



Full wwPDB EM Validation Report ⓘ

Nov 20, 2022 – 06:52 am GMT

PDB ID : 6HE8
EMDB ID : EMD-0212
Title : PAN-proteasome in state 1
Authors : Majumder, P.; Rudack, T.; Beck, F.; Baumeister, W.
Deposited on : 2018-08-20
Resolution : 6.86 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 ⓘ symbol.

The types of validation reports are described at

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

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

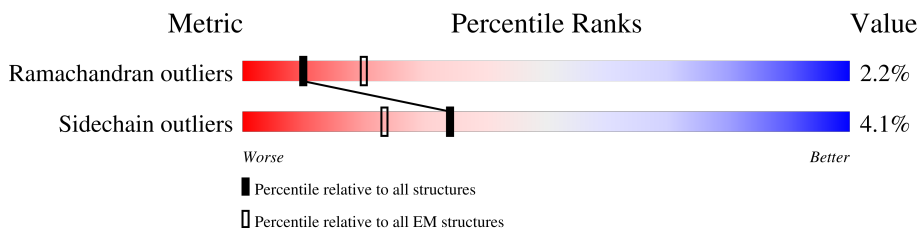
EMDB validation analysis : 0.0.1.dev43
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : 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 6.86 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 $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	242	8% (red), 76% (green), 21% (yellow), 5% (orange), 0% (grey)
1	B	242	6% (red), 81% (green), 17% (yellow), 0% (orange), 0% (grey)
1	C	242	7% (red), 73% (green), 21% (yellow), 5% (orange), 0% (grey)
1	D	242	7% (red), 75% (green), 21% (yellow), 0% (orange), 0% (grey)
1	E	242	7% (red), 75% (green), 21% (yellow), 5% (orange), 0% (grey)
1	F	242	0% (red), 73% (green), 24% (yellow), 0% (orange), 0% (grey)
1	G	242	7% (red), 76% (green), 21% (yellow), 0% (orange), 0% (grey)
1	a	242	9% (red), 75% (green), 17% (yellow), 5% (orange), 0% (grey)
1	b	242	10% (red), 74% (green), 19% (yellow), 5% (orange), 0% (grey)

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Mol	Chain	Length	Quality of chain	
1	c	242	9%	78% 16% ..
1	d	242	9%	75% 21% ..
1	e	242	9%	74% 21% ..
1	f	242	8%	71% 24% ..
1	g	242	10%	72% 22% ..
2	1	202	18%	78% 17% .
2	2	202	13%	79% 16% .
2	3	202	18%	76% 22% .
2	4	202	17%	76% 20% .
2	5	202	21%	76% 21% .
2	6	202	17%	76% 18% 6%
2	7	202	19%	72% 25% .
2	h	202	20%	73% 22% 5%
2	i	202	20%	75% 21% .
2	j	202	20%	81% 17% .
2	k	202	21%	74% 22% .
2	l	202	17%	77% 21% .
2	m	202	18%	81% 15% ..
2	n	202	17%	70% 25% .
3	H	390	32%	76% 21% .
3	I	390	24%	73% 21% 5%
3	J	390	24%	74% 22% .
3	K	390	23%	74% 22% .
3	L	390	30%	71% 24% 5%
3	M	390	30%	75% 21% ..

2 Entry composition i

There are 6 unique types of molecules in this entry. The entry contains 66909 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.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	242	Total	C	N	O	S	0	0
			1907	1211	321	368	7		
1	a	237	Total	C	N	O	S	0	0
			1866	1186	315	359	6		
1	B	242	Total	C	N	O	S	0	0
			1907	1211	321	368	7		
1	b	237	Total	C	N	O	S	0	0
			1866	1186	315	359	6		
1	C	242	Total	C	N	O	S	0	0
			1907	1211	321	368	7		
1	c	237	Total	C	N	O	S	0	0
			1866	1186	315	359	6		
1	D	242	Total	C	N	O	S	0	0
			1907	1211	321	368	7		
1	d	237	Total	C	N	O	S	0	0
			1866	1186	315	359	6		
1	E	242	Total	C	N	O	S	0	0
			1907	1211	321	368	7		
1	e	237	Total	C	N	O	S	0	0
			1866	1186	315	359	6		
1	F	242	Total	C	N	O	S	0	0
			1907	1211	321	368	7		
1	f	237	Total	C	N	O	S	0	0
			1866	1186	315	359	6		
1	G	242	Total	C	N	O	S	0	0
			1907	1211	321	368	7		
1	g	237	Total	C	N	O	S	0	0
			1866	1186	315	359	6		

- Molecule 2 is a protein called Proteasome subunit beta.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	1	202	Total	C	N	O	S	0	0
			1553	982	260	305	6		

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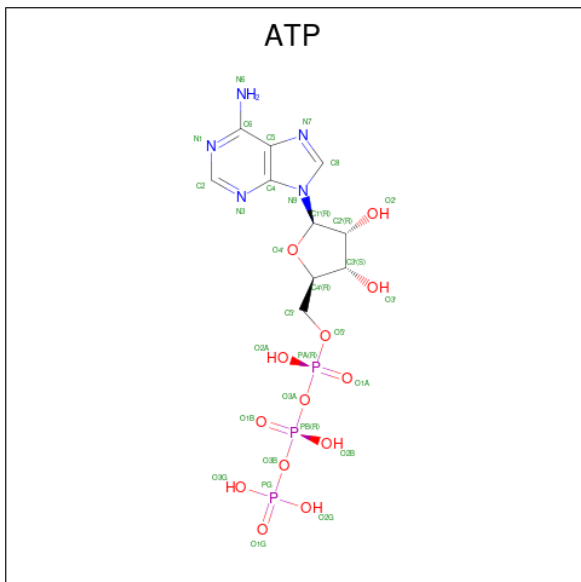
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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	h	202	Total 1553	C 982	N 260	O 305	S 6	0	0
2	2	202	Total 1553	C 982	N 260	O 305	S 6	0	0
2	i	202	Total 1553	C 982	N 260	O 305	S 6	0	0
2	3	202	Total 1553	C 982	N 260	O 305	S 6	0	0
2	j	202	Total 1553	C 982	N 260	O 305	S 6	0	0
2	4	202	Total 1553	C 982	N 260	O 305	S 6	0	0
2	k	202	Total 1553	C 982	N 260	O 305	S 6	0	0
2	5	202	Total 1553	C 982	N 260	O 305	S 6	0	0
2	l	202	Total 1553	C 982	N 260	O 305	S 6	0	0
2	6	202	Total 1553	C 982	N 260	O 305	S 6	0	0
2	m	202	Total 1553	C 982	N 260	O 305	S 6	0	0
2	7	202	Total 1553	C 982	N 260	O 305	S 6	0	0
2	n	202	Total 1553	C 982	N 260	O 305	S 6	0	0

- Molecule 3 is a protein called Proteasome-activating nucleotidase.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	H	390	Total 3100	C 1974	N 535	O 583	S 8	0	0
3	I	390	Total 3100	C 1974	N 535	O 583	S 8	0	0
3	K	390	Total 3100	C 1974	N 535	O 583	S 8	0	0
3	L	390	Total 3100	C 1974	N 535	O 583	S 8	0	0
3	M	390	Total 3100	C 1974	N 535	O 583	S 8	0	0
3	J	390	Total 3100	C 1974	N 535	O 583	S 8	0	0

- Molecule 4 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).



Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
4	I	1	Total	C	N	O	P	0
			31	10	5	13	3	
4	K	1	Total	C	N	O	P	0
			31	10	5	13	3	
4	L	1	Total	C	N	O	P	0
			31	10	5	13	3	
4	J	1	Total	C	N	O	P	0
			31	10	5	13	3	

- Molecule 5 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

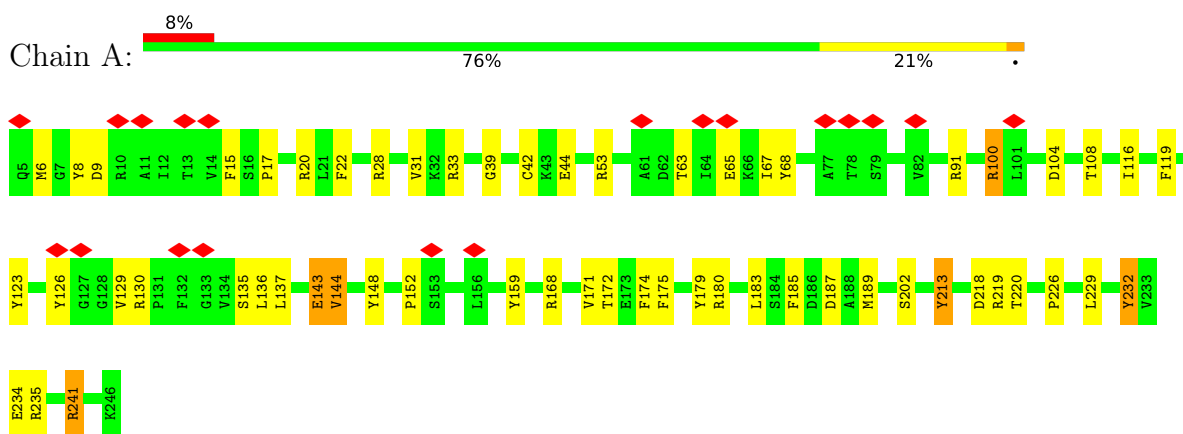
Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
5	I	1	Total	Mg	0
			1	1	
5	K	1	Total	Mg	0
			1	1	
5	L	1	Total	Mg	0
			1	1	
5	M	1	Total	Mg	0
			1	1	
5	J	1	Total	Mg	0
			1	1	

- Molecule 6 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$).

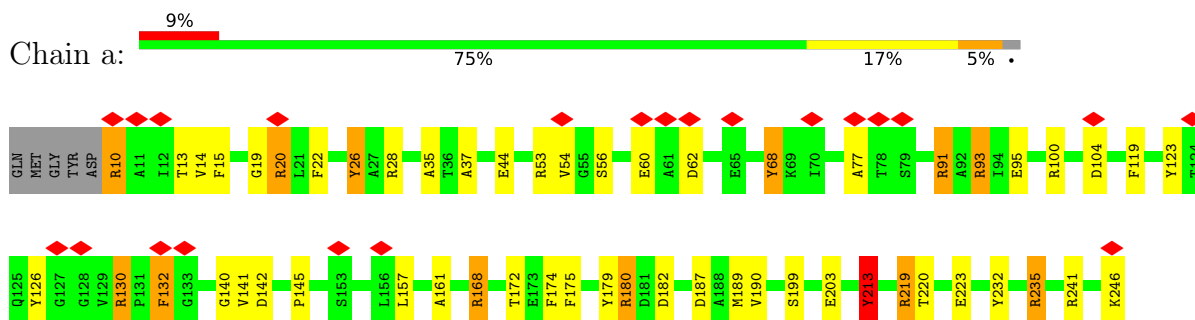
3 Residue-property plots [i](#)

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.

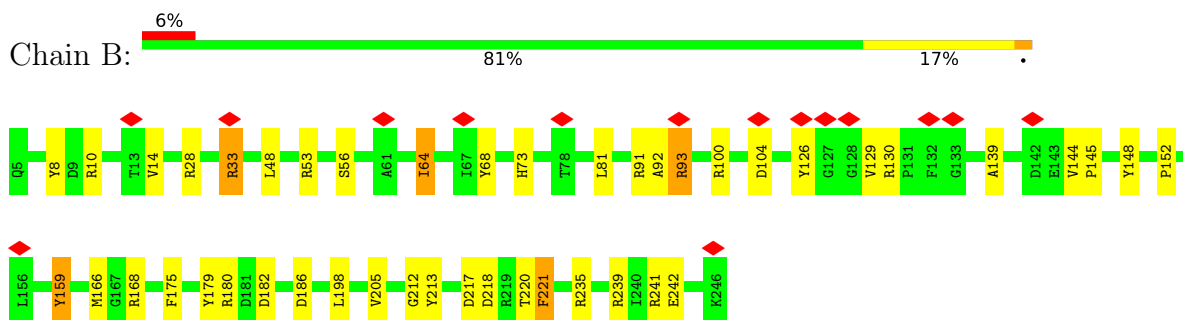
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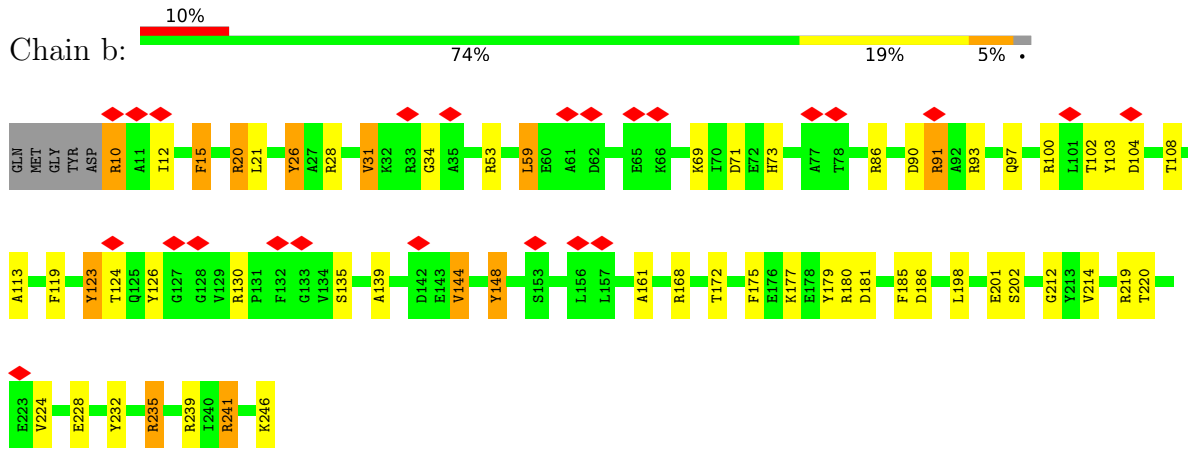
- Molecule 1: Proteasome subunit alpha



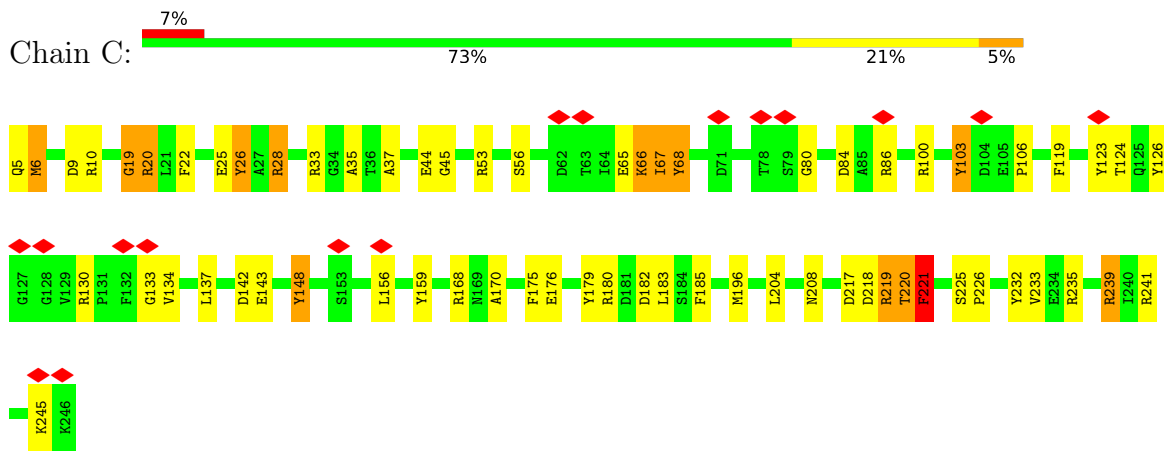
- Molecule 1: Proteasome subunit alpha



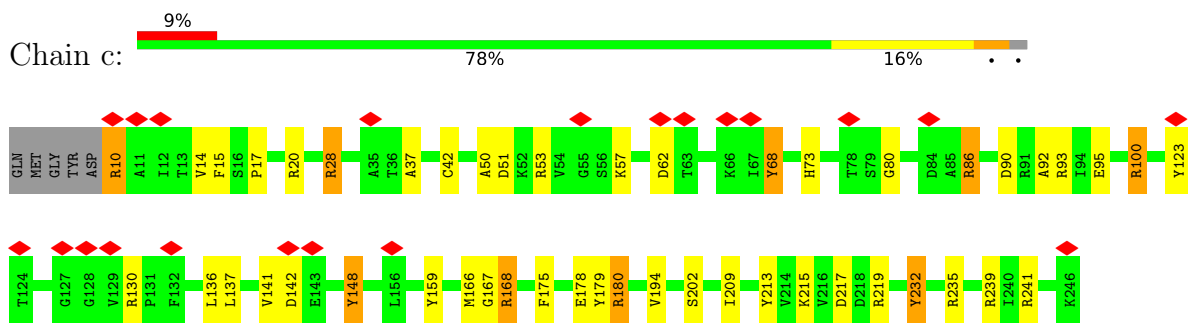
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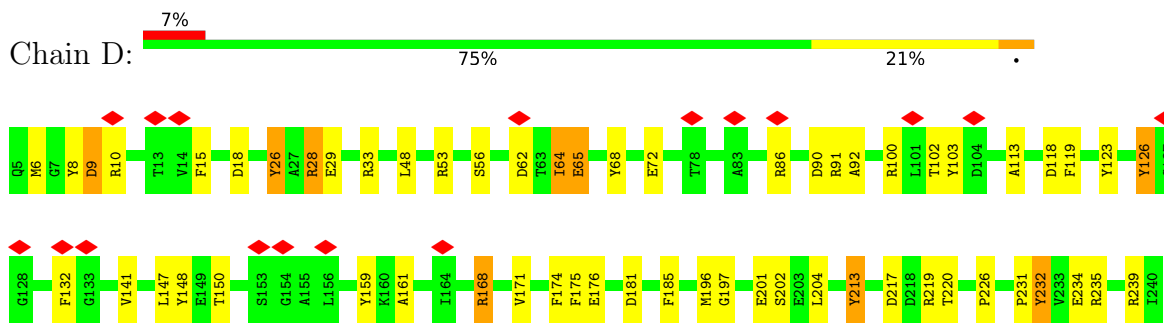
• Molecule 1: Proteasome subunit alpha



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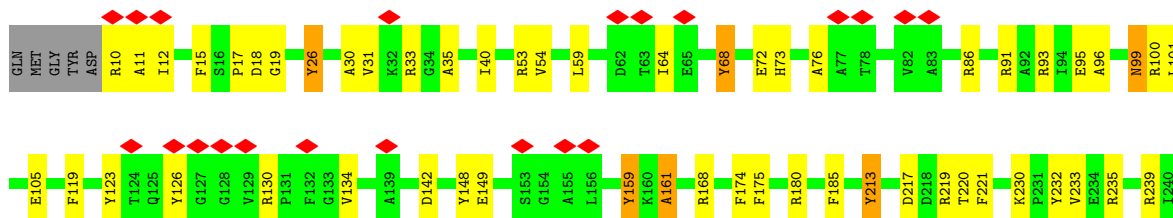
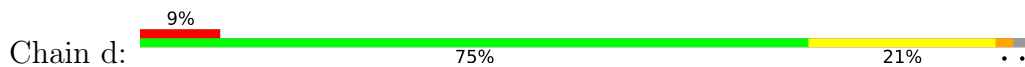


• Molecule 1: Proteasome subunit alpha

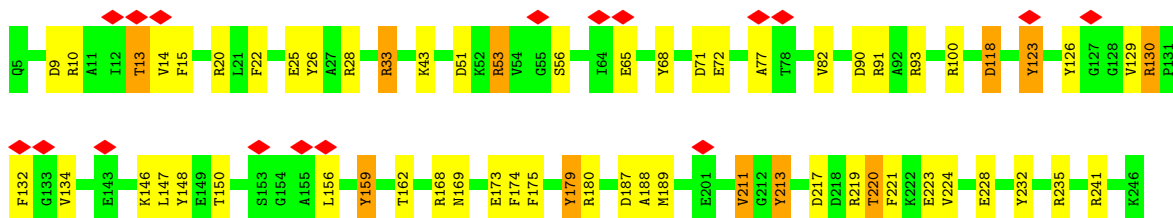
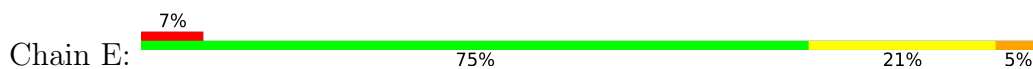




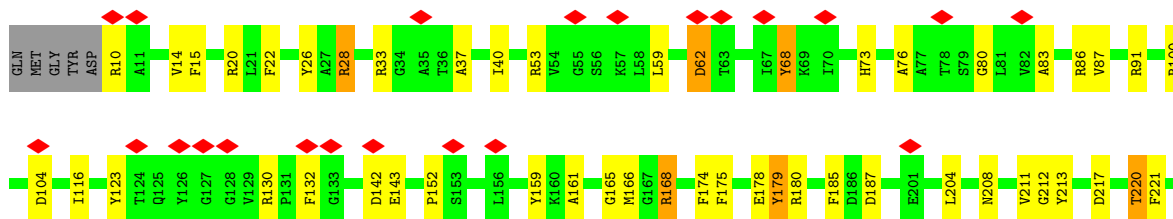
• Molecule 1: Proteasome subunit alpha



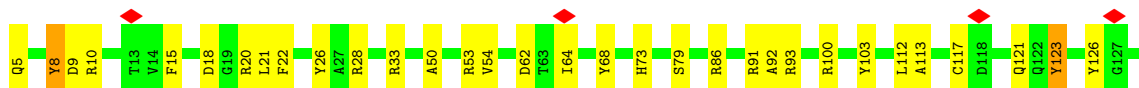
• Molecule 1: Proteasome subunit alpha



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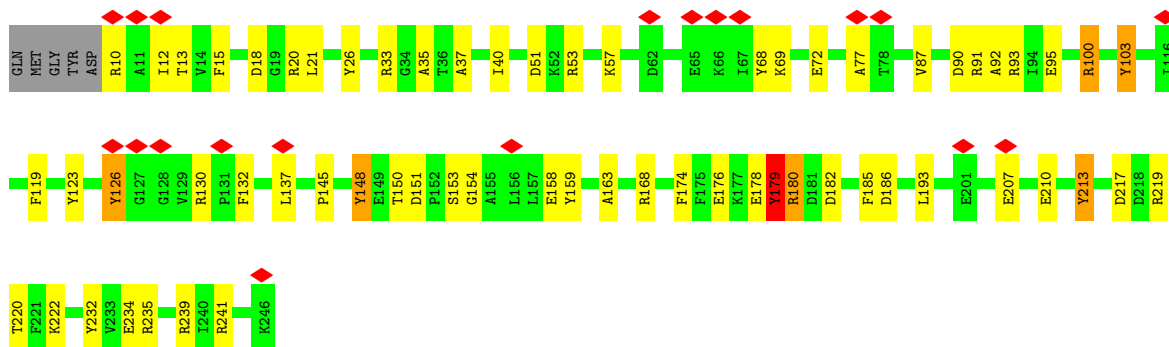


• Molecule 1: Proteasome subunit alpha

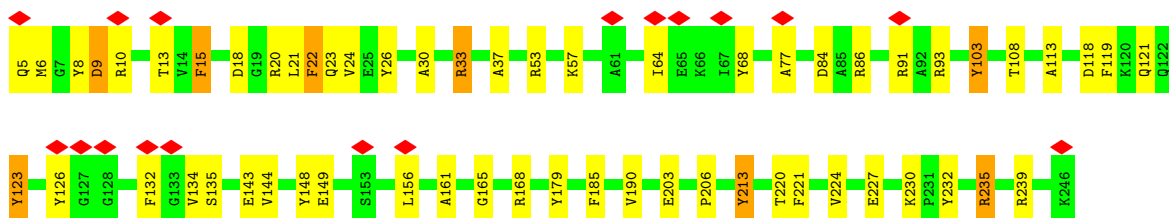
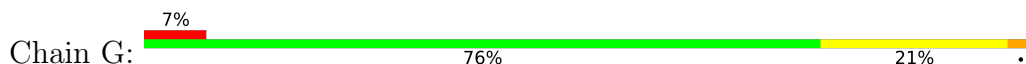




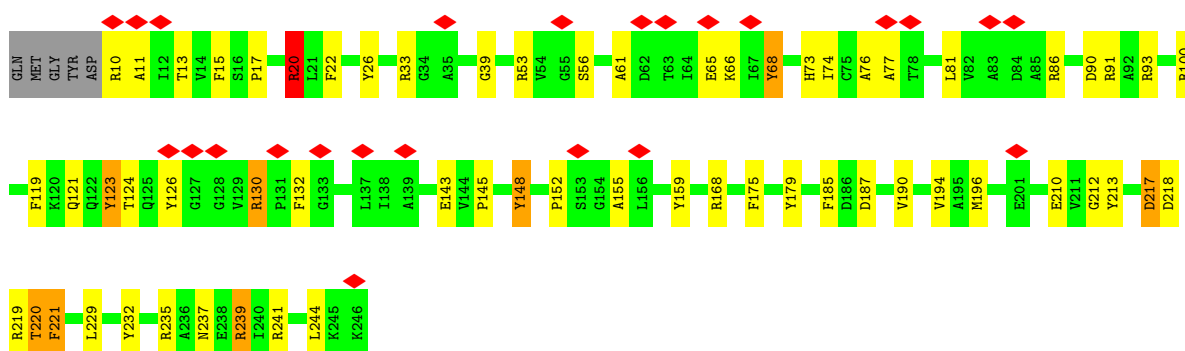
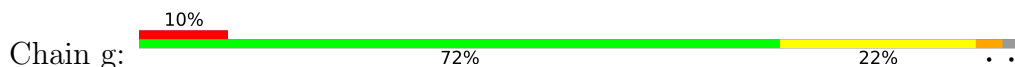
• Molecule 1: Proteasome subunit alpha



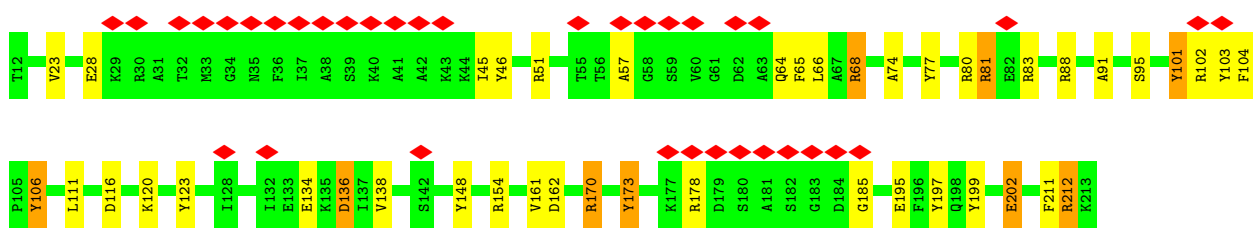
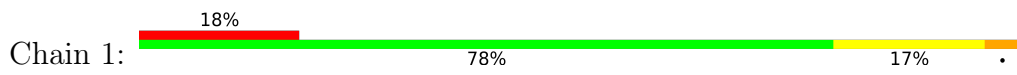
• Molecule 1: Proteasome subunit alpha



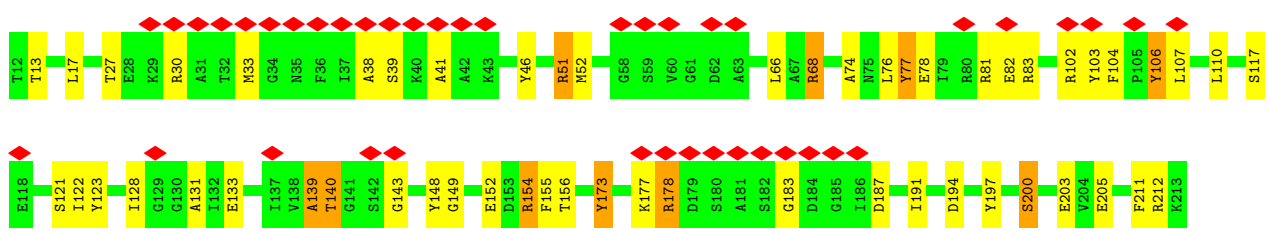
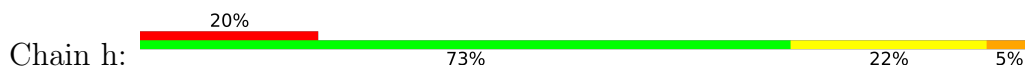
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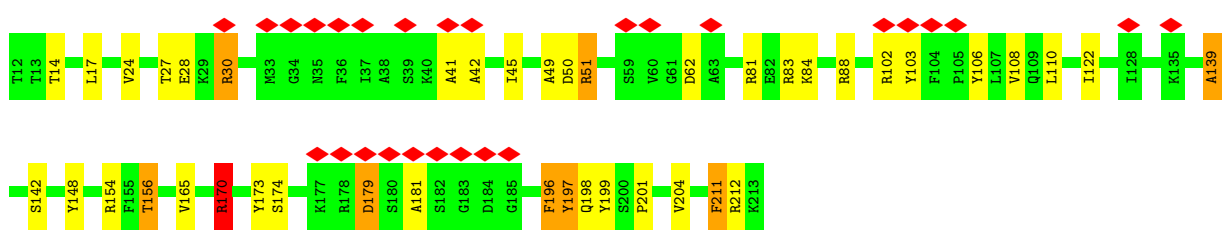
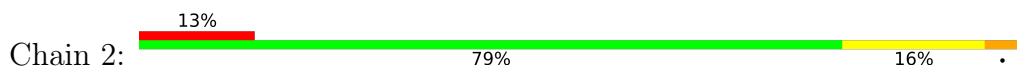
• Molecule 2: Proteasome subunit beta



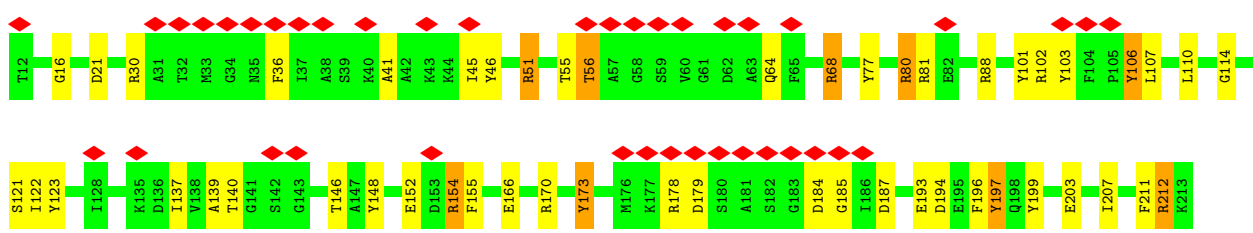
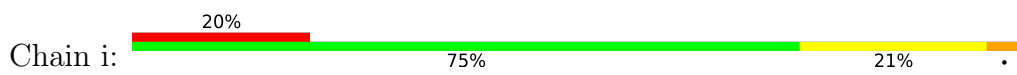
• Molecule 2: Proteasome subunit beta



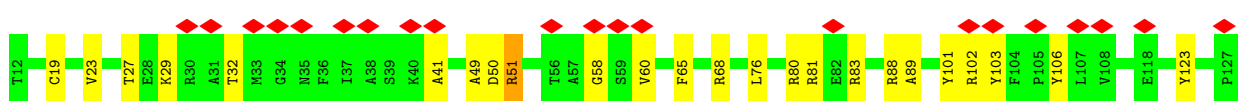
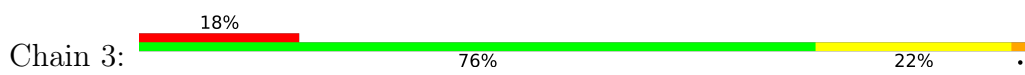
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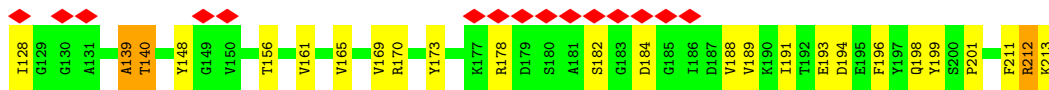


• Molecule 2: Proteasome subunit beta

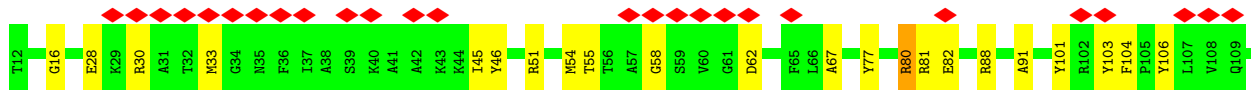
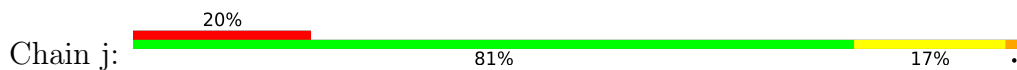


• Molecule 2: Proteasome subunit beta

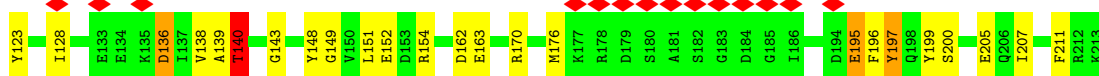
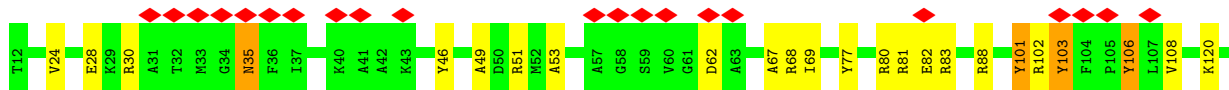
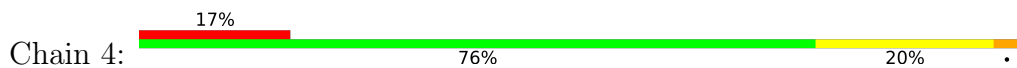




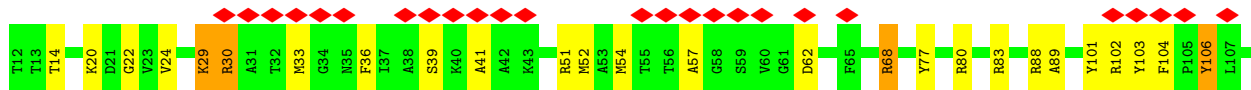
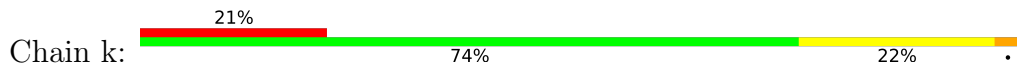
• Molecule 2: Proteasome subunit beta



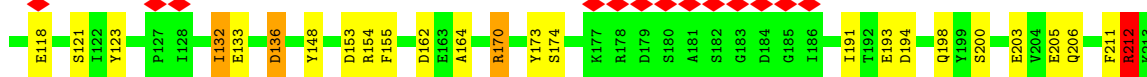
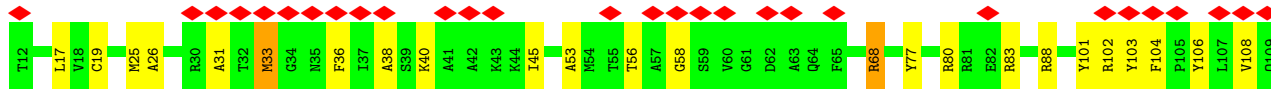
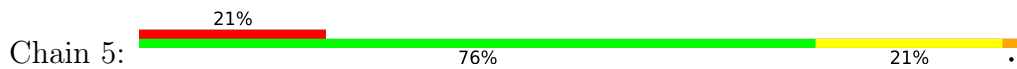
• Molecule 2: Proteasome subunit beta



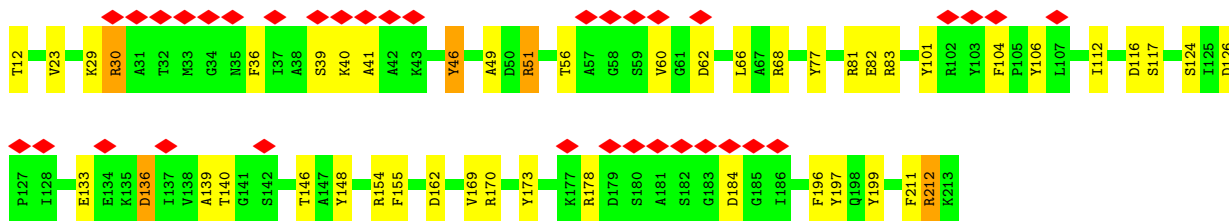
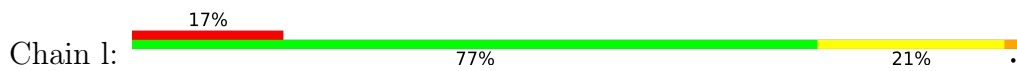
• Molecule 2: Proteasome subunit beta



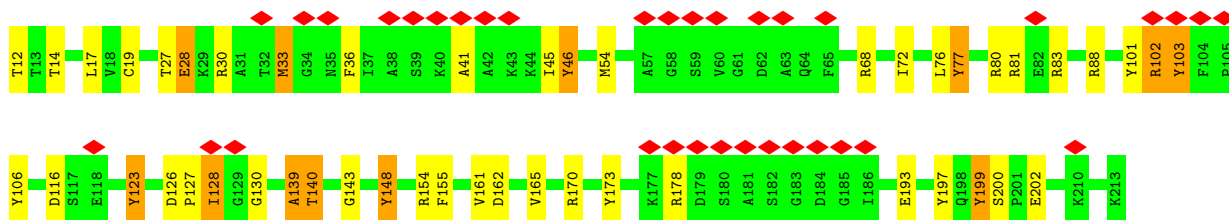
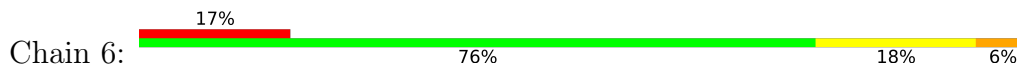
• Molecule 2: Proteasome subunit beta



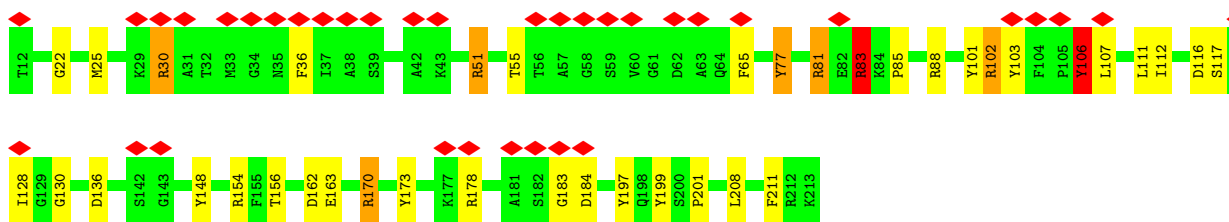
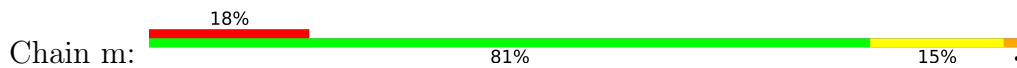
• Molecule 2: Proteasome subunit beta



