



Full wwPDB EM Validation Report ⓘ

Nov 20, 2022 – 07:12 am GMT

PDB ID : 6HEC
EMDB ID : EMD-0215
Title : PAN-proteasome in state 4
Authors : Majumder, P.; Rudack, T.; Beck, F.; Baumeister, W.
Deposited on : 2018-08-20
Resolution : 6.95 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:

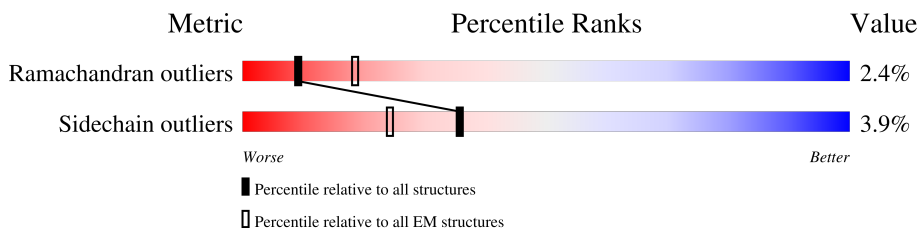
EMDB validation analysis : 0.0.1.dev43
Mogul : 1.8.4, CSD as541be (2020)
MolProbity : 4.02b-467
buster-report : 1.1.7 (2018)
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : 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 6.95 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	 9% 78% 19% .
1	B	242	 10% 73% 24% .
1	C	242	 6% 75% 23% .
1	D	242	 9% 69% 25% 6%
1	E	242	 9% 71% 26% .
1	F	242	 6% 76% 20% .
1	G	242	 9% 76% 23% .
1	a	242	 10% 70% 25% ..
1	b	242	 10% 73% 22% ..

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Mol	Chain	Length	Quality of chain	
1	c	242	12%	74% 21% ..
1	d	242	11%	73% 24% ..
1	e	242	8%	75% 19% ..
1	f	242	11%	78% 17% ..
1	g	242	13%	72% 21% . . .
2	1	202	22%	74% 21% ..
2	2	202	17%	76% 20% .
2	3	202	20%	77% 21% .
2	4	202	17%	79% 17% .
2	5	202	19%	78% 18% .
2	6	202	19%	73% 25% .
2	7	202	20%	73% 24% .
2	h	202	21%	72% 23% .
2	i	202	22%	77% 20% .
2	j	202	19%	73% 24% .
2	k	202	22%	73% 22% 5%
2	l	202	20%	79% 17% .
2	m	202	21%	79% 18% .
2	n	202	21%	73% 22% .
3	H	390	29%	75% 21% .
3	I	390	29%	71% 25% ..
3	J	390	27%	75% 21% .
3	K	390	31%	75% 22% .
3	L	390	38%	73% 22% 5% .
3	M	390	32%	73% 22% .

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	1907	1211	321	368	7	0	0
1	a	237	1866	1186	315	359	6	0	0
1	B	242	1907	1211	321	368	7	0	0
1	b	237	1866	1186	315	359	6	0	0
1	C	242	1907	1211	321	368	7	0	0
1	c	237	1866	1186	315	359	6	0	0
1	D	242	1907	1211	321	368	7	0	0
1	d	237	1866	1186	315	359	6	0	0
1	E	242	1907	1211	321	368	7	0	0
1	e	237	1866	1186	315	359	6	0	0
1	F	242	1907	1211	321	368	7	0	0
1	f	237	1866	1186	315	359	6	0	0
1	G	242	1907	1211	321	368	7	0	0
1	g	237	1866	1186	315	359	6	0	0

- Molecule 2 is a protein called Proteasome subunit beta.

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

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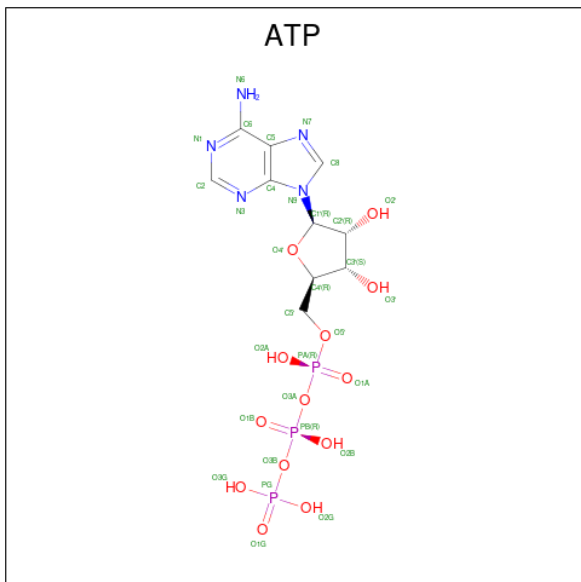
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Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	h	202	Total 1553	C 982	N 260	O 305	S 6	0	0
2	2	202	Total 1553	C 982	N 260	O 305	S 6	0	0
2	i	202	Total 1553	C 982	N 260	O 305	S 6	0	0
2	3	202	Total 1553	C 982	N 260	O 305	S 6	0	0
2	j	202	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	H	1	Total	C	N	O	P	0
			31	10	5	13	3	
4	I	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	M	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	H	1	Total	Mg	0
			1	1	
5	I	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: $C_{10}H_{15}N_5O_{10}P_2$).

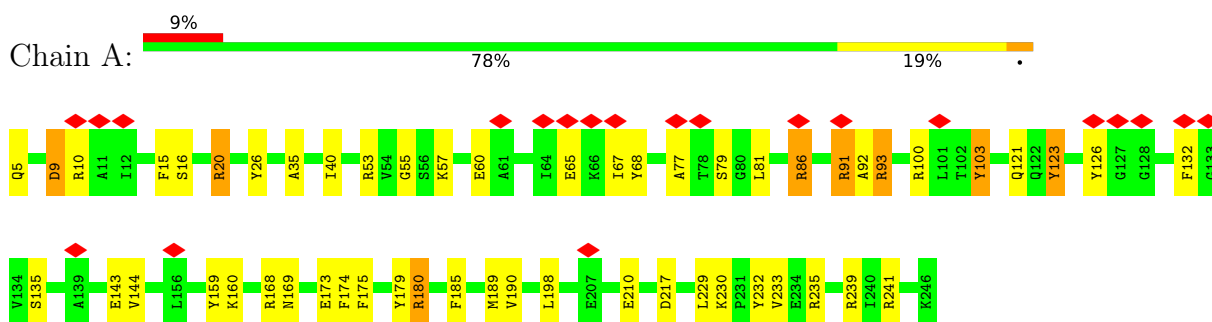


Mol	Chain	Residues	Atoms					AltConf
			Total	C	N	O	P	
6	J	1	27	10	5	10	2	0

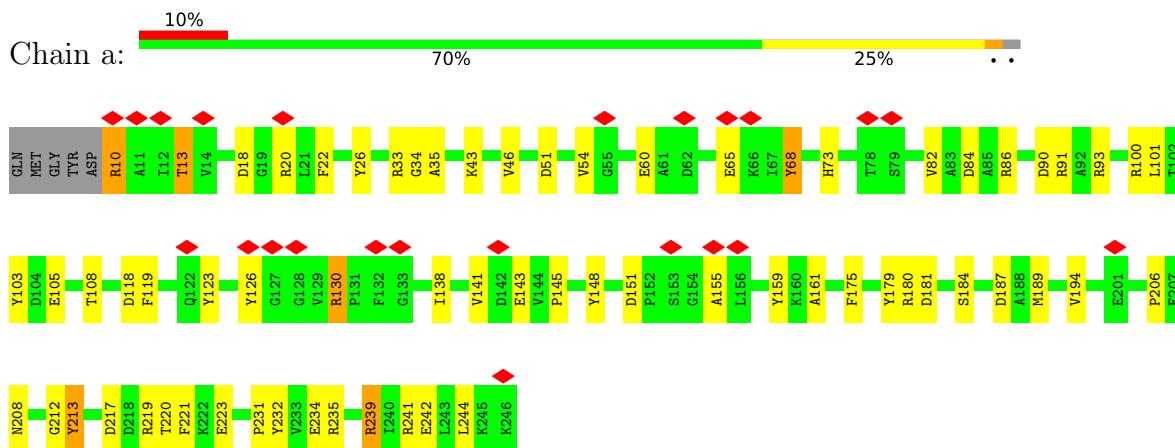
3 Residue-property plots [i](#)

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

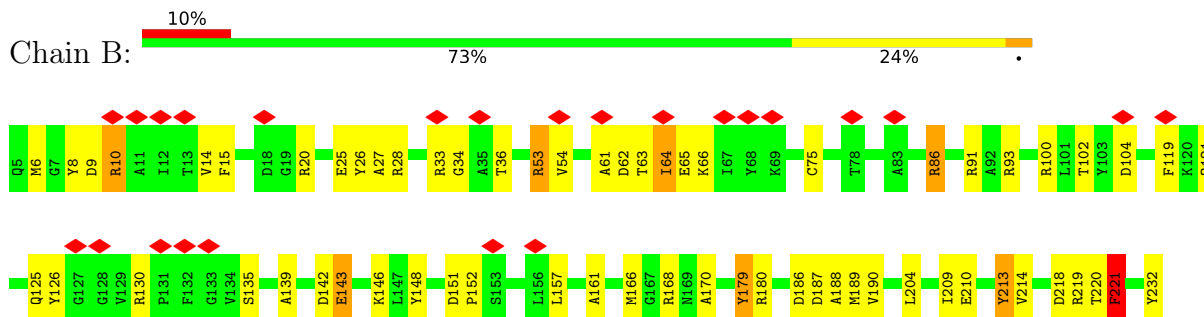
- Molecule 1: Proteasome subunit alpha



- Molecule 1: Proteasome subunit alpha

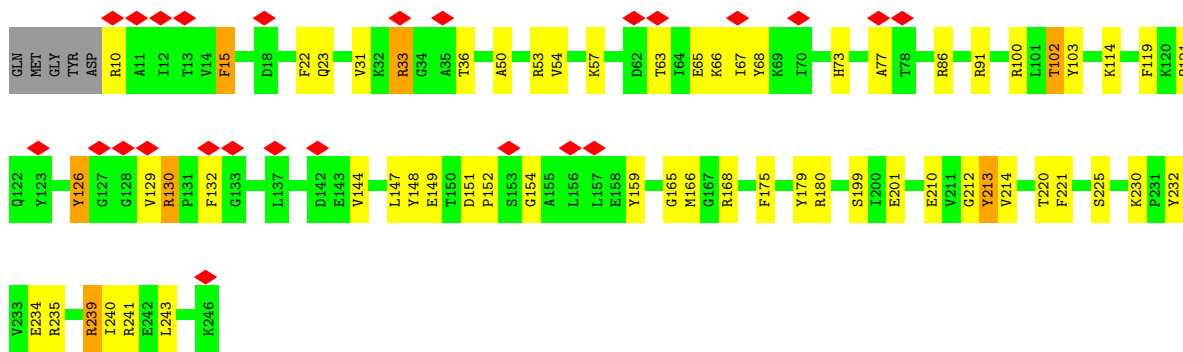


- Molecule 1: Proteasome subunit alpha

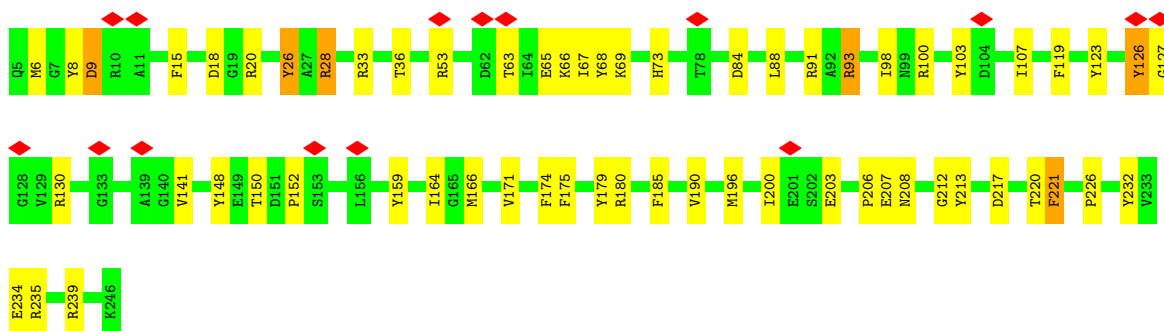
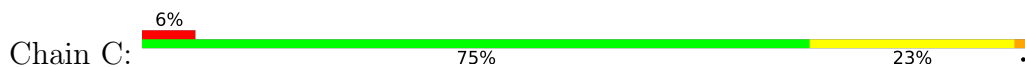




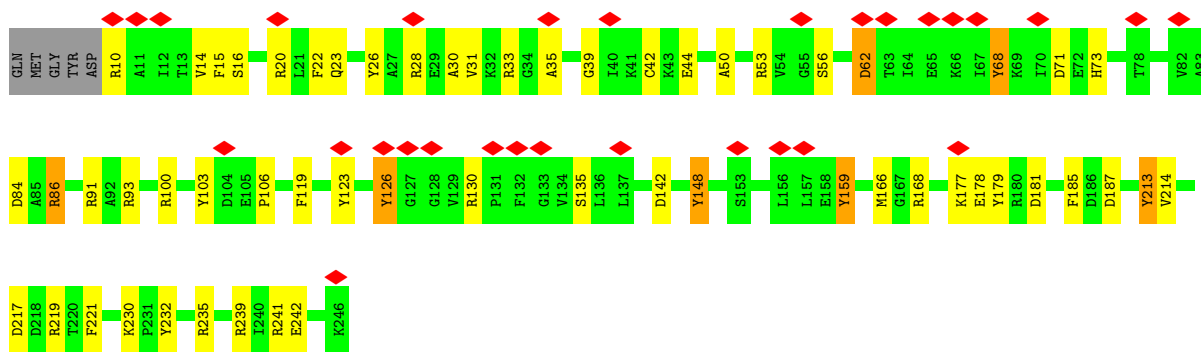
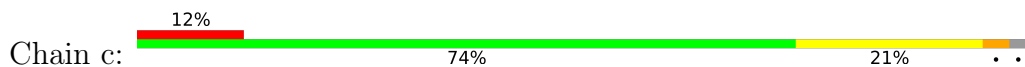
• Molecule 1: Proteasome subunit alpha



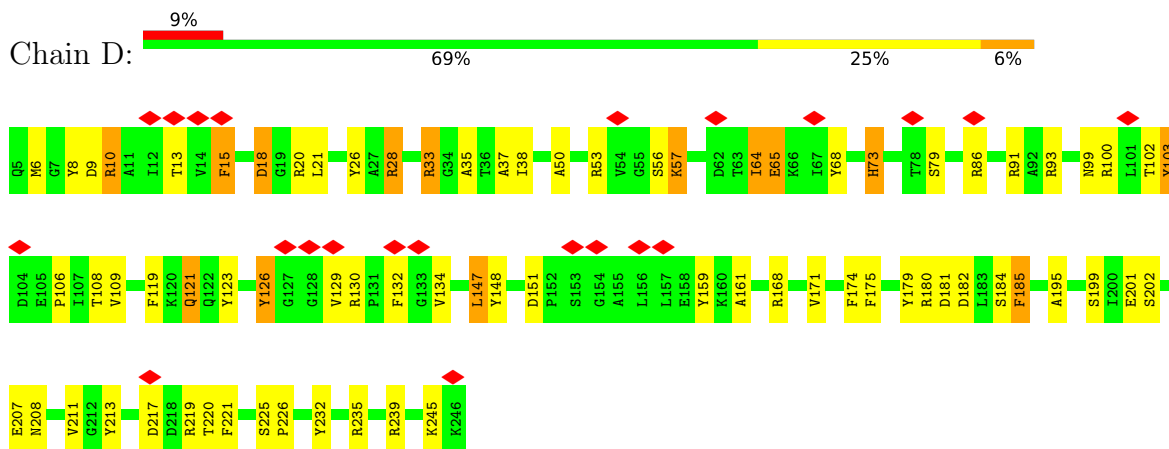
• Molecule 1: Proteasome subunit alpha



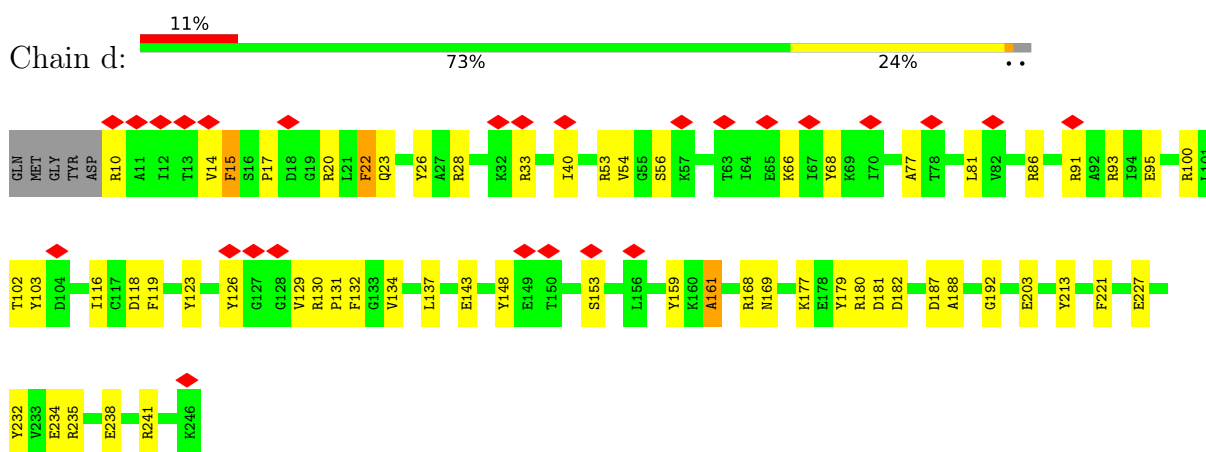
• Molecule 1: Proteasome subunit alpha



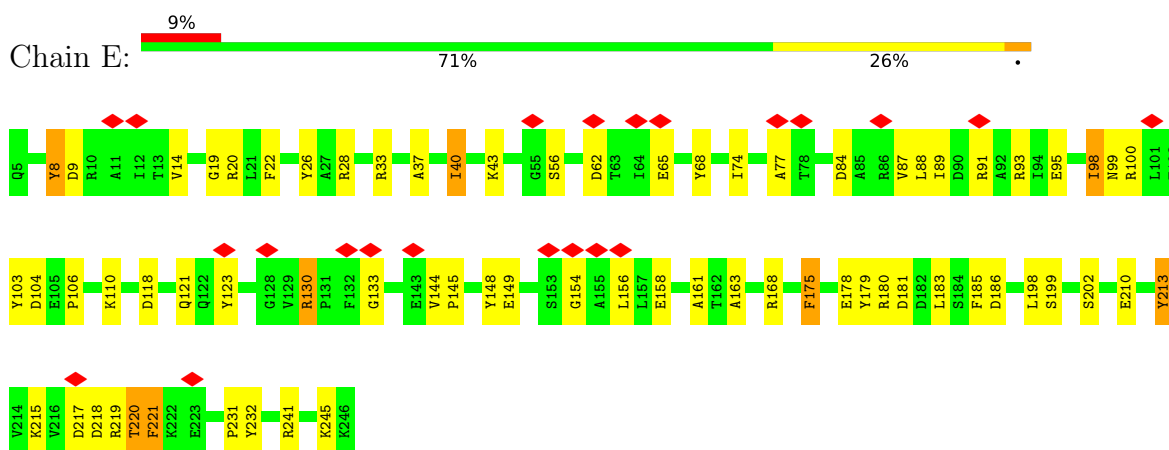
• Molecule 1: Proteasome subunit alpha



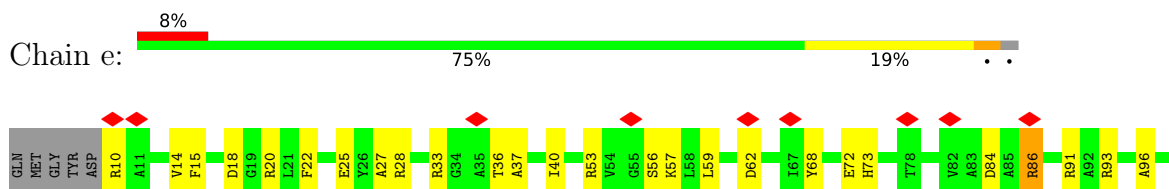
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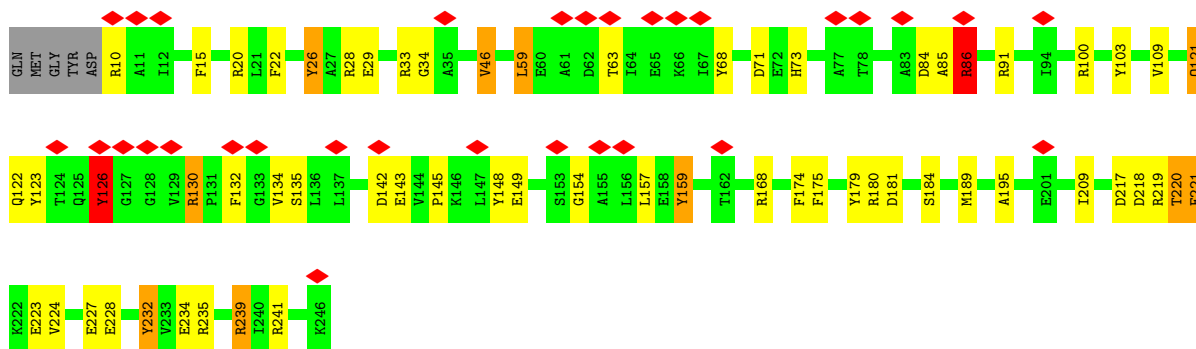


• Molecule 1: Proteasome subunit alpha

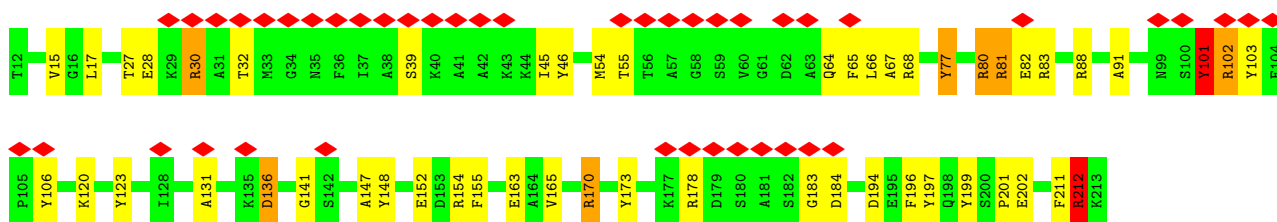
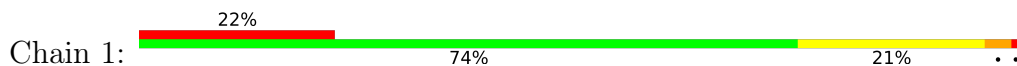


• Molecule 1: Proteasome subunit alpha

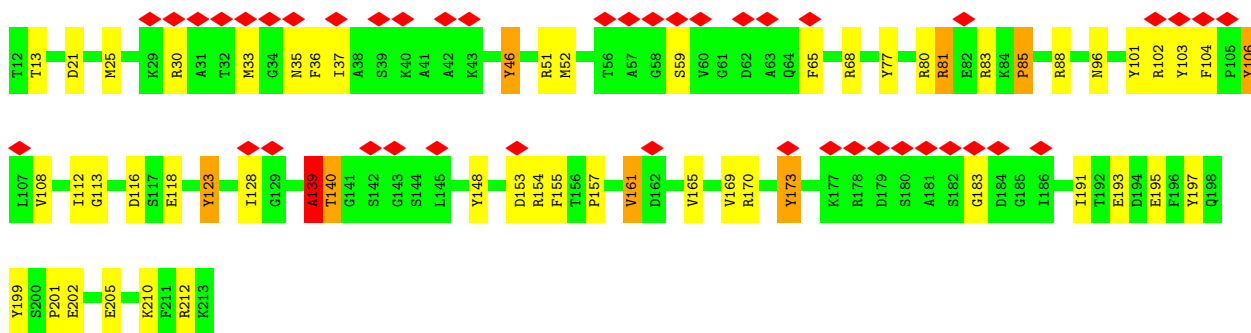




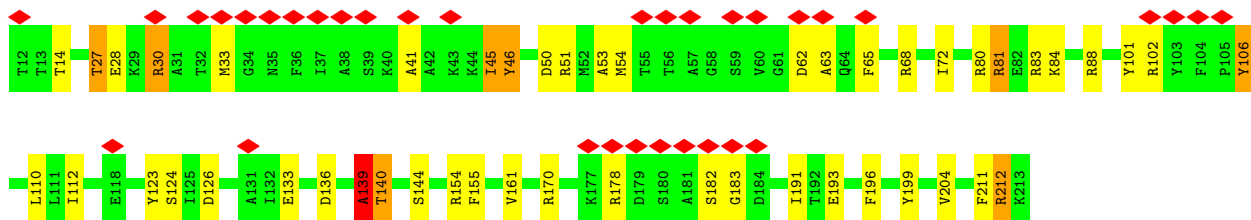
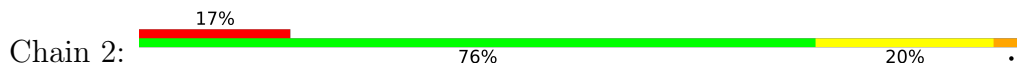
• Molecule 2: Proteasome subunit beta



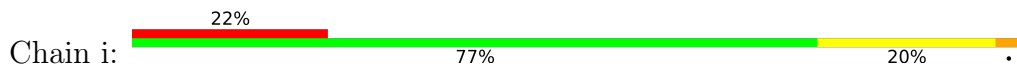
• Molecule 2: Proteasome subunit beta

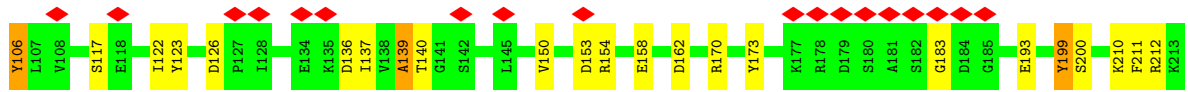
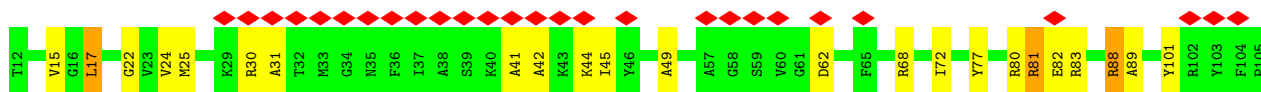


• Molecule 2: Proteasome subunit beta

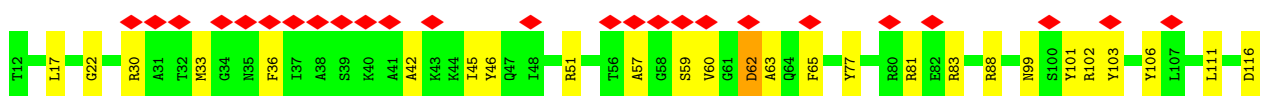
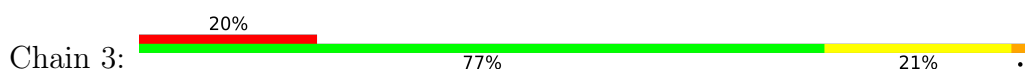


• Molecule 2: Proteasome subunit beta

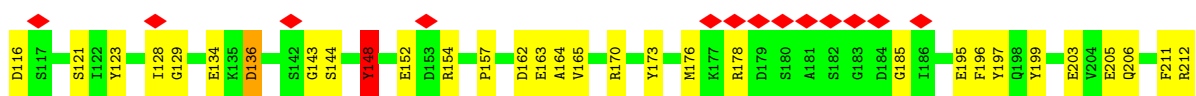
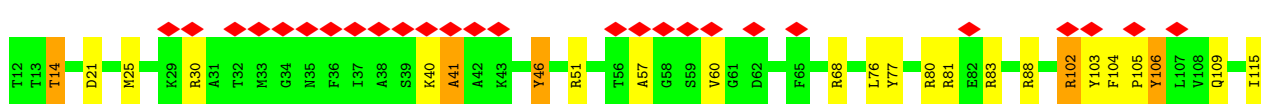
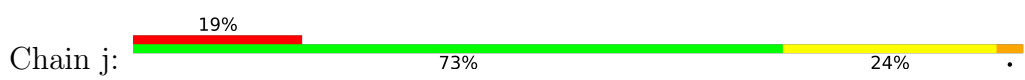




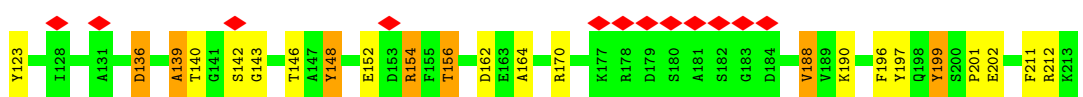
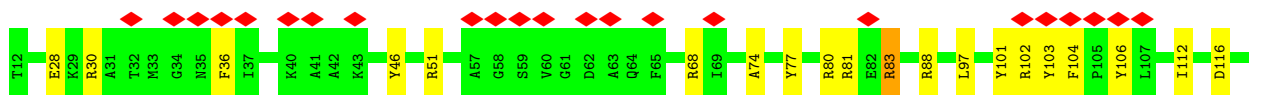
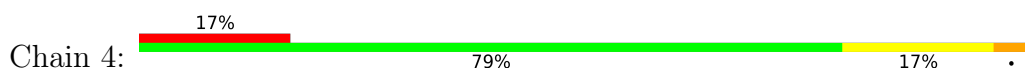
• Molecule 2: Proteasome subunit beta



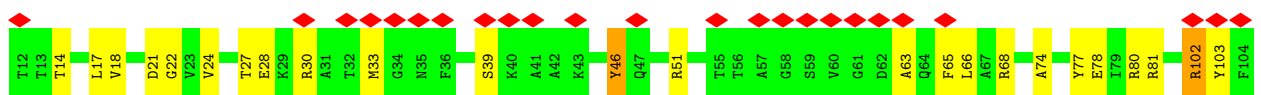
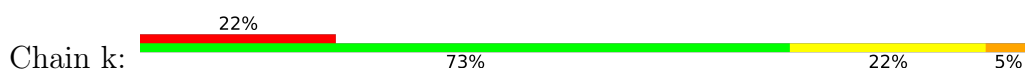
• Molecule 2: Proteasome subunit beta

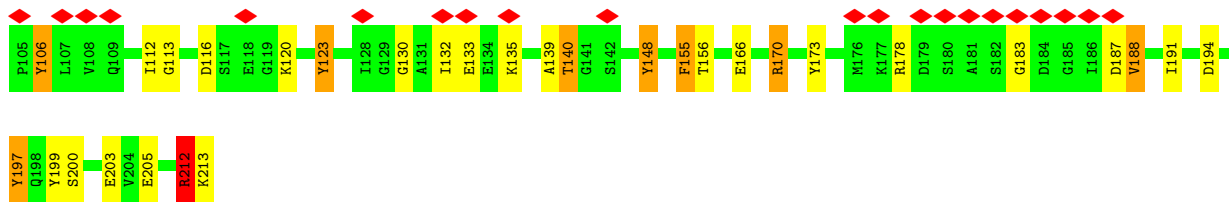


• Molecule 2: Proteasome subunit beta

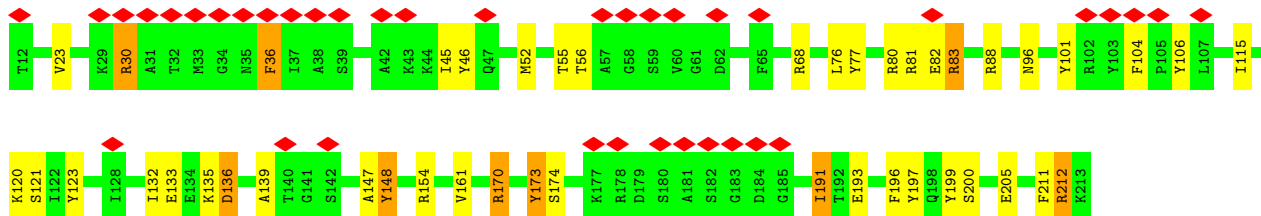
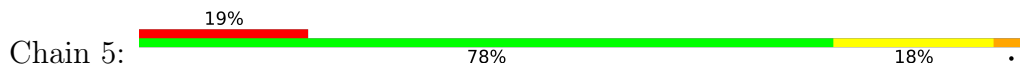


• Molecule 2: Proteasome subunit beta

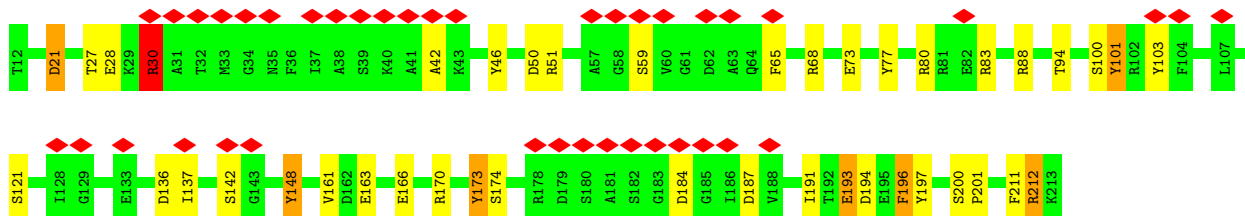
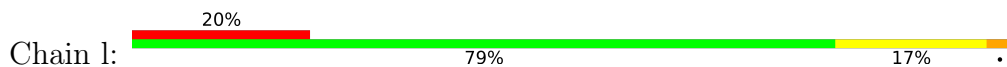




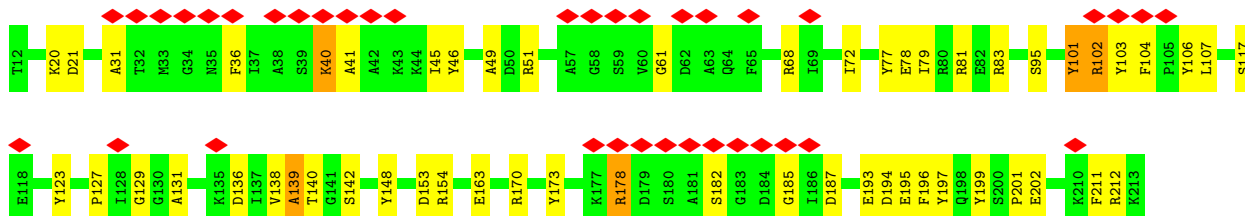
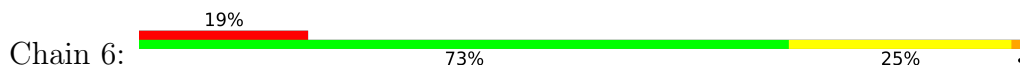
• Molecule 2: Proteasome subunit beta



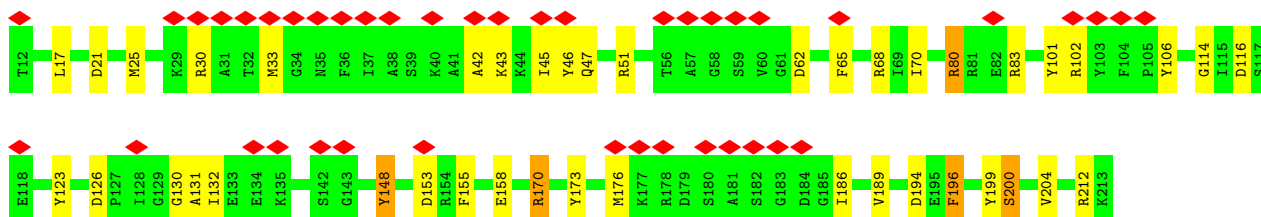
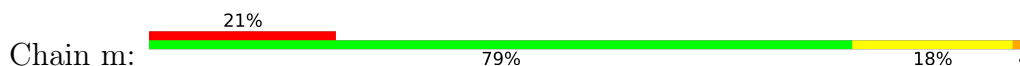
• Molecule 2: Proteasome subunit beta



