Full wwPDB EM Validation Report ⓘ

Nov 20, 2022 – 01:02 am GMT

PDB ID	:	6FVX
EMDB ID	:	EMD-4323
Title	:	26S proteasome, s5 state
Authors	:	Eisele, M.R.; Reed, R.G.; Rudack, T.; Schweitzer, A.; Beck, F.; Nagy, I.; Pfeifer, G.; Plitzko, J.M.; Baumeister, W.; Tomko, R.J.; Sakata, E.
Deposited on	:	2018-03-05
Resolution	:	4.90 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:

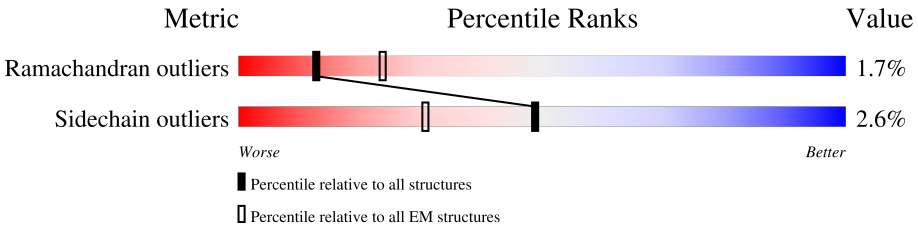
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

1 Overall quality at a glance

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

The reported resolution of this entry is 4.90 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	242	78% 18%
1	a	242	17% 79% 20%
2	B	246	76% 22%
2	b	246	22% 80% 18%
3	C	241	78% 19%
3	c	241	19% 77% 20%
4	D	252	71% 22% 6%
4	d	252	26% 75% 23%
5	E	244	5% 76% 22%

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Mol	Chain	Length	Quality of chain
5	e	244	21% 80% 18%
6	F	232	78% 21%
6	f	232	20% 76% 19%
7	G	244	76% 21%
7	g	244	20% 78% 20%
8	1	196	81% 16%
8	h	196	77% 20%
9	2	226	79% 19%
9	i	226	8% 83% 15%
10	3	204	83% 14%
10	j	204	77% 19%
11	4	195	83% 13%
11	k	195	5% 77% 19%
12	5	212	79% 17%
12	l	212	5% 82% 15%
13	6	222	76% 20%
13	m	222	73% 25%
14	7	232	76% 21%
14	n	232	5% 76% 23%
15	W	197	16% 79% 21%
16	V	289	10% 71% 26%
17	T	266	24% 80% 17%
18	X	127	87% 74% 22%
19	Y	89	55% 79% 19%
20	Z	970	61% 88% 7%

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Mol	Chain	Length	Quality of chain
21	N	922	14% 81% 16%
22	S	475	23% 78% 18%
23	P	440	5% 84% 14%
24	Q	434	11% 76% 19% 5%
25	R	405	11% 81% 16%
26	U	304	12% 81% 17%
27	O	388	9% 78% 20%
28	H	426	26% 76% 20%
29	I	385	19% 79% 18%
30	K	394	18% 75% 22%
31	L	388	14% 78% 18%
32	M	421	19% 77% 19% 5%
33	J	405	30% 79% 18%

2 Entry composition (i)

There are 36 unique types of molecules in this entry. The entry contains 110471 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

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

Mol	Chain	Residues	Atoms					AltConf	Trace
1	a	242	Total	C	N	O	S	0	0
			1913	1217	321	367	8		
1	A	242	Total	C	N	O	S	0	0
			1913	1217	321	367	8		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	b	246	Total	C	N	O	S	0	0
			1881	1200	308	370	3		
2	B	246	Total	C	N	O	S	0	0
			1881	1200	308	370	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
3	c	241	Total	C	N	O	S	0	0
			1884	1190	315	376	3		
3	C	241	Total	C	N	O	S	0	0
			1884	1190	315	376	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
4	d	252	Total	C	N	O	S	0	0
			1986	1237	351	394	4		
4	D	238	Total	C	N	O	S	0	0
			1863	1166	326	367	4		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
5	e	244	Total	C	N	O	S	0	0
			1883	1176	316	384	7		
5	E	244	Total	C	N	O	S	0	0
			1883	1176	316	384	7		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
6	f	232	Total	C	N	O	S	0	0
			1784	1120	311	349	4		
6	F	232	Total	C	N	O	S	0	0
			1784	1120	311	349	4		

