG	NE-CZ-NH2	5.15	122.88	120.30
27	H	72	LEU	CB-CG-CD1	-5.15	102.24	111.00
11	4	116	TYR	O-C-N	5.15	130.94	122.70
13	6	75	ASP	CB-CG-OD1	-5.15	113.66	118.30
22	P	65	ARG	CA-CB-CG	5.15	124.73	113.40
28	I	244	SER	N-CA-CB	5.15	118.22	110.50
31	M	120	ARG	NE-CZ-NH2	5.15	122.88	120.30
20	N	478	SER	CB-CA-C	-5.15	100.32	110.10
29	K	352	MET	CG-SD-CE	-5.15	91.96	100.20
10	3	151	GLU	CB-CG-CD	-5.15	100.30	114.20
2	B	225	GLU	O-C-N	5.15	130.93	122.70
1	A	209	ASP	CB-CG-OD2	-5.14	113.67	118.30
14	7	103	ASP	CB-CA-C	-5.14	100.11	110.40
21	S	330	VAL	CA-CB-CG2	-5.14	103.18	110.90
4	D	49	SER	N-CA-CB	5.14	118.22	110.50
19	Z	112	ASN	N-CA-CB	5.14	119.86	110.60
31	M	166	THR	N-CA-CB	5.14	120.07	110.30
9	2	101	LEU	CB-CG-CD2	5.14	119.74	111.00
17	T	117	GLU	N-CA-CB	5.14	119.85	110.60
19	Z	520	LEU	N-CA-CB	5.14	120.68	110.40
19	Z	613	LEU	N-CA-CB	5.14	120.68	110.40
2	B	77	SER	CB-CA-C	-5.14	100.34	110.10
6	F	102	PRO	CB-CA-C	5.14	124.84	112.00
9	2	142	VAL	CA-CB-CG2	-5.14	103.20	110.90
19	Z	670	MET	N-CA-CB	5.14	119.85	110.60
23	Q	16	LEU	CB-CG-CD2	5.14	119.73	111.00
31	M	64	ARG	CA-CB-CG	5.14	124.70	113.40
32	J	150	MET	CG-SD-CE	-5.14	91.98	100.20
5	E	103	TYR	CG-CD1-CE1	-5.13	117.19	121.30
22	P	28	LEU	N-CA-C	5.13	124.86	111.00
27	H	240	VAL	N-CA-C	-5.13	97.14	111.00
11	4	57	ALA	N-CA-CB	5.13	117.28	110.10
9	2	157	TYR	CB-CG-CD2	-5.13	117.92	121.00
8	1	82	ALA	N-CA-CB	5.13	117.28	110.10
8	1	94	TYR	CG-CD1-CE1	5.13	125.40	121.30
14	7	135	TRP	CB-CG-CD2	5.13	133.27	126.60
20	N	253	TYR	CG-CD1-CE1	-5.13	117.20	121.30
23	Q	187	ARG	NE-CZ-NH1	5.13	122.86	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
27	H	408	ASP	CB-CG-OD2	-5.13	113.68	118.30
32	J	214	VAL	CG1-CB-CG2	5.13	119.11	110.90
32	J	294	ALA	N-CA-CB	5.13	117.28	110.10
2	B	98	TYR	CD1-CE1-CZ	5.13	124.41	119.80
3	C	246	LYS	O-C-N	-5.13	114.50	122.70
20	N	345	ASN	N-CA-CB	5.13	119.83	110.60
20	N	851	GLU	OE1-CD-OE2	5.13	129.45	123.30
27	H	250	VAL	N-CA-CB	5.13	122.78	111.50
28	I	66	GLU	N-CA-CB	5.13	119.83	110.60
20	N	12	LEU	CB-CA-C	-5.12	100.46	110.20
21	S	150	ALA	CB-CA-C	-5.12	102.41	110.10
22	P	416	GLN	CB-CA-C	-5.12	100.15	110.40
30	L	285	HIS	N-CA-CB	-5.12	101.37	110.60
20	N	347	ASN	O-C-N	5.12	130.90	122.70
20	N	928	VAL	CA-CB-CG1	-5.12	103.22	110.90
17	T	217	ARG	NH1-CZ-NH2	5.12	125.03	119.40
17	T	295	PHE	CG-CD1-CE1	5.12	126.44	120.80
19	Z	469	TYR	CB-CG-CD1	-5.12	117.93	121.00
29	K	359	ASP	CA-CB-CG	-5.12	102.13	113.40
10	3	117	PHE	CB-CG-CD2	-5.12	117.22	120.80
11	4	102	LEU	N-CA-CB	5.12	120.64	110.40
32	J	202	ALA	CB-CA-C	-5.12	102.42	110.10
23	Q	167	VAL	N-CA-CB	5.12	122.76	111.50
27	H	367	ASP	C-N-CA	5.12	134.49	121.70
30	L	165	LEU	CA-C-O	-5.12	109.35	120.10
31	M	367	ARG	NE-CZ-NH2	-5.12	117.74	120.30
19	Z	15	GLN	CA-C-O	-5.12	109.36	120.10
21	S	360	THR	CA-CB-OG1	5.12	119.74	109.00
24	R	233	ARG	NE-CZ-NH1	-5.12	117.74	120.30
25	U	245	PHE	CB-CG-CD2	-5.12	117.22	120.80
29	K	407	ILE	N-CA-C	-5.12	97.19	111.00
30	L	255	ARG	CB-CA-C	-5.12	100.17	110.40
4	D	75	VAL	CA-CB-CG2	5.11	118.57	110.90
15	W	24	THR	N-CA-C	-5.11	97.19	111.00
32	J	129	ASN	CB-CA-C	-5.11	100.18	110.40
2	B	6	TYR	CG-CD1-CE1	-5.11	117.21	121.30
3	C	136	TYR	CZ-CE2-CD2	5.11	124.40	119.80
20	N	649	ARG	NE-CZ-NH1	5.11	122.86	120.30
24	R	307	LEU	O-C-N	-5.11	114.52	122.70
20	N	512	ALA	CB-CA-C	-5.11	102.44	110.10
20	N	545	LEU	CB-CG-CD1	5.11	119.69	111.00
9	2	242	PHE	N-CA-CB	5.11	119.79	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
19	Z	259	PHE	CB-CG-CD2	5.11	124.38	120.80
1	A	208	ILE	C-N-CA	5.11	134.46	121.70
30	L	341	ASP	CB-CG-OD2	-5.10	113.71	118.30
15	W	50	GLY	N-CA-C	-5.10	100.34	113.10
19	Z	716	ASP	CB-CG-OD2	-5.10	113.71	118.30
22	P	25	ASP	CB-CG-OD1	-5.10	113.71	118.30
23	Q	108	GLU	CB-CA-C	-5.10	100.20	110.40
2	B	224	THR	CA-CB-CG2	-5.10	105.26	112.40
21	S	453	TYR	CG-CD2-CE2	-5.10	117.22	121.30
31	M	402	VAL	CA-CB-CG2	5.10	118.55	110.90
20	N	710	ARG	CG-CD-NE	-5.10	101.09	111.80
23	Q	124	PHE	CB-CG-CD2	5.10	124.37	120.80
23	Q	136	LEU	CB-CG-CD1	5.10	119.67	111.00
26	O	34	TRP	N-CA-CB	5.10	119.77	110.60
31	M	190	ASP	CB-CG-OD1	-5.10	113.71	118.30
19	Z	723	TYR	CB-CG-CD1	5.09	124.06	121.00
23	Q	407	MET	O-C-N	-5.09	114.55	122.70
22	P	304	ASP	CB-CG-OD1	5.09	122.88	118.30
24	R	292	TYR	CG-CD1-CE1	5.09	125.37	121.30
30	L	16	ALA	N-CA-CB	5.09	117.23	110.10
19	Z	129	LEU	CB-CA-C	-5.09	100.53	110.20
30	L	339	GLU	CB-CA-C	-5.09	100.22	110.40
20	N	253	TYR	CG-CD2-CE2	-5.09	117.23	121.30
27	H	235	ALA	CB-CA-C	-5.09	102.47	110.10
1	A	23	TYR	CA-CB-CG	5.08	123.06	113.40
7	G	20	ARG	NE-CZ-NH1	5.08	122.84	120.30
11	4	107	TYR	N-CA-CB	5.08	119.75	110.60
29	K	93	LEU	CB-CG-CD2	5.08	119.64	111.00
12	5	163	TRP	CE2-CD2-CE3	5.08	124.80	118.70
19	Z	800	LEU	CB-CG-CD1	5.08	119.64	111.00
22	P	174	TYR	CB-CG-CD2	5.08	124.05	121.00
27	H	43	ARG	CD-NE-CZ	-5.08	116.48	123.60
27	H	77	LEU	O-C-N	5.08	130.83	122.70
27	H	232	ARG	NE-CZ-NH1	5.08	122.84	120.30
11	4	64	VAL	C-N-CA	5.08	134.40	121.70
29	K	389	GLU	CA-CB-CG	5.08	124.58	113.40
30	L	278	MET	CG-SD-CE	-5.08	92.07	100.20
19	Z	177	GLU	CA-CB-CG	-5.08	102.23	113.40
25	U	74	TYR	CZ-CE2-CD2	-5.08	115.23	119.80
25	U	105	ASP	CB-CA-C	-5.08	100.24	110.40
10	3	70	ARG	N-CA-CB	5.08	119.74	110.60
14	7	233	VAL	CA-CB-CG1	-5.08	103.29	110.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
16	V	208	ARG	NH1-CZ-NH2	-5.08	113.82	119.40
23	Q	161	ASP	CB-CG-OD2	5.08	122.87	118.30
26	O	172	TYR	CB-CG-CD2	5.07	124.04	121.00
22	P	27	ARG	O-C-N	-5.07	114.58	122.70
7	G	199	TYR	CD1-CE1-CZ	5.07	124.36	119.80
30	L	255	ARG	NH1-CZ-NH2	5.07	124.98	119.40
20	N	588	MET	CG-SD-CE	-5.07	92.09	100.20
27	H	213	LEU	N-CA-CB	5.07	120.53	110.40
27	H	273	PHE	CB-CG-CD1	5.07	124.35	120.80
29	K	68	LEU	CB-CG-CD2	5.07	119.61	111.00
13	6	75	ASP	CB-CG-OD2	5.06	122.86	118.30
23	Q	39	ASP	CB-CG-OD2	-5.06	113.74	118.30
26	O	248	PHE	CZ-CE2-CD2	-5.06	114.03	120.10
29	K	362	ASP	CB-CG-OD1	-5.06	113.75	118.30
1	A	138	MET	CG-SD-CE	-5.06	92.11	100.20
8	1	219	ARG	NH1-CZ-NH2	-5.06	113.83	119.40
27	H	342	GLU	C-N-CA	5.06	134.35	121.70
29	K	234	GLU	N-CA-CB	5.06	119.71	110.60
22	P	408	ARG	O-C-N	-5.06	114.61	122.70
23	Q	193	ALA	N-CA-CB	5.06	117.18	110.10
26	O	108	ASP	N-CA-C	-5.06	97.34	111.00
31	M	190	ASP	CB-CG-OD2	5.06	122.85	118.30
19	Z	473	ASN	CA-CB-CG	-5.06	102.28	113.40
2	B	145	TYR	CZ-CE2-CD2	5.05	124.35	119.80
23	Q	301	ASP	CB-CG-OD1	-5.05	113.75	118.30
24	R	194	PHE	CD1-CG-CD2	-5.05	111.73	118.30
25	U	207	ASP	CB-CG-OD1	-5.05	113.75	118.30
20	N	605	VAL	CA-CB-CG1	5.05	118.48	110.90
18	Y	48	VAL	CA-CB-CG2	-5.05	103.32	110.90
19	Z	149	GLU	N-CA-CB	5.05	119.69	110.60
23	Q	343	SER	N-CA-CB	5.05	118.08	110.50
26	O	268	LEU	CB-CG-CD2	5.05	119.59	111.00
31	M	263	PHE	CD1-CE1-CZ	-5.05	114.04	120.10
15	W	90	ILE	O-C-N	-5.05	114.62	122.70
19	Z	615	ILE	N-CA-C	-5.05	97.36	111.00
29	K	265	ASP	CB-CA-C	-5.05	100.30	110.40
32	J	43	ARG	O-C-N	-5.05	114.62	122.70
2	B	186	ASP	CB-CG-OD2	5.05	122.84	118.30
23	Q	342	PHE	CB-CG-CD1	-5.05	117.27	120.80
20	N	392	TRP	CH2-CZ2-CE2	5.05	122.45	117.40
30	L	251	ALA	N-CA-CB	5.04	117.16	110.10
21	S	107	TYR	CB-CG-CD1	-5.04	117.97	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
26	O	349	MET	CG-SD-CE	-5.04	92.13	100.20
28	I	410	ARG	NE-CZ-NH1	5.04	122.82	120.30
8	1	116	PHE	CB-CA-C	-5.04	100.31	110.40
19	Z	596	ASP	CB-CG-OD1	5.04	122.84	118.30
31	M	101	ASP	CB-CG-OD1	5.04	122.84	118.30
11	4	11	ASP	CB-CG-OD2	-5.04	113.76	118.30
19	Z	194	TYR	CB-CA-C	-5.04	100.32	110.40
19	Z	416	MET	CB-CA-C	5.04	120.48	110.40
4	D	101	ARG	CG-CD-NE	-5.04	101.22	111.80
8	1	123	TYR	CG-CD2-CE2	5.04	125.33	121.30
20	N	180	SER	N-CA-CB	5.04	118.06	110.50
29	K	107	THR	CA-CB-CG2	-5.04	105.34	112.40
14	7	60	PHE	CB-CG-CD2	5.04	124.33	120.80
13	6	237	LEU	CB-CG-CD2	5.04	119.56	111.00
20	N	69	TYR	CD1-CE1-CZ	-5.04	115.27	119.80
20	N	444	TYR	CG-CD2-CE2	5.04	125.33	121.30
32	J	235	PHE	CB-CG-CD1	-5.04	117.28	120.80
10	3	43	PHE	CB-CG-CD2	5.03	124.32	120.80
15	W	113	VAL	N-CA-CB	5.03	122.57	111.50
27	H	97	ARG	NE-CZ-NH2	-5.03	117.78	120.30
28	I	100	ASP	CB-CG-OD2	5.03	122.83	118.30
28	I	213	GLU	OE1-CD-OE2	-5.03	117.26	123.30
25	U	115	TYR	N-CA-CB	5.03	119.66	110.60
21	S	446	SER	N-CA-C	-5.03	97.42	111.00
26	O	254	ALA	CB-CA-C	-5.03	102.55	110.10
28	I	62	LEU	N-CA-CB	5.03	120.46	110.40
30	L	238	ASP	CB-CG-OD2	5.03	122.83	118.30
6	F	51	ARG	NE-CZ-NH1	5.03	122.81	120.30
9	2	172	SER	N-CA-CB	5.03	118.04	110.50
1	A	125	TYR	CZ-CE2-CD2	-5.03	115.28	119.80
15	W	183	LEU	CB-CA-C	-5.03	100.65	110.20
27	H	135	GLU	CA-CB-CG	5.03	124.45	113.40
14	7	242	GLU	N-CA-CB	5.02	119.64	110.60
26	O	375	LEU	CB-CG-CD1	5.02	119.54	111.00
24	R	38	ARG	NE-CZ-NH1	5.02	122.81	120.30
31	M	355	ILE	CA-CB-CG1	5.02	120.53	111.00
24	R	53	TYR	CD1-CE1-CZ	-5.02	115.28	119.80
25	U	112	MET	CA-CB-CG	-5.02	104.77	113.30
29	K	33	GLU	CA-C-N	5.02	131.15	117.10
4	D	105	GLY	C-N-CA	5.01	134.24	121.70
19	Z	828	ARG	NE-CZ-NH2	-5.01	117.79	120.30
3	C	212	GLU	N-CA-CB	5.01	119.62	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	F	111	LEU	CB-CG-CD1	5.01	119.52	111.00
12	5	200	ARG	NE-CZ-NH1	-5.01	117.79	120.30
22	P	248	ARG	NE-CZ-NH1	5.01	122.81	120.30
31	M	350	ARG	NE-CZ-NH1	-5.01	117.79	120.30
4	D	162	TRP	O-C-N	-5.01	114.68	122.70
19	Z	275	MET	CG-SD-CE	5.01	108.22	100.20
21	S	396	HIS	N-CA-CB	-5.01	101.58	110.60
23	Q	89	VAL	CA-CB-CG1	5.01	118.42	110.90
32	J	214	VAL	CA-CB-CG2	-5.01	103.38	110.90
4	D	59	VAL	CA-CB-CG1	5.01	118.41	110.90
9	2	117	PRO	N-CD-CG	5.01	110.71	103.20
26	O	67	PHE	CB-CG-CD1	5.01	124.31	120.80
17	T	338	LEU	CB-CG-CD2	5.01	119.51	111.00
17	T	199	LEU	CB-CG-CD1	5.00	119.51	111.00
2	B	26	LEU	C-N-CA	5.00	134.21	121.70
9	2	64	THR	N-CA-CB	5.00	119.80	110.30
11	4	181	ARG	NE-CZ-NH2	-5.00	117.80	120.30
12	5	228	TYR	CG-CD1-CE1	-5.00	117.30	121.30
14	7	93	THR	CA-CB-OG1	5.00	119.50	109.00
28	I	103	ARG	NH1-CZ-NH2	-5.00	113.90	119.40
32	J	351	MET	CG-SD-CE	-5.00	92.20	100.20