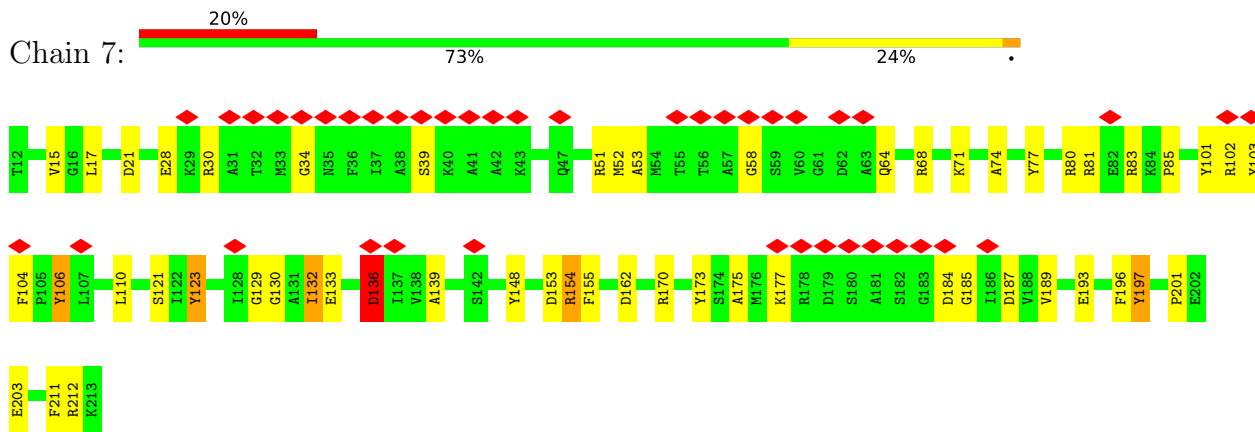
• Molecule 2: Proteasome subunit beta



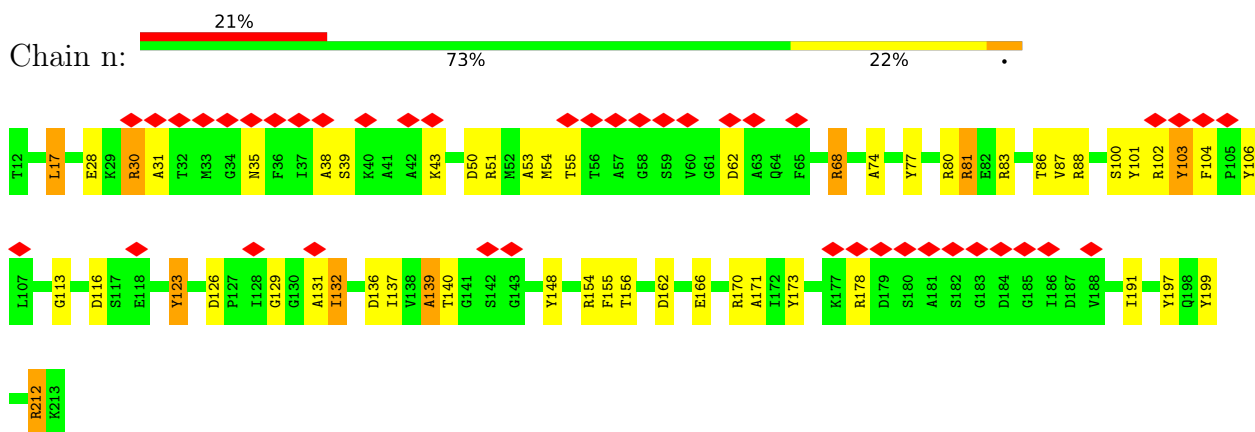
• Molecule 2: Proteasome subunit beta



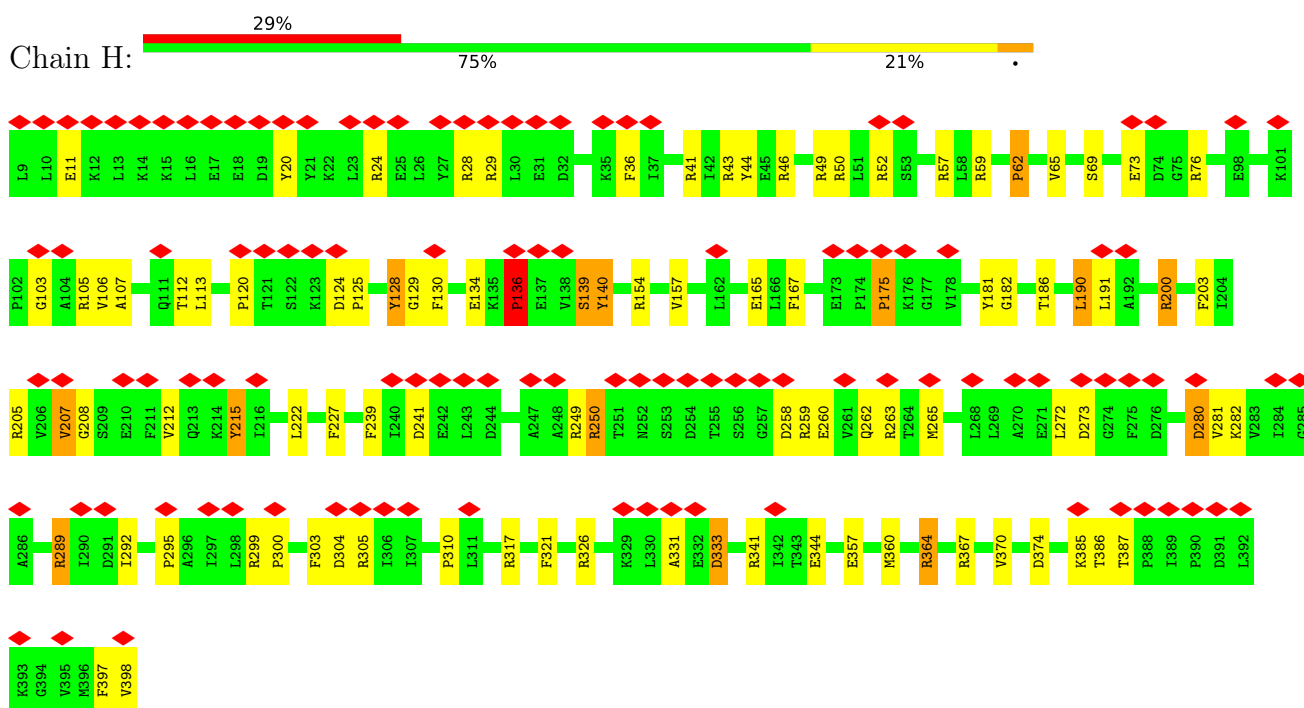
• Molecule 2: Proteasome subunit beta



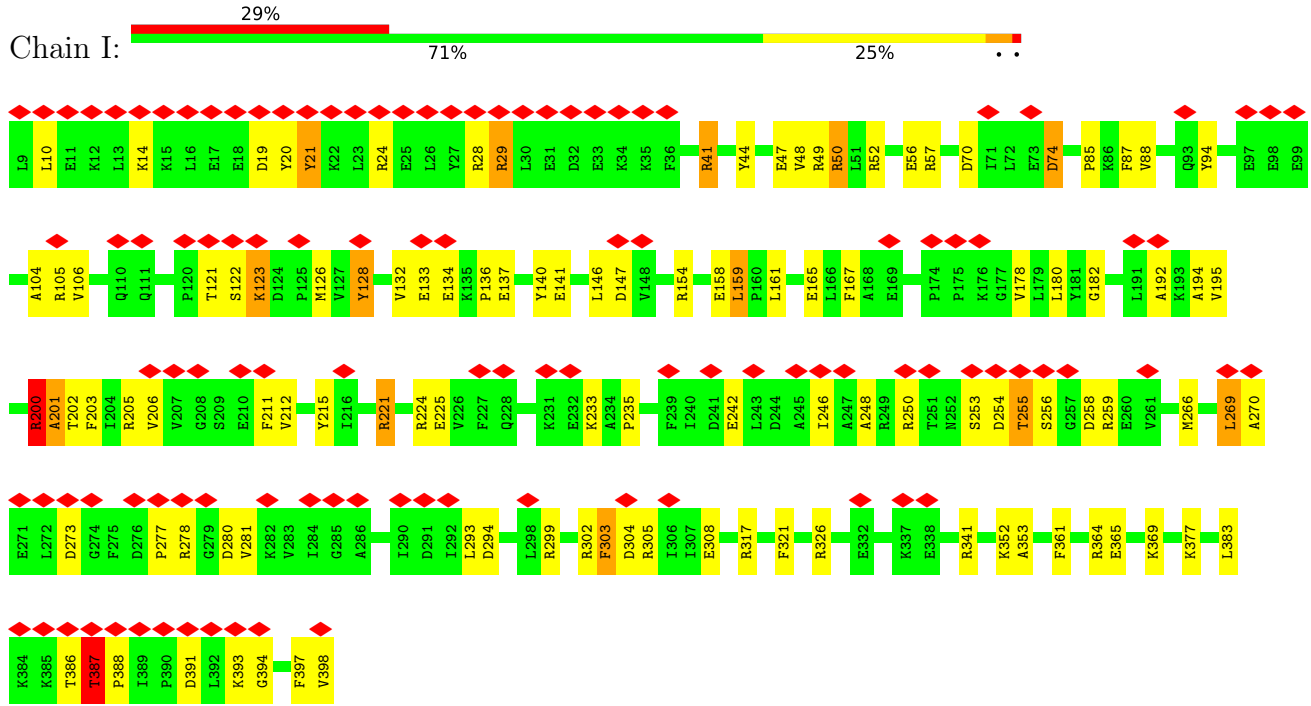
• Molecule 2: Proteasome subunit beta



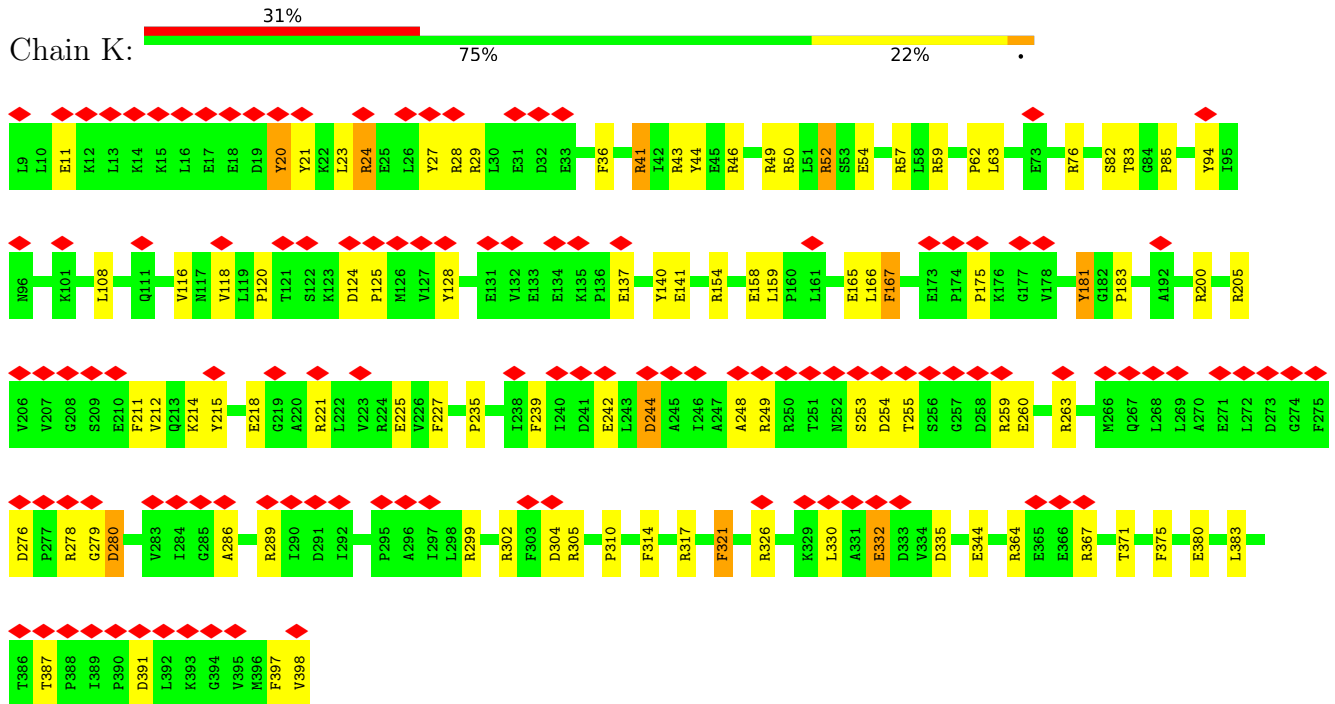
• Molecule 3: Proteasome-activating nucleotidase



• Molecule 3: Proteasome-activating nucleotidase

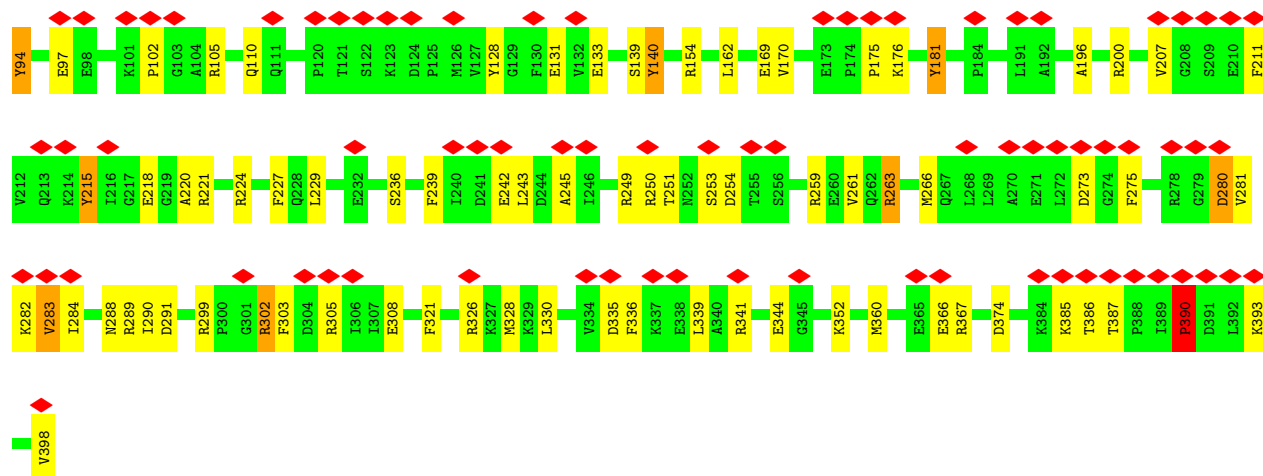


• Molecule 3: Proteasome-activating nucleotidase



• 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	36385	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	0.052	Depositor
Minimum map value	-0.035	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.00655	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: ATP, ADP, 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	1.77	22/1934 (1.1%)	1.98	51/2605 (2.0%)
1	B	1.78	15/1934 (0.8%)	2.01	57/2605 (2.2%)
1	C	1.71	15/1934 (0.8%)	2.05	54/2605 (2.1%)
1	D	1.76	24/1934 (1.2%)	2.11	72/2605 (2.8%)
1	E	1.80	24/1934 (1.2%)	2.03	58/2605 (2.2%)
1	F	1.78	24/1934 (1.2%)	1.96	43/2605 (1.7%)
1	G	1.72	13/1934 (0.7%)	1.97	49/2605 (1.9%)
1	a	1.75	20/1892 (1.1%)	2.02	54/2549 (2.1%)
1	b	1.77	24/1892 (1.3%)	1.91	46/2549 (1.8%)
1	c	1.80	28/1892 (1.5%)	2.06	64/2549 (2.5%)
1	d	1.78	25/1892 (1.3%)	1.94	36/2549 (1.4%)
1	e	1.72	19/1892 (1.0%)	1.94	53/2549 (2.1%)
1	f	1.73	19/1892 (1.0%)	1.95	43/2549 (1.7%)
1	g	1.80	26/1892 (1.4%)	2.03	58/2549 (2.3%)
2	1	1.76	16/1573 (1.0%)	2.05	48/2121 (2.3%)
2	2	1.82	16/1573 (1.0%)	1.98	45/2121 (2.1%)
2	3	1.72	16/1573 (1.0%)	1.96	43/2121 (2.0%)
2	4	1.77	19/1573 (1.2%)	2.09	44/2121 (2.1%)
2	5	3.33	22/1573 (1.4%)	2.21	42/2121 (2.0%)
2	6	1.76	16/1573 (1.0%)	2.02	51/2121 (2.4%)
2	7	1.73	14/1573 (0.9%)	1.95	49/2121 (2.3%)
2	h	1.74	17/1573 (1.1%)	1.99	41/2121 (1.9%)
2	i	1.80	20/1573 (1.3%)	1.97	36/2121 (1.7%)
2	j	1.73	20/1573 (1.3%)	1.97	42/2121 (2.0%)
2	k	1.79	23/1573 (1.5%)	2.01	43/2121 (2.0%)
2	l	3.31	25/1573 (1.6%)	2.19	35/2121 (1.7%)
2	m	1.70	7/1573 (0.4%)	2.10	51/2121 (2.4%)
2	n	1.76	17/1573 (1.1%)	2.00	46/2121 (2.2%)
3	H	1.78	36/3146 (1.1%)	1.99	76/4240 (1.8%)
3	I	1.78	37/3146 (1.2%)	1.96	89/4240 (2.1%)
3	J	1.78	35/3146 (1.1%)	2.01	87/4240 (2.1%)
3	K	1.74	27/3146 (0.9%)	1.97	83/4240 (2.0%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
3	L	1.75	30/3146 (1.0%)	1.96	81/4240 (1.9%)
3	M	1.77	30/3146 (1.0%)	1.97	80/4240 (1.9%)
All	All	1.86	741/67680 (1.1%)	2.01	1850/91212 (2.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	7
1	B	0	9
1	C	0	8
1	D	0	12
1	E	0	6
1	F	0	8
1	G	0	7
1	a	0	7
1	b	0	8
1	c	0	6
1	d	0	2
1	e	0	8
1	f	0	6
1	g	0	8
2	1	0	8
2	2	0	6
2	3	0	3
2	4	0	5
2	5	0	6
2	6	0	3
2	7	0	9
2	h	0	8
2	i	0	5
2	j	0	5
2	k	0	10
2	l	0	4
2	m	0	6
2	n	0	9
3	H	0	14
3	I	0	13
3	J	0	13
3	K	0	10

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Mol	Chain	#Chirality outliers	#Planarity outliers
3	L	0	23
3	M	0	18
All	All	0	280

All (741) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	1	170	ARG	CZ-NH1	60.01	2.11	1.33
2	5	170	ARG	CZ-NH1	59.50	2.10	1.33
2	5	211	PHE	CG-CD2	52.08	2.16	1.38
2	1	211	PHE	CG-CD2	49.92	2.13	1.38
2	5	211	PHE	CG-CD1	47.02	2.09	1.38
2	1	211	PHE	CG-CD1	46.53	2.08	1.38
2	1	211	PHE	CE2-CZ	35.46	2.04	1.37
2	1	211	PHE	CE1-CZ	34.45	2.02	1.37
2	5	211	PHE	CE2-CZ	34.07	2.02	1.37
2	5	211	PHE	CE1-CZ	33.54	2.01	1.37
2	5	211	PHE	CD1-CE1	32.57	2.04	1.39
2	5	211	PHE	CD2-CE2	31.44	2.02	1.39
2	1	211	PHE	CD2-CE2	31.16	2.01	1.39
2	1	211	PHE	CD1-CE1	29.49	1.98	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	j	144	SER	CA-CB	9.81	1.67	1.52
1	F	232	TYR	CE1-CZ	9.59	1.51	1.38
2	4	152	GLU	CG-CD	9.07	1.65	1.51
3	I	52	ARG	CD-NE	9.02	1.61	1.46
1	F	235	ARG	NE-CZ	9.02	1.44	1.33
1	D	93	ARG	CD-NE	8.81	1.61	1.46
2	k	77	TYR	CG-CD1	8.77	1.50	1.39
1	D	168	ARG	NE-CZ	8.57	1.44	1.33
1	F	130	ARG	CD-NE	8.37	1.60	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	152	PRO	N-CD	-8.27	1.36	1.47
3	I	317	ARG	NE-CZ	8.11	1.43	1.33
3	I	128	TYR	CE1-CZ	8.09	1.49	1.38
2	n	39	SER	CA-CB	8.05	1.65	1.52
3	K	76	ARG	NE-CZ	8.03	1.43	1.33
2	i	212	ARG	CZ-NH1	7.88	1.43	1.33
2	n	154	ARG	NE-CZ	7.86	1.43	1.33
1	g	179	TYR	CB-CG	7.76	1.63	1.51
1	A	132	PHE	CG-CD1	7.73	1.50	1.38
2	h	102	ARG	NE-CZ	7.71	1.43	1.33
1	c	103	TYR	CZ-OH	7.69	1.50	1.37
3	J	367	ARG	CZ-NH2	7.66	1.43	1.33
1	E	56	SER	CA-CB	7.66	1.64	1.52
2	k	102	ARG	CZ-NH1	7.65	1.43	1.33
1	f	10	ARG	NE-CZ	7.62	1.43	1.33
1	E	202	SER	CA-CB	7.57	1.64	1.52
1	b	53	ARG	CD-NE	7.54	1.59	1.46
1	d	28	ARG	CZ-NH2	7.45	1.42	1.33
1	F	213	TYR	CE2-CZ	7.44	1.48	1.38
2	n	173	TYR	CE2-CZ	7.43	1.48	1.38
2	4	196	PHE	CG-CD1	7.43	1.49	1.38
1	e	130	ARG	CZ-NH1	7.42	1.42	1.33
2	i	83	ARG	CZ-NH1	7.41	1.42	1.33
2	6	102	ARG	NE-CZ	7.39	1.42	1.33
3	J	128	TYR	CZ-OH	7.32	1.50	1.37
2	i	117	SER	CA-CB	7.32	1.64	1.52
1	e	93	ARG	CZ-NH2	7.30	1.42	1.33
3	M	44	TYR	CE1-CZ	7.29	1.48	1.38
1	g	86	ARG	CZ-NH2	7.28	1.42	1.33
2	k	178	ARG	CZ-NH2	7.27	1.42	1.33
1	g	239	ARG	NE-CZ	7.24	1.42	1.33
1	f	86	ARG	CZ-NH1	7.21	1.42	1.33
3	H	250	ARG	CD-NE	7.19	1.58	1.46
1	D	225	SER	CA-CB	7.18	1.63	1.52
1	a	180	ARG	CZ-NH2	7.17	1.42	1.33
3	J	221	ARG	CZ-NH1	7.16	1.42	1.33
3	I	29	ARG	CD-NE	7.15	1.58	1.46
2	1	154	ARG	CZ-NH2	7.09	1.42	1.33
2	7	80	ARG	NE-CZ	7.09	1.42	1.33
2	6	51	ARG	NE-CZ	7.08	1.42	1.33
2	i	22	GLY	CA-C	-7.05	1.40	1.51
1	G	151	ASP	CA-CB	7.03	1.69	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	I	326	ARG	CD-NE	7.02	1.58	1.46
1	c	179	TYR	CG-CD1	6.98	1.48	1.39
1	e	86	ARG	NE-CZ	6.96	1.42	1.33
3	M	43	ARG	CZ-NH2	6.94	1.42	1.33
1	g	100	ARG	NE-CZ	6.91	1.42	1.33
2	7	68	ARG	CD-NE	6.90	1.58	1.46
3	M	205	ARG	NE-CZ	6.89	1.42	1.33
2	i	170	ARG	CZ-NH1	6.87	1.42	1.33
2	n	166	GLU	CG-CD	6.86	1.62	1.51
1	d	17	PRO	N-CD	6.86	1.57	1.47
1	c	35	ALA	CA-CB	6.84	1.66	1.52
3	H	52	ARG	CZ-NH1	6.84	1.42	1.33
1	G	241	ARG	NE-CZ	6.84	1.42	1.33
3	H	317	ARG	NE-CZ	6.83	1.42	1.33
1	g	223	GLU	CD-OE2	6.83	1.33	1.25
3	J	44	TYR	CE1-CZ	6.83	1.47	1.38
2	l	212	ARG	CD-NE	6.82	1.58	1.46
2	7	103	TYR	CE2-CZ	6.81	1.47	1.38
1	g	100	ARG	CZ-NH1	6.79	1.41	1.33
1	f	103	TYR	CD1-CE1	6.78	1.49	1.39
1	F	239	ARG	CZ-NH1	6.78	1.41	1.33
1	F	126	TYR	CB-CG	6.77	1.61	1.51
2	4	197	TYR	CG-CD1	6.77	1.48	1.39
2	4	30	ARG	CZ-NH1	6.77	1.41	1.33
1	b	100	ARG	CZ-NH1	6.75	1.41	1.33
2	h	202	GLU	CG-CD	6.74	1.62	1.51
2	5	82	GLU	CG-CD	-6.71	1.41	1.51
3	M	200	ARG	NE-CZ	6.70	1.41	1.33
3	L	224	ARG	CZ-NH2	6.70	1.41	1.33
2	4	143	GLY	N-CA	-6.69	1.36	1.46
2	4	51	ARG	CZ-NH2	6.69	1.41	1.33
2	h	170	ARG	CZ-NH2	6.68	1.41	1.33
1	e	86	ARG	CA-CB	6.67	1.68	1.53
1	g	126	TYR	CG-CD2	6.67	1.47	1.39
1	f	33	ARG	CD-NE	6.67	1.57	1.46
3	I	201	ALA	CA-CB	6.66	1.66	1.52
1	E	106	PRO	N-CD	-6.65	1.38	1.47
2	k	170	ARG	NE-CZ	6.65	1.41	1.33
1	A	159	TYR	CZ-OH	6.64	1.49	1.37
1	G	100	ARG	NE-CZ	6.64	1.41	1.33
3	J	308	GLU	CD-OE2	6.63	1.32	1.25
2	6	178	ARG	CZ-NH2	6.63	1.41	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	d	86	ARG	CD-NE	6.63	1.57	1.46
2	h	113	GLY	CA-C	-6.63	1.41	1.51
3	M	302	ARG	CD-NE	6.61	1.57	1.46
2	3	102	ARG	NE-CZ	6.61	1.41	1.33
3	K	221	ARG	NE-CZ	6.61	1.41	1.33
3	H	11	GLU	CD-OE1	6.60	1.32	1.25
3	I	250	ARG	NE-CZ	6.59	1.41	1.33
2	2	101	TYR	CG-CD2	6.59	1.47	1.39
2	6	117	SER	CA-CB	6.59	1.62	1.52
1	e	20	ARG	CD-NE	6.59	1.57	1.46
3	H	364	ARG	CD-NE	6.57	1.57	1.46
3	L	59	ARG	CZ-NH2	6.57	1.41	1.33
3	J	27	TYR	CG-CD1	6.57	1.47	1.39
2	2	183	GLY	N-CA	-6.57	1.36	1.46
1	B	235	ARG	CZ-NH1	6.57	1.41	1.33
2	1	80	ARG	NE-CZ	6.56	1.41	1.33
2	3	103	TYR	CZ-OH	6.55	1.49	1.37
1	b	65	GLU	CD-OE2	6.54	1.32	1.25
2	k	65	PHE	CG-CD1	6.54	1.48	1.38
1	A	180	ARG	CZ-NH1	6.54	1.41	1.33
3	H	52	ARG	NE-CZ	6.53	1.41	1.33
3	J	308	GLU	CG-CD	6.53	1.61	1.51
1	e	180	ARG	CD-NE	6.53	1.57	1.46
2	6	195	GLU	CA-CB	-6.53	1.39	1.53
1	a	26	TYR	CB-CG	-6.51	1.41	1.51
1	c	103	TYR	CE2-CZ	6.51	1.47	1.38
2	l	80	ARG	NE-CZ	6.50	1.41	1.33
1	g	130	ARG	NE-CZ	6.49	1.41	1.33
3	H	341	ARG	NE-CZ	6.47	1.41	1.33
1	C	28	ARG	CD-NE	6.46	1.57	1.46
3	I	364	ARG	CZ-NH1	6.46	1.41	1.33
1	e	10	ARG	CD-NE	6.45	1.57	1.46
2	l	166	GLU	CD-OE1	6.45	1.32	1.25
1	C	130	ARG	CZ-NH2	6.44	1.41	1.33
2	3	129	GLY	N-CA	-6.43	1.36	1.46
2	7	101	TYR	CE2-CZ	6.42	1.46	1.38
2	j	51	ARG	NE-CZ	6.42	1.41	1.33
1	A	86	ARG	NE-CZ	6.40	1.41	1.33
3	I	377	LYS	CE-NZ	6.40	1.65	1.49
2	2	80	ARG	CD-NE	6.39	1.57	1.46
3	I	182	GLY	CA-C	-6.38	1.41	1.51
1	d	126	TYR	CG-CD2	6.37	1.47	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	b	180	ARG	CD-NE	6.36	1.57	1.46
2	2	144	SER	CB-OG	6.35	1.50	1.42
1	g	219	ARG	NE-CZ	6.35	1.41	1.33
1	c	28	ARG	CD-NE	6.34	1.57	1.46
3	L	85	PRO	N-CD	-6.34	1.39	1.47
1	d	20	ARG	CD-NE	6.34	1.57	1.46
1	f	26	TYR	CG-CD2	6.33	1.47	1.39
1	b	154	GLY	CA-C	-6.32	1.41	1.51
1	b	201	GLU	CD-OE2	6.31	1.32	1.25
2	k	17	LEU	CA-CB	6.31	1.68	1.53
1	e	180	ARG	CZ-NH2	6.30	1.41	1.33
3	H	215	TYR	CG-CD2	6.30	1.47	1.39
1	B	20	ARG	CZ-NH1	6.29	1.41	1.33
2	n	102	ARG	CZ-NH2	6.29	1.41	1.33
2	i	68	ARG	CZ-NH2	6.26	1.41	1.33
2	4	104	PHE	CG-CD2	6.25	1.48	1.38
2	5	101	TYR	CE1-CZ	6.25	1.46	1.38
3	H	333	ASP	CA-CB	6.25	1.67	1.53
1	E	133	GLY	CA-C	-6.25	1.41	1.51
1	c	20	ARG	NE-CZ	6.24	1.41	1.33
2	n	51	ARG	CZ-NH2	6.24	1.41	1.33
3	K	128	TYR	CG-CD2	6.23	1.47	1.39
2	j	178	ARG	CZ-NH2	6.23	1.41	1.33
1	D	28	ARG	CZ-NH2	6.22	1.41	1.33
2	2	68	ARG	CZ-NH2	6.22	1.41	1.33
3	J	52	ARG	CZ-NH2	6.22	1.41	1.33
3	J	52	ARG	NE-CZ	6.22	1.41	1.33
1	D	103	TYR	CE2-CZ	6.22	1.46	1.38
3	M	341	ARG	NE-CZ	6.21	1.41	1.33
1	g	227	GLU	CG-CD	6.21	1.61	1.51
1	e	33	ARG	CD-NE	6.20	1.56	1.46
3	M	299	ARG	NE-CZ	6.19	1.41	1.33
2	h	155	PHE	CG-CD1	6.19	1.48	1.38
2	i	80	ARG	NE-CZ	6.19	1.41	1.33
2	l	32	THR	N-CA	-6.18	1.33	1.46
1	f	168	ARG	CZ-NH2	6.17	1.41	1.33
1	c	86	ARG	CZ-NH1	6.17	1.41	1.33
2	l	173	TYR	CZ-OH	6.16	1.48	1.37
1	g	149	GLU	CG-CD	6.15	1.61	1.51
2	k	106	TYR	CE1-CZ	6.15	1.46	1.38
2	i	82	GLU	CB-CG	6.15	1.63	1.52
2	m	83	ARG	CD-NE	6.15	1.56	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	1	163	GLU	CD-OE1	6.14	1.32	1.25
2	h	199	TYR	CE2-CZ	6.14	1.46	1.38
3	I	365	GLU	CD-OE1	6.13	1.32	1.25
1	b	179	TYR	CE2-CZ	6.13	1.46	1.38
3	L	29	ARG	NE-CZ	6.13	1.41	1.33
3	M	253	SER	CA-CB	6.13	1.62	1.52
2	2	112	ILE	C-N	6.13	1.44	1.33
3	I	250	ARG	CZ-NH2	6.11	1.41	1.33
1	d	179	TYR	CG-CD2	6.11	1.47	1.39
1	F	68	TYR	CZ-OH	6.10	1.48	1.37
1	D	179	TYR	CG-CD1	6.10	1.47	1.39
1	F	163	ALA	N-CA	-6.10	1.34	1.46
1	c	213	TYR	CZ-OH	6.09	1.48	1.37
1	d	131	PRO	N-CD	6.09	1.56	1.47
1	F	100	ARG	NE-CZ	6.09	1.41	1.33
2	2	88	ARG	CZ-NH1	6.09	1.41	1.33
1	F	26	TYR	CD2-CE2	6.08	1.48	1.39
1	d	235	ARG	CZ-NH1	6.08	1.41	1.33
2	7	129	GLY	N-CA	-6.08	1.36	1.46
2	4	80	ARG	CZ-NH2	6.08	1.41	1.33
1	d	188	ALA	N-CA	-6.07	1.34	1.46
2	1	141	GLY	CA-C	-6.07	1.42	1.51
2	n	80	ARG	CZ-NH1	6.07	1.41	1.33
1	f	180	ARG	NE-CZ	6.06	1.41	1.33
1	D	91	ARG	CZ-NH1	6.04	1.41	1.33
1	a	206	PRO	CA-C	-6.04	1.40	1.52
2	5	154	ARG	NE-CZ	6.03	1.40	1.33
1	C	234	GLU	CD-OE1	6.03	1.32	1.25
3	M	278	ARG	NE-CZ	6.02	1.40	1.33
1	G	123	TYR	CD2-CE2	6.02	1.48	1.39
2	l	94	THR	N-CA	-6.02	1.34	1.46
2	n	88	ARG	CZ-NH1	6.01	1.40	1.33
1	a	130	ARG	CZ-NH2	6.01	1.40	1.33
2	2	106	TYR	CG-CD1	6.00	1.47	1.39
2	4	211	PHE	CG-CD1	6.00	1.47	1.38
3	M	52	ARG	CD-NE	6.00	1.56	1.46
1	F	235	ARG	CD-NE	6.00	1.56	1.46
3	J	181	TYR	CZ-OH	5.99	1.48	1.37
3	H	103	GLY	CA-C	5.98	1.61	1.51
3	L	331	ALA	CA-CB	5.97	1.65	1.52
2	i	126	ASP	CA-CB	5.97	1.67	1.53
2	h	80	ARG	CD-NE	5.96	1.56	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	j	143	GLY	CA-C	5.96	1.61	1.51
2	7	83	ARG	CZ-NH1	5.95	1.40	1.33
1	a	10	ARG	NE-CZ	5.94	1.40	1.33
1	B	130	ARG	NE-CZ	5.94	1.40	1.33
3	K	20	TYR	CG-CD2	5.94	1.46	1.39
3	L	203	PHE	CG-CD2	5.94	1.47	1.38
1	E	26	TYR	CE2-CZ	5.93	1.46	1.38
2	i	199	TYR	CE2-CZ	5.93	1.46	1.38
1	a	91	ARG	CD-NE	5.93	1.56	1.46
1	E	221	PHE	CA-CB	5.93	1.67	1.53
2	3	30	ARG	CA-CB	5.92	1.67	1.53
2	l	170	ARG	CD-NE	5.92	1.56	1.46
3	M	128	TYR	CE1-CZ	5.92	1.46	1.38
1	B	91	ARG	CD-NE	5.92	1.56	1.46
2	k	166	GLU	CD-OE1	5.90	1.32	1.25
1	d	130	ARG	CZ-NH1	5.89	1.40	1.33
2	5	170	ARG	CZ-NH2	5.89	1.40	1.33
2	2	154	ARG	CD-NE	5.89	1.56	1.46
3	K	21	TYR	CZ-OH	5.89	1.47	1.37
2	j	68	ARG	NE-CZ	5.88	1.40	1.33
1	A	241	ARG	CZ-NH1	5.88	1.40	1.33
2	n	197	TYR	CE1-CZ	5.88	1.46	1.38
2	i	83	ARG	CD-NE	5.88	1.56	1.46
3	L	52	ARG	NE-CZ	5.87	1.40	1.33
1	b	180	ARG	NE-CZ	5.87	1.40	1.33
1	B	33	ARG	CD-NE	5.86	1.56	1.46
3	K	253	SER	CA-CB	5.85	1.61	1.52
1	D	13	THR	N-CA	-5.85	1.34	1.46
1	c	33	ARG	CD-NE	5.85	1.56	1.46
1	c	242	GLU	CB-CG	5.84	1.63	1.52
1	c	221	PHE	CE1-CZ	5.84	1.48	1.37
2	3	51	ARG	NE-CZ	5.83	1.40	1.33
2	k	46	TYR	CD1-CE1	5.83	1.48	1.39
3	K	344	GLU	CB-CG	5.83	1.63	1.52
3	I	44	TYR	CE2-CZ	5.83	1.46	1.38
3	K	299	ARG	CZ-NH1	5.83	1.40	1.33
1	C	213	TYR	CB-CG	5.82	1.60	1.51
2	k	170	ARG	CZ-NH1	5.82	1.40	1.33
2	6	61	GLY	CA-C	5.82	1.61	1.51
2	2	102	ARG	CZ-NH1	5.81	1.40	1.33
2	2	170	ARG	CD-NE	5.81	1.56	1.46
2	4	46	TYR	CG-CD2	5.81	1.46	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	J	218	GLU	CD-OE1	5.80	1.32	1.25
2	h	123	TYR	CE1-CZ	5.80	1.46	1.38
3	L	361	PHE	CG-CD1	5.80	1.47	1.38
2	l	200	SER	CA-CB	5.79	1.61	1.52
2	n	68	ARG	CZ-NH1	5.79	1.40	1.33
3	J	289	ARG	CZ-NH1	5.79	1.40	1.33
1	E	232	TYR	CE2-CZ	5.79	1.46	1.38
3	K	289	ARG	NE-CZ	5.79	1.40	1.33
2	l	68	ARG	CD-NE	5.79	1.56	1.46
3	H	29	ARG	CD-NE	5.78	1.56	1.46
3	I	205	ARG	NE-CZ	5.78	1.40	1.33
3	J	263	ARG	CZ-NH2	5.78	1.40	1.33
3	I	317	ARG	CD-NE	5.78	1.56	1.46
2	k	81	ARG	NE-CZ	5.77	1.40	1.33
2	j	196	PHE	CE1-CZ	5.77	1.48	1.37
1	a	141	VAL	CB-CG2	5.77	1.65	1.52
2	k	68	ARG	NE-CZ	5.77	1.40	1.33
1	b	165	GLY	CA-C	-5.77	1.42	1.51
1	D	20	ARG	CZ-NH2	5.76	1.40	1.33
1	e	134	VAL	CB-CG2	5.76	1.65	1.52
1	b	152	PRO	N-CD	-5.76	1.39	1.47
3	I	47	GLU	CD-OE2	5.75	1.31	1.25
2	3	166	GLU	CD-OE1	5.75	1.31	1.25
2	6	196	PHE	CG-CD1	5.75	1.47	1.38
3	K	225	GLU	CG-CD	5.75	1.60	1.51
2	j	104	PHE	CG-CD1	5.74	1.47	1.38
3	M	308	GLU	CD-OE2	5.74	1.31	1.25
2	i	80	ARG	CZ-NH1	5.74	1.40	1.33
2	k	22	GLY	N-CA	5.74	1.54	1.46
1	G	178	GLU	CD-OE2	5.74	1.31	1.25
3	L	17	GLU	CD-OE2	-5.74	1.19	1.25
1	A	235	ARG	CZ-NH2	5.73	1.40	1.33
1	d	95	GLU	CG-CD	5.73	1.60	1.51
1	A	241	ARG	CD-NE	5.72	1.56	1.46
2	j	163	GLU	CB-CG	5.72	1.63	1.52
2	h	101	TYR	CE2-CZ	5.72	1.46	1.38
1	G	232	TYR	CB-CG	-5.72	1.43	1.51
3	L	341	ARG	CZ-NH1	5.72	1.40	1.33
1	e	33	ARG	NE-CZ	5.72	1.40	1.33
2	5	197	TYR	CB-CG	-5.72	1.43	1.51
3	L	299	ARG	CZ-NH2	5.71	1.40	1.33
2	k	113	GLY	N-CA	-5.71	1.37	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	n	68	ARG	CZ-NH2	5.71	1.40	1.33
1	d	15	PHE	CG-CD2	5.71	1.47	1.38
1	A	168	ARG	CD-NE	5.70	1.56	1.46
1	b	126	TYR	CZ-OH	5.70	1.47	1.37
2	l	46	TYR	CE2-CZ	5.69	1.46	1.38
2	n	106	TYR	CE1-CZ	5.69	1.46	1.38
1	A	93	ARG	CD-NE	5.69	1.56	1.46
1	F	53	ARG	CZ-NH1	5.69	1.40	1.33
1	g	28	ARG	NE-CZ	5.69	1.40	1.33
3	I	158	GLU	CG-CD	5.69	1.60	1.51
1	B	53	ARG	NE-CZ	5.68	1.40	1.33
1	D	26	TYR	CG-CD2	5.68	1.46	1.39
2	h	106	TYR	CG-CD1	5.68	1.46	1.39
2	l	103	TYR	CG-CD1	5.68	1.46	1.39
1	C	93	ARG	CZ-NH1	5.68	1.40	1.33
1	E	68	TYR	CG-CD2	5.68	1.46	1.39
2	7	193	GLU	CG-CD	5.67	1.60	1.51
2	m	148	TYR	CG-CD1	5.67	1.46	1.39
3	L	140	TYR	CD2-CE2	5.67	1.47	1.39
3	J	176	LYS	C-N	5.67	1.43	1.33
3	I	24	ARG	CZ-NH2	5.67	1.40	1.33
2	l	106	TYR	CG-CD2	5.67	1.46	1.39
2	j	51	ARG	CZ-NH1	5.66	1.40	1.33
3	J	339	LEU	CA-CB	5.66	1.66	1.53
2	5	80	ARG	CZ-NH2	5.66	1.40	1.33
2	k	203	GLU	CD-OE2	5.66	1.31	1.25
3	M	151	GLU	CD-OE2	5.66	1.31	1.25
1	A	180	ARG	NE-CZ	5.65	1.40	1.33
3	L	96	ASN	CB-CG	5.65	1.64	1.51
1	b	225	SER	CB-OG	-5.65	1.34	1.42
2	4	83	ARG	CZ-NH1	5.64	1.40	1.33
3	L	305	ARG	NE-CZ	5.64	1.40	1.33
1	g	159	TYR	CZ-OH	5.64	1.47	1.37
2	2	101	TYR	CE1-CZ	5.62	1.45	1.38
2	3	62	ASP	CA-CB	5.62	1.66	1.53
1	B	125	GLN	N-CA	-5.62	1.35	1.46
1	E	91	ARG	NE-CZ	5.62	1.40	1.33
2	6	78	GLU	CG-CD	5.62	1.60	1.51
2	l	100	SER	CA-CB	5.62	1.61	1.52
3	J	140	TYR	CG-CD2	5.61	1.46	1.39
2	n	148	TYR	CB-CG	5.61	1.60	1.51
1	c	23	GLN	N-CA	-5.60	1.35	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	l	88	ARG	CZ-NH1	5.60	1.40	1.33
1	b	241	ARG	NE-CZ	5.60	1.40	1.33
1	E	231	PRO	CA-C	-5.60	1.41	1.52
1	c	159	TYR	CE2-CZ	5.60	1.45	1.38
1	C	68	TYR	CE1-CZ	5.59	1.45	1.38
1	b	239	ARG	CZ-NH1	5.59	1.40	1.33
2	1	170	ARG	CD-NE	5.59	1.55	1.46
1	c	20	ARG	CD-NE	5.58	1.55	1.46
1	e	20	ARG	NE-CZ	5.58	1.40	1.33
1	d	66	LYS	CD-CE	5.58	1.65	1.51
3	J	50	ARG	CZ-NH2	5.58	1.40	1.33
2	l	174	SER	CA-CB	5.58	1.61	1.52
2	j	176	MET	CA-CB	5.57	1.66	1.53
2	m	148	TYR	CB-CG	5.57	1.60	1.51
3	J	253	SER	CA-CB	5.57	1.61	1.52
3	M	317	ARG	NE-CZ	5.57	1.40	1.33
1	E	95	GLU	CB-CG	5.57	1.62	1.52
2	7	130	GLY	CA-C	-5.57	1.43	1.51
1	a	46	VAL	CA-CB	-5.57	1.43	1.54
1	g	91	ARG	CD-NE	5.57	1.55	1.46
1	g	219	ARG	CZ-NH1	5.56	1.40	1.33
2	3	211	PHE	N-CA	-5.56	1.35	1.46
2	7	212	ARG	NE-CZ	5.56	1.40	1.33
3	I	225	GLU	CB-CG	5.56	1.62	1.52
2	1	148	TYR	CB-CG	-5.56	1.43	1.51
2	3	22	GLY	N-CA	-5.56	1.37	1.46
2	4	212	ARG	CZ-NH2	5.55	1.40	1.33
1	D	184	SER	CA-C	-5.55	1.38	1.52
2	5	36	PHE	CG-CD1	5.55	1.47	1.38
3	J	83	THR	C-N	5.55	1.43	1.33
1	g	235	ARG	NE-CZ	5.54	1.40	1.33
3	H	154	ARG	CD-NE	5.54	1.55	1.46
2	h	83	ARG	CZ-NH2	5.52	1.40	1.33
1	E	144	VAL	CB-CG2	5.52	1.64	1.52
1	E	154	GLY	CA-C	5.52	1.60	1.51
1	g	28	ARG	CZ-NH2	5.52	1.40	1.33
3	K	21	TYR	CD2-CE2	5.52	1.47	1.39
1	B	53	ARG	CZ-NH2	5.51	1.40	1.33
3	M	66	GLY	CA-C	-5.51	1.43	1.51
2	7	154	ARG	CZ-NH1	5.51	1.40	1.33
1	B	93	ARG	CZ-NH1	5.50	1.40	1.33
3	I	303	PHE	CB-CG	5.50	1.60	1.51