- Molecule 7 is a protein called Probable proteasome subunit alpha type-7.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	g	244	Total	C	N	O	S	0	0
			1897	1205	330	358	4		
7	G	244	Total	C	N	O	S	0	0
			1897	1205	330	358	4		

- Molecule 8 is a protein called Proteasome subunit beta type-1.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	h	196	Total	C	N	O	S	0	0
			1512	955	250	300	7		
8	1	196	Total	C	N	O	S	0	0
			1512	955	250	300	7		

- Molecule 9 is a protein called Proteasome subunit beta type-2.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	i	226	Total	C	N	O	S	0	0
			1720	1082	298	333	7		
9	2	226	Total	C	N	O	S	0	0
			1720	1082	298	333	7		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
10	j	204	Total	C	N	O	S	0	0
			1581	1010	258	305	8		

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Mol	Chain	Residues	Atoms					AltConf	Trace
10	3	204	Total	C	N	O	S	0	0
			1581	1010	258	305	8		

- Molecule 11 is a protein called Proteasome subunit beta type-4.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	k	195	Total	C	N	O	S	0	0
			1562	992	264	300	6		
11	4	195	Total	C	N	O	S	0	0
			1562	992	264	300	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
12	l	212	Total	C	N	O	S	0	0
			1644	1045	280	312	7		
12	5	212	Total	C	N	O	S	0	0
			1644	1045	280	312	7		

- Molecule 13 is a protein called Proteasome subunit beta type-6.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	m	222	Total	C	N	O	S	0	0
			1757	1115	303	335	4		
13	6	222	Total	C	N	O	S	0	0
			1757	1115	303	335	4		

- Molecule 14 is a protein called Proteasome subunit beta type-7.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	n	232	Total	C	N	O	S	0	0
			1816	1148	311	350	7		
14	7	229	Total	C	N	O	S	0	0
			1790	1133	306	344	7		

- Molecule 15 is a protein called 26S proteasome regulatory subunit RPN10.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	W	197	Total	C	N	O	S	0	0
			1535	962	269	301	3		

- Molecule 16 is a protein called Ubiquitin carboxyl-terminal hydrolase RPN11.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	V	289	Total	C	N	O	S	0	0
			2274	1425	389	446	14		

- Molecule 17 is a protein called 26S proteasome regulatory subunit RPN12.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	T	266	Total	C	N	O	S	0	0
			2193	1405	349	433	6		

- Molecule 18 is a protein called 26S proteasome regulatory subunit RPN13.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	X	127	Total	C	N	O	S	0	0
			1033	664	169	196	4		

- Molecule 19 is a protein called 26S proteasome complex subunit SEM1.

Mol	Chain	Residues	Atoms					AltConf	Trace
19	Y	89	Total	C	N	O	S	0	0
			731	447	119	164	1		

- Molecule 20 is a protein called 26S proteasome regulatory subunit RPN1.

Mol	Chain	Residues	Atoms					AltConf	Trace
20	Z	906	Total	C	N	O	S	0	0
			7006	4416	1150	1410	30		

- Molecule 21 is a protein called 26S proteasome regulatory subunit RPN2.

Mol	Chain	Residues	Atoms					AltConf	Trace
21	N	922	Total	C	N	O	S	0	0
			7158	4536	1205	1389	28		

- Molecule 22 is a protein called 26S proteasome regulatory subunit RPN3.