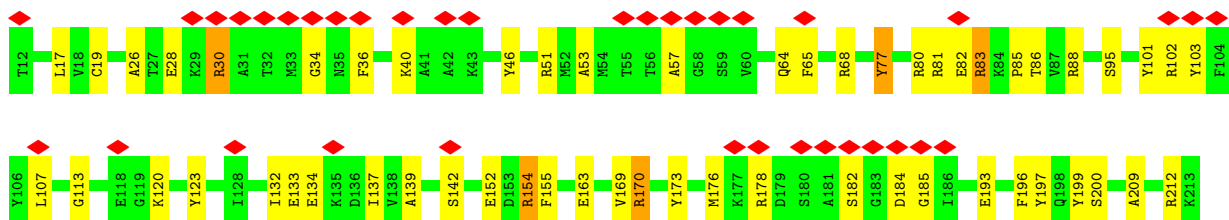
• Molecule 2: Proteasome subunit beta



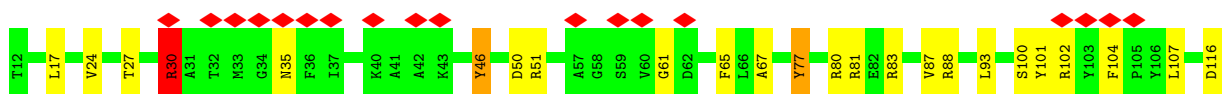
• Molecule 2: Proteasome subunit beta

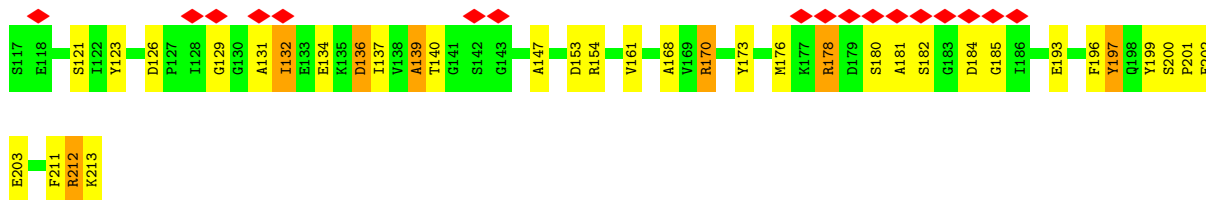


• Molecule 2: Proteasome subunit beta

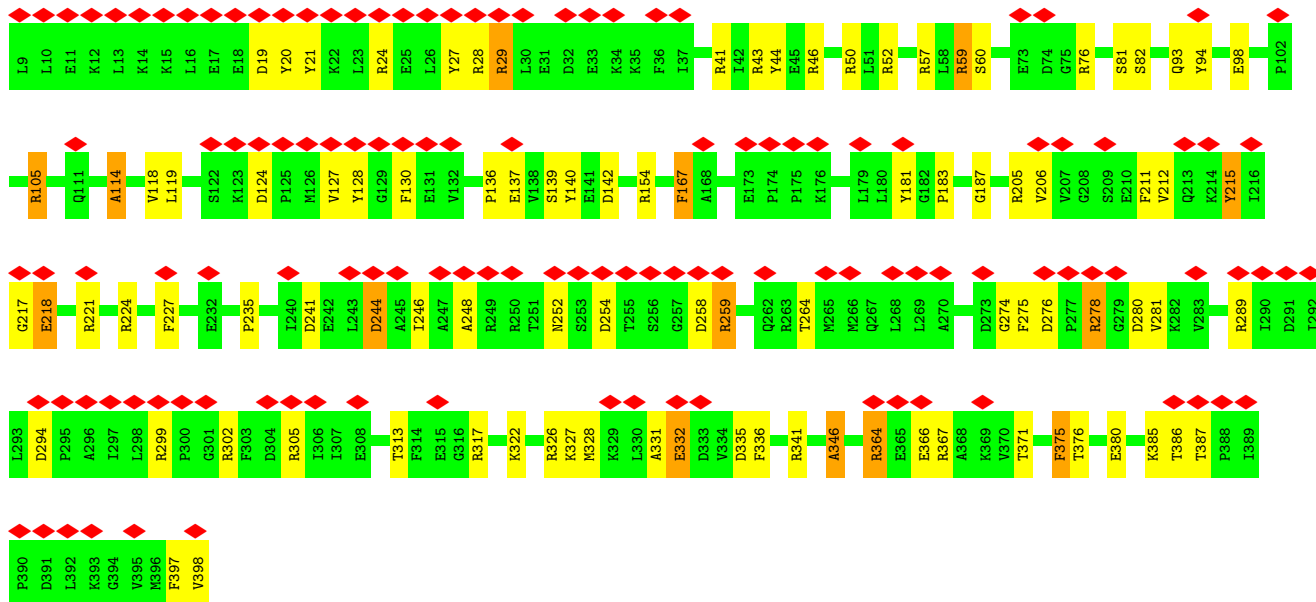
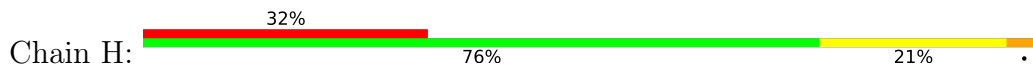


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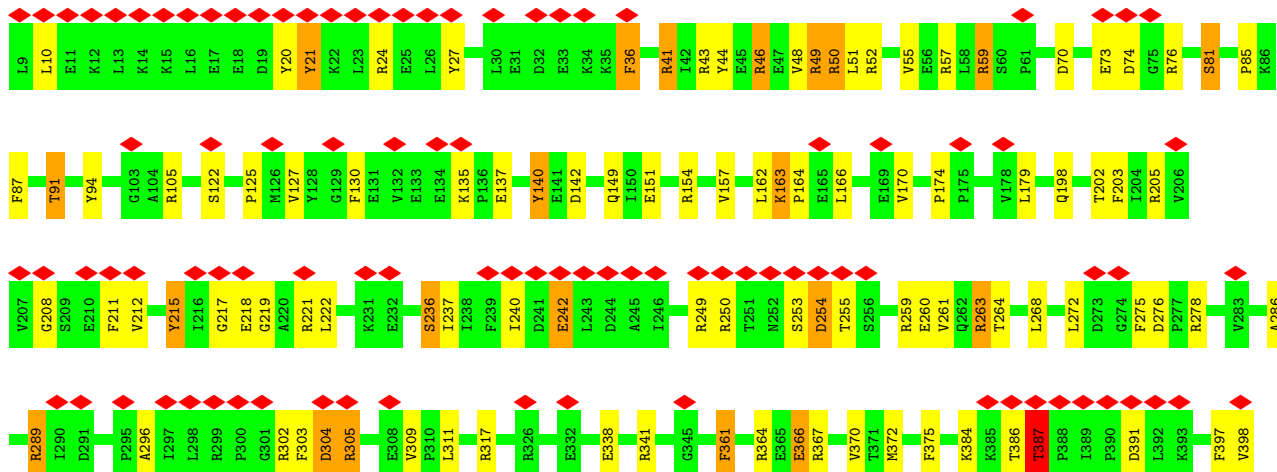
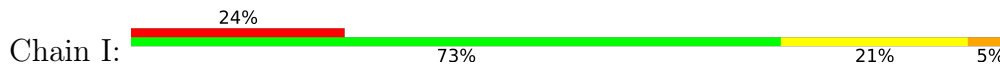




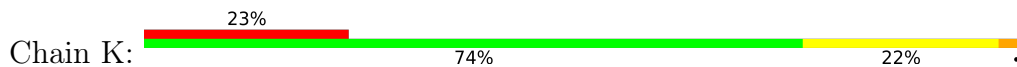
• Molecule 3: Proteasome-activating nucleotidase

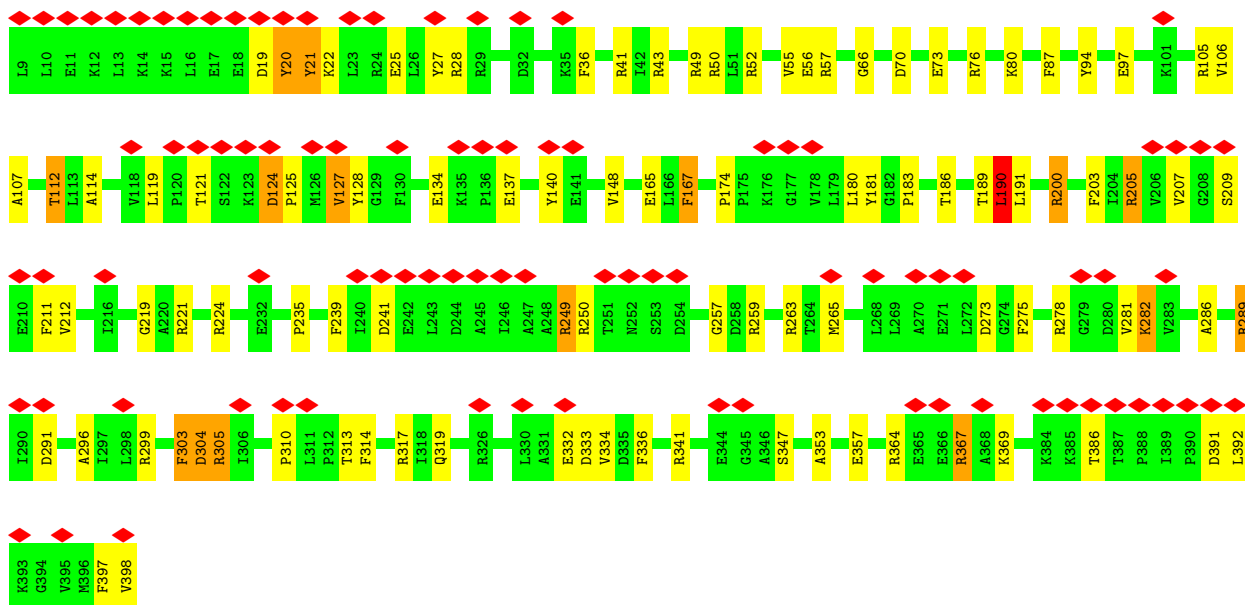


• Molecule 3: Proteasome-activating nucleotidase

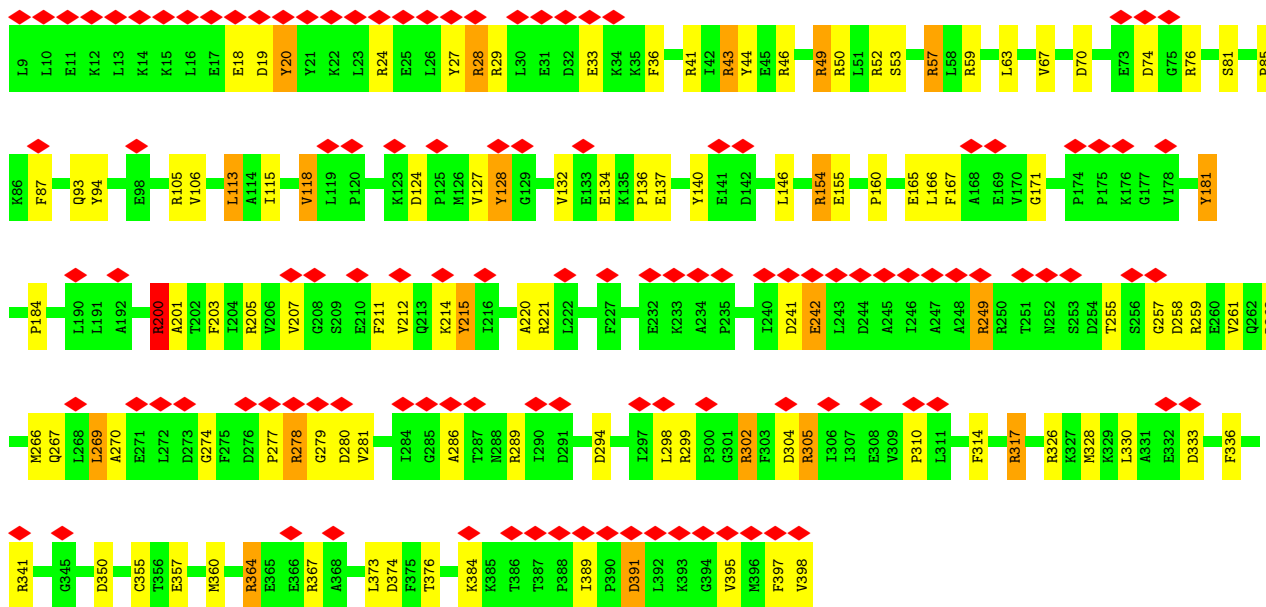


• Molecule 3: Proteasome-activating nucleotidase

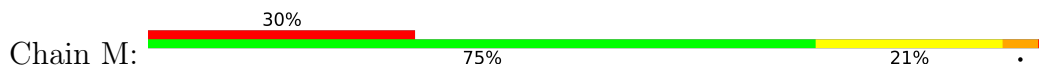


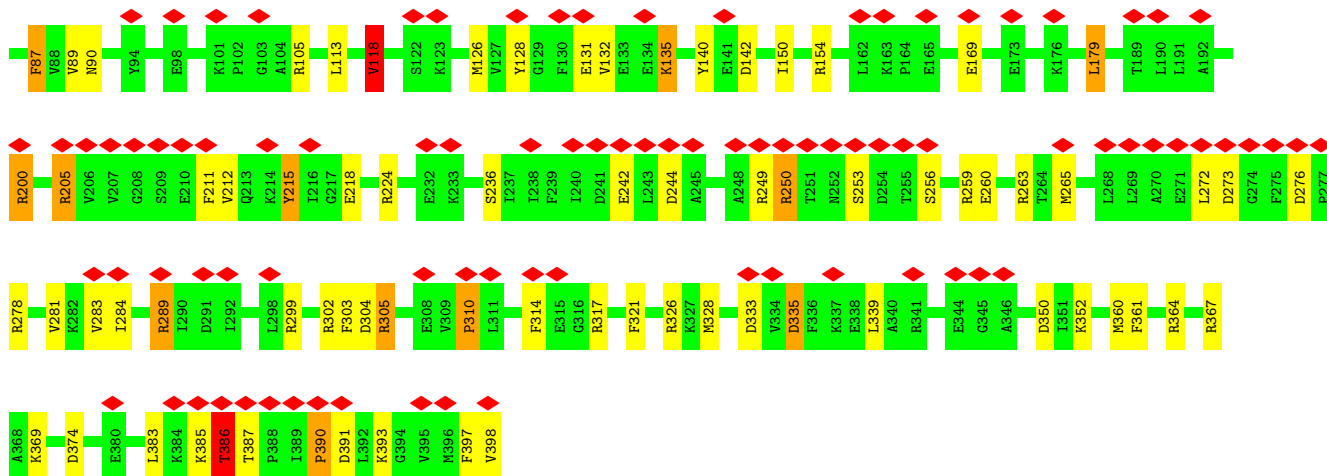


• Molecule 3: Proteasome-activating nucleotidase

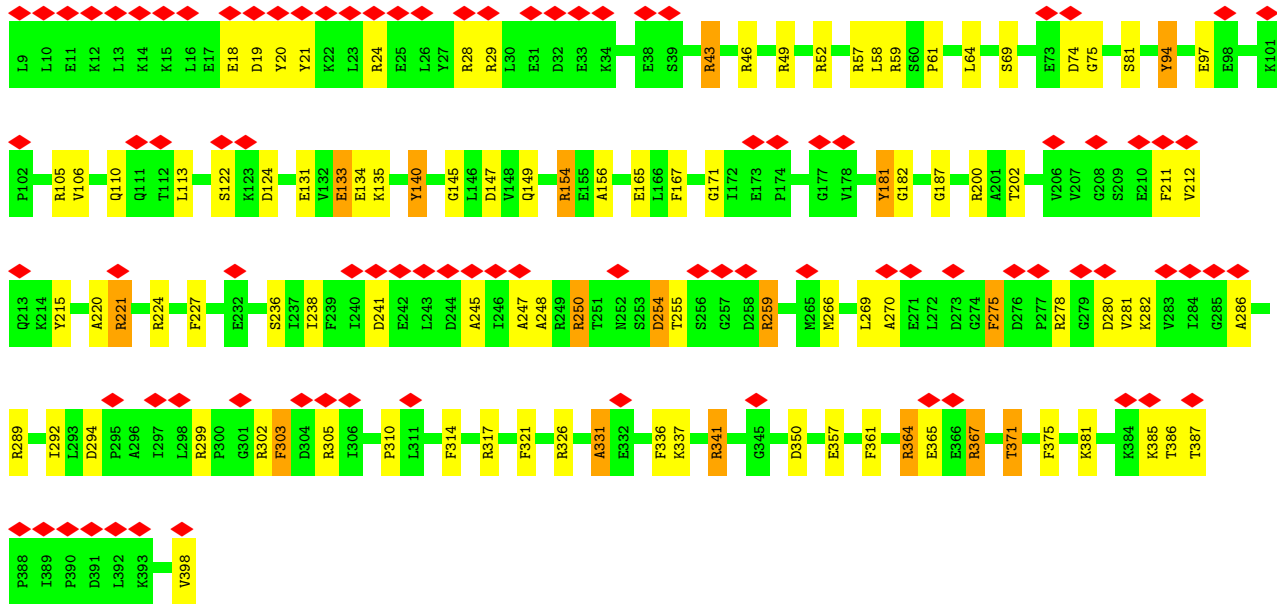
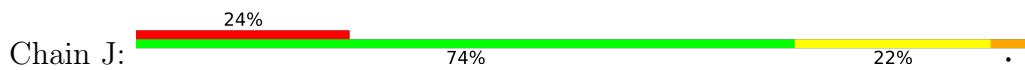


• Molecule 3: Proteasome-activating nucleotidase





• Molecule 3: Proteasome-activating nucleotidase



4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	38230	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	30	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.043	Depositor
Minimum map value	-0.036	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.006	Depositor
Map size (Å)	514.56, 514.56, 514.56	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.34, 1.34, 1.34	Depositor

5 Model quality i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: ADP, ATP, MG

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	1.69	14/1934 (0.7%)	1.97	53/2605 (2.0%)
1	B	1.73	12/1934 (0.6%)	1.92	41/2605 (1.6%)
1	C	1.80	25/1934 (1.3%)	1.98	55/2605 (2.1%)
1	D	1.74	22/1934 (1.1%)	2.07	58/2605 (2.2%)
1	E	1.74	22/1934 (1.1%)	2.00	49/2605 (1.9%)
1	F	1.78	25/1934 (1.3%)	2.00	55/2605 (2.1%)
1	G	1.74	23/1934 (1.2%)	1.96	48/2605 (1.8%)
1	a	1.78	24/1892 (1.3%)	1.98	51/2549 (2.0%)
1	b	1.75	16/1892 (0.8%)	2.02	48/2549 (1.9%)
1	c	1.71	18/1892 (1.0%)	1.95	42/2549 (1.6%)
1	d	1.74	10/1892 (0.5%)	1.95	48/2549 (1.9%)
1	e	1.73	13/1892 (0.7%)	2.02	53/2549 (2.1%)
1	f	1.76	26/1892 (1.4%)	2.01	53/2549 (2.1%)
1	g	1.77	22/1892 (1.2%)	1.95	59/2549 (2.3%)
2	1	1.79	14/1573 (0.9%)	1.98	39/2121 (1.8%)
2	2	1.72	13/1573 (0.8%)	1.89	30/2121 (1.4%)
2	3	1.76	14/1573 (0.9%)	1.98	42/2121 (2.0%)
2	4	1.71	17/1573 (1.1%)	2.05	46/2121 (2.2%)
2	5	3.32	21/1573 (1.3%)	2.20	37/2121 (1.7%)
2	6	1.68	13/1573 (0.8%)	1.98	41/2121 (1.9%)
2	7	1.82	20/1573 (1.3%)	2.06	44/2121 (2.1%)
2	h	1.80	19/1573 (1.2%)	2.00	48/2121 (2.3%)
2	i	1.76	16/1573 (1.0%)	1.96	44/2121 (2.1%)
2	j	1.74	16/1573 (1.0%)	1.86	26/2121 (1.2%)
2	k	1.76	17/1573 (1.1%)	2.00	41/2121 (1.9%)
2	l	3.34	23/1573 (1.5%)	2.25	47/2121 (2.2%)
2	m	1.81	9/1573 (0.6%)	1.98	36/2121 (1.7%)
2	n	1.71	18/1573 (1.1%)	1.93	33/2121 (1.6%)
3	H	1.77	40/3146 (1.3%)	1.91	73/4240 (1.7%)
3	I	1.77	30/3146 (1.0%)	2.03	77/4240 (1.8%)
3	J	1.78	29/3146 (0.9%)	1.96	89/4240 (2.1%)
3	K	1.78	37/3146 (1.2%)	2.02	84/4240 (2.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
3	L	1.73	33/3146 (1.0%)	1.99	88/4240 (2.1%)
3	M	1.72	29/3146 (0.9%)	1.95	83/4240 (2.0%)
All	All	1.86	700/67680 (1.0%)	1.99	1761/91212 (1.9%)

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	8
1	B	0	6
1	C	0	12
1	D	0	5
1	E	0	12
1	F	0	6
1	G	0	9
1	a	0	15
1	b	0	10
1	c	0	10
1	d	0	8
1	e	0	7
1	f	0	11
1	g	0	8
2	1	0	7
2	2	0	8
2	3	0	1
2	4	0	6
2	5	0	4
2	6	0	7
2	7	0	7
2	h	0	9
2	i	0	8
2	j	0	5
2	k	0	3
2	l	0	3
2	m	0	7
2	n	0	9
3	H	0	15
3	I	0	24
3	J	0	15
3	K	0	17

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Mol	Chain	#Chirality outliers	#Planarity outliers
3	L	0	24
3	M	0	17
All	All	0	323