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	6	127	PRO	N-CD	-5.50	1.40	1.47
3	L	299	ARG	CD-NE	5.50	1.55	1.46
2	n	103	TYR	CD1-CE1	5.49	1.47	1.39
3	L	50	ARG	CZ-NH1	5.49	1.40	1.33
2	h	81	ARG	CZ-NH1	5.49	1.40	1.33
2	i	77	TYR	CE1-CZ	5.49	1.45	1.38
2	l	101	TYR	CG-CD2	5.49	1.46	1.39
1	g	20	ARG	CZ-NH2	5.48	1.40	1.33
2	j	83	ARG	CZ-NH1	5.48	1.40	1.33
3	M	145	GLY	CA-C	-5.48	1.43	1.51
1	f	223	GLU	CD-OE2	-5.47	1.19	1.25
1	g	180	ARG	CD-NE	5.47	1.55	1.46
3	K	20	TYR	CG-CD1	5.47	1.46	1.39
3	M	263	ARG	CZ-NH2	5.47	1.40	1.33
3	M	367	ARG	CD-NE	5.47	1.55	1.46
1	b	126	TYR	CE2-CZ	5.47	1.45	1.38
1	C	221	PHE	CG-CD1	5.47	1.47	1.38
1	f	93	ARG	CZ-NH2	5.46	1.40	1.33
1	B	219	ARG	CZ-NH1	5.46	1.40	1.33
1	g	34	GLY	N-CA	5.46	1.54	1.46
3	H	57	ARG	CZ-NH2	5.46	1.40	1.33
1	E	33	ARG	NE-CZ	5.46	1.40	1.33
1	f	175	PHE	CG-CD1	5.46	1.47	1.38
3	I	48	VAL	CB-CG1	5.46	1.64	1.52
3	K	165	GLU	N-CA	-5.46	1.35	1.46
3	H	397	PHE	CE1-CZ	5.45	1.47	1.37
1	A	16	SER	CA-CB	5.45	1.61	1.52
3	L	259	ARG	NE-CZ	5.45	1.40	1.33
1	c	130	ARG	NE-CZ	5.44	1.40	1.33
3	I	24	ARG	CD-NE	5.44	1.55	1.46
1	B	93	ARG	NE-CZ	5.44	1.40	1.33
1	c	93	ARG	CZ-NH2	5.44	1.40	1.33
2	5	148	TYR	CG-CD1	5.44	1.46	1.39
1	b	68	TYR	CB-CG	-5.43	1.43	1.51
2	m	45	ILE	N-CA	-5.43	1.35	1.46
2	6	170	ARG	CZ-NH1	5.43	1.40	1.33
1	e	100	ARG	NE-CZ	5.43	1.40	1.33
1	b	15	PHE	CB-CG	5.43	1.60	1.51
1	E	93	ARG	NE-CZ	5.43	1.40	1.33
1	A	100	ARG	CZ-NH2	5.42	1.40	1.33
1	c	53	ARG	NE-CZ	5.42	1.40	1.33
2	5	68	ARG	CZ-NH2	5.42	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	J	87	PHE	N-CA	-5.42	1.35	1.46
3	H	303	PHE	CB-CG	-5.42	1.42	1.51
2	1	103	TYR	CD1-CE1	5.42	1.47	1.39
1	a	232	TYR	CE2-CZ	5.42	1.45	1.38
1	a	242	GLU	CG-CD	5.42	1.60	1.51
1	E	28	ARG	CZ-NH1	5.41	1.40	1.33
1	f	60	GLU	CD-OE1	5.41	1.31	1.25
2	i	77	TYR	CZ-OH	5.41	1.47	1.37
3	H	43	ARG	CZ-NH2	5.41	1.40	1.33
1	F	91	ARG	NE-CZ	5.41	1.40	1.33
2	j	46	TYR	CD2-CE2	5.41	1.47	1.39
2	4	88	ARG	NE-CZ	5.41	1.40	1.33
3	I	52	ARG	CZ-NH1	5.41	1.40	1.33
1	F	123	TYR	CG-CD2	5.40	1.46	1.39
3	M	164	PRO	N-CA	5.40	1.56	1.47
1	F	239	ARG	CD-NE	5.40	1.55	1.46
3	H	260	GLU	CG-CD	5.40	1.60	1.51
1	D	28	ARG	CD-NE	5.40	1.55	1.46
1	E	8	TYR	CE2-CZ	5.40	1.45	1.38
1	A	241	ARG	CZ-NH2	5.40	1.40	1.33
1	b	23	GLN	CG-CD	5.39	1.63	1.51
2	i	80	ARG	CD-NE	5.39	1.55	1.46
2	i	158	GLU	CD-OE1	5.39	1.31	1.25
3	J	200	ARG	NE-CZ	5.39	1.40	1.33
2	5	174	SER	CA-CB	5.39	1.61	1.52
1	B	241	ARG	NE-CZ	5.38	1.40	1.33
1	B	86	ARG	NE-CZ	5.38	1.40	1.33
1	D	179	TYR	CZ-OH	5.38	1.47	1.37
1	D	20	ARG	NE-CZ	5.38	1.40	1.33
1	F	235	ARG	CZ-NH1	5.38	1.40	1.33
1	C	123	TYR	CG-CD1	-5.37	1.32	1.39
2	2	80	ARG	CZ-NH1	5.37	1.40	1.33
1	A	135	SER	CA-CB	5.37	1.61	1.52
3	K	62	PRO	N-CD	5.37	1.55	1.47
3	L	177	GLY	N-CA	-5.37	1.38	1.46
1	a	93	ARG	CZ-NH2	5.36	1.40	1.33
2	i	68	ARG	CZ-NH1	5.36	1.40	1.33
3	J	76	ARG	CZ-NH2	5.36	1.40	1.33
1	g	130	ARG	CZ-NH1	5.36	1.40	1.33
2	k	130	GLY	CA-C	5.36	1.60	1.51
3	K	200	ARG	CD-NE	5.36	1.55	1.46
1	b	234	GLU	CB-CG	5.35	1.62	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	I	57	ARG	CZ-NH1	5.35	1.40	1.33
3	L	263	ARG	CD-NE	5.35	1.55	1.46
3	I	211	PHE	CB-CG	5.35	1.60	1.51
1	D	239	ARG	CZ-NH2	5.34	1.40	1.33
2	4	170	ARG	NE-CZ	5.34	1.40	1.33
2	5	212	ARG	NE-CZ	5.34	1.40	1.33
1	A	210	GLU	CG-CD	5.34	1.59	1.51
1	b	210	GLU	CG-CD	5.34	1.59	1.51
1	b	175	PHE	CG-CD1	5.34	1.46	1.38
1	F	221	PHE	CB-CG	5.34	1.60	1.51
2	7	154	ARG	CZ-NH2	5.34	1.40	1.33
3	L	259	ARG	CZ-NH2	5.33	1.40	1.33
1	a	105	GLU	CG-CD	5.33	1.59	1.51
3	J	57	ARG	CD-NE	5.33	1.55	1.46
3	H	182	GLY	CA-C	-5.33	1.43	1.51
1	c	235	ARG	CZ-NH2	5.33	1.40	1.33
2	h	148	TYR	CE2-CZ	5.33	1.45	1.38
2	k	178	ARG	CZ-NH1	5.33	1.40	1.33
2	m	21	ASP	C-N	5.33	1.42	1.33
2	3	183	GLY	CA-C	-5.32	1.43	1.51
1	f	179	TYR	CE2-CZ	5.32	1.45	1.38
3	H	36	PHE	CG-CD1	5.32	1.46	1.38
3	K	94	TYR	CG-CD1	5.32	1.46	1.39
3	L	33	GLU	CD-OE2	5.32	1.31	1.25
2	n	113	GLY	C-N	5.32	1.42	1.33
2	3	81	ARG	CZ-NH2	5.32	1.40	1.33
2	4	201	PRO	N-CD	5.32	1.55	1.47
1	C	68	TYR	CG-CD2	5.32	1.46	1.39
1	G	93	ARG	NE-CZ	5.32	1.40	1.33
1	e	53	ARG	CD-NE	5.31	1.55	1.46
3	H	140	TYR	CZ-OH	5.31	1.46	1.37
3	H	249	ARG	CZ-NH2	5.30	1.40	1.33
1	f	241	ARG	NE-CZ	5.30	1.40	1.33
2	3	199	TYR	CG-CD1	5.30	1.46	1.39
2	m	114	GLY	CA-C	-5.29	1.43	1.51
1	d	53	ARG	CZ-NH1	5.29	1.40	1.33
1	E	180	ARG	CD-NE	5.29	1.55	1.46
1	c	241	ARG	CD-NE	5.29	1.55	1.46
1	C	207	GLU	CG-CD	5.29	1.59	1.51
2	2	133	GLU	CD-OE2	5.28	1.31	1.25
3	I	233	LYS	N-CA	-5.28	1.35	1.46
1	g	26	TYR	C-N	5.28	1.46	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	l	65	PHE	CA-CB	5.28	1.65	1.53
3	I	56	GLU	CD-OE1	5.28	1.31	1.25
3	J	105	ARG	CZ-NH2	5.28	1.40	1.33
2	k	102	ARG	CZ-NH2	5.27	1.40	1.33
2	l	17	LEU	CA-CB	5.27	1.65	1.53
1	f	213	TYR	CG-CD1	5.27	1.46	1.39
2	h	80	ARG	CZ-NH2	5.27	1.39	1.33
3	I	224	ARG	NE-CZ	5.27	1.39	1.33
3	J	169	GLU	CD-OE2	5.27	1.31	1.25
1	c	44	GLU	CB-CG	5.26	1.62	1.52
1	d	119	PHE	CA-CB	5.26	1.65	1.53
2	6	46	TYR	CG-CD2	5.26	1.46	1.39
2	6	182	SER	CA-CB	5.26	1.60	1.52
2	l	83	ARG	CZ-NH2	5.26	1.39	1.33
1	c	214	VAL	CA-CB	-5.26	1.43	1.54
2	l	46	TYR	CB-CG	5.25	1.59	1.51
3	L	140	TYR	CZ-OH	5.25	1.46	1.37
1	D	93	ARG	NE-CZ	5.25	1.39	1.33
3	H	200	ARG	CD-NE	5.24	1.55	1.46
3	K	158	GLU	CG-CD	5.24	1.59	1.51
2	j	57	ALA	CA-CB	5.24	1.63	1.52
1	d	26	TYR	CG-CD1	5.24	1.46	1.39
3	M	266	MET	C-N	5.24	1.46	1.34
1	F	185	PHE	CG-CD1	5.23	1.46	1.38
3	H	50	ARG	CZ-NH1	5.23	1.39	1.33
1	a	223	GLU	CB-CG	5.23	1.62	1.52
1	D	239	ARG	NE-CZ	5.23	1.39	1.33
3	L	21	TYR	CG-CD1	5.23	1.46	1.39
2	i	15	VAL	C-N	5.23	1.42	1.33
3	K	44	TYR	CE1-CZ	5.23	1.45	1.38
1	c	31	VAL	N-CA	-5.22	1.35	1.46
1	c	39	GLY	CA-C	-5.22	1.43	1.51
1	A	173	GLU	CD-OE1	5.22	1.31	1.25
1	B	34	GLY	CA-C	-5.22	1.43	1.51
1	E	175	PHE	CA-C	-5.22	1.39	1.52
3	M	105	ARG	NE-CZ	5.22	1.39	1.33
3	H	134	GLU	CD-OE1	5.22	1.31	1.25
1	a	175	PHE	CB-CG	-5.21	1.42	1.51
2	h	81	ARG	CD-NE	5.21	1.55	1.46
1	B	210	GLU	N-CA	-5.21	1.35	1.46
2	h	36	PHE	CG-CD2	5.21	1.46	1.38
3	K	24	ARG	NE-CZ	5.21	1.39	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	M	53	SER	CA-CB	5.21	1.60	1.52
2	l	59	SER	CA-CB	5.21	1.60	1.52
1	f	46	VAL	CB-CG2	5.20	1.63	1.52
2	4	101	TYR	CZ-OH	5.20	1.46	1.37
1	A	233	VAL	CB-CG2	5.20	1.63	1.52
3	H	239	PHE	CG-CD2	5.20	1.46	1.38
1	d	148	TYR	CZ-OH	5.20	1.46	1.37
2	5	68	ARG	CZ-NH1	5.20	1.39	1.33
1	D	175	PHE	CG-CD2	5.20	1.46	1.38
1	d	168	ARG	NE-CZ	5.20	1.39	1.33
2	1	152	GLU	CD-OE2	5.19	1.31	1.25
1	C	28	ARG	CZ-NH1	5.19	1.39	1.33
1	d	153	SER	CA-CB	5.19	1.60	1.52
1	d	238	GLU	CD-OE1	5.19	1.31	1.25
1	a	184	SER	CA-CB	5.19	1.60	1.52
1	E	123	TYR	CE1-CZ	5.19	1.45	1.38
1	b	130	ARG	CZ-NH2	5.19	1.39	1.33
3	H	262	GLN	CA-C	5.19	1.66	1.52
1	d	26	TYR	CE2-CZ	5.18	1.45	1.38
1	F	158	GLU	CB-CG	5.18	1.61	1.52
3	L	349	ALA	C-N	5.18	1.46	1.34
1	F	219	ARG	CZ-NH1	5.18	1.39	1.33
2	1	81	ARG	CZ-NH1	5.18	1.39	1.33
3	K	52	ARG	CZ-NH1	5.18	1.39	1.33
3	K	364	ARG	CZ-NH2	5.18	1.39	1.33
2	6	212	ARG	NE-CZ	5.17	1.39	1.33
1	g	121	GLN	CA-CB	5.17	1.65	1.53
1	e	232	TYR	CZ-OH	5.17	1.46	1.37
2	5	46	TYR	CE1-CZ	5.17	1.45	1.38
3	H	120	PRO	N-CD	-5.17	1.40	1.47
3	I	14	LYS	CA-CB	5.17	1.65	1.53
1	g	134	VAL	C-N	5.16	1.46	1.34
2	j	83	ARG	CZ-NH2	5.16	1.39	1.33
2	k	74	ALA	CA-CB	5.16	1.63	1.52
1	a	159	TYR	CD1-CE1	-5.16	1.31	1.39
2	2	193	GLU	CD-OE1	5.16	1.31	1.25
2	4	202	GLU	CD-OE1	5.16	1.31	1.25
2	2	155	PHE	CG-CD2	5.15	1.46	1.38
3	I	141	GLU	CD-OE1	5.15	1.31	1.25
3	J	236	SER	CB-OG	-5.15	1.35	1.42
1	A	53	ARG	CZ-NH1	5.15	1.39	1.33
1	E	158	GLU	N-CA	-5.15	1.36	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	i	212	ARG	NE-CZ	5.15	1.39	1.33
3	K	43	ARG	NE-CZ	5.15	1.39	1.33
3	K	380	GLU	CD-OE2	5.15	1.31	1.25
1	C	127	GLY	CA-C	5.15	1.60	1.51
3	L	49	ARG	CZ-NH1	5.15	1.39	1.33
2	l	30	ARG	NE-CZ	5.14	1.39	1.33
1	f	241	ARG	CZ-NH1	5.14	1.39	1.33
2	4	28	GLU	CG-CD	5.14	1.59	1.51
2	3	45	ILE	CA-CB	-5.14	1.43	1.54
1	D	130	ARG	CZ-NH1	5.13	1.39	1.33
1	c	242	GLU	CD-OE2	-5.13	1.20	1.25
2	3	106	TYR	N-CA	-5.13	1.36	1.46
1	b	199	SER	CA-CB	5.12	1.60	1.52
1	G	159	TYR	CG-CD1	5.12	1.45	1.39
1	c	100	ARG	CZ-NH1	5.12	1.39	1.33
3	I	133	GLU	CG-CD	5.12	1.59	1.51
2	5	88	ARG	CZ-NH1	5.12	1.39	1.33
3	I	122	SER	CA-CB	5.12	1.60	1.52
1	g	10	ARG	CD-NE	5.12	1.55	1.46
3	H	57	ARG	CZ-NH1	5.12	1.39	1.33
1	F	126	TYR	CG-CD1	5.11	1.45	1.39
1	F	180	ARG	CZ-NH2	5.11	1.39	1.33
3	H	321	PHE	CE1-CZ	5.11	1.47	1.37
3	H	59	ARG	CZ-NH2	5.11	1.39	1.33
3	L	278	ARG	CZ-NH1	5.11	1.39	1.33
3	M	250	ARG	CZ-NH2	5.11	1.39	1.33
3	I	266	MET	N-CA	5.11	1.56	1.46
3	M	170	VAL	C-N	5.11	1.42	1.33
1	A	60	GLU	CG-CD	5.10	1.59	1.51
1	G	132	PHE	CA-CB	5.10	1.65	1.53
2	6	46	TYR	CZ-OH	5.10	1.46	1.37
3	J	275	PHE	CG-CD2	5.10	1.46	1.38
1	A	91	ARG	CD-NE	5.10	1.55	1.46
2	j	134	GLU	CB-CG	5.10	1.61	1.52
2	6	197	TYR	CA-C	-5.10	1.39	1.52
3	H	321	PHE	CG-CD2	5.10	1.46	1.38
1	E	20	ARG	CD-NE	5.10	1.55	1.46
1	e	91	ARG	CZ-NH1	5.10	1.39	1.33
2	j	212	ARG	CZ-NH1	5.10	1.39	1.33
2	n	197	TYR	CG-CD2	5.10	1.45	1.39
3	M	239	PHE	CG-CD1	5.10	1.46	1.38
1	D	68	TYR	CG-CD1	5.09	1.45	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	h	77	TYR	CZ-OH	5.09	1.46	1.37
3	K	167	PHE	CA-CB	5.09	1.65	1.53
1	c	232	TYR	CG-CD1	5.09	1.45	1.39
3	J	52	ARG	CD-NE	5.09	1.55	1.46
1	G	184	SER	CA-CB	5.09	1.60	1.52
1	F	130	ARG	CZ-NH1	5.09	1.39	1.33
3	J	367	ARG	CZ-NH1	5.09	1.39	1.33
3	J	154	ARG	CZ-NH1	5.08	1.39	1.33
1	a	232	TYR	CE1-CZ	5.08	1.45	1.38
1	c	42	CYS	CA-C	-5.08	1.39	1.52
1	e	241	ARG	CG-CD	5.08	1.64	1.51
1	f	130	ARG	CZ-NH1	5.08	1.39	1.33
3	L	217	GLY	N-CA	5.08	1.53	1.46
1	A	60	GLU	CD-OE1	5.08	1.31	1.25
1	E	149	GLU	CD-OE1	5.08	1.31	1.25
1	e	22	PHE	CG-CD1	5.08	1.46	1.38
1	d	192	GLY	CA-C	-5.08	1.43	1.51
1	G	33	ARG	CZ-NH1	5.08	1.39	1.33
1	f	199	SER	CB-OG	-5.08	1.35	1.42
2	7	170	ARG	CZ-NH1	5.08	1.39	1.33
1	D	130	ARG	CD-NE	5.07	1.55	1.46
2	1	88	ARG	NE-CZ	5.07	1.39	1.33
3	K	57	ARG	CD-NE	5.07	1.55	1.46
2	4	212	ARG	CD-NE	5.07	1.55	1.46
2	k	205	GLU	CB-CG	5.07	1.61	1.52
1	a	231	PRO	N-CD	-5.07	1.40	1.47
2	i	83	ARG	CZ-NH2	5.07	1.39	1.33
1	e	57	LYS	CA-CB	5.06	1.65	1.53
2	n	106	TYR	CZ-OH	5.06	1.46	1.37
1	D	121	GLN	C-N	5.06	1.45	1.34
1	g	130	ARG	CD-NE	5.06	1.55	1.46
2	j	128	ILE	C-N	5.06	1.42	1.33
2	m	65	PHE	CG-CD2	5.06	1.46	1.38
1	C	130	ARG	CD-NE	5.06	1.55	1.46
2	5	115	ILE	CA-C	-5.06	1.39	1.52
3	I	308	GLU	CD-OE2	5.06	1.31	1.25
1	b	240	ILE	N-CA	-5.05	1.36	1.46
1	F	238	GLU	CB-CG	5.05	1.61	1.52
2	3	199	TYR	CE2-CZ	5.05	1.45	1.38
3	J	41	ARG	CZ-NH2	5.05	1.39	1.33
2	k	106	TYR	CG-CD1	5.05	1.45	1.39
2	l	212	ARG	CZ-NH2	5.05	1.39	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	M	49	ARG	CD-NE	5.05	1.55	1.46
1	D	53	ARG	CZ-NH2	5.05	1.39	1.33
2	3	88	ARG	CZ-NH2	5.05	1.39	1.33
3	J	87	PHE	CE2-CZ	5.04	1.47	1.37
1	C	141	VAL	CA-C	-5.04	1.39	1.52
1	d	23	GLN	CG-CD	5.04	1.62	1.51
1	f	178	GLU	CD-OE1	-5.04	1.20	1.25
2	j	30	ARG	CD-NE	5.04	1.55	1.46
3	M	43	ARG	NE-CZ	5.04	1.39	1.33
1	a	223	GLU	CG-CD	5.03	1.59	1.51
1	d	91	ARG	CD-NE	5.03	1.55	1.46
1	G	219	ARG	CZ-NH1	5.03	1.39	1.33
1	E	210	GLU	CD-OE1	5.03	1.31	1.25
2	j	105	PRO	CA-CB	5.03	1.63	1.53
2	k	39	SER	CA-CB	5.03	1.60	1.52
2	7	102	ARG	CZ-NH1	5.03	1.39	1.33
3	H	41	ARG	NE-CZ	5.03	1.39	1.33
2	k	80	ARG	CZ-NH1	5.02	1.39	1.33
3	J	344	GLU	CB-CG	5.02	1.61	1.52
2	j	152	GLU	CD-OE2	5.02	1.31	1.25
3	H	360	MET	C-N	5.02	1.45	1.34
3	M	242	GLU	CB-CG	5.02	1.61	1.52
1	d	91	ARG	CZ-NH2	5.02	1.39	1.33
3	H	357	GLU	CG-CD	5.02	1.59	1.51
1	A	68	TYR	CZ-OH	5.01	1.46	1.37
1	c	106	PRO	CA-CB	5.01	1.63	1.53
1	D	109	VAL	CB-CG2	5.01	1.63	1.52
2	7	185	GLY	N-CA	5.01	1.53	1.46
3	L	33	GLU	CB-CG	5.01	1.61	1.52
1	a	100	ARG	CZ-NH1	5.01	1.39	1.33
1	G	10	ARG	CZ-NH2	5.01	1.39	1.33
2	1	88	ARG	CZ-NH2	5.00	1.39	1.33
2	6	123	TYR	CE2-CZ	5.00	1.45	1.38
3	I	394	GLY	CA-C	5.00	1.59	1.51