Mol	Chain	Residues	Atoms					AltConf	Trace
22	S	475	Total	C	N	O	S	0	0
			3895	2488	653	739	15		

- Molecule 23 is a protein called 26S proteasome regulatory subunit RPN5.

Mol	Chain	Residues	Atoms					AltConf	Trace
23	P	440	Total	C	N	O	S	0	0
			3609	2297	604	698	10		

- Molecule 24 is a protein called 26S proteasome regulatory subunit RPN6.

Mol	Chain	Residues	Atoms					AltConf	Trace
24	Q	434	Total	C	N	O	S	0	0
			3499	2225	577	681	16		

- Molecule 25 is a protein called 26S proteasome regulatory subunit RPN7.

Mol	Chain	Residues	Atoms					AltConf	Trace
25	R	405	Total	C	N	O	S	0	0
			3259	2077	535	637	10		

- Molecule 26 is a protein called 26S proteasome regulatory subunit RPN8.

Mol	Chain	Residues	Atoms					AltConf	Trace
26	U	304	Total	C	N	O	S	0	0
			2427	1529	414	477	7		

- Molecule 27 is a protein called 26S proteasome regulatory subunit RPN9.

Mol	Chain	Residues	Atoms					AltConf	Trace
27	O	388	Total	C	N	O	S	0	0
			3186	2051	519	608	8		

- Molecule 28 is a protein called 26S proteasome regulatory subunit 7 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
28	H	426	Total	C	N	O	S	0	0
			3313	2056	592	648	17		

- Molecule 29 is a protein called 26S proteasome regulatory subunit 4 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
29	I	385	Total	C	N	O	S	0	0
			3022	1899	508	598	17		

- Molecule 30 is a protein called 26S proteasome regulatory subunit 6B homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
30	K	394	Total	C	N	O	S	0	0
			3113	1951	548	604	10		

- Molecule 31 is a protein called 26S proteasome subunit RPT4.

Mol	Chain	Residues	Atoms					AltConf	Trace
31	L	388	Total	C	N	O	S	0	0
			3083	1942	548	581	12		

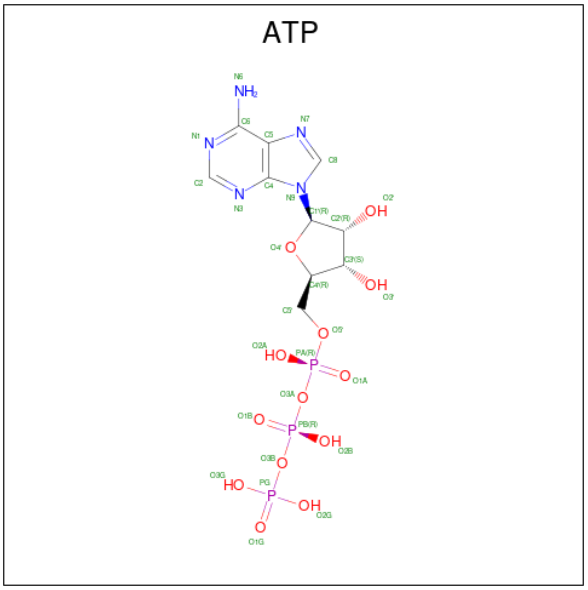
- Molecule 32 is a protein called 26S proteasome regulatory subunit 6A.

Mol	Chain	Residues	Atoms					AltConf	Trace
32	M	421	Total	C	N	O	S	0	0
			3285	2043	573	656	13		

- Molecule 33 is a protein called 26S proteasome regulatory subunit 8 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
33	J	405	Total	C	N	O	S	0	0
			3171	1995	565	593	18		

- Molecule 34 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$).