There are no chirality outliers.

All (291) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
8	1	123	TYR	Sidechain
8	1	124	ARG	Sidechain
8	1	145	TYR	Sidechain
8	1	199	ARG	Sidechain
8	1	219	ARG	Sidechain
9	2	115	ARG	Sidechain
9	2	133	TYR	Sidechain
9	2	154	TYR	Sidechain
9	2	230	ARG	Sidechain
9	2	51	TYR	Sidechain
9	2	85	TYR	Sidechain
10	3	129	CYS	Peptide
10	3	188	HIS	Sidechain
10	3	28	PHE	Sidechain
10	3	85	TYR	Sidechain
11	4	107	TYR	Sidechain

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Mol	Chain	Res	Type	Group
11	4	116	TYR	Sidechain
11	4	129	PHE	Sidechain
11	4	153	ARG	Sidechain
11	4	161	ARG	Sidechain
11	4	171	PHE	Sidechain
11	4	59	TYR	Sidechain
11	4	67	TYR	Sidechain
11	4	86	ARG	Sidechain
12	5	128	ARG	Sidechain
12	5	172	TYR	Sidechain
12	5	179	ARG	Sidechain
12	5	195	PHE	Sidechain
12	5	196	GLY	Mainchain
12	5	204	TYR	Sidechain
12	5	216	ARG	Sidechain
12	5	220	TYR	Sidechain
12	5	236	TYR	Sidechain
12	5	78	ARG	Peptide,Sidechain
13	6	132	TYR	Sidechain
13	6	152	ASP	Peptide
13	6	55	ARG	Sidechain
14	7	101	TYR	Sidechain
14	7	104	PHE	Sidechain
14	7	141	TYR	Sidechain
14	7	148	ASN	Peptide
14	7	168	TYR	Sidechain
14	7	185	TYR	Sidechain
14	7	222	TYR	Sidechain
14	7	230	ARG	Sidechain
14	7	74	TYR	Sidechain
14	7	88	ARG	Sidechain
1	A	11	ARG	Mainchain
1	A	117	ARG	Sidechain
1	A	163	PHE	Sidechain
1	A	227	PHE	Sidechain
1	A	3	ARG	Sidechain
1	A	88	ARG	Sidechain
2	B	189	HIS	Sidechain
2	B	24	TYR	Sidechain
2	B	8	PHE	Sidechain
2	B	83	TYR	Sidechain
3	C	101	TYR	Sidechain

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Mol	Chain	Res	Type	Group
3	C	121	TYR	Sidechain
3	C	136	TYR	Sidechain
3	C	156	TYR	Sidechain
3	C	226	ARG	Sidechain
3	C	66	TYR	Sidechain
4	D	131	ARG	Sidechain
4	D	133	PHE	Sidechain
4	D	144	PHE	Sidechain
4	D	151	TYR	Sidechain
4	D	177	PHE	Sidechain
4	D	182	TYR	Sidechain
4	D	218	ARG	Sidechain
4	D	52	LYS	Peptide
4	D	57	ARG	Sidechain
5	E	103	TYR	Sidechain
5	E	22	PHE	Sidechain
5	E	53	ARG	Sidechain
6	F	122	ARG	Sidechain
6	F	137	TYR	Sidechain
6	F	153	TYR	Sidechain
6	F	196	ARG	Sidechain
6	F	221	PHE	Sidechain
6	F	24	TYR	Sidechain
6	F	6	TYR	Sidechain
6	F	89	ARG	Sidechain
6	F	97	PHE	Sidechain
7	G	123	TYR	Sidechain
7	G	20	ARG	Sidechain
7	G	233	ARG	Sidechain
7	G	41	ARG	Sidechain
7	G	59	TYR	Sidechain
7	G	72	ARG	Sidechain
27	H	108	ASP	Peptide
27	H	147	TYR	Sidechain
27	H	174	TYR	Sidechain
27	H	227	ARG	Sidechain
27	H	237	PHE	Sidechain
27	H	265	ARG	Sidechain
27	H	274	PHE	Sidechain
27	H	370	PHE	Sidechain
27	H	432	TYR	Sidechain
27	H	97	ARG	Sidechain