All (1850) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	l	170	ARG	NE-CZ-NH2	-44.63	97.98	120.30
2	5	170	ARG	NE-CZ-NH2	-43.08	98.76	120.30
1	D	103	TYR	CB-CG-CD2	20.28	133.17	121.00
2	m	83	ARG	NE-CZ-NH1	-18.40	111.10	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	5	170	ARG	NE-CZ-NH1	18.31	129.46	120.30
2	m	212	ARG	NE-CZ-NH1	17.87	129.24	120.30
2	l	170	ARG	NE-CZ-NH1	17.46	129.03	120.30
1	D	239	ARG	NE-CZ-NH2	-17.38	111.61	120.30
1	e	239	ARG	NE-CZ-NH2	17.32	128.96	120.30
3	J	46	ARG	NE-CZ-NH2	-16.63	111.98	120.30
2	1	83	ARG	NE-CZ-NH2	16.38	128.49	120.30
3	L	76	ARG	NE-CZ-NH2	-16.29	112.15	120.30
2	1	83	ARG	NE-CZ-NH1	-16.24	112.18	120.30
2	1	101	TYR	CB-CG-CD2	-15.98	111.41	121.00
1	e	28	ARG	NE-CZ-NH1	15.72	128.16	120.30
3	H	20	TYR	CB-CG-CD2	-15.71	111.58	121.00
2	l	212	ARG	NE-CZ-NH1	15.64	128.12	120.30
2	4	199	TYR	CB-CG-CD1	15.63	130.38	121.00
1	D	103	TYR	CB-CG-CD1	-15.50	111.70	121.00
2	n	68	ARG	NE-CZ-NH1	15.39	128.00	120.30
3	J	87	PHE	CB-CG-CD1	-15.27	110.11	120.80
2	4	197	TYR	CB-CG-CD2	15.27	130.16	121.00
3	J	211	PHE	CB-CG-CD2	-15.25	110.12	120.80
2	i	170	ARG	NE-CZ-NH2	15.05	127.82	120.30
1	B	126	TYR	CB-CG-CD2	15.04	130.03	121.00
2	4	199	TYR	CB-CG-CD2	-14.80	112.12	121.00
1	c	241	ARG	NE-CZ-NH1	-14.73	112.94	120.30
3	H	49	ARG	NE-CZ-NH1	14.65	127.63	120.30
3	J	27	TYR	CB-CG-CD2	14.64	129.78	121.00
3	M	203	PHE	CB-CG-CD1	-14.61	110.57	120.80
1	d	93	ARG	NE-CZ-NH2	-14.60	113.00	120.30
1	e	91	ARG	NE-CZ-NH2	14.55	127.57	120.30
2	4	101	TYR	CB-CG-CD2	14.53	129.72	121.00
1	E	241	ARG	NE-CZ-NH2	14.41	127.50	120.30
3	M	94	TYR	CB-CG-CD1	14.30	129.58	121.00
1	A	132	PHE	CB-CG-CD2	-14.07	110.95	120.80
3	J	336	PHE	CB-CG-CD2	14.01	130.61	120.80
3	M	20	TYR	CB-CG-CD2	-13.99	112.61	121.00
1	f	86	ARG	NE-CZ-NH1	13.95	127.28	120.30
3	K	317	ARG	NE-CZ-NH2	-13.88	113.36	120.30
3	H	326	ARG	NE-CZ-NH1	13.79	127.20	120.30
3	J	140	TYR	CB-CG-CD1	13.69	129.21	121.00
1	c	168	ARG	NE-CZ-NH1	13.59	127.09	120.30
2	m	51	ARG	NE-CZ-NH2	13.31	126.95	120.30
1	f	185	PHE	CB-CG-CD2	-13.25	111.52	120.80
1	c	33	ARG	NE-CZ-NH2	13.22	126.91	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	H	263	ARG	NE-CZ-NH1	13.21	126.91	120.30
2	5	30	ARG	NE-CZ-NH2	13.11	126.86	120.30
1	g	175	PHE	CB-CG-CD2	-12.98	111.71	120.80
1	G	232	TYR	CB-CG-CD1	-12.91	113.25	121.00
1	B	221	PHE	CB-CG-CD1	-12.81	111.83	120.80
1	D	20	ARG	NE-CZ-NH2	-12.81	113.90	120.30
1	C	123	TYR	CB-CG-CD2	-12.75	113.35	121.00
2	4	101	TYR	CB-CG-CD1	-12.71	113.38	121.00
2	m	170	ARG	NE-CZ-NH1	-12.65	113.97	120.30
2	2	106	TYR	CB-CG-CD1	12.64	128.58	121.00
3	J	27	TYR	CB-CG-CD1	-12.61	113.44	121.00
1	c	100	ARG	NE-CZ-NH1	-12.60	114.00	120.30
1	b	168	ARG	NE-CZ-NH2	-12.56	114.02	120.30
2	i	80	ARG	NE-CZ-NH2	12.48	126.54	120.30
2	4	77	TYR	CB-CG-CD2	-12.45	113.53	121.00
2	2	81	ARG	NE-CZ-NH2	-12.43	114.08	120.30
3	I	321	PHE	CB-CG-CD2	-12.42	112.11	120.80
3	I	154	ARG	NE-CZ-NH1	12.39	126.49	120.30
2	l	170	ARG	NH1-CZ-NH2	12.35	132.98	119.40
3	K	305	ARG	NE-CZ-NH2	-12.29	114.15	120.30
3	K	36	PHE	CB-CG-CD1	12.28	129.40	120.80
2	m	83	ARG	NE-CZ-NH2	12.28	126.44	120.30
3	J	341	ARG	NE-CZ-NH2	-12.21	114.19	120.30
3	J	140	TYR	CB-CG-CD2	-12.21	113.67	121.00
1	G	159	TYR	CB-CG-CD2	-12.18	113.69	121.00
3	H	49	ARG	NE-CZ-NH2	-12.17	114.22	120.30
2	l	212	ARG	NE-CZ-NH2	-12.16	114.22	120.30
2	n	30	ARG	NE-CZ-NH2	12.13	126.36	120.30
2	7	103	TYR	CB-CG-CD1	-12.12	113.73	121.00
3	J	211	PHE	CB-CG-CD1	12.08	129.25	120.80
2	h	170	ARG	NE-CZ-NH1	-12.06	114.27	120.30
3	J	21	TYR	CB-CG-CD1	-12.06	113.77	121.00
3	L	36	PHE	CB-CG-CD1	12.03	129.22	120.80
2	h	88	ARG	NE-CZ-NH1	-12.03	114.29	120.30
1	A	232	TYR	CB-CG-CD1	-11.96	113.82	121.00
1	a	10	ARG	NE-CZ-NH1	-11.96	114.32	120.30
1	d	100	ARG	NE-CZ-NH1	-11.95	114.32	120.30
3	L	76	ARG	NE-CZ-NH1	11.92	126.26	120.30
1	G	8	TYR	CB-CG-CD2	11.92	128.15	121.00
3	K	59	ARG	NE-CZ-NH1	11.92	126.26	120.30
2	m	170	ARG	NE-CZ-NH2	11.91	126.26	120.30
1	F	168	ARG	NE-CZ-NH1	11.89	126.24	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L	367	ARG	NE-CZ-NH1	11.88	126.24	120.30
1	d	103	TYR	CB-CG-CD2	-11.83	113.90	121.00
1	C	26	TYR	CB-CG-CD1	-11.80	113.92	121.00
1	A	232	TYR	CB-CG-CD2	11.80	128.08	121.00
2	3	77	TYR	CB-CG-CD1	-11.79	113.92	121.00
3	H	29	ARG	NE-CZ-NH1	-11.77	114.42	120.30
1	g	175	PHE	CB-CG-CD1	11.72	129.00	120.80
3	J	221	ARG	NE-CZ-NH1	-11.68	114.46	120.30
1	E	241	ARG	NE-CZ-NH1	-11.60	114.50	120.30
3	H	46	ARG	NE-CZ-NH2	-11.59	114.51	120.30
3	J	250	ARG	NE-CZ-NH1	11.54	126.07	120.30
2	k	197	TYR	CB-CG-CD2	-11.53	114.08	121.00
1	C	93	ARG	NE-CZ-NH2	-11.51	114.55	120.30
2	n	83	ARG	NE-CZ-NH1	-11.50	114.55	120.30
1	B	148	TYR	CB-CG-CD1	11.45	127.87	121.00
3	L	43	ARG	NE-CZ-NH2	-11.41	114.60	120.30
3	H	46	ARG	NE-CZ-NH1	11.34	125.97	120.30
3	K	46	ARG	NE-CZ-NH1	11.34	125.97	120.30
1	E	213	TYR	CB-CG-CD2	-11.33	114.20	121.00
2	4	68	ARG	NE-CZ-NH2	-11.32	114.64	120.30
1	c	91	ARG	NE-CZ-NH2	11.31	125.96	120.30
3	K	326	ARG	NE-CZ-NH2	-11.31	114.64	120.30
2	3	106	TYR	CB-CG-CD1	11.31	127.78	121.00
1	a	235	ARG	NE-CZ-NH1	-11.23	114.69	120.30
1	a	148	TYR	CB-CG-CD2	11.21	127.73	121.00
2	1	173	TYR	CB-CG-CD1	-11.21	114.27	121.00
1	A	132	PHE	CB-CG-CD1	11.19	128.63	120.80
2	1	101	TYR	CB-CG-CD1	11.19	127.72	121.00
2	4	170	ARG	NE-CZ-NH1	-11.18	114.71	120.30
1	F	37	ALA	N-CA-CB	11.17	125.74	110.10
2	i	212	ARG	NE-CZ-NH2	-11.15	114.72	120.30
3	M	203	PHE	CB-CG-CD2	11.14	128.60	120.80
1	F	91	ARG	NE-CZ-NH1	-11.10	114.75	120.30
3	M	94	TYR	CB-CG-CD2	-11.07	114.36	121.00
2	5	170	ARG	NH1-CZ-NH2	11.07	131.58	119.40
1	C	28	ARG	NE-CZ-NH1	11.02	125.81	120.30
1	d	159	TYR	CB-CG-CD1	-11.02	114.39	121.00
3	H	128	TYR	CB-CG-CD1	10.99	127.60	121.00
3	I	321	PHE	CB-CG-CD1	10.92	128.44	120.80
1	G	235	ARG	NE-CZ-NH1	-10.92	114.84	120.30
3	J	87	PHE	CB-CG-CD2	10.91	128.44	120.80
2	n	154	ARG	NE-CZ-NH1	10.88	125.74	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	6	102	ARG	NE-CZ-NH1	10.87	125.73	120.30
1	A	103	TYR	CB-CG-CD2	-10.86	114.48	121.00
1	E	168	ARG	NE-CZ-NH2	-10.85	114.88	120.30
1	F	26	TYR	CB-CG-CD1	-10.83	114.50	121.00
2	h	30	ARG	NE-CZ-NH2	10.82	125.71	120.30
1	G	68	TYR	CB-CG-CD1	-10.82	114.51	121.00
3	K	27	TYR	CB-CG-CD1	-10.81	114.51	121.00
2	1	154	ARG	NE-CZ-NH1	10.80	125.70	120.30
3	J	326	ARG	NE-CZ-NH1	-10.80	114.90	120.30
1	E	100	ARG	NE-CZ-NH1	10.78	125.69	120.30
1	d	232	TYR	CB-CG-CD2	10.76	127.45	121.00
1	a	232	TYR	CB-CG-CD1	-10.75	114.55	121.00
3	L	28	ARG	NE-CZ-NH2	-10.74	114.93	120.30
2	h	65	PHE	CB-CG-CD1	-10.73	113.29	120.80
2	3	81	ARG	NE-CZ-NH2	-10.68	114.96	120.30
1	a	68	TYR	CB-CG-CD2	10.67	127.40	121.00
1	b	33	ARG	NE-CZ-NH2	10.65	125.62	120.30
1	C	33	ARG	NE-CZ-NH2	-10.55	115.03	120.30
1	g	22	PHE	CB-CG-CD1	10.50	128.15	120.80
3	M	249	ARG	NE-CZ-NH1	-10.46	115.07	120.30
1	E	93	ARG	NE-CZ-NH2	10.45	125.52	120.30
1	b	175	PHE	CB-CG-CD1	10.43	128.10	120.80
3	L	314	PHE	CB-CG-CD1	10.43	128.10	120.80
2	4	103	TYR	CB-CG-CD1	-10.43	114.74	121.00
1	D	235	ARG	NE-CZ-NH1	10.38	125.49	120.30
1	g	100	ARG	NE-CZ-NH1	-10.38	115.11	120.30
1	d	93	ARG	NE-CZ-NH1	10.37	125.48	120.30
3	M	24	ARG	NE-CZ-NH2	-10.36	115.12	120.30
2	m	80	ARG	NE-CZ-NH1	10.36	125.48	120.30
3	L	211	PHE	CB-CG-CD1	10.35	128.04	120.80
3	I	221	ARG	NE-CZ-NH2	10.33	125.47	120.30
3	I	57	ARG	NE-CZ-NH2	10.32	125.46	120.30
2	7	30	ARG	NE-CZ-NH1	-10.31	115.14	120.30
2	i	170	ARG	NE-CZ-NH1	-10.30	115.15	120.30
2	m	123	TYR	CG-CD1-CE1	-10.27	113.08	121.30
1	E	123	TYR	CB-CG-CD2	-10.26	114.84	121.00
1	a	235	ARG	NE-CZ-NH2	10.26	125.43	120.30
3	K	181	TYR	CB-CG-CD2	10.24	127.14	121.00
2	3	199	TYR	CB-CG-CD1	10.24	127.14	121.00
1	F	90	ASP	CB-CG-OD2	10.21	127.49	118.30
3	I	140	TYR	CB-CG-CD2	10.18	127.11	121.00
2	k	46	TYR	CB-CG-CD1	10.16	127.10	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	227	PHE	CB-CG-CD2	10.12	127.88	120.80
2	j	81	ARG	NE-CZ-NH2	-10.09	115.26	120.30
2	l	197	TYR	CB-CG-CD2	-10.08	114.95	121.00
1	d	180	ARG	NE-CZ-NH1	-10.07	115.27	120.30
1	D	219	ARG	NE-CZ-NH1	10.05	125.33	120.30
3	I	302	ARG	NE-CZ-NH2	-10.05	115.27	120.30
1	d	180	ARG	NE-CZ-NH2	10.04	125.32	120.30
1	C	91	ARG	NE-CZ-NH2	10.04	125.32	120.30
1	C	26	TYR	CB-CG-CD2	10.03	127.02	121.00
3	L	43	ARG	NE-CZ-NH1	10.03	125.31	120.30
1	G	126	TYR	CB-CG-CD1	10.01	127.01	121.00
2	h	65	PHE	CB-CG-CD2	10.01	127.81	120.80
1	g	103	TYR	CB-CG-CD2	-9.99	115.00	121.00
3	K	36	PHE	CB-CG-CD2	-9.98	113.81	120.80
3	M	224	ARG	NE-CZ-NH1	-9.95	115.33	120.30
2	7	103	TYR	CB-CG-CD2	9.94	126.96	121.00
3	L	211	PHE	CB-CG-CD2	-9.93	113.85	120.80
1	E	91	ARG	NE-CZ-NH1	-9.91	115.34	120.30
1	F	126	TYR	CB-CG-CD2	-9.91	115.05	121.00
1	D	126	TYR	CB-CG-CD1	9.91	126.95	121.00
2	l	80	ARG	NE-CZ-NH1	-9.88	115.36	120.30
3	I	391	ASP	CB-CG-OD1	-9.87	109.42	118.30
1	a	68	TYR	CB-CG-CD1	-9.87	115.08	121.00
3	I	299	ARG	NE-CZ-NH2	9.85	125.22	120.30
3	M	215	TYR	CB-CG-CD2	9.85	126.91	121.00
1	a	219	ARG	NE-CZ-NH1	9.80	125.20	120.30
2	k	187	ASP	CB-CG-OD1	9.78	127.10	118.30
3	H	303	PHE	CB-CG-CD2	-9.77	113.96	120.80
1	g	232	TYR	CB-CG-CD2	-9.74	115.16	121.00
2	3	65	PHE	CB-CG-CD2	9.72	127.60	120.80
1	E	103	TYR	CB-CG-CD1	9.71	126.83	121.00
1	g	168	ARG	NE-CZ-NH2	-9.71	115.44	120.30
1	C	93	ARG	NE-CZ-NH1	9.70	125.15	120.30
1	E	130	ARG	NE-CZ-NH2	-9.68	115.46	120.30
3	K	29	ARG	NE-CZ-NH2	-9.68	115.46	120.30
2	6	123	TYR	CB-CG-CD2	9.67	126.80	121.00
2	2	199	TYR	CB-CG-CD2	9.66	126.80	121.00
1	f	51	ASP	CB-CG-OD1	9.66	126.99	118.30
1	g	15	PHE	CB-CG-CD2	-9.65	114.05	120.80
2	n	81	ARG	NE-CZ-NH2	-9.64	115.48	120.30
1	D	126	TYR	CB-CG-CD2	-9.64	115.22	121.00
3	J	215	TYR	CB-CG-CD1	-9.60	115.24	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	K	326	ARG	NE-CZ-NH1	9.59	125.09	120.30
1	A	189	MET	CG-SD-CE	-9.59	84.86	100.20
1	D	239	ARG	NE-CZ-NH1	9.58	125.09	120.30
3	H	105	ARG	NE-CZ-NH2	-9.57	115.52	120.30
2	6	173	TYR	CB-CG-CD2	9.56	126.74	121.00
1	d	132	PHE	CB-CG-CD1	-9.56	114.11	120.80
2	5	212	ARG	NE-CZ-NH1	9.56	125.08	120.30
1	C	175	PHE	CB-CG-CD1	9.54	127.48	120.80
1	c	28	ARG	NE-CZ-NH2	-9.52	115.54	120.30
3	L	124	ASP	CB-CG-OD2	-9.51	109.74	118.30
1	C	175	PHE	CB-CG-CD2	-9.50	114.15	120.80
1	a	148	TYR	CB-CG-CD1	-9.48	115.31	121.00
2	6	154	ARG	NE-CZ-NH1	-9.48	115.56	120.30
2	6	178	ARG	NE-CZ-NH1	9.46	125.03	120.30
3	H	321	PHE	CB-CG-CD1	-9.44	114.19	120.80
3	K	50	ARG	NE-CZ-NH1	9.43	125.01	120.30
3	I	397	PHE	CB-CG-CD1	9.42	127.39	120.80
3	L	21	TYR	CB-CG-CD2	9.42	126.65	121.00
1	a	123	TYR	CB-CG-CD1	9.40	126.64	121.00
3	M	278	ARG	NE-CZ-NH2	-9.40	115.60	120.30
2	6	51	ARG	NE-CZ-NH2	9.39	124.99	120.30
3	M	87	PHE	CB-CG-CD1	-9.39	114.23	120.80
1	e	33	ARG	NE-CZ-NH1	-9.38	115.61	120.30
2	7	170	ARG	NE-CZ-NH2	9.38	124.99	120.30
2	k	178	ARG	NE-CZ-NH1	-9.37	115.62	120.30
1	G	8	TYR	CB-CG-CD1	-9.36	115.39	121.00
1	a	91	ARG	NE-CZ-NH1	-9.35	115.62	120.30
3	I	74	ASP	CB-CG-OD2	9.32	126.69	118.30
3	M	200	ARG	NE-CZ-NH1	9.32	124.96	120.30
1	C	20	ARG	NE-CZ-NH1	9.31	124.96	120.30
1	f	51	ASP	CB-CG-OD2	-9.31	109.92	118.30
3	K	181	TYR	CB-CG-CD1	-9.30	115.42	121.00
3	H	303	PHE	CB-CG-CD1	9.29	127.30	120.80
1	g	179	TYR	CB-CG-CD2	-9.27	115.44	121.00
3	M	44	TYR	CB-CG-CD2	-9.27	115.44	121.00
2	j	51	ARG	NE-CZ-NH1	-9.26	115.67	120.30
2	1	131	ALA	CB-CA-C	-9.26	96.21	110.10
1	C	123	TYR	CB-CG-CD1	9.26	126.55	121.00
3	H	215	TYR	CB-CG-CD1	-9.25	115.45	121.00
3	I	294	ASP	CB-CG-OD1	-9.24	109.98	118.30
3	H	263	ARG	NE-CZ-NH2	-9.24	115.68	120.30
1	B	213	TYR	CG-CD2-CE2	-9.24	113.91	121.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L	317	ARG	NE-CZ-NH2	-9.24	115.68	120.30
2	1	102	ARG	NE-CZ-NH1	-9.23	115.69	120.30
2	i	68	ARG	NE-CZ-NH2	-9.22	115.69	120.30
3	J	360	MET	CG-SD-CE	9.20	114.92	100.20
1	g	33	ARG	NE-CZ-NH1	9.20	124.90	120.30
2	2	155	PHE	CB-CG-CD1	9.20	127.24	120.80
1	D	219	ARG	NE-CZ-NH2	-9.16	115.72	120.30
1	C	185	PHE	CB-CG-CD2	-9.16	114.39	120.80
3	H	250	ARG	NE-CZ-NH2	9.15	124.87	120.30
2	j	196	PHE	CB-CG-CD1	-9.12	114.42	120.80
3	K	305	ARG	NE-CZ-NH1	9.11	124.86	120.30
3	M	154	ARG	NE-CZ-NH2	-9.11	115.74	120.30
2	2	123	TYR	CB-CG-CD2	9.11	126.47	121.00
3	M	289	ARG	NE-CZ-NH1	9.10	124.85	120.30
1	b	91	ARG	NE-CZ-NH1	-9.09	115.75	120.30
1	c	217	ASP	CB-CG-OD2	-9.09	110.11	118.30
2	7	212	ARG	NE-CZ-NH1	-9.09	115.76	120.30
1	G	10	ARG	NE-CZ-NH2	-9.07	115.77	120.30
2	1	148	TYR	CB-CG-CD2	-9.06	115.56	121.00
3	I	294	ASP	CB-CG-OD2	9.05	126.45	118.30
2	k	212	ARG	NE-CZ-NH2	-9.05	115.78	120.30
2	4	80	ARG	NE-CZ-NH1	9.01	124.81	120.30
2	k	21	ASP	CB-CG-OD2	-8.98	110.22	118.30
3	L	36	PHE	CB-CG-CD2	-8.97	114.52	120.80
3	L	52	ARG	NE-CZ-NH1	8.93	124.76	120.30
3	M	215	TYR	CB-CG-CD1	-8.91	115.65	121.00
3	M	24	ARG	NE-CZ-NH1	8.90	124.75	120.30
2	i	211	PHE	CB-CG-CD2	-8.89	114.58	120.80
3	L	24	ARG	NE-CZ-NH1	8.89	124.75	120.30
1	g	33	ARG	NE-CZ-NH2	-8.89	115.86	120.30
1	A	53	ARG	NE-CZ-NH2	-8.88	115.86	120.30
3	L	299	ARG	NE-CZ-NH1	8.87	124.73	120.30
3	J	305	ARG	NE-CZ-NH1	8.85	124.73	120.30
1	B	9	ASP	CB-CG-OD2	8.85	126.27	118.30
1	a	100	ARG	NE-CZ-NH1	-8.84	115.88	120.30
1	e	53	ARG	NE-CZ-NH2	8.84	124.72	120.30
1	B	126	TYR	CB-CG-CD1	-8.83	115.70	121.00
1	E	103	TYR	CG-CD2-CE2	8.82	128.36	121.30
1	f	91	ARG	NE-CZ-NH2	-8.82	115.89	120.30
3	J	259	ARG	NE-CZ-NH2	-8.81	115.89	120.30
2	5	106	TYR	CB-CG-CD1	-8.80	115.72	121.00
3	I	386	THR	C-N-CA	8.80	143.70	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	G	232	TYR	CG-CD1-CE1	-8.79	114.27	121.30
2	n	162	ASP	CB-CG-OD1	-8.77	110.41	118.30
2	4	197	TYR	CB-CG-CD1	-8.77	115.74	121.00
3	M	44	TYR	CB-CG-CD1	8.76	126.26	121.00
1	B	93	ARG	NE-CZ-NH2	-8.75	115.92	120.30
3	M	59	ARG	NE-CZ-NH1	8.75	124.67	120.30
1	C	91	ARG	NE-CZ-NH1	-8.74	115.93	120.30
3	J	20	TYR	CB-CG-CD1	-8.74	115.75	121.00
1	C	185	PHE	CB-CG-CD1	8.72	126.90	120.80
3	L	21	TYR	CB-CG-CD1	-8.71	115.77	121.00
1	A	239	ARG	NE-CZ-NH2	-8.70	115.95	120.30
2	h	103	TYR	CB-CG-CD1	8.69	126.22	121.00
3	K	28	ARG	NE-CZ-NH2	-8.69	115.95	120.30
2	4	46	TYR	CB-CG-CD2	-8.68	115.79	121.00
1	c	232	TYR	CB-CG-CD1	8.68	126.21	121.00
2	6	196	PHE	CB-CG-CD2	8.68	126.88	120.80
2	l	148	TYR	CB-CG-CD1	8.66	126.19	121.00
2	n	77	TYR	CB-CG-CD1	-8.66	115.80	121.00
2	k	33	MET	CG-SD-CE	-8.64	86.38	100.20
1	g	159	TYR	CB-CG-CD2	-8.63	115.82	121.00
1	f	20	ARG	NE-CZ-NH2	-8.62	115.99	120.30
3	I	50	ARG	NE-CZ-NH1	8.63	124.61	120.30
1	B	119	PHE	CB-CG-CD1	8.62	126.83	120.80
1	C	174	PHE	CB-CG-CD2	-8.61	114.78	120.80
3	I	254	ASP	CB-CG-OD2	8.61	126.04	118.30
1	B	130	ARG	NE-CZ-NH2	-8.60	116.00	120.30
1	f	175	PHE	CB-CG-CD1	8.60	126.82	120.80
2	j	196	PHE	CB-CG-CD2	8.59	126.82	120.80
2	6	194	ASP	CB-CG-OD1	-8.56	110.59	118.30
2	7	21	ASP	CB-CG-OD2	8.56	126.00	118.30
3	H	215	TYR	CB-CG-CD2	8.55	126.13	121.00
2	i	106	TYR	CB-CG-CD1	-8.55	115.87	121.00
3	J	128	TYR	CZ-CE2-CD2	8.55	127.49	119.80
3	K	20	TYR	CB-CG-CD1	8.54	126.13	121.00
1	f	123	TYR	CB-CG-CD1	-8.53	115.88	121.00
1	G	180	ARG	NE-CZ-NH2	8.53	124.56	120.30
2	6	68	ARG	NE-CZ-NH2	8.52	124.56	120.30
1	A	179	TYR	CB-CG-CD1	-8.52	115.89	121.00
3	M	250	ARG	NE-CZ-NH2	-8.50	116.05	120.30
1	a	93	ARG	NE-CZ-NH2	8.49	124.55	120.30
1	A	175	PHE	CB-CG-CD1	8.49	126.74	120.80
3	K	259	ARG	NE-CZ-NH1	8.48	124.54	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	3	194	ASP	N-CA-CB	8.47	125.85	110.60
2	j	123	TYR	CB-CG-CD2	8.46	126.08	121.00
3	H	20	TYR	CB-CG-CD1	8.46	126.08	121.00
2	2	106	TYR	CG-CD1-CE1	8.45	128.06	121.30
1	G	235	ARG	NE-CZ-NH2	8.45	124.52	120.30
1	C	174	PHE	CB-CG-CD1	8.44	126.71	120.80
3	M	258	ASP	CB-CG-OD1	8.44	125.90	118.30
1	e	28	ARG	NE-CZ-NH2	-8.43	116.08	120.30
1	F	159	TYR	CB-CG-CD2	-8.42	115.95	121.00
3	K	244	ASP	CB-CG-OD2	8.42	125.88	118.30
3	J	224	ARG	NE-CZ-NH2	-8.42	116.09	120.30
1	a	126	TYR	CB-CG-CD2	-8.41	115.95	121.00
1	G	28	ARG	NE-CZ-NH2	-8.41	116.09	120.30
3	I	254	ASP	CB-CG-OD1	-8.41	110.73	118.30
2	5	154	ARG	NE-CZ-NH1	-8.40	116.10	120.30
3	J	302	ARG	NE-CZ-NH1	-8.39	116.10	120.30
1	F	86	ARG	NE-CZ-NH1	8.39	124.49	120.30
3	I	20	TYR	CB-CG-CD2	-8.38	115.97	121.00
1	D	65	GLU	N-CA-CB	8.37	125.66	110.60
1	a	180	ARG	NE-CZ-NH1	-8.36	116.12	120.30
1	E	62	ASP	CB-CG-OD2	-8.35	110.79	118.30
2	4	77	TYR	CB-CG-CD1	8.33	126.00	121.00
1	b	132	PHE	CB-CG-CD1	8.32	126.63	120.80
1	a	181	ASP	CB-CG-OD1	8.31	125.78	118.30
1	A	103	TYR	CB-CG-CD1	8.31	125.99	121.00
2	4	46	TYR	CB-CG-CD1	8.31	125.98	121.00
1	D	86	ARG	NE-CZ-NH1	8.31	124.45	120.30
3	K	249	ARG	NE-CZ-NH2	-8.29	116.15	120.30
3	J	227	PHE	CB-CG-CD2	-8.29	115.00	120.80
3	I	28	ARG	NE-CZ-NH2	-8.29	116.16	120.30
3	L	27	TYR	CB-CG-CD1	-8.29	116.03	121.00
1	A	68	TYR	CB-CG-CD2	8.29	125.97	121.00
1	A	123	TYR	CB-CG-CD2	-8.28	116.03	121.00
1	G	218	ASP	CB-CG-OD1	-8.29	110.84	118.30
1	G	180	ARG	NE-CZ-NH1	-8.28	116.16	120.30
1	B	168	ARG	NE-CZ-NH2	8.28	124.44	120.30
3	K	286	ALA	N-CA-CB	8.27	121.68	110.10
1	b	130	ARG	NE-CZ-NH2	-8.27	116.17	120.30
2	h	25	MET	CG-SD-CE	-8.26	86.99	100.20
2	l	83	ARG	NE-CZ-NH2	-8.26	116.17	120.30
2	4	88	ARG	NE-CZ-NH1	-8.25	116.17	120.30
3	I	250	ARG	NE-CZ-NH1	8.25	124.43	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	F	219	ARG	NE-CZ-NH2	-8.25	116.18	120.30
3	H	258	ASP	CB-CG-OD2	8.24	125.72	118.30
1	e	93	ARG	NE-CZ-NH1	8.22	124.41	120.30
1	A	10	ARG	NE-CZ-NH1	8.22	124.41	120.30
3	I	20	TYR	CB-CG-CD1	8.21	125.93	121.00
2	m	199	TYR	CB-CG-CD2	-8.20	116.08	121.00
1	c	50	ALA	N-CA-CB	8.20	121.58	110.10
1	b	91	ARG	NE-CZ-NH2	8.20	124.40	120.30
2	h	106	TYR	CB-CG-CD1	-8.19	116.08	121.00
1	a	159	TYR	CB-CG-CD2	-8.19	116.09	121.00
2	5	83	ARG	NE-CZ-NH2	-8.19	116.21	120.30
3	L	364	ARG	NE-CZ-NH2	-8.19	116.21	120.30
1	D	181	ASP	CB-CG-OD2	-8.18	110.94	118.30
1	e	22	PHE	CB-CG-CD1	-8.14	115.10	120.80
2	m	68	ARG	NE-CZ-NH2	8.14	124.37	120.30
1	C	126	TYR	CB-CG-CD1	8.13	125.88	121.00
2	1	178	ARG	NE-CZ-NH2	-8.13	116.24	120.30
2	3	106	TYR	CB-CG-CD2	-8.12	116.13	121.00
1	a	126	TYR	CB-CG-CD1	8.11	125.87	121.00
2	3	116	ASP	CB-CG-OD2	-8.11	111.01	118.30
2	n	31	ALA	N-CA-CB	8.10	121.44	110.10
2	i	211	PHE	CB-CG-CD1	8.10	126.47	120.80
1	G	20	ARG	NE-CZ-NH1	8.09	124.35	120.30
3	L	186	THR	CA-CB-CG2	-8.07	101.10	112.40
1	d	241	ARG	NE-CZ-NH1	-8.06	116.27	120.30
1	g	22	PHE	CB-CG-CD2	-8.04	115.17	120.80
1	g	132	PHE	CB-CG-CD1	8.03	126.42	120.80
1	g	132	PHE	CB-CG-CD2	-8.03	115.18	120.80
3	I	70	ASP	CB-CG-OD2	-8.03	111.08	118.30
1	d	130	ARG	NE-CZ-NH2	-8.02	116.29	120.30
2	m	123	TYR	CB-CG-CD2	-8.02	116.19	121.00
3	M	317	ARG	NE-CZ-NH2	-8.02	116.29	120.30
1	F	93	ARG	NE-CZ-NH2	-8.00	116.30	120.30
3	H	43	ARG	NE-CZ-NH2	8.00	124.30	120.30
2	k	77	TYR	CG-CD1-CE1	-7.99	114.91	121.30
3	M	397	PHE	CB-CG-CD2	-7.98	115.21	120.80
1	C	15	PHE	CB-CG-CD1	7.97	126.38	120.80
2	h	30	ARG	NE-CZ-NH1	-7.97	116.32	120.30
1	D	100	ARG	NE-CZ-NH1	-7.96	116.32	120.30
1	a	100	ARG	NE-CZ-NH2	7.95	124.27	120.30
2	i	88	ARG	NE-CZ-NH1	-7.94	116.33	120.30
2	6	170	ARG	NE-CZ-NH1	-7.93	116.33	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	180	ARG	NE-CZ-NH1	-7.93	116.33	120.30
1	C	15	PHE	CB-CG-CD2	-7.93	115.25	120.80
1	G	100	ARG	NE-CZ-NH2	7.93	124.26	120.30
2	7	148	TYR	CB-CG-CD2	-7.92	116.25	121.00
1	B	26	TYR	CG-CD1-CE1	-7.91	114.97	121.30
1	d	10	ARG	NE-CZ-NH1	-7.91	116.34	120.30
1	c	179	TYR	CB-CG-CD1	7.91	125.74	121.00
1	G	175	PHE	CB-CG-CD1	7.90	126.33	120.80
2	6	199	TYR	CB-CG-CD2	7.89	125.73	121.00
2	2	50	ASP	CB-CG-OD2	-7.89	111.20	118.30
2	6	212	ARG	NE-CZ-NH2	-7.88	116.36	120.30
2	2	126	ASP	CB-CG-OD1	-7.87	111.22	118.30
2	m	101	TYR	CB-CG-CD2	-7.86	116.28	121.00
2	7	68	ARG	NE-CZ-NH1	7.86	124.23	120.30
3	K	248	ALA	N-CA-CB	7.86	121.10	110.10
3	M	105	ARG	NE-CZ-NH1	-7.86	116.37	120.30
1	d	77	ALA	CB-CA-C	-7.85	98.32	110.10
3	I	205	ARG	NE-CZ-NH1	7.85	124.22	120.30
3	L	263	ARG	NE-CZ-NH1	7.85	124.22	120.30
1	C	28	ARG	NE-CZ-NH2	-7.85	116.38	120.30
2	1	131	ALA	N-CA-CB	7.84	121.07	110.10
3	H	289	ARG	NE-CZ-NH2	-7.84	116.38	120.30
3	L	221	ARG	NE-CZ-NH2	-7.84	116.38	120.30
3	K	141	GLU	OE1-CD-OE2	-7.83	113.90	123.30
3	K	321	PHE	CB-CG-CD1	-7.82	115.33	120.80
3	H	29	ARG	NE-CZ-NH2	7.82	124.21	120.30
1	b	180	ARG	N-CA-CB	7.81	124.66	110.60
2	m	123	TYR	CD1-CG-CD2	7.81	126.49	117.90
1	f	103	TYR	CB-CG-CD2	-7.80	116.32	121.00
2	m	123	TYR	CG-CD2-CE2	-7.78	115.07	121.30
3	I	21	TYR	CB-CG-CD1	7.78	125.67	121.00
1	e	159	TYR	CB-CG-CD1	-7.78	116.33	121.00
1	e	56	SER	N-CA-CB	7.77	122.16	110.50
1	g	130	ARG	NE-CZ-NH1	-7.77	116.41	120.30
3	H	128	TYR	CB-CG-CD2	-7.77	116.34	121.00
3	J	76	ARG	NE-CZ-NH1	7.77	124.18	120.30
1	D	168	ARG	NE-CZ-NH1	7.76	124.18	120.30
3	M	21	TYR	CB-CG-CD2	7.75	125.65	121.00
2	1	65	PHE	CB-CG-CD1	-7.74	115.38	120.80
2	n	116	ASP	N-CA-CB	7.73	124.52	110.60
2	3	146	THR	CA-CB-CG2	-7.73	101.58	112.40
1	F	130	ARG	NE-CZ-NH1	7.71	124.16	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	j	68	ARG	NE-CZ-NH2	-7.71	116.44	120.30
3	L	46	ARG	NE-CZ-NH1	7.71	124.16	120.30
2	k	46	TYR	CG-CD2-CE2	7.71	127.47	121.30
1	F	148	TYR	CB-CG-CD1	-7.71	116.38	121.00
3	L	221	ARG	NE-CZ-NH1	7.71	124.15	120.30
1	D	26	TYR	CG-CD1-CE1	-7.71	115.13	121.30
2	k	103	TYR	CB-CG-CD2	7.69	125.61	121.00
2	k	65	PHE	CB-CG-CD2	7.68	126.18	120.80
3	K	317	ARG	NE-CZ-NH1	7.68	124.14	120.30
3	M	397	PHE	CB-CG-CD1	7.67	126.17	120.80
2	5	80	ARG	NE-CZ-NH2	7.66	124.13	120.30
3	M	367	ARG	NE-CZ-NH2	7.66	124.13	120.30
3	J	275	PHE	CB-CG-CD1	7.66	126.16	120.80
2	2	212	ARG	NE-CZ-NH1	-7.66	116.47	120.30
3	H	397	PHE	CB-CG-CD2	-7.66	115.44	120.80
1	d	103	TYR	CB-CG-CD1	7.65	125.59	121.00
1	g	232	TYR	CG-CD1-CE1	-7.65	115.18	121.30
2	4	154	ARG	NE-CZ-NH1	-7.65	116.48	120.30
2	7	211	PHE	CB-CG-CD2	7.64	126.14	120.80
3	M	20	TYR	CB-CG-CD1	7.63	125.58	121.00
2	h	68	ARG	NE-CZ-NH2	-7.63	116.49	120.30
3	I	21	TYR	CB-CG-CD2	-7.63	116.42	121.00
3	H	299	ARG	NE-CZ-NH1	7.62	124.11	120.30
3	M	200	ARG	NE-CZ-NH2	-7.61	116.49	120.30
3	J	181	TYR	CB-CG-CD1	-7.60	116.44	121.00
1	c	68	TYR	CG-CD2-CE2	-7.59	115.22	121.30
2	m	42	ALA	N-CA-CB	7.59	120.73	110.10
2	7	148	TYR	CG-CD1-CE1	-7.59	115.22	121.30
3	J	374	ASP	CB-CG-OD1	-7.58	111.47	118.30
1	C	232	TYR	CB-CG-CD2	-7.58	116.45	121.00
1	E	8	TYR	CB-CG-CD1	-7.57	116.46	121.00
1	D	21	LEU	N-CA-C	-7.55	90.62	111.00
1	E	198	LEU	CB-CG-CD1	-7.54	98.18	111.00
1	d	126	TYR	CB-CG-CD1	7.54	125.52	121.00
2	3	139	ALA	C-N-CA	7.54	140.54	121.70
3	H	130	PHE	CB-CG-CD2	-7.53	115.53	120.80
2	4	36	PHE	CB-CG-CD1	-7.52	115.54	120.80
3	L	28	ARG	NE-CZ-NH1	7.51	124.06	120.30
3	J	20	TYR	CB-CG-CD2	7.51	125.51	121.00
1	B	63	THR	CA-CB-CG2	-7.50	101.90	112.40
3	M	281	VAL	C-N-CA	7.50	140.45	121.70
3	I	397	PHE	CB-CG-CD2	-7.50	115.55	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	I	302	ARG	N-CA-C	-7.50	90.76	111.00
3	L	353	ALA	N-CA-CB	7.49	120.59	110.10
1	c	213	TYR	CB-CG-CD1	7.49	125.50	121.00
3	I	255	THR	CA-CB-CG2	-7.48	101.92	112.40
1	e	168	ARG	NE-CZ-NH1	7.48	124.04	120.30
2	5	30	ARG	NE-CZ-NH1	-7.48	116.56	120.30
1	e	100	ARG	NE-CZ-NH1	-7.47	116.57	120.30
3	K	57	ARG	NE-CZ-NH1	-7.46	116.57	120.30
3	H	36	PHE	CB-CG-CD1	7.46	126.02	120.80
2	2	46	TYR	CG-CD1-CE1	-7.45	115.34	121.30
2	7	53	ALA	CB-CA-C	-7.45	98.93	110.10
2	1	155	PHE	CB-CG-CD1	-7.43	115.60	120.80
2	1	103	TYR	CG-CD1-CE1	-7.43	115.35	121.30
2	2	170	ARG	NE-CZ-NH2	7.43	124.02	120.30
1	F	220	THR	CA-CB-CG2	-7.43	102.00	112.40
2	n	101	TYR	CB-CG-CD2	-7.42	116.55	121.00
1	D	168	ARG	NE-CZ-NH2	-7.42	116.59	120.30
3	I	28	ARG	NE-CZ-NH1	7.42	124.01	120.30
1	c	30	ALA	CB-CA-C	-7.40	99.00	110.10
1	c	91	ARG	NE-CZ-NH1	-7.39	116.60	120.30
3	K	20	TYR	CB-CG-CD2	-7.38	116.57	121.00
2	i	154	ARG	NE-CZ-NH2	7.38	123.99	120.30
2	2	50	ASP	CB-CG-OD1	7.38	124.94	118.30
2	2	178	ARG	NE-CZ-NH1	7.38	123.99	120.30
3	H	124	ASP	CB-CG-OD2	-7.38	111.66	118.30
2	2	123	TYR	CB-CG-CD1	-7.37	116.58	121.00
2	2	63	ALA	CB-CA-C	-7.36	99.05	110.10
3	K	263	ARG	NE-CZ-NH2	-7.36	116.62	120.30
2	2	178	ARG	NE-CZ-NH2	-7.35	116.62	120.30
1	b	77	ALA	CB-CA-C	-7.35	99.08	110.10
1	f	71	ASP	CB-CG-OD1	7.35	124.92	118.30
2	i	30	ARG	NE-CZ-NH2	7.35	123.97	120.30
2	m	173	TYR	CB-CG-CD1	-7.34	116.59	121.00
1	c	68	TYR	CB-CG-CD1	-7.34	116.60	121.00
3	J	250	ARG	NE-CZ-NH2	-7.33	116.63	120.30
2	1	82	GLU	N-CA-CB	7.33	123.80	110.60
1	d	126	TYR	CB-CG-CD2	-7.33	116.60	121.00
2	k	140	THR	N-CA-CB	7.33	124.23	110.30
2	7	102	ARG	NE-CZ-NH1	-7.33	116.63	120.30
1	B	126	TYR	CD1-CE1-CZ	-7.33	113.20	119.80
1	c	217	ASP	CB-CG-OD1	7.33	124.89	118.30
2	k	197	TYR	CB-CG-CD1	7.32	125.39	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	7	83	ARG	NE-CZ-NH1	7.32	123.96	120.30
1	B	179	TYR	CB-CG-CD1	-7.31	116.61	121.00
2	6	173	TYR	CG-CD1-CE1	7.31	127.15	121.30
1	a	90	ASP	CB-CG-OD2	-7.30	111.73	118.30
2	4	164	ALA	N-CA-CB	7.30	120.32	110.10
1	e	22	PHE	CB-CG-CD2	7.30	125.91	120.80
2	5	104	PHE	CB-CG-CD2	7.30	125.91	120.80
3	J	220	ALA	N-CA-CB	7.29	120.31	110.10
1	a	217	ASP	CB-CG-OD1	-7.29	111.74	118.30
3	K	367	ARG	NE-CZ-NH2	7.28	123.94	120.30
1	d	168	ARG	NE-CZ-NH2	7.27	123.94	120.30
1	c	31	VAL	CA-CB-CG1	-7.26	100.00	110.90
3	J	139	SER	N-CA-CB	7.26	121.39	110.50
2	6	103	TYR	CG-CD1-CE1	-7.26	115.49	121.30
2	4	51	ARG	NE-CZ-NH1	-7.25	116.67	120.30
3	I	302	ARG	NE-CZ-NH1	7.25	123.93	120.30
2	5	123	TYR	CB-CG-CD2	-7.25	116.65	121.00
1	B	151	ASP	CB-CG-OD1	-7.25	111.78	118.30
1	c	148	TYR	CB-CG-CD2	7.24	125.34	121.00
1	b	235	ARG	NE-CZ-NH2	7.24	123.92	120.30
1	e	37	ALA	N-CA-CB	7.24	120.23	110.10
1	B	8	TYR	CB-CG-CD2	7.24	125.34	121.00
3	M	59	ARG	NE-CZ-NH2	-7.24	116.68	120.30
3	M	46	ARG	NE-CZ-NH2	-7.23	116.68	120.30
3	J	41	ARG	NE-CZ-NH2	-7.22	116.69	120.30
1	c	239	ARG	NE-CZ-NH2	7.22	123.91	120.30
2	m	68	ARG	NE-CZ-NH1	7.22	123.91	120.30
1	e	148	TYR	CB-CG-CD2	7.22	125.33	121.00
2	k	170	ARG	NE-CZ-NH1	-7.22	116.69	120.30
2	7	30	ARG	NE-CZ-NH2	7.22	123.91	120.30
3	K	154	ARG	NE-CZ-NH1	7.22	123.91	120.30
3	K	387	THR	CA-CB-CG2	-7.21	102.31	112.40
2	n	162	ASP	CB-CG-OD2	7.20	124.78	118.30
2	h	154	ARG	NE-CZ-NH2	-7.19	116.70	120.30
2	4	46	TYR	N-CA-CB	7.19	123.55	110.60
1	A	235	ARG	CB-CA-C	-7.19	96.02	110.40
1	G	219	ARG	NE-CZ-NH2	-7.19	116.71	120.30
3	M	140	TYR	CG-CD2-CE2	-7.19	115.55	121.30
2	5	77	TYR	CG-CD2-CE2	-7.18	115.55	121.30
1	a	175	PHE	CB-CG-CD1	7.18	125.83	120.80
1	a	20	ARG	NE-CZ-NH1	7.18	123.89	120.30
3	H	249	ARG	NE-CZ-NH1	7.17	123.89	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	a	239	ARG	NE-CZ-NH2	7.17	123.89	120.30
2	i	68	ARG	NE-CZ-NH1	7.17	123.89	120.30
3	J	305	ARG	NE-CZ-NH2	-7.17	116.72	120.30
1	e	84	ASP	CB-CG-OD2	7.15	124.74	118.30
1	c	126	TYR	CB-CG-CD2	7.15	125.29	121.00
1	B	221	PHE	CB-CG-CD2	7.14	125.80	120.80
2	j	199	TYR	CB-CG-CD2	-7.14	116.72	121.00
2	k	194	ASP	CB-CA-C	-7.14	96.12	110.40
1	a	18	ASP	CB-CG-OD1	-7.14	111.88	118.30
2	l	68	ARG	NE-CZ-NH1	7.13	123.86	120.30
1	A	233	VAL	CA-CB-CG2	-7.12	100.21	110.90
1	B	170	ALA	CB-CA-C	-7.12	99.43	110.10
2	3	33	MET	CG-SD-CE	-7.12	88.81	100.20
1	F	126	TYR	CB-CG-CD1	7.11	125.27	121.00
3	H	397	PHE	CB-CG-CD1	7.11	125.78	120.80
1	f	28	ARG	NE-CZ-NH1	7.11	123.86	120.30
1	a	175	PHE	CB-CG-CD2	-7.11	115.83	120.80
2	m	68	ARG	NH1-CZ-NH2	-7.10	111.59	119.40
3	J	181	TYR	CB-CG-CD2	7.10	125.26	121.00
1	g	26	TYR	CG-CD2-CE2	-7.09	115.63	121.30
1	B	126	TYR	CG-CD1-CE1	7.09	126.97	121.30
1	e	213	TYR	CB-CG-CD1	-7.08	116.75	121.00
2	6	123	TYR	CB-CG-CD1	-7.08	116.75	121.00
3	I	146	LEU	CB-CG-CD2	7.07	123.03	111.00
2	1	30	ARG	NE-CZ-NH2	7.06	123.83	120.30
1	g	145	PRO	N-CA-CB	7.06	111.77	103.30
1	A	175	PHE	CB-CG-CD2	-7.05	115.86	120.80
1	D	53	ARG	NE-CZ-NH1	7.05	123.83	120.30
1	d	159	TYR	CG-CD2-CE2	-7.05	115.66	121.30
2	5	68	ARG	NE-CZ-NH1	7.04	123.82	120.30
1	B	53	ARG	NE-CZ-NH2	-7.04	116.78	120.30
1	g	148	TYR	CB-CG-CD2	-7.03	116.78	121.00
2	m	176	MET	CG-SD-CE	-7.03	88.95	100.20
2	k	187	ASP	CB-CG-OD2	-7.02	111.98	118.30
2	m	194	ASP	CB-CG-OD2	-7.02	111.99	118.30
1	f	185	PHE	CG-CD2-CE2	-7.01	113.08	120.80
3	H	364	ARG	NE-CZ-NH2	-7.00	116.80	120.30
3	I	94	TYR	CZ-CE2-CD2	-7.00	113.50	119.80
1	E	100	ARG	NE-CZ-NH2	-7.00	116.80	120.30
1	F	183	LEU	CB-CA-C	-6.99	96.91	110.20
1	C	18	ASP	CB-CG-OD2	-6.99	112.01	118.30
3	J	263	ARG	NE-CZ-NH2	-6.99	116.81	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	i	101	TYR	CB-CG-CD2	-6.98	116.81	121.00
2	l	148	TYR	CG-CD2-CE2	-6.97	115.73	121.30
1	B	64	ILE	C-N-CA	6.96	139.11	121.70
3	M	264	THR	O-C-N	-6.96	111.56	122.70
1	B	161	ALA	N-CA-CB	6.96	119.84	110.10
3	L	387	THR	N-CA-CB	6.96	123.52	110.30
3	H	41	ARG	NE-CZ-NH2	-6.95	116.83	120.30
3	J	266	MET	CG-SD-CE	-6.95	89.08	100.20
1	c	22	PHE	CB-CG-CD1	6.94	125.66	120.80
2	m	196	PHE	CB-CG-CD2	-6.94	115.94	120.80
2	i	81	ARG	NE-CZ-NH2	6.94	123.77	120.30
1	A	20	ARG	NE-CZ-NH2	-6.94	116.83	120.30
1	g	239	ARG	NE-CZ-NH2	-6.93	116.83	120.30
1	f	71	ASP	CB-CG-OD2	-6.93	112.06	118.30
1	e	148	TYR	CB-CG-CD1	-6.92	116.85	121.00
2	6	153	ASP	CB-CG-OD2	6.92	124.53	118.30
1	E	118	ASP	CB-CG-OD1	6.92	124.53	118.30
2	j	77	TYR	CB-CG-CD1	6.92	125.15	121.00
2	n	197	TYR	CB-CG-CD2	-6.91	116.85	121.00
1	E	245	LYS	N-CA-CB	6.91	123.03	110.60
1	e	235	ARG	NE-CZ-NH2	-6.90	116.85	120.30
2	l	187	ASP	CB-CG-OD1	-6.90	112.09	118.30
2	3	77	TYR	CB-CG-CD2	6.89	125.14	121.00
1	d	22	PHE	CB-CG-CD2	-6.89	115.98	120.80
3	L	154	ARG	NE-CZ-NH1	6.89	123.74	120.30
1	g	235	ARG	NE-CZ-NH1	-6.89	116.86	120.30
3	K	278	ARG	NE-CZ-NH2	-6.89	116.86	120.30
3	L	59	ARG	NE-CZ-NH1	6.88	123.74	120.30
1	D	151	ASP	CB-CG-OD2	-6.88	112.11	118.30
2	j	46	TYR	CZ-CE2-CD2	-6.88	113.61	119.80
2	j	14	THR	CA-CB-CG2	-6.88	102.77	112.40
1	B	148	TYR	CB-CG-CD2	-6.87	116.88	121.00
2	i	25	MET	CG-SD-CE	-6.87	89.22	100.20
1	b	100	ARG	NE-CZ-NH2	6.86	123.73	120.30
1	B	104	ASP	N-CA-CB	6.86	122.94	110.60
1	E	103	TYR	CZ-CE2-CD2	-6.84	113.64	119.80
3	H	249	ARG	CD-NE-CZ	6.84	133.18	123.60
2	2	155	PHE	CB-CG-CD2	-6.83	116.02	120.80
1	g	241	ARG	NE-CZ-NH1	-6.83	116.89	120.30
2	j	136	ASP	CB-CG-OD1	6.82	124.44	118.30
1	F	213	TYR	CB-CG-CD2	-6.82	116.91	121.00
1	A	9	ASP	CB-CG-OD2	-6.82	112.17	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	K	41	ARG	NE-CZ-NH1	6.81	123.70	120.30
2	4	30	ARG	NE-CZ-NH1	-6.81	116.90	120.30
2	7	162	ASP	CB-CG-OD2	6.81	124.43	118.30
1	F	18	ASP	CB-CG-OD2	-6.80	112.18	118.30
1	e	130	ARG	NE-CZ-NH1	6.79	123.70	120.30
1	D	37	ALA	N-CA-CB	6.79	119.61	110.10
3	K	380	GLU	OE1-CD-OE2	6.79	131.45	123.30
1	A	77	ALA	CB-CA-C	-6.78	99.92	110.10
2	6	104	PHE	CB-CG-CD2	-6.78	116.05	120.80
3	I	203	PHE	CB-CG-CD1	-6.78	116.06	120.80
2	m	212	ARG	NH1-CZ-NH2	-6.78	111.95	119.40
2	3	42	ALA	N-CA-CB	6.77	119.57	110.10
1	b	10	ARG	NE-CZ-NH1	-6.77	116.92	120.30
2	h	139	ALA	N-CA-CB	6.76	119.57	110.10
2	m	51	ARG	NH1-CZ-NH2	-6.76	111.96	119.40
1	b	144	VAL	CA-CB-CG2	6.76	121.04	110.90
3	I	280	ASP	CB-CG-OD1	-6.75	112.23	118.30
3	H	130	PHE	CB-CG-CD1	6.74	125.52	120.80
1	A	9	ASP	CB-CG-OD1	6.74	124.36	118.30
1	g	28	ARG	NE-CZ-NH2	-6.74	116.93	120.30
1	b	50	ALA	CB-CA-C	-6.73	100.00	110.10
1	E	219	ARG	N-CA-CB	6.73	122.71	110.60
3	J	280	ASP	CB-CG-OD2	-6.72	112.25	118.30
2	j	102	ARG	NE-CZ-NH2	6.72	123.66	120.30
1	D	185	PHE	CB-CG-CD1	-6.71	116.10	120.80
2	1	68	ARG	NE-CZ-NH2	-6.71	116.94	120.30
2	6	163	GLU	CB-CA-C	-6.71	96.98	110.40
2	m	17	LEU	N-CA-CB	6.71	123.82	110.40
3	H	326	ARG	NH1-CZ-NH2	-6.71	112.03	119.40
1	a	138	ILE	N-CA-C	-6.70	92.90	111.00
2	7	211	PHE	CB-CG-CD1	-6.70	116.11	120.80
2	4	80	ARG	NE-CZ-NH2	-6.70	116.95	120.30
2	6	36	PHE	CB-CG-CD2	-6.69	116.12	120.80
1	e	221	PHE	CB-CG-CD2	6.69	125.48	120.80
2	6	106	TYR	CB-CG-CD1	6.69	125.01	121.00
3	L	375	PHE	CB-CG-CD1	-6.69	116.12	120.80
3	H	112	THR	CA-CB-CG2	-6.67	103.06	112.40
2	7	187	ASP	CB-CG-OD1	-6.67	112.29	118.30
3	M	276	ASP	CB-CG-OD2	-6.67	112.29	118.30
2	1	80	ARG	CD-NE-CZ	-6.67	114.26	123.60
2	3	197	TYR	CB-CG-CD1	-6.66	117.00	121.00
1	B	25	GLU	OE1-CD-OE2	6.66	131.29	123.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	n	101	TYR	CZ-CE2-CD2	6.64	125.78	119.80
3	H	65	VAL	CA-CB-CG1	6.64	120.86	110.90
2	5	196	PHE	N-CA-C	-6.63	93.10	111.00
2	4	139	ALA	CB-CA-C	-6.62	100.17	110.10
1	c	31	VAL	CG1-CB-CG2	6.62	121.49	110.90
2	j	162	ASP	CB-CG-OD1	6.62	124.25	118.30
2	5	148	TYR	CG-CD1-CE1	-6.62	116.01	121.30
3	I	253	SER	O-C-N	6.62	133.28	122.70
3	J	80	LYS	N-CA-CB	6.61	122.51	110.60
1	f	68	TYR	CB-CG-CD1	6.61	124.97	121.00
1	F	33	ARG	NE-CZ-NH1	6.61	123.61	120.30
1	F	151	ASP	CB-CG-OD1	-6.61	112.35	118.30
3	J	207	VAL	CA-CB-CG1	-6.59	101.01	110.90
3	I	259	ARG	NE-CZ-NH1	6.59	123.60	120.30
2	1	165	VAL	CG1-CB-CG2	-6.58	100.37	110.90
2	l	161	VAL	CA-CB-CG1	-6.58	101.03	110.90
3	K	314	PHE	CB-CG-CD2	6.58	125.41	120.80
2	n	106	TYR	CB-CG-CD2	-6.58	117.05	121.00
1	e	175	PHE	CB-CG-CD2	-6.57	116.20	120.80
2	n	171	ALA	CB-CA-C	-6.57	100.24	110.10
1	f	202	SER	CB-CA-C	-6.56	97.64	110.10
2	h	212	ARG	NE-CZ-NH2	-6.56	117.02	120.30
3	L	276	ASP	CB-CG-OD2	-6.56	112.40	118.30
2	m	33	MET	CG-SD-CE	-6.55	89.71	100.20
2	m	47	GLN	N-CA-CB	6.55	122.40	110.60
2	1	91	ALA	N-CA-CB	6.55	119.27	110.10
3	K	128	TYR	CG-CD1-CE1	-6.55	116.06	121.30
3	K	205	ARG	NE-CZ-NH2	-6.55	117.03	120.30
1	D	37	ALA	CB-CA-C	-6.54	100.28	110.10
2	n	38	ALA	CB-CA-C	-6.54	100.29	110.10
2	j	203	GLU	CG-CD-OE1	6.54	131.38	118.30
2	l	77	TYR	CB-CG-CD1	-6.54	117.08	121.00
2	l	80	ARG	NE-CZ-NH2	6.54	123.57	120.30
2	7	106	TYR	CB-CG-CD1	-6.54	117.08	121.00
3	J	102	PRO	N-CA-CB	6.53	111.14	103.30
3	J	76	ARG	NE-CZ-NH2	-6.53	117.04	120.30
2	h	85	PRO	N-CA-C	6.52	129.06	112.10
2	6	103	TYR	CB-CG-CD2	-6.52	117.09	121.00
2	7	52	MET	CG-SD-CE	-6.52	89.77	100.20
3	M	46	ARG	NE-CZ-NH1	6.52	123.56	120.30
1	e	93	ARG	NE-CZ-NH2	-6.51	117.04	120.30
2	1	212	ARG	NE-CZ-NH2	-6.51	117.04	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	185	PHE	CB-CG-CD2	-6.51	116.24	120.80
2	j	30	ARG	NE-CZ-NH2	6.51	123.56	120.30
3	M	87	PHE	CB-CG-CD2	6.51	125.36	120.80
1	A	79	SER	N-CA-C	-6.51	93.43	111.00
1	C	148	TYR	CB-CG-CD2	-6.50	117.10	121.00
1	b	243	LEU	CB-CG-CD2	6.50	122.06	111.00
1	e	168	ARG	NE-CZ-NH2	-6.50	117.05	120.30
2	i	31	ALA	N-CA-CB	6.50	119.20	110.10
1	C	180	ARG	NE-CZ-NH1	-6.50	117.05	120.30
1	B	213	TYR	CG-CD1-CE1	-6.49	116.11	121.30
1	C	203	GLU	OE1-CD-OE2	-6.49	115.51	123.30
2	k	132	ILE	CG1-CB-CG2	-6.49	97.12	111.40
3	H	205	ARG	NE-CZ-NH2	6.49	123.55	120.30
1	B	91	ARG	NE-CZ-NH1	-6.49	117.06	120.30
2	m	46	TYR	CB-CG-CD2	-6.49	117.11	121.00
2	7	136	ASP	N-CA-CB	6.49	122.28	110.60
1	E	104	ASP	CB-CG-OD2	-6.48	112.47	118.30
3	K	140	TYR	CB-CG-CD2	-6.48	117.11	121.00
2	n	156	THR	CA-CB-CG2	-6.47	103.34	112.40
1	b	175	PHE	CB-CG-CD2	-6.47	116.27	120.80
2	7	102	ARG	NE-CZ-NH2	6.47	123.53	120.30
1	A	168	ARG	NE-CZ-NH1	6.47	123.53	120.30
1	C	179	TYR	CZ-CE2-CD2	-6.46	113.98	119.80
2	3	101	TYR	CB-CG-CD2	-6.46	117.12	121.00
1	c	103	TYR	CB-CG-CD2	-6.46	117.12	121.00
1	f	91	ARG	NE-CZ-NH1	6.46	123.53	120.30
1	E	87	VAL	CA-CB-CG1	6.46	120.58	110.90
2	k	30	ARG	NE-CZ-NH1	-6.46	117.07	120.30
2	3	140	THR	N-CA-CB	6.45	122.55	110.30
1	b	149	GLU	OE1-CD-OE2	6.44	131.03	123.30
2	h	112	ILE	N-CA-C	-6.44	93.61	111.00
2	l	77	TYR	CB-CG-CD2	6.44	124.86	121.00
3	I	121	THR	C-N-CA	6.44	137.79	121.70
1	B	62	ASP	CB-CG-OD2	-6.43	112.51	118.30
1	e	175	PHE	CB-CG-CD1	6.43	125.30	120.80
2	3	123	TYR	CB-CG-CD1	6.43	124.86	121.00
1	c	235	ARG	NE-CZ-NH2	6.43	123.52	120.30
2	h	103	TYR	CB-CG-CD2	-6.43	117.14	121.00
2	l	46	TYR	CB-CG-CD2	6.43	124.86	121.00
2	n	50	ASP	CB-CG-OD1	-6.42	112.52	118.30
1	D	35	ALA	N-CA-CB	6.42	119.09	110.10
2	i	139	ALA	N-CA-CB	6.42	119.09	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	L	44	TYR	CB-CG-CD1	-6.42	117.15	121.00
3	L	350	ASP	CB-CG-OD1	6.42	124.07	118.30
1	A	126	TYR	CG-CD1-CE1	6.41	126.43	121.30
2	k	27	THR	CA-CB-CG2	-6.41	103.42	112.40
2	l	42	ALA	CB-CA-C	-6.41	100.48	110.10
3	H	321	PHE	CB-CG-CD2	6.41	125.28	120.80
3	J	57	ARG	CD-NE-CZ	-6.41	114.63	123.60
2	j	164	ALA	N-CA-CB	6.40	119.06	110.10
2	2	33	MET	CG-SD-CE	-6.40	89.96	100.20
1	d	102	THR	O-C-N	-6.40	112.46	122.70
1	E	37	ALA	CB-CA-C	-6.40	100.50	110.10
2	4	199	TYR	CD1-CE1-CZ	-6.40	114.04	119.80
1	F	77	ALA	N-CA-CB	6.39	119.05	110.10
1	g	241	ARG	NE-CZ-NH2	6.39	123.50	120.30
3	J	283	VAL	O-C-N	-6.39	112.47	122.70
1	b	132	PHE	CB-CG-CD2	-6.39	116.33	120.80
1	d	213	TYR	CA-CB-CG	6.39	125.55	113.40
2	n	154	ARG	NE-CZ-NH2	-6.39	117.10	120.30
1	F	168	ARG	NE-CZ-NH2	-6.39	117.11	120.30
1	G	15	PHE	CB-CG-CD2	-6.39	116.33	120.80
2	k	139	ALA	C-N-CA	6.38	137.66	121.70
3	H	222	LEU	CB-CG-CD2	6.38	121.85	111.00
1	D	148	TYR	CB-CG-CD2	-6.38	117.17	121.00
3	I	94	TYR	CB-CG-CD2	-6.38	117.17	121.00
1	g	85	ALA	N-CA-CB	6.38	119.03	110.10
2	k	81	ARG	NE-CZ-NH1	-6.38	117.11	120.30
3	J	321	PHE	CB-CG-CD2	-6.38	116.34	120.80
1	D	50	ALA	N-CA-CB	6.38	119.03	110.10
2	h	140	THR	CA-CB-OG1	6.38	122.39	109.00
3	M	68	VAL	CA-CB-CG2	-6.37	101.34	110.90
1	g	68	TYR	CB-CG-CD1	6.37	124.82	121.00
3	K	383	LEU	CB-CG-CD1	6.37	121.83	111.00
2	5	211	PHE	CB-CG-CD1	6.37	125.26	120.80
1	b	221	PHE	CB-CG-CD2	-6.36	116.34	120.80
1	C	179	TYR	CB-CG-CD2	-6.36	117.18	121.00
2	i	123	TYR	CB-CG-CD2	6.36	124.82	121.00
3	H	167	PHE	CB-CG-CD1	6.36	125.25	120.80
1	B	10	ARG	NE-CZ-NH1	6.36	123.48	120.30
1	G	148	TYR	CB-CG-CD2	-6.36	117.19	121.00
3	L	78	VAL	CA-CB-CG2	-6.35	101.38	110.90
3	M	227	PHE	CB-CG-CD1	-6.35	116.36	120.80
1	B	188	ALA	N-CA-CB	6.35	118.99	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	J	239	PHE	CB-CG-CD1	-6.35	116.36	120.80
2	i	101	TYR	CG-CD1-CE1	-6.35	116.22	121.30
1	F	26	TYR	CB-CG-CD2	6.34	124.81	121.00
3	I	303	PHE	CB-CG-CD2	-6.34	116.36	120.80
2	6	173	TYR	CZ-CE2-CD2	6.34	125.50	119.80
2	7	196	PHE	CB-CG-CD1	-6.34	116.36	120.80
1	g	174	PHE	CB-CG-CD2	6.34	125.24	120.80
2	5	197	TYR	CB-CG-CD2	6.34	124.80	121.00
2	k	24	VAL	CA-CB-CG2	-6.34	101.39	110.90
1	a	189	MET	CG-SD-CE	-6.33	90.06	100.20
1	c	213	TYR	CB-CG-CD2	-6.33	117.20	121.00
2	5	120	LYS	CB-CA-C	-6.33	97.73	110.40
2	2	136	ASP	CB-CG-OD1	-6.33	112.60	118.30
3	M	244	ASP	CB-CG-OD2	-6.33	112.60	118.30
2	m	126	ASP	CB-CG-OD1	-6.33	112.61	118.30
2	i	89	ALA	CB-CA-C	-6.33	100.61	110.10
2	m	123	TYR	CB-CG-CD1	-6.32	117.21	121.00
1	g	195	ALA	N-CA-CB	6.31	118.94	110.10
1	B	186	ASP	CB-CG-OD1	-6.31	112.62	118.30
3	L	263	ARG	NE-CZ-NH2	-6.31	117.15	120.30
1	e	84	ASP	CB-CG-OD1	-6.31	112.62	118.30
1	C	20	ARG	NE-CZ-NH2	-6.30	117.15	120.30
1	A	198	LEU	CB-CG-CD2	-6.30	100.29	111.00
2	6	196	PHE	CB-CG-CD1	-6.30	116.39	120.80
3	H	76	ARG	NE-CZ-NH2	-6.30	117.15	120.30
1	a	219	ARG	NE-CZ-NH2	-6.30	117.15	120.30
2	3	168	ALA	N-CA-CB	6.30	118.92	110.10
3	M	265	MET	CG-SD-CE	-6.29	90.13	100.20
1	C	148	TYR	CB-CG-CD1	6.29	124.78	121.00
1	G	226	PRO	N-CD-CG	6.29	112.64	103.20
2	1	196	PHE	CB-CG-CD2	-6.29	116.39	120.80
1	E	103	TYR	CG-CD1-CE1	6.28	126.33	121.30
1	f	53	ARG	CD-NE-CZ	6.28	132.40	123.60
2	j	60	VAL	CA-CB-CG1	6.28	120.32	110.90
2	1	173	TYR	CG-CD2-CE2	-6.28	116.28	121.30
3	J	50	ARG	NE-CZ-NH2	-6.27	117.17	120.30
1	c	187	ASP	CB-CG-OD2	6.25	123.92	118.30
2	k	188	VAL	CA-CB-CG1	6.25	120.27	110.90
1	f	174	PHE	CB-CG-CD2	6.24	125.17	120.80
3	I	140	TYR	CG-CD1-CE1	6.24	126.29	121.30
2	n	88	ARG	NE-CZ-NH2	-6.24	117.18	120.30
1	f	13	THR	CA-CB-CG2	-6.23	103.68	112.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	K	108	LEU	CB-CA-C	-6.23	98.37	110.20
2	5	148	TYR	CB-CG-CD2	-6.22	117.27	121.00
3	K	276	ASP	N-CA-CB	6.22	121.80	110.60
3	K	44	TYR	CB-CG-CD1	-6.22	117.27	121.00
2	3	154	ARG	O-C-N	-6.22	112.75	122.70
2	2	65	PHE	CB-CG-CD2	6.22	125.15	120.80
3	H	157	VAL	CA-CB-CG2	6.22	120.23	110.90
3	K	28	ARG	NE-CZ-NH1	6.22	123.41	120.30
3	J	336	PHE	CB-CG-CD1	-6.22	116.45	120.80
2	3	59	SER	N-CA-CB	6.22	119.83	110.50
2	j	123	TYR	CB-CG-CD1	-6.22	117.27	121.00
2	h	46	TYR	CA-CB-CG	-6.21	101.59	113.40
3	H	62	PRO	C-N-CA	6.21	137.23	121.70
2	j	170	ARG	NE-CZ-NH2	6.21	123.41	120.30
2	6	129	GLY	N-CA-C	-6.21	97.57	113.10
1	e	220	THR	CA-CB-CG2	-6.21	103.71	112.40
1	D	26	TYR	CD1-CE1-CZ	6.20	125.38	119.80
1	c	181	ASP	CB-CG-OD2	6.20	123.88	118.30
2	h	140	THR	N-CA-CB	6.20	122.08	110.30
2	k	65	PHE	CB-CG-CD1	-6.20	116.46	120.80
1	D	119	PHE	CB-CG-CD1	-6.20	116.46	120.80
1	g	71	ASP	CB-CG-OD1	-6.19	112.73	118.30
3	K	23	LEU	CB-CG-CD2	6.18	121.51	111.00
3	I	248	ALA	N-CA-CB	6.18	118.75	110.10
2	3	197	TYR	CB-CG-CD2	6.17	124.70	121.00
1	a	86	ARG	NE-CZ-NH2	6.17	123.39	120.30
1	B	20	ARG	NE-CZ-NH1	-6.17	117.22	120.30
2	3	60	VAL	CA-CB-CG2	6.17	120.15	110.90