Mol	Chain	Residues	Atoms					AltConf
34	H	1	Total	C	N	O	P	0
			31	10	5	13	3	

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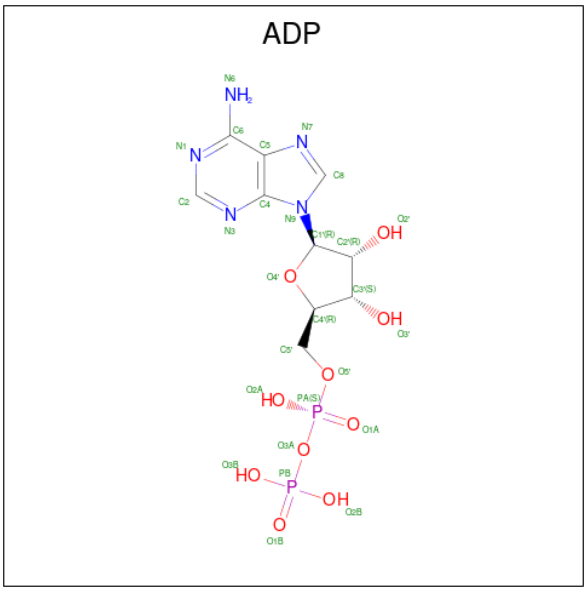
Mol	Chain	Residues	Atoms					AltConf
34	I	1	Total	C	N	O	P	0
			31	10	5	13	3	
34	K	1	Total	C	N	O	P	0
			31	10	5	13	3	
34	L	1	Total	C	N	O	P	0
			31	10	5	13	3	
34	M	1	Total	C	N	O	P	0
			31	10	5	13	3	

- Molecule 35 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

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

- Molecule 36 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$).



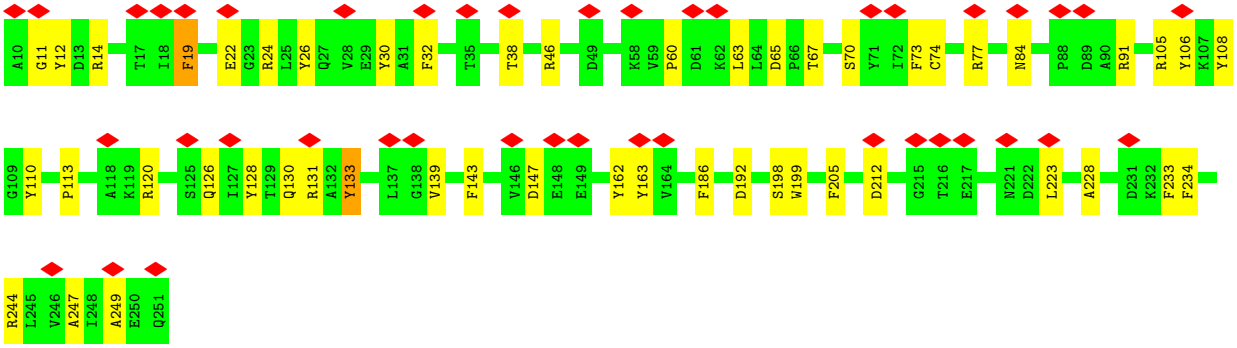
Mol	Chain	Residues	Atoms					AltConf
36	J	1	Total	C	N	O	P	0
			27	10	5	10	2	

3 Residue-property plots (i)

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

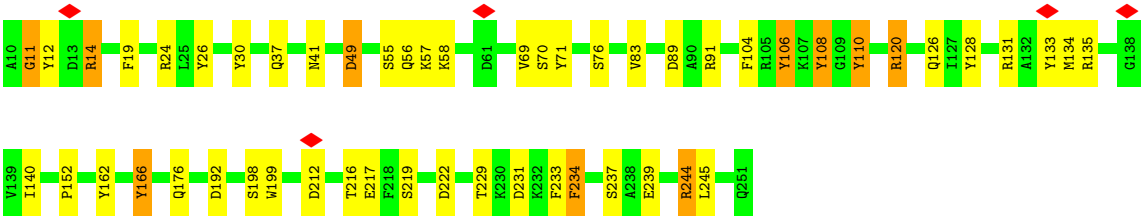
• Molecule 1: Proteasome subunit alpha type-1