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Mol	Chain	Res	Type	Group
28	I	103	ARG	Sidechain
28	I	132	TYR	Sidechain
28	I	249	ARG	Sidechain
28	I	268	ARG	Sidechain
28	I	272	ARG	Sidechain
28	I	317	ASP	Mainchain
28	I	319	PHE	Sidechain
28	I	333	ARG	Sidechain
28	I	343	ARG	Sidechain
28	I	411	ARG	Sidechain
28	I	428	TYR	Sidechain
28	I	96	ARG	Sidechain
32	J	113	ARG	Sidechain
32	J	121	TYR	Sidechain
32	J	211	PHE	Sidechain
32	J	232	ARG	Sidechain
32	J	24	TYR	Sidechain
32	J	297	ARG	Sidechain
32	J	334	ARG	Sidechain
32	J	372	ARG	Sidechain
32	J	95	PHE	Sidechain
29	K	111	TYR	Sidechain
29	K	112	TYR	Sidechain
29	K	121	ARG	Sidechain
29	K	135	HIS	Sidechain
29	K	164	TYR	Sidechain
29	K	168	GLY	Peptide
29	K	191	TYR	Sidechain
29	K	200	ARG	Sidechain
29	K	222	HIS	Sidechain
29	K	235	PHE	Sidechain
29	K	239	TYR	Sidechain
29	K	245	ARG	Sidechain
29	K	252	ARG	Sidechain
29	K	313	ARG	Sidechain
29	K	326	ARG	Sidechain
29	K	338	ARG	Sidechain
29	K	363	TYR	Sidechain
29	K	391	ARG	Sidechain
29	K	403	TYR	Sidechain
29	K	81	ARG	Sidechain
30	L	111	ARG	Sidechain

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Mol	Chain	Res	Type	Group
30	L	146	TYR	Sidechain
30	L	187	TYR	Sidechain
30	L	221	TYR	Sidechain
30	L	227	ARG	Sidechain
30	L	235	TYR	Sidechain
30	L	26	TYR	Sidechain
30	L	27	ARG	Sidechain
30	L	308	ARG	Sidechain
30	L	44	ARG	Sidechain
30	L	83	PHE	Sidechain
31	M	120	ARG	Sidechain
31	M	174	ARG	Sidechain
31	M	241	ARG	Sidechain
31	M	287	PHE	Sidechain
31	M	307	ARG	Sidechain
31	M	374	ARG	Sidechain
31	M	384	TYR	Sidechain
20	N	108	TYR	Sidechain
20	N	138	PHE	Sidechain
20	N	163	PHE	Sidechain
20	N	222	PHE	Sidechain
20	N	246	TYR	Sidechain
20	N	250	PHE	Sidechain
20	N	253	TYR	Sidechain
20	N	437	TYR	Sidechain
20	N	49	TYR	Sidechain
20	N	535	TYR	Sidechain
20	N	54	PHE	Sidechain
20	N	559	ARG	Sidechain
20	N	650	TYR	Sidechain
20	N	682	TYR	Sidechain
20	N	710	ARG	Sidechain
20	N	713	TYR	Sidechain
20	N	778	PHE	Sidechain
20	N	80	TYR	Sidechain
20	N	900	TYR	Sidechain
20	N	948	PHE	Sidechain
20	N	950	TYR	Sidechain
26	O	162	TYR	Sidechain
26	O	247	ARG	Sidechain
26	O	270	ARG	Sidechain
26	O	289	ARG	Sidechain

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Mol	Chain	Res	Type	Group
26	O	29	TYR	Sidechain
26	O	44	PHE	Sidechain
26	O	50	PHE	Sidechain
26	O	60	TYR	Sidechain
26	O	63	PHE	Sidechain
22	P	129	ARG	Sidechain
22	P	142	ARG	Sidechain
22	P	191	ARG	Sidechain
22	P	20	TYR	Sidechain
22	P	201	ARG	Sidechain
22	P	226	TYR	Sidechain
22	P	247	TYR	Sidechain
22	P	289	ARG	Sidechain
22	P	302	TYR	Sidechain
22	P	369	TYR	Sidechain
22	P	370	TYR	Sidechain
22	P	377	ARG	Sidechain
22	P	65	ARG	Sidechain
22	P	75	TYR	Sidechain
23	Q	143	TYR	Sidechain
23	Q	161	ASP	Peptide
23	Q	201	TYR	Sidechain
23	Q	231	TYR	Sidechain
23	Q	232	PHE	Sidechain
23	Q	233	TYR	Sidechain
23	Q	302	PHE	Sidechain
23	Q	309	TYR	Sidechain
23	Q	327	TYR	Sidechain
23	Q	342	PHE	Sidechain
23	Q	374	PHE	Sidechain
23	Q	72	TYR	Sidechain
23	Q	76	PHE	Sidechain
23	Q	90	ARG	Sidechain
24	R	101	ARG	Sidechain
24	R	151	TYR	Sidechain
24	R	222	TYR	Sidechain
24	R	267	ARG	Sidechain
24	R	292	TYR	Sidechain
24	R	304	TYR	Sidechain
24	R	311	TYR	Sidechain
24	R	318	TYR	Sidechain
24	R	323	PHE	Sidechain

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Mol	Chain	Res	Type	Group
24	R	366	TYR	Sidechain
24	R	385	ARG	Sidechain
24	R	54	TYR	Sidechain
21	S	102	ARG	Sidechain
21	S	123	THR	Mainchain
21	S	144	ARG	Sidechain
21	S	146	ARG	Sidechain
21	S	177	TYR	Sidechain
21	S	214	TYR	Sidechain
21	S	237	ARG	Sidechain
21	S	254	TYR	Sidechain
21	S	286	TYR	Sidechain
21	S	287	TYR	Sidechain
21	S	302	ARG	Sidechain
21	S	315	HIS	Sidechain
21	S	345	ARG	Sidechain
21	S	371	PHE	Sidechain
21	S	410	TYR	Sidechain
21	S	497	TYR	Sidechain
21	S	95	ARG	Sidechain
17	T	107	ARG	Sidechain
17	T	131	PHE	Sidechain
17	T	169	ARG	Sidechain
17	T	177	TYR	Sidechain
17	T	185	LEU	Peptide
17	T	190	TYR	Sidechain
17	T	218	LEU	Peptide
17	T	282	TYR	Sidechain
17	T	287	PHE	Sidechain
17	T	305	TYR	Sidechain
17	T	309	ARG	Sidechain
17	T	347	ARG	Sidechain
25	U	114	ARG	Sidechain
25	U	138	TYR	Sidechain
25	U	211	TYR	Sidechain
25	U	261	TYR	Sidechain
25	U	267	ARG	Sidechain
25	U	34	ARG	Sidechain
25	U	74	TYR	Sidechain
25	U	79	TYR	Sidechain
25	U	82	PHE	Sidechain
25	U	95	TYR	Sidechain

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Mol	Chain	Res	Type	Group
16	V	160	PHE	Sidechain
16	V	161	ARG	Sidechain
16	V	200	TYR	Sidechain
16	V	201	TYR	Sidechain
16	V	234	TYR	Sidechain
15	W	142	ASN	Peptide
15	W	143	PHE	Sidechain
15	W	15	TYR	Sidechain
19	Z	103	TYR	Sidechain
19	Z	121	PHE	Sidechain
19	Z	161	HIS	Sidechain
19	Z	194	TYR	Sidechain
19	Z	239	TYR	Sidechain
19	Z	261	ARG	Sidechain
19	Z	267	ARG	Sidechain
19	Z	335	ARG	Sidechain
19	Z	357	ARG	Sidechain
19	Z	703	ARG	Sidechain
19	Z	718	ASP	Peptide
19	Z	764	LEU	Mainchain
19	Z	79	ARG	Sidechain
19	Z	816	TYR	Sidechain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1920	0	1927	0	0
2	B	1828	0	1823	0	0
3	C	1960	0	1983	0	0
4	D	1926	0	1955	0	0
5	E	1778	0	1756	0	0
6	F	1871	0	1856	0	0
7	G	1912	0	1907	0	0
8	1	1516	0	1485	0	0
9	2	1651	0	1674	0	0
10	3	1600	0	1621	0	0
11	4	1572	0	1575	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
12	5	1560	0	1519	0	0
13	6	1659	0	1654	0	0
14	7	1686	0	1662	0	0
15	W	1480	0	1522	0	0
16	V	2272	0	2288	0	0
17	T	2149	0	2170	0	0
18	Y	199	0	180	0	0
19	Z	6913	0	6910	0	0
20	N	7082	0	7122	0	0
21	S	3844	0	3888	0	0
22	P	3706	0	3817	0	0
23	Q	3335	0	3435	0	0
24	R	3204	0	3204	0	0
25	U	2299	0	2334	0	0
26	O	3011	0	3042	0	0
27	H	3113	0	3162	0	0
28	I	3042	0	3098	0	0
29	K	3126	0	3151	0	0
30	L	3098	0	3171	0	0
31	M	3252	0	3321	0	0
32	J	3194	0	3311	0	0
All	All	82758	0	83523	0	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). Clashscore could not be calculated for this entry.

There are no clashes within the asymmetric unit.