2	h	51	ARG	NE-CZ-NH2	6.17	123.38	120.30
1	E	22	PHE	CB-CG-CD2	6.16	125.11	120.80
2	7	123	TYR	CB-CG-CD2	-6.16	117.31	121.00
1	c	68	TYR	CD1-CE1-CZ	6.16	125.34	119.80
2	2	204	VAL	CA-CB-CG2	-6.16	101.67	110.90
1	D	217	ASP	N-CA-CB	6.15	121.66	110.60
2	3	148	TYR	CB-CG-CD2	-6.15	117.31	121.00
3	I	20	TYR	CG-CD2-CE2	6.15	126.22	121.30
3	I	341	ARG	NE-CZ-NH1	-6.15	117.23	120.30
1	g	154	GLY	O-C-N	-6.14	112.87	122.70
2	1	211	PHE	CB-CG-CD1	-6.14	116.50	120.80
1	b	221	PHE	CB-CG-CD1	6.14	125.10	120.80
1	f	179	TYR	N-CA-C	-6.14	94.43	111.00
2	2	126	ASP	CB-CG-OD2	6.14	123.82	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	6	138	VAL	CA-CB-CG1	6.14	120.10	110.90
1	A	179	TYR	CB-CG-CD2	6.13	124.68	121.00
1	g	103	TYR	CB-CG-CD1	6.13	124.68	121.00
1	a	118	ASP	CB-CG-OD1	6.13	123.82	118.30
1	D	10	ARG	NE-CZ-NH2	-6.13	117.23	120.30
1	C	6	MET	CG-SD-CE	-6.13	90.39	100.20
2	3	46	TYR	CB-CG-CD2	6.13	124.67	121.00
2	l	21	ASP	CB-CG-OD2	6.12	123.81	118.30
2	n	171	ALA	N-CA-CB	6.12	118.67	110.10
3	M	68	VAL	CG1-CB-CG2	-6.12	101.11	110.90
2	j	148	TYR	CB-CG-CD1	-6.12	117.33	121.00
1	g	122	GLN	N-CA-CB	6.11	121.60	110.60
1	g	159	TYR	CB-CG-CD1	6.11	124.67	121.00
3	L	28	ARG	N-CA-CB	6.11	121.59	110.60
3	L	87	PHE	CB-CG-CD2	6.11	125.08	120.80
1	G	105	GLU	OE1-CD-OE2	-6.11	115.97	123.30
1	G	134	VAL	CG1-CB-CG2	-6.11	101.13	110.90
1	a	60	GLU	OE1-CD-OE2	6.11	130.63	123.30
2	j	212	ARG	NE-CZ-NH1	-6.10	117.25	120.30
3	L	28	ARG	CA-CB-CG	6.10	126.83	113.40
1	c	221	PHE	CB-CG-CD1	-6.10	116.53	120.80
2	j	88	ARG	NE-CZ-NH1	-6.10	117.25	120.30
1	B	146	LYS	CB-CA-C	-6.10	98.20	110.40
2	h	123	TYR	CB-CG-CD1	-6.10	117.34	121.00
2	j	30	ARG	N-CA-CB	6.09	121.56	110.60
2	l	46	TYR	CB-CG-CD1	-6.09	117.35	121.00
1	f	33	ARG	NE-CZ-NH1	-6.08	117.26	120.30
1	D	175	PHE	CB-CG-CD1	6.08	125.06	120.80
1	e	161	ALA	CB-CA-C	-6.08	100.97	110.10
1	f	86	ARG	NH1-CZ-NH2	-6.08	112.71	119.40
1	E	26	TYR	CB-CG-CD1	-6.08	117.35	121.00
2	l	184	ASP	CB-CG-OD2	-6.08	112.83	118.30
1	b	235	ARG	NE-CZ-NH1	-6.08	117.26	120.30
1	D	64	ILE	C-N-CA	6.08	136.89	121.70
2	i	101	TYR	CB-CG-CD1	6.07	124.64	121.00
3	H	250	ARG	N-CA-CB	6.07	121.53	110.60
3	M	181	TYR	CG-CD2-CE2	-6.07	116.44	121.30
2	2	81	ARG	NH1-CZ-NH2	6.07	126.07	119.40
2	k	66	LEU	CB-CG-CD1	6.07	121.31	111.00
1	a	108	THR	CA-CB-CG2	-6.06	103.91	112.40
3	M	130	PHE	CB-CG-CD2	-6.06	116.56	120.80
1	A	126	TYR	CB-CG-CD1	6.06	124.64	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	119	PHE	CB-CG-CD2	-6.06	116.56	120.80
1	C	9	ASP	CB-CG-OD1	-6.06	112.84	118.30
3	I	387	THR	N-CA-C	-6.06	94.64	111.00
1	b	159	TYR	CB-CG-CD2	6.06	124.64	121.00
2	2	53	ALA	N-CA-CB	6.06	118.58	110.10
2	5	46	TYR	CB-CG-CD2	-6.06	117.36	121.00
2	j	106	TYR	CG-CD1-CE1	-6.06	116.45	121.30
3	M	281	VAL	CG1-CB-CG2	-6.06	101.21	110.90
2	n	30	ARG	N-CA-CB	6.05	121.50	110.60
3	L	314	PHE	CB-CG-CD2	-6.05	116.56	120.80
1	D	26	TYR	CB-CG-CD1	-6.05	117.37	121.00
2	m	189	VAL	CA-CB-CG1	6.05	119.98	110.90
1	b	213	TYR	CB-CG-CD2	-6.05	117.37	121.00
2	k	191	ILE	N-CA-C	-6.05	94.67	111.00
1	c	123	TYR	CG-CD2-CE2	-6.05	116.46	121.30
2	6	199	TYR	CG-CD1-CE1	6.05	126.14	121.30
3	L	247	ALA	N-CA-CB	6.05	118.57	110.10
1	C	200	ILE	CA-CB-CG2	-6.04	98.81	110.90
3	J	70	ASP	CB-CG-OD1	6.04	123.74	118.30
2	1	155	PHE	CB-CG-CD2	6.04	125.03	120.80
3	M	27	TYR	CD1-CE1-CZ	-6.04	114.37	119.80
3	M	221	ARG	NE-CZ-NH2	-6.04	117.28	120.30
2	j	80	ARG	NE-CZ-NH1	-6.04	117.28	120.30
1	F	90	ASP	CB-CG-OD1	-6.03	112.87	118.30
3	L	305	ARG	NE-CZ-NH2	-6.03	117.28	120.30
2	k	135	LYS	N-CA-CB	6.03	121.45	110.60
1	A	239	ARG	NE-CZ-NH1	6.03	123.31	120.30
2	3	111	LEU	CB-CA-C	-6.03	98.75	110.20
1	F	91	ARG	NE-CZ-NH2	6.02	123.31	120.30
3	I	154	ARG	NE-CZ-NH2	-6.02	117.29	120.30
1	C	107	ILE	O-C-N	-6.01	113.08	122.70
2	6	46	TYR	CB-CG-CD2	6.01	124.61	121.00
3	H	305	ARG	NE-CZ-NH2	-6.01	117.29	120.30
2	l	51	ARG	NE-CZ-NH1	-6.01	117.30	120.30
3	I	387	THR	N-CA-CB	6.01	121.72	110.30
2	1	77	TYR	CG-CD2-CE2	6.00	126.10	121.30
1	D	57	LYS	CB-CA-C	-6.00	98.40	110.40
2	6	49	ALA	N-CA-CB	6.00	118.50	110.10
2	7	148	TYR	CD1-CG-CD2	6.00	124.50	117.90
2	5	199	TYR	CG-CD2-CE2	-5.99	116.50	121.30
1	g	135	SER	CB-CA-C	-5.99	98.72	110.10
1	B	100	ARG	NH1-CZ-NH2	-5.99	112.82	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	157	LEU	CB-CG-CD2	5.99	121.18	111.00
3	K	82	SER	O-C-N	5.98	132.27	122.70
3	L	386	THR	CA-CB-CG2	-5.98	104.03	112.40
2	4	196	PHE	CB-CG-CD1	-5.98	116.62	120.80
2	k	63	ALA	CB-CA-C	-5.98	101.13	110.10
2	4	139	ALA	N-CA-CB	5.97	118.46	110.10
3	K	391	ASP	CB-CG-OD2	-5.97	112.92	118.30
3	J	57	ARG	NE-CZ-NH2	5.97	123.29	120.30
1	a	194	VAL	CA-CB-CG1	5.97	119.86	110.90
1	a	82	VAL	CA-CB-CG2	-5.97	101.95	110.90
1	a	103	TYR	CG-CD1-CE1	-5.97	116.53	121.30
1	B	188	ALA	CB-CA-C	-5.97	101.15	110.10
1	c	123	TYR	CB-CG-CD1	-5.97	117.42	121.00
1	c	230	LYS	CA-C-O	-5.96	107.58	120.10
2	l	194	ASP	N-CA-CB	-5.96	99.87	110.60
1	D	202	SER	N-CA-CB	5.96	119.44	110.50
1	D	232	TYR	CB-CG-CD1	-5.96	117.42	121.00
3	L	49	ARG	NE-CZ-NH2	-5.96	117.32	120.30
1	F	15	PHE	CB-CG-CD1	-5.95	116.63	120.80
1	e	174	PHE	CB-CG-CD1	5.95	124.96	120.80
3	J	229	LEU	CB-CG-CD1	5.95	121.11	111.00
3	J	281	VAL	C-N-CA	5.94	136.56	121.70
1	D	182	ASP	CB-CG-OD1	-5.94	112.95	118.30
3	I	123	LYS	C-N-CA	5.94	136.55	121.70
1	a	82	VAL	CA-CB-CG1	5.93	119.80	110.90
1	b	148	TYR	CG-CD2-CE2	5.93	126.04	121.30
1	E	123	TYR	CB-CG-CD1	5.93	124.56	121.00
3	J	215	TYR	CA-CB-CG	-5.93	102.14	113.40
1	G	14	VAL	CA-CB-CG2	5.92	119.78	110.90
3	L	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	h	118	GLU	N-CA-CB	5.92	121.25	110.60
3	K	76	ARG	CD-NE-CZ	-5.92	115.31	123.60
1	e	59	LEU	CB-CG-CD1	5.92	121.06	111.00
2	l	142	SER	N-CA-CB	5.91	119.36	110.50
2	j	51	ARG	NH1-CZ-NH2	5.90	125.89	119.40
2	2	63	ALA	N-CA-CB	5.90	118.36	110.10
2	5	173	TYR	CB-CG-CD2	-5.90	117.46	121.00
2	h	161	VAL	CA-CB-CG1	-5.90	102.05	110.90
3	I	87	PHE	CB-CG-CD2	5.90	124.93	120.80
2	3	212	ARG	NE-CZ-NH2	-5.90	117.35	120.30
3	L	291	ASP	CB-CG-OD1	-5.90	112.99	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	G	168	ARG	NE-CZ-NH1	5.89	123.25	120.30
3	M	282	LYS	N-CA-CB	5.89	121.21	110.60
3	M	87	PHE	N-CA-CB	5.89	121.20	110.60
1	c	142	ASP	CB-CG-OD1	-5.89	113.00	118.30
2	3	62	ASP	CB-CG-OD2	5.89	123.60	118.30
2	l	197	TYR	CD1-CE1-CZ	-5.89	114.50	119.80
1	a	155	ALA	N-CA-CB	5.88	118.34	110.10
2	7	121	SER	N-CA-CB	5.88	119.33	110.50
1	b	33	ARG	CD-NE-CZ	-5.88	115.37	123.60
1	E	175	PHE	CB-CG-CD2	-5.88	116.68	120.80
2	l	197	TYR	CZ-CE2-CD2	-5.88	114.51	119.80
1	E	103	TYR	CD1-CG-CD2	-5.88	111.43	117.90
2	m	153	ASP	CB-CG-OD1	-5.88	113.01	118.30
3	L	78	VAL	CG1-CB-CG2	5.88	120.31	110.90
1	A	35	ALA	N-CA-CB	5.88	118.33	110.10
3	H	367	ARG	NE-CZ-NH2	5.88	123.24	120.30
3	I	180	LEU	CB-CG-CD2	-5.88	101.01	111.00
3	L	397	PHE	CB-CG-CD2	5.87	124.91	120.80
1	D	159	TYR	CB-CG-CD1	5.87	124.52	121.00
1	f	178	GLU	N-CA-CB	5.87	121.16	110.60
2	i	153	ASP	CB-CG-OD2	5.87	123.58	118.30
3	K	280	ASP	N-CA-CB	5.86	121.15	110.60
1	C	88	LEU	CB-CG-CD2	-5.86	101.04	111.00
3	I	122	SER	N-CA-CB	5.85	119.28	110.50
1	c	42	CYS	O-C-N	-5.85	113.34	122.70
2	2	196	PHE	CB-CG-CD1	5.85	124.89	120.80
2	4	81	ARG	NE-CZ-NH2	5.85	123.22	120.30
1	e	103	TYR	CG-CD1-CE1	-5.85	116.62	121.30
2	i	83	ARG	NE-CZ-NH2	5.85	123.22	120.30
2	6	83	ARG	NE-CZ-NH1	-5.85	117.38	120.30
1	a	123	TYR	CG-CD2-CE2	5.84	125.97	121.30
1	A	123	TYR	CB-CG-CD1	5.84	124.50	121.00
3	L	63	LEU	CB-CG-CD2	5.84	120.93	111.00
2	4	116	ASP	CB-CG-OD1	-5.84	113.05	118.30
2	6	148	TYR	CA-CB-CG	5.83	124.48	113.40
1	a	101	LEU	CB-CG-CD2	-5.83	101.09	111.00
1	b	100	ARG	NE-CZ-NH1	-5.83	117.39	120.30
2	j	165	VAL	CA-CB-CG2	5.83	119.64	110.90
1	F	37	ALA	N-CA-C	-5.83	95.27	111.00
1	G	68	TYR	CB-CG-CD2	5.83	124.50	121.00
3	I	104	ALA	N-CA-CB	5.82	118.25	110.10
2	l	184	ASP	CB-CG-OD1	-5.82	113.06	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	223	VAL	CA-CB-CG2	-5.82	102.17	110.90
2	k	213	LYS	N-CA-CB	5.82	121.08	110.60
2	n	86	THR	CA-CB-CG2	-5.82	104.25	112.40
3	M	244	ASP	CB-CG-OD1	5.82	123.54	118.30
2	1	102	ARG	NE-CZ-NH2	5.82	123.21	120.30
2	7	196	PHE	CB-CG-CD2	5.82	124.87	120.80
3	L	65	VAL	CA-CB-CG2	5.81	119.62	110.90
3	H	374	ASP	CB-CG-OD2	5.81	123.53	118.30
1	g	84	ASP	CB-CG-OD2	5.81	123.53	118.30
3	M	28	ARG	NE-CZ-NH1	5.81	123.20	120.30
3	J	328	MET	CG-SD-CE	-5.81	90.91	100.20
2	i	193	GLU	CA-CB-CG	5.80	126.17	113.40
1	c	235	ARG	NE-CZ-NH1	-5.80	117.40	120.30
3	K	218	GLU	N-CA-CB	5.80	121.04	110.60
1	C	98	ILE	CA-CB-CG1	-5.80	99.98	111.00
1	E	186	ASP	CB-CG-OD2	-5.80	113.08	118.30
2	3	116	ASP	CB-CG-OD1	5.79	123.52	118.30
1	b	214	VAL	N-CA-C	-5.79	95.36	111.00
2	j	211	PHE	CB-CG-CD1	-5.79	116.75	120.80
2	5	147	ALA	CB-CA-C	-5.79	101.41	110.10
1	e	161	ALA	N-CA-CB	5.79	118.21	110.10
1	c	241	ARG	NE-CZ-NH2	5.79	123.19	120.30
1	e	126	TYR	CB-CG-CD2	5.79	124.47	121.00
1	B	214	VAL	N-CA-C	-5.79	95.38	111.00
3	I	305	ARG	NE-CZ-NH1	5.79	123.19	120.30
3	M	21	TYR	CB-CG-CD1	-5.79	117.53	121.00
2	6	31	ALA	N-CA-CB	5.79	118.20	110.10
1	C	159	TYR	CB-CG-CD1	-5.78	117.53	121.00
1	D	147	LEU	CB-CG-CD2	5.78	120.83	111.00
2	5	96	ASN	N-CA-CB	5.78	121.00	110.60
2	6	40	LYS	N-CA-CB	5.78	121.00	110.60
3	I	105	ARG	O-C-N	-5.78	113.45	122.70
1	c	219	ARG	NE-CZ-NH1	5.78	123.19	120.30
2	m	200	SER	N-CA-CB	5.78	119.16	110.50
2	6	199	TYR	CD1-CE1-CZ	-5.77	114.60	119.80
1	A	230	LYS	N-CA-CB	5.77	120.98	110.60
2	2	46	TYR	CB-CG-CD1	-5.77	117.54	121.00
2	4	148	TYR	CB-CG-CD1	-5.76	117.54	121.00
1	e	239	ARG	NH1-CZ-NH2	-5.76	113.06	119.40
1	f	119	PHE	CB-CG-CD1	-5.76	116.77	120.80
1	E	161	ALA	N-CA-C	-5.76	95.44	111.00
3	K	200	ARG	NE-CZ-NH2	-5.76	117.42	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	G	233	VAL	CA-CB-CG2	-5.76	102.26	110.90
2	l	170	ARG	CD-NE-CZ	5.76	131.66	123.60
2	7	106	TYR	CG-CD1-CE1	-5.76	116.69	121.30
2	k	191	ILE	CA-CB-CG1	-5.76	100.06	111.00
1	G	126	TYR	CB-CG-CD2	-5.75	117.55	121.00
3	K	242	GLU	N-CA-C	-5.75	95.46	111.00
3	K	304	ASP	CB-CG-OD1	-5.75	113.12	118.30
1	D	174	PHE	CB-CG-CD1	-5.75	116.78	120.80
3	K	24	ARG	NE-CZ-NH1	-5.75	117.42	120.30
3	H	212	VAL	N-CA-CB	5.75	124.14	111.50
1	f	141	VAL	CG1-CB-CG2	-5.75	101.71	110.90
1	g	29	GLU	O-C-N	5.74	131.89	122.70
1	C	196	MET	C-N-CA	5.74	134.35	122.30
2	1	106	TYR	CG-CD2-CE2	-5.74	116.71	121.30
2	j	199	TYR	CG-CD1-CE1	-5.74	116.71	121.30
3	K	54	GLU	OE1-CD-OE2	-5.74	116.42	123.30
1	A	77	ALA	N-CA-CB	5.73	118.13	110.10
3	I	221	ARG	NH1-CZ-NH2	-5.73	113.10	119.40
2	1	147	ALA	N-CA-CB	5.73	118.12	110.10
1	C	119	PHE	CB-CG-CD1	-5.72	116.80	120.80
2	6	107	LEU	CB-CG-CD1	5.72	120.73	111.00
3	I	235	PRO	N-CD-CG	5.72	111.78	103.20
2	i	81	ARG	NE-CZ-NH1	-5.72	117.44	120.30
3	M	76	ARG	NE-CZ-NH1	-5.72	117.44	120.30
2	6	201	PRO	N-CA-CB	5.72	110.16	103.30
1	b	130	ARG	NE-CZ-NH1	5.72	123.16	120.30
1	E	40	ILE	N-CA-C	-5.72	95.57	111.00
2	h	169	VAL	CA-CB-CG2	-5.72	102.33	110.90
2	i	162	ASP	CB-CG-OD2	-5.72	113.16	118.30
1	F	105	GLU	N-CA-C	-5.71	95.57	111.00
2	3	99	ASN	CA-CB-CG	-5.71	100.84	113.40
3	J	308	GLU	OE1-CD-OE2	5.71	130.15	123.30
3	H	241	ASP	CB-CG-OD2	-5.71	113.16	118.30
3	K	27	TYR	CB-CG-CD2	5.71	124.43	121.00
3	H	36	PHE	CB-CG-CD2	-5.71	116.81	120.80
1	B	100	ARG	NE-CZ-NH1	5.71	123.15	120.30
3	L	201	ALA	C-N-CA	5.71	135.97	121.70
1	b	180	ARG	NE-CZ-NH1	5.71	123.15	120.30
1	E	161	ALA	N-CA-CB	5.71	118.09	110.10
2	1	55	THR	CA-CB-OG1	5.70	120.98	109.00
2	6	95	SER	N-CA-CB	5.70	119.05	110.50
1	C	63	THR	CA-CB-CG2	5.70	120.38	112.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	c	159	TYR	CG-CD1-CE1	5.70	125.86	121.30
2	m	194	ASP	CB-CG-OD1	5.70	123.43	118.30
1	C	235	ARG	NE-CZ-NH1	-5.70	117.45	120.30
1	D	73	HIS	CA-CB-CG	5.70	123.29	113.60
2	k	103	TYR	CB-CG-CD1	-5.70	117.58	121.00
2	6	139	ALA	C-N-CA	5.70	135.94	121.70
2	4	74	ALA	CB-CA-C	-5.69	101.56	110.10
2	j	195	GLU	CB-CG-CD	-5.69	98.83	114.20
2	l	83	ARG	N-CA-CB	5.69	120.85	110.60
2	7	81	ARG	NE-CZ-NH2	5.69	123.15	120.30
2	m	116	ASP	CB-CG-OD1	5.69	123.42	118.30
3	J	251	THR	CA-CB-CG2	-5.69	104.43	112.40
3	L	276	ASP	CB-CG-OD1	5.69	123.42	118.30
1	D	26	TYR	CB-CG-CD2	5.69	124.41	121.00
1	D	207	GLU	CB-CA-C	-5.69	99.03	110.40
1	A	185	PHE	CB-CG-CD1	-5.68	116.82	120.80
1	e	212	GLY	N-CA-C	-5.68	98.89	113.10
1	D	134	VAL	CA-CB-CG1	5.68	119.42	110.90
1	E	183	LEU	CB-CG-CD1	-5.68	101.34	111.00
1	g	46	VAL	CA-CB-CG1	5.68	119.42	110.90
3	H	364	ARG	NE-CZ-NH1	5.68	123.14	120.30
2	7	189	VAL	CG1-CB-CG2	-5.68	101.82	110.90
3	H	250	ARG	NE-CZ-NH1	-5.68	117.46	120.30
2	4	188	VAL	CA-CB-CG2	5.67	119.41	110.90
3	H	76	ARG	NE-CZ-NH1	5.67	123.14	120.30
1	D	211	VAL	CA-CB-CG1	5.67	119.40	110.90
1	C	8	TYR	CG-CD2-CE2	-5.67	116.77	121.30
2	6	68	ARG	NH1-CZ-NH2	-5.67	113.17	119.40
3	K	211	PHE	CB-CG-CD2	-5.66	116.84	120.80
3	M	199	THR	CA-CB-CG2	-5.66	104.48	112.40
1	D	185	PHE	CB-CG-CD2	5.66	124.76	120.80
1	G	168	ARG	CD-NE-CZ	5.66	131.52	123.60
2	2	139	ALA	N-CA-CB	5.66	118.02	110.10
2	6	153	ASP	CB-CG-OD1	-5.66	113.21	118.30
2	n	54	MET	CG-SD-CE	-5.66	91.15	100.20
1	E	175	PHE	CB-CG-CD1	5.65	124.76	120.80
2	1	39	SER	N-CA-CB	5.65	118.98	110.50
3	J	175	PRO	C-N-CA	5.65	135.83	121.70
1	C	226	PRO	O-C-N	5.65	131.74	122.70
2	l	88	ARG	NE-CZ-NH2	5.65	123.12	120.30
3	I	192	ALA	N-CA-CB	5.65	118.01	110.10
1	e	221	PHE	CB-CG-CD1	-5.65	116.85	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	k	133	GLU	OE1-CD-OE2	-5.65	116.52	123.30
3	I	41	ARG	NE-CZ-NH2	5.65	123.12	120.30
1	A	174	PHE	CB-CG-CD2	-5.64	116.85	120.80
2	h	170	ARG	NH1-CZ-NH2	5.64	125.61	119.40
2	6	101	TYR	CB-CG-CD2	-5.64	117.61	121.00
3	I	74	ASP	CB-CG-OD1	-5.64	113.22	118.30
1	c	142	ASP	CB-CG-OD2	5.64	123.37	118.30
1	c	148	TYR	CB-CG-CD1	-5.64	117.62	121.00
2	6	77	TYR	CG-CD1-CE1	-5.63	116.79	121.30
1	B	180	ARG	NE-CZ-NH1	-5.63	117.48	120.30
1	a	20	ARG	NE-CZ-NH2	-5.63	117.49	120.30
3	K	21	TYR	CB-CG-CD2	-5.63	117.62	121.00
1	E	84	ASP	CB-CG-OD2	5.62	123.36	118.30
1	E	218	ASP	CB-CG-OD1	-5.62	113.24	118.30
3	L	87	PHE	CB-CG-CD1	-5.62	116.86	120.80
1	C	100	ARG	CD-NE-CZ	-5.62	115.73	123.60
1	e	91	ARG	NH1-CZ-NH2	-5.62	113.21	119.40
1	b	103	TYR	CB-CA-C	-5.62	99.16	110.40
2	5	55	THR	O-C-N	5.62	131.69	122.70
3	K	140	TYR	CB-CG-CD1	5.62	124.37	121.00
1	c	26	TYR	CG-CD1-CE1	-5.62	116.81	121.30
1	d	187	ASP	CB-CG-OD2	-5.62	113.24	118.30
2	h	165	VAL	N-CA-CB	5.62	123.85	111.50
3	K	286	ALA	CB-CA-C	-5.62	101.68	110.10
1	c	68	TYR	CG-CD1-CE1	-5.61	116.81	121.30
1	c	130	ARG	NE-CZ-NH2	-5.61	117.49	120.30
1	g	227	GLU	OE1-CD-OE2	5.61	130.04	123.30
2	1	66	LEU	CB-CG-CD2	-5.61	101.46	111.00
1	G	91	ARG	NE-CZ-NH2	5.61	123.11	120.30
1	c	177	LYS	N-CA-CB	5.61	120.69	110.60
2	3	63	ALA	CB-CA-C	-5.61	101.69	110.10
3	H	200	ARG	NE-CZ-NH1	5.60	123.10	120.30
2	4	196	PHE	CB-CG-CD2	5.60	124.72	120.80
3	K	128	TYR	N-CA-CB	5.60	120.68	110.60
3	L	303	PHE	CB-CG-CD2	-5.60	116.88	120.80
3	J	170	VAL	CA-CB-CG2	-5.60	102.50	110.90
1	D	91	ARG	NE-CZ-NH2	-5.60	117.50	120.30
1	G	62	ASP	CA-CB-CG	-5.60	101.08	113.40
3	I	206	VAL	CG1-CB-CG2	5.59	119.85	110.90
3	K	128	TYR	CB-CG-CD2	-5.59	117.64	121.00
3	M	205	ARG	NE-CZ-NH1	5.59	123.10	120.30
3	J	261	VAL	C-N-CA	5.59	135.69	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	c	20	ARG	NE-CZ-NH2	-5.59	117.50	120.30
3	J	94	TYR	CB-CG-CD2	-5.59	117.64	121.00
1	c	135	SER	N-CA-CB	5.59	118.88	110.50
1	A	160	LYS	CB-CA-C	-5.58	99.23	110.40
1	C	68	TYR	N-CA-C	-5.58	95.92	111.00
1	c	239	ARG	CD-NE-CZ	-5.58	115.78	123.60
3	H	331	ALA	C-N-CA	5.58	135.66	121.70
1	D	245	LYS	O-C-N	5.58	131.63	122.70
1	b	119	PHE	CD1-CE1-CZ	-5.58	113.40	120.10
2	j	76	LEU	CB-CG-CD1	5.58	120.49	111.00
1	A	217	ASP	CB-CG-OD1	5.58	123.32	118.30
1	D	119	PHE	CB-CG-CD2	5.58	124.70	120.80
2	6	173	TYR	CD1-CE1-CZ	-5.58	114.78	119.80
1	B	143	GLU	O-C-N	5.57	131.62	122.70
1	g	181	ASP	CA-CB-CG	-5.57	101.14	113.40
2	l	194	ASP	CB-CG-OD1	5.57	123.31	118.30
1	D	171	VAL	CA-CB-CG1	5.57	119.26	110.90
1	e	18	ASP	CB-CG-OD1	-5.57	113.29	118.30
3	I	10	LEU	CB-CA-C	-5.57	99.62	110.20
3	L	154	ARG	NH1-CZ-NH2	-5.57	113.28	119.40
1	g	189	MET	CG-SD-CE	-5.56	91.30	100.20
2	h	116	ASP	CB-CG-OD1	5.56	123.31	118.30
1	d	100	ARG	NE-CZ-NH2	5.56	123.08	120.30
2	j	154	ARG	NE-CZ-NH1	5.56	123.08	120.30
1	B	187	ASP	C-N-CA	5.56	135.60	121.70
3	K	11	GLU	CA-CB-CG	5.56	125.64	113.40
1	c	33	ARG	NE-CZ-NH1	-5.56	117.52	120.30
1	g	100	ARG	NH1-CZ-NH2	5.56	125.52	119.40
1	D	148	TYR	CB-CG-CD1	5.56	124.33	121.00
1	e	96	ALA	C-N-CA	5.56	135.59	121.70
2	i	173	TYR	CB-CG-CD2	-5.56	117.67	121.00
3	K	375	PHE	N-CA-CB	5.56	120.60	110.60
2	k	46	TYR	CB-CG-CD2	-5.56	117.67	121.00
2	n	173	TYR	CB-CG-CD2	-5.56	117.67	121.00
2	k	77	TYR	CB-CG-CD1	-5.55	117.67	121.00
3	J	46	ARG	NE-CZ-NH1	5.55	123.08	120.30
1	A	53	ARG	CA-CB-CG	5.55	125.61	113.40
1	a	151	ASP	CB-CG-OD2	-5.55	113.31	118.30
1	D	221	PHE	CB-CG-CD2	5.55	124.68	120.80
1	f	130	ARG	NE-CZ-NH1	5.55	123.07	120.30
2	2	140	THR	CA-CB-CG2	-5.55	104.64	112.40
2	3	147	ALA	CB-CA-C	-5.55	101.78	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	k	112	ILE	N-CA-C	-5.55	96.03	111.00
1	a	93	ARG	N-CA-CB	5.54	120.58	110.60
1	A	26	TYR	CB-CG-CD1	-5.54	117.67	121.00
1	b	166	MET	CG-SD-CE	-5.54	91.33	100.20
1	A	180	ARG	N-CA-C	-5.54	96.04	111.00
1	e	179	TYR	N-CA-C	-5.54	96.04	111.00
2	h	157	PRO	O-C-N	5.54	131.57	122.70
2	2	106	TYR	CD1-CG-CD2	-5.54	111.80	117.90
3	I	278	ARG	NE-CZ-NH2	5.54	123.07	120.30
1	F	108	THR	CA-C-O	5.54	131.73	120.10
1	G	13	THR	CA-CB-CG2	-5.54	104.65	112.40
2	1	67	ALA	CB-CA-C	-5.54	101.79	110.10
2	2	161	VAL	CA-CB-CG2	5.54	119.21	110.90
1	D	15	PHE	CG-CD1-CE1	-5.53	114.71	120.80
1	e	20	ARG	NE-CZ-NH2	-5.53	117.53	120.30
1	b	67	ILE	O-C-N	5.53	131.55	122.70
2	5	81	ARG	NE-CZ-NH2	-5.53	117.53	120.30
3	I	302	ARG	N-CA-CB	5.53	120.56	110.60
3	L	58	LEU	CB-CA-C	-5.53	99.69	110.20
2	4	188	VAL	CA-CB-CG1	-5.53	102.61	110.90
3	J	57	ARG	NE-CZ-NH1	-5.53	117.54	120.30
1	c	56	SER	CB-CA-C	-5.53	99.60	110.10
2	k	18	VAL	CA-CB-CG1	-5.53	102.61	110.90
2	7	68	ARG	NE-CZ-NH2	-5.53	117.54	120.30
1	c	53	ARG	CD-NE-CZ	5.52	131.33	123.60
2	m	101	TYR	CD1-CG-CD2	5.52	123.97	117.90
3	I	202	THR	O-C-N	-5.52	113.87	122.70
1	f	135	SER	N-CA-CB	5.52	118.78	110.50
2	i	17	LEU	CB-CG-CD2	5.52	120.38	111.00
2	5	23	VAL	CA-CB-CG1	5.52	119.17	110.90
1	a	119	PHE	CB-CG-CD2	-5.52	116.94	120.80
3	J	196	ALA	O-C-N	5.52	131.53	122.70
1	E	181	ASP	CB-CG-OD1	-5.51	113.34	118.30
3	L	244	ASP	CB-CG-OD1	-5.51	113.34	118.30
1	C	212	GLY	N-CA-C	-5.51	99.33	113.10
1	D	106	PRO	N-CA-CB	5.51	109.91	103.30
1	D	235	ARG	NE-CZ-NH2	-5.51	117.55	120.30
2	5	76	LEU	CB-CG-CD1	5.51	120.36	111.00
1	c	123	TYR	CZ-CE2-CD2	5.51	124.76	119.80
1	D	108	THR	N-CA-CB	5.51	120.76	110.30
2	6	106	TYR	CB-CG-CD2	-5.51	117.70	121.00
3	I	94	TYR	CG-CD2-CE2	5.51	125.70	121.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	f	232	TYR	CG-CD1-CE1	-5.50	116.90	121.30
1	B	28	ARG	NE-CZ-NH1	5.50	123.05	120.30
1	e	235	ARG	CG-CD-NE	-5.50	100.24	111.80
1	f	18	ASP	CB-CG-OD1	-5.50	113.35	118.30
1	b	151	ASP	CB-CG-OD2	5.50	123.25	118.30
3	K	302	ARG	NE-CZ-NH2	5.50	123.05	120.30
1	B	189	MET	CG-SD-CE	-5.50	91.40	100.20
3	H	370	VAL	CA-CB-CG2	-5.50	102.65	110.90
3	M	161	LEU	CB-CG-CD2	-5.50	101.65	111.00
1	d	203	GLU	CB-CA-C	-5.50	99.40	110.40
2	m	204	VAL	CA-CB-CG1	-5.50	102.65	110.90
3	I	281	VAL	C-N-CA	5.50	135.44	121.70
2	2	123	TYR	CG-CD2-CE2	5.49	125.69	121.30
1	d	20	ARG	NE-CZ-NH2	5.49	123.05	120.30
1	B	218	ASP	CB-CG-OD1	-5.49	113.36	118.30
1	D	20	ARG	NE-CZ-NH1	5.49	123.04	120.30
1	B	86	ARG	NE-CZ-NH1	5.48	123.04	120.30
1	d	86	ARG	NE-CZ-NH2	-5.48	117.56	120.30
1	E	98	ILE	CA-CB-CG2	5.48	121.86	110.90
2	h	21	ASP	CB-CG-OD2	5.48	123.23	118.30
2	m	102	ARG	NE-CZ-NH2	-5.48	117.56	120.30
1	d	129	VAL	CA-CB-CG2	5.47	119.11	110.90
1	g	220	THR	N-CA-C	-5.47	96.22	111.00
2	i	200	SER	N-CA-CB	5.47	118.71	110.50
1	F	166	MET	CG-SD-CE	-5.47	91.45	100.20
2	7	74	ALA	N-CA-CB	5.47	117.76	110.10
3	K	314	PHE	CG-CD1-CE1	5.47	126.81	120.80
1	f	79	SER	N-CA-C	-5.47	96.24	111.00
3	M	299	ARG	NE-CZ-NH1	5.47	123.03	120.30
1	f	180	ARG	NE-CZ-NH2	5.46	123.03	120.30
3	I	161	LEU	CB-CG-CD1	-5.46	101.71	111.00
2	h	173	TYR	CB-CG-CD1	5.46	124.28	121.00
2	7	132	ILE	C-N-CA	5.46	135.35	121.70
1	e	119	PHE	CB-CG-CD1	-5.46	116.98	120.80
3	H	299	ARG	NH1-CZ-NH2	-5.45	113.40	119.40
1	D	53	ARG	NH1-CZ-NH2	-5.45	113.40	119.40
3	H	281	VAL	C-N-CA	5.45	135.33	121.70
2	2	62	ASP	CA-CB-CG	-5.45	101.42	113.40
2	7	155	PHE	CD1-CE1-CZ	-5.45	113.56	120.10
1	d	26	TYR	CG-CD1-CE1	-5.45	116.94	121.30
2	7	153	ASP	CA-CB-CG	-5.45	101.42	113.40
1	E	213	TYR	CA-CB-CG	5.45	123.75	113.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	n	88	ARG	NE-CZ-NH1	5.45	123.02	120.30
1	g	15	PHE	N-CA-CB	5.44	120.40	110.60
1	b	114	LYS	CA-CB-CG	5.44	125.37	113.40
2	5	46	TYR	CG-CD1-CE1	-5.44	116.95	121.30
2	2	28	GLU	N-CA-CB	5.44	120.39	110.60
3	H	305	ARG	CD-NE-CZ	-5.44	115.99	123.60
3	J	280	ASP	CB-CG-OD1	5.44	123.19	118.30
3	I	383	LEU	O-C-N	-5.44	114.00	122.70
2	4	112	ILE	N-CA-C	-5.43	96.33	111.00
1	e	68	TYR	CD1-CE1-CZ	-5.43	114.91	119.80
1	B	100	ARG	NE-CZ-NH2	5.43	123.02	120.30
1	F	230	LYS	CA-C-N	5.43	132.30	117.10
2	h	81	ARG	NE-CZ-NH2	5.43	123.02	120.30
1	D	79	SER	N-CA-C	-5.43	96.34	111.00
1	B	61	ALA	C-N-CA	5.43	135.26	121.70
1	c	62	ASP	CB-CG-OD1	5.43	123.18	118.30
2	i	42	ALA	N-CA-CB	5.43	117.70	110.10
2	3	65	PHE	CB-CG-CD1	-5.43	117.00	120.80
2	4	30	ARG	NE-CZ-NH2	5.43	123.01	120.30
3	J	131	GLU	CB-CA-C	-5.43	99.55	110.40
1	c	119	PHE	CB-CG-CD1	5.42	124.59	120.80
3	H	44	TYR	N-CA-CB	5.42	120.35	110.60
1	F	213	TYR	N-CA-CB	5.42	120.35	110.60
2	m	83	ARG	N-CA-C	-5.42	96.38	111.00
2	3	102	ARG	NE-CZ-NH1	-5.42	117.59	120.30
2	k	51	ARG	NE-CZ-NH2	-5.41	117.59	120.30
3	H	280	ASP	N-CA-C	-5.41	96.39	111.00
3	M	76	ARG	NE-CZ-NH2	-5.41	117.59	120.30
1	G	33	ARG	NE-CZ-NH1	5.41	123.01	120.30
2	j	116	ASP	CB-CG-OD2	-5.41	113.43	118.30
2	n	80	ARG	NE-CZ-NH2	5.41	123.00	120.30
1	d	161	ALA	N-CA-CB	5.41	117.67	110.10
2	1	81	ARG	NE-CZ-NH1	-5.41	117.60	120.30
3	H	208	GLY	CA-C-O	-5.41	110.87	120.60
1	E	33	ARG	NE-CZ-NH2	-5.41	117.60	120.30
2	7	153	ASP	CB-CG-OD1	5.41	123.17	118.30
3	K	49	ARG	NE-CZ-NH1	5.40	123.00	120.30
3	M	229	LEU	CB-CG-CD1	5.40	120.19	111.00
1	G	179	TYR	CB-CG-CD2	-5.40	117.76	121.00
2	i	24	VAL	CA-CB-CG2	-5.40	102.80	110.90
2	7	153	ASP	CB-CG-OD2	-5.40	113.44	118.30
1	d	213	TYR	CG-CD1-CE1	-5.40	116.98	121.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	3	57	ALA	N-CA-CB	5.40	117.66	110.10
2	m	130	GLY	O-C-N	-5.40	114.06	122.70
2	7	15	VAL	CG1-CB-CG2	5.40	119.53	110.90
1	C	150	THR	CA-CB-CG2	-5.40	104.85	112.40
2	7	71	LYS	CB-CA-C	-5.39	99.61	110.40
2	6	21	ASP	CB-CG-OD2	5.39	123.15	118.30
2	5	136	ASP	CB-CG-OD2	5.39	123.15	118.30
2	n	53	ALA	N-CA-CB	5.39	117.65	110.10
1	E	62	ASP	CB-CG-OD1	5.38	123.14	118.30
3	J	64	LEU	O-C-N	-5.38	114.09	122.70
3	H	128	TYR	CG-CD2-CE2	5.38	125.61	121.30
1	E	163	ALA	CB-CA-C	-5.38	102.03	110.10
2	h	59	SER	N-CA-CB	5.38	118.57	110.50
1	G	56	SER	N-CA-CB	5.38	118.57	110.50
1	D	6	MET	N-CA-CB	5.38	120.28	110.60
1	d	181	ASP	CB-CG-OD2	-5.38	113.46	118.30
2	2	199	TYR	CB-CG-CD1	-5.38	117.78	121.00
2	m	173	TYR	CD1-CG-CD2	5.38	123.81	117.90
1	B	204	LEU	C-N-CA	5.38	135.14	121.70
1	e	27	ALA	CB-CA-C	-5.37	102.04	110.10
2	j	129	GLY	C-N-CA	5.37	133.58	122.30
3	M	181	TYR	CB-CG-CD2	-5.37	117.78	121.00
1	b	214	VAL	CA-CB-CG1	-5.37	102.85	110.90
2	3	62	ASP	CB-CA-C	-5.37	99.66	110.40
2	2	124	SER	N-CA-C	-5.37	96.51	111.00
2	5	139	ALA	N-CA-C	-5.36	96.52	111.00
1	C	179	TYR	CG-CD1-CE1	-5.36	117.01	121.30
1	F	157	LEU	N-CA-CB	5.36	121.12	110.40
1	f	48	LEU	CB-CG-CD1	5.36	120.11	111.00
1	f	142	ASP	CB-CG-OD1	-5.36	113.48	118.30
1	g	228	GLU	OE1-CD-OE2	5.36	129.73	123.30
3	M	67	VAL	N-CA-CB	5.36	123.29	111.50
3	M	382	VAL	CA-CB-CG2	-5.36	102.86	110.90
1	f	88	LEU	CB-CG-CD1	5.36	120.10	111.00
1	F	143	GLU	CB-CA-C	-5.35	99.69	110.40
1	E	62	ASP	CB-CA-C	5.35	121.10	110.40
1	e	10	ARG	CG-CD-NE	-5.35	100.56	111.80
2	n	55	THR	N-CA-C	-5.35	96.56	111.00
3	H	140	TYR	CB-CG-CD1	-5.35	117.79	121.00
3	H	205	ARG	NE-CZ-NH1	-5.35	117.62	120.30
3	I	49	ARG	NE-CZ-NH1	5.35	122.97	120.30
1	b	212	GLY	N-CA-C	-5.35	99.73	113.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	l	50	ASP	CB-CG-OD2	-5.35	113.49	118.30
3	L	154	ARG	NE-CZ-NH2	5.35	122.97	120.30
3	I	259	ARG	NE-CZ-NH2	-5.34	117.63	120.30
3	I	126	MET	CG-SD-CE	-5.34	91.65	100.20
2	2	65	PHE	N-CA-CB	5.34	120.22	110.60
2	n	197	TYR	CG-CD2-CE2	-5.34	117.03	121.30
1	f	103	TYR	CB-CG-CD1	5.34	124.20	121.00
1	C	100	ARG	NE-CZ-NH1	5.34	122.97	120.30
1	E	77	ALA	N-CA-CB	5.34	117.57	110.10
3	L	71	ILE	N-CA-C	-5.34	96.59	111.00
1	a	187	ASP	CB-CA-C	-5.33	99.73	110.40
1	g	142	ASP	CB-CG-OD2	5.33	123.10	118.30
3	H	124	ASP	CB-CG-OD1	5.33	123.10	118.30
3	L	177	GLY	N-CA-C	-5.33	99.78	113.10
2	k	77	TYR	CD1-CE1-CZ	5.33	124.59	119.80
1	a	212	GLY	N-CA-C	-5.33	99.78	113.10
1	D	201	GLU	N-CA-CB	5.33	120.19	110.60
2	j	109	GLN	N-CA-C	-5.33	96.62	111.00
3	L	46	ARG	NH1-CZ-NH2	-5.33	113.54	119.40
3	I	353	ALA	N-CA-CB	-5.32	102.65	110.10
3	K	211	PHE	C-N-CA	5.32	135.01	121.70
3	J	335	ASP	CB-CG-OD1	5.32	123.09	118.30
1	a	65	GLU	N-CA-CB	5.32	120.18	110.60
3	J	28	ARG	NE-CZ-NH2	-5.32	117.64	120.30
1	D	195	ALA	N-CA-CB	5.32	117.55	110.10
2	7	58	GLY	N-CA-C	-5.32	99.81	113.10
3	J	200	ARG	N-CA-CB	5.31	120.17	110.60
1	D	199	SER	N-CA-CB	-5.31	102.53	110.50
2	5	199	TYR	CB-CG-CD1	-5.31	117.81	121.00
3	L	114	ALA	N-CA-CB	5.31	117.54	110.10
3	L	142	ASP	CB-CG-OD2	-5.31	113.52	118.30
1	b	232	TYR	CB-CA-C	-5.31	99.78	110.40
1	c	84	ASP	CB-CG-OD1	-5.31	113.52	118.30
1	c	168	ARG	NH1-CZ-NH2	-5.31	113.56	119.40
3	H	107	ALA	CB-CA-C	5.31	118.06	110.10
1	e	159	TYR	CG-CD2-CE2	-5.30	117.06	121.30
1	F	85	ALA	CB-CA-C	-5.30	102.14	110.10
3	I	248	ALA	N-CA-C	-5.30	96.68	111.00
3	I	159	LEU	CB-CG-CD1	5.30	120.02	111.00
1	G	196	MET	CG-SD-CE	-5.30	91.72	100.20
2	l	73	GLU	N-CA-CB	5.30	120.14	110.60
3	L	147	ASP	CB-CG-OD1	5.30	123.07	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	M	398	VAL	CA-C-O	-5.30	108.97	120.10
1	D	33	ARG	NE-CZ-NH1	5.30	122.95	120.30
1	F	103	TYR	N-CA-CB	5.30	120.14	110.60
1	f	241	ARG	NE-CZ-NH1	-5.30	117.65	120.30
1	g	109	VAL	CA-CB-CG1	-5.30	102.95	110.90
2	n	101	TYR	CG-CD2-CE2	-5.30	117.06	121.30
3	J	254	ASP	N-CA-C	-5.30	96.69	111.00
1	D	171	VAL	CG1-CB-CG2	-5.30	102.42	110.90
3	K	398	VAL	CA-C-O	-5.30	108.98	120.10
2	4	97	LEU	CB-CG-CD2	5.29	120.00	111.00
3	L	398	VAL	CA-C-O	-5.29	108.98	120.10
2	h	108	VAL	CG1-CB-CG2	5.29	119.37	110.90
3	H	281	VAL	CG1-CB-CG2	-5.29	102.43	110.90
3	K	159	LEU	O-C-N	-5.29	111.05	121.10
1	A	81	LEU	CB-CG-CD2	-5.29	102.01	111.00
2	7	175	ALA	N-CA-CB	5.29	117.50	110.10
3	J	398	VAL	CA-C-O	-5.29	108.99	120.10
1	D	129	VAL	CG1-CB-CG2	5.29	119.36	110.90
1	e	239	ARG	NE-CZ-NH1	-5.29	117.66	120.30
3	H	398	VAL	CA-C-O	-5.29	109.00	120.10
2	l	50	ASP	O-C-N	5.28	131.15	122.70
3	K	46	ARG	NE-CZ-NH2	-5.28	117.66	120.30
3	I	398	VAL	CA-C-O	-5.28	109.02	120.10
2	h	139	ALA	N-CA-C	-5.27	96.77	111.00
2	l	196	PHE	N-CA-C	-5.27	96.77	111.00
2	3	81	ARG	O-C-N	5.27	131.13	122.70
1	B	135	SER	N-CA-CB	5.27	118.40	110.50
2	2	54	MET	CG-SD-CE	-5.27	91.77	100.20
2	m	132	ILE	CA-CB-CG2	-5.27	100.36	110.90
2	n	140	THR	N-CA-CB	5.27	120.31	110.30
2	i	49	ALA	N-CA-CB	5.26	117.47	110.10
2	k	78	GLU	OE1-CD-OE2	-5.26	116.98	123.30
2	6	185	GLY	N-CA-C	-5.26	99.94	113.10
2	n	212	ARG	NE-CZ-NH2	-5.26	117.67	120.30
1	D	221	PHE	CB-CG-CD1	-5.26	117.12	120.80
1	E	220	THR	N-CA-C	-5.26	96.79	111.00
1	e	141	VAL	N-CA-C	-5.26	96.79	111.00
2	k	148	TYR	N-CA-CB	5.26	120.07	110.60
3	J	21	TYR	CD1-CG-CD2	5.26	123.69	117.90
1	a	35	ALA	N-CA-CB	5.26	117.46	110.10
3	J	283	VAL	CG1-CB-CG2	5.26	119.31	110.90
1	g	33	ARG	O-C-N	-5.26	114.26	123.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	H	241	ASP	O-C-N	5.26	131.11	122.70
2	h	153	ASP	CB-CG-OD1	5.25	123.03	118.30
3	M	374	ASP	CB-CG-OD2	-5.25	113.57	118.30
2	5	83	ARG	CB-CA-C	-5.25	99.89	110.40
2	7	197	TYR	CZ-CE2-CD2	5.25	124.53	119.80
2	n	68	ARG	NE-CZ-NH2	-5.25	117.67	120.30
3	L	243	LEU	CB-CG-CD1	-5.25	102.08	111.00
1	B	232	TYR	CB-CG-CD2	-5.25	117.85	121.00
3	I	369	LYS	O-C-N	5.24	131.09	122.70
1	G	118	ASP	CB-CG-OD1	5.24	123.02	118.30
1	d	68	TYR	CG-CD2-CE2	-5.24	117.11	121.30
3	I	167	PHE	CA-CB-CG	-5.24	101.33	113.90
1	a	244	LEU	CB-CG-CD2	5.24	119.90	111.00
2	k	123	TYR	CA-CB-CG	-5.24	103.45	113.40
2	n	51	ARG	NE-CZ-NH2	-5.24	117.68	120.30
2	5	104	PHE	N-CA-C	-5.23	96.87	111.00
1	B	9	ASP	N-CA-CB	5.23	120.02	110.60
1	c	68	TYR	CZ-CE2-CD2	5.23	124.51	119.80
1	A	190	VAL	O-C-N	-5.23	114.33	122.70
1	D	130	ARG	CD-NE-CZ	5.23	130.92	123.60
2	l	201	PRO	N-CD-CG	5.23	111.05	103.20
3	K	397	PHE	N-CA-CB	5.23	120.01	110.60
1	g	232	TYR	CD1-CG-CD2	5.23	123.65	117.90
3	M	370	VAL	N-CA-C	-5.23	96.88	111.00
2	h	106	TYR	CG-CD1-CE1	-5.23	117.12	121.30
1	F	151	ASP	CB-CG-OD2	5.23	123.00	118.30
3	I	94	TYR	CG-CD1-CE1	-5.23	117.12	121.30
3	L	148	VAL	CA-CB-CG2	-5.22	103.07	110.90
2	6	79	ILE	O-C-N	-5.22	114.35	122.70
2	l	212	ARG	NE-CZ-NH1	-5.22	117.69	120.30
2	j	206	GLN	CG-CD-OE1	-5.22	111.16	121.60
2	k	28	GLU	OE1-CD-OE2	-5.22	117.04	123.30
2	n	191	ILE	N-CA-C	-5.22	96.91	111.00
3	L	124	ASP	CB-CG-OD1	5.22	123.00	118.30
1	A	160	LYS	N-CA-CB	5.22	119.99	110.60
1	E	163	ALA	N-CA-CB	5.22	117.41	110.10
1	f	190	VAL	CA-CB-CG2	-5.22	103.07	110.90
2	m	62	ASP	CB-CG-OD2	-5.22	113.61	118.30
3	L	260	GLU	O-C-N	5.22	131.04	122.70
1	D	18	ASP	CB-CA-C	-5.21	99.97	110.40
1	G	112	LEU	CB-CA-C	5.21	120.11	110.20
1	g	63	THR	N-CA-CB	5.21	120.21	110.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	4	156	THR	N-CA-C	-5.21	96.92	111.00
2	i	62	ASP	CB-CG-OD1	-5.21	113.61	118.30
2	n	104	PHE	CB-CG-CD2	5.21	124.45	120.80
3	I	194	ALA	CB-CA-C	-5.21	102.28	110.10
2	4	196	PHE	N-CA-C	-5.21	96.94	111.00
1	e	25	GLU	O-C-N	5.21	131.03	122.70
2	l	193	GLU	N-CA-CB	5.21	119.97	110.60
3	L	152	GLU	N-CA-CB	5.21	119.97	110.60
3	L	254	ASP	CB-CG-OD1	-5.21	113.61	118.30
1	B	54	VAL	CA-CB-CG1	5.20	118.70	110.90
1	F	97	GLN	CG-CD-OE1	-5.20	111.19	121.60
2	4	142	SER	C-N-CA	5.20	133.23	122.30
3	K	49	ARG	NE-CZ-NH2	-5.20	117.70	120.30
3	K	239	PHE	N-CA-CB	5.20	119.97	110.60
1	F	123	TYR	CB-CG-CD1	5.20	124.12	121.00
2	4	196	PHE	N-CA-CB	5.20	119.96	110.60
1	c	185	PHE	CB-CG-CD1	5.20	124.44	120.80
2	1	199	TYR	CG-CD2-CE2	-5.20	117.14	121.30
3	I	41	ARG	NE-CZ-NH1	-5.20	117.70	120.30
1	d	118	ASP	O-C-N	5.19	131.01	122.70
3	H	181	TYR	CZ-CE2-CD2	-5.19	115.12	119.80
3	M	145	GLY	C-N-CA	5.19	134.69	121.70
1	A	92	ALA	N-CA-CB	5.19	117.37	110.10
1	b	102	THR	CA-CB-CG2	5.19	119.67	112.40
1	b	130	ARG	N-CA-CB	5.19	119.94	110.60
1	G	232	TYR	CB-CG-CD2	5.19	124.11	121.00
2	j	197	TYR	CG-CD1-CE1	-5.19	117.15	121.30
1	b	168	ARG	NE-CZ-NH1	5.19	122.89	120.30
1	f	185	PHE	CD1-CG-CD2	5.19	125.05	118.30
2	m	158	GLU	OE1-CD-OE2	5.19	129.53	123.30
3	L	212	VAL	CA-CB-CG1	-5.19	103.12	110.90
2	h	68	ARG	CA-CB-CG	-5.19	101.99	113.40
3	L	291	ASP	CB-CG-OD2	5.19	122.97	118.30
2	3	168	ALA	CB-CA-C	-5.18	102.33	110.10
2	6	148	TYR	CB-CG-CD1	-5.18	117.89	121.00
3	K	124	ASP	CB-CG-OD1	-5.18	113.64	118.30
2	j	25	MET	CG-SD-CE	-5.18	91.91	100.20
3	J	227	PHE	CD1-CG-CD2	5.18	125.03	118.30
1	b	230	LYS	N-CA-CB	5.18	119.92	110.60
2	n	123	TYR	CD1-CE1-CZ	-5.18	115.14	119.80
3	M	118	VAL	CA-CB-CG1	5.18	118.67	110.90
1	g	59	LEU	CB-CG-CD1	5.18	119.80	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	1	54	MET	CG-SD-CE	5.18	108.48	100.20
1	C	190	VAL	CA-CB-CG2	-5.18	103.14	110.90
1	C	196	MET	O-C-N	-5.18	114.40	123.20
3	L	294	ASP	N-CA-C	-5.18	97.02	111.00
2	1	91	ALA	CB-CA-C	-5.17	102.34	110.10
1	F	24	VAL	CG1-CB-CG2	-5.17	102.62	110.90
2	7	196	PHE	CZ-CE2-CD2	-5.17	113.90	120.10
2	n	126	ASP	CB-CG-OD2	-5.17	113.65	118.30
2	2	45	ILE	CG1-CB-CG2	5.17	122.77	111.40
2	5	83	ARG	NE-CZ-NH1	5.17	122.88	120.30
2	n	74	ALA	N-CA-CB	5.17	117.33	110.10
1	D	86	ARG	NE-CZ-NH2	-5.17	117.72	120.30
1	E	110	LYS	N-CA-CB	5.17	119.90	110.60
3	K	397	PHE	CB-CG-CD2	5.17	124.42	120.80
2	m	131	ALA	CB-CA-C	-5.16	102.36	110.10
2	m	173	TYR	CG-CD1-CE1	-5.16	117.17	121.30
3	K	335	ASP	N-CA-C	-5.16	97.06	111.00
3	L	310	PRO	N-CD-CG	5.16	110.94	103.20
1	B	53	ARG	CG-CD-NE	-5.16	100.96	111.80
2	3	199	TYR	CG-CD2-CE2	5.16	125.43	121.30
3	I	255	THR	N-CA-C	-5.16	97.07	111.00
2	j	157	PRO	N-CA-CB	5.16	109.49	103.30
2	7	154	ARG	NE-CZ-NH1	-5.16	117.72	120.30
3	I	386	THR	O-C-N	-5.15	114.45	122.70
1	d	137	LEU	N-CA-CB	5.15	120.70	110.40
1	F	202	SER	N-CA-CB	5.15	118.23	110.50
1	G	119	PHE	CB-CG-CD1	-5.15	117.20	120.80
2	7	203	GLU	CB-CA-C	-5.15	100.10	110.40
2	4	154	ARG	NE-CZ-NH2	5.15	122.87	120.30
3	M	128	TYR	CB-CG-CD1	5.15	124.09	121.00
1	G	184	SER	N-CA-C	-5.14	97.11	111.00
2	7	58	GLY	CA-C-O	5.14	129.86	120.60
3	M	43	ARG	NE-CZ-NH1	5.14	122.87	120.30
3	J	275	PHE	CB-CG-CD2	-5.14	117.20	120.80
1	E	210	GLU	N-CA-CB	5.14	119.86	110.60
1	G	100	ARG	NE-CZ-NH1	-5.14	117.73	120.30
2	j	103	TYR	CD1-CE1-CZ	5.14	124.43	119.80
2	6	187	ASP	CB-CG-OD2	-5.14	113.67	118.30
3	J	243	LEU	CB-CG-CD2	5.14	119.74	111.00
1	A	92	ALA	CB-CA-C	-5.14	102.39	110.10
1	f	15	PHE	CB-CG-CD2	-5.14	117.20	120.80
2	i	199	TYR	CD1-CE1-CZ	5.14	124.43	119.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	m	155	PHE	CB-CG-CD2	-5.14	117.20	120.80
3	H	106	VAL	CB-CA-C	-5.14	101.64	111.40
2	h	153	ASP	CB-CG-OD2	-5.14	113.68	118.30
2	7	162	ASP	CB-CG-OD1	-5.14	113.68	118.30
2	3	51	ARG	CB-CA-C	-5.13	100.13	110.40
2	2	72	ILE	CA-CB-CG2	5.13	121.16	110.90
2	2	196	PHE	N-CA-C	-5.13	97.14	111.00
1	c	181	ASP	N-CA-CB	5.13	119.83	110.60
2	6	170	ARG	NH1-CZ-NH2	5.13	125.04	119.40
1	f	93	ARG	NE-CZ-NH2	5.13	122.86	120.30
2	2	191	ILE	N-CA-C	-5.13	97.16	111.00
2	j	41	ALA	N-CA-CB	5.13	117.28	110.10
3	H	136	PRO	CA-CB-CG	-5.13	94.26	104.00
3	J	21	TYR	CG-CD1-CE1	-5.13	117.20	121.30
2	n	148	TYR	CG-CD1-CE1	-5.12	117.20	121.30
1	G	67	ILE	N-CA-C	-5.12	97.17	111.00
3	H	69	SER	C-N-CA	5.12	134.51	121.70
3	L	93	GLN	CG-CD-OE1	-5.12	111.35	121.60
1	a	159	TYR	CG-CD2-CE2	-5.12	117.20	121.30
3	K	166	LEU	CB-CA-C	-5.12	100.47	110.20
2	4	102	ARG	NE-CZ-NH1	-5.12	117.74	120.30
1	a	241	ARG	NE-CZ-NH1	-5.12	117.74	120.30
2	m	70	ILE	CA-CB-CG1	-5.12	101.28	111.00
2	m	46	TYR	CB-CG-CD1	5.12	124.07	121.00
3	I	19	ASP	CB-CG-OD1	5.12	122.90	118.30
3	L	392	LEU	CA-C-O	5.12	130.84	120.10
2	2	106	TYR	CD1-CE1-CZ	-5.11	115.20	119.80
2	k	123	TYR	N-CA-CB	5.11	119.80	110.60
2	4	190	LYS	N-CA-C	-5.11	97.20	111.00
3	J	239	PHE	N-CA-C	-5.11	97.21	111.00
2	2	68	ARG	NE-CZ-NH1	5.11	122.85	120.30
3	J	390	PRO	N-CA-CB	-5.11	96.98	102.60
1	E	19	GLY	CA-C-O	5.10	129.79	120.60
2	n	43	LYS	N-CA-CB	5.10	119.79	110.60
1	g	100	ARG	CD-NE-CZ	-5.10	116.46	123.60
1	g	123	TYR	CB-CG-CD1	-5.10	117.94	121.00
2	1	123	TYR	CZ-CE2-CD2	-5.10	115.21	119.80
3	I	178	VAL	CA-CB-CG2	-5.10	103.25	110.90
1	F	81	LEU	CB-CG-CD1	5.10	119.67	111.00
2	5	56	THR	CA-CB-CG2	-5.10	105.26	112.40
2	i	136	ASP	CB-CG-OD2	-5.10	113.71	118.30
2	l	163	GLU	OE1-CD-OE2	5.10	129.42	123.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	H	139	SER	N-CA-CB	5.10	118.15	110.50
3	I	205	ARG	NE-CZ-NH2	-5.10	117.75	120.30
3	J	283	VAL	CA-C-N	5.10	128.41	117.20
1	B	27	ALA	N-CA-CB	5.10	117.23	110.10
2	5	121	SER	N-CA-CB	5.10	118.14	110.50
3	J	76	ARG	N-CA-CB	5.10	119.77	110.60
1	A	40	ILE	CA-CB-CG1	5.09	120.68	111.00
1	b	129	VAL	N-CA-C	-5.09	97.24	111.00
3	L	250	ARG	NE-CZ-NH2	-5.09	117.75	120.30
1	a	22	PHE	C-N-CA	5.09	134.43	121.70
2	1	80	ARG	NE-CZ-NH1	-5.09	117.75	120.30
2	i	183	GLY	C-N-CA	5.09	134.43	121.70
1	b	36	THR	CA-CB-OG1	5.09	119.69	109.00
1	e	166	MET	CG-SD-CE	-5.09	92.06	100.20
1	f	53	ARG	NE-CZ-NH2	5.09	122.84	120.30
1	g	159	TYR	CZ-CE2-CD2	-5.09	115.22	119.80
3	M	95	ILE	N-CA-C	-5.09	97.26	111.00
2	m	43	LYS	N-CA-CB	5.09	119.76	110.60
3	M	259	ARG	NE-CZ-NH2	5.09	122.84	120.30
1	A	5	GLN	O-C-N	-5.09	114.56	122.70
2	1	15	VAL	CG1-CB-CG2	5.09	119.04	110.90
2	m	101	TYR	CG-CD2-CE2	-5.09	117.23	121.30
3	J	221	ARG	CB-CG-CD	5.09	124.82	111.60
1	C	171	VAL	CA-CB-CG2	-5.08	103.27	110.90
2	7	173	TYR	CG-CD2-CE2	-5.08	117.23	121.30
1	c	232	TYR	CB-CG-CD2	-5.08	117.95	121.00
1	G	198	LEU	N-CA-CB	5.08	120.56	110.40
3	M	375	PHE	CB-CG-CD1	-5.08	117.24	120.80
2	h	96	ASN	CA-CB-CG	-5.08	102.23	113.40
2	2	27	THR	N-CA-C	-5.08	97.29	111.00
3	M	64	LEU	O-C-N	-5.08	114.58	122.70
1	a	10	ARG	NE-CZ-NH2	5.08	122.84	120.30
1	g	234	GLU	OE1-CD-OE2	5.08	129.39	123.30
2	m	25	MET	N-CA-CB	5.07	119.73	110.60
1	D	28	ARG	NE-CZ-NH2	5.07	122.84	120.30
1	F	33	ARG	O-C-N	-5.07	114.58	123.20
1	F	84	ASP	CB-CA-C	-5.07	100.26	110.40
3	I	195	VAL	CA-CB-CG2	-5.07	103.30	110.90
3	L	10	LEU	O-C-N	5.07	130.81	122.70
3	I	147	ASP	CB-CG-OD1	-5.07	113.74	118.30
1	A	229	LEU	CB-CG-CD2	5.07	119.62	111.00
1	B	139	ALA	CB-CA-C	-5.07	102.50	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	b	147	LEU	N-CA-C	-5.07	97.32	111.00
2	l	101	TYR	CB-CG-CD2	-5.06	117.96	121.00
3	K	120	PRO	C-N-CA	5.06	134.35	121.70
3	M	202	THR	N-CA-CB	5.06	119.92	110.30
3	K	255	THR	C-N-CA	5.06	134.35	121.70
3	M	76	ARG	NH1-CZ-NH2	5.06	124.97	119.40
1	G	130	ARG	NE-CZ-NH2	-5.06	117.77	120.30
2	3	126	ASP	CB-CG-OD1	-5.06	113.75	118.30
3	I	215	TYR	CB-CG-CD1	-5.06	117.96	121.00
3	K	279	GLY	N-CA-C	-5.06	100.45	113.10
3	J	249	ARG	NE-CZ-NH1	5.06	122.83	120.30
1	b	210	GLU	N-CA-C	-5.06	97.35	111.00
1	d	177	LYS	CA-C-O	-5.06	109.48	120.10
2	5	46	TYR	CA-CB-CG	-5.06	103.79	113.40
2	5	104	PHE	CB-CG-CD1	-5.06	117.26	120.80
2	6	36	PHE	CB-CG-CD1	5.06	124.34	120.80
3	K	227	PHE	CG-CD1-CE1	-5.06	115.24	120.80
3	J	303	PHE	N-CA-CB	5.06	119.70	110.60
2	4	103	TYR	CB-CG-CD2	5.06	124.03	121.00
3	K	118	VAL	CA-CB-CG2	-5.06	103.32	110.90
3	J	283	VAL	N-CA-CB	5.05	122.62	111.50
1	c	10	ARG	NE-CZ-NH1	-5.05	117.78	120.30
1	e	174	PHE	CB-CG-CD2	-5.05	117.26	120.80
1	G	86	ARG	NE-CZ-NH1	5.05	122.83	120.30
2	h	33	MET	N-CA-C	-5.05	97.37	111.00
2	j	60	VAL	CA-CB-CG2	-5.05	103.33	110.90
2	n	62	ASP	CB-CG-OD2	5.04	122.84	118.30
1	g	184	SER	N-CA-CB	5.04	118.07	110.50
3	K	63	LEU	CB-CG-CD2	5.04	119.57	111.00
2	n	77	TYR	CB-CG-CD2	5.04	124.03	121.00
1	c	26	TYR	CD1-CE1-CZ	5.04	124.34	119.80
1	D	168	ARG	CG-CD-NE	-5.04	101.22	111.80
3	M	158	GLU	O-C-N	-5.04	114.64	122.70
1	C	213	TYR	CD1-CE1-CZ	5.04	124.33	119.80
1	E	199	SER	N-CA-CB	5.04	118.06	110.50
2	7	101	TYR	N-CA-CB	5.04	119.67	110.60
3	J	162	LEU	CB-CG-CD1	-5.04	102.43	111.00
1	a	51	ASP	CB-CG-OD2	-5.04	113.77	118.30
1	C	103	TYR	CB-CG-CD1	-5.04	117.98	121.00
2	3	158	GLU	CB-CA-C	-5.04	100.33	110.40
2	5	191	ILE	N-CA-C	-5.04	97.41	111.00
2	l	121	SER	N-CA-CB	5.04	118.05	110.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	I	280	ASP	CB-CG-OD2	5.04	122.83	118.30
2	7	39	SER	N-CA-CB	5.03	118.05	110.50
2	5	52	MET	CG-SD-CE	-5.03	92.15	100.20
1	A	55	GLY	CA-C-O	5.03	129.65	120.60
1	G	46	VAL	CA-CB-CG1	5.03	118.44	110.90
3	I	165	GLU	N-CA-CB	5.03	119.65	110.60
1	g	63	THR	CA-CB-CG2	-5.03	105.36	112.40
2	6	131	ALA	N-CA-CB	5.03	117.14	110.10
3	M	85	PRO	N-CA-CB	5.03	109.33	103.30
3	M	243	LEU	CB-CG-CD2	5.03	119.54	111.00
1	E	28	ARG	NE-CZ-NH2	5.02	122.81	120.30
1	f	93	ARG	NH1-CZ-NH2	-5.02	113.88	119.40
1	f	237	ASN	O-C-N	-5.02	114.66	122.70
2	3	211	PHE	CB-CG-CD1	-5.02	117.28	120.80
3	J	102	PRO	N-CD-CG	5.02	110.73	103.20
1	c	123	TYR	CB-CG-CD2	5.02	124.01	121.00
1	E	74	ILE	O-C-N	5.02	130.73	122.70
1	A	179	TYR	O-C-N	-5.02	114.67	122.70
2	1	212	ARG	NH1-CZ-NH2	5.02	124.92	119.40
1	e	213	TYR	CG-CD2-CE2	-5.02	117.29	121.30
1	c	26	TYR	CB-CG-CD1	-5.02	117.99	121.00
1	G	92	ALA	CB-CA-C	-5.02	102.58	110.10
3	L	393	LYS	CB-CG-CD	5.02	124.64	111.60
1	A	57	LYS	O-C-N	-5.01	114.68	122.70
2	n	68	ARG	N-CA-CB	5.01	119.62	110.60
1	E	65	GLU	N-CA-CB	5.01	119.62	110.60
1	E	217	ASP	CB-CG-OD2	5.01	122.81	118.30
2	l	197	TYR	CG-CD2-CE2	5.01	125.31	121.30
1	c	28	ARG	NE-CZ-NH1	5.01	122.81	120.30
1	E	186	ASP	CB-CG-OD1	5.01	122.81	118.30
3	K	289	ARG	NE-CZ-NH2	5.01	122.81	120.30
1	d	53	ARG	NE-CZ-NH1	-5.01	117.80	120.30
2	h	37	ILE	O-C-N	-5.01	114.69	122.70
1	G	80	GLY	N-CA-C	-5.01	100.58	113.10
1	g	86	ARG	CD-NE-CZ	-5.01	116.59	123.60
2	3	148	TYR	CG-CD1-CE1	-5.00	117.30	121.30
1	E	88	LEU	CB-CG-CD1	5.00	119.51	111.00
2	n	17	LEU	O-C-N	-5.00	114.69	122.70
1	B	63	THR	C-N-CA	5.00	134.20	121.70
1	E	22	PHE	CA-CB-CG	-5.00	101.90	113.90