All (700) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	5	170	ARG	CZ-NH1	66.00	2.18	1.33
2	1	170	ARG	CZ-NH1	59.72	2.10	1.33
2	1	211	PHE	CG-CD2	50.18	2.14	1.38
2	1	211	PHE	CG-CD1	47.74	2.10	1.38
2	5	211	PHE	CG-CD2	45.17	2.06	1.38
2	5	211	PHE	CG-CD1	43.39	2.03	1.38
2	5	211	PHE	CE1-CZ	36.88	2.07	1.37
2	1	211	PHE	CE1-CZ	36.02	2.05	1.37
2	5	211	PHE	CE2-CZ	34.53	2.02	1.37
2	1	211	PHE	CE2-CZ	33.20	2.00	1.37
2	1	211	PHE	CD2-CE2	31.80	2.02	1.39
2	1	211	PHE	CD1-CE1	31.71	2.02	1.39
2	5	211	PHE	CD1-CE1	31.28	2.01	1.39
2	5	211	PHE	CD2-CE2	30.66	2.00	1.39
3	J	398	VAL	C-O	-12.08	1.00	1.23
3	I	398	VAL	C-O	-12.06	1.00	1.23
3	L	398	VAL	C-O	-12.06	1.00	1.23
3	M	398	VAL	C-O	-12.06	1.00	1.23
3	H	398	VAL	C-OXT	-12.05	1.00	1.23
3	I	398	VAL	C-OXT	-12.05	1.00	1.23
3	L	398	VAL	C-OXT	-12.04	1.00	1.23
3	M	398	VAL	C-OXT	-12.05	1.00	1.23
3	K	398	VAL	C-OXT	-12.03	1.00	1.23
3	H	398	VAL	C-O	-12.03	1.00	1.23
3	K	398	VAL	C-O	-12.03	1.00	1.23
3	J	398	VAL	C-OXT	-12.03	1.00	1.23
2	m	117	SER	CA-CB	10.03	1.68	1.52
1	g	53	ARG	CD-NE	9.53	1.62	1.46
1	f	53	ARG	NE-CZ	9.37	1.45	1.33
3	I	221	ARG	NE-CZ	9.22	1.45	1.33
3	J	97	GLU	CG-CD	9.15	1.65	1.51
3	H	181	TYR	CE1-CZ	8.79	1.50	1.38
1	D	72	GLU	CG-CD	8.72	1.65	1.51
2	i	80	ARG	CZ-NH1	8.48	1.44	1.33
2	7	178	ARG	NE-CZ	8.44	1.44	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	a	179	TYR	CE1-CZ	8.34	1.49	1.38
3	K	314	PHE	CG-CD1	8.26	1.51	1.38
1	A	241	ARG	CZ-NH1	8.25	1.43	1.33
3	K	289	ARG	NE-CZ	8.19	1.43	1.33
1	b	235	ARG	NE-CZ	8.18	1.43	1.33
2	m	88	ARG	CD-NE	8.16	1.60	1.46
1	D	235	ARG	CZ-NH2	8.10	1.43	1.33
2	i	88	ARG	NE-CZ	8.07	1.43	1.33
3	K	305	ARG	CZ-NH2	8.06	1.43	1.33
3	H	302	ARG	CZ-NH2	8.04	1.43	1.33
1	d	168	ARG	CD-NE	7.98	1.60	1.46
2	i	51	ARG	NE-CZ	7.93	1.43	1.33
3	K	50	ARG	NE-CZ	7.83	1.43	1.33
3	H	94	TYR	CG-CD1	7.81	1.49	1.39
2	1	154	ARG	NE-CZ	7.80	1.43	1.33
1	B	126	TYR	CG-CD1	7.78	1.49	1.39
2	7	154	ARG	NE-CZ	7.76	1.43	1.33
1	b	168	ARG	CZ-NH2	7.75	1.43	1.33
3	J	69	SER	CA-CB	7.75	1.64	1.52
3	K	41	ARG	NE-CZ	7.74	1.43	1.33
3	L	29	ARG	CZ-NH2	7.61	1.43	1.33
3	K	249	ARG	NE-CZ	7.58	1.43	1.33
2	7	83	ARG	CZ-NH1	7.56	1.42	1.33
3	J	321	PHE	CG-CD1	7.54	1.50	1.38
1	g	219	ARG	CD-NE	7.45	1.59	1.46
3	K	20	TYR	CZ-OH	7.45	1.50	1.37
1	a	20	ARG	NE-CZ	7.41	1.42	1.33
1	G	10	ARG	CZ-NH2	7.39	1.42	1.33
3	H	82	SER	CA-CB	7.39	1.64	1.52
1	f	213	TYR	CE2-CZ	7.35	1.48	1.38
1	E	53	ARG	CZ-NH1	7.34	1.42	1.33
2	7	200	SER	CA-CB	7.31	1.64	1.52
2	3	212	ARG	CZ-NH1	7.29	1.42	1.33
2	l	68	ARG	NE-CZ	7.26	1.42	1.33
3	H	139	SER	CB-OG	7.25	1.51	1.42
2	k	130	GLY	N-CA	-7.24	1.35	1.46
1	e	130	ARG	CZ-NH1	7.20	1.42	1.33
2	7	163	GLU	CD-OE1	7.15	1.33	1.25
1	B	93	ARG	NE-CZ	7.15	1.42	1.33
1	E	33	ARG	NE-CZ	7.15	1.42	1.33
1	a	26	TYR	CE2-CZ	7.14	1.47	1.38
2	h	173	TYR	CE2-CZ	7.14	1.47	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	e	80	GLY	CA-C	-7.12	1.40	1.51
1	G	20	ARG	CD-NE	7.11	1.58	1.46
2	k	144	SER	CA-CB	7.11	1.63	1.52
2	n	83	ARG	CZ-NH1	7.10	1.42	1.33
1	f	239	ARG	CZ-NH2	7.10	1.42	1.33
1	D	185	PHE	CG-CD2	7.09	1.49	1.38
2	h	103	TYR	CZ-OH	7.09	1.50	1.37
1	C	130	ARG	CZ-NH1	7.08	1.42	1.33
1	C	28	ARG	NE-CZ	7.07	1.42	1.33
3	K	28	ARG	NE-CZ	7.07	1.42	1.33
1	G	235	ARG	CZ-NH2	7.06	1.42	1.33
2	1	103	TYR	CE2-CZ	7.06	1.47	1.38
2	2	212	ARG	NE-CZ	7.04	1.42	1.33
3	J	200	ARG	CD-NE	7.03	1.58	1.46
1	d	10	ARG	NE-CZ	7.02	1.42	1.33
1	B	239	ARG	CD-NE	7.00	1.58	1.46
2	l	178	ARG	CZ-NH1	7.00	1.42	1.33
3	L	274	GLY	N-CA	-6.99	1.35	1.46
1	C	119	PHE	CB-CG	6.99	1.63	1.51
1	G	20	ARG	NE-CZ	6.99	1.42	1.33
3	M	105	ARG	CD-NE	6.98	1.58	1.46
2	1	185	GLY	N-CA	6.96	1.56	1.46
2	2	102	ARG	CD-NE	6.96	1.58	1.46
1	G	213	TYR	CG-CD2	6.95	1.48	1.39
2	7	19	CYS	CB-SG	6.94	1.94	1.82
3	K	41	ARG	CZ-NH1	6.93	1.42	1.33
2	5	80	ARG	NE-CZ	6.93	1.42	1.33
3	K	205	ARG	CD-NE	6.92	1.58	1.46
1	D	232	TYR	CG-CD2	6.92	1.48	1.39
1	g	20	ARG	CZ-NH2	6.87	1.42	1.33
1	C	143	GLU	CD-OE2	6.86	1.33	1.25
1	C	179	TYR	CE2-CZ	6.86	1.47	1.38
1	C	20	ARG	CZ-NH2	6.85	1.42	1.33
1	f	53	ARG	CZ-NH1	6.83	1.42	1.33
3	I	341	ARG	CZ-NH2	6.82	1.42	1.33
2	2	30	ARG	CD-NE	6.82	1.58	1.46
3	K	347	SER	CB-OG	6.81	1.51	1.42
3	M	44	TYR	CZ-OH	6.80	1.49	1.37
2	k	83	ARG	NE-CZ	6.79	1.41	1.33
2	k	22	GLY	CA-C	-6.79	1.41	1.51
2	n	197	TYR	CG-CD1	6.79	1.48	1.39
3	J	187	GLY	N-CA	-6.78	1.35	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	j	58	GLY	CA-C	-6.78	1.41	1.51
1	a	126	TYR	CE2-CZ	6.78	1.47	1.38
2	1	80	ARG	NE-CZ	6.78	1.41	1.33
1	g	212	GLY	CA-C	-6.77	1.41	1.51
2	5	212	ARG	NE-CZ	6.75	1.41	1.33
2	3	58	GLY	N-CA	-6.75	1.35	1.46
2	h	77	TYR	CE2-CZ	6.74	1.47	1.38
1	A	53	ARG	CD-NE	6.73	1.57	1.46
2	n	80	ARG	NE-CZ	6.73	1.41	1.33
2	h	81	ARG	NE-CZ	6.73	1.41	1.33
3	I	164	PRO	N-CD	6.73	1.57	1.47
3	M	29	ARG	NE-CZ	6.72	1.41	1.33
2	i	114	GLY	N-CA	-6.72	1.35	1.46
1	C	100	ARG	CZ-NH1	6.71	1.41	1.33
2	n	170	ARG	CZ-NH2	6.71	1.41	1.33
2	7	113	GLY	N-CA	-6.71	1.35	1.46
1	D	219	ARG	CD-NE	6.71	1.57	1.46
3	H	380	GLU	CD-OE2	6.70	1.33	1.25
1	C	219	ARG	CZ-NH2	6.69	1.41	1.33
1	D	29	GLU	CG-CD	6.69	1.61	1.51
2	5	88	ARG	NE-CZ	6.68	1.41	1.33
3	K	250	ARG	NE-CZ	6.68	1.41	1.33
1	A	53	ARG	CZ-NH1	6.67	1.41	1.33
2	1	81	ARG	CD-NE	6.65	1.57	1.46
2	n	202	GLU	CD-OE1	6.64	1.32	1.25
3	I	21	TYR	CG-CD2	6.64	1.47	1.39
1	e	165	GLY	CA-C	-6.63	1.41	1.51
2	4	68	ARG	NE-CZ	6.63	1.41	1.33
3	H	341	ARG	CZ-NH1	6.62	1.41	1.33
1	b	212	GLY	CA-C	-6.61	1.41	1.51
1	F	53	ARG	CZ-NH2	6.60	1.41	1.33
1	e	53	ARG	CZ-NH1	6.60	1.41	1.33
1	g	100	ARG	CD-NE	6.60	1.57	1.46
1	g	219	ARG	NE-CZ	6.60	1.41	1.33
2	4	88	ARG	NE-CZ	6.59	1.41	1.33
3	L	221	ARG	CZ-NH1	6.59	1.41	1.33
1	e	241	ARG	CZ-NH1	6.57	1.41	1.33
1	e	239	ARG	NE-CZ	6.57	1.41	1.33
3	M	69	SER	CA-CB	6.56	1.62	1.52
2	j	203	GLU	CG-CD	6.54	1.61	1.51
3	L	53	SER	CA-CB	6.54	1.62	1.52
2	i	155	PHE	CE2-CZ	6.54	1.49	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	H	221	ARG	CD-NE	6.54	1.57	1.46
2	j	212	ARG	CD-NE	6.54	1.57	1.46
2	k	68	ARG	CD-NE	6.54	1.57	1.46
1	C	175	PHE	CG-CD1	6.54	1.48	1.38
2	6	46	TYR	CE2-CZ	6.54	1.47	1.38
2	n	102	ARG	CZ-NH1	6.52	1.41	1.33
3	M	361	PHE	CE1-CZ	6.52	1.49	1.37
1	E	123	TYR	CE1-CZ	6.51	1.47	1.38
1	e	174	PHE	CE2-CZ	6.51	1.49	1.37
1	g	241	ARG	NE-CZ	6.51	1.41	1.33
1	F	86	ARG	NE-CZ	6.51	1.41	1.33
1	B	180	ARG	CZ-NH2	6.50	1.41	1.33
3	J	220	ALA	CA-CB	6.49	1.66	1.52
3	H	218	GLU	CA-CB	6.49	1.68	1.53
2	l	197	TYR	CB-CG	-6.47	1.42	1.51
1	D	241	ARG	CZ-NH1	6.47	1.41	1.33
3	H	24	ARG	CD-NE	6.47	1.57	1.46
3	M	256	SER	CA-CB	6.47	1.62	1.52
1	d	17	PRO	N-CD	-6.46	1.38	1.47
3	H	326	ARG	CZ-NH2	6.46	1.41	1.33
2	k	102	ARG	CD-NE	6.45	1.57	1.46
3	H	82	SER	CB-OG	6.45	1.50	1.42
2	j	80	ARG	CD-NE	6.44	1.57	1.46
1	a	10	ARG	NE-CZ	6.44	1.41	1.33
1	g	65	GLU	CG-CD	6.43	1.61	1.51
3	I	52	ARG	NE-CZ	6.42	1.41	1.33
3	J	75	GLY	CA-C	-6.42	1.41	1.51
2	3	178	ARG	NE-CZ	6.41	1.41	1.33
3	J	278	ARG	CZ-NH2	6.41	1.41	1.33
2	j	46	TYR	CE1-CZ	6.40	1.46	1.38
1	b	201	GLU	CD-OE1	6.40	1.32	1.25
2	h	77	TYR	CE1-CZ	6.40	1.46	1.38
1	g	130	ARG	CZ-NH2	6.40	1.41	1.33
3	J	171	GLY	N-CA	-6.40	1.36	1.46
3	K	317	ARG	NE-CZ	6.39	1.41	1.33
2	n	100	SER	CA-CB	6.38	1.62	1.52
1	C	44	GLU	CD-OE1	6.37	1.32	1.25
1	G	53	ARG	CZ-NH2	6.37	1.41	1.33
1	F	15	PHE	CG-CD1	6.35	1.48	1.38
2	h	203	GLU	CG-CD	6.35	1.61	1.51
3	J	49	ARG	CD-NE	6.35	1.57	1.46
2	k	173	TYR	CG-CD1	6.33	1.47	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	L	33	GLU	CG-CD	6.33	1.61	1.51
3	M	52	ARG	CZ-NH1	6.32	1.41	1.33
1	d	26	TYR	CE1-CZ	6.32	1.46	1.38
2	3	128	ILE	C-N	6.31	1.44	1.33
3	H	364	ARG	NE-CZ	6.30	1.41	1.33
3	L	155	GLU	CD-OE2	6.30	1.32	1.25
2	1	83	ARG	NE-CZ	6.28	1.41	1.33
3	H	57	ARG	CZ-NH2	6.28	1.41	1.33
1	F	79	SER	CA-CB	6.27	1.62	1.52
3	K	263	ARG	CD-NE	6.26	1.57	1.46
3	L	257	GLY	N-CA	-6.24	1.36	1.46
3	H	187	GLY	CA-C	-6.24	1.41	1.51
1	g	239	ARG	NE-CZ	6.24	1.41	1.33
2	2	154	ARG	CZ-NH2	6.23	1.41	1.33
3	J	200	ARG	NE-CZ	6.23	1.41	1.33
1	g	93	ARG	CD-NE	6.23	1.57	1.46
2	3	80	ARG	CD-NE	6.22	1.57	1.46
1	b	15	PHE	CG-CD2	6.22	1.48	1.38
2	1	195	GLU	N-CA	-6.22	1.33	1.46
1	G	135	SER	CA-CB	6.21	1.62	1.52
2	k	170	ARG	NE-CZ	6.21	1.41	1.33
1	F	210	GLU	CG-CD	6.20	1.61	1.51
2	i	16	GLY	CA-C	-6.20	1.42	1.51
2	l	77	TYR	CE2-CZ	6.20	1.46	1.38
1	c	17	PRO	N-CD	-6.19	1.39	1.47
1	d	68	TYR	CG-CD2	6.19	1.47	1.39
1	c	28	ARG	CD-NE	6.18	1.56	1.46
3	J	326	ARG	CD-NE	6.18	1.56	1.46
1	c	235	ARG	NE-CZ	6.17	1.41	1.33
2	3	65	PHE	CG-CD2	6.17	1.48	1.38
1	f	210	GLU	CG-CD	6.16	1.61	1.51
2	1	123	TYR	CG-CD2	6.16	1.47	1.39
2	6	170	ARG	NE-CZ	6.15	1.41	1.33
1	C	33	ARG	CZ-NH1	6.13	1.41	1.33
2	j	101	TYR	CE2-CZ	6.12	1.46	1.38
1	e	123	TYR	CE2-CZ	6.12	1.46	1.38
2	6	30	ARG	CZ-NH2	6.11	1.41	1.33
3	H	227	PHE	CG-CD1	6.11	1.48	1.38
3	M	250	ARG	NE-CZ	6.10	1.41	1.33
3	K	221	ARG	NE-CZ	6.10	1.41	1.33
2	n	203	GLU	CG-CD	6.09	1.61	1.51
1	E	168	ARG	CZ-NH1	6.09	1.41	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	H	43	ARG	CZ-NH2	6.08	1.41	1.33
2	6	123	TYR	CE1-CZ	6.08	1.46	1.38
1	D	126	TYR	CG-CD1	6.06	1.47	1.39
3	L	76	ARG	NE-CZ	6.05	1.41	1.33
2	2	174	SER	CB-OG	-6.04	1.34	1.42
3	I	151	GLU	CD-OE1	6.04	1.32	1.25
1	E	168	ARG	CZ-NH2	6.04	1.41	1.33
1	D	100	ARG	CZ-NH1	6.04	1.40	1.33
2	3	60	VAL	CB-CG1	6.03	1.65	1.52
2	h	78	GLU	CD-OE2	6.03	1.32	1.25
3	I	154	ARG	CZ-NH1	6.03	1.40	1.33
1	e	100	ARG	CZ-NH2	6.02	1.40	1.33
1	a	130	ARG	CZ-NH2	6.02	1.40	1.33
2	3	101	TYR	CG-CD2	6.02	1.47	1.39
3	I	81	SER	CA-CB	6.01	1.61	1.52
2	h	117	SER	CA-CB	6.01	1.61	1.52
2	l	30	ARG	CZ-NH2	6.01	1.40	1.33
3	I	46	ARG	NE-CZ	6.01	1.40	1.33
2	2	88	ARG	CZ-NH1	6.00	1.40	1.33
2	i	166	GLU	CD-OE1	5.99	1.32	1.25
2	j	147	ALA	CA-CB	5.99	1.65	1.52
2	7	82	GLU	CG-CD	5.98	1.60	1.51
2	n	30	ARG	CZ-NH2	5.98	1.40	1.33
1	D	234	GLU	CD-OE2	5.98	1.32	1.25
1	G	123	TYR	CB-CG	-5.97	1.42	1.51
3	K	105	ARG	NE-CZ	5.97	1.40	1.33
1	c	178	GLU	CD-OE2	5.97	1.32	1.25
3	L	249	ARG	CZ-NH2	5.97	1.40	1.33
1	a	19	GLY	CA-C	-5.96	1.42	1.51
2	l	124	SER	CA-CB	5.96	1.61	1.52
1	C	10	ARG	CZ-NH2	5.95	1.40	1.33
2	7	142	SER	CA-CB	5.94	1.61	1.52
1	B	212	GLY	CA-C	-5.94	1.42	1.51
1	g	10	ARG	CZ-NH2	5.93	1.40	1.33
1	A	202	SER	CA-CB	5.92	1.61	1.52
2	2	170	ARG	CZ-NH1	5.92	1.40	1.33
1	a	232	TYR	CB-CG	-5.91	1.42	1.51
2	3	211	PHE	CE1-CZ	5.91	1.48	1.37
1	f	219	ARG	CZ-NH2	5.90	1.40	1.33
3	K	364	ARG	CZ-NH2	5.90	1.40	1.33
1	E	180	ARG	NE-CZ	5.89	1.40	1.33
3	H	317	ARG	CZ-NH2	5.89	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	f	72	GLU	CB-CG	5.88	1.63	1.52
2	5	170	ARG	CD-NE	5.88	1.56	1.46
3	I	105	ARG	NE-CZ	5.88	1.40	1.33
1	e	10	ARG	CZ-NH1	5.88	1.40	1.33
2	j	16	GLY	CA-C	-5.88	1.42	1.51
2	m	30	ARG	NE-CZ	5.87	1.40	1.33
2	1	77	TYR	CE2-CZ	5.87	1.46	1.38
2	3	182	SER	CA-CB	5.87	1.61	1.52
3	L	59	ARG	NE-CZ	5.87	1.40	1.33
3	I	370	VAL	CA-CB	-5.87	1.42	1.54
1	f	26	TYR	CZ-OH	5.86	1.47	1.37
1	E	159	TYR	CB-CG	-5.86	1.42	1.51
3	K	259	ARG	CZ-NH2	5.86	1.40	1.33
2	2	81	ARG	CZ-NH2	5.86	1.40	1.33
3	I	221	ARG	CZ-NH2	5.86	1.40	1.33
3	J	154	ARG	NE-CZ	5.85	1.40	1.33
1	E	173	GLU	CD-OE1	-5.85	1.19	1.25
3	K	57	ARG	NE-CZ	5.84	1.40	1.33
1	C	239	ARG	NE-CZ	5.84	1.40	1.33
1	G	203	GLU	CD-OE2	-5.83	1.19	1.25
2	6	148	TYR	CB-CG	-5.82	1.43	1.51
2	m	103	TYR	CG-CD2	5.82	1.46	1.39
2	m	22	GLY	N-CA	-5.82	1.37	1.46
2	n	212	ARG	CZ-NH1	5.82	1.40	1.33
2	3	123	TYR	CG-CD2	5.81	1.46	1.39
2	k	133	GLU	CG-CD	5.81	1.60	1.51
2	7	142	SER	CB-OG	-5.80	1.34	1.42
1	E	126	TYR	CA-CB	5.78	1.66	1.53
3	H	46	ARG	CZ-NH2	5.78	1.40	1.33
3	L	28	ARG	CZ-NH2	5.78	1.40	1.33
3	M	215	TYR	CG-CD1	5.78	1.46	1.39
3	K	128	TYR	CZ-OH	5.78	1.47	1.37
3	I	263	ARG	CZ-NH2	5.77	1.40	1.33
3	J	46	ARG	CZ-NH1	5.76	1.40	1.33
1	f	159	TYR	CE2-CZ	5.75	1.46	1.38
1	E	132	PHE	C-N	5.75	1.43	1.33
1	B	144	VAL	C-N	5.75	1.45	1.34
1	A	219	ARG	CD-NE	5.75	1.56	1.46
1	F	235	ARG	NE-CZ	5.75	1.40	1.33
2	7	212	ARG	CD-NE	5.75	1.56	1.46
2	4	24	VAL	CA-CB	-5.74	1.42	1.54
2	4	102	ARG	CZ-NH2	5.74	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	g	56	SER	CA-CB	5.74	1.61	1.52
1	B	235	ARG	CZ-NH1	5.73	1.40	1.33
1	G	68	TYR	CD1-CE1	5.73	1.48	1.39
3	I	50	ARG	CD-NE	5.73	1.56	1.46
1	b	202	SER	CA-CB	5.73	1.61	1.52
1	b	103	TYR	CZ-OH	5.72	1.47	1.37
1	d	219	ARG	CZ-NH2	5.71	1.40	1.33
3	J	28	ARG	NE-CZ	5.70	1.40	1.33
1	a	219	ARG	CZ-NH2	5.70	1.40	1.33
3	H	76	ARG	NE-CZ	5.70	1.40	1.33
1	F	103	TYR	CE2-CZ	5.69	1.46	1.38
1	a	213	TYR	CZ-OH	5.69	1.47	1.37
2	n	88	ARG	CZ-NH2	5.69	1.40	1.33
3	J	122	SER	CA-CB	5.69	1.61	1.52
2	h	51	ARG	NE-CZ	5.69	1.40	1.33
3	M	53	SER	CA-CB	5.69	1.61	1.52
3	J	131	GLU	CG-CD	5.69	1.60	1.51
2	2	24	VAL	CB-CG2	5.69	1.64	1.52
2	3	51	ARG	CZ-NH2	5.69	1.40	1.33
1	c	123	TYR	CE2-CZ	5.69	1.46	1.38
3	M	364	ARG	NE-CZ	5.69	1.40	1.33
3	M	28	ARG	NE-CZ	5.68	1.40	1.33
2	k	154	ARG	NE-CZ	5.68	1.40	1.33
3	I	317	ARG	NE-CZ	5.68	1.40	1.33
1	F	238	GLU	CG-CD	5.68	1.60	1.51
3	H	364	ARG	CZ-NH2	5.68	1.40	1.33
2	k	51	ARG	CZ-NH1	5.67	1.40	1.33
2	i	68	ARG	CD-NE	5.67	1.56	1.46
1	A	15	PHE	CG-CD1	5.66	1.47	1.38
1	b	93	ARG	CZ-NH1	5.66	1.40	1.33
2	3	173	TYR	CD1-CE1	5.66	1.47	1.39
2	l	82	GLU	CG-CD	5.66	1.60	1.51
1	g	119	PHE	CE1-CZ	5.65	1.48	1.37
3	J	49	ARG	CZ-NH1	5.65	1.40	1.33
2	1	68	ARG	CD-NE	5.64	1.56	1.46
1	d	19	GLY	N-CA	-5.64	1.37	1.46
3	H	302	ARG	NE-CZ	5.64	1.40	1.33
2	n	168	ALA	CA-CB	5.64	1.64	1.52
3	K	174	PRO	N-CD	-5.64	1.40	1.47
2	6	83	ARG	CZ-NH1	5.63	1.40	1.33
1	B	130	ARG	CZ-NH1	5.63	1.40	1.33
1	f	119	PHE	CE1-CZ	5.63	1.48	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	i	178	ARG	CZ-NH2	5.63	1.40	1.33
2	4	170	ARG	NE-CZ	5.63	1.40	1.33
2	6	88	ARG	NE-CZ	5.62	1.40	1.33
1	C	225	SER	CA-CB	5.62	1.61	1.52
3	H	332	GLU	CD-OE2	5.62	1.31	1.25
3	K	105	ARG	CZ-NH2	5.62	1.40	1.33
2	n	173	TYR	CZ-OH	5.62	1.47	1.37
1	a	91	ARG	CD-NE	5.61	1.55	1.46
2	1	106	TYR	CD1-CE1	5.61	1.47	1.39
1	A	219	ARG	CZ-NH1	5.61	1.40	1.33
1	G	149	GLU	CG-CD	5.61	1.60	1.51
3	K	341	ARG	CZ-NH2	5.61	1.40	1.33
1	a	203	GLU	CD-OE2	5.60	1.31	1.25
1	F	20	ARG	CZ-NH1	5.60	1.40	1.33
3	M	66	GLY	CA-C	-5.59	1.42	1.51
1	D	56	SER	CB-OG	5.59	1.49	1.42
1	E	93	ARG	NE-CZ	5.59	1.40	1.33
1	F	28	ARG	CZ-NH2	5.59	1.40	1.33
1	c	180	ARG	CD-NE	5.58	1.55	1.46
2	4	149	GLY	N-CA	-5.58	1.37	1.46
1	c	10	ARG	CD-NE	5.58	1.55	1.46
1	e	53	ARG	NE-CZ	5.58	1.40	1.33
2	2	165	VAL	CB-CG1	5.58	1.64	1.52
3	I	364	ARG	CD-NE	5.58	1.55	1.46
3	I	81	SER	CB-OG	-5.57	1.35	1.42
1	G	239	ARG	CD-NE	5.57	1.55	1.46
3	K	20	TYR	CG-CD1	5.57	1.46	1.39
1	a	44	GLU	C-N	5.56	1.43	1.33
2	4	69	ILE	N-CA	-5.55	1.35	1.46
3	K	25	GLU	CG-CD	5.55	1.60	1.51
1	D	239	ARG	NE-CZ	5.55	1.40	1.33
1	a	145	PRO	CA-C	-5.54	1.41	1.52
3	J	105	ARG	NE-CZ	5.54	1.40	1.33
3	J	134	GLU	CG-CD	5.54	1.60	1.51
1	D	196	MET	C-N	5.54	1.43	1.33
3	H	41	ARG	CD-NE	5.54	1.55	1.46
3	M	29	ARG	N-CA	-5.54	1.35	1.46
3	I	317	ARG	CZ-NH1	5.54	1.40	1.33
1	c	15	PHE	CG-CD1	5.53	1.47	1.38
3	M	105	ARG	NE-CZ	5.53	1.40	1.33
1	f	219	ARG	CD-NE	5.53	1.55	1.46
1	C	86	ARG	CD-NE	5.52	1.55	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	2	173	TYR	CB-CG	5.52	1.59	1.51
2	1	81	ARG	CZ-NH2	5.52	1.40	1.33
2	7	80	ARG	N-CA	-5.52	1.35	1.46
2	k	39	SER	CA-CB	5.51	1.61	1.52
2	5	203	GLU	CG-CD	5.51	1.60	1.51
1	f	130	ARG	NE-CZ	5.51	1.40	1.33
2	5	102	ARG	CZ-NH2	5.51	1.40	1.33
1	D	147	LEU	N-CA	-5.51	1.35	1.46
2	6	154	ARG	NE-CZ	5.51	1.40	1.33
2	l	173	TYR	CG-CD2	5.50	1.46	1.39
2	i	51	ARG	CD-NE	5.50	1.55	1.46
2	4	77	TYR	CG-CD2	5.50	1.46	1.39
2	n	134	GLU	CD-OE2	5.50	1.31	1.25
1	g	168	ARG	CZ-NH1	5.49	1.40	1.33
2	5	106	TYR	CB-CG	-5.48	1.43	1.51
1	F	213	TYR	CG-CD1	5.48	1.46	1.39
2	6	102	ARG	CZ-NH1	5.47	1.40	1.33
3	L	299	ARG	CD-NE	5.46	1.55	1.46
3	K	66	GLY	CA-C	-5.46	1.43	1.51
1	C	80	GLY	CA-C	-5.46	1.43	1.51
2	l	154	ARG	NE-CZ	5.46	1.40	1.33
2	j	30	ARG	CZ-NH2	5.46	1.40	1.33
1	E	187	ASP	N-CA	-5.46	1.35	1.46
2	k	199	TYR	CE2-CZ	5.46	1.45	1.38
3	H	397	PHE	CE1-CZ	5.45	1.47	1.37
1	c	241	ARG	CZ-NH2	5.45	1.40	1.33
2	h	152	GLU	CD-OE2	5.45	1.31	1.25
2	5	33	MET	C-N	5.44	1.42	1.33
1	E	228	GLU	CG-CD	5.44	1.60	1.51
2	h	154	ARG	CZ-NH1	5.44	1.40	1.33
1	f	154	GLY	N-CA	-5.44	1.37	1.46
3	H	28	ARG	NE-CZ	5.44	1.40	1.33
3	J	317	ARG	CZ-NH2	5.44	1.40	1.33
1	A	168	ARG	NE-CZ	5.43	1.40	1.33
3	L	94	TYR	CG-CD2	5.43	1.46	1.39
2	n	182	SER	CA-CB	5.43	1.61	1.52
3	L	289	ARG	NE-CZ	5.43	1.40	1.33
1	d	72	GLU	CD-OE2	5.43	1.31	1.25
2	i	106	TYR	CZ-OH	5.43	1.47	1.37
3	H	29	ARG	NE-CZ	5.43	1.40	1.33
1	D	8	TYR	CE2-CZ	5.42	1.45	1.38
2	7	81	ARG	NE-CZ	5.42	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	M	205	ARG	CZ-NH1	5.42	1.40	1.33
1	F	143	GLU	CB-CG	5.42	1.62	1.52
3	H	259	ARG	CZ-NH1	5.42	1.40	1.33
1	F	232	TYR	CE1-CZ	5.41	1.45	1.38
2	l	162	ASP	CA-CB	5.41	1.65	1.53
1	b	241	ARG	CD-NE	5.41	1.55	1.46
1	g	100	ARG	CZ-NH2	5.40	1.40	1.33
1	e	238	GLU	CA-C	-5.40	1.39	1.52
2	5	106	TYR	CG-CD1	5.40	1.46	1.39
1	G	213	TYR	CD1-CE1	5.40	1.47	1.39
1	D	10	ARG	CZ-NH2	5.39	1.40	1.33
1	g	210	GLU	CD-OE2	5.39	1.31	1.25
2	7	170	ARG	CZ-NH2	5.39	1.40	1.33
2	2	148	TYR	CD2-CE2	5.39	1.47	1.39
3	L	171	GLY	CA-C	-5.39	1.43	1.51
1	F	165	GLY	CA-C	-5.39	1.43	1.51
1	a	132	PHE	CE1-CZ	5.39	1.47	1.37
1	f	179	TYR	CE2-CZ	5.38	1.45	1.38
1	C	180	ARG	NE-CZ	5.38	1.40	1.33
2	n	180	SER	CB-OG	5.38	1.49	1.42
1	a	93	ARG	NE-CZ	5.38	1.40	1.33
1	a	60	GLU	CB-CG	5.38	1.62	1.52
1	f	10	ARG	NE-CZ	5.38	1.40	1.33
3	L	357	GLU	CB-CG	5.38	1.62	1.52
2	h	103	TYR	CE2-CZ	5.37	1.45	1.38
2	4	143	GLY	CA-C	-5.37	1.43	1.51
1	G	119	PHE	CB-CG	5.37	1.60	1.51
1	F	234	GLU	CD-OE1	5.37	1.31	1.25
2	h	83	ARG	CZ-NH1	5.37	1.40	1.33
2	k	197	TYR	CG-CD2	5.37	1.46	1.39
1	E	28	ARG	NE-CZ	5.37	1.40	1.33
2	k	212	ARG	NE-CZ	5.37	1.40	1.33
2	k	154	ARG	CD-NE	5.36	1.55	1.46
3	K	73	GLU	CB-CG	5.36	1.62	1.52
2	m	88	ARG	CZ-NH1	5.36	1.40	1.33
3	I	76	ARG	CZ-NH1	5.36	1.40	1.33
2	j	28	GLU	CD-OE1	5.36	1.31	1.25
1	C	33	ARG	CD-NE	5.35	1.55	1.46
2	4	162	ASP	CA-CB	5.35	1.65	1.53
1	D	28	ARG	CZ-NH2	5.35	1.40	1.33
3	M	299	ARG	NE-CZ	5.34	1.40	1.33
1	a	219	ARG	CZ-NH1	5.34	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	M	76	ARG	CZ-NH1	5.34	1.40	1.33
3	K	50	ARG	CD-NE	5.34	1.55	1.46
3	I	43	ARG	NE-CZ	5.34	1.40	1.33
1	D	119	PHE	CG-CD2	5.33	1.46	1.38
1	D	141	VAL	CB-CG1	5.33	1.64	1.52
2	4	83	ARG	CZ-NH1	5.33	1.40	1.33
3	M	339	LEU	CA-CB	5.33	1.66	1.53
3	H	235	PRO	N-CD	-5.32	1.40	1.47
1	A	234	GLU	CB-CG	5.32	1.62	1.52
2	h	102	ARG	NE-CZ	5.32	1.40	1.33
1	F	91	ARG	CZ-NH2	5.31	1.40	1.33
3	M	253	SER	CA-CB	5.31	1.60	1.52
3	J	259	ARG	NE-CZ	5.31	1.40	1.33
1	E	72	GLU	CD-OE1	5.31	1.31	1.25
1	F	168	ARG	CZ-NH2	5.31	1.40	1.33
2	1	95	SER	CA-CB	5.31	1.60	1.52
2	l	140	THR	C-N	5.31	1.42	1.33
1	F	28	ARG	CD-NE	5.31	1.55	1.46
3	J	24	ARG	NE-CZ	5.30	1.40	1.33
1	g	68	TYR	CB-CG	5.30	1.59	1.51
1	G	165	GLY	CA-C	-5.29	1.43	1.51
1	F	213	TYR	CE2-CZ	5.29	1.45	1.38
1	f	123	TYR	CE2-CZ	5.29	1.45	1.38
1	f	176	GLU	CG-CD	5.29	1.59	1.51
2	j	80	ARG	NE-CZ	5.29	1.40	1.33
3	H	52	ARG	CZ-NH1	5.29	1.40	1.33
1	b	34	GLY	CA-C	-5.29	1.43	1.51
1	C	53	ARG	CZ-NH1	5.29	1.40	1.33
2	4	195	GLU	N-CA	-5.29	1.35	1.46
1	f	153	SER	CA-CB	5.29	1.60	1.52
1	G	37	ALA	CA-CB	5.28	1.63	1.52
2	k	104	PHE	CE1-CZ	5.28	1.47	1.37
1	C	133	GLY	CA-C	-5.28	1.43	1.51
1	G	239	ARG	CZ-NH2	5.28	1.40	1.33
2	4	80	ARG	CZ-NH2	5.27	1.40	1.33
1	f	235	ARG	NE-CZ	5.27	1.40	1.33
2	6	80	ARG	CZ-NH1	5.27	1.39	1.33
2	m	199	TYR	CE2-CZ	5.27	1.45	1.38
1	f	158	GLU	CD-OE2	5.26	1.31	1.25
1	c	141	VAL	CB-CG2	5.26	1.63	1.52
2	h	177	LYS	CB-CG	5.26	1.66	1.52
2	j	212	ARG	CZ-NH2	5.26	1.39	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	m	163	GLU	CA-C	-5.25	1.39	1.52
2	7	170	ARG	CD-NE	5.25	1.55	1.46
1	E	232	TYR	CE2-CZ	5.25	1.45	1.38
1	f	207	GLU	CD-OE1	5.25	1.31	1.25
2	3	81	ARG	NE-CZ	5.25	1.39	1.33
3	L	27	TYR	CG-CD1	5.25	1.46	1.39
1	a	199	SER	CA-CB	5.25	1.60	1.52
2	h	148	TYR	CD2-CE2	5.25	1.47	1.39
3	L	259	ARG	CZ-NH1	5.25	1.39	1.33
3	I	366	GLU	CD-OE2	5.25	1.31	1.25
3	L	249	ARG	NE-CZ	5.24	1.39	1.33
1	F	224	VAL	CA-CB	-5.24	1.43	1.54
3	M	305	ARG	CD-NE	5.24	1.55	1.46
3	K	357	GLU	CD-OE2	5.23	1.31	1.25
1	D	159	TYR	CD1-CE1	5.23	1.47	1.39
1	E	179	TYR	CE2-CZ	5.23	1.45	1.38
3	L	341	ARG	CD-NE	5.23	1.55	1.46
1	c	123	TYR	CG-CD2	5.22	1.46	1.39
2	6	155	PHE	CG-CD2	5.22	1.46	1.38
2	2	211	PHE	CG-CD1	5.22	1.46	1.38
2	7	95	SER	CA-CB	-5.22	1.45	1.52
3	J	182	GLY	C-N	-5.22	1.24	1.34
1	f	18	ASP	CB-CG	5.21	1.62	1.51
3	L	18	GLU	CD-OE1	-5.21	1.20	1.25
3	J	59	ARG	CZ-NH2	5.21	1.39	1.33
3	L	355	CYS	N-CA	-5.21	1.35	1.46
2	j	82	GLU	CD-OE1	5.21	1.31	1.25
1	c	95	GLU	CD-OE2	5.21	1.31	1.25
2	i	81	ARG	NE-CZ	5.21	1.39	1.33
1	C	226	PRO	N-CD	-5.20	1.40	1.47
1	d	159	TYR	CG-CD1	5.20	1.46	1.39
2	6	81	ARG	CZ-NH2	5.20	1.39	1.33
3	J	97	GLU	CB-CG	5.20	1.62	1.52
2	l	83	ARG	NE-CZ	5.20	1.39	1.33
1	a	100	ARG	CD-NE	5.19	1.55	1.46
3	H	52	ARG	CD-NE	5.19	1.55	1.46
1	a	179	TYR	CG-CD1	5.19	1.45	1.39
3	H	274	GLY	N-CA	-5.18	1.38	1.46
1	A	39	GLY	CA-C	5.18	1.60	1.51
1	f	234	GLU	CD-OE2	5.18	1.31	1.25
2	l	197	TYR	CE1-CZ	5.18	1.45	1.38
2	n	136	ASP	CA-CB	5.17	1.65	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	28	ARG	CZ-NH1	5.17	1.39	1.33
2	7	102	ARG	CD-NE	5.17	1.55	1.46
2	j	54	MET	C-N	5.16	1.46	1.34
2	5	77	TYR	CG-CD1	5.16	1.45	1.39
1	b	12	ILE	CA-CB	-5.16	1.43	1.54
1	c	100	ARG	NE-CZ	5.16	1.39	1.33
2	i	30	ARG	NE-CZ	5.16	1.39	1.33
3	H	81	SER	CA-CB	5.16	1.60	1.52
3	I	36	PHE	CG-CD1	5.16	1.46	1.38
3	K	137	GLU	CA-CB	5.16	1.65	1.53
1	C	19	GLY	CA-C	-5.15	1.43	1.51
2	h	197	TYR	CZ-OH	5.15	1.46	1.37
2	j	30	ARG	CZ-NH1	5.15	1.39	1.33
2	l	212	ARG	CZ-NH2	5.15	1.39	1.33
2	m	51	ARG	CD-NE	5.15	1.55	1.46
2	7	155	PHE	CG-CD1	5.15	1.46	1.38
3	H	128	TYR	CE1-CZ	5.15	1.45	1.38
1	E	228	GLU	CB-CG	5.15	1.61	1.52
1	e	68	TYR	CG-CD1	5.14	1.45	1.39
3	M	135	LYS	CB-CG	5.14	1.66	1.52
3	I	259	ARG	NE-CZ	5.14	1.39	1.33
1	A	91	ARG	NE-CZ	5.14	1.39	1.33
1	E	65	GLU	CG-CD	5.14	1.59	1.51
3	H	50	ARG	NE-CZ	5.13	1.39	1.33
1	b	103	TYR	CG-CD1	-5.13	1.32	1.39
3	L	50	ARG	CA-CB	5.13	1.65	1.53
1	b	119	PHE	CE1-CZ	5.13	1.47	1.37
1	f	87	VAL	CA-CB	-5.13	1.44	1.54
3	H	331	ALA	N-CA	-5.13	1.36	1.46
1	F	179	TYR	CZ-OH	5.12	1.46	1.37
2	h	133	GLU	CD-OE2	5.12	1.31	1.25
2	i	101	TYR	CZ-OH	5.12	1.46	1.37
1	G	86	ARG	CZ-NH1	5.12	1.39	1.33
1	B	53	ARG	CZ-NH1	5.12	1.39	1.33
2	4	46	TYR	CE2-CZ	5.12	1.45	1.38
1	C	56	SER	CA-CB	5.12	1.60	1.52
1	f	235	ARG	CZ-NH2	5.12	1.39	1.33
3	I	208	GLY	CA-C	-5.12	1.43	1.51
1	c	167	GLY	N-CA	-5.11	1.38	1.46
1	g	10	ARG	CD-NE	5.11	1.55	1.46
2	5	101	TYR	CZ-OH	5.11	1.46	1.37
3	K	364	ARG	NE-CZ	5.11	1.39	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	g	232	TYR	CE2-CZ	5.11	1.45	1.38
1	b	224	VAL	CA-CB	-5.11	1.44	1.54
3	H	105	ARG	NE-CZ	5.11	1.39	1.33
1	F	33	ARG	CZ-NH1	5.10	1.39	1.33
2	l	197	TYR	CZ-OH	5.10	1.46	1.37
2	5	154	ARG	CZ-NH2	5.10	1.39	1.33
3	L	154	ARG	CZ-NH1	5.10	1.39	1.33
1	G	23	GLN	CD-NE2	5.10	1.45	1.32
1	E	241	ARG	NE-CZ	5.09	1.39	1.33
1	F	206	PRO	N-CD	-5.09	1.40	1.47
1	G	33	ARG	CZ-NH2	5.09	1.39	1.33
1	G	134	VAL	N-CA	-5.09	1.36	1.46
1	C	232	TYR	CE2-CZ	5.09	1.45	1.38
1	E	169	ASN	CA-CB	5.09	1.66	1.53
2	j	88	ARG	NE-CZ	5.09	1.39	1.33
2	6	199	TYR	CG-CD1	5.09	1.45	1.39
2	7	88	ARG	NE-CZ	5.09	1.39	1.33
2	7	152	GLU	CD-OE1	5.09	1.31	1.25
3	L	305	ARG	CD-NE	5.09	1.55	1.46
1	A	33	ARG	NE-CZ	5.09	1.39	1.33
1	G	26	TYR	CE1-CZ	5.09	1.45	1.38
1	c	28	ARG	CZ-NH1	5.08	1.39	1.33
1	B	28	ARG	NE-CZ	5.08	1.39	1.33
1	B	100	ARG	CZ-NH1	5.08	1.39	1.33
2	5	118	GLU	CD-OE2	5.08	1.31	1.25
2	l	51	ARG	NE-CZ	5.08	1.39	1.33
3	I	85	PRO	CA-C	-5.08	1.42	1.52
3	J	326	ARG	NE-CZ	5.08	1.39	1.33
2	h	149	GLY	N-CA	-5.08	1.38	1.46
3	H	367	ARG	N-CA	-5.07	1.36	1.46
3	L	200	ARG	CZ-NH2	5.07	1.39	1.33
3	I	249	ARG	CZ-NH1	5.07	1.39	1.33
3	I	364	ARG	CZ-NH2	5.07	1.39	1.33
3	M	49	ARG	NE-CZ	5.07	1.39	1.33
1	a	91	ARG	CZ-NH1	5.07	1.39	1.33
2	i	123	TYR	CB-CG	-5.06	1.44	1.51
1	d	219	ARG	CD-NE	5.06	1.55	1.46
3	L	267	GLN	CG-CD	5.06	1.62	1.51
1	D	171	VAL	CA-CB	-5.05	1.44	1.54
2	5	154	ARG	NE-CZ	5.05	1.39	1.33
2	n	61	GLY	CA-C	-5.05	1.43	1.51
3	M	218	GLU	CG-CD	5.05	1.59	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	L	46	ARG	NE-CZ	5.05	1.39	1.33
3	K	49	ARG	CZ-NH1	5.04	1.39	1.33
2	4	211	PHE	CG-CD1	5.04	1.46	1.38
3	K	76	ARG	NE-CZ	5.04	1.39	1.33
1	D	197	GLY	N-CA	-5.04	1.38	1.46
2	4	163	GLU	CG-CD	5.04	1.59	1.51
1	b	53	ARG	CZ-NH1	5.04	1.39	1.33
1	b	10	ARG	CD-NE	5.04	1.55	1.46
1	c	15	PHE	CG-CD2	5.04	1.46	1.38
1	F	221	PHE	CG-CD1	5.04	1.46	1.38
3	L	184	PRO	N-CD	5.03	1.54	1.47
1	c	130	ARG	CZ-NH2	5.03	1.39	1.33
1	A	100	ARG	NE-CZ	5.03	1.39	1.33
2	4	82	GLU	CD-OE2	-5.03	1.20	1.25
1	F	8	TYR	CG-CD2	5.03	1.45	1.39
2	i	121	SER	CA-CB	5.03	1.60	1.52
1	c	175	PHE	CE1-CZ	5.03	1.47	1.37
3	M	224	ARG	CZ-NH1	5.03	1.39	1.33
3	M	71	ILE	CA-C	-5.02	1.39	1.52
3	K	263	ARG	CZ-NH2	5.02	1.39	1.33
3	M	24	ARG	NE-CZ	5.02	1.39	1.33
1	G	168	ARG	NE-CZ	5.02	1.39	1.33
1	g	145	PRO	N-CA	-5.02	1.38	1.47
1	a	35	ALA	CA-CB	5.02	1.62	1.52
1	g	217	ASP	CB-CG	5.02	1.62	1.51
3	I	367	ARG	CD-NE	5.02	1.54	1.46
1	B	235	ARG	NE-CZ	5.01	1.39	1.33
3	L	27	TYR	CA-CB	5.01	1.65	1.53
1	a	140	GLY	CA-C	-5.01	1.43	1.51
3	K	219	GLY	N-CA	-5.01	1.38	1.46
3	L	57	ARG	CD-NE	5.01	1.54	1.46
1	A	44	GLU	CD-OE1	5.01	1.31	1.25
1	E	10	ARG	CZ-NH1	5.01	1.39	1.33
1	f	95	GLU	CG-CD	5.01	1.59	1.51
2	l	36	PHE	CE1-CZ	5.01	1.46	1.37