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	244/246 (99%)	229 (94%)	13 (5%)	2 (1%)	19 60

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	B	232/234 (99%)	214 (92%)	14 (6%)	4 (2%)	9 42
3	C	247/261 (95%)	231 (94%)	13 (5%)	3 (1%)	13 50
4	D	244/254 (96%)	221 (91%)	13 (5%)	10 (4%)	3 23
5	E	231/241 (96%)	214 (93%)	12 (5%)	5 (2%)	6 35
6	F	236/263 (90%)	216 (92%)	18 (8%)	2 (1%)	19 60
7	G	243/255 (95%)	225 (93%)	14 (6%)	4 (2%)	9 44
8	1	200/238 (84%)	174 (87%)	14 (7%)	12 (6%)	1 17
9	2	217/277 (78%)	184 (85%)	18 (8%)	15 (7%)	1 15
10	3	203/205 (99%)	160 (79%)	27 (13%)	16 (8%)	1 13
11	4	194/201 (96%)	167 (86%)	14 (7%)	13 (7%)	1 15
12	5	199/263 (76%)	173 (87%)	17 (8%)	9 (4%)	2 22
13	6	211/240 (88%)	178 (84%)	26 (12%)	7 (3%)	4 26
14	7	214/263 (81%)	187 (87%)	18 (8%)	9 (4%)	3 22
15	W	193/377 (51%)	179 (93%)	12 (6%)	2 (1%)	15 55
16	V	287/310 (93%)	264 (92%)	17 (6%)	6 (2%)	7 36
17	T	261/353 (74%)	229 (88%)	26 (10%)	6 (2%)	6 34
18	Y	22/70 (31%)	22 (100%)	0	0	100 100
19	Z	894/908 (98%)	800 (90%)	62 (7%)	32 (4%)	3 25
20	N	903/953 (95%)	833 (92%)	52 (6%)	18 (2%)	7 38
21	S	474/530 (89%)	416 (88%)	43 (9%)	15 (3%)	4 26
22	P	454/456 (100%)	428 (94%)	20 (4%)	6 (1%)	12 48
23	Q	420/422 (100%)	389 (93%)	20 (5%)	11 (3%)	5 31
24	R	387/389 (100%)	360 (93%)	20 (5%)	7 (2%)	8 40
25	U	286/320 (89%)	262 (92%)	15 (5%)	9 (3%)	4 27
26	O	374/376 (100%)	347 (93%)	22 (6%)	5 (1%)	12 48
27	H	394/433 (91%)	361 (92%)	24 (6%)	9 (2%)	6 34
28	I	383/440 (87%)	353 (92%)	23 (6%)	7 (2%)	8 40
29	K	389/418 (93%)	361 (93%)	25 (6%)	3 (1%)	19 60
30	L	387/403 (96%)	369 (95%)	14 (4%)	4 (1%)	15 55
31	M	413/442 (93%)	380 (92%)	27 (6%)	6 (2%)	10 46
32	J	404/406 (100%)	364 (90%)	30 (7%)	10 (2%)	5 32

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
All	All	10440/11447 (91%)	9490 (91%)	683 (6%)	267 (3%)	8 31

All (267) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	41	ALA
4	D	9	VAL
8	1	53	THR
8	1	207	ILE
8	1	232	ILE
9	2	55	ILE
9	2	117	PRO
9	2	172	SER
10	3	10	ALA
10	3	57	ALA
10	3	129	CYS
10	3	130	PRO
10	3	186	ILE
11	4	50	ALA
11	4	114	ALA
11	4	131	ALA
11	4	189	HIS
12	5	62	THR
12	5	109	ALA
12	5	155	SER
12	5	179	ARG
13	6	85	HIS
13	6	157	TYR
13	6	168	ALA
14	7	65	VAL
14	7	101	TYR
14	7	242	GLU
14	7	254	ASP
17	T	94	ALA
17	T	219	PRO
19	Z	134	SER
19	Z	293	GLN
19	Z	332	ALA
19	Z	420	TRP
19	Z	422	VAL
19	Z	474	SER
19	Z	719	PRO

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Mol	Chain	Res	Type
20	N	123	LYS
20	N	593	SER
20	N	696	ILE
20	N	856	VAL
21	S	54	ALA
21	S	444	GLU
22	P	6	SER
24	R	46	ARG
24	R	289	ALA
26	O	183	VAL
27	H	111	TYR
27	H	367	ASP
27	H	368	ILE
28	I	83	GLU
28	I	340	ALA
31	M	107	GLN
31	M	118	SER
32	J	71	SER
32	J	300	ILE
1	A	10	ASP
3	C	3	ARG
3	C	7	SER
4	D	28	LYS
4	D	75	VAL
4	D	78	SER
7	G	182	MET
8	1	136	TRP
8	1	153	MET
8	1	206	VAL
9	2	91	THR
9	2	136	TYR
9	2	137	ILE
9	2	215	ASN
9	2	251	THR
10	3	19	CYS
10	3	120	PHE
10	3	185	VAL
10	3	195	ILE
12	5	101	LEU
12	5	233	VAL
13	6	39	VAL
14	7	64	VAL

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Mol	Chain	Res	Type
14	7	84	SER
14	7	176	TYR
15	W	135	LYS
17	T	221	LYS
19	Z	24	ALA
19	Z	67	ASP
19	Z	308	SER
19	Z	313	GLU
19	Z	458	GLU
19	Z	756	PRO
19	Z	815	HIS
19	Z	837	LEU
20	N	3	THR
20	N	628	ARG
20	N	865	LYS
20	N	928	VAL
21	S	82	VAL
21	S	94	LEU
21	S	112	ALA
21	S	131	LEU
21	S	139	ALA
21	S	461	ASP
22	P	97	LEU
22	P	136	ILE
23	Q	62	GLN
23	Q	119	SER
23	Q	181	SER
23	Q	244	SER
23	Q	342	PHE
23	Q	355	LYS
23	Q	393	VAL
24	R	214	MET
27	H	104	ALA
27	H	250	VAL
27	H	280	ILE
27	H	400	ARG
28	I	82	GLN
28	I	227	PRO
28	I	296	ASP
29	K	42	SER
30	L	67	VAL
30	L	206	ASP

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Mol	Chain	Res	Type
31	M	180	VAL
3	C	166	ASN
4	D	26	VAL
4	D	204	VAL
5	E	53	ARG
5	E	55	THR
8	1	81	SER
8	1	138	PRO
8	1	163	SER
9	2	63	ALA
9	2	82	PRO
9	2	225	LYS
10	3	142	CYS
10	3	161	GLU
11	4	22	ALA
11	4	149	PRO
11	4	178	PHE
12	5	63	LEU
12	5	157	GLY
13	6	47	PHE
13	6	141	ASP
16	V	76	PRO
16	V	186	LYS
16	V	188	SER
17	T	284	LYS
17	T	340	ARG
19	Z	170	TRP
19	Z	314	TYR
19	Z	424	GLY
19	Z	509	LYS
19	Z	533	ASP
19	Z	634	LYS
19	Z	841	PRO
19	Z	864	GLY
20	N	16	GLU
20	N	363	SER
20	N	871	PRO
21	S	92	ARG
21	S	101	SER
22	P	4	GLY
23	Q	6	VAL
23	Q	102	ALA

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Mol	Chain	Res	Type
23	Q	343	SER
24	R	47	GLU
24	R	358	ARG
25	U	5	ALA
25	U	119	SER
25	U	147	ASP
25	U	185	GLY
26	O	47	ASP
26	O	72	ASN
26	O	371	ALA
32	J	91	PRO
32	J	142	LYS
32	J	337	ASN
32	J	342	ILE
32	J	374	ARG
1	A	225	PRO
2	B	181	ASP
4	D	79	VAL
5	E	35	SER
5	E	122	GLN
5	E	189	THR
6	F	10	VAL
6	F	41	LYS
7	G	73	HIS
8	1	44	GLY
9	2	67	MET
10	3	33	GLN
10	3	82	ILE
10	3	128	GLY
10	3	137	VAL
11	4	152	SER
13	6	230	ILE
16	V	266	THR
16	V	275	VAL
19	Z	330	PHE
19	Z	757	ASN
19	Z	819	TYR
19	Z	827	PRO
20	N	557	TYR
20	N	883	ARG
20	N	885	MET
21	S	150	ALA

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Mol	Chain	Res	Type
22	P	5	GLY
22	P	55	ARG
24	R	250	LEU
25	U	27	GLY
25	U	184	VAL
25	U	237	LEU
28	I	435	PRO
29	K	32	PRO
31	M	340	ILE
32	J	195	GLY
32	J	404	LEU
2	B	200	GLU
4	D	27	LYS
4	D	29	GLY
7	G	202	HIS
7	G	217	VAL
9	2	256	THR
11	4	12	TYR
11	4	154	GLU
14	7	191	GLN
16	V	179	SER
17	T	206	ASN
20	N	486	MET
20	N	938	GLU
21	S	258	SER
21	S	458	GLU
21	S	501	LEU
23	Q	374	PHE
24	R	211	TYR
25	U	118	ASN
25	U	242	LEU
26	O	285	PRO
27	H	156	LYS
28	I	177	GLU
29	K	237	GLN
31	M	257	PRO
4	D	106	ASP
9	2	189	MET
10	3	43	PHE
11	4	11	ASP
19	Z	619	HIS
20	N	896	GLU

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Mol	Chain	Res	Type
30	L	254	GLY
32	J	7	GLU
19	Z	718	ASP
27	H	102	ILE
30	L	223	GLY
2	B	55	ILE
8	1	148	PRO
14	7	48	PRO
15	W	177	PRO
19	Z	643	PRO
19	Z	842	VAL
8	1	69	PRO
12	5	242	GLY
31	M	232	PRO
9	2	235	PRO
11	4	13	VAL
19	Z	755	ASP
11	4	26	VAL
20	N	800	VAL
21	S	443	ILE

5.3.2 Protein sidechains

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	210/210 (100%)	203 (97%)	7 (3%)	38 61
2	B	191/191 (100%)	179 (94%)	12 (6%)	18 43
3	C	209/221 (95%)	197 (94%)	12 (6%)	20 45
4	D	208/215 (97%)	188 (90%)	20 (10%)	8 27
5	E	195/203 (96%)	184 (94%)	11 (6%)	21 46
6	F	204/224 (91%)	195 (96%)	9 (4%)	28 53
7	G	202/212 (95%)	188 (93%)	14 (7%)	15 40
8	1	160/185 (86%)	138 (86%)	22 (14%)	3 17

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
9	2	180/227 (79%)	160 (89%)	20 (11%)	6	22
10	3	175/175 (100%)	159 (91%)	16 (9%)	9	29
11	4	167/172 (97%)	147 (88%)	20 (12%)	5	20
12	5	158/205 (77%)	142 (90%)	16 (10%)	7	25
13	6	179/200 (90%)	162 (90%)	17 (10%)	8	27
14	7	178/215 (83%)	154 (86%)	24 (14%)	4	17
15	W	168/312 (54%)	160 (95%)	8 (5%)	25	51
16	V	253/268 (94%)	236 (93%)	17 (7%)	16	41
17	T	233/298 (78%)	220 (94%)	13 (6%)	21	46
18	Y	22/63 (35%)	21 (96%)	1 (4%)	27	52
19	Z	753/765 (98%)	705 (94%)	48 (6%)	17	42
20	N	776/814 (95%)	729 (94%)	47 (6%)	18	44
21	S	414/458 (90%)	385 (93%)	29 (7%)	15	40
22	P	419/419 (100%)	400 (96%)	19 (4%)	27	52
23	Q	362/362 (100%)	345 (95%)	17 (5%)	26	51
24	R	345/345 (100%)	322 (93%)	23 (7%)	16	41
25	U	259/289 (90%)	247 (95%)	12 (5%)	27	52
26	O	334/334 (100%)	316 (95%)	18 (5%)	22	47
27	H	341/372 (92%)	317 (93%)	24 (7%)	15	40
28	I	341/385 (89%)	321 (94%)	20 (6%)	19	45
29	K	343/367 (94%)	322 (94%)	21 (6%)	18	44
30	L	341/353 (97%)	318 (93%)	23 (7%)	16	41
31	M	357/382 (94%)	334 (94%)	23 (6%)	17	42
32	J	352/352 (100%)	331 (94%)	21 (6%)	19	44
All	All	9029/9793 (92%)	8425 (93%)	604 (7%)	20	41