There are no chirality outliers.

All (280) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	1	101	TYR	Sidechain
2	1	102	ARG	Sidechain
2	1	170	ARG	Sidechain
2	1	212	ARG	Sidechain
2	1	30	ARG	Sidechain
2	1	77	TYR	Sidechain
2	1	80	ARG	Sidechain
2	1	81	ARG	Sidechain
2	2	139	ALA	Peptide
2	2	211	PHE	Sidechain
2	2	30	ARG	Sidechain
2	2	46	TYR	Sidechain
2	2	51	ARG	Sidechain
2	2	81	ARG	Sidechain
2	3	148	TYR	Sidechain
2	3	36	PHE	Sidechain
2	3	83	ARG	Sidechain
2	4	106	TYR	Sidechain
2	4	139	ALA	Peptide
2	4	148	TYR	Sidechain
2	4	199	TYR	Sidechain
2	4	83	ARG	Sidechain
2	5	132	ILE	Peptide
2	5	148	TYR	Sidechain
2	5	170	ARG	Sidechain
2	5	173	TYR	Sidechain
2	5	30	ARG	Sidechain
2	5	36	PHE	Sidechain
2	6	178	ARG	Sidechain
2	6	211	PHE	Sidechain
2	6	81	ARG	Sidechain
2	7	104	PHE	Sidechain
2	7	106	TYR	Sidechain
2	7	123	TYR	Sidechain
2	7	132	ILE	Peptide
2	7	139	ALA	Peptide
2	7	154	ARG	Sidechain
2	7	197	TYR	Sidechain
2	7	51	ARG	Sidechain
2	7	77	TYR	Sidechain
1	A	103	TYR	Sidechain
1	A	123	TYR	Sidechain