All (1761) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	5	170	ARG	NE-CZ-NH2	-42.05	99.28	120.30
2	l	170	ARG	NE-CZ-NH2	-40.89	99.85	120.30
2	l	170	ARG	NE-CZ-NH1	19.31	129.96	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	I	215	TYR	CB-CG-CD1	-19.29	109.43	121.00
2	5	170	ARG	NE-CZ-NH1	18.38	129.49	120.30
2	7	178	ARG	NE-CZ-NH2	-18.35	111.12	120.30
1	F	8	TYR	CB-CG-CD1	-17.46	110.53	121.00
3	K	28	ARG	NE-CZ-NH1	16.99	128.79	120.30
1	E	123	TYR	CB-CG-CD2	-16.92	110.85	121.00
1	D	132	PHE	CB-CG-CD2	16.68	132.48	120.80
2	k	80	ARG	NE-CZ-NH1	-16.67	111.97	120.30
2	1	77	TYR	CB-CG-CD1	16.25	130.75	121.00
1	D	26	TYR	CB-CG-CD1	-16.00	111.40	121.00
1	b	26	TYR	CB-CG-CD1	15.78	130.47	121.00
3	I	215	TYR	CB-CG-CD2	15.54	130.32	121.00
1	D	26	TYR	CB-CG-CD2	15.54	130.32	121.00
1	B	241	ARG	NE-CZ-NH1	-15.40	112.60	120.30
2	4	197	TYR	CB-CG-CD2	-15.15	111.91	121.00
3	I	57	ARG	NE-CZ-NH1	15.15	127.87	120.30
1	b	20	ARG	NE-CZ-NH2	-14.99	112.81	120.30
2	h	30	ARG	NE-CZ-NH2	14.81	127.70	120.30
3	L	302	ARG	NE-CZ-NH1	14.80	127.70	120.30
1	g	33	ARG	NE-CZ-NH2	14.74	127.67	120.30
1	e	33	ARG	NE-CZ-NH1	-14.57	113.02	120.30
2	h	103	TYR	CB-CG-CD1	14.53	129.72	121.00
1	E	232	TYR	CB-CG-CD2	-14.51	112.29	121.00
1	G	93	ARG	NE-CZ-NH1	14.29	127.44	120.30
1	G	93	ARG	NE-CZ-NH2	-14.28	113.16	120.30
2	3	102	ARG	NE-CZ-NH2	14.24	127.42	120.30
3	M	105	ARG	NE-CZ-NH2	-14.19	113.21	120.30
2	m	184	ASP	CB-CG-OD1	-14.15	105.57	118.30
2	1	51	ARG	NE-CZ-NH1	-13.96	113.32	120.30
2	i	103	TYR	CB-CG-CD2	13.81	129.28	121.00
3	M	249	ARG	NE-CZ-NH2	-13.80	113.40	120.30
1	F	26	TYR	CB-CG-CD1	-13.72	112.77	121.00
2	3	211	PHE	CB-CG-CD1	-13.60	111.28	120.80
2	7	101	TYR	CB-CG-CD1	-13.56	112.86	121.00
1	F	241	ARG	NE-CZ-NH1	-13.48	113.56	120.30
3	I	140	TYR	CB-CG-CD2	-13.46	112.92	121.00
2	l	196	PHE	CB-CG-CD2	-13.45	111.39	120.80
3	M	302	ARG	NE-CZ-NH1	13.44	127.02	120.30
1	C	33	ARG	NE-CZ-NH1	13.34	126.97	120.30
3	L	249	ARG	NE-CZ-NH1	13.27	126.94	120.30
3	J	375	PHE	CB-CG-CD2	13.26	130.08	120.80
1	B	93	ARG	NE-CZ-NH2	-13.15	113.72	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	4	211	PHE	CB-CG-CD1	-13.13	111.61	120.80
1	E	20	ARG	NE-CZ-NH2	-13.07	113.77	120.30
1	E	132	PHE	CB-CG-CD1	13.04	129.93	120.80
3	I	27	TYR	CB-CG-CD1	-12.94	113.23	121.00
2	i	103	TYR	CB-CG-CD1	-12.81	113.31	121.00
1	e	26	TYR	CB-CG-CD1	12.80	128.68	121.00
1	b	26	TYR	CB-CG-CD2	-12.78	113.33	121.00
1	a	26	TYR	CB-CG-CD2	-12.76	113.34	121.00
3	K	28	ARG	NE-CZ-NH2	-12.68	113.96	120.30
1	C	26	TYR	CB-CG-CD1	-12.67	113.40	121.00
1	C	219	ARG	NE-CZ-NH1	12.66	126.63	120.30
2	k	88	ARG	NE-CZ-NH1	-12.65	113.98	120.30
3	K	336	PHE	CB-CG-CD2	-12.62	111.97	120.80
3	I	20	TYR	CB-CG-CD2	-12.61	113.43	121.00
3	K	259	ARG	NE-CZ-NH1	12.61	126.60	120.30
1	b	180	ARG	NE-CZ-NH2	-12.54	114.03	120.30
3	M	140	TYR	CB-CG-CD2	-12.51	113.50	121.00
1	F	8	TYR	CB-CG-CD2	12.47	128.48	121.00
3	K	21	TYR	CB-CG-CD1	12.45	128.47	121.00
3	I	27	TYR	CB-CG-CD2	12.45	128.47	121.00
2	l	212	ARG	NE-CZ-NH1	12.41	126.51	120.30
2	i	81	ARG	NE-CZ-NH2	-12.34	114.13	120.30
1	D	213	TYR	CB-CG-CD2	-12.30	113.62	121.00
2	7	68	ARG	NE-CZ-NH1	12.12	126.36	120.30
2	4	68	ARG	NE-CZ-NH1	12.12	126.36	120.30
1	f	20	ARG	NE-CZ-NH2	-12.09	114.25	120.30
3	I	46	ARG	NE-CZ-NH2	-12.08	114.26	120.30
3	J	289	ARG	NE-CZ-NH1	12.07	126.34	120.30
1	b	119	PHE	CB-CG-CD2	-12.05	112.37	120.80
3	J	200	ARG	NE-CZ-NH2	-11.97	114.31	120.30
2	l	196	PHE	CB-CG-CD1	11.97	129.18	120.80
2	5	68	ARG	NE-CZ-NH1	11.96	126.28	120.30
3	M	250	ARG	NE-CZ-NH1	11.91	126.26	120.30
2	5	68	ARG	NE-CZ-NH2	-11.88	114.36	120.30
2	5	153	ASP	CB-CG-OD2	-11.88	107.61	118.30
1	b	119	PHE	CB-CG-CD1	11.86	129.10	120.80
2	l	154	ARG	NE-CZ-NH1	-11.85	114.37	120.30
2	7	51	ARG	NE-CZ-NH1	11.84	126.22	120.30
1	f	33	ARG	NE-CZ-NH1	-11.82	114.39	120.30
3	M	224	ARG	NE-CZ-NH2	-11.82	114.39	120.30
2	3	68	ARG	NE-CZ-NH2	-11.74	114.43	120.30
1	C	123	TYR	CB-CG-CD2	-11.73	113.96	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	J	375	PHE	CB-CG-CD1	-11.73	112.59	120.80
1	e	174	PHE	CB-CG-CD2	-11.70	112.61	120.80
3	M	44	TYR	CB-CG-CD2	-11.70	113.98	121.00
1	A	185	PHE	CB-CG-CD1	11.68	128.98	120.80
1	E	132	PHE	CB-CG-CD2	-11.67	112.63	120.80
1	a	130	ARG	NE-CZ-NH2	-11.67	114.47	120.30
1	C	123	TYR	CB-CG-CD1	11.66	127.99	121.00
3	L	215	TYR	CB-CG-CD2	-11.62	114.03	121.00
3	L	205	ARG	NE-CZ-NH1	-11.58	114.51	120.30
3	I	140	TYR	CB-CG-CD1	11.58	127.95	121.00
3	J	302	ARG	NE-CZ-NH1	11.57	126.08	120.30
1	b	239	ARG	NE-CZ-NH2	11.56	126.08	120.30
1	A	22	PHE	CB-CG-CD1	11.52	128.87	120.80
3	L	249	ARG	NE-CZ-NH2	-11.49	114.56	120.30
2	k	51	ARG	NE-CZ-NH1	-11.45	114.57	120.30
1	c	28	ARG	NE-CZ-NH1	11.37	125.98	120.30
1	c	20	ARG	NE-CZ-NH1	11.34	125.97	120.30
1	e	22	PHE	CB-CG-CD1	11.32	128.72	120.80
3	H	181	TYR	CB-CG-CD2	11.27	127.76	121.00
1	b	123	TYR	CB-CG-CD2	-11.26	114.25	121.00
1	g	159	TYR	CB-CG-CD1	-11.25	114.25	121.00
3	K	20	TYR	CB-CG-CD1	11.24	127.74	121.00
2	k	51	ARG	NE-CZ-NH2	11.23	125.92	120.30
1	g	232	TYR	CB-CG-CD1	-11.22	114.27	121.00
1	c	148	TYR	CB-CG-CD2	11.18	127.71	121.00
1	d	93	ARG	NE-CZ-NH1	11.17	125.88	120.30
3	M	140	TYR	CB-CG-CD1	11.11	127.67	121.00
1	G	10	ARG	NE-CZ-NH2	-11.07	114.77	120.30
1	D	239	ARG	NE-CZ-NH2	-11.04	114.78	120.30
1	b	20	ARG	NE-CZ-NH1	11.02	125.81	120.30
2	j	155	PHE	CB-CG-CD1	-10.96	113.13	120.80
3	K	105	ARG	NE-CZ-NH2	-10.96	114.82	120.30
3	M	44	TYR	CB-CG-CD1	10.96	127.58	121.00
2	5	173	TYR	CB-CG-CD2	-10.96	114.42	121.00
1	f	159	TYR	CB-CG-CD2	-10.93	114.44	121.00
1	g	22	PHE	CB-CG-CD2	-10.92	113.16	120.80
1	A	175	PHE	CB-CG-CD2	-10.91	113.16	120.80
2	j	212	ARG	NE-CZ-NH2	-10.88	114.86	120.30
3	K	364	ARG	NE-CZ-NH2	-10.87	114.86	120.30
1	e	86	ARG	NE-CZ-NH1	-10.87	114.87	120.30
1	G	91	ARG	NE-CZ-NH2	10.87	125.73	120.30
3	J	167	PHE	CB-CG-CD1	10.86	128.40	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	i	81	ARG	NE-CZ-NH1	10.83	125.72	120.30
3	L	221	ARG	NE-CZ-NH2	-10.82	114.89	120.30
2	n	211	PHE	CB-CG-CD2	-10.81	113.23	120.80
1	g	126	TYR	CB-CG-CD1	-10.77	114.54	121.00
1	e	232	TYR	CB-CG-CD2	-10.77	114.54	121.00
2	5	170	ARG	NH1-CZ-NH2	10.75	131.22	119.40
1	f	132	PHE	CB-CG-CD1	10.73	128.31	120.80
2	6	148	TYR	CB-CG-CD2	-10.72	114.57	121.00
3	K	364	ARG	NE-CZ-NH1	10.69	125.64	120.30
1	F	22	PHE	CB-CG-CD1	-10.63	113.36	120.80
2	m	81	ARG	NE-CZ-NH2	-10.62	114.99	120.30
2	4	62	ASP	CB-CG-OD2	-10.62	108.75	118.30
1	F	26	TYR	CB-CG-CD2	10.59	127.35	121.00
2	1	51	ARG	NE-CZ-NH2	10.55	125.58	120.30
3	I	59	ARG	NE-CZ-NH2	-10.54	115.03	120.30
1	D	174	PHE	CB-CG-CD1	10.52	128.16	120.80
2	4	62	ASP	CB-CG-OD1	10.51	127.76	118.30
2	3	211	PHE	CB-CG-CD2	10.51	128.16	120.80
1	e	22	PHE	CB-CG-CD2	-10.48	113.46	120.80
1	C	168	ARG	NE-CZ-NH2	-10.46	115.07	120.30
3	L	221	ARG	NE-CZ-NH1	10.44	125.52	120.30
2	h	81	ARG	NE-CZ-NH1	10.41	125.51	120.30
1	F	22	PHE	CB-CG-CD2	10.36	128.06	120.80
2	1	83	ARG	NE-CZ-NH2	10.36	125.48	120.30
1	A	241	ARG	NE-CZ-NH2	10.36	125.48	120.30
2	4	51	ARG	NE-CZ-NH2	10.35	125.47	120.30
3	J	140	TYR	CG-CD2-CE2	10.33	129.57	121.30
1	f	93	ARG	NE-CZ-NH2	-10.32	115.14	120.30
2	4	77	TYR	CB-CG-CD2	10.31	127.19	121.00
3	M	154	ARG	NE-CZ-NH1	10.29	125.44	120.30
1	b	232	TYR	CB-CG-CD1	-10.29	114.83	121.00
3	J	28	ARG	NE-CZ-NH1	10.28	125.44	120.30
1	e	213	TYR	CB-CG-CD2	10.24	127.15	121.00
1	f	180	ARG	NE-CZ-NH1	-10.24	115.18	120.30
3	I	20	TYR	CB-CG-CD1	10.21	127.12	121.00
1	e	185	PHE	CB-CG-CD1	-10.17	113.68	120.80
3	L	50	ARG	NE-CZ-NH2	10.16	125.38	120.30
3	M	250	ARG	NE-CZ-NH2	-10.13	115.23	120.30
1	d	10	ARG	NE-CZ-NH1	-10.13	115.24	120.30
2	6	148	TYR	CB-CG-CD1	10.12	127.07	121.00
2	7	170	ARG	NE-CZ-NH1	10.12	125.36	120.30
3	K	278	ARG	NE-CZ-NH2	-10.07	115.26	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	c	232	TYR	CB-CG-CD2	-10.07	114.96	121.00
3	L	326	ARG	NE-CZ-NH1	10.06	125.33	120.30
1	B	130	ARG	NE-CZ-NH1	10.05	125.33	120.30
1	e	175	PHE	CB-CG-CD2	-10.02	113.78	120.80
3	L	43	ARG	NE-CZ-NH1	10.00	125.30	120.30
3	J	49	ARG	NE-CZ-NH2	10.00	125.30	120.30
2	4	77	TYR	CB-CG-CD1	-9.98	115.01	121.00
2	5	36	PHE	CB-CG-CD2	-9.98	113.81	120.80
2	5	80	ARG	NE-CZ-NH1	-9.98	115.31	120.30
1	B	235	ARG	NE-CZ-NH2	9.96	125.28	120.30
2	h	77	TYR	CB-CG-CD2	-9.95	115.03	121.00
3	K	341	ARG	NE-CZ-NH1	9.91	125.26	120.30
1	D	65	GLU	N-CA-CB	9.84	128.31	110.60
1	a	130	ARG	NE-CZ-NH1	9.79	125.20	120.30
1	c	93	ARG	NE-CZ-NH2	-9.80	115.40	120.30
3	K	21	TYR	CD1-CE1-CZ	-9.78	111.00	119.80
3	M	76	ARG	NE-CZ-NH1	9.75	125.18	120.30
2	l	170	ARG	NH1-CZ-NH2	9.71	130.09	119.40
1	f	103	TYR	CB-CG-CD2	-9.70	115.18	121.00
1	D	53	ARG	NE-CZ-NH1	9.69	125.15	120.30
1	C	33	ARG	NE-CZ-NH2	-9.68	115.46	120.30
2	n	30	ARG	NE-CZ-NH2	-9.68	115.46	120.30
1	E	123	TYR	CB-CG-CD1	9.63	126.78	121.00
2	7	30	ARG	NE-CZ-NH2	-9.63	115.48	120.30
1	g	175	PHE	CB-CG-CD2	-9.63	114.06	120.80
1	f	126	TYR	CB-CG-CD2	-9.62	115.23	121.00
2	i	196	PHE	CB-CG-CD2	9.60	127.52	120.80
3	I	50	ARG	NE-CZ-NH2	9.57	125.08	120.30
1	c	148	TYR	CB-CG-CD1	-9.56	115.26	121.00
1	a	28	ARG	NE-CZ-NH1	9.56	125.08	120.30
2	m	36	PHE	CB-CG-CD2	-9.55	114.11	120.80
3	K	367	ARG	NE-CZ-NH1	-9.53	115.54	120.30
2	2	196	PHE	CB-CG-CD1	-9.52	114.14	120.80
2	2	88	ARG	NE-CZ-NH2	9.50	125.05	120.30
1	g	93	ARG	NE-CZ-NH2	9.49	125.05	120.30
2	h	77	TYR	CD1-CG-CD2	9.48	128.33	117.90
2	m	101	TYR	CG-CD1-CE1	-9.46	113.73	121.30
3	I	57	ARG	NE-CZ-NH2	-9.45	115.57	120.30
1	C	10	ARG	NE-CZ-NH2	-9.45	115.57	120.30
3	J	28	ARG	NE-CZ-NH2	-9.45	115.58	120.30
2	h	103	TYR	CB-CG-CD2	-9.43	115.34	121.00
3	I	397	PHE	CB-CG-CD1	9.42	127.39	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	I	205	ARG	NE-CZ-NH2	-9.40	115.60	120.30
3	L	57	ARG	NE-CZ-NH1	9.40	125.00	120.30
1	E	26	TYR	CB-CG-CD1	-9.38	115.37	121.00
3	I	46	ARG	NE-CZ-NH1	9.37	124.98	120.30
1	E	174	PHE	CB-CG-CD2	-9.36	114.25	120.80
2	3	212	ARG	NE-CZ-NH1	9.33	124.97	120.30
1	e	179	TYR	CB-CG-CD1	-9.33	115.40	121.00
2	6	36	PHE	CB-CG-CD1	-9.33	114.27	120.80
1	B	235	ARG	NE-CZ-NH1	-9.31	115.64	120.30
1	C	10	ARG	NE-CZ-NH1	9.31	124.96	120.30
1	D	100	ARG	NE-CZ-NH2	9.31	124.96	120.30
3	H	302	ARG	NE-CZ-NH1	9.29	124.94	120.30
2	m	101	TYR	CB-CG-CD2	-9.28	115.44	121.00
2	j	104	PHE	CB-CG-CD1	9.26	127.28	120.80
3	H	259	ARG	NE-CZ-NH2	-9.26	115.67	120.30
2	7	65	PHE	CB-CG-CD2	-9.24	114.33	120.80
1	c	93	ARG	NE-CZ-NH1	9.23	124.92	120.30
3	H	29	ARG	NE-CZ-NH1	-9.21	115.69	120.30
3	M	41	ARG	NE-CZ-NH1	-9.20	115.70	120.30
3	L	41	ARG	NE-CZ-NH2	-9.18	115.71	120.30
3	H	59	ARG	NE-CZ-NH1	-9.17	115.72	120.30
1	C	219	ARG	NE-CZ-NH2	-9.16	115.72	120.30
1	F	93	ARG	NE-CZ-NH1	9.15	124.87	120.30
1	d	93	ARG	NE-CZ-NH2	-9.14	115.73	120.30
1	b	126	TYR	CB-CG-CD1	-9.13	115.52	121.00
2	4	154	ARG	NE-CZ-NH1	9.13	124.87	120.30
3	H	224	ARG	NE-CZ-NH2	-9.13	115.73	120.30
1	f	179	TYR	CB-CG-CD1	-9.13	115.52	121.00
1	d	100	ARG	NE-CZ-NH2	-9.12	115.74	120.30
1	A	20	ARG	NE-CZ-NH2	-9.12	115.74	120.30
1	e	187	ASP	CB-CG-OD2	-9.11	110.10	118.30
1	d	53	ARG	NE-CZ-NH1	9.10	124.85	120.30
3	K	367	ARG	NE-CZ-NH2	9.09	124.84	120.30
3	L	317	ARG	NE-CZ-NH2	-9.08	115.76	120.30
3	J	302	ARG	NE-CZ-NH2	-9.08	115.76	120.30
2	i	51	ARG	NE-CZ-NH2	-9.08	115.76	120.30
2	2	173	TYR	CB-CG-CD1	-9.07	115.56	121.00
2	4	101	TYR	CB-CG-CD2	-9.07	115.56	121.00
1	G	22	PHE	CB-CG-CD2	-9.07	114.45	120.80
2	n	83	ARG	NE-CZ-NH2	9.07	124.83	120.30
1	c	90	ASP	CB-CG-OD2	-9.04	110.16	118.30
2	7	68	ARG	NE-CZ-NH2	-9.03	115.79	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	G	126	TYR	CB-CG-CD1	9.02	126.41	121.00
2	m	65	PHE	CB-CG-CD1	9.01	127.11	120.80
3	L	215	TYR	CB-CG-CD1	9.01	126.40	121.00
1	e	185	PHE	CB-CG-CD2	8.97	127.08	120.80
2	1	178	ARG	NE-CZ-NH2	-8.96	115.82	120.30
1	E	213	TYR	CB-CG-CD2	-8.96	115.63	121.00
1	E	232	TYR	CB-CG-CD1	8.94	126.36	121.00
2	1	211	PHE	CB-CG-CD2	8.91	127.04	120.80
2	i	212	ARG	NE-CZ-NH2	-8.91	115.85	120.30
3	M	350	ASP	CB-CG-OD2	-8.90	110.29	118.30
2	m	173	TYR	CB-CG-CD2	-8.89	115.66	121.00
2	m	154	ARG	NE-CZ-NH1	-8.88	115.86	120.30
3	L	76	ARG	NE-CZ-NH2	-8.88	115.86	120.30
2	4	211	PHE	CB-CG-CD2	8.87	127.01	120.80
2	7	77	TYR	CB-CG-CD1	8.87	126.32	121.00
1	E	130	ARG	NE-CZ-NH1	8.87	124.73	120.30
2	7	178	ARG	NE-CZ-NH1	8.86	124.73	120.30
1	D	175	PHE	CB-CG-CD2	-8.82	114.62	120.80
2	6	173	TYR	CB-CG-CD2	8.82	126.29	121.00
3	L	299	ARG	NE-CZ-NH1	-8.81	115.89	120.30
1	d	161	ALA	N-CA-CB	8.80	122.43	110.10
3	L	181	TYR	CB-CG-CD1	-8.81	115.72	121.00
1	g	77	ALA	N-CA-CB	8.80	122.42	110.10
2	h	46	TYR	CB-CG-CD2	-8.80	115.72	121.00
1	C	28	ARG	NE-CZ-NH2	-8.79	115.90	120.30
3	K	21	TYR	CB-CG-CD2	-8.78	115.73	121.00
3	K	224	ARG	NE-CZ-NH1	8.78	124.69	120.30
2	k	123	TYR	CB-CG-CD1	8.77	126.26	121.00
3	L	36	PHE	CB-CG-CD1	8.77	126.94	120.80
3	H	259	ARG	NE-CZ-NH1	8.76	124.68	120.30
3	L	263	ARG	NE-CZ-NH2	-8.76	115.92	120.30
1	c	232	TYR	CB-CG-CD1	8.75	126.25	121.00
3	I	203	PHE	CB-CG-CD1	-8.75	114.67	120.80
1	A	175	PHE	CB-CG-CD1	8.75	126.92	120.80
1	D	168	ARG	NE-CZ-NH2	-8.74	115.93	120.30
2	6	123	TYR	CB-CG-CD1	-8.73	115.76	121.00
1	G	213	TYR	CB-CG-CD1	-8.73	115.76	121.00
3	H	124	ASP	CB-CG-OD2	8.73	126.15	118.30
1	c	20	ARG	NE-CZ-NH2	-8.72	115.94	120.30
1	f	90	ASP	CB-CG-OD1	8.72	126.14	118.30
2	4	197	TYR	CB-CG-CD1	8.71	126.22	121.00
1	D	90	ASP	CB-CG-OD1	8.71	126.13	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	J	19	ASP	CB-CG-OD1	8.68	126.11	118.30
1	b	86	ARG	NE-CZ-NH1	8.67	124.64	120.30
3	I	221	ARG	NE-CZ-NH2	-8.66	115.97	120.30
1	G	22	PHE	CB-CG-CD1	8.65	126.85	120.80
3	K	224	ARG	NE-CZ-NH2	-8.64	115.98	120.30
3	M	305	ARG	NE-CZ-NH1	8.64	124.62	120.30
3	J	250	ARG	NE-CZ-NH1	8.63	124.61	120.30
3	L	36	PHE	CB-CG-CD2	-8.62	114.77	120.80
2	n	65	PHE	CB-CG-CD2	-8.61	114.77	120.80
3	H	154	ARG	NE-CZ-NH1	8.59	124.60	120.30
3	J	303	PHE	CB-CG-CD1	8.59	126.81	120.80
1	A	68	TYR	CB-CG-CD2	-8.58	115.85	121.00
2	7	101	TYR	CB-CG-CD2	8.56	126.14	121.00
3	K	289	ARG	NE-CZ-NH2	-8.55	116.03	120.30
2	3	103	TYR	CB-CG-CD2	-8.52	115.89	121.00
1	C	148	TYR	CB-CG-CD2	8.51	126.11	121.00
1	b	91	ARG	NE-CZ-NH2	8.50	124.55	120.30
1	B	93	ARG	NE-CZ-NH1	8.50	124.55	120.30
1	f	91	ARG	NE-CZ-NH2	-8.50	116.05	120.30
2	j	212	ARG	NE-CZ-NH1	8.50	124.55	120.30
3	J	211	PHE	CB-CG-CD2	-8.50	114.85	120.80
2	k	62	ASP	CB-CG-OD1	-8.49	110.66	118.30
2	h	154	ARG	NE-CZ-NH1	-8.48	116.06	120.30
1	a	179	TYR	CB-CG-CD2	-8.48	115.92	121.00
1	C	217	ASP	CB-CG-OD2	-8.47	110.68	118.30
1	c	53	ARG	NE-CZ-NH1	-8.46	116.07	120.30
1	F	86	ARG	NE-CZ-NH1	8.46	124.53	120.30
1	a	142	ASP	CB-CG-OD2	-8.45	110.69	118.30
1	g	239	ARG	NE-CZ-NH2	8.44	124.52	120.30
2	6	116	ASP	CB-CG-OD1	8.43	125.89	118.30
1	b	239	ARG	NE-CZ-NH1	-8.43	116.09	120.30
3	H	299	ARG	NE-CZ-NH2	-8.43	116.09	120.30
1	e	241	ARG	NE-CZ-NH2	8.42	124.51	120.30
1	A	213	TYR	CB-CG-CD2	-8.42	115.95	121.00
3	I	94	TYR	CB-CG-CD1	-8.40	115.96	121.00
1	e	174	PHE	CB-CG-CD1	8.40	126.68	120.80
1	a	26	TYR	CB-CG-CD1	8.39	126.03	121.00
1	A	100	ARG	NE-CZ-NH1	-8.39	116.11	120.30
1	c	53	ARG	NE-CZ-NH2	8.39	124.49	120.30
2	n	199	TYR	CB-CG-CD1	8.38	126.03	121.00
1	B	213	TYR	CB-CG-CD1	-8.37	115.98	121.00
3	K	341	ARG	NE-CZ-NH2	-8.36	116.12	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L	205	ARG	NE-CZ-NH2	8.36	124.48	120.30
3	H	167	PHE	CB-CG-CD1	-8.35	114.95	120.80
2	l	51	ARG	NE-CZ-NH2	8.35	124.47	120.30
2	3	103	TYR	CB-CG-CD1	8.34	126.00	121.00
1	A	185	PHE	CB-CG-CD2	-8.34	114.96	120.80
1	f	37	ALA	N-CA-CB	8.34	121.78	110.10
1	f	68	TYR	CB-CG-CD2	-8.34	116.00	121.00
3	I	289	ARG	NE-CZ-NH1	8.32	124.46	120.30
2	l	211	PHE	CB-CG-CD1	8.32	126.62	120.80
2	2	197	TYR	CB-CG-CD2	-8.31	116.01	121.00
3	J	215	TYR	CB-CG-CD2	-8.31	116.01	121.00
1	E	118	ASP	CB-CG-OD1	-8.31	110.82	118.30
2	i	178	ARG	NE-CZ-NH1	8.31	124.45	120.30
1	d	68	TYR	CG-CD2-CE2	-8.31	114.66	121.30
1	C	148	TYR	CB-CG-CD1	-8.30	116.02	121.00
3	I	52	ARG	NE-CZ-NH2	-8.30	116.15	120.30
2	m	154	ARG	NE-CZ-NH2	8.29	124.45	120.30
3	I	49	ARG	NE-CZ-NH2	-8.28	116.16	120.30
2	i	101	TYR	CB-CG-CD2	-8.28	116.03	121.00
1	c	10	ARG	NE-CZ-NH2	8.27	124.44	120.30
1	f	15	PHE	CB-CG-CD2	-8.26	115.02	120.80
1	e	241	ARG	NE-CZ-NH1	-8.26	116.17	120.30
1	F	113	ALA	CB-CA-C	8.26	122.48	110.10
1	B	221	PHE	CB-CG-CD2	-8.25	115.02	120.80
2	4	103	TYR	CB-CG-CD1	-8.25	116.05	121.00
2	h	77	TYR	CG-CD2-CE2	-8.24	114.71	121.30
3	I	130	PHE	CB-CG-CD2	8.23	126.56	120.80
2	n	178	ARG	NE-CZ-NH1	-8.22	116.19	120.30
2	l	199	TYR	CB-CG-CD2	-8.22	116.07	121.00
3	M	20	TYR	CB-CG-CD1	8.22	125.93	121.00
3	H	302	ARG	NE-CZ-NH2	-8.20	116.20	120.30
1	A	174	PHE	CB-CG-CD1	-8.19	115.07	120.80
2	k	83	ARG	NE-CZ-NH1	-8.19	116.21	120.30
3	M	41	ARG	NE-CZ-NH2	8.18	124.39	120.30
2	l	173	TYR	CB-CG-CD1	8.16	125.90	121.00
3	L	364	ARG	NE-CZ-NH1	-8.13	116.23	120.30
1	b	100	ARG	NE-CZ-NH2	-8.12	116.24	120.30
2	l	173	TYR	CB-CG-CD1	8.12	125.87	121.00
1	d	239	ARG	NE-CZ-NH1	-8.12	116.24	120.30
3	H	114	ALA	N-CA-CB	8.11	121.46	110.10
1	A	218	ASP	CB-CG-OD1	8.10	125.59	118.30
1	C	68	TYR	CB-CG-CD1	-8.07	116.16	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	K	314	PHE	CB-CG-CD1	8.06	126.44	120.80
2	2	154	ARG	NE-CZ-NH1	-8.05	116.28	120.30
2	7	102	ARG	NE-CZ-NH2	8.05	124.32	120.30
1	D	148	TYR	CB-CG-CD2	-8.01	116.20	121.00
3	M	303	PHE	CB-CG-CD2	-8.00	115.20	120.80
3	K	43	ARG	NE-CZ-NH1	8.00	124.30	120.30
1	D	103	TYR	CB-CG-CD1	7.99	125.79	121.00
2	4	148	TYR	CB-CG-CD2	-7.99	116.21	121.00
3	M	397	PHE	CB-CG-CD2	-7.98	115.21	120.80
1	F	185	PHE	CB-CG-CD1	7.98	126.39	120.80
2	n	199	TYR	CB-CG-CD2	-7.98	116.21	121.00
2	h	140	THR	N-CA-CB	7.98	125.46	110.30
2	h	155	PHE	CB-CG-CD2	7.97	126.38	120.80
3	J	321	PHE	CB-CG-CD1	7.97	126.38	120.80
1	B	100	ARG	NE-CZ-NH2	7.97	124.28	120.30
2	7	102	ARG	NE-CZ-NH1	7.95	124.27	120.30
3	M	364	ARG	NE-CZ-NH2	7.95	124.27	120.30
3	M	276	ASP	CB-CG-OD2	-7.93	111.16	118.30
2	1	211	PHE	CB-CG-CD1	-7.92	115.26	120.80
1	D	28	ARG	NE-CZ-NH1	7.91	124.25	120.30
2	l	81	ARG	NE-CZ-NH1	-7.90	116.35	120.30
2	m	102	ARG	NE-CZ-NH2	7.89	124.25	120.30
2	n	83	ARG	NE-CZ-NH1	-7.89	116.36	120.30
1	f	90	ASP	CB-CG-OD2	-7.88	111.21	118.30
2	n	104	PHE	CB-CG-CD2	-7.88	115.29	120.80
3	K	50	ARG	NE-CZ-NH2	-7.88	116.36	120.30
1	A	68	TYR	CB-CG-CD1	7.87	125.72	121.00
1	e	33	ARG	NE-CZ-NH2	7.87	124.23	120.30
3	L	20	TYR	CB-CG-CD1	-7.86	116.28	121.00
1	E	26	TYR	CB-CG-CD2	7.85	125.71	121.00
1	b	130	ARG	NE-CZ-NH2	-7.85	116.38	120.30
3	K	43	ARG	NE-CZ-NH2	-7.85	116.38	120.30
2	4	148	TYR	CB-CG-CD1	7.84	125.71	121.00
3	K	249	ARG	CD-NE-CZ	-7.84	112.62	123.60
1	f	186	ASP	CB-CG-OD2	7.83	125.35	118.30
3	J	167	PHE	CB-CG-CD2	-7.83	115.32	120.80
1	b	214	VAL	CG1-CB-CG2	-7.83	98.37	110.90
1	E	68	TYR	CB-CG-CD1	-7.83	116.30	121.00
3	L	41	ARG	NE-CZ-NH1	-7.81	116.40	120.30
1	d	91	ARG	NE-CZ-NH2	7.80	124.20	120.30
1	f	217	ASP	CB-CG-OD2	7.80	125.32	118.30
1	f	18	ASP	CB-CG-OD2	-7.80	111.28	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L	200	ARG	NE-CZ-NH2	-7.77	116.41	120.30
2	4	81	ARG	NE-CZ-NH2	-7.76	116.42	120.30
2	l	169	VAL	CA-CB-CG2	-7.76	99.26	110.90
1	b	123	TYR	CB-CG-CD1	7.76	125.65	121.00
2	n	196	PHE	CB-CG-CD1	7.75	126.23	120.80
3	K	211	PHE	CB-CG-CD2	-7.75	115.37	120.80
1	b	135	SER	N-CA-CB	7.75	122.12	110.50
2	1	173	TYR	CB-CG-CD2	-7.75	116.35	121.00
1	b	232	TYR	CB-CG-CD2	7.75	125.65	121.00
2	3	80	ARG	NE-CZ-NH2	7.75	124.17	120.30
1	f	163	ALA	N-CA-CB	7.73	120.93	110.10
1	g	123	TYR	CB-CG-CD2	7.73	125.64	121.00
1	F	20	ARG	NE-CZ-NH2	7.73	124.17	120.30
2	n	102	ARG	NE-CZ-NH1	-7.71	116.45	120.30
1	C	56	SER	N-CA-CB	7.70	122.06	110.50
2	l	30	ARG	NE-CZ-NH2	-7.70	116.45	120.30
2	i	106	TYR	CG-CD1-CE1	-7.69	115.15	121.30
1	a	15	PHE	CB-CG-CD1	7.69	126.18	120.80
2	6	199	TYR	CB-CG-CD2	7.68	125.61	121.00
3	H	215	TYR	CB-CG-CD1	-7.68	116.39	121.00
3	M	249	ARG	NE-CZ-NH1	7.68	124.14	120.30
1	E	130	ARG	NE-CZ-NH2	-7.68	116.46	120.30
2	5	103	TYR	CB-CG-CD2	7.68	125.61	121.00
1	D	235	ARG	NE-CZ-NH2	7.68	124.14	120.30
3	M	397	PHE	CB-CG-CD1	7.67	126.17	120.80
3	H	289	ARG	NE-CZ-NH2	-7.66	116.47	120.30
3	H	397	PHE	CB-CG-CD2	-7.66	115.44	120.80
1	D	15	PHE	CB-CG-CD2	7.65	126.16	120.80
2	5	211	PHE	CB-CG-CD2	-7.65	115.44	120.80
1	D	174	PHE	CB-CG-CD2	-7.63	115.46	120.80
2	1	77	TYR	CB-CG-CD2	-7.62	116.43	121.00
1	a	235	ARG	NE-CZ-NH1	-7.62	116.49	120.30
1	d	33	ARG	NE-CZ-NH2	7.62	124.11	120.30
1	G	6	MET	CG-SD-CE	-7.61	88.02	100.20
1	F	185	PHE	CB-CG-CD2	-7.61	115.47	120.80
1	d	159	TYR	CB-CG-CD1	7.61	125.56	121.00
3	L	181	TYR	CB-CG-CD2	7.60	125.56	121.00
2	2	142	SER	N-CA-CB	7.60	121.90	110.50
1	g	10	ARG	NE-CZ-NH1	7.59	124.10	120.30
3	K	336	PHE	CB-CG-CD1	7.58	126.11	120.80
2	h	178	ARG	NE-CZ-NH2	-7.58	116.51	120.30
3	M	360	MET	CG-SD-CE	-7.57	88.08	100.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	217	ASP	CB-CG-OD1	7.57	125.11	118.30
2	m	178	ARG	NE-CZ-NH1	-7.56	116.52	120.30
1	F	53	ARG	NE-CZ-NH1	7.54	124.07	120.30
3	J	286	ALA	CB-CA-C	7.54	121.40	110.10
1	a	180	ARG	NE-CZ-NH1	-7.53	116.53	120.30
3	I	166	LEU	CB-CG-CD1	7.53	123.80	111.00
3	L	41	ARG	NH1-CZ-NH2	7.53	127.68	119.40
3	J	20	TYR	CB-CG-CD1	-7.53	116.48	121.00
3	L	286	ALA	N-CA-CB	7.53	120.64	110.10
3	L	367	ARG	NE-CZ-NH1	-7.53	116.54	120.30
2	5	77	TYR	CB-CG-CD2	7.52	125.51	121.00
1	e	175	PHE	CB-CG-CD1	7.50	126.05	120.80
1	a	157	LEU	CB-CG-CD2	7.50	123.75	111.00
3	J	220	ALA	CB-CA-C	-7.50	98.85	110.10
2	l	104	PHE	CB-CG-CD1	-7.50	115.55	120.80
1	a	20	ARG	NE-CZ-NH2	-7.50	116.55	120.30
1	a	187	ASP	CB-CG-OD2	-7.50	111.55	118.30
3	I	397	PHE	CB-CG-CD2	-7.50	115.55	120.80
2	5	123	TYR	CB-CG-CD1	-7.49	116.51	121.00
2	k	103	TYR	CB-CG-CD2	-7.48	116.51	121.00
1	C	37	ALA	N-CA-CB	7.48	120.57	110.10
3	J	29	ARG	NE-CZ-NH2	7.48	124.04	120.30
2	l	101	TYR	CB-CG-CD2	7.47	125.48	121.00
2	k	36	PHE	CB-CG-CD2	-7.47	115.57	120.80
1	g	221	PHE	CB-CG-CD2	-7.46	115.58	120.80
2	6	54	MET	CA-CB-CG	7.46	125.98	113.30
1	a	232	TYR	CB-CG-CD1	-7.45	116.53	121.00
1	A	183	LEU	CB-CG-CD2	7.44	123.66	111.00
3	L	263	ARG	NE-CZ-NH1	-7.44	116.58	120.30
1	D	181	ASP	CB-CG-OD1	-7.43	111.61	118.30
3	K	20	TYR	CB-CG-CD2	-7.43	116.54	121.00
2	6	170	ARG	NE-CZ-NH1	-7.42	116.59	120.30
3	L	326	ARG	NE-CZ-NH2	-7.42	116.59	120.30
1	d	159	TYR	CG-CD2-CE2	7.41	127.23	121.30
3	H	336	PHE	CB-CG-CD2	-7.41	115.61	120.80
3	M	305	ARG	NE-CZ-NH2	-7.41	116.60	120.30
2	6	81	ARG	NE-CZ-NH2	7.40	124.00	120.30
3	J	278	ARG	NE-CZ-NH2	7.38	123.99	120.30
1	a	126	TYR	CB-CG-CD2	-7.37	116.58	121.00
1	D	28	ARG	NE-CZ-NH2	-7.37	116.61	120.30
1	F	232	TYR	CB-CG-CD2	-7.37	116.58	121.00
1	c	179	TYR	CG-CD2-CE2	-7.36	115.41	121.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	d	33	ARG	NE-CZ-NH1	-7.36	116.62	120.30
1	g	159	TYR	CB-CG-CD2	7.36	125.41	121.00
1	f	92	ALA	CB-CA-C	-7.35	99.07	110.10
1	D	91	ARG	NE-CZ-NH2	-7.35	116.63	120.30
2	h	77	TYR	CB-CG-CD1	-7.34	116.59	121.00
1	C	179	TYR	CD1-CE1-CZ	-7.33	113.20	119.80
2	7	212	ARG	NE-CZ-NH2	7.32	123.96	120.30
3	L	105	ARG	NE-CZ-NH1	7.32	123.96	120.30
2	6	126	ASP	CB-CG-OD2	-7.31	111.72	118.30
2	n	30	ARG	NE-CZ-NH1	7.31	123.95	120.30
3	J	43	ARG	NE-CZ-NH2	-7.30	116.65	120.30
3	J	248	ALA	CB-CA-C	-7.30	99.15	110.10
1	A	22	PHE	CB-CG-CD2	-7.29	115.70	120.80
1	f	217	ASP	CB-CG-OD1	-7.29	111.74	118.30
3	L	124	ASP	CB-CG-OD1	7.29	124.86	118.30
1	d	241	ARG	NE-CZ-NH2	-7.28	116.66	120.30
2	j	104	PHE	CB-CG-CD2	-7.28	115.70	120.80
2	7	102	ARG	NH1-CZ-NH2	-7.28	111.39	119.40
3	M	128	TYR	N-CA-CB	7.27	123.69	110.60
1	g	190	VAL	CA-CB-CG2	-7.27	100.00	110.90
1	F	190	VAL	CA-CB-CG2	-7.27	100.00	110.90
2	i	102	ARG	NE-CZ-NH2	-7.27	116.67	120.30
1	G	232	TYR	CB-CG-CD2	-7.26	116.64	121.00
3	K	36	PHE	CB-CG-CD1	7.26	125.88	120.80
2	k	80	ARG	NE-CZ-NH2	7.24	123.92	120.30
3	J	248	ALA	N-CA-CB	7.24	120.24	110.10
2	1	77	TYR	CG-CD1-CE1	7.24	127.09	121.30
3	L	128	TYR	CB-CG-CD2	-7.24	116.66	121.00
2	m	170	ARG	NE-CZ-NH1	-7.24	116.68	120.30
2	m	184	ASP	CB-CG-OD2	7.23	124.81	118.30
1	B	198	LEU	CB-CG-CD2	7.22	123.28	111.00
3	H	326	ARG	NE-CZ-NH2	-7.21	116.69	120.30
2	1	102	ARG	NE-CZ-NH2	7.21	123.90	120.30
1	G	126	TYR	CB-CG-CD2	-7.21	116.68	121.00
2	1	106	TYR	CB-CG-CD1	7.20	125.32	121.00
1	g	179	TYR	CB-CG-CD1	7.19	125.31	121.00
3	I	154	ARG	NE-CZ-NH1	-7.19	116.70	120.30
1	c	239	ARG	NE-CZ-NH1	-7.18	116.71	120.30
3	M	391	ASP	CB-CG-OD1	-7.18	111.84	118.30
2	4	101	TYR	CB-CG-CD1	7.17	125.30	121.00
1	E	159	TYR	CB-CG-CD2	-7.16	116.70	121.00
3	L	266	MET	CG-SD-CE	-7.16	88.74	100.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	183	LEU	CB-CG-CD1	7.16	123.17	111.00
2	n	147	ALA	N-CA-CB	7.16	120.12	110.10
3	K	239	PHE	CB-CG-CD2	-7.16	115.79	120.80
1	F	123	TYR	CB-CG-CD2	-7.16	116.71	121.00
2	3	194	ASP	CB-CG-OD1	-7.16	111.86	118.30
3	K	241	ASP	CB-CG-OD2	7.15	124.74	118.30
1	G	132	PHE	CB-CG-CD2	7.13	125.79	120.80
2	m	36	PHE	CB-CG-CD1	7.13	125.79	120.80
2	n	126	ASP	CB-CG-OD2	-7.12	111.89	118.30
1	g	22	PHE	CB-CG-CD1	7.12	125.78	120.80
2	k	123	TYR	CB-CG-CD2	-7.11	116.73	121.00
3	H	397	PHE	CB-CG-CD1	7.11	125.78	120.80
1	g	68	TYR	CB-CG-CD1	-7.11	116.73	121.00
2	k	24	VAL	CA-CB-CG2	-7.11	100.23	110.90
2	m	116	ASP	CB-CG-OD1	-7.11	111.90	118.30
1	C	126	TYR	CB-CG-CD2	-7.11	116.73	121.00
1	e	213	TYR	CB-CG-CD1	-7.11	116.74	121.00
1	g	179	TYR	CB-CG-CD2	-7.09	116.75	121.00
2	7	101	TYR	CD1-CE1-CZ	7.08	126.17	119.80
2	n	51	ARG	NE-CZ-NH2	7.08	123.84	120.30
3	J	21	TYR	CB-CG-CD1	-7.08	116.75	121.00
2	l	30	ARG	N-CA-CB	7.07	123.33	110.60
3	J	364	ARG	NE-CZ-NH2	7.07	123.84	120.30
3	M	132	VAL	CA-CB-CG1	7.07	121.50	110.90
1	F	155	ALA	N-CA-CB	7.06	119.99	110.10
3	M	59	ARG	NE-CZ-NH1	-7.06	116.77	120.30
2	k	145	LEU	CB-CG-CD2	-7.06	99.00	111.00
1	a	100	ARG	NE-CZ-NH2	7.06	123.83	120.30