Chain a:



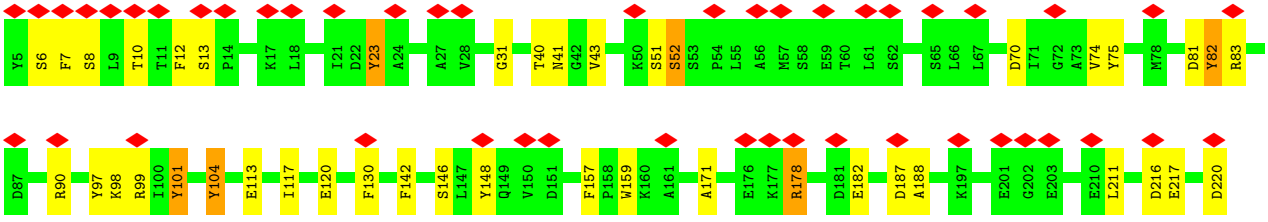
• Molecule 1: Proteasome subunit alpha type-1

Chain A:



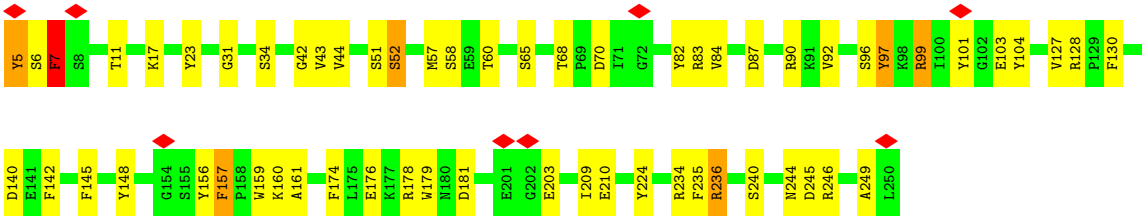
• Molecule 2: Proteasome subunit alpha type-2

Chain b:



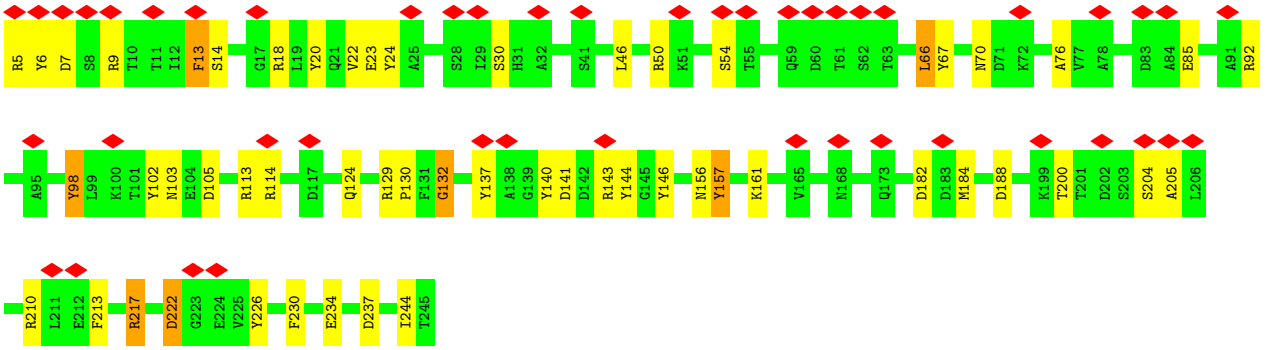
• Molecule 2: Proteasome subunit alpha type-2

Chain B:



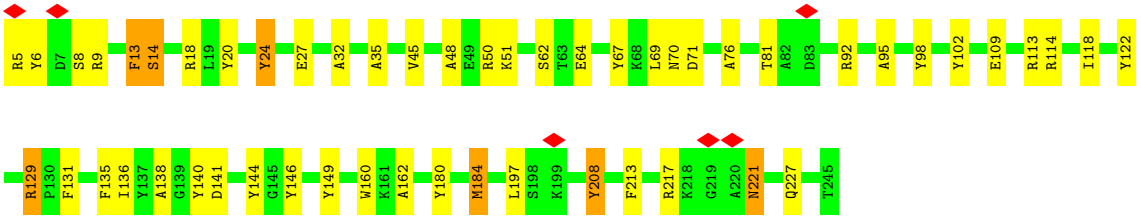
• Molecule 3: Proteasome subunit alpha type-3

Chain c:



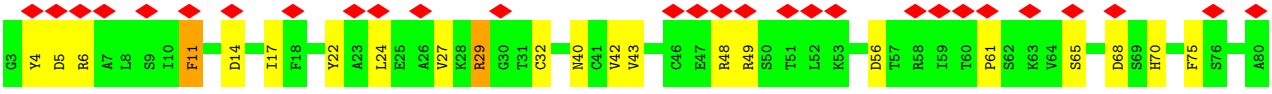
• Molecule 3: Proteasome subunit alpha type-3

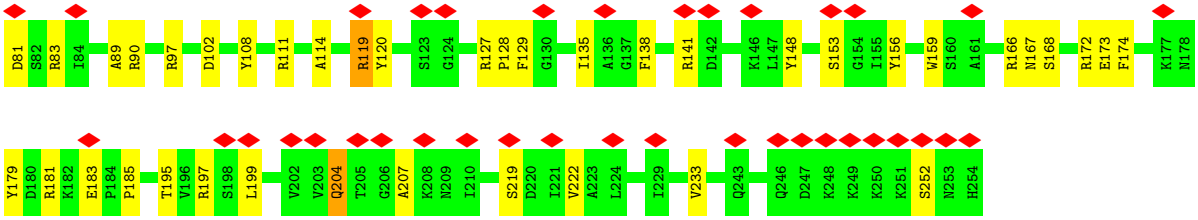
Chain C:



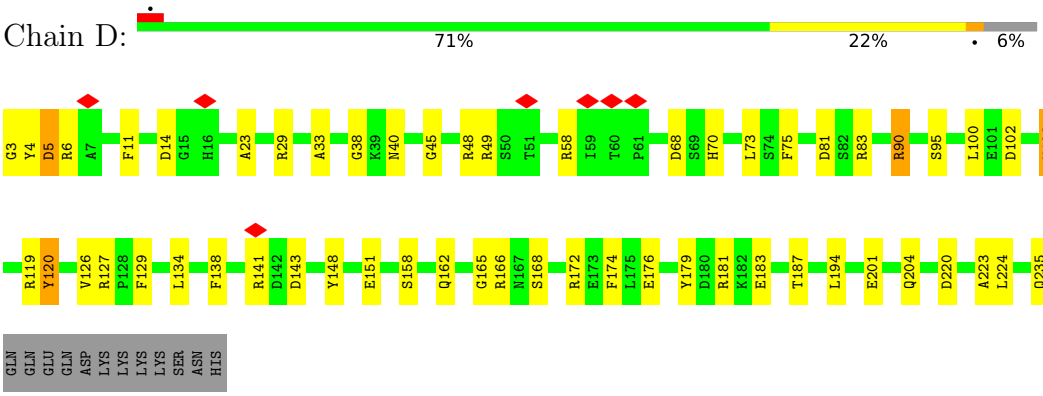
• Molecule 4: Proteasome subunit alpha type-4

Chain d:

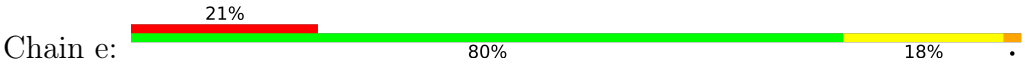


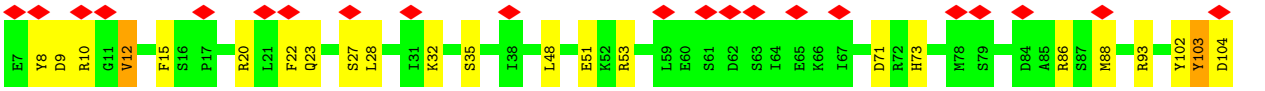


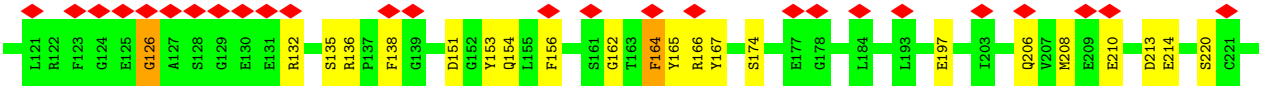
• Molecule 4: Proteasome subunit alpha type-4

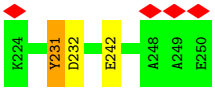


• Molecule 5: Proteasome subunit alpha type-5

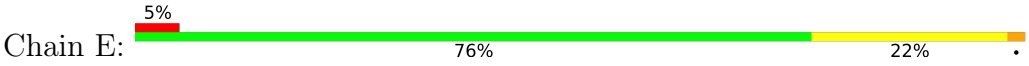


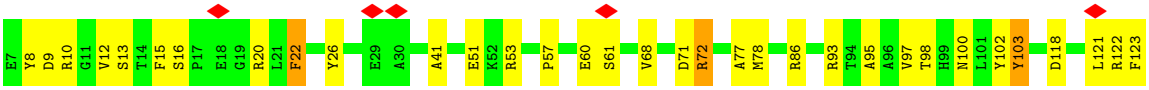


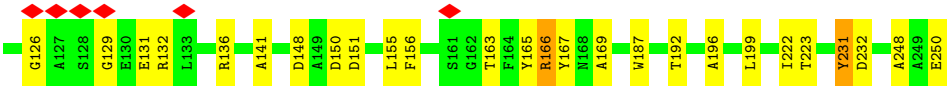




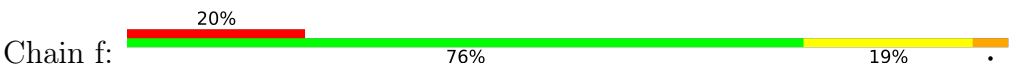
• Molecule 5: Proteasome subunit alpha type-5