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Mol	Chain	Res	Type	Group
1	A	15	PHE	Sidechain
1	A	20	ARG	Sidechain
1	A	65	GLU	Peptide
1	A	91	ARG	Sidechain
1	A	93	ARG	Sidechain
1	B	10	ARG	Sidechain
1	B	14	VAL	Mainchain
1	B	179	TYR	Sidechain
1	B	213	TYR	Sidechain
1	B	220	THR	Peptide
1	B	221	PHE	Sidechain
1	B	53	ARG	Sidechain
1	B	66	LYS	Peptide
1	B	86	ARG	Sidechain
1	C	126	TYR	Sidechain
1	C	220	THR	Peptide
1	C	26	TYR	Sidechain
1	C	28	ARG	Sidechain
1	C	53	ARG	Sidechain
1	C	65	GLU	Peptide
1	C	66	LYS	Peptide
1	C	93	ARG	Sidechain
1	D	10	ARG	Sidechain
1	D	103	TYR	Sidechain
1	D	123	TYR	Sidechain
1	D	126	TYR	Sidechain
1	D	132	PHE	Sidechain
1	D	15	PHE	Sidechain
1	D	180	ARG	Sidechain
1	D	185	PHE	Sidechain
1	D	213	TYR	Sidechain
1	D	220	THR	Peptide
1	D	33	ARG	Sidechain
1	D	8	TYR	Sidechain
1	E	148	TYR	Sidechain
1	E	175	PHE	Sidechain
1	E	179	TYR	Sidechain
1	E	215	LYS	Peptide
1	E	220	THR	Peptide
1	E	8	TYR	Sidechain
1	F	103	TYR	Sidechain
1	F	126	TYR	Sidechain

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Mol	Chain	Res	Type	Group
1	F	130	ARG	Sidechain
1	F	14	VAL	Peptide
1	F	159	TYR	Sidechain
1	F	213	TYR	Sidechain
1	F	220	THR	Peptide
1	F	86	ARG	Sidechain
1	G	10	ARG	Sidechain
1	G	103	TYR	Sidechain
1	G	126	TYR	Sidechain
1	G	220	THR	Peptide
1	G	239	ARG	Sidechain
1	G	35	ALA	Peptide
1	G	5	GLN	Peptide
3	H	128	TYR	Sidechain
3	H	140	TYR	Sidechain
3	H	186	THR	Peptide
3	H	203	PHE	Sidechain
3	H	207	VAL	Peptide
3	H	215	TYR	Sidechain
3	H	24	ARG	Sidechain
3	H	259	ARG	Sidechain
3	H	28	ARG	Sidechain
3	H	289	ARG	Sidechain
3	H	364	ARG	Sidechain
3	H	385	LYS	Peptide
3	H	386	THR	Peptide
3	H	387	THR	Peptide
3	I	128	TYR	Sidechain
3	I	200	ARG	Sidechain
3	I	201	ALA	Peptide
3	I	21	TYR	Sidechain
3	I	221	ARG	Sidechain
3	I	258	ASP	Mainchain
3	I	269	LEU	Peptide
3	I	277	PRO	Peptide
3	I	29	ARG	Sidechain
3	I	361	PHE	Sidechain
3	I	387	THR	Peptide
3	I	41	ARG	Sidechain
3	I	50	ARG	Sidechain
3	J	181	TYR	Sidechain
3	J	20	TYR	Sidechain

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Mol	Chain	Res	Type	Group
3	J	215	TYR	Sidechain
3	J	245	ALA	Mainchain
3	J	263	ARG	Sidechain
3	J	29	ARG	Sidechain
3	J	302	ARG	Sidechain
3	J	385	LYS	Peptide
3	J	44	TYR	Sidechain
3	J	57	ARG	Sidechain
3	J	76	ARG	Sidechain
3	J	87	PHE	Sidechain
3	J	94	TYR	Sidechain
3	K	167	PHE	Sidechain
3	K	181	TYR	Sidechain
3	K	20	TYR	Sidechain
3	K	214	LYS	Peptide
3	K	215	TYR	Peptide,Sidechain
3	K	24	ARG	Sidechain
3	K	254	ASP	Peptide
3	K	371	THR	Peptide
3	K	52	ARG	Sidechain
3	L	118	VAL	Peptide
3	L	163	LYS	Mainchain
3	L	211	PHE	Sidechain
3	L	215	TYR	Peptide
3	L	236	SER	Peptide
3	L	24	ARG	Sidechain
3	L	240	ILE	Peptide
3	L	254	ASP	Peptide
3	L	259	ARG	Sidechain
3	L	263	ARG	Sidechain
3	L	276	ASP	Peptide
3	L	28	ARG	Sidechain
3	L	29	ARG	Sidechain
3	L	311	LEU	Peptide
3	L	367	ARG	Sidechain
3	L	386	THR	Peptide
3	L	387	THR	Peptide
3	L	44	TYR	Sidechain
3	L	46	ARG	Sidechain
3	L	50	ARG	Sidechain
3	L	57	ARG	Sidechain
3	L	76	ARG	Sidechain

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Mol	Chain	Res	Type	Group
3	L	87	PHE	Sidechain
3	M	128	TYR	Sidechain
3	M	154	ARG	Sidechain
3	M	181	TYR	Peptide,Sidechain
3	M	200	ARG	Sidechain
3	M	24	ARG	Sidechain
3	M	249	ARG	Sidechain
3	M	250	ARG	Sidechain
3	M	254	ASP	Peptide
3	M	259	ARG	Sidechain
3	M	269	LEU	Peptide
3	M	302	ARG	Sidechain
3	M	303	PHE	Peptide
3	M	305	ARG	Sidechain
3	M	385	LYS	Peptide
3	M	386	THR	Peptide
3	M	44	TYR	Sidechain
3	M	46	ARG	Sidechain
1	a	10	ARG	Sidechain
1	a	130	ARG	Sidechain
1	a	179	TYR	Sidechain
1	a	213	TYR	Sidechain
1	a	220	THR	Peptide
1	a	239	ARG	Sidechain
1	a	68	TYR	Sidechain
1	b	126	TYR	Sidechain
1	b	130	ARG	Sidechain
1	b	213	TYR	Sidechain
1	b	22	PHE	Sidechain
1	b	220	THR	Peptide
1	b	239	ARG	Sidechain
1	b	33	ARG	Sidechain
1	b	86	ARG	Sidechain
1	c	126	TYR	Sidechain
1	c	148	TYR	Sidechain
1	c	159	TYR	Sidechain
1	c	68	TYR	Sidechain
1	c	73	HIS	Sidechain
1	c	86	ARG	Sidechain
1	d	123	TYR	Sidechain
1	d	33	ARG	Sidechain
1	e	123	TYR	Sidechain

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Mol	Chain	Res	Type	Group
1	e	15	PHE	Sidechain
1	e	159	TYR	Sidechain
1	e	179	TYR	Sidechain
1	e	180	ARG	Sidechain
1	e	220	THR	Peptide
1	e	241	ARG	Sidechain
1	e	86	ARG	Sidechain
1	f	103	TYR	Sidechain
1	f	119	PHE	Sidechain
1	f	123	TYR	Sidechain
1	f	159	TYR	Sidechain
1	f	213	TYR	Sidechain
1	f	220	THR	Peptide
1	g	126	TYR	Sidechain
1	g	159	TYR	Sidechain
1	g	220	THR	Peptide
1	g	221	PHE	Sidechain
1	g	232	TYR	Sidechain
1	g	239	ARG	Sidechain
1	g	26	TYR	Sidechain
1	g	86	ARG	Sidechain
2	h	104	PHE	Sidechain
2	h	106	TYR	Sidechain
2	h	123	TYR	Sidechain
2	h	139	ALA	Peptide
2	h	173	TYR	Sidechain
2	h	197	TYR	Sidechain
2	h	46	TYR	Sidechain
2	h	81	ARG	Sidechain
2	i	106	TYR	Sidechain
2	i	139	ALA	Peptide
2	i	199	TYR	Sidechain
2	i	81	ARG	Sidechain
2	i	88	ARG	Sidechain
2	j	102	ARG	Sidechain
2	j	106	TYR	Sidechain
2	j	148	TYR	Sidechain
2	j	173	TYR	Sidechain
2	j	46	TYR	Sidechain
2	k	102	ARG	Sidechain
2	k	106	TYR	Sidechain
2	k	123	TYR	Sidechain

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Mol	Chain	Res	Type	Group
2	k	148	TYR	Sidechain
2	k	155	PHE	Sidechain
2	k	173	TYR	Sidechain
2	k	197	TYR	Sidechain
2	k	199	TYR	Sidechain
2	k	212	ARG	Sidechain
2	k	46	TYR	Sidechain
2	l	101	TYR	Sidechain
2	l	148	TYR	Sidechain
2	l	173	TYR	Sidechain
2	l	196	PHE	Sidechain
2	m	106	TYR	Sidechain
2	m	148	TYR	Sidechain
2	m	170	ARG	Sidechain
2	m	196	PHE	Sidechain
2	m	30	ARG	Sidechain
2	m	80	ARG	Sidechain
2	n	103	TYR	Sidechain
2	n	123	TYR	Sidechain
2	n	132	ILE	Peptide
2	n	139	ALA	Peptide
2	n	155	PHE	Sidechain
2	n	178	ARG	Sidechain
2	n	199	TYR	Sidechain
2	n	68	ARG	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%)	225 (94%)	12 (5%)	3 (1%)	12	48
1	B	240/242 (99%)	224 (93%)	10 (4%)	6 (2%)	5	32
1	C	240/242 (99%)	226 (94%)	11 (5%)	3 (1%)	12	48
1	D	240/242 (99%)	225 (94%)	10 (4%)	5 (2%)	7	36
1	E	240/242 (99%)	229 (95%)	10 (4%)	1 (0%)	34	72
1	F	240/242 (99%)	229 (95%)	8 (3%)	3 (1%)	12	48
1	G	240/242 (99%)	224 (93%)	13 (5%)	3 (1%)	12	48
1	a	235/242 (97%)	220 (94%)	8 (3%)	7 (3%)	4	28
1	b	235/242 (97%)	218 (93%)	13 (6%)	4 (2%)	9	42
1	c	235/242 (97%)	220 (94%)	14 (6%)	1 (0%)	34	72
1	d	235/242 (97%)	225 (96%)	5 (2%)	5 (2%)	7	36
1	e	235/242 (97%)	219 (93%)	11 (5%)	5 (2%)	7	36
1	f	235/242 (97%)	225 (96%)	9 (4%)	1 (0%)	34	72
1	g	235/242 (97%)	220 (94%)	10 (4%)	5 (2%)	7	36
2	1	200/202 (99%)	189 (94%)	8 (4%)	3 (2%)	10	46
2	2	200/202 (99%)	174 (87%)	18 (9%)	8 (4%)	3	23
2	3	200/202 (99%)	181 (90%)	17 (8%)	2 (1%)	15	54
2	4	200/202 (99%)	187 (94%)	11 (6%)	2 (1%)	15	54
2	5	200/202 (99%)	188 (94%)	6 (3%)	6 (3%)	4	28
2	6	200/202 (99%)	183 (92%)	9 (4%)	8 (4%)	3	23
2	7	200/202 (99%)	185 (92%)	12 (6%)	3 (2%)	10	46
2	h	200/202 (99%)	175 (88%)	16 (8%)	9 (4%)	2	22
2	i	200/202 (99%)	186 (93%)	11 (6%)	3 (2%)	10	46
2	j	200/202 (99%)	183 (92%)	12 (6%)	5 (2%)	5	32
2	k	200/202 (99%)	180 (90%)	16 (8%)	4 (2%)	7	38
2	l	200/202 (99%)	183 (92%)	13 (6%)	4 (2%)	7	38
2	m	200/202 (99%)	192 (96%)	7 (4%)	1 (0%)	29	69
2	n	200/202 (99%)	183 (92%)	11 (6%)	6 (3%)	4	28
3	H	388/390 (100%)	340 (88%)	32 (8%)	16 (4%)	3	22
3	I	388/390 (100%)	348 (90%)	25 (6%)	15 (4%)	3	23
3	J	388/390 (100%)	346 (89%)	31 (8%)	11 (3%)	5	30
3	K	388/390 (100%)	353 (91%)	27 (7%)	8 (2%)	7	36

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	L	388/390 (100%)	344 (89%)	27 (7%)	17 (4%)	2	22
3	M	388/390 (100%)	341 (88%)	28 (7%)	19 (5%)	2	20
All	All	8453/8556 (99%)	7770 (92%)	481 (6%)	202 (2%)	9	33

All (202) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	67	ILE
1	a	54	VAL
1	B	64	ILE
1	C	67	ILE
1	D	65	GLU
1	d	221	PHE
1	G	54	VAL
2	1	212	ARG
2	h	85	PRO
2	h	128	ILE
2	h	140	THR
2	2	41	ALA
2	2	139	ALA
2	6	40	LYS
2	6	139	ALA
2	n	131	ALA
3	H	190	LEU
3	H	191	LEU
3	H	280	ASP
3	I	269	LEU
3	I	270	ALA
3	I	388	PRO
3	K	212	VAL
3	L	119	LEU
3	L	237	ILE
3	L	248	ALA
3	L	255	THR
3	L	333	ASP
3	M	74	ASP
3	M	244	ASP
3	M	270	ALA
3	M	282	LYS
3	M	292	ILE
3	J	282	LYS

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Mol	Chain	Res	Type
3	J	386	THR
1	A	143	GLU
1	a	34	GLY
1	a	73	HIS
1	a	161	ALA
1	b	54	VAL
1	b	57	LYS
1	C	9	ASP
1	C	221	PHE
1	c	15	PHE
1	D	9	ASP
1	D	161	ALA
1	d	143	GLU
1	E	221	PHE
1	e	161	ALA
1	F	64	ILE
1	f	12	ILE
1	G	143	GLU
1	G	221	PHE
1	g	143	GLU
2	1	136	ASP
2	h	35	ASN
2	h	139	ALA
2	h	210	LYS
2	2	30	ARG
2	2	140	THR
2	2	182	SER
2	3	139	ALA
2	j	136	ASP
2	4	140	THR
2	5	191	ILE
2	5	193	GLU
2	5	212	ARG
2	l	212	ARG
2	6	41	ALA
2	6	102	ARG
2	n	132	ILE
3	H	113	LEU
3	H	304	ASP
3	I	123	LYS
3	I	242	GLU
3	I	246	ILE

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Mol	Chain	Res	Type
3	K	244	ASP
3	L	122	SER
3	L	163	LYS
3	L	202	THR
3	L	242	GLU
3	L	296	ALA
3	M	212	VAL
3	M	221	ARG
3	M	255	THR
3	M	269	LEU
3	M	310	PRO
3	J	273	ASP
3	J	290	ILE
1	A	9	ASP
1	a	143	GLU
1	B	65	GLU
1	B	143	GLU
1	b	66	LYS
1	D	56	SER
1	d	161	ALA
1	e	72	GLU
1	e	179	TYR
1	F	9	ASP
1	F	221	PHE
1	g	217	ASP
1	g	218	ASP
2	h	183	GLY
2	2	83	ARG
2	2	106	TYR
2	2	212	ARG
2	i	210	LYS
2	j	21	ASP
2	j	41	ALA
2	j	185	GLY
2	4	136	ASP
2	k	155	PHE
2	5	133	GLU
2	l	137	ILE
2	6	193	GLU
2	7	34	GLY
2	7	133	GLU
2	n	139	ALA

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Mol	Chain	Res	Type
3	H	129	GLY
3	H	139	SER
3	H	175	PRO
3	H	273	ASP
3	H	282	LYS
3	H	333	ASP
3	I	212	VAL
3	K	330	LEU
3	K	332	GLU
3	L	280	ASP
3	L	366	GLU
3	L	387	THR
3	M	146	LEU
3	M	202	THR
3	M	273	ASP
3	M	330	LEU
1	a	13	THR
1	B	15	PHE
1	B	221	PHE
1	b	73	HIS
1	d	56	SER
1	e	14	VAL
1	e	36	THR
1	g	73	HIS
1	g	221	PHE
2	i	41	ALA
2	i	44	LYS
2	l	30	ARG
2	6	20	LYS
2	6	136	ASP
2	6	140	THR
2	n	30	ARG
3	I	134	GLU
3	I	393	LYS
3	K	175	PRO
3	K	235	PRO
3	L	85	PRO
3	L	135	LYS
3	L	304	ASP
3	L	389	ILE
3	J	133	GLU
3	J	242	GLU

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Mol	Chain	Res	Type
3	J	284	ILE
3	J	387	THR
1	a	221	PHE
2	h	191	ILE
2	h	193	GLU
2	3	181	ALA
2	j	40	LYS
2	k	140	THR
2	m	200	SER
2	n	137	ILE
3	H	125	PRO
3	H	344	GLU
3	I	85	PRO
3	I	200	ARG
3	I	256	SER
3	I	303	PHE
3	M	246	ILE
3	M	312	PRO
3	M	332	GLU
3	J	330	LEU
3	J	366	GLU
3	J	390	PRO
1	B	36	THR
2	k	183	GLY
2	5	83	ARG
2	5	200	SER
2	1	193	GLU
2	7	136	ASP
3	H	136	PRO
3	K	310	PRO
3	M	174	PRO
3	M	257	GLY
3	H	292	ILE
3	I	132	VAL
2	1	183	GLY
1	d	54	VAL
3	K	125	PRO
2	k	200	SER
3	H	310	PRO
1	D	64	ILE
2	n	129	GLY
3	I	136	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%)	198 (98%)	5 (2%)	47	68
1	B	203/203 (100%)	194 (96%)	9 (4%)	28	53
1	C	203/203 (100%)	193 (95%)	10 (5%)	25	50
1	D	203/203 (100%)	192 (95%)	11 (5%)	22	47
1	E	203/203 (100%)	190 (94%)	13 (6%)	17	42
1	F	203/203 (100%)	194 (96%)	9 (4%)	28	53
1	G	203/203 (100%)	197 (97%)	6 (3%)	41	63
1	a	199/203 (98%)	191 (96%)	8 (4%)	31	55
1	b	199/203 (98%)	194 (98%)	5 (2%)	47	68
1	c	199/203 (98%)	192 (96%)	7 (4%)	36	59
1	d	199/203 (98%)	188 (94%)	11 (6%)	21	47
1	e	199/203 (98%)	190 (96%)	9 (4%)	27	52
1	f	199/203 (98%)	192 (96%)	7 (4%)	36	59
1	g	199/203 (98%)	190 (96%)	9 (4%)	27	52
2	1	164/164 (100%)	156 (95%)	8 (5%)	25	50
2	2	164/164 (100%)	159 (97%)	5 (3%)	41	63
2	3	164/164 (100%)	159 (97%)	5 (3%)	41	63
2	4	164/164 (100%)	157 (96%)	7 (4%)	29	53
2	5	164/164 (100%)	159 (97%)	5 (3%)	41	63
2	6	164/164 (100%)	159 (97%)	5 (3%)	41	63
2	7	164/164 (100%)	155 (94%)	9 (6%)	21	47
2	h	164/164 (100%)	158 (96%)	6 (4%)	34	58
2	i	164/164 (100%)	157 (96%)	7 (4%)	29	53
2	j	164/164 (100%)	159 (97%)	5 (3%)	41	63
2	k	164/164 (100%)	157 (96%)	7 (4%)	29	53
2	l	164/164 (100%)	157 (96%)	7 (4%)	29	53

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
2	m	164/164 (100%)	163 (99%)	1 (1%)	86	92
2	n	164/164 (100%)	156 (95%)	8 (5%)	25	50
3	H	338/338 (100%)	324 (96%)	14 (4%)	30	55
3	I	338/338 (100%)	326 (96%)	12 (4%)	35	59
3	J	338/338 (100%)	326 (96%)	12 (4%)	35	59
3	K	338/338 (100%)	328 (97%)	10 (3%)	41	63
3	L	338/338 (100%)	324 (96%)	14 (4%)	30	55
3	M	338/338 (100%)	327 (97%)	11 (3%)	38	61
All	All	7138/7166 (100%)	6861 (96%)	277 (4%)	36	56

All (277) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	86	ARG
1	A	121	GLN
1	A	144	VAL
1	A	169	ASN
1	A	180	ARG
1	a	13	THR
1	a	33	ARG
1	a	43	LYS
1	a	84	ASP
1	a	145	PRO
1	a	208	ASN
1	a	213	TYR
1	a	234	GLU
1	B	6	MET
1	B	75	CYS
1	B	102	THR
1	B	121	GLN
1	B	142	ASP
1	B	152	PRO
1	B	166	MET
1	B	190	VAL
1	B	209	ILE
1	b	15	PHE
1	b	31	VAL
1	b	63	THR
1	b	102	THR

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Mol	Chain	Res	Type
1	b	121	GLN
1	C	36	THR
1	C	69	LYS
1	C	73	HIS
1	C	84	ASP
1	C	164	ILE
1	C	166	MET
1	C	206	PRO
1	C	208	ASN
1	C	217	ASP
1	C	239	ARG
1	c	14	VAL
1	c	16	SER
1	c	62	ASP
1	c	71	ASP
1	c	166	MET
1	c	178	GLU
1	c	213	TYR
1	D	18	ASP
1	D	28	ARG
1	D	38	ILE
1	D	57	LYS
1	D	73	HIS
1	D	99	ASN
1	D	102	THR
1	D	121	GLN
1	D	147	LEU
1	D	208	ASN
1	D	226	PRO
1	d	14	VAL
1	d	15	PHE
1	d	22	PHE
1	d	40	ILE
1	d	81	LEU
1	d	116	ILE
1	d	134	VAL
1	d	169	ASN
1	d	182	ASP
1	d	227	GLU
1	d	234	GLU
1	E	9	ASP
1	E	14	VAL

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Mol	Chain	Res	Type
1	E	40	ILE
1	E	43	LYS
1	E	89	ILE
1	E	98	ILE
1	E	99	ASN
1	E	121	GLN
1	E	130	ARG
1	E	145	PRO
1	E	156	LEU
1	E	178	GLU
1	E	213	TYR
1	e	40	ILE
1	e	62	ASP
1	e	73	HIS
1	e	121	GLN
1	e	162	THR
1	e	166	MET
1	e	208	ASN
1	e	226	PRO
1	e	232	TYR
1	F	28	ARG
1	F	54	VAL
1	F	59	LEU
1	F	104	ASP
1	F	129	VAL
1	F	142	ASP
1	F	153	SER
1	F	166	MET
1	F	182	ASP
1	f	10	ARG
1	f	13	THR
1	f	40	ILE
1	f	91	ARG
1	f	98	ILE
1	f	213	TYR
1	f	218	ASP
1	G	5	GLN
1	G	9	ASP
1	G	40	ILE
1	G	57	LYS
1	G	59	LEU
1	G	121	GLN

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Mol	Chain	Res	Type
1	g	46	VAL
1	g	59	LEU
1	g	86	ARG
1	g	121	GLN
1	g	126	TYR
1	g	130	ARG
1	g	157	LEU
1	g	209	ILE
1	g	224	VAL
2	1	27	THR
2	1	28	GLU
2	1	45	ILE
2	1	64	GLN
2	1	101	TYR
2	1	120	LYS
2	1	136	ASP
2	1	202	GLU
2	h	13	THR
2	h	52	MET
2	h	161	VAL
2	h	195	GLU
2	h	201	PRO
2	h	205	GLU
2	2	14	THR
2	2	27	THR
2	2	45	ILE
2	2	84	LYS
2	2	110	LEU
2	i	17	LEU
2	i	45	ILE
2	i	72	ILE
2	i	122	ILE
2	i	137	ILE
2	i	140	THR
2	i	150	VAL
2	3	17	LEU
2	3	62	ASP
2	3	197	TYR
2	3	206	GLN
2	3	213	LYS
2	j	14	THR
2	j	115	ILE

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Mol	Chain	Res	Type
2	j	121	SER
2	j	148	TYR
2	j	205	GLU
2	4	123	TYR
2	4	136	ASP
2	4	146	THR
2	4	154	ARG
2	4	156	THR
2	4	162	ASP
2	4	188	VAL
2	k	14	THR
2	k	116	ASP
2	k	120	LYS
2	k	156	THR
2	k	170	ARG
2	k	188	VAL
2	k	212	ARG
2	5	45	ILE
2	5	135	LYS
2	5	136	ASP
2	5	161	VAL
2	5	205	GLU
2	1	21	ASP
2	1	27	THR
2	1	28	GLU
2	1	30	ARG
2	1	136	ASP
2	1	191	ILE
2	1	201	PRO
2	6	45	ILE
2	6	72	ILE
2	6	101	TYR
2	6	142	SER
2	6	202	GLU
2	m	186	ILE
2	7	17	LEU
2	7	28	GLU
2	7	64	GLN
2	7	85	PRO
2	7	110	LEU
2	7	136	ASP
2	7	177	LYS

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Mol	Chain	Res	Type
2	7	184	ASP
2	7	201	PRO
2	n	17	LEU
2	n	28	GLU
2	n	35	ASN
2	n	87	VAL
2	n	100	SER
2	n	136	ASP
2	n	170	ARG
2	n	212	ARG
3	H	62	PRO
3	H	73	GLU
3	H	136	PRO
3	H	165	GLU
3	H	175	PRO
3	H	190	LEU
3	H	200	ARG
3	H	207	VAL
3	H	227	PHE
3	H	250	ARG
3	H	265	MET
3	H	272	LEU
3	H	295	PRO
3	H	300	PRO
3	I	74	ASP
3	I	88	VAL
3	I	106	VAL
3	I	137	GLU
3	I	159	LEU
3	I	200	ARG
3	I	255	THR
3	I	273	ASP
3	I	293	LEU
3	I	304	ASP
3	I	352	LYS
3	I	387	THR
3	K	41	ARG
3	K	83	THR
3	K	85	PRO
3	K	116	VAL
3	K	137	GLU
3	K	183	PRO

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Mol	Chain	Res	Type
3	K	260	GLU
3	K	280	ASP
3	K	321	PHE
3	K	332	GLU
3	L	11	GLU
3	L	55	VAL
3	L	85	PRO
3	L	125	PRO
3	L	137	GLU
3	L	214	LYS
3	L	235	PRO
3	L	254	ASP
3	L	275	PHE
3	L	295	PRO
3	L	304	ASP
3	L	311	LEU
3	L	330	LEU
3	L	381	LYS
3	M	32	ASP
3	M	88	VAL
3	M	106	VAL
3	M	137	GLU
3	M	149	GLN
3	M	179	LEU
3	M	226	VAL
3	M	250	ARG
3	M	304	ASP
3	M	332	GLU
3	M	366	GLU
3	J	15	LYS
3	J	97	GLU
3	J	110	GLN
3	J	140	TYR
3	J	280	ASP
3	J	283	VAL
3	J	288	ASN
3	J	291	ASP
3	J	299	ARG
3	J	352	LYS
3	J	390	PRO
3	J	393	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (35)

such sidechains are listed below:

Mol	Chain	Res	Type
1	B	121	GLN
1	b	73	HIS
1	b	99	ASN
1	b	237	ASN
1	C	237	ASN
1	c	23	GLN
1	c	121	GLN
1	D	121	GLN
1	D	208	ASN
1	d	125	GLN
1	d	169	ASN
1	F	97	GLN
1	f	237	ASN
1	G	237	ASN
1	g	97	GLN
2	1	99	ASN
2	1	109	GLN
2	h	75	ASN
2	h	198	GLN
2	2	75	ASN
2	4	99	ASN
2	l	99	ASN
2	6	198	GLN
2	m	64	GLN
2	7	64	GLN
2	n	35	ASN
2	n	75	ASN
3	H	198	GLN
3	I	90	ASN
3	I	111	GLN
3	I	198	GLN
3	L	267	GLN
3	M	149	GLN
3	M	324	HIS
3	J	262	GLN

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	I	401	5	26,33,33	1.61	5 (19%)	31,52,52	2.43	11 (35%)
4	ATP	H	401	5	26,33,33	1.58	3 (11%)	31,52,52	2.21	6 (19%)
4	ATP	L	401	5	26,33,33	1.45	5 (19%)	31,52,52	2.65	8 (25%)
4	ATP	M	401	5	26,33,33	1.54	3 (11%)	31,52,52	2.28	9 (29%)
6	ADP	J	401	5	24,29,29	1.28	4 (16%)	29,45,45	2.17	4 (13%)

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	I	401	5	-	5/18/38/38	0/3/3/3
4	ATP	H	401	5	-	2/18/38/38	0/3/3/3
4	ATP	L	401	5	-	11/18/38/38	0/3/3/3
4	ATP	M	401	5	-	5/18/38/38	0/3/3/3
6	ADP	J	401	5	-	6/12/32/32	0/3/3/3

All (20) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	H	401	ATP	C2'-N3	4.61	1.39	1.32
4	I	401	ATP	C2'-C1'	-4.50	1.46	1.53
4	M	401	ATP	C2'-N3	4.15	1.38	1.32
4	H	401	ATP	C2'-C1'	-3.83	1.48	1.53
4	M	401	ATP	C8-N7	-3.73	1.28	1.34
4	H	401	ATP	C8-N7	-3.62	1.28	1.34
4	M	401	ATP	C2'-C1'	-3.22	1.48	1.53
4	L	401	ATP	C4-N3	-2.94	1.31	1.35
6	J	401	ADP	O2'-C2'	-2.85	1.36	1.43
4	I	401	ATP	C8-N7	-2.84	1.29	1.34
6	J	401	ADP	C6-C5	-2.78	1.33	1.43
6	J	401	ADP	C2'-C1'	-2.61	1.49	1.53
4	I	401	ATP	O2'-C2'	-2.59	1.36	1.43
4	L	401	ATP	C6-N6	2.48	1.43	1.34
4	L	401	ATP	C8-N7	-2.44	1.30	1.34
4	I	401	ATP	O4'-C1'	2.41	1.44	1.41
4	L	401	ATP	C5-C4	-2.37	1.34	1.40
4	L	401	ATP	C2-N1	2.18	1.38	1.33
6	J	401	ADP	PA-O2A	-2.09	1.45	1.55
4	I	401	ATP	C4-N3	-2.08	1.32	1.35

All (38) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	J	401	ADP	PA-O3A-PB	9.65	165.96	132.83
4	L	401	ATP	PA-O3A-PB	8.41	161.68	132.83
4	M	401	ATP	PB-O3B-PG	7.36	158.08	132.83
4	H	401	ATP	PB-O3B-PG	7.22	157.60	132.83
4	H	401	ATP	PA-O3A-PB	7.07	157.09	132.83
4	L	401	ATP	PB-O3B-PG	6.42	154.85	132.83
4	I	401	ATP	PB-O3B-PG	6.41	154.84	132.83
4	M	401	ATP	PA-O3A-PB	6.36	154.65	132.83
4	L	401	ATP	N6-C6-N1	6.13	131.29	118.57
4	I	401	ATP	PA-O3A-PB	5.91	153.10	132.83
4	M	401	ATP	C5-C6-N6	4.44	127.10	120.35
4	I	401	ATP	N6-C6-N1	4.23	127.36	118.57
4	L	401	ATP	C5-C6-N6	-4.14	114.07	120.35
4	I	401	ATP	C1'-N9-C4	-4.10	119.45	126.64
4	I	401	ATP	C4-C5-N7	3.37	112.92	109.40
6	J	401	ADP	O5'-C5'-C4'	3.16	119.86	108.99
4	H	401	ATP	O4'-C1'-C2'	-3.01	102.52	106.93
4	I	401	ATP	O5'-C5'-C4'	2.99	119.29	108.99
4	I	401	ATP	N3-C2-N1	2.79	133.03	128.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	L	401	ATP	C5-C6-N1	-2.62	114.41	120.35
4	L	401	ATP	C1'-N9-C4	-2.60	122.08	126.64
4	M	401	ATP	C5-C6-N1	-2.59	114.48	120.35
4	H	401	ATP	C5-C6-N1	-2.57	114.52	120.35
4	I	401	ATP	C5-C6-N6	-2.56	116.46	120.35
4	I	401	ATP	O3'-C3'-C2'	2.54	120.05	111.82
4	M	401	ATP	O4'-C1'-C2'	2.46	110.52	106.93
4	M	401	ATP	C5'-C4'-C3'	2.38	124.10	115.18
4	M	401	ATP	C1'-N9-C4	-2.37	122.47	126.64
4	I	401	ATP	C5'-C4'-C3'	2.37	124.05	115.18
6	J	401	ADP	O4'-C1'-C2'	2.26	110.24	106.93
4	H	401	ATP	C3'-C2'-C1'	2.22	104.31	100.98
4	I	401	ATP	C2-N1-C6	-2.20	115.00	118.75
4	L	401	ATP	C3'-C2'-C1'	2.18	104.27	100.98
4	M	401	ATP	O3G-PG-O2G	2.18	115.95	107.64
4	M	401	ATP	O5'-C5'-C4'	2.11	116.27	108.99
4	L	401	ATP	C5'-C4'-C3'	-2.08	107.38	115.18
6	J	401	ADP	C5-C6-N1	-2.08	115.64	120.35
4	H	401	ATP	O3G-PG-O1G	2.05	118.71	110.68

There are no chirality outliers.