2	6	77	TYR	CB-CG-CD2	-7.04	116.78	121.00
1	a	53	ARG	NE-CZ-NH1	7.04	123.82	120.30
2	2	154	ARG	NE-CZ-NH2	7.04	123.82	120.30
1	E	174	PHE	CB-CG-CD1	7.03	125.72	120.80
1	G	26	TYR	CB-CG-CD1	-7.03	116.78	121.00
1	G	91	ARG	NE-CZ-NH1	-7.03	116.78	120.30
2	m	208	LEU	CB-CG-CD1	7.03	122.95	111.00
3	L	20	TYR	CB-CG-CD2	7.02	125.21	121.00
3	J	303	PHE	CB-CG-CD2	-7.02	115.89	120.80
2	3	148	TYR	CB-CG-CD2	-7.01	116.79	121.00
1	a	91	ARG	NE-CZ-NH1	7.01	123.81	120.30
1	G	168	ARG	NE-CZ-NH2	-7.01	116.79	120.30
1	A	100	ARG	NE-CZ-NH2	7.00	123.80	120.30
2	n	211	PHE	CB-CG-CD1	7.00	125.70	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	129	VAL	CA-CB-CG2	6.99	121.39	110.90
3	K	391	ASP	CB-CG-OD1	6.99	124.59	118.30
1	F	159	TYR	CG-CD2-CE2	-6.98	115.71	121.30
2	7	155	PHE	CB-CG-CD1	-6.98	115.91	120.80
1	E	241	ARG	NE-CZ-NH1	-6.98	116.81	120.30
3	J	350	ASP	CB-CG-OD1	-6.97	112.03	118.30
1	a	141	VAL	CG1-CB-CG2	-6.96	99.76	110.90
3	I	87	PHE	CB-CG-CD1	6.96	125.67	120.80
2	3	83	ARG	NE-CZ-NH2	6.96	123.78	120.30
1	C	100	ARG	NE-CZ-NH1	-6.95	116.82	120.30
2	m	173	TYR	CB-CG-CD1	6.95	125.17	121.00
3	H	181	TYR	CB-CG-CD1	-6.94	116.84	121.00
2	l	162	ASP	CB-CG-OD2	6.94	124.55	118.30
2	6	178	ARG	NE-CZ-NH2	-6.94	116.83	120.30
1	a	13	THR	CA-CB-CG2	-6.93	102.69	112.40
1	E	168	ARG	NE-CZ-NH1	6.92	123.76	120.30
1	f	68	TYR	CB-CG-CD1	6.92	125.16	121.00
3	M	383	LEU	N-CA-C	6.92	129.69	111.00
2	2	148	TYR	CB-CG-CD1	-6.92	116.85	121.00
2	7	26	ALA	N-CA-CB	6.92	119.79	110.10
3	L	49	ARG	NE-CZ-NH1	6.92	123.76	120.30
1	D	68	TYR	CB-CG-CD1	6.92	125.15	121.00
3	J	57	ARG	NE-CZ-NH1	-6.92	116.84	120.30
1	B	148	TYR	CZ-CE2-CD2	6.92	126.02	119.80
3	I	219	GLY	N-CA-C	-6.92	95.81	113.10
3	K	353	ALA	CB-CA-C	-6.92	99.73	110.10
1	E	22	PHE	CB-CG-CD2	-6.91	115.96	120.80
1	e	168	ARG	NE-CZ-NH1	-6.91	116.85	120.30
2	1	154	ARG	NE-CZ-NH1	-6.90	116.85	120.30
2	j	211	PHE	CB-CG-CD1	-6.89	115.98	120.80
1	a	213	TYR	CB-CG-CD2	-6.88	116.87	121.00
2	i	179	ASP	CB-CG-OD2	6.88	124.49	118.30
3	H	335	ASP	CB-CG-OD2	6.88	124.49	118.30
3	I	91	THR	CA-CB-CG2	-6.88	102.77	112.40
2	i	56	THR	CA-CB-CG2	-6.86	102.79	112.40
1	A	213	TYR	CG-CD1-CE1	-6.86	115.81	121.30
1	D	213	TYR	CB-CG-CD1	6.85	125.11	121.00
3	H	248	ALA	N-CA-CB	6.85	119.69	110.10
1	e	104	ASP	CB-CG-OD2	-6.85	112.14	118.30
2	h	173	TYR	CB-CG-CD1	-6.85	116.89	121.00
3	H	59	ARG	NH1-CZ-NH2	6.85	126.93	119.40
1	D	113	ALA	CB-CA-C	-6.85	99.83	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	G	161	ALA	N-CA-CB	6.84	119.68	110.10
1	C	142	ASP	CB-CG-OD1	-6.84	112.14	118.30
1	c	86	ARG	NE-CZ-NH2	-6.84	116.88	120.30
1	A	218	ASP	CB-CG-OD2	-6.84	112.15	118.30
3	J	367	ARG	NE-CZ-NH1	6.84	123.72	120.30
3	H	44	TYR	CD1-CE1-CZ	-6.84	113.65	119.80
1	e	28	ARG	NE-CZ-NH2	-6.83	116.88	120.30
2	k	101	TYR	CB-CG-CD2	-6.83	116.90	121.00
2	4	51	ARG	NE-CZ-NH1	-6.83	116.89	120.30
1	A	168	ARG	NE-CZ-NH1	6.82	123.71	120.30
1	G	230	LYS	CA-C-N	6.82	136.20	117.10
3	I	215	TYR	CG-CD2-CE2	-6.82	115.84	121.30
3	H	21	TYR	CB-CG-CD2	-6.81	116.92	121.00
3	L	367	ARG	NE-CZ-NH2	6.81	123.70	120.30
2	h	68	ARG	NE-CZ-NH2	-6.79	116.90	120.30
3	I	50	ARG	NE-CZ-NH1	-6.79	116.90	120.30
1	G	30	ALA	N-CA-CB	6.79	119.61	110.10
1	D	132	PHE	CB-CG-CD1	-6.79	116.05	120.80
1	D	33	ARG	NE-CZ-NH1	-6.78	116.91	120.30
1	F	239	ARG	NE-CZ-NH2	-6.78	116.91	120.30
1	g	126	TYR	CG-CD2-CE2	-6.78	115.88	121.30
2	7	199	TYR	CB-CG-CD1	-6.78	116.93	121.00
3	K	167	PHE	CB-CG-CD2	-6.78	116.06	120.80
2	n	197	TYR	CB-CG-CD1	-6.77	116.94	121.00
3	K	303	PHE	CB-CG-CD1	6.77	125.54	120.80
1	F	50	ALA	CB-CA-C	-6.76	99.95	110.10
1	G	235	ARG	CD-NE-CZ	-6.76	114.13	123.60
2	7	199	TYR	CB-CG-CD2	6.76	125.06	121.00
1	D	8	TYR	CB-CG-CD1	6.76	125.06	121.00
1	e	232	TYR	CB-CG-CD1	6.76	125.06	121.00
3	K	239	PHE	CB-CG-CD1	6.76	125.53	120.80
2	3	156	THR	CA-CB-CG2	-6.75	102.95	112.40
1	e	83	ALA	CB-CA-C	-6.75	99.98	110.10
3	H	50	ARG	NE-CZ-NH2	-6.74	116.93	120.30
2	k	106	TYR	CB-CG-CD2	-6.74	116.96	121.00
1	e	26	TYR	CB-CG-CD2	-6.74	116.96	121.00
2	h	74	ALA	N-CA-CB	6.73	119.53	110.10
1	a	179	TYR	CG-CD1-CE1	-6.73	115.91	121.30
3	J	21	TYR	CB-CG-CD2	6.73	125.04	121.00
1	C	179	TYR	CG-CD1-CE1	6.73	126.68	121.30
1	E	126	TYR	CB-CG-CD2	-6.73	116.97	121.00
3	M	317	ARG	NE-CZ-NH1	6.72	123.66	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	5	36	PHE	CB-CG-CD1	6.72	125.50	120.80
3	K	21	TYR	CG-CD1-CE1	6.72	126.67	121.30
1	G	9	ASP	CB-CG-OD2	-6.71	112.26	118.30
3	H	24	ARG	NE-CZ-NH2	-6.71	116.94	120.30
3	L	166	LEU	CB-CG-CD1	6.70	122.40	111.00
2	3	199	TYR	CB-CG-CD2	-6.70	116.98	121.00
1	g	90	ASP	CB-CG-OD1	-6.70	112.27	118.30
1	e	239	ARG	NE-CZ-NH2	-6.70	116.95	120.30
3	L	376	THR	CA-CB-CG2	-6.70	103.02	112.40
1	A	126	TYR	CB-CG-CD1	6.70	125.02	121.00
3	I	303	PHE	CB-CG-CD2	-6.70	116.11	120.80
3	M	387	THR	N-CA-CB	6.70	123.02	110.30
2	k	212	ARG	CD-NE-CZ	-6.69	114.23	123.60
3	J	181	TYR	CB-CG-CD2	-6.69	116.99	121.00
2	2	81	ARG	NE-CZ-NH2	-6.69	116.96	120.30
3	L	19	ASP	CB-CG-OD2	-6.68	112.28	118.30
3	M	386	THR	O-C-N	-6.68	112.01	122.70
2	i	184	ASP	CB-CG-OD2	-6.68	112.29	118.30
1	B	241	ARG	NE-CZ-NH2	6.68	123.64	120.30
3	K	167	PHE	CB-CG-CD1	6.68	125.47	120.80
1	e	178	GLU	OE1-CD-OE2	6.67	131.31	123.30
1	B	166	MET	CG-SD-CE	6.66	110.86	100.20
1	g	15	PHE	CB-CG-CD2	-6.66	116.14	120.80
3	I	305	ARG	NE-CZ-NH2	-6.66	116.97	120.30
1	g	86	ARG	NE-CZ-NH1	6.66	123.63	120.30
3	K	107	ALA	N-CA-CB	6.65	119.42	110.10
1	b	186	ASP	CB-CG-OD1	-6.65	112.32	118.30
3	J	29	ARG	NE-CZ-NH1	-6.65	116.97	120.30
1	C	241	ARG	NE-CZ-NH1	-6.65	116.98	120.30
1	E	28	ARG	CB-CA-C	-6.65	97.10	110.40
1	E	179	TYR	CG-CD2-CE2	-6.65	115.98	121.30
1	E	217	ASP	CB-CG-OD2	-6.64	112.32	118.30
1	c	10	ARG	NE-CZ-NH1	-6.64	116.98	120.30
2	6	101	TYR	CB-CG-CD2	6.64	124.98	121.00
1	b	219	ARG	NE-CZ-NH1	6.63	123.61	120.30
2	1	170	ARG	NE-CZ-NH2	-6.62	116.99	120.30
3	L	263	ARG	NH1-CZ-NH2	6.62	126.68	119.40
2	1	101	TYR	N-CA-CB	6.62	122.51	110.60
1	g	26	TYR	CB-CG-CD2	-6.61	117.04	121.00
3	I	304	ASP	CB-CG-OD1	6.61	124.25	118.30
2	7	36	PHE	CG-CD1-CE1	-6.60	113.54	120.80
2	7	103	TYR	CB-CG-CD2	-6.59	117.05	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	c	100	ARG	NE-CZ-NH2	-6.58	117.01	120.30
1	a	168	ARG	CD-NE-CZ	-6.58	114.39	123.60
2	h	27	THR	CA-CB-CG2	-6.57	103.20	112.40
2	l	136	ASP	CB-CG-OD2	6.57	124.22	118.30
3	I	309	VAL	N-CA-C	-6.57	93.25	111.00
2	l	46	TYR	CG-CD1-CE1	-6.57	116.04	121.30
2	5	31	ALA	N-CA-CB	6.56	119.29	110.10
1	E	14	VAL	CA-CB-CG1	-6.56	101.06	110.90
1	E	213	TYR	CB-CG-CD1	6.56	124.94	121.00
1	G	232	TYR	CB-CG-CD1	6.56	124.94	121.00
1	A	119	PHE	CB-CG-CD2	-6.55	116.21	120.80
1	d	185	PHE	CB-CG-CD2	-6.55	116.21	120.80
1	g	196	MET	CG-SD-CE	-6.55	89.72	100.20
1	F	132	PHE	CB-CG-CD1	6.55	125.38	120.80
2	4	49	ALA	N-CA-CB	6.55	119.26	110.10
2	h	131	ALA	N-CA-CB	6.54	119.25	110.10
3	M	128	TYR	CB-CG-CD2	-6.54	117.08	121.00
2	4	102	ARG	NE-CZ-NH2	-6.52	117.04	120.30
2	k	29	LYS	O-C-N	6.52	133.13	122.70
2	4	106	TYR	CB-CG-CD2	-6.52	117.09	121.00
2	5	153	ASP	CB-CG-OD1	6.52	124.17	118.30
1	a	182	ASP	N-CA-CB	6.51	122.32	110.60
2	4	199	TYR	CB-CG-CD2	-6.51	117.10	121.00
2	1	212	ARG	NE-CZ-NH2	-6.50	117.05	120.30
2	i	77	TYR	CB-CG-CD2	6.50	124.90	121.00
3	L	211	PHE	CB-CG-CD2	-6.50	116.25	120.80
2	m	77	TYR	CB-CG-CD1	-6.49	117.10	121.00
3	H	341	ARG	NE-CZ-NH1	6.48	123.54	120.30
2	m	65	PHE	CB-CG-CD2	-6.48	116.26	120.80
3	M	260	GLU	OE1-CD-OE2	6.48	131.08	123.30
3	K	263	ARG	NE-CZ-NH2	-6.48	117.06	120.30
2	m	81	ARG	NE-CZ-NH1	6.47	123.54	120.30
1	D	86	ARG	NE-CZ-NH1	6.47	123.53	120.30
1	C	204	LEU	CB-CG-CD2	6.46	121.99	111.00
3	H	52	ARG	NE-CZ-NH1	-6.46	117.07	120.30
1	e	220	THR	CA-CB-CG2	-6.46	103.35	112.40
1	A	241	ARG	NE-CZ-NH1	-6.46	117.07	120.30
2	n	176	MET	CG-SD-CE	-6.46	89.87	100.20
3	K	286	ALA	N-CA-CB	6.45	119.14	110.10
1	D	62	ASP	CB-CG-OD2	6.45	124.10	118.30
1	E	56	SER	CB-CA-C	-6.45	97.85	110.10
3	K	114	ALA	N-CA-CB	6.45	119.13	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	232	TYR	CB-CG-CD1	-6.45	117.13	121.00
3	K	205	ARG	CD-NE-CZ	-6.45	114.58	123.60
3	J	18	GLU	CB-CA-C	-6.45	97.51	110.40
1	C	9	ASP	N-CA-CB	6.44	122.19	110.60
3	H	128	TYR	CB-CG-CD1	-6.44	117.14	121.00
3	L	317	ARG	NH1-CZ-NH2	6.44	126.48	119.40
1	E	134	VAL	CA-CB-CG2	6.43	120.55	110.90
2	k	52	MET	CG-SD-CE	6.43	110.50	100.20
2	j	81	ARG	NE-CZ-NH2	-6.43	117.08	120.30
3	I	211	PHE	CB-CG-CD2	-6.43	116.30	120.80
2	h	194	ASP	CB-CG-OD1	6.42	124.08	118.30
1	b	175	PHE	CB-CG-CD2	-6.42	116.31	120.80
3	K	124	ASP	CB-CG-OD2	6.41	124.07	118.30
2	4	106	TYR	CB-CG-CD1	6.41	124.85	121.00
1	B	239	ARG	NE-CZ-NH1	-6.41	117.09	120.30
2	k	148	TYR	CB-CG-CD2	6.41	124.85	121.00
3	I	387	THR	N-CA-CB	6.41	122.47	110.30
2	k	196	PHE	CB-CG-CD2	6.40	125.28	120.80
1	D	92	ALA	CB-CA-C	-6.40	100.50	110.10
1	B	179	TYR	CB-CG-CD1	-6.40	117.16	121.00
2	i	199	TYR	CB-CG-CD2	-6.40	117.16	121.00
3	J	105	ARG	NE-CZ-NH2	-6.39	117.10	120.30
2	k	33	MET	CG-SD-CE	-6.39	89.98	100.20
1	b	126	TYR	CG-CD2-CE2	-6.38	116.19	121.30
3	K	282	LYS	N-CA-CB	6.38	122.09	110.60
1	a	100	ARG	NE-CZ-NH1	6.38	123.49	120.30
2	h	30	ARG	NE-CZ-NH1	-6.38	117.11	120.30
2	3	140	THR	N-CA-CB	6.38	122.42	110.30
1	D	53	ARG	NE-CZ-NH2	-6.38	117.11	120.30
1	G	179	TYR	CB-CG-CD1	6.37	124.82	121.00
1	a	119	PHE	CB-CG-CD2	-6.37	116.34	120.80
3	L	63	LEU	CB-CG-CD2	6.37	121.82	111.00
1	D	64	ILE	C-N-CA	6.36	137.61	121.70
3	L	115	ILE	CA-CB-CG1	6.36	123.09	111.00
1	A	159	TYR	CB-CG-CD1	6.36	124.81	121.00
1	F	216	VAL	CA-CB-CG2	-6.36	101.37	110.90
1	F	18	ASP	CB-CG-OD1	6.35	124.02	118.30
2	i	173	TYR	CB-CG-CD2	-6.35	117.19	121.00
3	M	314	PHE	CB-CG-CD1	-6.35	116.36	120.80
2	h	39	SER	N-CA-CB	6.34	120.01	110.50
1	G	230	LYS	CA-C-O	-6.34	106.79	120.10
3	M	118	VAL	CG1-CB-CG2	6.34	121.04	110.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	3	165	VAL	CA-CB-CG1	-6.34	101.40	110.90
3	H	375	PHE	CB-CG-CD2	6.34	125.24	120.80
3	K	333	ASP	N-CA-CB	6.33	122.00	110.60
3	L	241	ASP	CB-CG-OD1	6.33	124.00	118.30
3	J	294	ASP	CB-CG-OD1	6.33	124.00	118.30
1	d	175	PHE	CB-CG-CD1	6.33	125.23	120.80
2	i	46	TYR	CG-CD1-CE1	6.33	126.36	121.30
1	F	195	ALA	CB-CA-C	-6.32	100.62	110.10
3	I	259	ARG	NE-CZ-NH1	6.31	123.46	120.30
3	J	52	ARG	NE-CZ-NH1	6.31	123.46	120.30
2	7	134	GLU	N-CA-CB	6.31	121.96	110.60
3	J	282	LYS	N-CA-CB	6.31	121.95	110.60
3	L	24	ARG	NE-CZ-NH2	6.30	123.45	120.30
3	J	281	VAL	O-C-N	-6.30	112.61	122.70
1	B	126	TYR	CB-CG-CD2	-6.30	117.22	121.00
1	B	139	ALA	CB-CA-C	-6.30	100.65	110.10
1	f	26	TYR	CB-CG-CD1	6.30	124.78	121.00
2	6	165	VAL	CA-CB-CG1	-6.30	101.45	110.90
1	G	103	TYR	CB-CG-CD2	6.30	124.78	121.00
3	L	261	VAL	CG1-CB-CG2	6.30	120.98	110.90
1	A	144	VAL	N-CA-C	-6.29	94.00	111.00
2	1	178	ARG	NE-CZ-NH1	6.29	123.44	120.30
2	1	12	THR	CA-CB-CG2	-6.29	103.60	112.40
2	1	103	TYR	CD1-CE1-CZ	6.28	125.45	119.80
1	C	103	TYR	CB-CG-CD2	-6.28	117.23	121.00
2	3	189	VAL	CA-CB-CG1	6.28	120.32	110.90
3	L	128	TYR	CZ-CE2-CD2	-6.28	114.15	119.80
3	M	367	ARG	N-CA-CB	6.28	121.90	110.60
1	F	161	ALA	N-CA-CB	6.28	118.89	110.10
1	D	176	GLU	N-CA-CB	6.27	121.89	110.60
1	F	18	ASP	CB-CG-OD2	-6.27	112.65	118.30
1	D	201	GLU	N-CA-CB	6.27	121.89	110.60
2	h	46	TYR	CB-CG-CD1	6.27	124.76	121.00
3	L	294	ASP	CB-CG-OD1	-6.27	112.66	118.30
1	d	148	TYR	CB-CG-CD1	6.27	124.76	121.00
3	I	203	PHE	CB-CG-CD2	6.26	125.19	120.80
3	I	286	ALA	N-CA-CB	6.26	118.86	110.10
1	d	105	GLU	OE1-CD-OE2	-6.26	115.79	123.30
2	1	77	TYR	CG-CD2-CE2	6.26	126.31	121.30
2	3	188	VAL	CG1-CB-CG2	-6.25	100.89	110.90
3	L	360	MET	CG-SD-CE	-6.25	90.20	100.20
1	A	137	LEU	CB-CA-C	-6.25	98.33	110.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	2	204	VAL	CA-CB-CG2	-6.25	101.53	110.90
1	G	156	LEU	CB-CG-CD2	-6.24	100.40	111.00
3	M	29	ARG	NE-CZ-NH1	-6.24	117.18	120.30
1	C	168	ARG	NE-CZ-NH1	6.23	123.42	120.30
1	F	142	ASP	CB-CG-OD1	6.23	123.91	118.30
1	g	185	PHE	CB-CG-CD2	-6.23	116.44	120.80
1	G	77	ALA	N-CA-CB	6.23	118.82	110.10
2	6	173	TYR	CB-CG-CD1	-6.23	117.27	121.00
3	I	44	TYR	CB-CG-CD1	-6.22	117.27	121.00
2	4	138	VAL	CG1-CB-CG2	6.22	120.85	110.90
3	K	291	ASP	CB-CG-OD1	6.22	123.90	118.30
1	A	220	THR	CA-CB-CG2	-6.22	103.70	112.40
2	j	184	ASP	CB-CG-OD1	-6.21	112.71	118.30
1	C	26	TYR	CG-CD1-CE1	-6.21	116.33	121.30
1	c	86	ARG	NE-CZ-NH1	6.19	123.39	120.30
2	4	67	ALA	N-CA-CB	6.19	118.77	110.10
1	A	232	TYR	CD1-CE1-CZ	6.19	125.37	119.80
1	C	26	TYR	CG-CD2-CE2	-6.19	116.35	121.30
1	B	179	TYR	CB-CG-CD2	6.18	124.71	121.00
1	F	113	ALA	N-CA-CB	-6.18	101.44	110.10
2	h	106	TYR	CB-CG-CD1	-6.18	117.29	121.00
1	g	155	ALA	N-CA-CB	6.18	118.76	110.10
2	i	106	TYR	CB-CG-CD2	-6.18	117.29	121.00
2	i	185	GLY	N-CA-C	-6.18	97.65	113.10
1	F	103	TYR	CB-CG-CD2	-6.18	117.29	121.00
3	K	239	PHE	CZ-CE2-CD2	-6.18	112.69	120.10
3	J	236	SER	N-CA-CB	6.18	119.76	110.50
1	D	204	LEU	CB-CA-C	-6.17	98.47	110.20
2	6	28	GLU	CA-CB-CG	6.17	126.97	113.40
3	H	364	ARG	NE-CZ-NH2	-6.17	117.21	120.30
1	D	9	ASP	CB-CG-OD2	6.17	123.85	118.30
2	4	176	MET	CG-SD-CE	-6.16	90.34	100.20
3	M	87	PHE	CB-CG-CD2	-6.16	116.49	120.80
1	a	179	TYR	CB-CG-CD1	6.15	124.69	121.00
1	G	213	TYR	CB-CG-CD2	6.15	124.69	121.00
1	f	137	LEU	N-CA-CB	6.15	122.70	110.40
1	f	132	PHE	CD1-CE1-CZ	-6.15	112.72	120.10
2	3	184	ASP	C-N-CA	6.14	135.19	122.30
1	f	186	ASP	CB-CG-OD1	-6.14	112.78	118.30
2	4	197	TYR	CZ-CE2-CD2	-6.13	114.28	119.80
3	I	70	ASP	CB-CG-OD2	-6.13	112.78	118.30
3	I	278	ARG	NE-CZ-NH2	-6.13	117.23	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	c	179	TYR	CB-CG-CD2	-6.13	117.32	121.00
2	k	163	GLU	CB-CA-C	-6.13	98.15	110.40
3	I	364	ARG	NE-CZ-NH1	6.13	123.36	120.30
2	3	49	ALA	N-CA-CB	6.12	118.67	110.10
1	a	100	ARG	NH1-CZ-NH2	-6.12	112.66	119.40
1	D	103	TYR	CB-CG-CD2	-6.12	117.33	121.00
2	6	155	PHE	CB-CG-CD1	-6.12	116.52	120.80
2	3	101	TYR	CB-CG-CD1	-6.12	117.33	121.00
1	b	168	ARG	NE-CZ-NH2	6.12	123.36	120.30
3	K	127	VAL	CA-CB-CG1	-6.12	101.72	110.90
1	b	148	TYR	CB-CG-CD1	-6.12	117.33	121.00
2	m	106	TYR	CG-CD2-CE2	-6.11	116.41	121.30
2	n	184	ASP	CB-CG-OD2	6.11	123.80	118.30
3	J	221	ARG	NE-CZ-NH1	6.11	123.36	120.30
2	3	170	ARG	NE-CZ-NH1	-6.11	117.25	120.30
1	g	33	ARG	NE-CZ-NH1	-6.10	117.25	120.30
1	G	132	PHE	CB-CG-CD1	-6.10	116.53	120.80
2	2	30	ARG	NE-CZ-NH1	-6.10	117.25	120.30
1	B	182	ASP	CB-CG-OD2	-6.10	112.81	118.30
2	i	123	TYR	CD1-CE1-CZ	-6.10	114.31	119.80
1	F	148	TYR	CB-CG-CD2	-6.10	117.34	121.00
1	f	103	TYR	CB-CG-CD1	6.09	124.66	121.00
1	e	224	VAL	CA-CB-CG1	-6.09	101.76	110.90
1	g	194	VAL	CA-CB-CG2	-6.09	101.76	110.90
2	3	123	TYR	CB-CG-CD2	6.09	124.66	121.00
3	M	278	ARG	NE-CZ-NH2	-6.09	117.25	120.30
3	H	215	TYR	CB-CG-CD2	6.08	124.65	121.00
3	H	244	ASP	CB-CG-OD2	-6.08	112.83	118.30
1	B	159	TYR	CA-CB-CG	-6.07	101.86	113.40
2	7	196	PHE	CB-CG-CD2	-6.07	116.55	120.80
3	M	49	ARG	NE-CZ-NH1	6.07	123.33	120.30
3	L	304	ASP	CB-CA-C	-6.06	98.28	110.40
3	J	314	PHE	CB-CG-CD1	-6.06	116.56	120.80
1	A	68	TYR	N-CA-CB	6.06	121.51	110.60
1	B	180	ARG	NE-CZ-NH2	6.06	123.33	120.30
1	d	233	VAL	CA-CB-CG2	-6.06	101.81	110.90
1	E	100	ARG	NE-CZ-NH1	-6.06	117.27	120.30
1	f	148	TYR	CB-CG-CD2	6.05	124.63	121.00
2	6	101	TYR	CB-CG-CD1	-6.05	117.37	121.00
3	M	20	TYR	CG-CD2-CE2	6.05	126.14	121.30
3	J	375	PHE	CG-CD2-CE2	6.05	127.46	120.80
1	D	15	PHE	CB-CG-CD1	-6.05	116.56	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	i	155	PHE	CB-CG-CD1	-6.04	116.57	120.80
1	D	68	TYR	CB-CG-CD2	-6.04	117.37	121.00
1	A	143	GLU	N-CA-CB	6.04	121.47	110.60
2	1	138	VAL	CA-CB-CG1	6.04	119.96	110.90
2	j	81	ARG	NE-CZ-NH1	6.04	123.32	120.30
1	F	123	TYR	CG-CD1-CE1	-6.04	116.47	121.30
2	1	106	TYR	CB-CG-CD2	-6.04	117.38	121.00
3	J	341	ARG	NE-CZ-NH2	-6.04	117.28	120.30
2	i	41	ALA	CB-CA-C	-6.03	101.05	110.10
1	d	217	ASP	N-CA-CB	6.03	121.46	110.60
1	f	77	ALA	N-CA-CB	6.03	118.54	110.10
1	F	235	ARG	NE-CZ-NH2	6.03	123.31	120.30
3	J	57	ARG	NE-CZ-NH2	6.03	123.31	120.30
1	g	244	LEU	CB-CG-CD1	6.02	121.24	111.00
1	b	31	VAL	CA-CB-CG2	6.02	119.94	110.90
2	h	66	LEU	CB-CG-CD1	6.02	121.23	111.00
3	J	140	TYR	CB-CG-CD2	6.02	124.61	121.00
1	c	28	ARG	NE-CZ-NH2	-6.01	117.29	120.30
2	3	173	TYR	CB-CG-CD1	-6.01	117.39	121.00
2	7	212	ARG	NH1-CZ-NH2	-6.01	112.78	119.40
2	6	14	THR	CA-CB-CG2	-6.01	103.98	112.40
2	5	77	TYR	CB-CG-CD1	-6.01	117.39	121.00
1	F	148	TYR	CG-CD2-CE2	-6.01	116.49	121.30
3	L	350	ASP	CB-CG-OD1	-6.01	112.89	118.30
1	C	233	VAL	O-C-N	-6.01	113.09	122.70
2	1	57	ALA	N-CA-C	-6.01	94.78	111.00
3	L	29	ARG	NE-CZ-NH2	-6.01	117.30	120.30
3	J	364	ARG	NE-CZ-NH1	-6.00	117.30	120.30
3	J	154	ARG	CG-CD-NE	-6.00	99.19	111.80
3	L	167	PHE	CB-CG-CD2	6.00	125.00	120.80
1	a	28	ARG	NE-CZ-NH2	-6.00	117.30	120.30
1	C	26	TYR	CB-CG-CD2	6.00	124.60	121.00
2	l	199	TYR	CB-CG-CD1	-6.00	117.40	121.00
1	A	33	ARG	NE-CZ-NH2	-5.99	117.30	120.30
3	K	19	ASP	CB-CG-OD1	5.99	123.69	118.30
2	5	104	PHE	CB-CG-CD1	5.99	124.99	120.80
3	L	207	VAL	CA-CB-CG1	5.99	119.89	110.90
1	A	126	TYR	CB-CG-CD2	-5.99	117.41	121.00
2	k	139	ALA	C-N-CA	5.99	136.67	121.70
1	d	175	PHE	CB-CG-CD2	-5.99	116.61	120.80
1	F	10	ARG	NE-CZ-NH1	5.98	123.29	120.30
1	F	91	ARG	NE-CZ-NH2	-5.98	117.31	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	m	162	ASP	CB-CG-OD1	-5.98	112.92	118.30
3	I	305	ARG	NE-CZ-NH1	5.98	123.29	120.30
1	A	130	ARG	NE-CZ-NH2	-5.98	117.31	120.30
3	K	303	PHE	N-CA-C	-5.97	94.87	111.00
2	7	53	ALA	N-CA-CB	5.97	118.46	110.10
3	K	52	ARG	NE-CZ-NH1	5.97	123.29	120.30
3	K	55	VAL	CA-CB-CG1	-5.97	101.95	110.90
1	D	213	TYR	CA-CB-CG	5.97	124.73	113.40
1	G	26	TYR	CB-CG-CD2	5.97	124.58	121.00
2	6	46	TYR	CG-CD1-CE1	-5.97	116.53	121.30
1	d	99	ASN	O-C-N	-5.96	113.16	122.70
1	f	132	PHE	CB-CG-CD2	-5.96	116.63	120.80
3	I	87	PHE	CB-CG-CD2	-5.96	116.63	120.80
2	h	122	ILE	O-C-N	-5.96	113.17	122.70
2	i	211	PHE	CB-CG-CD1	5.96	124.97	120.80
1	E	15	PHE	CB-CG-CD2	-5.95	116.63	120.80
1	E	20	ARG	NE-CZ-NH1	5.95	123.28	120.30
3	L	24	ARG	NE-CZ-NH1	5.95	123.28	120.30
3	J	19	ASP	CB-CG-OD2	-5.95	112.94	118.30
1	B	8	TYR	CZ-CE2-CD2	-5.95	114.45	119.80
1	f	151	ASP	CB-CG-OD2	-5.95	112.95	118.30
2	h	33	MET	N-CA-CB	5.95	121.31	110.60
3	H	59	ARG	NE-CZ-NH2	-5.95	117.33	120.30
1	D	119	PHE	CG-CD2-CE2	-5.94	114.26	120.80
2	2	102	ARG	NE-CZ-NH2	5.94	123.27	120.30
3	M	281	VAL	C-N-CA	5.94	136.56	121.70
1	E	90	ASP	CB-CG-OD1	-5.94	112.95	118.30
1	E	217	ASP	CB-CG-OD1	5.94	123.64	118.30
2	l	211	PHE	CB-CG-CD2	-5.94	116.64	120.80
3	H	313	THR	CA-CB-CG2	-5.93	104.09	112.40
3	K	112	THR	CA-CB-CG2	-5.93	104.10	112.40
1	F	92	ALA	N-CA-CB	5.93	118.40	110.10
2	j	176	MET	CA-CB-CG	5.93	123.38	113.30
3	I	242	GLU	N-CA-C	-5.92	95.01	111.00
3	L	397	PHE	CB-CG-CD1	-5.92	116.66	120.80
2	i	152	GLU	OE1-CD-OE2	5.92	130.40	123.30
2	4	30	ARG	NE-CZ-NH1	-5.92	117.34	120.30
2	i	55	THR	CA-CB-CG2	-5.92	104.12	112.40
1	b	124	THR	CA-CB-CG2	-5.91	104.12	112.40
1	C	6	MET	CG-SD-CE	-5.91	90.74	100.20
3	K	296	ALA	CB-CA-C	-5.91	101.23	110.10
1	D	18	ASP	CB-CG-OD1	5.91	123.62	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	e	143	GLU	OE1-CD-OE2	5.91	130.39	123.30
1	f	174	PHE	CB-CG-CD2	-5.91	116.66	120.80
2	6	154	ARG	NE-CZ-NH1	-5.91	117.35	120.30
1	d	149	GLU	N-CA-CB	5.91	121.23	110.60
1	b	126	TYR	CD1-CG-CD2	5.91	124.39	117.90
1	F	21	LEU	N-CA-C	-5.91	95.06	111.00
1	g	68	TYR	CG-CD1-CE1	-5.91	116.58	121.30
2	h	68	ARG	NE-CZ-NH1	5.91	123.25	120.30
2	7	107	LEU	N-CA-CB	5.90	122.21	110.40
1	g	76	ALA	N-CA-CB	5.90	118.36	110.10
2	3	139	ALA	N-CA-CB	5.90	118.36	110.10
2	2	199	TYR	CG-CD2-CE2	-5.90	116.58	121.30
1	d	91	ARG	CG-CD-NE	-5.90	99.42	111.80
1	e	123	TYR	CB-CG-CD1	-5.90	117.46	121.00
2	n	24	VAL	CA-CB-CG2	-5.90	102.06	110.90
2	6	199	TYR	CB-CG-CD1	-5.89	117.47	121.00
1	e	159	TYR	CB-CG-CD1	-5.89	117.47	121.00
1	a	95	GLU	N-CA-CB	5.88	121.19	110.60
1	c	180	ARG	NE-CZ-NH1	-5.88	117.36	120.30
1	d	180	ARG	NE-CZ-NH2	5.88	123.24	120.30
1	G	113	ALA	N-CA-CB	5.88	118.33	110.10
3	L	374	ASP	CB-CG-OD1	5.88	123.59	118.30
1	B	10	ARG	NE-CZ-NH1	5.88	123.24	120.30
1	E	91	ARG	NE-CZ-NH2	5.88	123.24	120.30
2	j	148	TYR	CB-CG-CD2	5.88	124.53	121.00
1	C	196	MET	CG-SD-CE	-5.87	90.80	100.20
1	F	219	ARG	NE-CZ-NH2	-5.87	117.36	120.30
1	d	31	VAL	CA-CB-CG2	5.87	119.70	110.90
2	6	106	TYR	CG-CD2-CE2	-5.87	116.61	121.30
3	I	222	LEU	CB-CG-CD2	-5.87	101.03	111.00
3	L	397	PHE	CB-CG-CD2	5.87	124.91	120.80
1	D	56	SER	CB-CA-C	5.86	121.24	110.10
2	n	50	ASP	CB-CG-OD1	-5.86	113.03	118.30
3	J	149	GLN	N-CA-CB	5.86	121.15	110.60
3	J	314	PHE	CB-CG-CD2	5.86	124.90	120.80
1	e	246	LYS	CA-CB-CG	5.86	126.29	113.40
1	F	8	TYR	CG-CD2-CE2	-5.86	116.61	121.30
2	2	156	THR	CA-CB-CG2	-5.86	104.20	112.40
1	b	241	ARG	O-C-N	5.86	132.07	122.70
2	6	80	ARG	CD-NE-CZ	-5.86	115.40	123.60
3	J	94	TYR	CB-CG-CD1	-5.85	117.49	121.00
3	J	254	ASP	C-N-CA	5.85	136.33	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	2	102	ARG	NE-CZ-NH1	-5.85	117.38	120.30
2	m	77	TYR	CG-CD2-CE2	-5.85	116.62	121.30
3	H	127	VAL	CG1-CB-CG2	-5.85	101.54	110.90
1	g	232	TYR	CB-CG-CD2	5.85	124.51	121.00
3	H	328	MET	CG-SD-CE	5.85	109.56	100.20
1	a	37	ALA	N-CA-CB	5.84	118.28	110.10
2	2	198	GLN	N-CA-C	-5.84	95.22	111.00
2	i	148	TYR	CB-CA-C	-5.84	98.71	110.40
3	L	50	ARG	NE-CZ-NH1	-5.84	117.38	120.30
1	a	174	PHE	CB-CG-CD1	-5.84	116.71	120.80
2	i	80	ARG	NE-CZ-NH2	5.84	123.22	120.30
2	m	170	ARG	NE-CZ-NH2	5.84	123.22	120.30
2	n	139	ALA	N-CA-CB	5.84	118.28	110.10
3	I	261	VAL	CA-CB-CG2	-5.84	102.14	110.90
2	h	38	ALA	N-CA-CB	-5.84	101.93	110.10
3	M	169	GLU	CA-CB-CG	-5.84	100.56	113.40
2	k	101	TYR	CB-CG-CD1	5.84	124.50	121.00
2	k	212	ARG	NE-CZ-NH1	5.84	123.22	120.30
3	H	130	PHE	CB-CG-CD2	-5.83	116.72	120.80
2	3	88	ARG	NE-CZ-NH2	5.83	123.22	120.30
2	3	106	TYR	CB-CG-CD1	-5.83	117.50	121.00
3	M	24	ARG	NE-CZ-NH1	5.83	123.22	120.30
2	n	173	TYR	CB-CG-CD2	-5.83	117.50	121.00
3	L	391	ASP	C-N-CA	5.83	136.26	121.70
1	F	232	TYR	CB-CG-CD1	5.82	124.49	121.00
1	g	53	ARG	NE-CZ-NH1	-5.82	117.39	120.30
2	2	170	ARG	NE-CZ-NH1	-5.82	117.39	120.30
2	3	196	PHE	CB-CG-CD1	-5.82	116.73	120.80
3	L	374	ASP	CB-CG-OD2	-5.82	113.06	118.30
2	i	197	TYR	CB-CG-CD1	-5.82	117.51	121.00
2	4	46	TYR	N-CA-C	-5.81	95.32	111.00
1	a	219	ARG	NE-CZ-NH2	-5.80	117.40	120.30
1	B	10	ARG	NE-CZ-NH2	-5.80	117.40	120.30
1	e	217	ASP	CB-CG-OD2	-5.80	113.08	118.30
1	c	217	ASP	CB-CG-OD2	5.80	123.52	118.30
3	J	241	ASP	N-CA-CB	-5.80	100.16	110.60
3	L	43	ARG	NE-CZ-NH2	-5.80	117.40	120.30
1	a	190	VAL	CA-CB-CG2	-5.80	102.20	110.90
1	B	126	TYR	CG-CD1-CE1	-5.80	116.66	121.30
1	F	10	ARG	NE-CZ-NH2	-5.80	117.40	120.30
1	F	161	ALA	N-CA-C	-5.79	95.36	111.00
2	5	164	ALA	N-CA-CB	5.79	118.21	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	m	211	PHE	CZ-CE2-CD2	-5.79	113.15	120.10
2	6	139	ALA	N-CA-C	-5.79	95.36	111.00
2	2	179	ASP	CB-CG-OD2	5.79	123.51	118.30
2	h	83	ARG	NE-CZ-NH1	-5.78	117.41	120.30
2	4	196	PHE	CB-CG-CD2	-5.78	116.75	120.80
2	h	148	TYR	CG-CD1-CE1	5.78	125.93	121.30
3	H	276	ASP	CB-CG-OD1	-5.78	113.10	118.30
1	g	148	TYR	CB-CG-CD1	-5.78	117.53	121.00
3	H	385	LYS	CB-CA-C	-5.78	98.84	110.40
3	J	74	ASP	CB-CG-OD2	-5.78	113.10	118.30
1	A	31	VAL	CG1-CB-CG2	5.78	120.14	110.90
1	c	137	LEU	N-CA-C	-5.77	95.41	111.00
3	M	350	ASP	CB-CG-OD1	5.77	123.50	118.30
1	c	215	LYS	CB-CA-C	-5.77	98.86	110.40
2	n	197	TYR	CG-CD2-CE2	-5.77	116.68	121.30
3	H	119	LEU	CB-CG-CD1	5.77	120.81	111.00
1	a	10	ARG	NE-CZ-NH1	-5.77	117.42	120.30
3	H	29	ARG	CD-NE-CZ	-5.77	115.52	123.60
2	6	46	TYR	CD1-CE1-CZ	5.77	124.99	119.80
3	J	124	ASP	CB-CG-OD2	5.77	123.49	118.30
1	C	218	ASP	CB-CG-OD2	5.76	123.49	118.30
3	L	81	SER	N-CA-CB	5.76	119.15	110.50
3	L	220	ALA	CB-CA-C	-5.76	101.46	110.10
1	B	92	ALA	N-CA-CB	5.76	118.16	110.10
1	B	104	ASP	N-CA-CB	5.76	120.96	110.60
1	B	168	ARG	NE-CZ-NH1	-5.75	117.42	120.30
2	3	148	TYR	CB-CG-CD1	5.75	124.45	121.00
2	k	170	ARG	NE-CZ-NH2	-5.75	117.42	120.30
3	K	278	ARG	NE-CZ-NH1	5.75	123.18	120.30
1	c	202	SER	N-CA-CB	5.75	119.12	110.50
3	J	305	ARG	NE-CZ-NH1	5.75	123.17	120.30
1	F	92	ALA	CB-CA-C	-5.74	101.49	110.10
1	d	174	PHE	CB-CG-CD2	-5.74	116.78	120.80
1	f	219	ARG	NE-CZ-NH2	-5.74	117.43	120.30
2	i	199	TYR	CG-CD2-CE2	-5.74	116.71	121.30
3	I	149	GLN	CB-CA-C	5.74	121.88	110.40
1	G	118	ASP	CB-CG-OD1	-5.74	113.14	118.30
2	l	155	PHE	CB-CG-CD2	5.74	124.82	120.80
3	I	43	ARG	NE-CZ-NH2	-5.74	117.43	120.30
1	e	37	ALA	N-CA-CB	5.74	118.13	110.10
1	e	142	ASP	CB-CG-OD1	-5.73	113.14	118.30
3	M	289	ARG	NE-CZ-NH1	-5.73	117.44	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	J	278	ARG	NH1-CZ-NH2	-5.73	113.10	119.40
2	6	103	TYR	CG-CD1-CE1	-5.73	116.72	121.30
1	d	232	TYR	CB-CG-CD1	5.72	124.44	121.00
2	i	196	PHE	CB-CG-CD1	-5.72	116.79	120.80
1	g	11	ALA	N-CA-CB	5.72	118.11	110.10
1	d	95	GLU	OE1-CD-OE2	5.72	130.16	123.30
2	7	86	THR	CA-CB-CG2	-5.72	104.40	112.40
2	m	83	ARG	NE-CZ-NH2	5.71	123.16	120.30
1	a	235	ARG	NE-CZ-NH2	5.71	123.16	120.30
1	e	20	ARG	NE-CZ-NH1	5.71	123.16	120.30
1	b	21	LEU	CB-CG-CD1	5.71	120.71	111.00
3	I	73	GLU	O-C-N	-5.71	113.56	122.70
3	J	81	SER	N-CA-CB	5.71	119.06	110.50
1	B	218	ASP	CB-CG-OD1	5.70	123.43	118.30
3	J	250	ARG	NE-CZ-NH2	-5.70	117.45	120.30
2	6	199	TYR	CD1-CE1-CZ	-5.70	114.67	119.80
2	5	104	PHE	CB-CG-CD2	-5.69	116.81	120.80
3	I	179	LEU	N-CA-CB	5.69	121.78	110.40
2	k	14	THR	CA-CB-CG2	-5.69	104.43	112.40
2	n	51	ARG	NE-CZ-NH1	-5.69	117.45	120.30
2	l	148	TYR	CB-CG-CD2	5.69	124.41	121.00
3	K	304	ASP	N-CA-CB	5.69	120.84	110.60
1	A	234	GLU	OE1-CD-OE2	5.69	130.12	123.30
2	6	83	ARG	NE-CZ-NH2	5.69	123.14	120.30
2	7	120	LYS	CB-CG-CD	5.69	126.38	111.60
3	L	281	VAL	C-N-CA	5.68	135.91	121.70
1	e	116	ILE	CA-CB-CG2	-5.68	99.53	110.90
3	I	236	SER	C-N-CA	5.68	135.91	121.70