All (604) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	50	ILE
1	A	79	VAL
1	A	110	PRO
1	A	114	LEU
1	A	145	GLU

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Mol	Chain	Res	Type
1	A	161	CYS
1	A	166	THR
2	B	4	ARG
2	B	12	THR
2	B	44	VAL
2	B	65	VAL
2	B	75	VAL
2	B	82	ASP
2	B	128	ARG
2	B	167	TYR
2	B	168	VAL
2	B	205	GLU
2	B	208	ILE
2	B	220	ARG
3	C	35	LEU
3	C	38	LEU
3	C	43	VAL
3	C	44	LEU
3	C	57	ASP
3	C	99	LEU
3	C	128	ARG
3	C	137	ILE
3	C	164	ILE
3	C	198	ASN
3	C	211	VAL
3	C	225	ILE
4	D	2	SER
4	D	12	PRO
4	D	16	LEU
4	D	26	VAL
4	D	40	ILE
4	D	43	LEU
4	D	75	VAL
4	D	82	LEU
4	D	85	ASP
4	D	110	VAL
4	D	113	ILE
4	D	115	ARG
4	D	122	GLN
4	D	131	ARG
4	D	150	LEU
4	D	184	ASP

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Mol	Chain	Res	Type
4	D	196	LEU
4	D	204	VAL
4	D	214	LEU
4	D	218	ARG
5	E	12	VAL
5	E	22	PHE
5	E	52	LYS
5	E	78	MET
5	E	98	ASN
5	E	101	PHE
5	E	134	SER
5	E	157	ASP
5	E	162	PHE
5	E	215	ILE
5	E	228	MET
6	F	5	GLN
6	F	38	LEU
6	F	72	ILE
6	F	111	LEU
6	F	133	LEU
6	F	159	MET
6	F	211	SER
6	F	219	LEU
6	F	221	PHE
7	G	9	ASP
7	G	34	SER
7	G	36	THR
7	G	93	ARG
7	G	105	TYR
7	G	118	MET
7	G	124	THR
7	G	129	VAL
7	G	136	PHE
7	G	143	VAL
7	G	153	ASP
7	G	182	MET
7	G	194	VAL
7	G	204	GLU
8	1	36	ILE
8	1	42	ASP
8	1	45	VAL
8	1	57	SER

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Mol	Chain	Res	Type
8	1	59	ILE
8	1	63	VAL
8	1	70	ILE
8	1	90	ASP
8	1	102	GLU
8	1	109	VAL
8	1	115	LEU
8	1	122	ARG
8	1	124	ARG
8	1	131	ILE
8	1	152	MET
8	1	163	SER
8	1	166	SER
8	1	177	ARG
8	1	184	GLU
8	1	195	LEU
8	1	200	ASP
8	1	223	LEU
9	2	56	VAL
9	2	57	LEU
9	2	74	CYS
9	2	105	ASN
9	2	111	LEU
9	2	115	ARG
9	2	120	VAL
9	2	124	ARG
9	2	136	TYR
9	2	137	ILE
9	2	152	HIS
9	2	175	LEU
9	2	178	MET
9	2	181	PHE
9	2	186	ARG
9	2	196	LYS
9	2	207	PHE
9	2	214	SER
9	2	236	ASN
9	2	259	VAL
10	3	15	LYS
10	3	22	ILE
10	3	28	PHE
10	3	30	ILE

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Mol	Chain	Res	Type
10	3	34	MET
10	3	56	LEU
10	3	74	TYR
10	3	80	ARG
10	3	98	LYS
10	3	99	ARG
10	3	124	LEU
10	3	133	THR
10	3	137	VAL
10	3	164	PHE
10	3	201	LYS
10	3	204	MET
11	4	20	VAL
11	4	49	GLU
11	4	54	VAL
11	4	58	GLU
11	4	60	ILE
11	4	66	LEU
11	4	68	LYS
11	4	69	MET
11	4	76	SER
11	4	77	PRO
11	4	115	LEU
11	4	119	ASP
11	4	124	LEU
11	4	134	TYR
11	4	137	PHE
11	4	143	LEU
11	4	149	PRO
11	4	155	ARG
11	4	169	LYS
11	4	185	LYS
12	5	62	THR
12	5	67	PHE
12	5	69	HIS
12	5	72	ILE
12	5	73	VAL
12	5	84	TYR
12	5	96	ILE
12	5	103	THR
12	5	104	MET
12	5	171	TYR

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Mol	Chain	Res	Type
12	5	186	SER
12	5	212	TYR
12	5	214	LEU
12	5	245	ARG
12	5	246	VAL
12	5	254	LEU
13	6	40	LEU
13	6	50	VAL
13	6	55	ARG
13	6	57	SER
13	6	60	PHE
13	6	72	LYS
13	6	94	ILE
13	6	99	LEU
13	6	108	LYS
13	6	128	PHE
13	6	132	TYR
13	6	134	TYR
13	6	140	LEU
13	6	157	TYR
13	6	160	ASP
13	6	176	LEU
13	6	206	PHE
14	7	46	GLN
14	7	49	MET
14	7	77	LEU
14	7	80	PHE
14	7	83	ILE
14	7	85	ARG
14	7	88	ARG
14	7	98	SER
14	7	103	ASP
14	7	117	ASP
14	7	121	PHE
14	7	123	ASP
14	7	130	ARG
14	7	136	LEU
14	7	154	LYS
14	7	170	ASP
14	7	183	THR
14	7	195	ARG
14	7	198	LEU

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Mol	Chain	Res	Type
14	7	217	MET
14	7	223	ARG
14	7	226	ARG
14	7	229	ASN
14	7	238	GLU
15	W	26	LEU
15	W	52	ILE
15	W	71	ILE
15	W	94	HIS
15	W	113	VAL
15	W	129	LYS
15	W	141	ILE
15	W	160	LEU
16	V	35	SER
16	V	36	LEU
16	V	76	PRO
16	V	158	ASP
16	V	177	THR
16	V	181	LEU
16	V	190	GLN
16	V	200	TYR
16	V	203	ILE
16	V	206	ASN
16	V	212	LEU
16	V	226	MET
16	V	227	GLU
16	V	253	LYS
16	V	281	LYS
16	V	303	MET
16	V	304	LEU
17	T	122	LEU
17	T	134	THR
17	T	145	ILE
17	T	164	ILE
17	T	167	PHE
17	T	199	LEU
17	T	219	PRO
17	T	221	LYS
17	T	225	THR
17	T	259	TYR
17	T	337	GLU
17	T	343	ILE

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Mol	Chain	Res	Type
17	T	345	TYR
18	Y	61	GLU
19	Z	2	GLU
19	Z	28	SER
19	Z	45	LEU
19	Z	71	TYR
19	Z	77	GLU
19	Z	102	HIS
19	Z	103	TYR
19	Z	110	TYR
19	Z	124	ASP
19	Z	126	ILE
19	Z	162	LEU
19	Z	171	GLN
19	Z	174	ASP
19	Z	192	VAL
19	Z	223	GLU
19	Z	266	LEU
19	Z	282	PHE
19	Z	308	SER
19	Z	311	VAL
19	Z	316	ASP
19	Z	327	ASN
19	Z	351	THR
19	Z	388	ASP
19	Z	403	LYS
19	Z	420	TRP
19	Z	492	SER
19	Z	527	VAL
19	Z	548	THR
19	Z	554	TYR
19	Z	560	LEU
19	Z	576	ILE
19	Z	588	ARG
19	Z	615	ILE
19	Z	635	LYS
19	Z	657	ILE
19	Z	681	TYR
19	Z	704	LEU
19	Z	754	LYS
19	Z	761	MET
19	Z	770	HIS

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Mol	Chain	Res	Type
19	Z	777	THR
19	Z	789	SER
19	Z	796	LEU
19	Z	811	LEU
19	Z	816	TYR
19	Z	837	LEU
19	Z	866	GLN
19	Z	869	THR
20	N	21	GLU
20	N	55	ARG
20	N	69	TYR
20	N	90	VAL
20	N	97	VAL
20	N	122	GLU
20	N	129	ARG
20	N	160	LEU
20	N	167	ILE
20	N	173	VAL
20	N	192	GLN
20	N	216	VAL
20	N	323	LEU
20	N	349	ASP
20	N	373	ASN
20	N	387	ARG
20	N	388	ASP
20	N	392	TRP
20	N	423	MET
20	N	444	TYR
20	N	471	ASP
20	N	474	ARG
20	N	519	VAL
20	N	521	LEU
20	N	539	THR
20	N	545	LEU
20	N	561	GLU
20	N	580	ARG
20	N	583	MET
20	N	634	PRO
20	N	682	TYR
20	N	685	GLN
20	N	745	THR
20	N	751	ARG

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Mol	Chain	Res	Type
20	N	764	LEU
20	N	769	PHE
20	N	779	LEU
20	N	788	ILE
20	N	792	ASN
20	N	794	ASP
20	N	868	LYS
20	N	869	LYS
20	N	885	MET
20	N	913	ILE
20	N	924	LEU
20	N	935	ILE
20	N	951	ILE
21	S	28	PRO
21	S	58	HIS
21	S	87	PRO
21	S	92	ARG
21	S	114	HIS
21	S	131	LEU
21	S	132	GLU
21	S	146	ARG
21	S	162	TYR
21	S	168	VAL
21	S	172	MET
21	S	179	GLU
21	S	207	TYR
21	S	208	TYR
21	S	213	VAL
21	S	214	TYR
21	S	231	LEU
21	S	247	LEU
21	S	249	LEU
21	S	267	VAL
21	S	298	TYR
21	S	351	ARG
21	S	357	PHE
21	S	365	THR
21	S	413	ILE
21	S	462	ILE
21	S	480	LEU
21	S	485	MET
21	S	492	PHE