All (29) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	H	401	ATP	C5'-O5'-PA-O2A
4	H	401	ATP	C5'-O5'-PA-O3A
4	I	401	ATP	C5'-O5'-PA-O1A
4	I	401	ATP	C5'-O5'-PA-O3A
4	L	401	ATP	PB-O3B-PG-O2G
4	L	401	ATP	C5'-O5'-PA-O2A
4	M	401	ATP	C5'-O5'-PA-O1A
4	M	401	ATP	C5'-O5'-PA-O2A
6	J	401	ADP	PA-O3A-PB-O2B
6	J	401	ADP	C5'-O5'-PA-O1A
6	J	401	ADP	C5'-O5'-PA-O2A
4	I	401	ATP	C4'-C5'-O5'-PA
4	M	401	ATP	C4'-C5'-O5'-PA
6	J	401	ADP	C4'-C5'-O5'-PA
4	L	401	ATP	PB-O3B-PG-O3G
4	L	401	ATP	C5'-O5'-PA-O3A
4	L	401	ATP	PG-O3B-PB-O2B
4	L	401	ATP	C4'-C5'-O5'-PA

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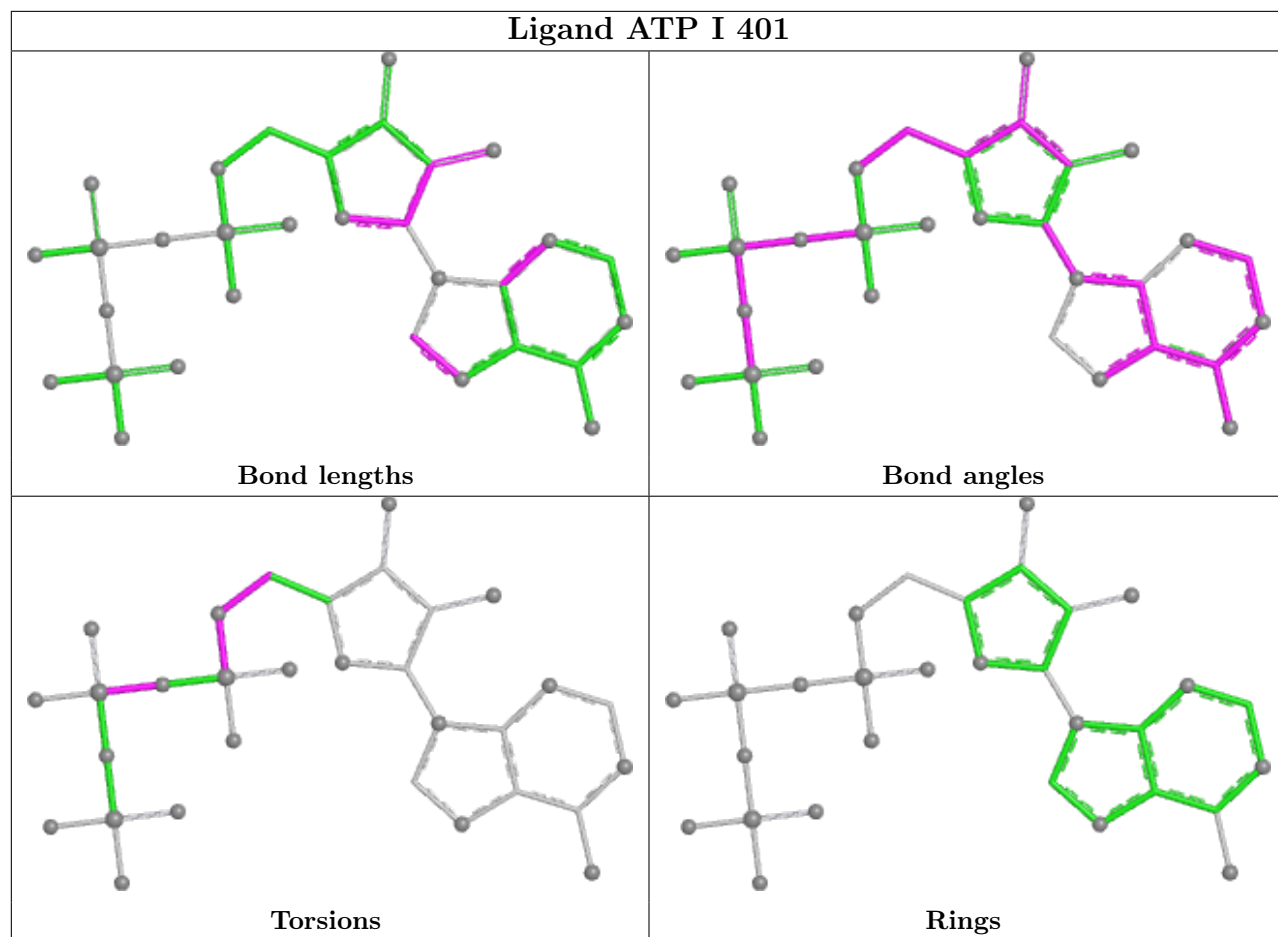
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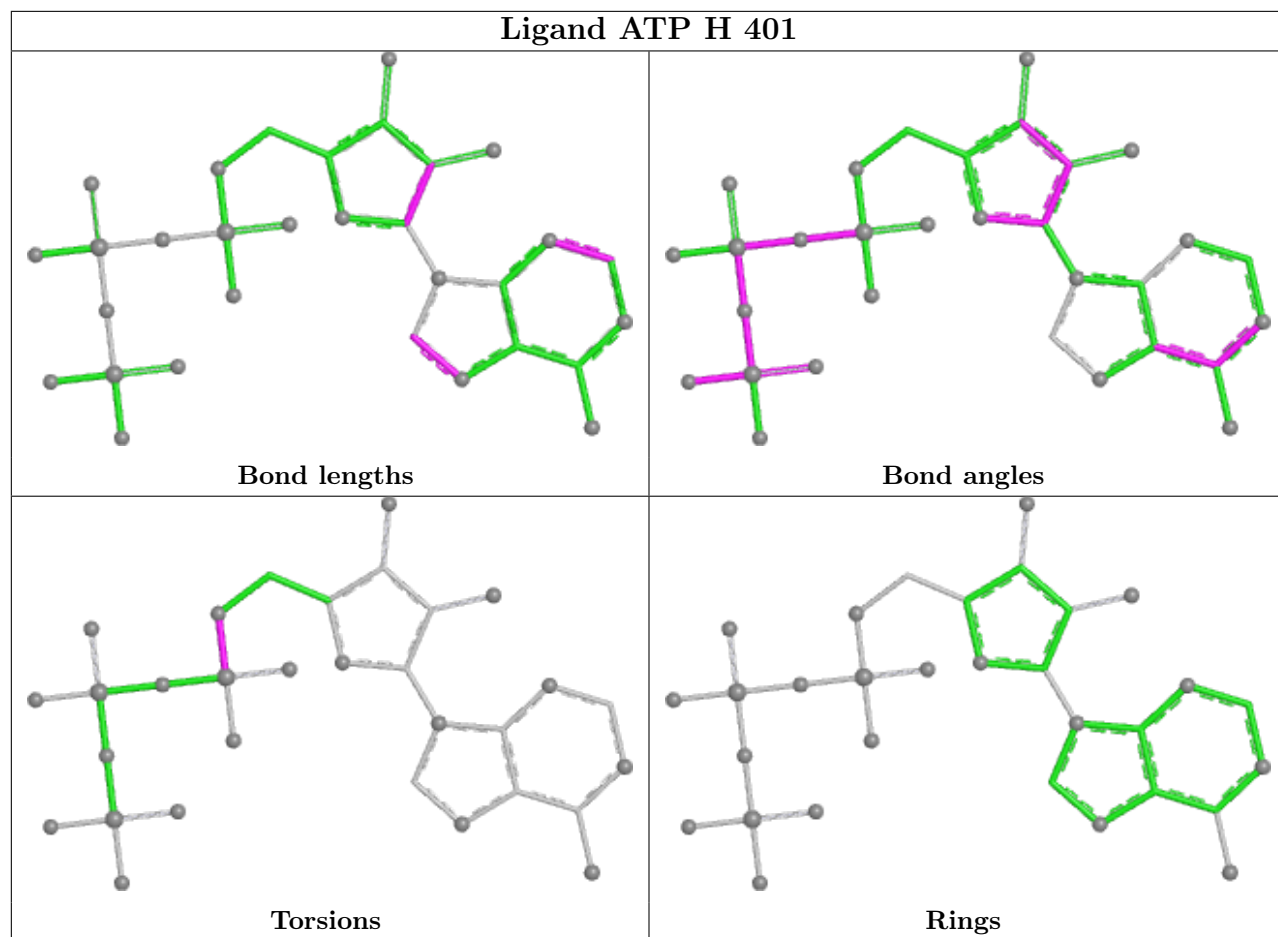
Mol	Chain	Res	Type	Atoms
4	L	401	ATP	C5'-O5'-PA-O1A
4	L	401	ATP	C3'-C4'-C5'-O5'
4	L	401	ATP	PG-O3B-PB-O1B
4	M	401	ATP	PG-O3B-PB-O2B
4	L	401	ATP	O4'-C4'-C5'-O5'
6	J	401	ADP	PA-O3A-PB-O3B
4	M	401	ATP	C5'-O5'-PA-O3A
6	J	401	ADP	C5'-O5'-PA-O3A
4	I	401	ATP	PA-O3A-PB-O1B
4	I	401	ATP	PA-O3A-PB-O2B
4	L	401	ATP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

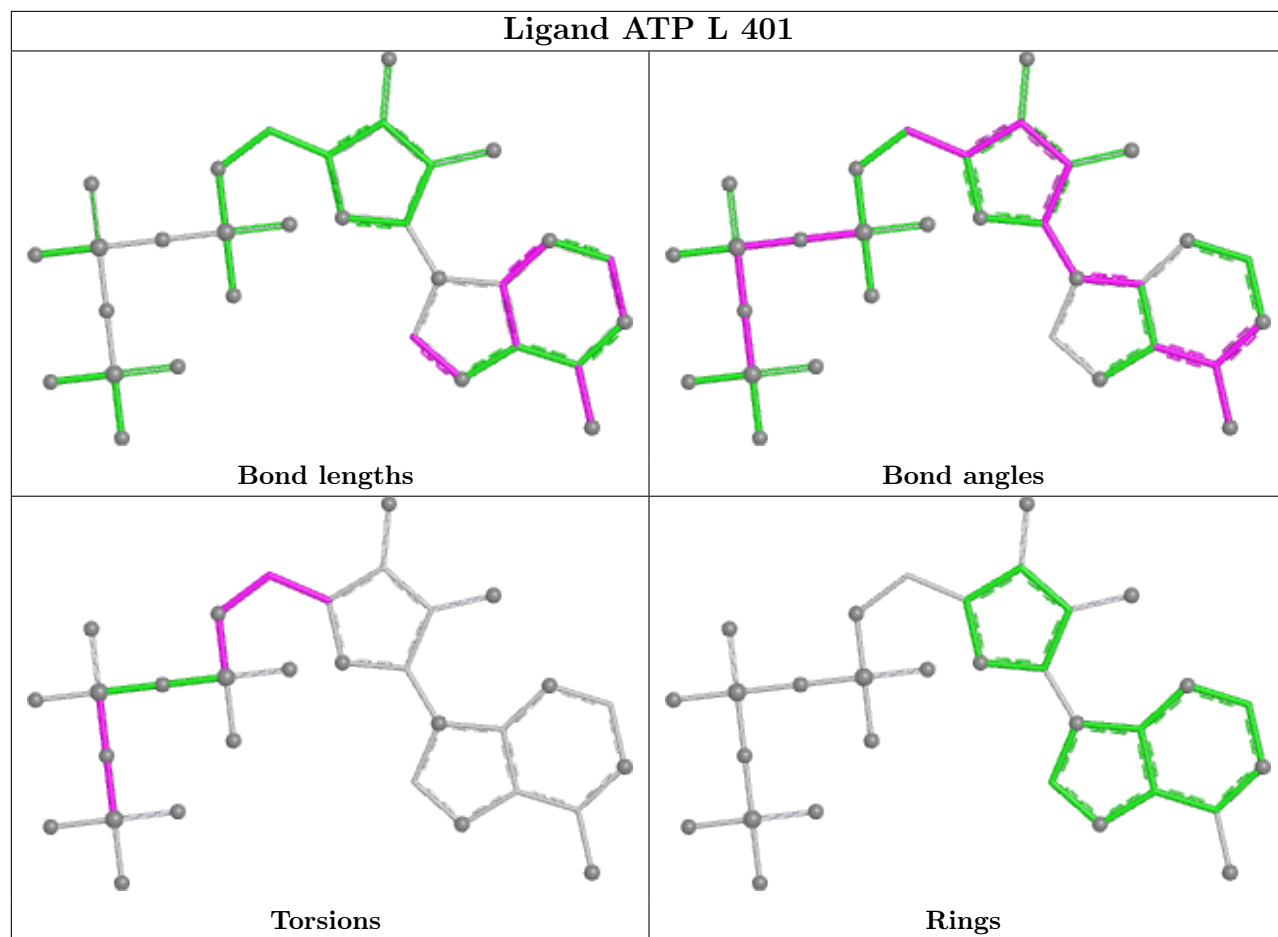
There are no ring outliers.

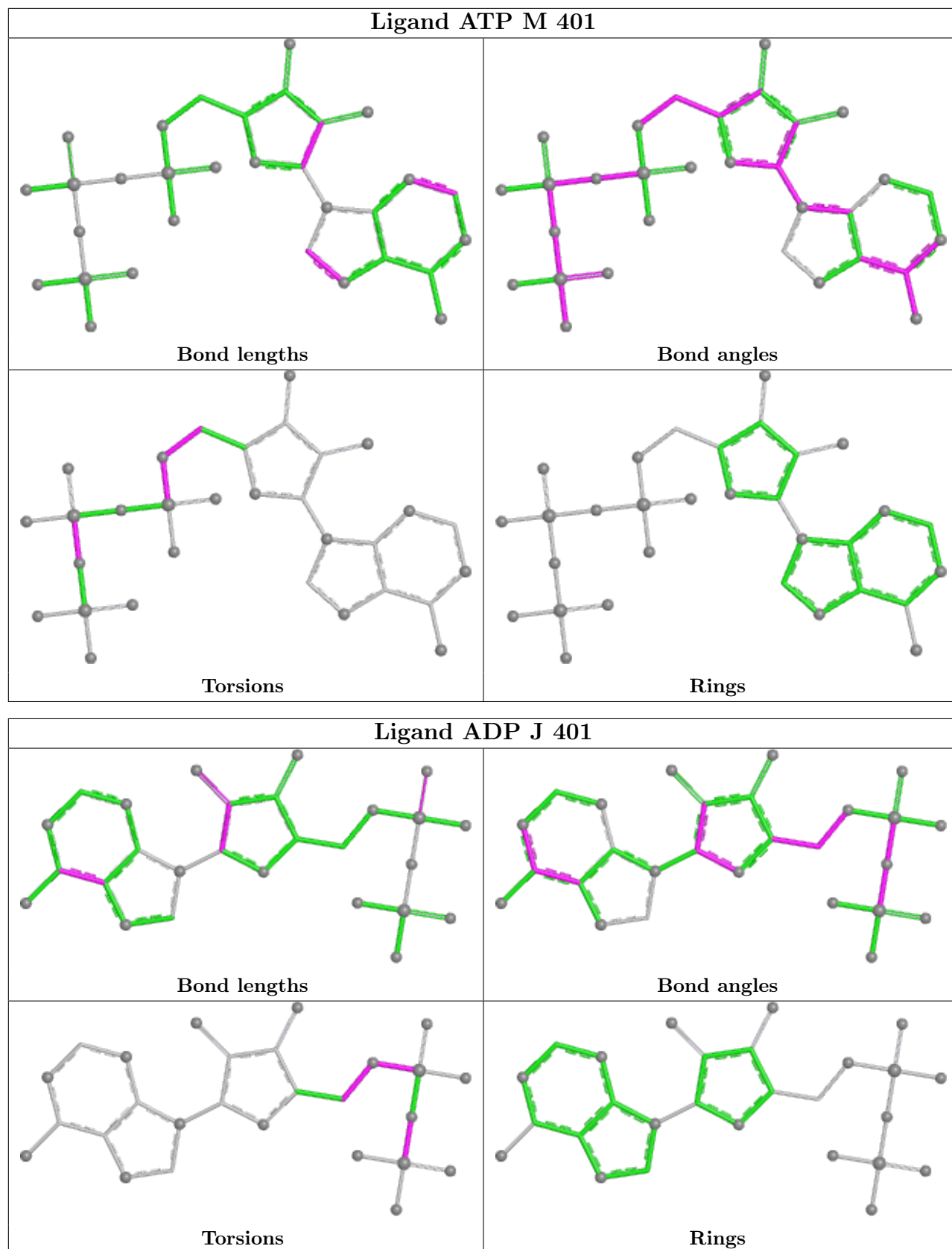
No monomer is involved in short contacts.

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

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

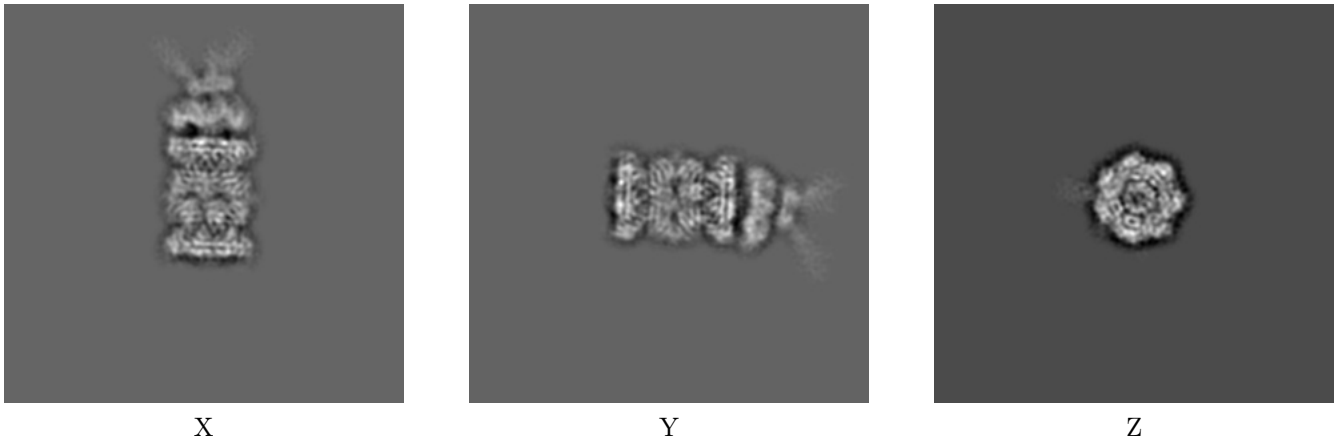
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-0215. 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](#)

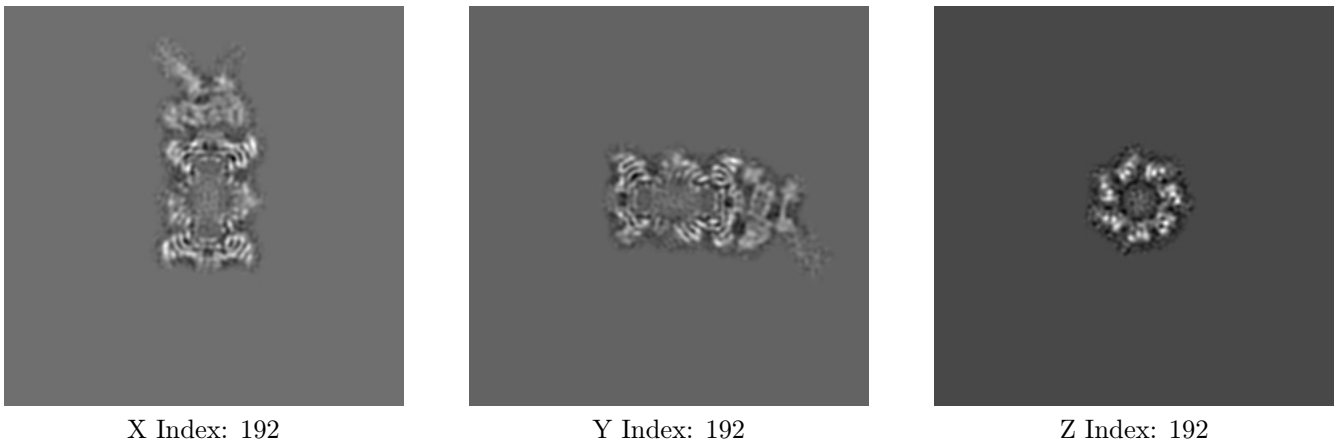
6.1.1 Primary map



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

6.2 Central slices [i](#)

6.2.1 Primary map



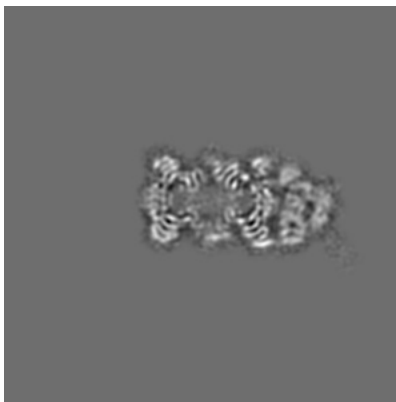
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

6.3.1 Primary map



X Index: 179



Y Index: 187



Z Index: 251

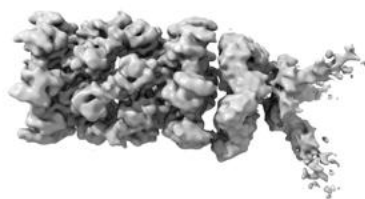
The images above show the largest variance slices of the map in three orthogonal directions.

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 0.00655. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

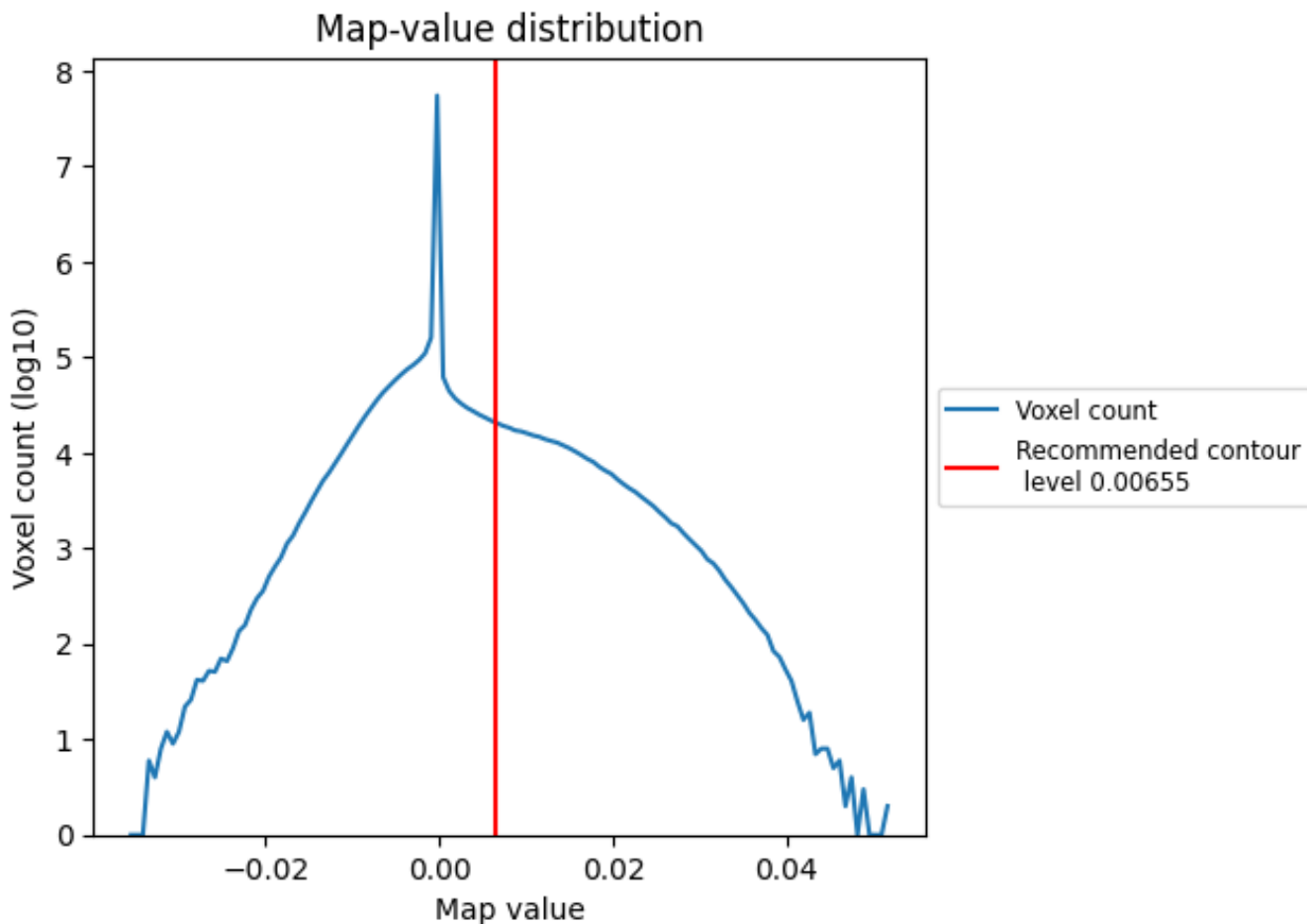
6.5 Mask visualisation

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

7 Map analysis [i](#)

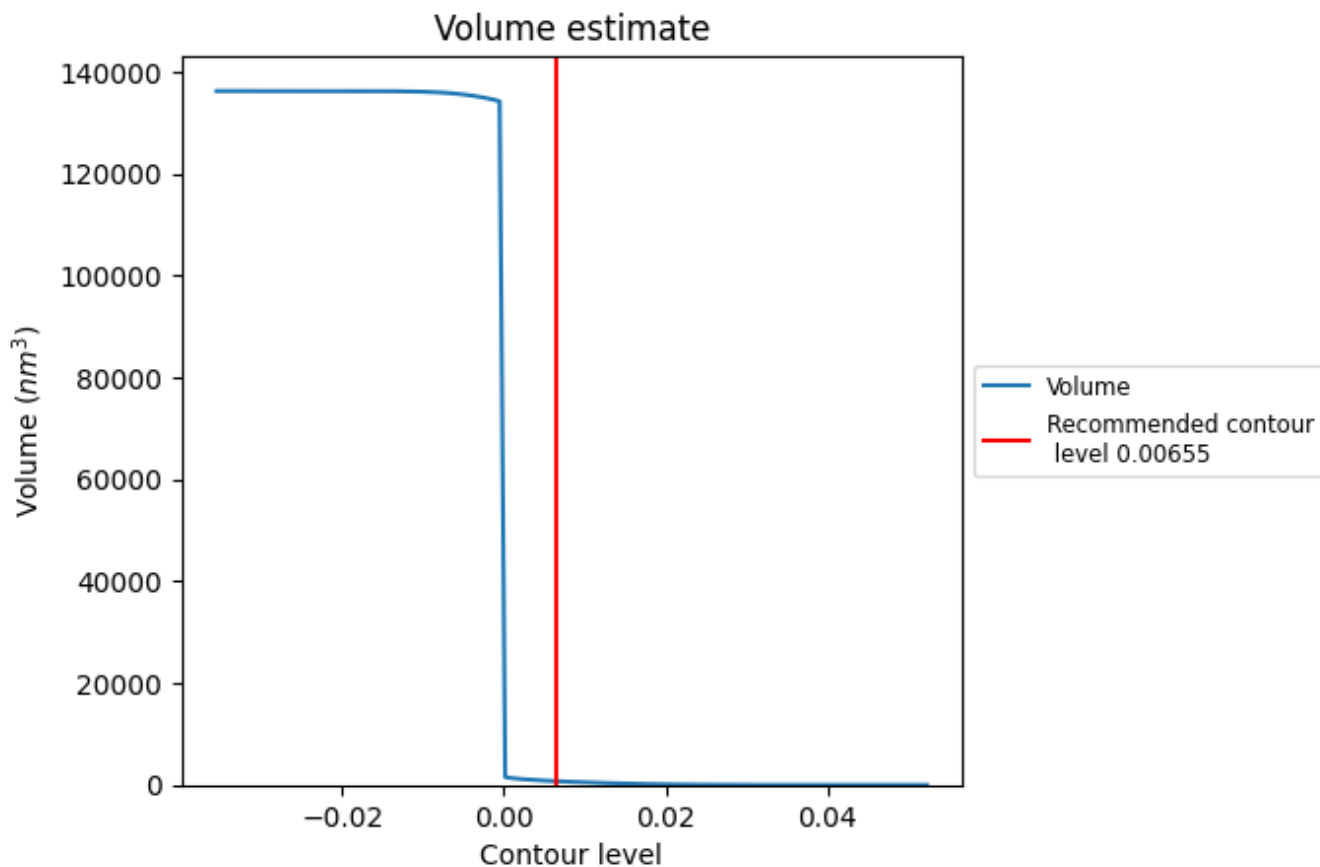
This section contains the results of statistical analysis of the map.

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.

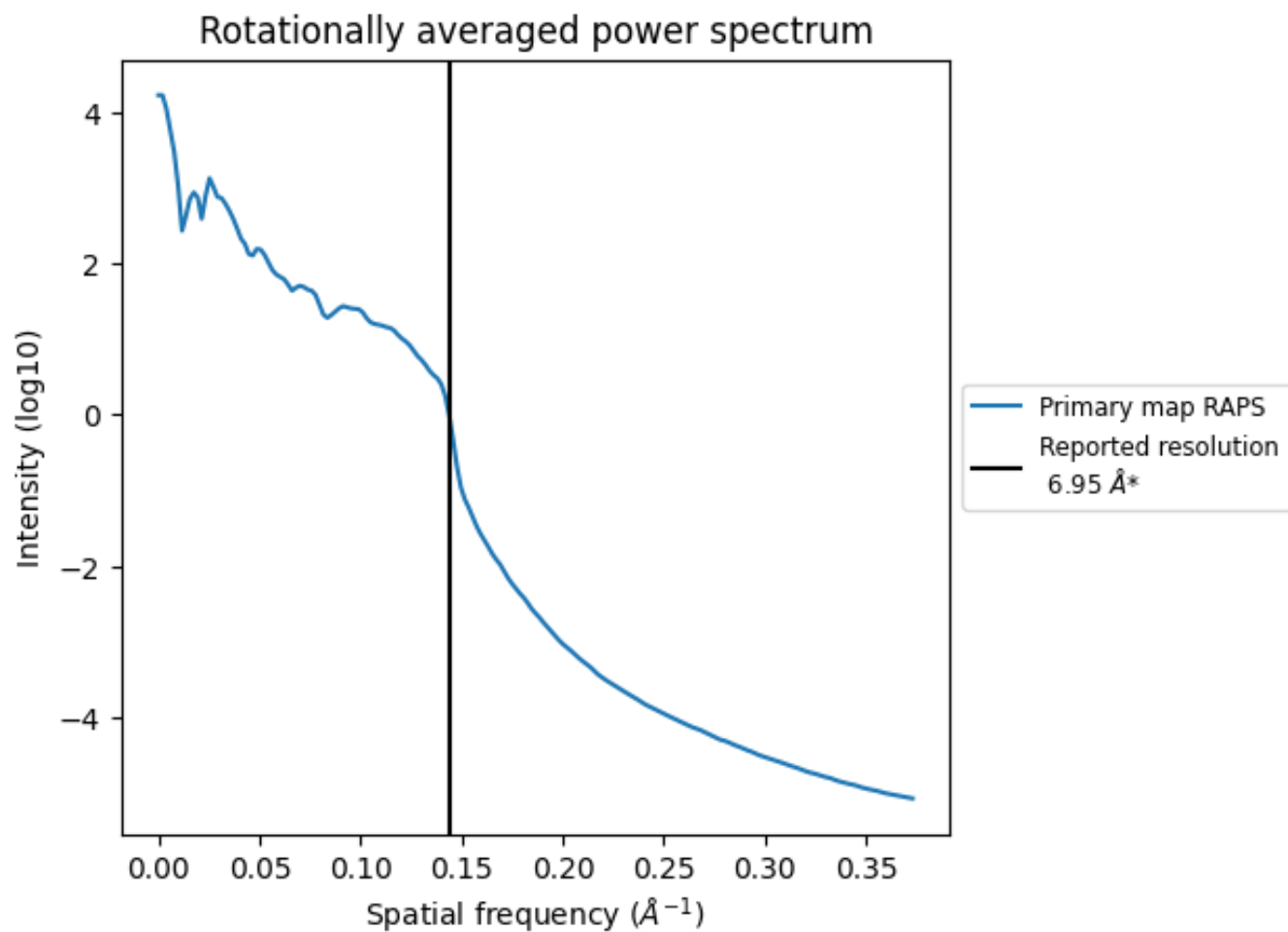
7.2 Volume estimate [\(i\)](#)



The volume at the recommended contour level is 736 nm³; this corresponds to an approximate mass of 665 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 0.144\AA^{-1}

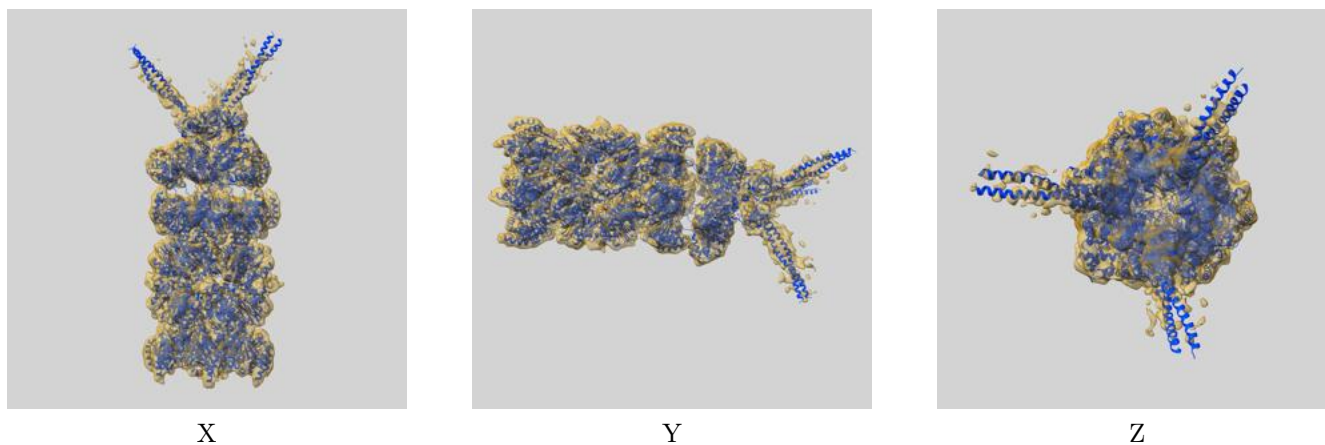
8 Fourier-Shell correlation

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

9 Map-model fit [i](#)

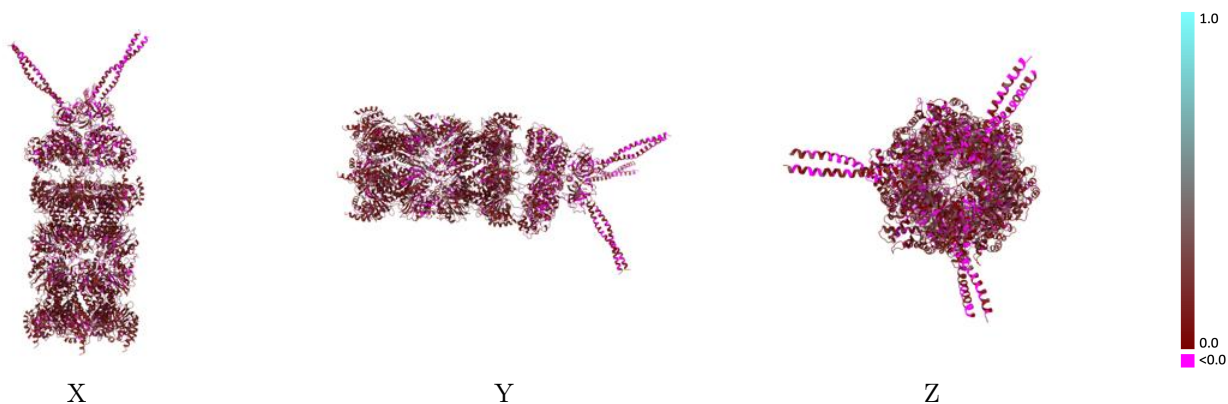
This section contains information regarding the fit between EMDB map EMD-0215 and PDB model 6HEC. Per-residue inclusion information can be found in section 3 on page 8.

9.1 Map-model overlay [i](#)



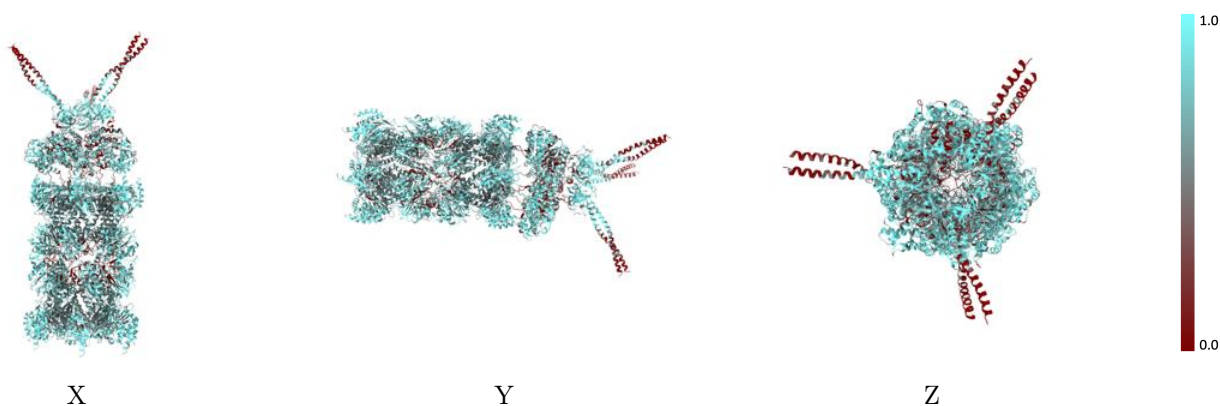
The images above show the 3D surface view of the map at the recommended contour level 0.00655 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



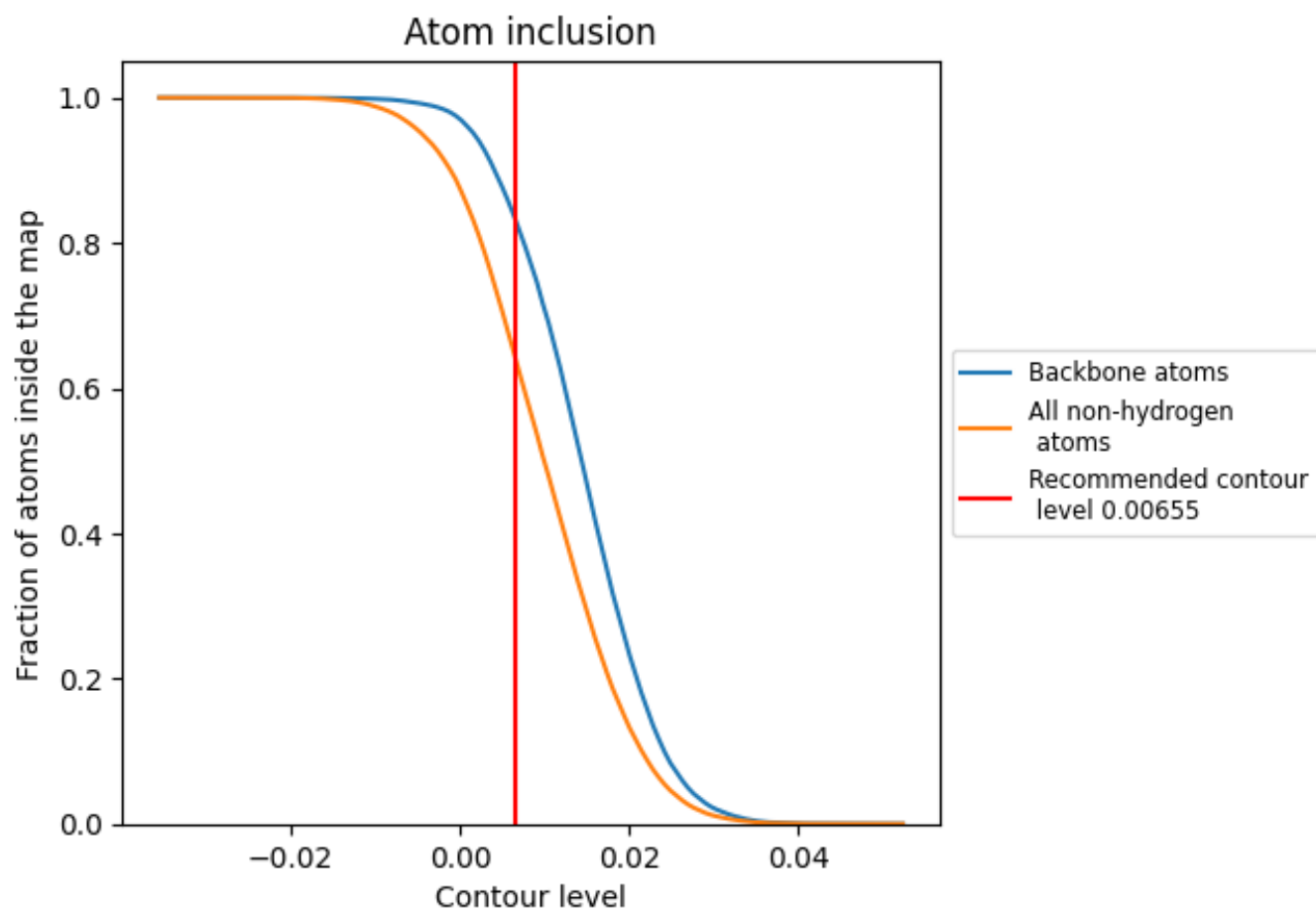
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 (0.00655).







































































9.4 Atom inclusion [i](#)



At the recommended contour level, 83% of all backbone atoms, 64% 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 (0.00655) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.6413	 0.1140
1	 0.6103	 0.1150
2	 0.6195	 0.1230
3	 0.6261	 0.1250
4	 0.6353	 0.1280
5	 0.6267	 0.1240
6	 0.6254	 0.1230
7	 0.6234	 0.1150
A	 0.7060	 0.1270
B	 0.6942	 0.1350
C	 0.6947	 0.1370
D	 0.6996	 0.1310
E	 0.6953	 0.1300
F	 0.7060	 0.1350
G	 0.6990	 0.1310
H	 0.6008	 0.0920
I	 0.6061	 0.0940
J	 0.6187	 0.0900
K	 0.6013	 0.0900
L	 0.5266	 0.0790
M	 0.5946	 0.0840
a	 0.6957	 0.1320
b	 0.6963	 0.1250
c	 0.6826	 0.1210
d	 0.6815	 0.1180
e	 0.7045	 0.1300
f	 0.6732	 0.1150
g	 0.6798	 0.1250
h	 0.6241	 0.1120
i	 0.6182	 0.1160
j	 0.6234	 0.1230
k	 0.6155	 0.1120
l	 0.6122	 0.1180
m	 0.6116	 0.1070
n	 0.6208	 0.1130