2	4	195	GLU	O-C-N	5.68	131.79	122.70
2	2	62	ASP	CB-CG-OD2	-5.68	113.19	118.30
1	c	194	VAL	CG1-CB-CG2	-5.68	101.82	110.90
3	K	257	GLY	C-N-CA	5.67	135.88	121.70
3	J	331	ALA	N-CA-CB	5.67	118.04	110.10
2	1	111	LEU	CB-CG-CD1	-5.67	101.36	111.00
2	7	46	TYR	CZ-CE2-CD2	-5.67	114.70	119.80
2	i	187	ASP	CB-CG-OD2	-5.67	113.20	118.30
3	M	20	TYR	CB-CG-CD2	-5.67	117.60	121.00
3	L	24	ARG	NH1-CZ-NH2	-5.67	113.17	119.40
1	g	187	ASP	N-CA-CB	5.67	120.80	110.60
1	g	68	TYR	CA-CB-CG	-5.66	102.64	113.40
2	4	197	TYR	CG-CD1-CE1	-5.66	116.77	121.30
2	7	173	TYR	CB-CG-CD1	-5.66	117.60	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	K	211	PHE	N-CA-CB	5.66	120.78	110.60
1	d	219	ARG	N-CA-CB	5.66	120.78	110.60
2	l	29	LYS	N-CA-CB	5.66	120.78	110.60
2	6	103	TYR	CB-CG-CD2	-5.66	117.61	121.00
1	e	221	PHE	CG-CD1-CE1	5.65	127.02	120.80
1	C	182	ASP	CB-CG-OD1	5.65	123.39	118.30
1	C	220	THR	N-CA-C	-5.65	95.74	111.00
3	H	19	ASP	CB-CG-OD2	-5.65	113.21	118.30
3	M	333	ASP	N-CA-CB	5.65	120.77	110.60
1	b	90	ASP	CB-CG-OD1	-5.65	113.22	118.30
1	b	180	ARG	CB-CA-C	-5.65	99.10	110.40
2	5	174	SER	N-CA-CB	5.65	118.97	110.50
1	C	170	ALA	CB-CA-C	-5.65	101.63	110.10
3	J	156	ALA	CB-CA-C	-5.65	101.63	110.10
2	n	121	SER	N-CA-CB	5.65	118.97	110.50
1	g	15	PHE	CB-CG-CD1	5.64	124.75	120.80
2	h	143	GLY	C-N-CA	5.64	135.81	121.70
1	A	123	TYR	CG-CD2-CE2	-5.64	116.79	121.30
2	5	25	MET	CG-SD-CE	5.64	109.22	100.20
1	F	213	TYR	CA-CB-CG	5.64	124.11	113.40
1	d	11	ALA	N-CA-CB	5.64	117.99	110.10
1	C	142	ASP	CB-CG-OD2	5.63	123.37	118.30
1	E	180	ARG	NE-CZ-NH1	5.63	123.12	120.30
2	2	139	ALA	N-CA-CB	5.63	117.99	110.10
2	i	21	ASP	CB-CG-OD1	5.63	123.37	118.30
1	F	117	CYS	CA-CB-SG	-5.63	103.87	114.00
3	M	328	MET	CG-SD-CE	-5.63	91.19	100.20
2	2	179	ASP	CB-CG-OD1	-5.63	113.24	118.30
1	D	232	TYR	CG-CD2-CE2	-5.62	116.80	121.30
2	2	30	ARG	N-CA-CB	5.62	120.72	110.60
3	K	22	LYS	CA-CB-CG	5.62	125.77	113.40
3	J	357	GLU	O-C-N	-5.62	113.70	122.70
1	f	35	ALA	N-CA-CB	5.62	117.97	110.10
2	6	77	TYR	CB-CG-CD1	5.62	124.37	121.00
1	f	150	THR	CA-CB-CG2	-5.62	104.54	112.40
3	L	146	LEU	N-CA-C	-5.62	95.84	111.00
1	g	235	ARG	NE-CZ-NH2	5.61	123.11	120.30
1	d	105	GLU	N-CA-CB	5.61	120.70	110.60
1	d	76	ALA	N-CA-CB	5.61	117.95	110.10
2	l	148	TYR	CB-CG-CD1	-5.61	117.64	121.00
3	H	376	THR	CA-CB-CG2	5.61	120.25	112.40
3	M	364	ARG	NE-CZ-NH1	-5.61	117.50	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	4	148	TYR	CG-CD1-CE1	-5.61	116.82	121.30
2	j	67	ALA	CB-CA-C	-5.60	101.69	110.10
3	K	209	SER	N-CA-C	-5.60	95.87	111.00
3	L	167	PHE	CG-CD2-CE2	5.60	126.96	120.80
1	f	241	ARG	NE-CZ-NH2	5.60	123.10	120.30
2	m	83	ARG	N-CA-CB	5.60	120.69	110.60
1	b	71	ASP	CB-CG-OD2	5.60	123.34	118.30
3	I	163	LYS	N-CA-CB	5.60	120.68	110.60
1	d	18	ASP	CB-CG-OD1	-5.60	113.26	118.30
1	f	159	TYR	CD1-CG-CD2	5.60	124.06	117.90
2	l	66	LEU	O-C-N	5.59	131.65	122.70
1	g	229	LEU	CB-CA-C	-5.59	99.57	110.20
2	6	33	MET	N-CA-CB	5.59	120.67	110.60
2	4	108	VAL	N-CA-C	-5.59	95.91	111.00
1	D	202	SER	N-CA-CB	5.59	118.88	110.50
2	h	74	ALA	CB-CA-C	-5.58	101.73	110.10
2	l	30	ARG	NE-CZ-NH1	5.58	123.09	120.30
2	3	169	VAL	CA-CB-CG1	5.58	119.27	110.90
3	M	27	TYR	CG-CD1-CE1	-5.58	116.84	121.30
1	g	39	GLY	N-CA-C	-5.58	99.15	113.10
1	C	28	ARG	NE-CZ-NH1	5.57	123.09	120.30
1	d	130	ARG	NE-CZ-NH2	5.57	123.08	120.30
2	k	77	TYR	CG-CD2-CE2	-5.56	116.85	121.30
2	7	101	TYR	CG-CD1-CE1	-5.56	116.85	121.30
2	n	154	ARG	NE-CZ-NH1	-5.56	117.52	120.30
2	5	26	ALA	CB-CA-C	-5.56	101.76	110.10
3	H	317	ARG	NE-CZ-NH1	5.56	123.08	120.30
2	1	91	ALA	N-CA-CB	5.56	117.88	110.10
3	I	127	VAL	CA-CB-CG1	-5.56	102.56	110.90
3	J	350	ASP	CB-CG-OD2	5.55	123.30	118.30
1	e	180	ARG	NE-CZ-NH2	5.55	123.07	120.30
2	2	148	TYR	CG-CD2-CE2	-5.55	116.86	121.30
2	3	81	ARG	NE-CZ-NH2	-5.55	117.53	120.30
2	k	62	ASP	CB-CG-OD2	5.55	123.29	118.30
1	C	176	GLU	OE1-CD-OE2	5.54	129.95	123.30
2	7	81	ARG	NE-CZ-NH1	-5.54	117.53	120.30
3	I	51	LEU	CB-CG-CD1	-5.54	101.58	111.00
1	B	180	ARG	NE-CZ-NH1	-5.54	117.53	120.30
2	n	185	GLY	CA-C-O	5.54	130.57	120.60
2	6	193	GLU	CA-CB-CG	5.54	125.58	113.40
1	c	100	ARG	NE-CZ-NH1	-5.53	117.53	120.30
2	3	201	PRO	N-CA-CB	5.53	109.94	103.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	H	336	PHE	CA-CB-CG	-5.53	100.62	113.90
3	K	180	LEU	N-CA-CB	5.53	121.47	110.40
1	c	80	GLY	O-C-N	5.53	131.54	122.70
1	d	123	TYR	CB-CG-CD2	5.53	124.32	121.00
3	H	181	TYR	CG-CD1-CE1	5.53	125.72	121.30
3	K	391	ASP	CB-CG-OD2	-5.53	113.33	118.30
1	d	126	TYR	CG-CD2-CE2	-5.53	116.88	121.30
2	5	123	TYR	CB-CG-CD2	5.53	124.31	121.00
2	j	62	ASP	CB-CG-OD1	-5.52	113.33	118.30
2	k	89	ALA	CB-CA-C	-5.52	101.82	110.10
1	a	175	PHE	CB-CG-CD2	-5.52	116.94	120.80
3	M	224	ARG	NH1-CZ-NH2	5.51	125.47	119.40
1	A	235	ARG	NE-CZ-NH2	5.51	123.06	120.30
1	B	175	PHE	CB-CG-CD1	5.51	124.66	120.80
1	D	6	MET	CG-SD-CE	-5.51	91.39	100.20
3	J	156	ALA	N-CA-CB	5.51	117.81	110.10
1	C	148	TYR	CA-CB-CG	-5.51	102.94	113.40
1	E	22	PHE	CB-CG-CD1	5.51	124.66	120.80
1	e	15	PHE	CZ-CE2-CD2	5.51	126.71	120.10
1	c	142	ASP	CB-CG-OD2	-5.50	113.35	118.30
3	J	245	ALA	CB-CA-C	-5.50	101.85	110.10
2	j	88	ARG	NE-CZ-NH1	-5.50	117.55	120.30
2	7	209	ALA	N-CA-CB	5.50	117.80	110.10
2	h	106	TYR	N-CA-CB	5.50	120.50	110.60
3	M	386	THR	CA-C-N	5.50	129.29	117.20
1	G	9	ASP	N-CA-CB	5.50	120.49	110.60
3	M	263	ARG	NE-CZ-NH2	5.49	123.05	120.30
3	J	299	ARG	NE-CZ-NH1	5.49	123.05	120.30
1	B	217	ASP	N-CA-CB	5.49	120.48	110.60
1	E	224	VAL	CA-CB-CG1	-5.49	102.66	110.90
1	F	241	ARG	NE-CZ-NH2	5.49	123.05	120.30
2	5	162	ASP	CB-CG-OD2	-5.49	113.36	118.30
3	K	56	GLU	N-CA-CB	5.49	120.48	110.60
1	e	159	TYR	CB-CA-C	-5.49	99.42	110.40
2	4	103	TYR	CB-CG-CD2	5.48	124.29	121.00
1	a	68	TYR	CB-CG-CD2	-5.48	117.71	121.00
1	B	129	VAL	CG1-CB-CG2	5.48	119.67	110.90
1	C	137	LEU	CB-CG-CD2	5.48	120.31	111.00
2	j	113	GLY	O-C-N	5.47	132.50	123.20
3	L	373	LEU	CB-CG-CD2	5.47	120.30	111.00
1	D	132	PHE	CD1-CG-CD2	-5.47	111.19	118.30
2	4	140	THR	N-CA-CB	5.47	120.69	110.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	a	77	ALA	N-CA-CB	5.47	117.75	110.10
2	4	53	ALA	CB-CA-C	-5.47	101.90	110.10
3	M	118	VAL	CA-CB-CG1	5.47	119.10	110.90
1	A	136	LEU	N-CA-C	-5.46	96.25	111.00
1	b	144	VAL	N-CA-C	-5.46	96.25	111.00
1	e	159	TYR	N-CA-CB	5.46	120.44	110.60
3	L	317	ARG	NE-CZ-NH1	-5.46	117.57	120.30
1	G	224	VAL	CA-CB-CG2	-5.46	102.71	110.90
2	k	54	MET	N-CA-C	-5.46	96.26	111.00
3	I	41	ARG	CD-NE-CZ	-5.46	115.96	123.60
1	e	62	ASP	CB-CG-OD1	-5.46	113.39	118.30
2	6	161	VAL	CA-CB-CG2	5.46	119.08	110.90
3	L	106	VAL	CA-CB-CG1	-5.46	102.72	110.90
1	G	13	THR	N-CA-CB	5.45	120.66	110.30
2	5	211	PHE	CB-CG-CD1	5.45	124.61	120.80
3	M	150	ILE	CG1-CB-CG2	-5.45	99.42	111.40
3	I	254	ASP	O-C-N	-5.45	113.99	122.70
1	f	145	PRO	N-CA-CB	5.44	109.83	103.30
2	i	36	PHE	CB-CG-CD1	5.44	124.61	120.80
1	a	157	LEU	CB-CG-CD1	-5.44	101.75	111.00
1	e	142	ASP	CB-CG-OD2	5.44	123.20	118.30
2	i	46	TYR	CB-CG-CD1	5.44	124.26	121.00
2	i	194	ASP	CB-CG-OD2	5.44	123.20	118.30
1	g	13	THR	CA-CB-CG2	-5.44	104.79	112.40
3	J	238	ILE	N-CA-C	-5.44	96.32	111.00
1	B	48	LEU	CB-CG-CD1	5.43	120.24	111.00
2	3	50	ASP	CB-CG-OD2	-5.43	113.41	118.30
2	4	200	SER	N-CA-CB	5.43	118.65	110.50
3	M	310	PRO	N-CA-C	-5.43	97.98	112.10
1	g	93	ARG	NH1-CZ-NH2	-5.43	113.43	119.40
3	H	46	ARG	CD-NE-CZ	5.43	131.20	123.60
3	K	49	ARG	NE-CZ-NH2	5.43	123.02	120.30
1	b	139	ALA	CB-CA-C	-5.43	101.96	110.10
3	H	278	ARG	NE-CZ-NH2	-5.43	117.59	120.30
1	g	237	ASN	N-CA-CB	5.42	120.36	110.60
2	1	74	ALA	CB-CA-C	5.42	118.23	110.10
2	h	154	ARG	NE-CZ-NH2	5.42	123.01	120.30
3	I	170	VAL	CA-CB-CG2	-5.42	102.77	110.90
1	b	69	LYS	N-CA-C	-5.42	96.36	111.00
1	g	91	ARG	NE-CZ-NH2	5.42	123.01	120.30
3	K	369	LYS	N-CA-CB	5.42	120.36	110.60
3	M	179	LEU	CB-CG-CD1	5.42	120.21	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	116	ILE	CA-CB-CG2	5.42	121.74	110.90
2	1	104	PHE	CB-CG-CD2	-5.42	117.01	120.80
1	c	92	ALA	N-CA-CB	5.41	117.68	110.10
2	i	178	ARG	CD-NE-CZ	5.41	131.18	123.60
1	a	91	ARG	NE-CZ-NH2	-5.41	117.59	120.30
2	1	134	GLU	N-CA-CB	5.41	120.34	110.60
3	H	302	ARG	O-C-N	5.41	131.36	122.70
2	2	196	PHE	N-CA-C	-5.41	96.39	111.00
2	4	35	ASN	N-CA-CB	5.41	120.33	110.60
2	3	76	LEU	CB-CG-CD1	5.41	120.19	111.00
3	I	142	ASP	CB-CG-OD1	-5.41	113.43	118.30
2	1	65	PHE	CB-CG-CD2	5.41	124.58	120.80
2	j	171	ALA	N-CA-CB	-5.41	102.53	110.10
2	n	93	LEU	CB-CG-CD1	5.41	120.19	111.00
3	J	182	GLY	N-CA-C	-5.41	99.59	113.10
1	b	172	THR	N-CA-CB	5.40	120.57	110.30
1	E	129	VAL	CG1-CB-CG2	-5.40	102.26	110.90
3	I	242	GLU	N-CA-CB	5.40	120.33	110.60
3	J	337	LYS	CB-CG-CD	5.40	125.64	111.60
2	i	21	ASP	CB-CG-OD2	-5.40	113.44	118.30
2	5	56	THR	CA-CB-CG2	-5.40	104.84	112.40
2	6	102	ARG	NE-CZ-NH2	5.40	123.00	120.30
1	g	213	TYR	CG-CD1-CE1	-5.40	116.98	121.30
3	H	57	ARG	NE-CZ-NH1	5.40	123.00	120.30
1	c	100	ARG	NH1-CZ-NH2	5.39	125.33	119.40
2	1	23	VAL	CG1-CB-CG2	5.39	119.53	110.90
3	I	198	GLN	N-CA-CB	5.39	120.31	110.60
3	J	227	PHE	CZ-CE2-CD2	5.39	126.57	120.10
2	2	42	ALA	N-CA-CB	5.39	117.64	110.10
1	C	68	TYR	CB-CG-CD2	5.38	124.23	121.00
2	h	194	ASP	CB-CG-OD2	-5.38	113.46	118.30
1	f	222	LYS	N-CA-CB	5.38	120.28	110.60
1	f	68	TYR	CZ-CE2-CD2	-5.38	114.96	119.80
3	H	367	ARG	CG-CD-NE	-5.38	100.51	111.80
2	l	56	THR	CA-CB-CG2	-5.38	104.88	112.40
3	H	98	GLU	C-N-CA	5.37	135.13	121.70
1	d	230	LYS	CB-CG-CD	5.37	125.55	111.60
3	I	48	VAL	CA-CB-CG2	-5.37	102.85	110.90
1	B	53	ARG	NE-CZ-NH1	5.36	122.98	120.30
3	H	206	VAL	CA-CB-CG2	-5.36	102.85	110.90
1	b	104	ASP	CB-CG-OD1	-5.36	113.47	118.30
1	G	190	VAL	CA-CB-CG1	5.36	118.94	110.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	b	246	LYS	N-CA-CB	5.36	120.25	110.60
1	C	20	ARG	NE-CZ-NH1	5.36	122.98	120.30
1	c	142	ASP	CB-CG-OD1	5.36	123.12	118.30
1	f	182	ASP	CB-CG-OD2	-5.36	113.48	118.30
1	f	130	ARG	NE-CZ-NH1	5.36	122.98	120.30
2	4	30	ARG	NE-CZ-NH2	5.36	122.98	120.30
1	F	187	ASP	CB-CG-OD2	-5.36	113.48	118.30
1	g	219	ARG	NE-CZ-NH1	5.36	122.98	120.30
2	i	154	ARG	NE-CZ-NH1	5.36	122.98	120.30
2	5	193	GLU	N-CA-CB	5.35	120.23	110.60
3	H	258	ASP	CB-CG-OD1	5.35	123.11	118.30
3	L	113	LEU	N-CA-CB	5.35	121.09	110.40
1	A	148	TYR	CZ-CE2-CD2	-5.34	114.99	119.80
1	E	189	MET	CA-CB-CG	5.34	122.38	113.30
2	j	211	PHE	CB-CG-CD2	5.34	124.54	120.80
1	f	179	TYR	CG-CD1-CE1	-5.34	117.03	121.30
2	7	212	ARG	NE-CZ-NH1	5.34	122.97	120.30
1	D	217	ASP	CB-CG-OD1	-5.34	113.50	118.30
2	h	200	SER	N-CA-CB	5.34	118.50	110.50
2	k	136	ASP	CB-CG-OD2	5.34	123.10	118.30
1	g	20	ARG	NE-CZ-NH1	5.33	122.97	120.30
2	h	197	TYR	CD1-CE1-CZ	-5.33	115.00	119.80
3	M	40	GLU	OE1-CD-OE2	5.33	129.70	123.30
1	F	146	LYS	CA-C-O	-5.33	108.90	120.10
1	d	119	PHE	CZ-CE2-CD2	5.33	126.50	120.10
1	E	51	ASP	CB-CG-OD2	-5.33	113.50	118.30
2	3	89	ALA	CB-CA-C	-5.33	102.11	110.10
2	4	152	GLU	N-CA-CB	5.33	120.19	110.60
2	l	104	PHE	CG-CD1-CE1	-5.33	114.94	120.80
3	H	281	VAL	N-CA-C	-5.33	96.61	111.00
2	5	38	ALA	N-CA-CB	5.33	117.56	110.10
2	n	77	TYR	CB-CG-CD1	-5.33	117.80	121.00
3	H	275	PHE	N-CA-CB	5.33	120.19	110.60
3	L	19	ASP	CB-CG-OD1	5.33	123.09	118.30
3	M	215	TYR	CG-CD2-CE2	-5.33	117.04	121.30
3	K	70	ASP	CB-CG-OD2	-5.32	113.51	118.30
1	C	130	ARG	NE-CZ-NH1	5.32	122.96	120.30
3	H	280	ASP	CB-CG-OD2	5.32	123.09	118.30
3	I	253	SER	CB-CA-C	-5.32	100.00	110.10
3	J	266	MET	C-N-CA	5.32	135.00	121.70
3	I	212	VAL	CA-CB-CG2	5.32	118.87	110.90
3	M	369	LYS	N-CA-CB	5.32	120.17	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	221	PHE	O-C-N	5.31	131.20	122.70
2	m	148	TYR	CG-CD1-CE1	5.31	125.55	121.30
3	H	93	GLN	C-N-CA	5.31	134.98	121.70
1	A	33	ARG	NE-CZ-NH1	5.31	122.95	120.30
1	f	179	TYR	CZ-CE2-CD2	-5.31	115.02	119.80
2	m	112	ILE	CA-CB-CG2	5.31	121.52	110.90
3	L	279	GLY	N-CA-C	-5.31	99.83	113.10
1	e	87	VAL	CA-CB-CG2	-5.31	102.94	110.90
3	K	41	ARG	NE-CZ-NH1	-5.31	117.65	120.30
3	K	189	THR	CA-CB-CG2	-5.31	104.97	112.40
2	1	116	ASP	CB-CG-OD1	-5.31	113.53	118.30
2	j	55	THR	N-CA-C	-5.30	96.68	111.00
1	A	20	ARG	NE-CZ-NH1	5.30	122.95	120.30
1	D	118	ASP	CB-CG-OD2	5.30	123.07	118.30
1	F	68	TYR	CZ-CE2-CD2	5.30	124.57	119.80
2	k	88	ARG	CA-CB-CG	5.30	125.06	113.40
3	K	125	PRO	N-CA-C	-5.30	98.32	112.10
3	M	398	VAL	CA-C-O	-5.30	108.97	120.10
1	a	189	MET	CG-SD-CE	-5.30	91.72	100.20
1	E	150	THR	CA-CB-CG2	-5.30	104.98	112.40
3	M	113	LEU	N-CA-CB	5.30	121.00	110.40
3	H	52	ARG	NE-CZ-NH2	5.30	122.95	120.30
3	K	398	VAL	CA-C-O	-5.30	108.98	120.10
2	1	68	ARG	NE-CZ-NH2	-5.29	117.65	120.30
3	L	398	VAL	CA-C-O	-5.29	108.98	120.10
3	J	275	PHE	CB-CG-CD1	-5.29	117.10	120.80
3	L	242	GLU	N-CA-CB	5.29	120.12	110.60
1	a	142	ASP	CB-CG-OD1	5.29	123.06	118.30
1	E	211	VAL	N-CA-C	-5.29	96.72	111.00
3	J	181	TYR	N-CA-CB	5.29	120.12	110.60
3	J	398	VAL	CA-C-O	-5.29	108.99	120.10
3	M	49	ARG	NE-CZ-NH2	-5.29	117.66	120.30
3	H	398	VAL	CA-C-O	-5.29	109.00	120.10
3	L	278	ARG	NE-CZ-NH1	5.29	122.94	120.30
3	L	29	ARG	NE-CZ-NH1	5.28	122.94	120.30
2	3	173	TYR	CZ-CE2-CD2	5.28	124.55	119.80
3	M	79	VAL	CA-CB-CG1	-5.28	102.98	110.90
3	J	336	PHE	CB-CG-CD1	-5.28	117.10	120.80
2	1	88	ARG	NE-CZ-NH2	5.28	122.94	120.30
2	m	25	MET	CG-SD-CE	-5.28	91.75	100.20
2	7	85	PRO	N-CD-CG	5.28	111.12	103.20
1	c	37	ALA	N-CA-CB	5.28	117.49	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	j	131	ALA	N-CA-C	-5.28	96.76	111.00
3	I	398	VAL	CA-C-O	-5.28	109.02	120.10
3	K	80	LYS	N-CA-C	-5.28	96.75	111.00
3	J	64	LEU	CB-CG-CD1	5.27	119.97	111.00
1	d	26	TYR	CB-CG-CD2	-5.27	117.84	121.00
1	f	51	ASP	CB-CG-OD2	5.27	123.05	118.30
1	F	8	TYR	CD1-CE1-CZ	-5.27	115.06	119.80
2	2	51	ARG	NE-CZ-NH2	5.27	122.94	120.30
2	j	106	TYR	CA-CB-CG	-5.27	103.38	113.40
1	E	175	PHE	CB-CG-CD2	5.27	124.49	120.80
3	K	87	PHE	CB-CG-CD1	-5.27	117.11	120.80
2	h	121	SER	N-CA-CB	5.27	118.40	110.50
3	H	244	ASP	N-CA-CB	5.27	120.08	110.60
3	M	200	ARG	NE-CZ-NH2	-5.27	117.67	120.30
2	4	196	PHE	CG-CD1-CE1	-5.27	115.01	120.80
1	g	56	SER	N-CA-C	5.26	125.21	111.00
2	2	49	ALA	N-CA-CB	5.26	117.47	110.10
3	I	372	MET	CG-SD-CE	-5.26	91.78	100.20
1	b	15	PHE	CB-CG-CD1	5.26	124.48	120.80
1	A	135	SER	N-CA-CB	5.26	118.39	110.50
2	l	62	ASP	CB-CG-OD1	-5.26	113.56	118.30
2	h	211	PHE	CB-CG-CD2	5.26	124.48	120.80
2	i	101	TYR	CD1-CE1-CZ	5.26	124.53	119.80
1	c	168	ARG	NE-CZ-NH2	5.25	122.93	120.30
2	2	148	TYR	CB-CG-CD2	5.25	124.15	121.00
3	H	366	GLU	OE1-CD-OE2	5.25	129.60	123.30
3	K	265	MET	CG-SD-CE	-5.25	91.79	100.20
3	L	74	ASP	CB-CG-OD2	5.25	123.03	118.30
1	C	53	ARG	NE-CZ-NH2	5.25	122.92	120.30
3	I	272	LEU	CB-CG-CD1	5.25	119.92	111.00
1	a	246	LYS	CB-CG-CD	5.25	125.24	111.60
1	G	108	THR	CA-CB-CG2	-5.24	105.06	112.40
2	l	77	TYR	CG-CD1-CE1	5.24	125.50	121.30
1	b	86	ARG	NE-CZ-NH2	-5.24	117.68	120.30
2	3	102	ARG	NE-CZ-NH1	-5.24	117.68	120.30
1	D	123	TYR	CB-CG-CD2	5.24	124.14	121.00
2	5	148	TYR	CG-CD1-CE1	-5.24	117.11	121.30
1	g	219	ARG	N-CA-CB	5.24	120.03	110.60
3	H	118	VAL	N-CA-C	-5.24	96.86	111.00
1	B	91	ARG	NE-CZ-NH1	-5.24	117.68	120.30
2	j	131	ALA	O-C-N	-5.24	114.32	122.70
3	I	264	THR	CA-CB-CG2	-5.23	105.08	112.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	J	211	PHE	CB-CG-CD1	5.23	124.46	120.80
1	d	213	TYR	CB-CG-CD2	5.23	124.14	121.00
3	K	281	VAL	C-N-CA	5.23	134.78	121.70
3	K	397	PHE	N-CA-CB	5.23	120.01	110.60
2	h	173	TYR	CZ-CE2-CD2	5.23	124.50	119.80
2	i	123	TYR	CB-CG-CD2	-5.23	117.86	121.00
2	6	197	TYR	CB-CG-CD1	-5.22	117.87	121.00
2	7	137	ILE	CA-CB-CG2	5.22	121.35	110.90
2	4	196	PHE	CD1-CG-CD2	5.22	125.09	118.30
1	a	93	ARG	NE-CZ-NH1	-5.22	117.69	120.30
1	d	168	ARG	NE-CZ-NH2	5.22	122.91	120.30
1	g	220	THR	N-CA-C	-5.22	96.90	111.00
1	A	189	MET	O-C-N	5.22	131.05	122.70
1	E	71	ASP	CB-CG-OD2	5.22	123.00	118.30
3	H	205	ARG	NE-CZ-NH2	5.22	122.91	120.30
3	L	167	PHE	CA-CB-CG	-5.22	101.37	113.90
1	B	64	ILE	C-N-CA	5.22	134.75	121.70
2	j	91	ALA	CB-CA-C	-5.22	102.27	110.10
2	7	169	VAL	CA-CB-CG2	-5.22	103.07	110.90
3	M	11	GLU	CA-C-O	5.22	131.05	120.10
3	J	113	LEU	CB-CG-CD2	5.22	119.87	111.00
3	J	278	ARG	NE-CZ-NH1	5.22	122.91	120.30
2	j	77	TYR	CB-CG-CD1	-5.21	117.87	121.00
2	k	179	ASP	CB-CG-OD2	-5.21	113.61	118.30
1	F	221	PHE	CB-CG-CD1	-5.21	117.15	120.80
1	G	126	TYR	CG-CD1-CE1	-5.21	117.13	121.30
1	B	33	ARG	NE-CZ-NH2	5.21	122.90	120.30
3	K	334	VAL	CA-CB-CG2	-5.21	103.09	110.90
3	L	302	ARG	NE-CZ-NH2	-5.21	117.70	120.30
3	M	265	MET	CG-SD-CE	-5.21	91.87	100.20
3	K	200	ARG	NE-CZ-NH1	5.20	122.90	120.30
1	F	112	LEU	CB-CG-CD1	5.20	119.84	111.00
1	G	33	ARG	NE-CZ-NH1	5.20	122.90	120.30
3	M	105	ARG	NH1-CZ-NH2	5.20	125.12	119.40
1	e	204	LEU	CB-CA-C	-5.20	100.32	110.20
1	e	235	ARG	N-CA-CB	5.20	119.96	110.60
1	F	100	ARG	N-CA-CB	5.20	119.96	110.60
2	7	17	LEU	N-CA-C	-5.20	96.96	111.00
1	c	37	ALA	O-C-N	5.20	131.01	122.70
3	H	227	PHE	CB-CG-CD2	5.20	124.44	120.80
1	b	103	TYR	CB-CA-C	-5.20	100.01	110.40
1	g	74	ILE	CA-CB-CG1	5.20	120.87	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	6	143	GLY	C-N-CA	5.20	134.69	121.70
2	7	184	ASP	CB-CG-OD2	-5.20	113.62	118.30
3	I	55	VAL	CA-CB-CG1	5.20	118.69	110.90
1	C	119	PHE	N-CA-CB	5.19	119.95	110.60
1	G	15	PHE	O-C-N	-5.19	114.40	122.70
2	3	29	LYS	N-CA-CB	5.19	119.94	110.60
2	l	170	ARG	CD-NE-CZ	5.19	130.86	123.60
1	d	168	ARG	CB-CA-C	-5.19	100.03	110.40
1	f	132	PHE	CG-CD1-CE1	5.18	126.50	120.80
1	G	53	ARG	NE-CZ-NH1	-5.18	117.71	120.30
3	M	244	ASP	CB-CG-OD1	-5.18	113.64	118.30
2	l	112	ILE	N-CA-C	-5.18	97.01	111.00
3	I	391	ASP	N-CA-CB	5.18	119.92	110.60
1	f	15	PHE	CB-CG-CD1	5.18	124.42	120.80
1	D	62	ASP	CB-CG-OD1	-5.18	113.64	118.30
2	l	212	ARG	NH1-CZ-NH2	-5.18	113.71	119.40
3	K	303	PHE	CB-CG-CD2	-5.18	117.18	120.80
2	i	106	TYR	CZ-CE2-CD2	-5.17	115.14	119.80
3	K	203	PHE	CB-CG-CD1	-5.17	117.18	120.80
1	d	26	TYR	CD1-CE1-CZ	-5.17	115.15	119.80
1	G	235	ARG	NE-CZ-NH1	5.17	122.89	120.30
3	J	58	LEU	CB-CG-CD2	5.17	119.79	111.00
1	A	174	PHE	CB-CG-CD2	5.17	124.42	120.80
2	j	51	ARG	NE-CZ-NH1	-5.17	117.72	120.30
2	5	173	TYR	CB-CG-CD1	5.17	124.10	121.00
3	J	202	THR	N-CA-CB	5.17	120.11	110.30
1	b	59	LEU	CB-CG-CD2	5.17	119.78	111.00
1	E	188	ALA	N-CA-CB	5.17	117.33	110.10
3	K	397	PHE	CB-CG-CD2	5.17	124.42	120.80
2	h	13	THR	N-CA-C	-5.16	97.06	111.00
2	m	148	TYR	CB-CG-CD2	5.16	124.10	121.00
3	H	137	GLU	N-CA-CB	5.16	119.90	110.60
1	C	35	ALA	CB-CA-C	-5.16	102.36	110.10
1	d	101	LEU	CB-CG-CD1	5.16	119.78	111.00
3	M	335	ASP	CB-CG-OD1	-5.16	113.65	118.30
2	l	184	ASP	CB-CG-OD2	-5.16	113.66	118.30
1	f	123	TYR	CB-CG-CD1	-5.16	117.91	121.00
1	g	10	ARG	NH1-CZ-NH2	-5.15	113.73	119.40
2	5	53	ALA	N-CA-CB	-5.15	102.88	110.10
2	l	199	TYR	CZ-CE2-CD2	-5.15	115.16	119.80
2	j	176	MET	CG-SD-CE	-5.15	91.96	100.20
1	a	223	GLU	CG-CD-OE2	-5.15	108.00	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	13	THR	N-CA-CB	5.15	120.08	110.30
2	h	110	LEU	CB-CA-C	-5.15	100.42	110.20
2	k	186	ILE	CB-CA-C	5.15	121.89	111.60
1	G	18	ASP	CB-CG-OD2	-5.15	113.67	118.30
1	a	104	ASP	N-CA-CB	5.14	119.86	110.60
2	k	104	PHE	CB-CG-CD1	5.14	124.40	120.80
2	6	36	PHE	CB-CG-CD2	5.14	124.40	120.80
2	k	211	PHE	N-CA-CB	5.14	119.86	110.60
2	m	128	ILE	CA-CB-CG1	5.14	120.77	111.00
3	M	50	ARG	NE-CZ-NH2	-5.14	117.73	120.30
3	M	304	ASP	N-CA-CB	-5.14	101.34	110.60
2	h	104	PHE	CB-CG-CD2	-5.14	117.20	120.80
1	A	213	TYR	N-CA-CB	5.14	119.85	110.60
1	D	9	ASP	CB-CG-OD1	-5.14	113.68	118.30
2	n	67	ALA	CB-CA-C	-5.14	102.40	110.10
3	M	154	ARG	NH1-CZ-NH2	-5.14	113.75	119.40
1	E	146	LYS	N-CA-CB	5.13	119.84	110.60
1	e	76	ALA	CB-CA-C	-5.13	102.40	110.10
2	l	173	TYR	CD1-CE1-CZ	5.13	124.42	119.80
2	1	202	GLU	OE1-CD-OE2	5.13	129.46	123.30
3	L	336	PHE	CB-CA-C	-5.13	100.14	110.40
3	L	384	LYS	CA-CB-CG	5.13	124.69	113.40
1	A	8	TYR	CB-CA-C	5.13	120.66	110.40
2	m	201	PRO	C-N-CA	5.13	134.53	121.70
3	J	280	ASP	N-CA-C	-5.13	97.15	111.00
1	a	53	ARG	C-N-CA	5.13	134.52	121.70
1	b	113	ALA	N-CA-CB	5.13	117.28	110.10
3	M	126	MET	CG-SD-CE	-5.13	91.99	100.20
1	D	175	PHE	CB-CG-CD1	5.13	124.39	120.80
2	h	194	ASP	O-C-N	-5.13	114.50	122.70
2	l	60	VAL	CA-CB-CG2	-5.13	103.21	110.90
3	M	142	ASP	CB-CG-OD2	5.13	122.91	118.30
1	d	30	ALA	N-CA-CB	5.12	117.28	110.10
3	J	361	PHE	CG-CD2-CE2	5.12	126.44	120.80
1	C	84	ASP	CB-CG-OD2	5.12	122.91	118.30
1	a	219	ARG	NE-CZ-NH1	5.12	122.86	120.30
2	4	81	ARG	NE-CZ-NH1	5.12	122.86	120.30
2	5	108	VAL	CA-CB-CG2	5.12	118.58	110.90
3	M	374	ASP	CB-CG-OD1	-5.12	113.69	118.30
2	1	162	ASP	CB-CG-OD1	-5.12	113.69	118.30
3	M	236	SER	N-CA-CB	5.12	118.18	110.50
1	a	232	TYR	CG-CD1-CE1	-5.12	117.21	121.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	45	GLY	N-CA-C	-5.12	100.30	113.10
1	D	119	PHE	CB-CG-CD1	-5.12	117.22	120.80
1	D	150	THR	N-CA-CB	5.12	120.03	110.30
1	G	10	ARG	NH1-CZ-NH2	5.12	125.03	119.40
1	G	86	ARG	NE-CZ-NH1	-5.12	117.74	120.30
2	h	82	GLU	OE1-CD-OE2	-5.12	117.16	123.30
1	F	201	GLU	N-CA-CB	5.11	119.80	110.60
1	g	56	SER	C-N-CA	5.11	134.47	121.70
2	5	206	GLN	CG-CD-OE1	-5.11	111.38	121.60
2	l	23	VAL	CA-CB-CG1	5.11	118.56	110.90
2	l	106	TYR	CG-CD1-CE1	-5.11	117.22	121.30
3	H	105	ARG	NE-CZ-NH2	-5.11	117.75	120.30
1	c	50	ALA	N-CA-CB	5.10	117.24	110.10
2	5	19	CYS	CB-CA-C	5.10	120.60	110.40
2	l	29	LYS	C-N-CA	5.10	134.46	121.70
3	H	114	ALA	CB-CA-C	-5.10	102.45	110.10
3	I	338	GLU	OE1-CD-OE2	-5.10	117.18	123.30
1	c	51	ASP	CB-CG-OD2	-5.10	113.71	118.30
3	M	211	PHE	CD1-CE1-CZ	-5.10	113.98	120.10
1	A	63	THR	N-CA-C	-5.10	97.23	111.00
2	i	146	THR	C-N-CA	5.10	134.44	121.70
1	E	33	ARG	NE-CZ-NH1	5.09	122.85	120.30
1	e	152	PRO	N-CD-CG	5.09	110.84	103.20
2	3	106	TYR	N-CA-C	-5.09	97.25	111.00
2	6	140	THR	N-CA-CB	5.09	119.97	110.30
1	c	179	TYR	N-CA-CB	5.09	119.76	110.60
2	h	139	ALA	N-CA-C	-5.09	97.26	111.00
1	g	212	GLY	N-CA-C	-5.09	100.38	113.10
2	5	155	PHE	C-N-CA	5.09	134.42	121.70
3	J	361	PHE	CB-CG-CD1	5.09	124.36	120.80
1	C	26	TYR	CZ-CE2-CD2	5.08	124.38	119.80
1	f	179	TYR	CB-CG-CD2	5.08	124.05	121.00
1	G	179	TYR	CG-CD1-CE1	5.08	125.37	121.30
2	l	133	GLU	N-CA-CB	5.08	119.75	110.60
3	I	375	PHE	CG-CD2-CE2	5.08	126.39	120.80
1	D	213	TYR	CZ-CE2-CD2	-5.08	115.23	119.80
2	k	200	SER	N-CA-CB	5.08	118.11	110.50
2	3	23	VAL	O-C-N	-5.07	114.58	122.70
2	5	58	GLY	CA-C-O	5.07	129.73	120.60
1	e	211	VAL	N-CA-CB	5.07	122.66	111.50
1	G	185	PHE	CB-CG-CD2	-5.07	117.25	120.80
3	H	346	ALA	CB-CA-C	-5.07	102.49	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	J	224	ARG	NE-CZ-NH1	-5.07	117.77	120.30
1	A	172	THR	CA-CB-CG2	5.07	119.50	112.40
2	3	27	THR	CA-CB-CG2	-5.07	105.31	112.40
2	l	49	ALA	N-CA-CB	5.07	117.20	110.10
3	M	387	THR	N-CA-C	-5.07	97.33	111.00
2	m	112	ILE	N-CA-CB	5.06	122.45	110.80
2	6	12	THR	CA-CB-CG2	-5.06	105.31	112.40
1	G	84	ASP	CB-CG-OD1	-5.06	113.75	118.30
1	a	172	THR	N-CA-CB	5.06	119.91	110.30
1	e	226	PRO	N-CA-CB	5.06	109.37	103.30
1	f	69	LYS	N-CA-CB	-5.06	101.49	110.60
2	4	83	ARG	NE-CZ-NH1	-5.06	117.77	120.30
3	I	94	TYR	CG-CD2-CE2	-5.06	117.25	121.30
1	B	81	LEU	CB-CA-C	-5.05	100.60	110.20
2	m	55	THR	CA-CB-CG2	-5.05	105.32	112.40
2	m	111	LEU	N-CA-C	-5.05	97.35	111.00
1	f	100	ARG	NE-CZ-NH1	-5.05	117.77	120.30
2	7	57	ALA	N-CA-C	-5.05	97.36	111.00
1	A	220	THR	N-CA-C	-5.05	97.36	111.00
1	c	136	LEU	N-CA-CB	5.05	120.50	110.40
2	l	104	PHE	CB-CG-CD1	5.05	124.34	120.80
1	b	228	GLU	N-CA-CB	5.05	119.69	110.60
3	I	157	VAL	CA-CB-CG2	-5.05	103.33	110.90
2	4	46	TYR	CZ-CE2-CD2	-5.05	115.26	119.80
3	K	205	ARG	NE-CZ-NH1	-5.05	117.78	120.30
3	K	313	THR	CA-CB-CG2	-5.05	105.33	112.40
3	L	87	PHE	CB-CG-CD2	5.05	124.33	120.80
2	l	66	LEU	O-C-N	5.04	130.77	122.70
2	k	41	ALA	CB-CA-C	-5.04	102.53	110.10
1	C	25	GLU	O-C-N	5.04	130.77	122.70
1	c	42	CYS	CA-CB-SG	5.04	123.08	114.00
2	k	140	THR	N-CA-CB	5.04	119.88	110.30
1	f	10	ARG	NE-CZ-NH2	5.04	122.82	120.30
1	g	185	PHE	CB-CG-CD1	5.04	124.33	120.80
3	M	29	ARG	NH1-CZ-NH2	5.04	124.94	119.40
1	A	119	PHE	CB-CG-CD1	5.04	124.33	120.80
1	B	100	ARG	NH1-CZ-NH2	-5.04	113.86	119.40
2	7	51	ARG	NH1-CZ-NH2	-5.04	113.86	119.40
1	d	35	ALA	N-CA-CB	5.03	117.15	110.10
3	H	322	LYS	C-N-CA	5.03	134.28	121.70
1	B	242	GLU	CB-CA-C	-5.03	100.34	110.40
1	b	198	LEU	CB-CG-CD2	5.03	119.55	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	H	211	PHE	N-CA-CB	5.03	119.66	110.60
2	h	187	ASP	CB-CG-OD2	5.03	122.83	118.30
1	d	96	ALA	C-N-CA	5.03	134.27	121.70
2	3	193	GLU	N-CA-CB	5.03	119.65	110.60
2	7	176	MET	CG-SD-CE	-5.03	92.16	100.20
3	K	275	PHE	CB-CG-CD2	5.03	124.32	120.80
1	f	159	TYR	CZ-CE2-CD2	-5.03	115.28	119.80
1	g	124	THR	N-CA-CB	5.02	119.85	110.30
2	i	56	THR	O-C-N	5.02	130.74	122.70
3	I	203	PHE	CD1-CE1-CZ	-5.02	114.07	120.10
3	K	112	THR	N-CA-C	-5.02	97.45	111.00
2	3	198	GLN	CG-CD-OE1	-5.02	111.56	121.60
2	k	57	ALA	N-CA-CB	5.02	117.12	110.10
1	c	68	TYR	CB-CA-C	-5.02	100.37	110.40
2	2	108	VAL	CG1-CB-CG2	5.02	118.93	110.90
3	J	147	ASP	CB-CA-C	-5.02	100.37	110.40
1	D	239	ARG	CG-CD-NE	-5.01	101.27	111.80
2	h	173	TYR	CG-CD2-CE2	-5.01	117.29	121.30
2	l	126	ASP	CB-CG-OD2	-5.01	113.79	118.30
2	n	46	TYR	CB-CG-CD2	5.01	124.01	121.00
1	A	171	VAL	CA-CB-CG2	-5.01	103.38	110.90
1	b	97	GLN	N-CA-CB	5.01	119.62	110.60
1	e	212	GLY	N-CA-C	-5.01	100.57	113.10
2	2	81	ARG	NE-CZ-NH1	5.01	122.81	120.30
2	l	39	SER	N-CA-CB	5.01	118.02	110.50
1	D	48	LEU	N-CA-C	-5.01	97.47	111.00
1	E	188	ALA	CB-CA-C	-5.01	102.58	110.10
1	g	123	TYR	CB-CG-CD1	-5.01	117.99	121.00
2	1	46	TYR	CG-CD2-CE2	5.01	125.31	121.30
2	j	196	PHE	N-CA-C	-5.01	97.48	111.00
2	7	46	TYR	CB-CG-CD1	-5.01	118.00	121.00
1	G	156	LEU	CB-CG-CD1	-5.00	102.49	111.00
1	g	132	PHE	CZ-CE2-CD2	5.00	126.10	120.10
2	l	199	TYR	N-CA-CB	5.00	119.60	110.60
2	n	123	TYR	CB-CG-CD2	-5.00	118.00	121.00
3	L	328	MET	CG-SD-CE	5.00	108.20	100.20