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Mol	Chain	Res	Type
22	P	20	TYR
22	P	21	SER
22	P	84	ASN
22	P	117	ASP
22	P	135	LYS
22	P	187	LEU
22	P	205	ILE
22	P	221	LYS
22	P	229	LEU
22	P	236	HIS
22	P	299	ILE
22	P	310	THR
22	P	328	LEU
22	P	343	SER
22	P	375	MET
22	P	387	ASP
22	P	433	ASN
22	P	441	LYS
22	P	455	LEU
23	Q	27	LEU
23	Q	56	LEU
23	Q	88	LEU
23	Q	144	GLN
23	Q	153	LEU
23	Q	169	VAL
23	Q	183	LEU
23	Q	210	LEU
23	Q	241	SER
23	Q	242	ILE
23	Q	252	LYS
23	Q	253	TYR
23	Q	263	THR
23	Q	318	ILE
23	Q	329	ASN
23	Q	354	ILE
23	Q	386	ILE
24	R	11	LEU
24	R	18	ARG
24	R	34	ASP
24	R	39	GLU
24	R	42	MET
24	R	50	MET

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Mol	Chain	Res	Type
24	R	63	TRP
24	R	75	LYS
24	R	88	LEU
24	R	117	LYS
24	R	124	PHE
24	R	127	THR
24	R	132	VAL
24	R	144	LEU
24	R	180	LEU
24	R	200	LEU
24	R	213	LEU
24	R	220	VAL
24	R	224	VAL
24	R	247	LEU
24	R	295	TYR
24	R	330	ILE
24	R	362	LYS
25	U	4	LEU
25	U	43	TRP
25	U	106	ILE
25	U	124	ILE
25	U	142	GLU
25	U	201	LEU
25	U	205	LEU
25	U	244	GLU
25	U	247	LYS
25	U	250	TYR
25	U	265	LEU
25	U	276	ILE
26	O	22	TRP
26	O	28	LEU
26	O	37	LEU
26	O	56	LEU
26	O	70	ARG
26	O	72	ASN
26	O	103	LYS
26	O	112	ILE
26	O	154	ARG
26	O	158	LEU
26	O	185	ILE
26	O	200	LEU
26	O	255	TRP

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Mol	Chain	Res	Type
26	O	274	LEU
26	O	332	HIS
26	O	338	PRO
26	O	352	ARG
26	O	366	LEU
27	H	75	PRO
27	H	79	ASP
27	H	102	ILE
27	H	112	ILE
27	H	114	ASN
27	H	116	LYS
27	H	118	PHE
27	H	142	VAL
27	H	162	THR
27	H	165	GLN
27	H	213	LEU
27	H	261	PHE
27	H	280	ILE
27	H	287	ASP
27	H	300	LEU
27	H	302	LEU
27	H	307	ASP
27	H	336	ARG
27	H	338	ASP
27	H	343	PHE
27	H	366	ARG
27	H	368	ILE
27	H	378	PRO
27	H	428	ARG
28	I	69	LYS
28	I	79	ILE
28	I	84	GLN
28	I	89	GLU
28	I	117	ASP
28	I	150	VAL
28	I	154	HIS
28	I	163	LEU
28	I	165	ASP
28	I	184	TYR
28	I	230	THR
28	I	232	LYS
28	I	257	GLN

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Mol	Chain	Res	Type
28	I	264	PRO
28	I	283	PHE
28	I	287	ILE
28	I	312	LEU
28	I	321	SER
28	I	358	GLU
28	I	414	VAL
29	K	47	LEU
29	K	51	LEU
29	K	85	ILE
29	K	100	THR
29	K	113	VAL
29	K	116	LEU
29	K	124	LEU
29	K	130	VAL
29	K	171	ASP
29	K	172	ILE
29	K	194	ILE
29	K	214	MET
29	K	235	PHE
29	K	245	ARG
29	K	300	ASP
29	K	311	THR
29	K	328	ASP
29	K	360	LEU
29	K	368	ASP
29	K	401	LYS
29	K	415	GLU
30	L	15	MET
30	L	78	LEU
30	L	84	ILE
30	L	88	THR
30	L	101	LEU
30	L	114	LEU
30	L	120	THR
30	L	140	ASP
30	L	143	ASN
30	L	145	SER
30	L	155	GLN
30	L	163	ILE
30	L	173	PHE
30	L	180	PRO

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Mol	Chain	Res	Type
30	L	194	LYS
30	L	209	PHE
30	L	235	TYR
30	L	246	MET
30	L	250	ASP
30	L	286	ARG
30	L	306	PRO
30	L	334	ILE
30	L	337	HIS
31	M	107	GLN
31	M	119	GLN
31	M	121	LYS
31	M	154	VAL
31	M	183	ARG
31	M	190	ASP
31	M	212	LYS
31	M	216	GLU
31	M	259	LEU
31	M	286	ILE
31	M	291	LEU
31	M	300	ASP
31	M	316	LEU
31	M	327	THR
31	M	341	LEU
31	M	348	SER
31	M	359	MET
31	M	374	ARG
31	M	376	MET
31	M	387	LEU
31	M	400	LYS
31	M	412	ARG
31	M	419	THR
32	J	20	LEU
32	J	49	ARG
32	J	50	ASN
32	J	65	LEU
32	J	77	VAL
32	J	85	VAL
32	J	101	LYS
32	J	114	VAL
32	J	132	ASP
32	J	163	GLU

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Mol	Chain	Res	Type
32	J	196	LYS
32	J	206	HIS
32	J	224	ILE
32	J	226	GLU
32	J	231	VAL
32	J	239	ARG
32	J	310	ARG
32	J	321	ASN
32	J	340	ARG
32	J	377	HIS
32	J	404	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

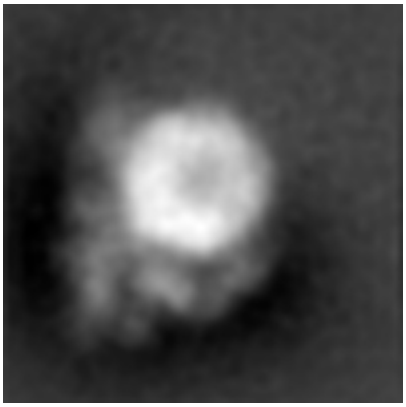
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-3915. These allow visual inspection of the internal detail of the map and identification of artifacts.

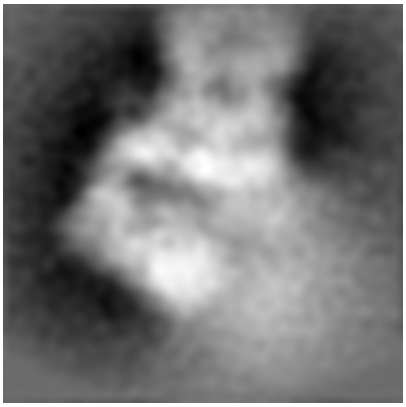
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

6.1.1 Primary map



X



Y

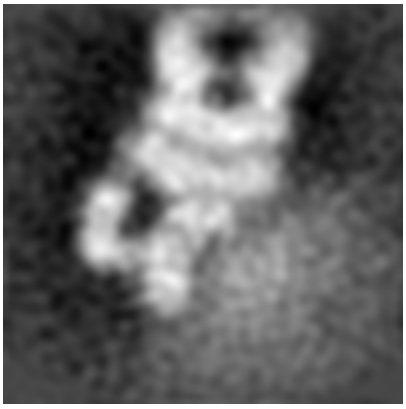
Z

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

6.2 Central slices

6.2.1 Primary map

X Index: 45



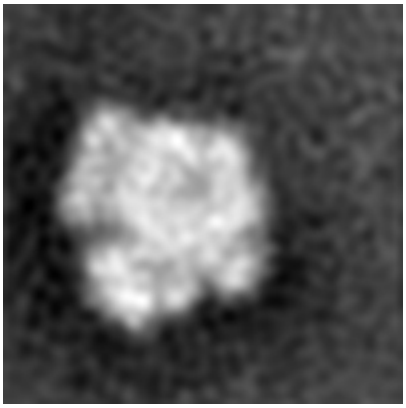
Y Index: 45

Z Index: 45

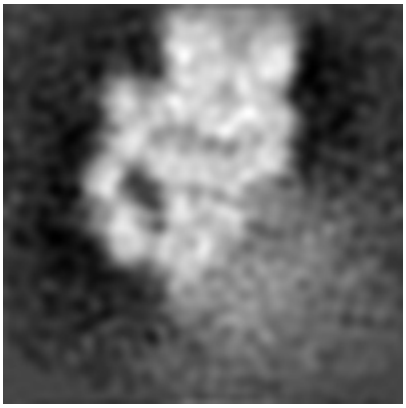
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

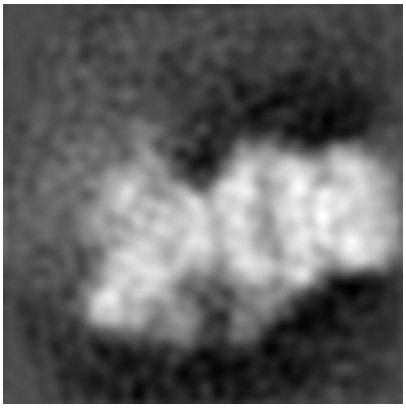
6.3.1 Primary map



X Index: 54



Y Index: 36

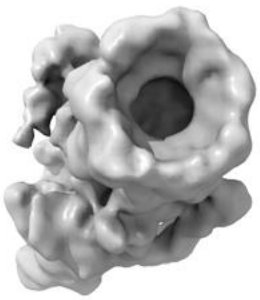


Z Index: 40

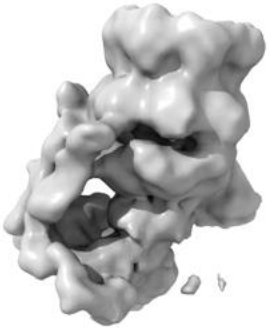
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views (i)

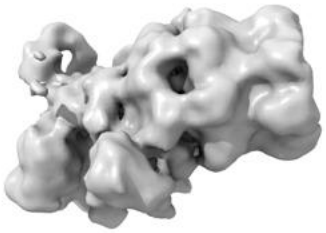
6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.4. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