There are no chirality outliers.

All (323) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	1	101	TYR	Sidechain

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Mol	Chain	Res	Type	Group
2	1	106	TYR	Sidechain
2	1	148	TYR	Sidechain
2	1	170	ARG	Sidechain
2	1	173	TYR	Sidechain
2	1	68	ARG	Sidechain
2	1	81	ARG	Sidechain
2	2	103	TYR	Sidechain
2	2	139	ALA	Peptide
2	2	170	ARG	Sidechain
2	2	196	PHE	Sidechain
2	2	197	TYR	Sidechain
2	2	211	PHE	Sidechain
2	2	51	ARG	Sidechain
2	2	83	ARG	Sidechain
2	3	51	ARG	Sidechain
2	4	101	TYR	Sidechain
2	4	103	TYR	Sidechain
2	4	106	TYR	Sidechain
2	4	123	TYR	Sidechain
2	4	139	ALA	Peptide
2	4	197	TYR	Sidechain
2	5	132	ILE	Mainchain
2	5	170	ARG	Sidechain
2	5	212	ARG	Sidechain
2	5	68	ARG	Sidechain
2	6	103	TYR	Sidechain
2	6	123	TYR	Sidechain
2	6	148	TYR	Sidechain
2	6	199	TYR	Sidechain
2	6	46	TYR	Sidechain
2	6	68	ARG	Sidechain
2	6	77	TYR	Sidechain
2	7	123	TYR	Sidechain
2	7	132	ILE	Peptide
2	7	139	ALA	Peptide
2	7	154	ARG	Sidechain
2	7	170	ARG	Sidechain
2	7	197	TYR	Sidechain
2	7	77	TYR	Sidechain
1	A	100	ARG	Sidechain
1	A	179	TYR	Sidechain
1	A	180	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	A	213	TYR	Sidechain
1	A	232	TYR	Sidechain
1	A	241	ARG	Sidechain
1	A	28	ARG	Sidechain
1	A	65	GLU	Peptide
1	B	14	VAL	Peptide
1	B	159	TYR	Sidechain
1	B	220	THR	Peptide
1	B	33	ARG	Sidechain
1	B	68	TYR	Sidechain
1	B	93	ARG	Sidechain
1	C	103	TYR	Sidechain
1	C	159	TYR	Sidechain
1	C	185	PHE	Sidechain
1	C	219	ARG	Sidechain
1	C	22	PHE	Sidechain
1	C	220	THR	Peptide
1	C	221	PHE	Sidechain
1	C	235	ARG	Sidechain
1	C	26	TYR	Sidechain
1	C	28	ARG	Sidechain
1	C	65	GLU	Peptide
1	C	66	LYS	Peptide
1	D	126	TYR	Sidechain
1	D	168	ARG	Sidechain
1	D	220	THR	Peptide
1	D	232	TYR	Sidechain
1	D	26	TYR	Sidechain
1	E	123	TYR	Sidechain
1	E	130	ARG	Sidechain
1	E	148	TYR	Sidechain
1	E	159	TYR	Sidechain
1	E	179	TYR	Sidechain
1	E	211	VAL	Peptide
1	E	219	ARG	Sidechain
1	E	220	THR	Peptide
1	E	235	ARG	Sidechain
1	E	25	GLU	Sidechain
1	E	53	ARG	Sidechain
1	E	77	ALA	Peptide
1	F	123	TYR	Sidechain
1	F	126	TYR	Sidechain

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Mol	Chain	Res	Type	Group
1	F	213	TYR	Sidechain
1	F	219	ARG	Sidechain
1	F	220	THR	Peptide
1	F	8	TYR	Sidechain
1	G	103	TYR	Sidechain
1	G	123	TYR	Sidechain
1	G	148	TYR	Sidechain
1	G	15	PHE	Sidechain
1	G	213	TYR	Sidechain
1	G	220	THR	Peptide
1	G	235	ARG	Sidechain
1	G	5	GLN	Peptide
1	G	8	TYR	Sidechain
3	H	105	ARG	Sidechain
3	H	167	PHE	Sidechain
3	H	20	TYR	Sidechain
3	H	215	TYR	Peptide
3	H	254	ASP	Peptide
3	H	259	ARG	Sidechain
3	H	27	TYR	Sidechain
3	H	29	ARG	Sidechain
3	H	305	ARG	Sidechain
3	H	364	ARG	Sidechain
3	H	371	THR	Peptide
3	H	375	PHE	Sidechain
3	H	386	THR	Peptide
3	H	387	THR	Peptide
3	H	59	ARG	Sidechain
3	I	140	TYR	Sidechain
3	I	162	LEU	Mainchain
3	I	21	TYR	Sidechain
3	I	215	TYR	Peptide
3	I	217	GLY	Peptide
3	I	218	GLU	Peptide
3	I	236	SER	Peptide
3	I	24	ARG	Sidechain
3	I	240	ILE	Peptide
3	I	254	ASP	Peptide
3	I	263	ARG	Sidechain
3	I	276	ASP	Peptide
3	I	289	ARG	Sidechain
3	I	305	ARG	Sidechain

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Mol	Chain	Res	Type	Group
3	I	311	LEU	Peptide
3	I	36	PHE	Sidechain
3	I	361	PHE	Sidechain
3	I	386	THR	Mainchain,Peptide
3	I	387	THR	Peptide
3	I	46	ARG	Sidechain
3	I	49	ARG	Sidechain
3	I	50	ARG	Sidechain
3	I	59	ARG	Sidechain
3	J	140	TYR	Sidechain
3	J	154	ARG	Sidechain
3	J	181	TYR	Peptide,Sidechain
3	J	254	ASP	Peptide
3	J	259	ARG	Sidechain
3	J	303	PHE	Peptide
3	J	341	ARG	Sidechain
3	J	364	ARG	Sidechain
3	J	367	ARG	Sidechain
3	J	371	THR	Peptide
3	J	385	LYS	Peptide
3	J	386	THR	Peptide
3	J	43	ARG	Sidechain
3	J	94	TYR	Sidechain
3	K	167	PHE	Sidechain
3	K	181	TYR	Sidechain
3	K	186	THR	Peptide
3	K	190	LEU	Peptide
3	K	20	TYR	Sidechain
3	K	200	ARG	Sidechain
3	K	205	ARG	Sidechain
3	K	207	VAL	Peptide
3	K	21	TYR	Sidechain
3	K	27	TYR	Sidechain
3	K	289	ARG	Sidechain
3	K	299	ARG	Sidechain
3	K	303	PHE	Sidechain
3	K	305	ARG	Sidechain
3	K	367	ARG	Sidechain
3	K	386	THR	Peptide
3	K	94	TYR	Sidechain
3	L	118	VAL	Peptide
3	L	128	TYR	Sidechain

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Mol	Chain	Res	Type	Group
3	L	140	TYR	Sidechain
3	L	154	ARG	Sidechain
3	L	181	TYR	Sidechain
3	L	20	TYR	Sidechain
3	L	200	ARG	Sidechain
3	L	201	ALA	Peptide
3	L	215	TYR	Sidechain
3	L	249	ARG	Sidechain
3	L	269	LEU	Mainchain,Peptide
3	L	277	PRO	Peptide
3	L	278	ARG	Sidechain
3	L	28	ARG	Sidechain
3	L	302	ARG	Sidechain
3	L	305	ARG	Sidechain
3	L	314	PHE	Sidechain
3	L	317	ARG	Sidechain
3	L	364	ARG	Sidechain
3	L	43	ARG	Sidechain
3	L	49	ARG	Sidechain
3	L	52	ARG	Sidechain
3	L	57	ARG	Sidechain
3	M	118	VAL	Peptide
3	M	20	TYR	Sidechain
3	M	200	ARG	Sidechain
3	M	205	ARG	Sidechain
3	M	215	TYR	Peptide,Sidechain
3	M	250	ARG	Sidechain
3	M	259	ARG	Sidechain
3	M	27	TYR	Sidechain
3	M	289	ARG	Sidechain
3	M	305	ARG	Sidechain
3	M	326	ARG	Sidechain
3	M	385	LYS	Peptide
3	M	386	THR	Mainchain,Peptide
3	M	65	VAL	Peptide
3	M	87	PHE	Sidechain
1	a	10	ARG	Sidechain
1	a	123	TYR	Sidechain
1	a	130	ARG	Sidechain
1	a	132	PHE	Sidechain
1	a	168	ARG	Sidechain
1	a	180	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	a	213	TYR	Sidechain
1	a	22	PHE	Sidechain
1	a	220	THR	Peptide
1	a	235	ARG	Sidechain
1	a	241	ARG	Sidechain
1	a	26	TYR	Sidechain
1	a	68	TYR	Sidechain
1	a	91	ARG	Sidechain
1	a	93	ARG	Sidechain
1	b	10	ARG	Sidechain
1	b	123	TYR	Sidechain
1	b	148	TYR	Sidechain
1	b	179	TYR	Sidechain
1	b	185	PHE	Sidechain
1	b	20	ARG	Sidechain
1	b	220	THR	Peptide
1	b	241	ARG	Sidechain
1	b	26	TYR	Sidechain
1	b	91	ARG	Sidechain
1	c	10	ARG	Sidechain
1	c	100	ARG	Sidechain
1	c	148	TYR	Sidechain
1	c	159	TYR	Sidechain
1	c	168	ARG	Sidechain
1	c	219	ARG	Sidechain
1	c	232	TYR	Sidechain
1	c	28	ARG	Sidechain
1	c	68	TYR	Sidechain
1	c	86	ARG	Sidechain
1	d	159	TYR	Sidechain
1	d	213	TYR	Sidechain
1	d	220	THR	Peptide
1	d	235	ARG	Sidechain
1	d	26	TYR	Sidechain
1	d	68	TYR	Sidechain
1	d	73	HIS	Sidechain
1	d	86	ARG	Sidechain
1	e	132	PHE	Sidechain
1	e	168	ARG	Sidechain
1	e	179	TYR	Sidechain
1	e	220	THR	Peptide
1	e	28	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	e	68	TYR	Sidechain
1	e	91	ARG	Sidechain
1	f	100	ARG	Sidechain
1	f	103	TYR	Sidechain
1	f	126	TYR	Sidechain
1	f	148	TYR	Sidechain
1	f	168	ARG	Sidechain
1	f	179	TYR	Sidechain
1	f	185	PHE	Sidechain
1	f	213	TYR	Sidechain
1	f	220	THR	Mainchain,Peptide
1	f	232	TYR	Sidechain
1	g	123	TYR	Sidechain
1	g	130	ARG	Sidechain
1	g	148	TYR	Sidechain
1	g	20	ARG	Sidechain
1	g	220	THR	Peptide
1	g	239	ARG	Sidechain
1	g	68	TYR	Sidechain
1	g	73	HIS	Sidechain
2	h	123	TYR	Sidechain
2	h	139	ALA	Peptide
2	h	154	ARG	Sidechain
2	h	173	TYR	Sidechain
2	h	178	ARG	Sidechain
2	h	212	ARG	Sidechain
2	h	51	ARG	Sidechain
2	h	68	ARG	Sidechain
2	h	77	TYR	Sidechain
2	i	106	TYR	Sidechain
2	i	139	ALA	Peptide
2	i	154	ARG	Sidechain
2	i	173	TYR	Sidechain
2	i	197	TYR	Sidechain
2	i	51	ARG	Sidechain
2	i	68	ARG	Sidechain
2	i	80	ARG	Sidechain
2	j	103	TYR	Peptide,Sidechain
2	j	123	TYR	Sidechain
2	j	212	ARG	Sidechain
2	j	80	ARG	Sidechain
2	k	106	TYR	Sidechain

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Mol	Chain	Res	Type	Group
2	k	30	ARG	Sidechain
2	k	68	ARG	Sidechain
2	l	139	ALA	Peptide
2	l	46	TYR	Sidechain
2	l	51	ARG	Sidechain
2	m	102	ARG	Sidechain
2	m	106	TYR	Sidechain
2	m	197	TYR	Sidechain
2	m	51	ARG	Sidechain
2	m	77	TYR	Sidechain
2	m	81	ARG	Sidechain
2	m	83	ARG	Sidechain
2	n	101	TYR	Sidechain
2	n	132	ILE	Peptide
2	n	139	ALA	Peptide
2	n	178	ARG	Sidechain
2	n	197	TYR	Sidechain
2	n	30	ARG	Sidechain
2	n	46	TYR	Sidechain
2	n	77	TYR	Sidechain
2	n	81	ARG	Sidechain

5.2 Too-close contacts [i](#)

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

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	240/242 (99%)	231 (96%)	6 (2%)	3 (1%)	12	48
1	B	240/242 (99%)	219 (91%)	18 (8%)	3 (1%)	12	48

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	C	240/242 (99%)	219 (91%)	17 (7%)	4 (2%)	9	42
1	D	240/242 (99%)	222 (92%)	14 (6%)	4 (2%)	9	42
1	E	240/242 (99%)	231 (96%)	7 (3%)	2 (1%)	19	60
1	F	240/242 (99%)	226 (94%)	11 (5%)	3 (1%)	12	48
1	G	240/242 (99%)	229 (95%)	9 (4%)	2 (1%)	19	60
1	a	235/242 (97%)	220 (94%)	10 (4%)	5 (2%)	7	36
1	b	235/242 (97%)	216 (92%)	17 (7%)	2 (1%)	17	57
1	c	235/242 (97%)	222 (94%)	11 (5%)	2 (1%)	17	57
1	d	235/242 (97%)	219 (93%)	12 (5%)	4 (2%)	9	42
1	e	235/242 (97%)	219 (93%)	13 (6%)	3 (1%)	12	48
1	f	235/242 (97%)	225 (96%)	8 (3%)	2 (1%)	17	57
1	g	235/242 (97%)	220 (94%)	9 (4%)	6 (3%)	5	31
2	1	200/202 (99%)	190 (95%)	8 (4%)	2 (1%)	15	54
2	2	200/202 (99%)	185 (92%)	11 (6%)	4 (2%)	7	38
2	3	200/202 (99%)	182 (91%)	14 (7%)	4 (2%)	7	38
2	4	200/202 (99%)	187 (94%)	9 (4%)	4 (2%)	7	38
2	5	200/202 (99%)	183 (92%)	10 (5%)	7 (4%)	3	25
2	6	200/202 (99%)	180 (90%)	13 (6%)	7 (4%)	3	25
2	7	200/202 (99%)	181 (90%)	14 (7%)	5 (2%)	5	32
2	h	200/202 (99%)	179 (90%)	15 (8%)	6 (3%)	4	28
2	i	200/202 (99%)	184 (92%)	14 (7%)	2 (1%)	15	54
2	j	200/202 (99%)	181 (90%)	17 (8%)	2 (1%)	15	54
2	k	200/202 (99%)	186 (93%)	11 (6%)	3 (2%)	10	46
2	l	200/202 (99%)	185 (92%)	11 (6%)	4 (2%)	7	38
2	m	200/202 (99%)	186 (93%)	9 (4%)	5 (2%)	5	32
2	n	200/202 (99%)	178 (89%)	10 (5%)	12 (6%)	1	17
3	H	388/390 (100%)	348 (90%)	31 (8%)	9 (2%)	6	34
3	I	388/390 (100%)	350 (90%)	27 (7%)	11 (3%)	5	30
3	J	388/390 (100%)	345 (89%)	29 (8%)	14 (4%)	3	25
3	K	388/390 (100%)	344 (89%)	29 (8%)	15 (4%)	3	23
3	L	388/390 (100%)	348 (90%)	26 (7%)	14 (4%)	3	25

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	M	388/390 (100%)	350 (90%)	27 (7%)	11 (3%)	5	30
All	All	8453/8556 (99%)	7770 (92%)	497 (6%)	186 (2%)	10	35

All (186) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	67	ILE
1	B	64	ILE
1	C	20	ARG
1	C	67	ILE
1	d	221	PHE
1	E	221	PHE
2	h	41	ALA
2	h	128	ILE
2	h	140	THR
2	4	140	THR
2	k	30	ARG
2	l	212	ARG
2	6	139	ALA
2	n	131	ALA
3	I	237	ILE
3	I	255	THR
3	I	387	THR
3	K	124	ASP
3	K	190	LEU
3	K	191	LEU
3	K	392	LEU
3	L	118	VAL
3	L	269	LEU
3	M	131	GLU
3	M	390	PRO
3	J	255	THR
3	J	270	ALA
3	J	292	ILE
3	J	387	THR
1	A	143	GLU
1	C	221	PHE
1	D	65	GLU
1	D	161	ALA
1	d	54	VAL
1	d	161	ALA
1	e	161	ALA

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Mol	Chain	Res	Type
1	F	62	ASP
1	F	221	PHE
1	f	12	ILE
1	G	221	PHE
1	g	61	ALA
1	g	143	GLU
2	2	30	ARG
2	2	181	ALA
2	3	41	ALA
2	3	139	ALA
2	3	212	ARG
2	5	136	ASP
2	5	212	ARG
2	m	83	ARG
2	m	106	TYR
2	7	83	ARG
2	7	133	GLU
2	n	132	ILE
2	n	181	ALA
2	n	193	GLU
3	H	212	VAL
3	K	273	ASP
3	K	282	LYS
3	K	304	ASP
3	L	270	ALA
3	M	212	VAL
3	M	242	GLU
3	M	273	ASP
3	M	386	THR
3	J	269	LEU
3	J	331	ALA
1	A	9	ASP
1	a	20	ARG
1	a	161	ALA
1	B	73	HIS
1	c	73	HIS
1	f	179	TYR
1	g	66	LYS
1	g	218	ASP
2	l	136	ASP
2	h	183	GLY
2	h	191	ILE

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Mol	Chain	Res	Type
2	2	41	ALA
2	2	106	TYR
2	3	140	THR
2	j	136	ASP
2	5	83	ARG
2	1	40	LYS
2	6	19	CYS
2	6	41	ALA
2	6	102	ARG
2	m	85	PRO
2	m	183	GLY
2	7	34	GLY
2	7	185	GLY
2	7	193	GLU
2	n	35	ASN
2	n	136	ASP
3	H	136	PRO
3	H	278	ARG
3	I	122	SER
3	I	135	LYS
3	I	296	ALA
3	I	366	GLU
3	K	134	GLU
3	K	183	PRO
3	L	212	VAL
3	L	391	ASP
3	M	310	PRO
3	M	335	ASP
3	J	133	GLU
3	J	145	GLY
3	J	221	ARG
3	J	275	PHE
1	a	62	ASP
1	B	221	PHE
1	b	73	HIS
1	c	62	ASP
1	e	73	HIS
1	F	9	ASP
1	G	143	GLU
2	1	212	ARG
2	i	193	GLU
2	4	35	ASN

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Mol	Chain	Res	Type
2	4	136	ASP
2	5	133	GLU
2	l	30	ARG
2	l	41	ALA
2	n	107	LEU
2	n	137	ILE
2	n	140	THR
3	H	244	ASP
3	H	346	ALA
3	L	242	GLU
3	L	280	ASP
3	L	395	VAL
3	M	135	LYS
1	a	56	SER
1	b	161	ALA
1	C	19	GLY
1	D	9	ASP
1	E	9	ASP
1	e	14	VAL
1	g	217	ASP
1	g	221	PHE
2	4	128	ILE
2	k	181	ALA
3	H	114	ALA
3	I	202	THR
3	I	242	GLU
3	K	119	LEU
3	K	121	THR
3	K	332	GLU
3	L	310	PRO
3	L	389	ILE
3	M	284	ILE
3	M	393	LYS
3	J	212	VAL
3	J	247	ALA
2	h	200	SER
2	k	135	LYS
2	5	194	ASP
2	n	30	ARG
3	I	304	ASP
3	L	113	LEU
3	L	134	GLU

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Mol	Chain	Res	Type
3	J	135	LYS
1	a	54	VAL
2	5	191	ILE
2	6	128	ILE
2	n	200	SER
3	H	217	GLY
3	L	132	VAL
1	D	64	ILE
2	m	130	GLY
3	H	60	SER
3	I	163	LYS
3	H	246	ILE
3	K	310	PRO
3	J	310	PRO
1	d	12	ILE
2	j	185	GLY
2	5	200	SER
2	n	129	GLY
3	K	212	VAL
3	L	136	PRO
2	i	207	ILE
2	6	130	GLY
2	6	200	SER
3	K	235	PRO

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	203/203 (100%)	193 (95%)	10 (5%)	25 50
1	B	203/203 (100%)	198 (98%)	5 (2%)	47 68
1	C	203/203 (100%)	190 (94%)	13 (6%)	17 42
1	D	203/203 (100%)	198 (98%)	5 (2%)	47 68
1	E	203/203 (100%)	192 (95%)	11 (5%)	22 47

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	F	203/203 (100%)	193 (95%)	10 (5%)	25	50
1	G	203/203 (100%)	192 (95%)	11 (5%)	22	47
1	a	199/203 (98%)	196 (98%)	3 (2%)	65	80
1	b	199/203 (98%)	189 (95%)	10 (5%)	24	49
1	c	199/203 (98%)	193 (97%)	6 (3%)	41	63
1	d	199/203 (98%)	192 (96%)	7 (4%)	36	59
1	e	199/203 (98%)	192 (96%)	7 (4%)	36	59
1	f	199/203 (98%)	192 (96%)	7 (4%)	36	59
1	g	199/203 (98%)	194 (98%)	5 (2%)	47	68
2	1	164/164 (100%)	157 (96%)	7 (4%)	29	53
2	2	164/164 (100%)	151 (92%)	13 (8%)	12	35
2	3	164/164 (100%)	159 (97%)	5 (3%)	41	63
2	4	164/164 (100%)	156 (95%)	8 (5%)	25	50
2	5	164/164 (100%)	155 (94%)	9 (6%)	21	47
2	6	164/164 (100%)	152 (93%)	12 (7%)	14	39
2	7	164/164 (100%)	159 (97%)	5 (3%)	41	63
2	h	164/164 (100%)	157 (96%)	7 (4%)	29	53
2	i	164/164 (100%)	153 (93%)	11 (7%)	16	41
2	j	164/164 (100%)	158 (96%)	6 (4%)	34	58
2	k	164/164 (100%)	156 (95%)	8 (5%)	25	50
2	l	164/164 (100%)	160 (98%)	4 (2%)	49	69
2	m	164/164 (100%)	159 (97%)	5 (3%)	41	63
2	n	164/164 (100%)	154 (94%)	10 (6%)	18	44
3	H	338/338 (100%)	328 (97%)	10 (3%)	41	63
3	I	338/338 (100%)	323 (96%)	15 (4%)	28	53
3	J	338/338 (100%)	329 (97%)	9 (3%)	44	65
3	K	338/338 (100%)	328 (97%)	10 (3%)	41	63
3	L	338/338 (100%)	321 (95%)	17 (5%)	24	49
3	M	338/338 (100%)	327 (97%)	11 (3%)	38	61
All	All	7138/7166 (100%)	6846 (96%)	292 (4%)	34	55

All (292) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	6	MET
1	A	17	PRO
1	A	42	CYS
1	A	104	ASP
1	A	108	THR
1	A	144	VAL
1	A	152	PRO
1	A	187	ASP
1	A	226	PRO
1	A	229	LEU
1	a	14	VAL
1	a	213	TYR
1	a	219	ARG
1	B	56	SER
1	B	145	PRO
1	B	152	PRO
1	B	186	ASP
1	B	205	VAL
1	b	15	PHE
1	b	28	ARG
1	b	31	VAL
1	b	59	LEU
1	b	102	THR
1	b	108	THR
1	b	144	VAL
1	b	177	LYS
1	b	181	ASP
1	b	235	ARG
1	C	5	GLN
1	C	6	MET
1	C	66	LYS
1	C	67	ILE
1	C	68	TYR
1	C	106	PRO
1	C	124	THR
1	C	134	VAL
1	C	148	TYR
1	C	156	LEU
1	C	208	ASN
1	C	239	ARG
1	C	245	LYS
1	c	14	VAL
1	c	57	LYS

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Mol	Chain	Res	Type
1	c	166	MET
1	c	180	ARG
1	c	209	ILE
1	c	213	TYR
1	D	28	ARG
1	D	102	THR
1	D	213	TYR
1	D	226	PRO
1	D	231	PRO
1	d	15	PHE
1	d	40	ILE
1	d	59	LEU
1	d	64	ILE
1	d	99	ASN
1	d	134	VAL
1	d	142	ASP
1	E	13	THR
1	E	33	ARG
1	E	43	LYS
1	E	82	VAL
1	E	118	ASP
1	E	147	LEU
1	E	156	LEU
1	E	162	THR
1	E	213	TYR
1	E	220	THR
1	E	223	GLU
1	e	40	ILE
1	e	59	LEU
1	e	62	ASP
1	e	166	MET
1	e	208	ASN
1	e	224	VAL
1	e	235	ARG
1	F	5	GLN
1	F	54	VAL
1	F	64	ILE
1	F	73	HIS
1	F	121	GLN
1	F	142	ASP
1	F	162	THR
1	F	166	MET

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Mol	Chain	Res	Type
1	F	208	ASN
1	F	238	GLU
1	f	13	THR
1	f	21	LEU
1	f	40	ILE
1	f	57	LYS
1	f	178	GLU
1	f	180	ARG
1	f	193	LEU
1	G	9	ASP
1	G	21	LEU
1	G	22	PHE
1	G	24	VAL
1	G	33	ARG
1	G	57	LYS
1	G	64	ILE
1	G	121	GLN
1	G	144	VAL
1	G	206	PRO
1	G	227	GLU
1	g	17	PRO
1	g	20	ARG
1	g	81	LEU
1	g	121	GLN
1	g	152	PRO
2	1	28	GLU
2	1	45	ILE
2	1	64	GLN
2	1	120	LYS
2	1	136	ASP
2	1	161	VAL
2	1	202	GLU
2	h	17	LEU
2	h	52	MET
2	h	76	LEU
2	h	106	TYR
2	h	107	LEU
2	h	156	THR
2	h	205	GLU
2	2	14	THR
2	2	17	LEU
2	2	27	THR

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Mol	Chain	Res	Type
2	2	28	GLU
2	2	45	ILE
2	2	50	ASP
2	2	84	LYS
2	2	110	LEU
2	2	122	ILE
2	2	156	THR
2	2	170	ARG
2	2	179	ASP
2	2	201	PRO
2	i	45	ILE
2	i	56	THR
2	i	64	GLN
2	i	107	LEU
2	i	110	LEU
2	i	122	ILE
2	i	137	ILE
2	i	140	THR
2	i	170	ARG
2	i	203	GLU
2	i	212	ARG
2	3	19	CYS
2	3	32	THR
2	3	161	VAL
2	3	191	ILE
2	3	213	LYS
2	j	33	MET
2	j	45	ILE
2	j	132	ILE
2	j	148	TYR
2	j	184	ASP
2	j	189	VAL
2	4	28	GLU
2	4	120	LYS
2	4	136	ASP
2	4	140	THR
2	4	151	LEU
2	4	195	GLU
2	4	205	GLU
2	4	207	ILE
2	k	20	LYS
2	k	29	LYS

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Mol	Chain	Res	Type
2	k	136	ASP
2	k	148	TYR
2	k	161	VAL
2	k	169	VAL
2	k	180	SER
2	k	196	PHE
2	5	17	LEU
2	5	33	MET
2	5	40	LYS
2	5	45	ILE
2	5	121	SER
2	5	132	ILE
2	5	136	ASP
2	5	198	GLN
2	5	205	GLU
2	1	116	ASP
2	1	117	SER
2	1	136	ASP
2	1	146	THR
2	6	17	LEU
2	6	27	THR
2	6	28	GLU
2	6	33	MET
2	6	45	ILE
2	6	72	ILE
2	6	76	LEU
2	6	127	PRO
2	6	128	ILE
2	6	140	THR
2	6	162	ASP
2	6	202	GLU
2	m	30	ARG
2	m	107	LEU
2	m	136	ASP
2	m	156	THR
2	m	170	ARG
2	7	28	GLU
2	7	30	ARG
2	7	40	LYS
2	7	64	GLN
2	7	182	SER
2	n	17	LEU

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Mol	Chain	Res	Type
2	n	27	THR
2	n	87	VAL
2	n	116	ASP
2	n	153	ASP
2	n	161	VAL
2	n	170	ARG
2	n	201	PRO
2	n	212	ARG
2	n	213	LYS
3	H	140	TYR
3	H	142	ASP
3	H	183	PRO
3	H	218	GLU
3	H	241	ASP
3	H	252	ASN
3	H	264	THR
3	H	294	ASP
3	H	327	LYS
3	H	332	GLU
3	I	10	LEU
3	I	41	ARG
3	I	74	ASP
3	I	81	SER
3	I	91	THR
3	I	125	PRO
3	I	137	GLU
3	I	174	PRO
3	I	250	ARG
3	I	260	GLU
3	I	268	LEU
3	I	275	PHE
3	I	302	ARG
3	I	361	PHE
3	I	384	LYS
3	K	97	GLU
3	K	106	VAL
3	K	112	THR
3	K	127	VAL
3	K	140	TYR
3	K	148	VAL
3	K	165	GLU
3	K	190	LEU

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Mol	Chain	Res	Type
3	K	249	ARG
3	K	319	GLN
3	L	44	TYR
3	L	67	VAL
3	L	70	ASP
3	L	85	PRO
3	L	93	GLN
3	L	127	VAL
3	L	137	GLU
3	L	160	PRO
3	L	165	GLU
3	L	200	ARG
3	L	203	PHE
3	L	214	LYS
3	L	255	THR
3	L	258	ASP
3	L	298	LEU
3	L	330	LEU
3	L	333	ASP
3	M	61	PRO
3	M	67	VAL
3	M	89	VAL
3	M	90	ASN
3	M	118	VAL
3	M	179	LEU
3	M	272	LEU
3	M	283	VAL
3	M	321	PHE
3	M	352	LYS
3	M	390	PRO
3	J	61	PRO
3	J	106	VAL
3	J	110	GLN
3	J	133	GLU
3	J	165	GLU
3	J	250	ARG
3	J	365	GLU
3	J	371	THR
3	J	381	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (46) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	121	GLN
1	a	23	GLN
1	a	122	GLN
1	B	121	GLN
1	B	169	ASN
1	b	73	HIS
1	C	23	GLN
1	C	169	ASN
1	C	237	ASN
1	c	97	GLN
1	c	125	GLN
1	D	121	GLN
1	d	237	ASN
1	E	73	HIS
1	E	121	GLN
1	F	122	GLN
1	F	208	ASN
1	f	97	GLN
1	G	73	HIS
1	G	97	GLN
1	G	121	GLN
1	g	122	GLN
2	1	198	GLN
2	h	75	ASN
2	h	99	ASN
2	i	64	GLN
2	3	75	ASN
2	j	198	GLN
2	5	109	GLN
2	l	47	GLN
2	l	96	ASN
2	m	35	ASN
2	m	96	ASN
2	7	96	ASN
2	7	99	ASN
3	H	213	GLN
3	H	228	GLN
3	H	252	ASN
3	I	110	GLN
3	I	267	GLN
3	K	213	GLN
3	L	111	GLN
3	L	324	HIS

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Mol	Chain	Res	Type
3	M	117	ASN
3	M	149	GLN
3	J	90	ASN

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](#)

Of 10 ligands modelled in this entry, 5 are monoatomic - leaving 5 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
4	ATP	L	401	5	26,33,33	2.34	5 (19%)	31,52,52	1.91	7 (22%)
4	ATP	J	401	5	26,33,33	1.27	2 (7%)	31,52,52	2.15	6 (19%)
4	ATP	K	401	5	26,33,33	1.56	4 (15%)	31,52,52	2.45	6 (19%)
6	ADP	M	401	5	24,29,29	1.26	4 (16%)	29,45,45	2.23	4 (13%)
4	ATP	I	401	5	26,33,33	1.30	4 (15%)	31,52,52	2.63	10 (32%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	ATP	L	401	5	-	9/18/38/38	0/3/3/3
4	ATP	J	401	5	-	6/18/38/38	0/3/3/3
4	ATP	K	401	5	-	10/18/38/38	0/3/3/3
6	ADP	M	401	5	-	6/12/32/32	0/3/3/3
4	ATP	I	401	5	-	6/18/38/38	0/3/3/3

All (19) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	L	401	ATP	C2'-C1'	-7.12	1.43	1.53
4	L	401	ATP	C4-N3	-5.40	1.28	1.35
4	L	401	ATP	C8-N7	-4.89	1.26	1.34
4	L	401	ATP	O4'-C1'	4.58	1.47	1.41
4	K	401	ATP	C2-N3	4.26	1.39	1.32
4	J	401	ATP	C2'-C1'	-3.37	1.48	1.53
4	I	401	ATP	C4-N3	3.32	1.40	1.35
6	M	401	ADP	C5'-C4'	2.89	1.60	1.51
4	K	401	ATP	C8-N7	-2.86	1.29	1.34
4	K	401	ATP	O4'-C4'	2.73	1.51	1.45
6	M	401	ADP	C8-N7	-2.56	1.30	1.34
4	I	401	ATP	C8-N7	-2.37	1.30	1.34
4	J	401	ATP	PA-O2A	-2.33	1.44	1.55
4	K	401	ATP	C2'-C1'	-2.26	1.50	1.53
4	I	401	ATP	C2'-C3'	-2.24	1.47	1.53
4	I	401	ATP	O2'-C2'	-2.15	1.37	1.43
6	M	401	ADP	C2'-C3'	2.04	1.58	1.53
6	M	401	ADP	PB-O1B	2.02	1.57	1.50
4	L	401	ATP	O4'-C4'	2.02	1.49	1.45

All (33) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	M	401	ADP	PA-O3A-PB	9.82	166.53	132.83
4	I	401	ATP	PB-O3B-PG	8.50	161.99	132.83
4	K	401	ATP	PA-O3A-PB	8.35	161.46	132.83
4	J	401	ATP	PB-O3B-PG	7.54	158.69	132.83
4	K	401	ATP	PB-O3B-PG	7.43	158.33	132.83
4	I	401	ATP	PA-O3A-PB	6.54	155.27	132.83
4	J	401	ATP	PA-O3A-PB	6.39	154.76	132.83
4	L	401	ATP	PB-O3B-PG	6.05	153.60	132.83
4	K	401	ATP	N6-C6-N1	4.73	128.38	118.57
4	I	401	ATP	N6-C6-N1	4.46	127.83	118.57

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	L	401	ATP	PA-O3A-PB	4.16	147.11	132.83
4	I	401	ATP	C5'-C4'-C3'	-3.65	101.49	115.18
4	I	401	ATP	N3-C2-N1	3.57	134.26	128.68
4	I	401	ATP	C5-C6-N1	-3.38	112.70	120.35
4	I	401	ATP	C2'-C3'-C4'	3.19	108.85	102.64
6	M	401	ADP	C5-C6-N1	-3.19	113.12	120.35
4	J	401	ATP	C5-C6-N1	-3.17	113.16	120.35
4	L	401	ATP	C1'-N9-C4	-3.15	121.11	126.64
4	L	401	ATP	C5-C6-N6	2.92	124.80	120.35
4	K	401	ATP	C5-C6-N1	-2.71	114.21	120.35
4	I	401	ATP	O4'-C1'-C2'	-2.59	103.14	106.93
4	L	401	ATP	C5-C6-N1	-2.48	114.74	120.35
6	M	401	ADP	N6-C6-N1	2.43	123.63	118.57
4	J	401	ATP	O5'-C5'-C4'	2.36	117.12	108.99
4	I	401	ATP	O3G-PG-O2G	2.32	116.51	107.64
6	M	401	ADP	O4'-C4'-C3'	2.31	109.69	105.11
4	K	401	ATP	N3-C2-N1	-2.28	125.11	128.68
4	J	401	ATP	C5-C6-N6	2.22	123.73	120.35
4	L	401	ATP	O3'-C3'-C4'	2.16	117.30	111.05
4	I	401	ATP	O4'-C4'-C3'	-2.15	100.85	105.11
4	J	401	ATP	N3-C2-N1	2.05	131.88	128.68
4	L	401	ATP	O4'-C1'-C2'	2.05	109.92	106.93
4	K	401	ATP	C2'-C3'-C4'	2.01	106.54	102.64

There are no chirality outliers.

All (37) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	I	401	ATP	PB-O3B-PG-O2G
4	I	401	ATP	C5'-O5'-PA-O1A
4	I	401	ATP	C4'-C5'-O5'-PA
4	K	401	ATP	PB-O3B-PG-O2G
4	K	401	ATP	PB-O3B-PG-O3G
4	K	401	ATP	C5'-O5'-PA-O1A
4	K	401	ATP	C5'-O5'-PA-O2A
4	K	401	ATP	C5'-O5'-PA-O3A
4	L	401	ATP	PB-O3B-PG-O2G
4	L	401	ATP	PB-O3B-PG-O3G
6	M	401	ADP	C5'-O5'-PA-O1A
6	M	401	ADP	C5'-O5'-PA-O2A
4	K	401	ATP	O4'-C4'-C5'-O5'
4	K	401	ATP	C3'-C4'-C5'-O5'

Continued on next page...