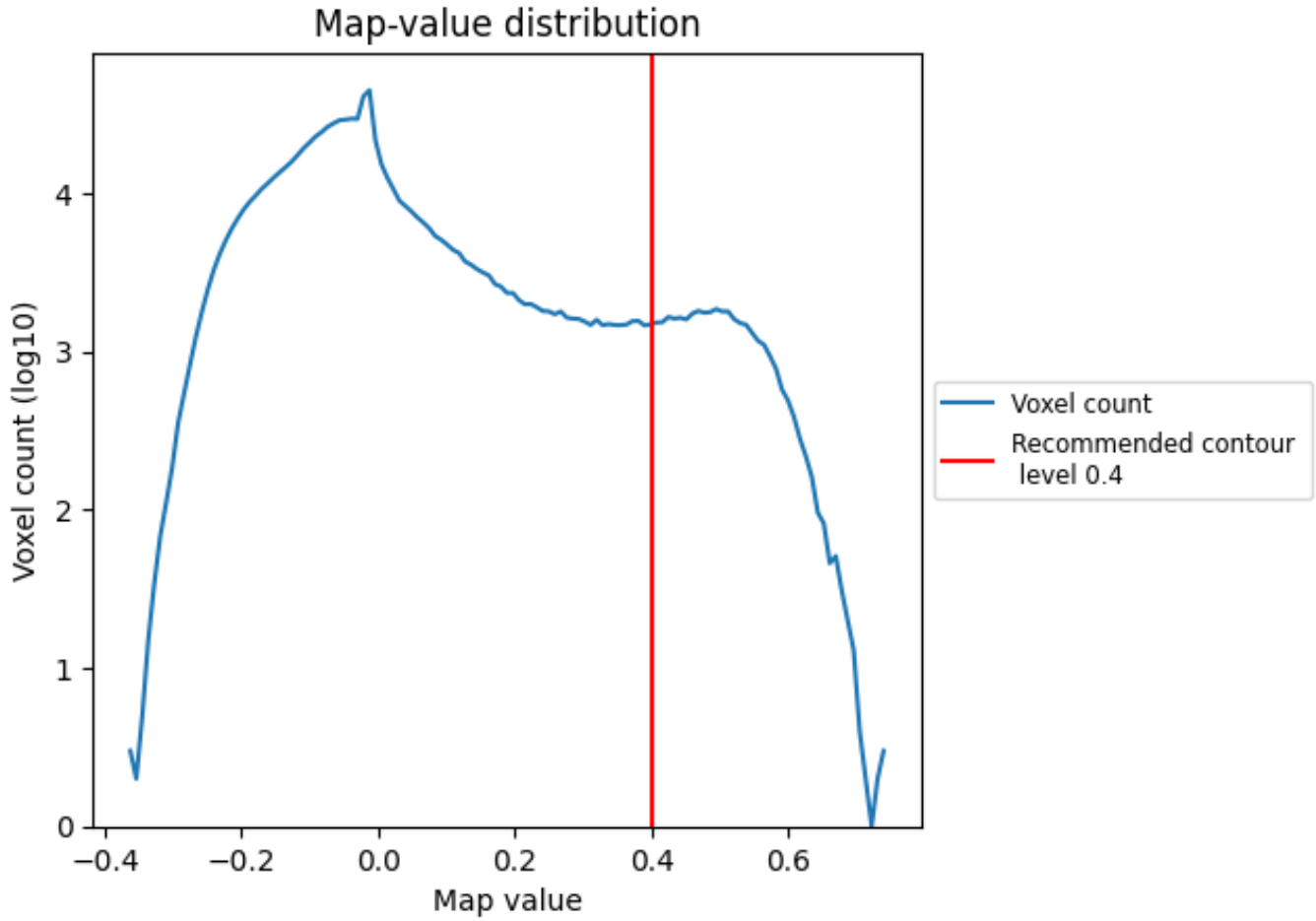
6.5 Mask visualisation (i)

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

7 Map analysis

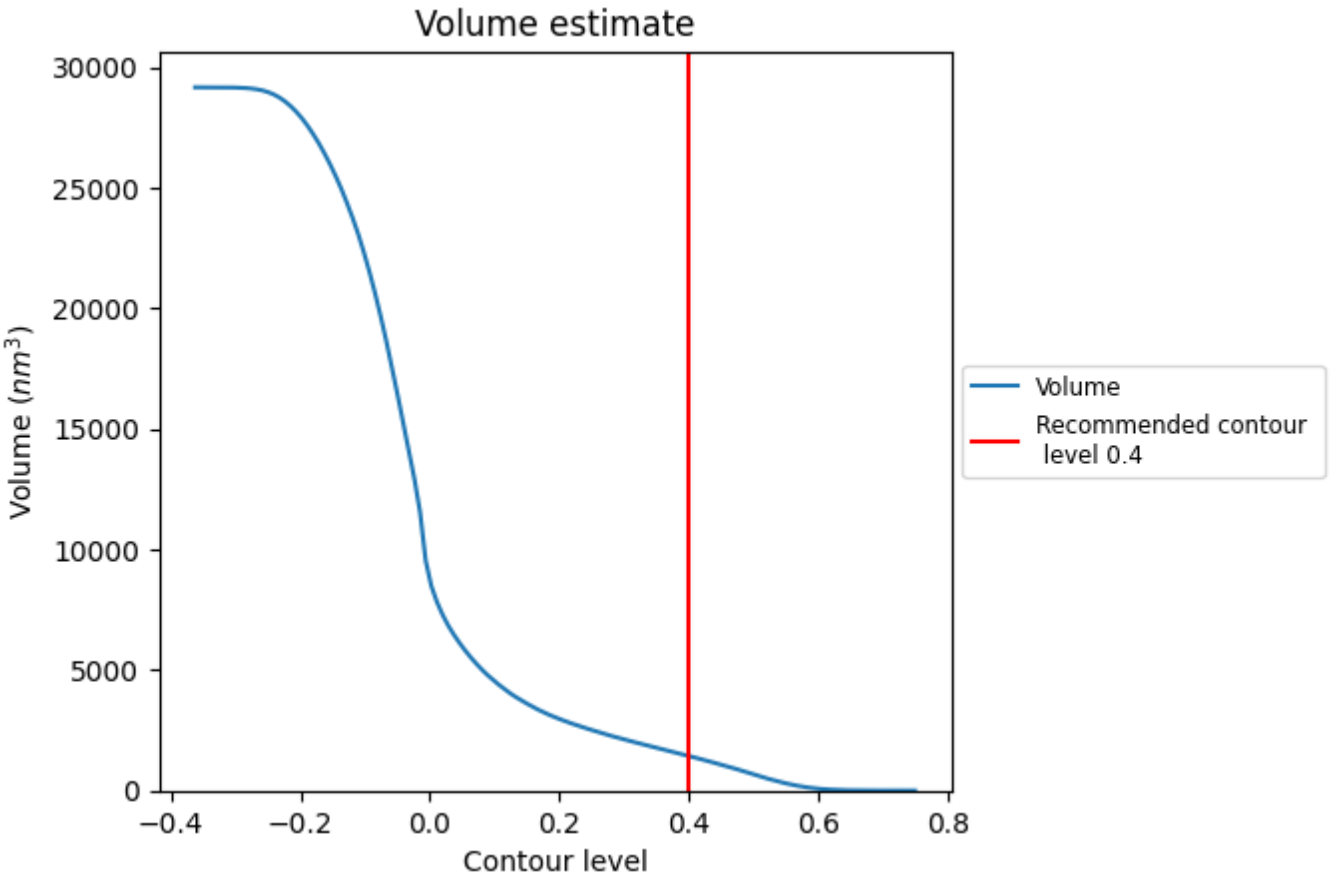
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

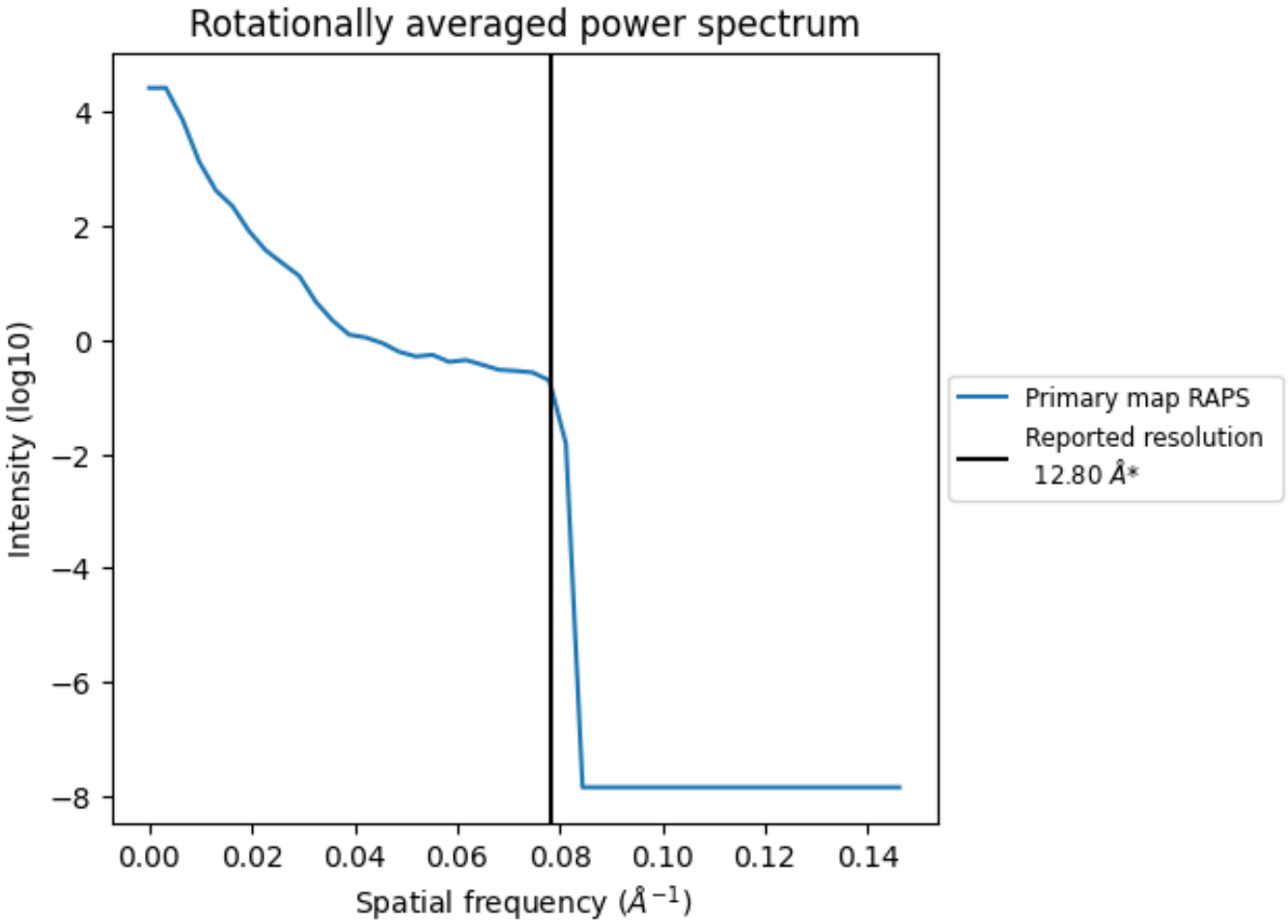
7.2 Volume estimate



The volume at the recommended contour level is 1428 nm^3; this corresponds to an approximate mass of 1290 kDa.