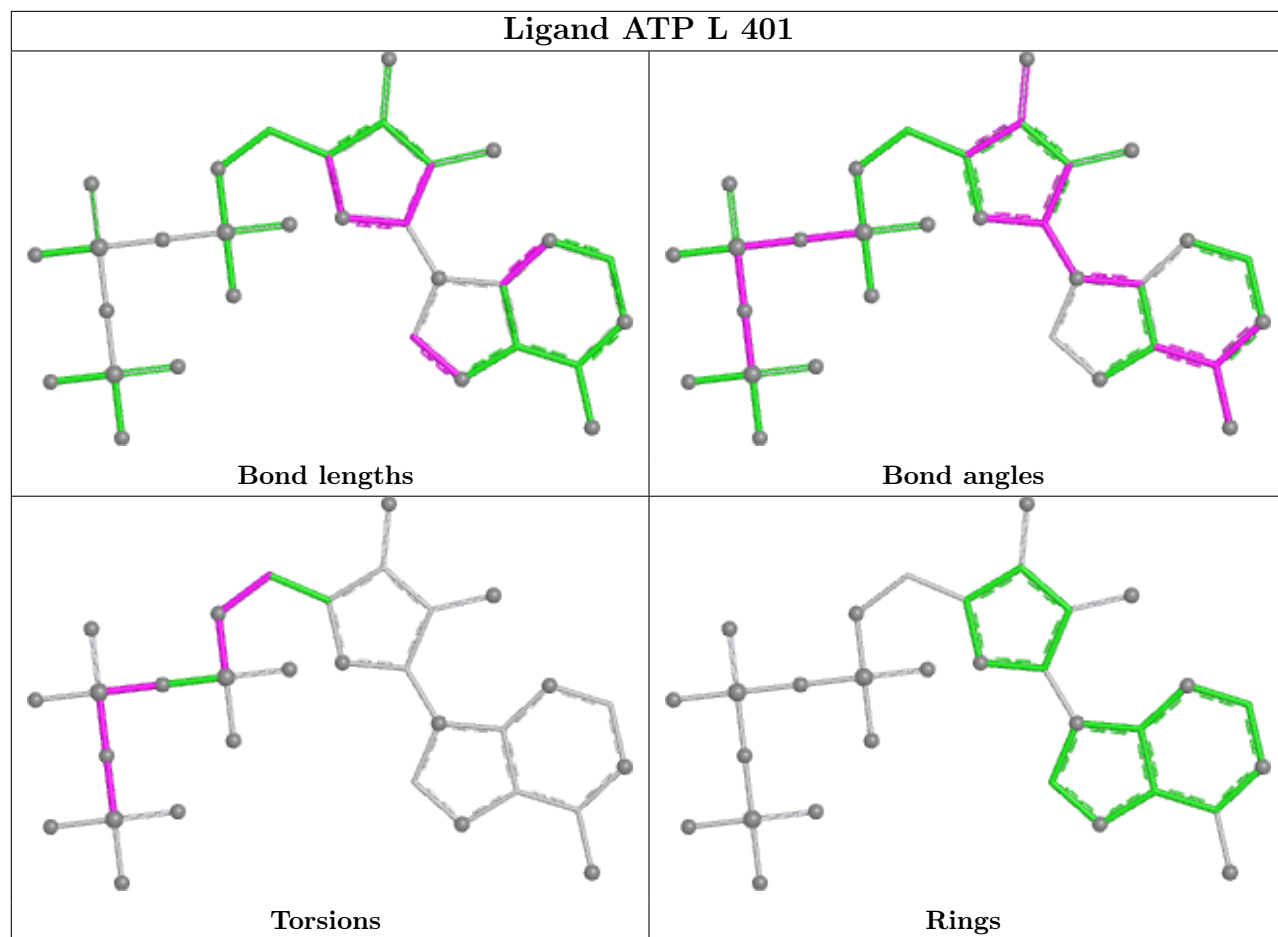
Continued from previous page...

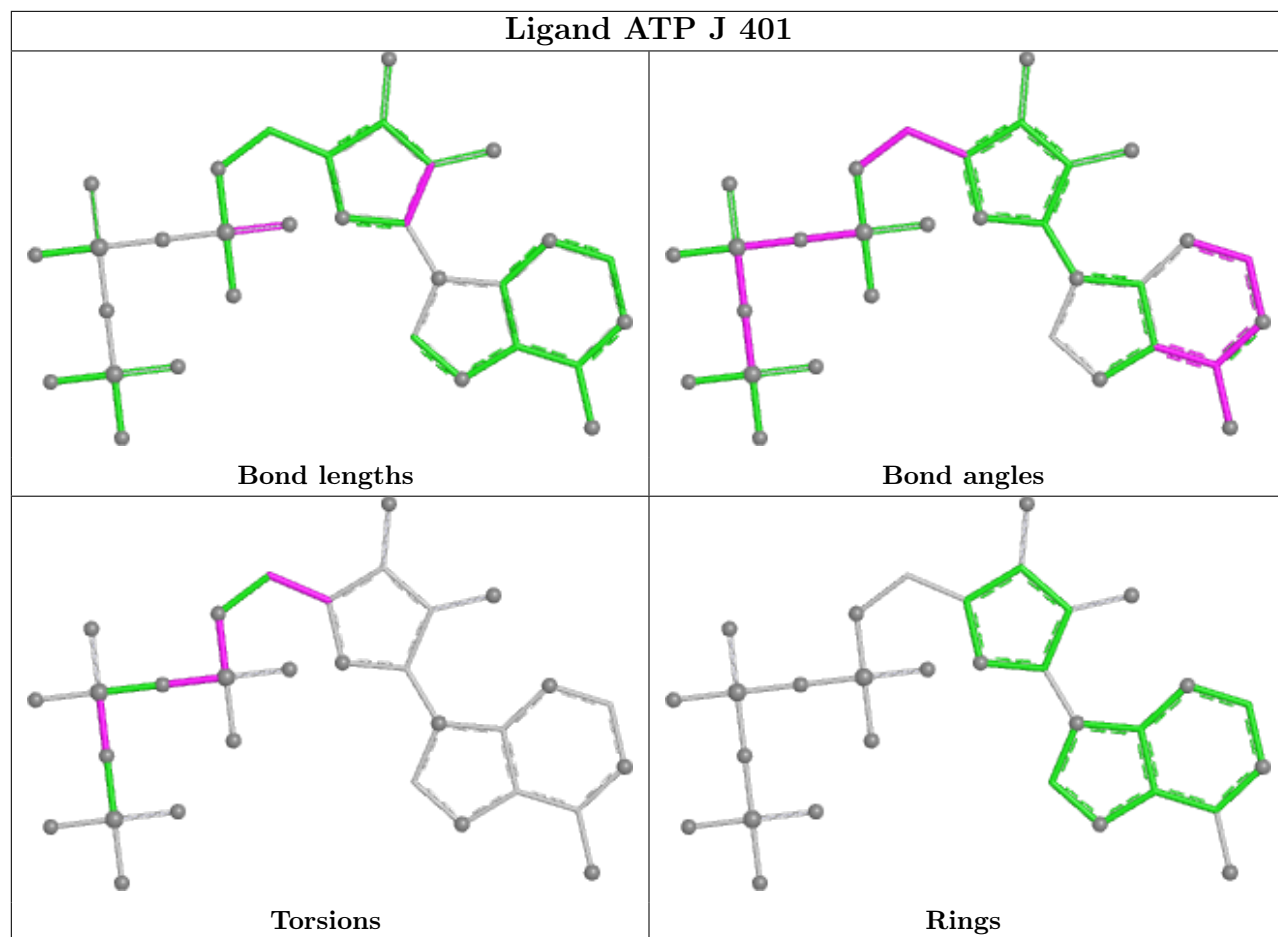
Mol	Chain	Res	Type	Atoms
6	M	401	ADP	PB-O3A-PA-O1A
4	L	401	ATP	C4'-C5'-O5'-PA
4	I	401	ATP	PB-O3A-PA-O5'
6	M	401	ADP	C4'-C5'-O5'-PA
4	J	401	ATP	C5'-O5'-PA-O3A
4	I	401	ATP	PG-O3B-PB-O2B
4	K	401	ATP	PG-O3B-PB-O2B
4	L	401	ATP	PA-O3A-PB-O2B
4	L	401	ATP	C5'-O5'-PA-O1A
4	K	401	ATP	C4'-C5'-O5'-PA
6	M	401	ADP	PB-O3A-PA-O2A
4	J	401	ATP	O4'-C4'-C5'-O5'
4	I	401	ATP	PB-O3B-PG-O3G
4	L	401	ATP	C5'-O5'-PA-O3A
6	M	401	ADP	C5'-O5'-PA-O3A
4	L	401	ATP	PG-O3B-PB-O1B
4	L	401	ATP	PG-O3B-PB-O2B
4	L	401	ATP	PA-O3A-PB-O1B
4	J	401	ATP	PG-O3B-PB-O2B
4	J	401	ATP	PB-O3A-PA-O2A
4	J	401	ATP	C5'-O5'-PA-O1A
4	J	401	ATP	C3'-C4'-C5'-O5'
4	K	401	ATP	PB-O3B-PG-O1G

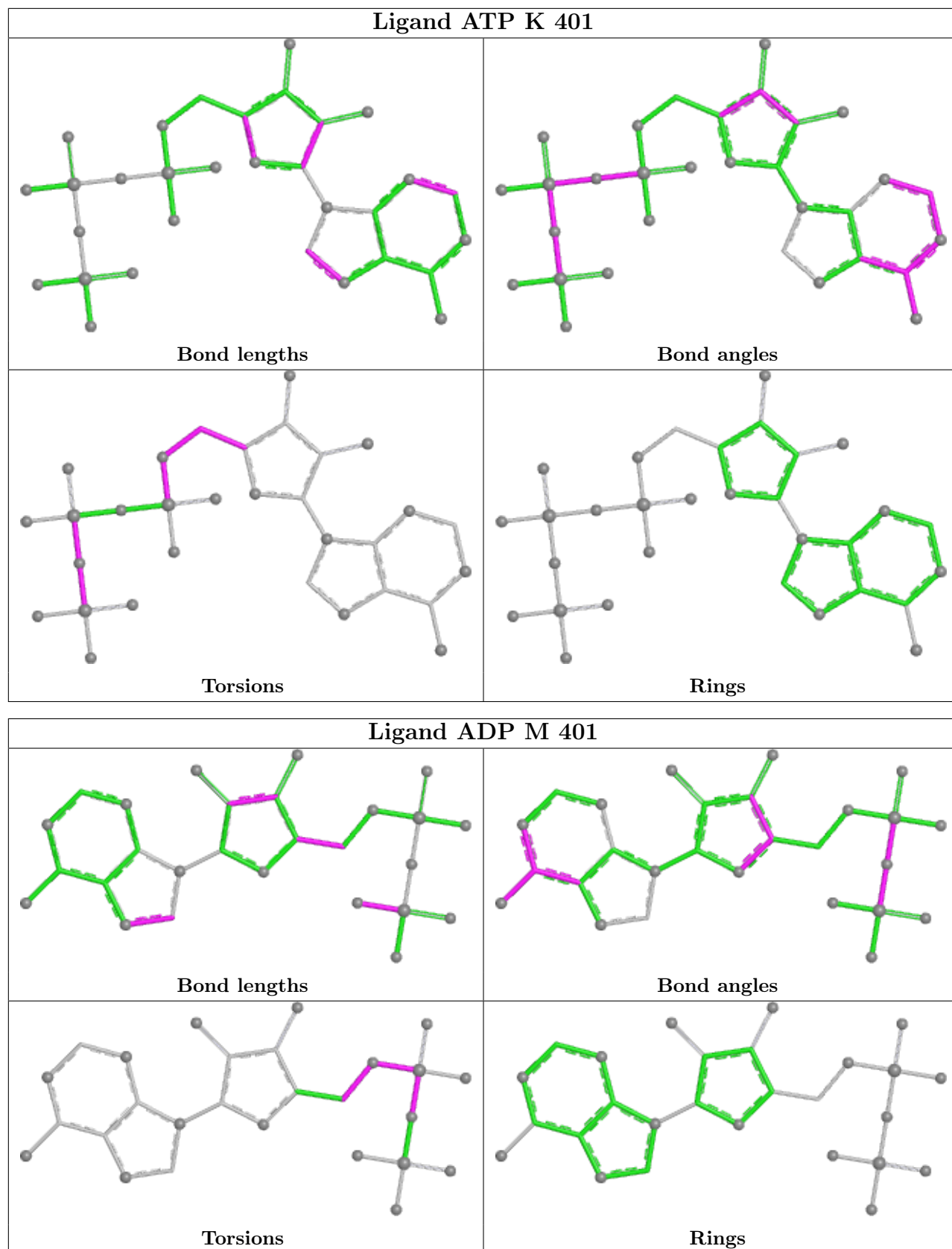
There are no ring outliers.

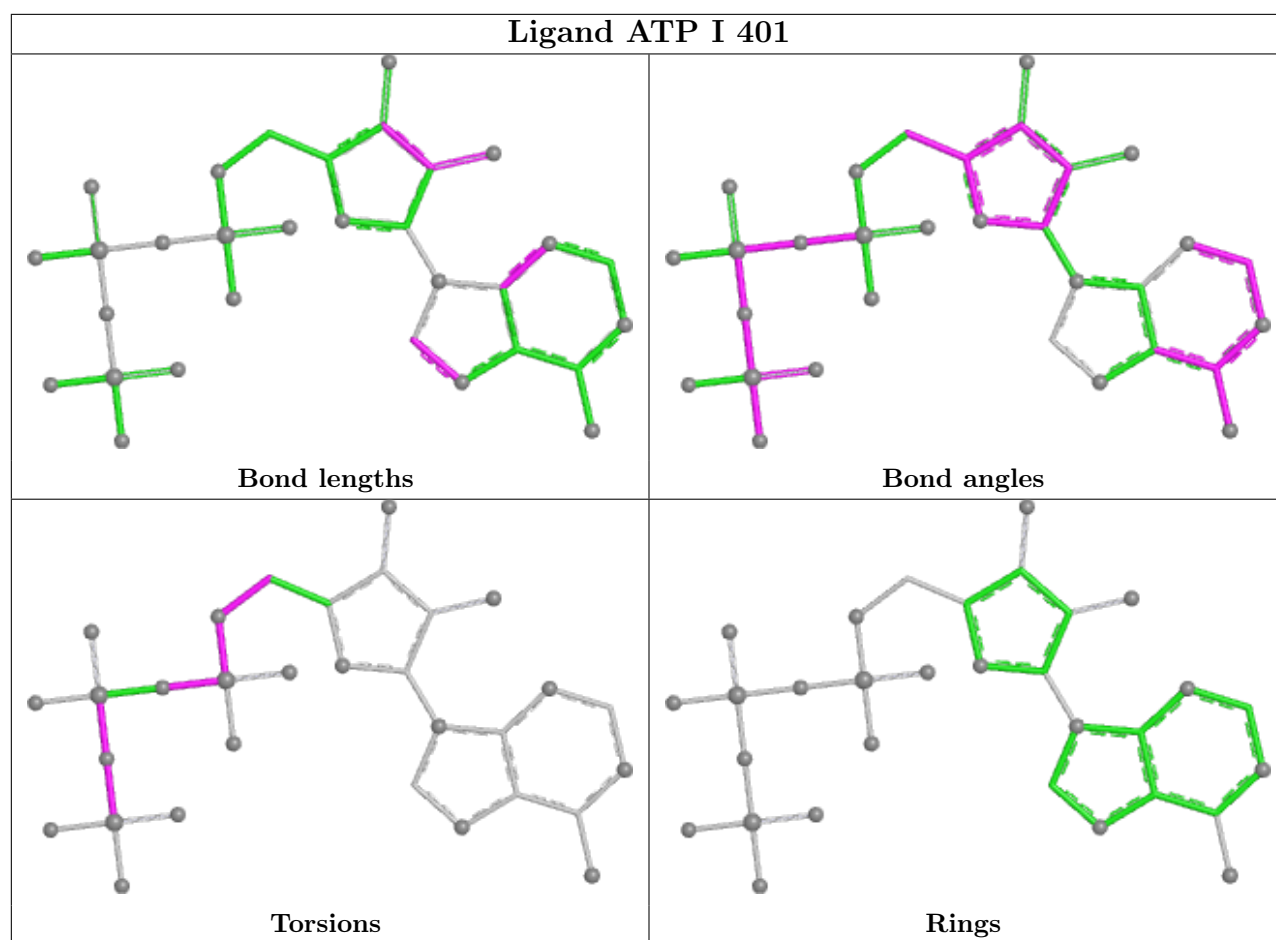
No monomer is involved in short contacts.

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









5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-0212. These allow visual inspection of the internal detail of the map and identification of artifacts.

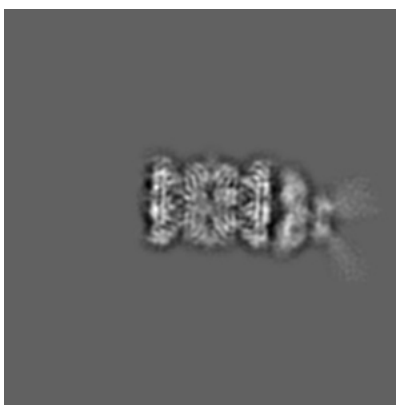
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

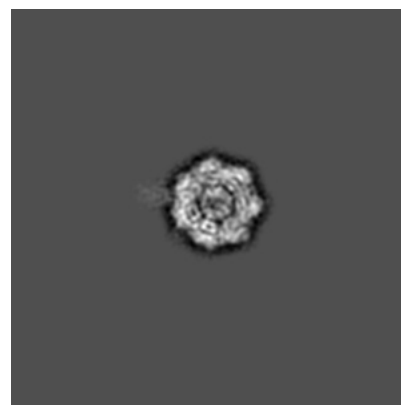
6.1.1 Primary map



X



Y



Z

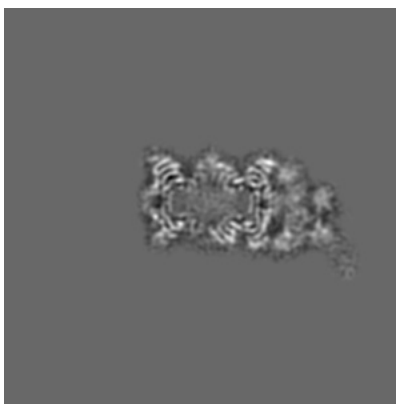
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

6.2.1 Primary map



X Index: 192



Y Index: 192



Z Index: 192

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: 189



Y Index: 180



Z Index: 250

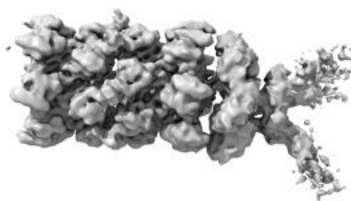
The images above show the largest variance slices of the map in three orthogonal directions.

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

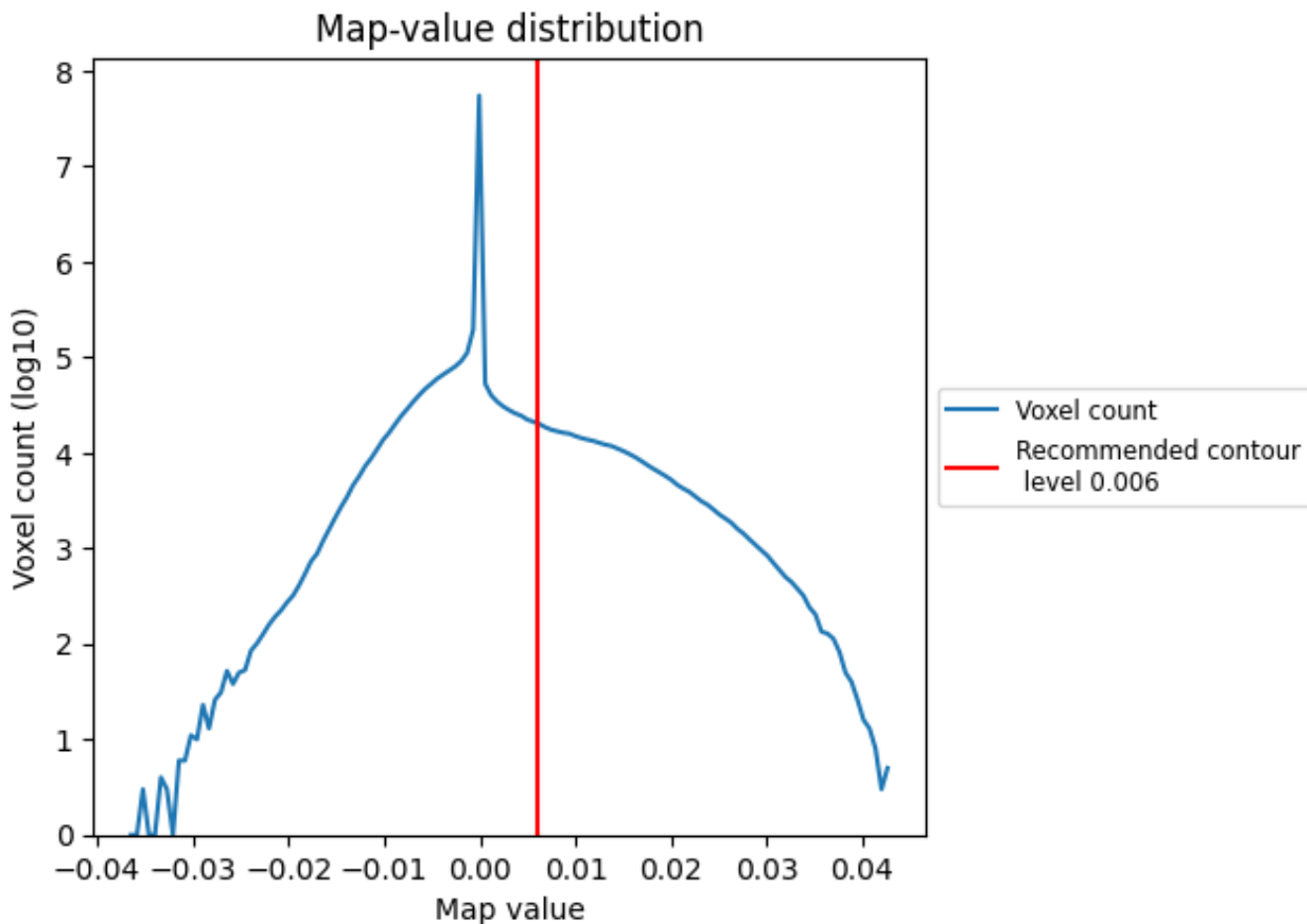
6.5 Mask visualisation

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

7 Map analysis [i](#)

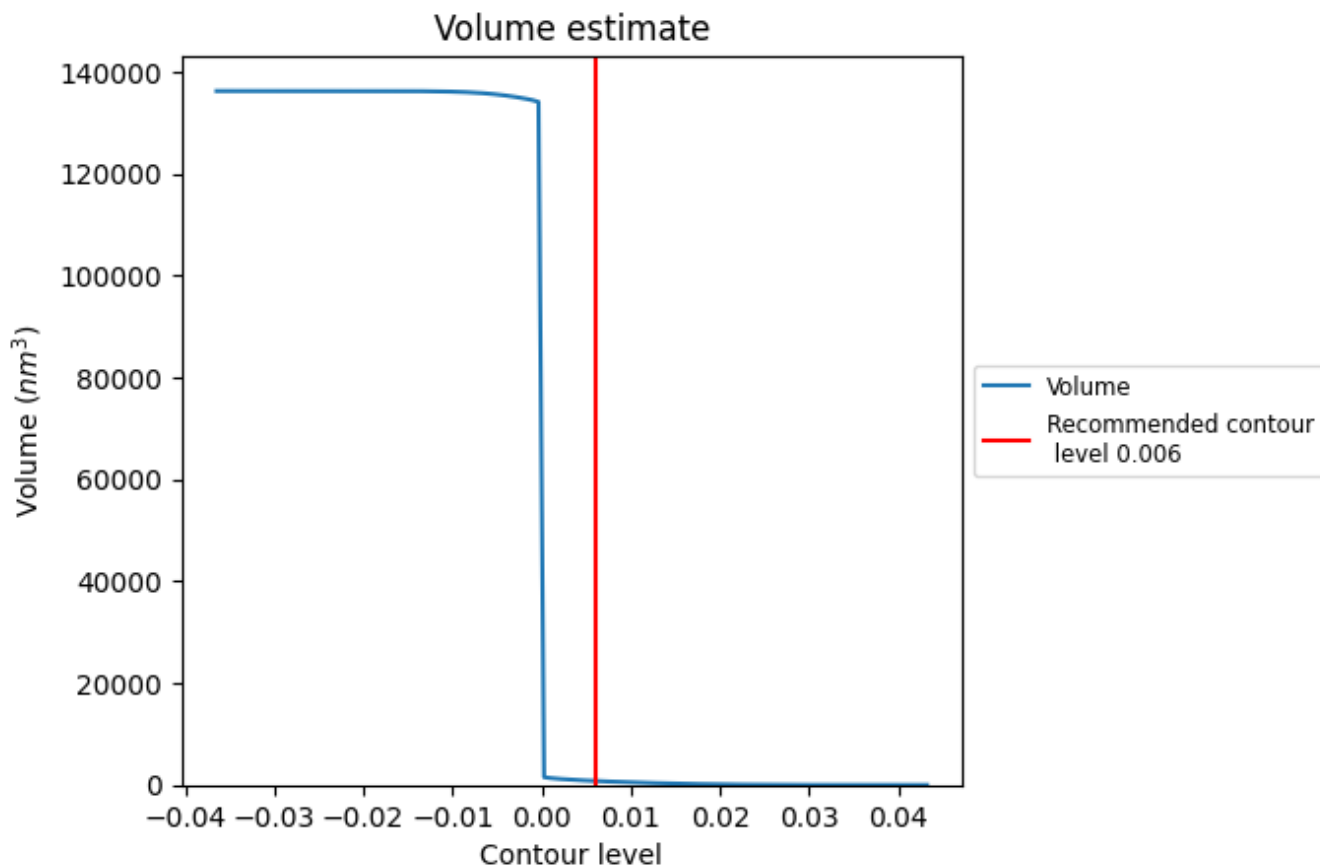
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

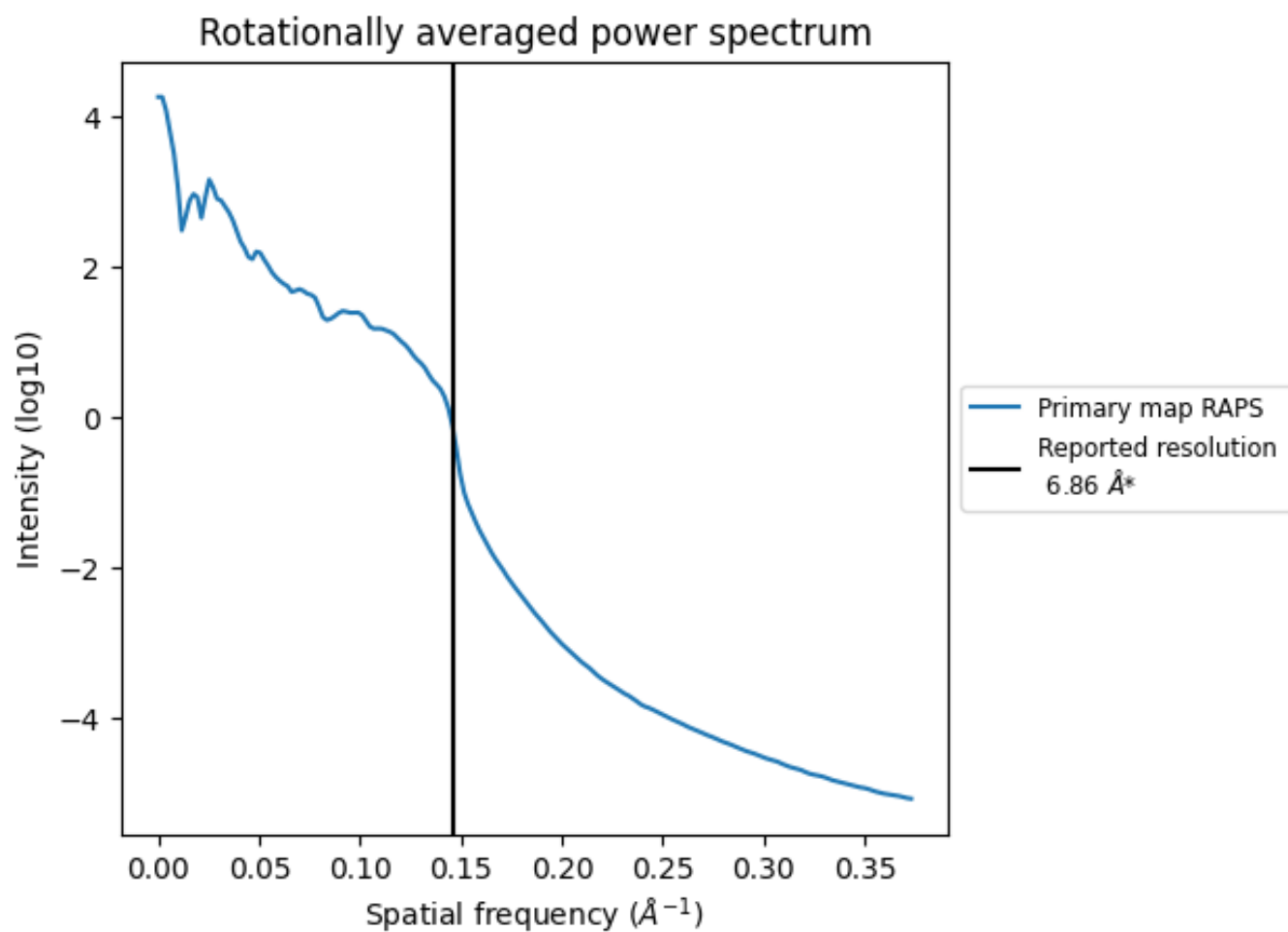
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 787 nm³; this corresponds to an approximate mass of 711 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 0.146\AA^{-1}

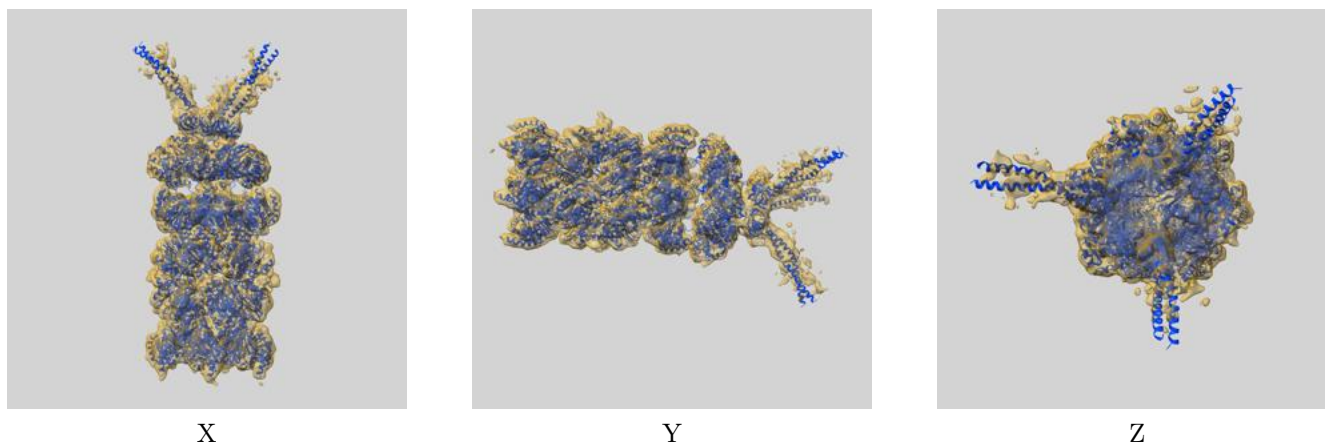
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

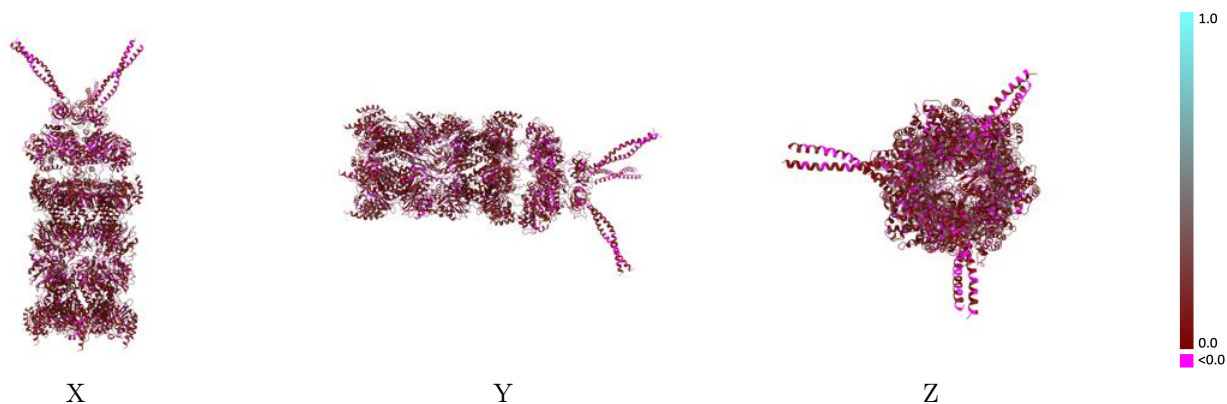
This section contains information regarding the fit between EMDB map EMD-0212 and PDB model 6HE8. Per-residue inclusion information can be found in section 3 on page 8.

9.1 Map-model overlay [i](#)



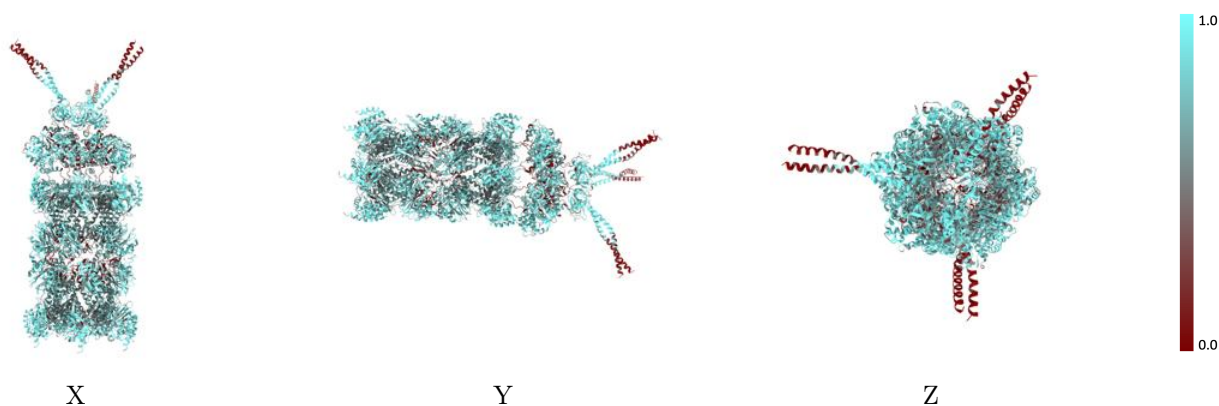
The images above show the 3D surface view of the map at the recommended contour level 0.006 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



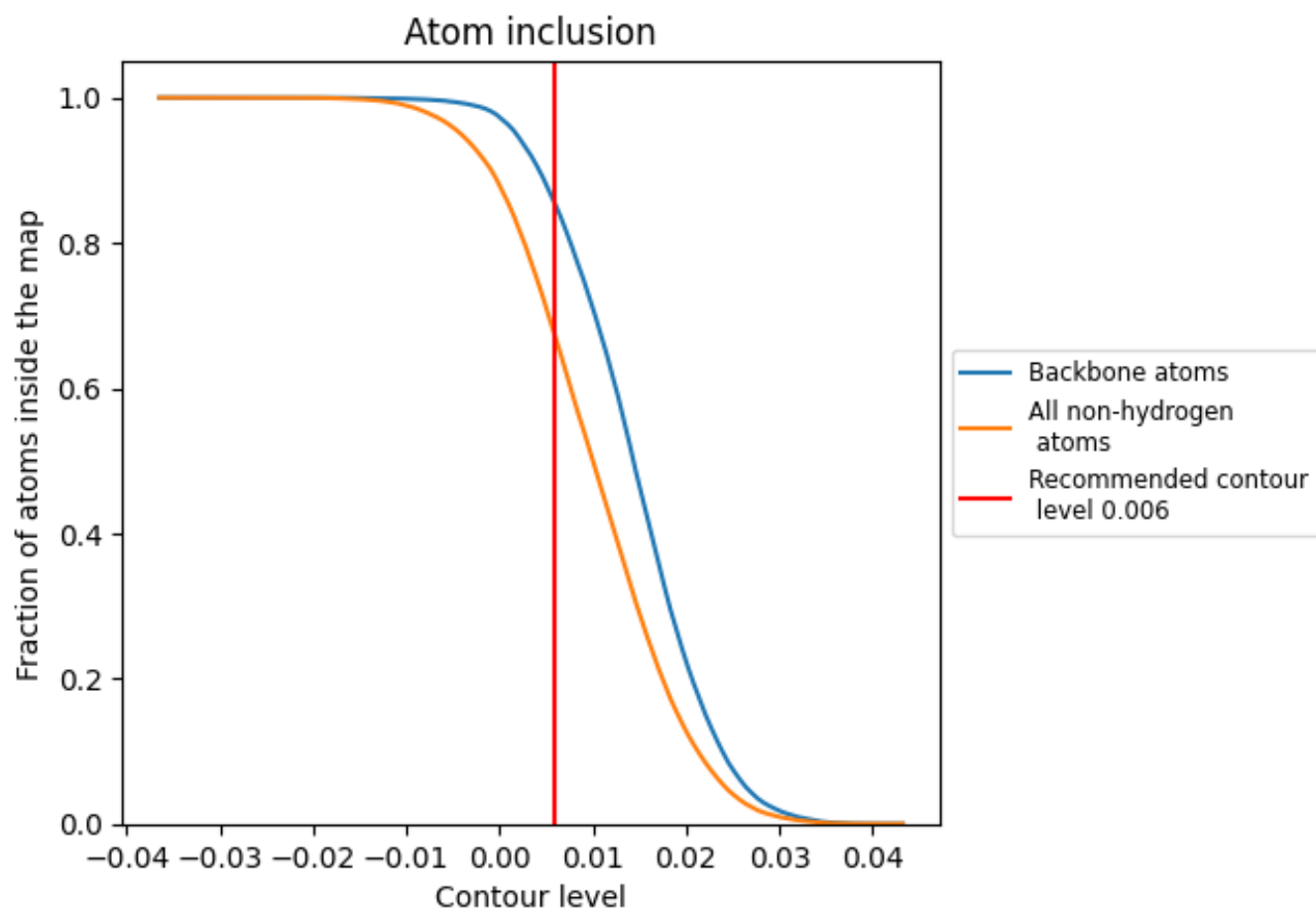
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3 Atom inclusion mapped to coordinate model [\(i\)](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.006).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 85% of all backbone atoms, 67% 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 (0.006) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6698	 0.1150
1	 0.6471	 0.1160
2	 0.6695	 0.1270
3	 0.6517	 0.1190
4	 0.6452	 0.1220
5	 0.6517	 0.1300
6	 0.6346	 0.1220
7	 0.6425	 0.1160
A	 0.7146	 0.1320
B	 0.7216	 0.1380
C	 0.7269	 0.1340
D	 0.7065	 0.1290
E	 0.7183	 0.1370
F	 0.7210	 0.1350
G	 0.7183	 0.1330
H	 0.6062	 0.0850
I	 0.6581	 0.0950
J	 0.6581	 0.1000
K	 0.6610	 0.0950
L	 0.6159	 0.0790
M	 0.6095	 0.0830
a	 0.7094	 0.1220
b	 0.7089	 0.1250
c	 0.7050	 0.1210
d	 0.6985	 0.1250
e	 0.7231	 0.1270
f	 0.7012	 0.1200
g	 0.7215	 0.1240
h	 0.6438	 0.1130
i	 0.6616	 0.1240
j	 0.6340	 0.1140
k	 0.6248	 0.1150
l	 0.6498	 0.1180
m	 0.6517	 0.1230
n	 0.6412	 0.1120