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

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.078 Å^{-1}

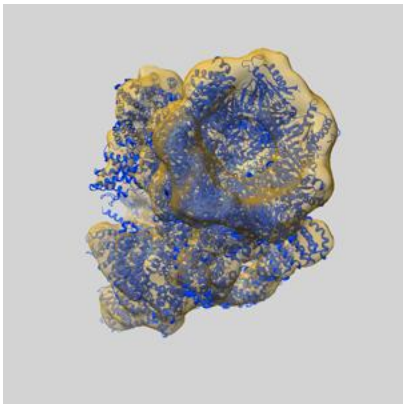
8 Fourier-Shell correlation

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

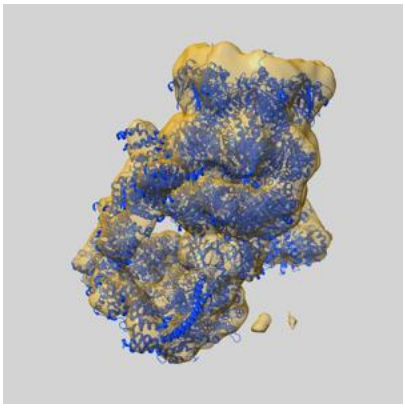
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-3915 and PDB model 6EPE. Per-residue inclusion information can be found in section 3 on page 9.

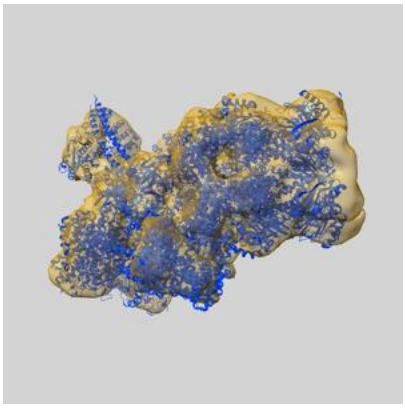
9.1 Map-model overlay



X



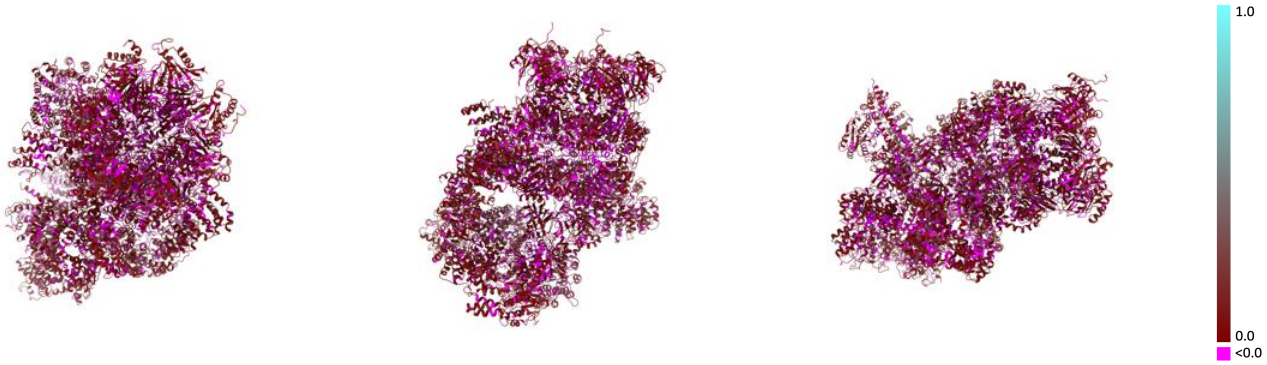
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.4 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

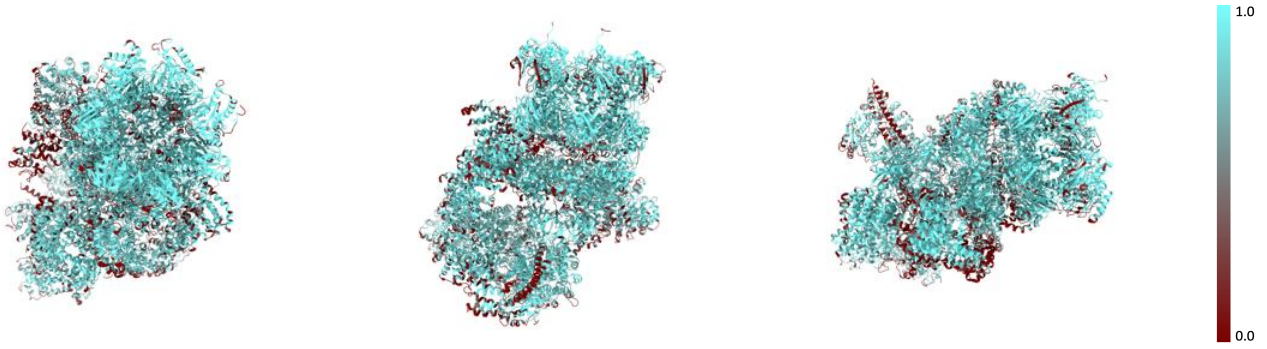
9.2 Q-score mapped to coordinate model



X Y Z

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

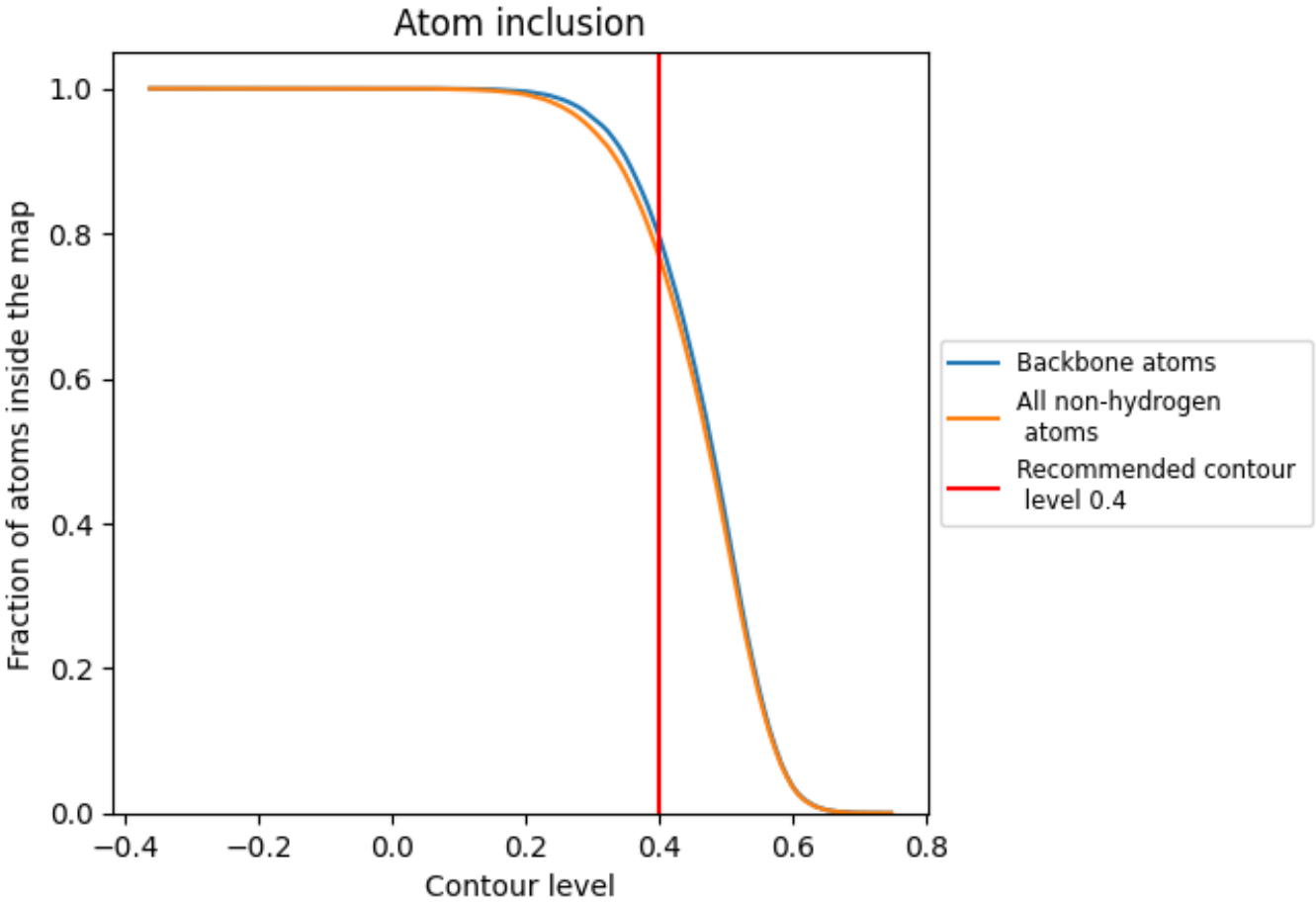
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.4).

9.4 Atom inclusion (i)



At the recommended contour level, 80% of all backbone atoms, 77% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.4) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7703	0.0530
1	0.8580	0.0500
2	0.7485	0.0540
3	0.8205	0.0380
4	0.7941	0.0600
5	0.8453	0.0550
6	0.7609	0.0480
7	0.7976	0.0540
A	0.8743	0.0390
B	0.8635	0.0370
C	0.8356	0.0540
D	0.8330	0.0510
E	0.9268	0.0450
F	0.9272	0.0510
G	0.8733	0.0410
H	0.8340	0.0450
I	0.7993	0.0510
J	0.8295	0.0600
K	0.7985	0.0480
L	0.7327	0.0450
M	0.7805	0.0290
N	0.7718	0.0550
O	0.6061	0.0690
P	0.6854	0.0700
Q	0.7317	0.0500
R	0.7553	0.0700
S	0.7845	0.0630
T	0.7150	0.0750
U	0.7843	0.0570
V	0.8836	0.0440
W	0.6528	0.0600
Y	0.6888	0.0570
Z	0.5840	0.0460