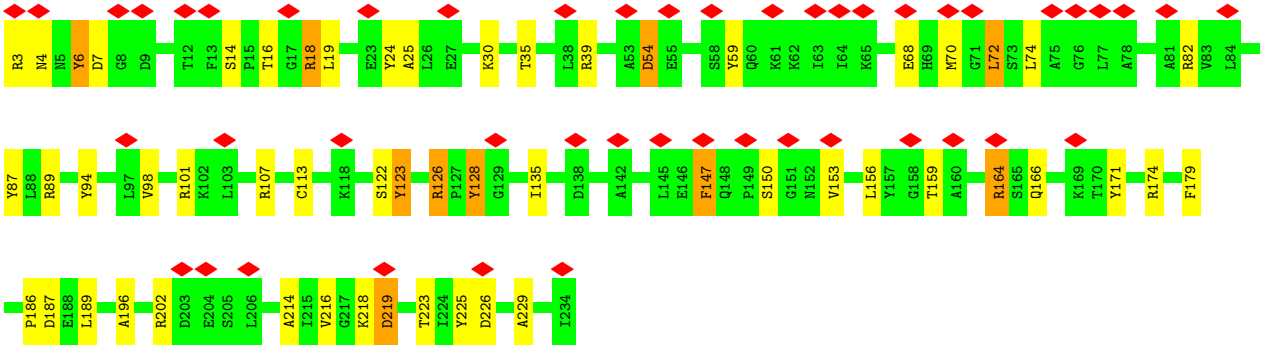




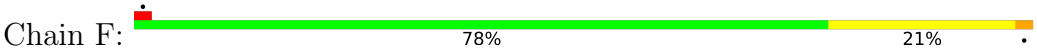


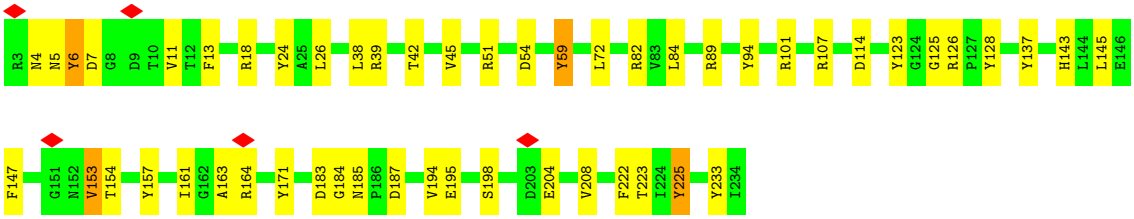
• Molecule 6: Proteasome subunit alpha type-6



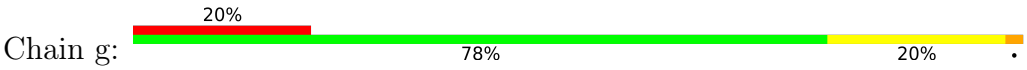


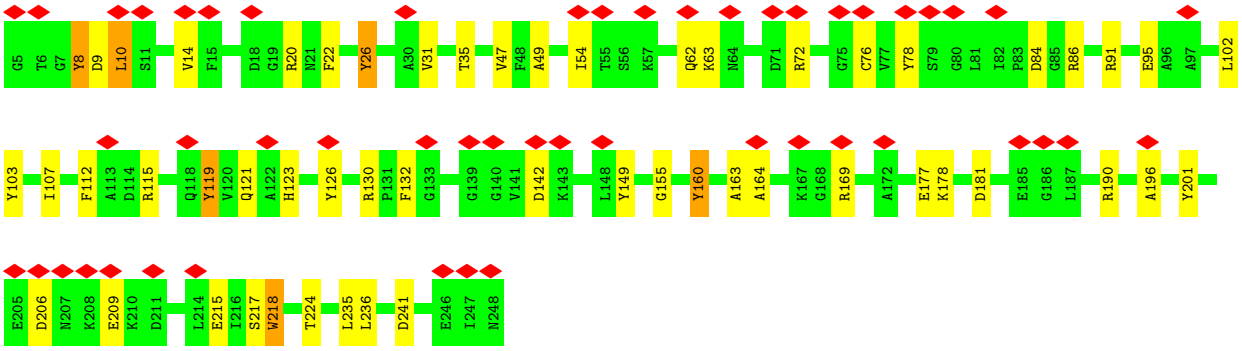
• Molecule 6: Proteasome subunit alpha type-6



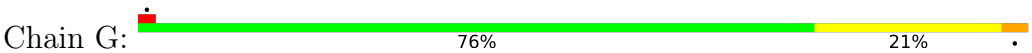


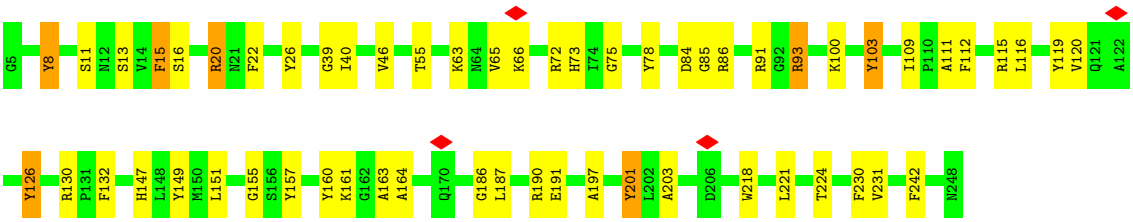
• Molecule 7: Probable proteasome subunit alpha type-7





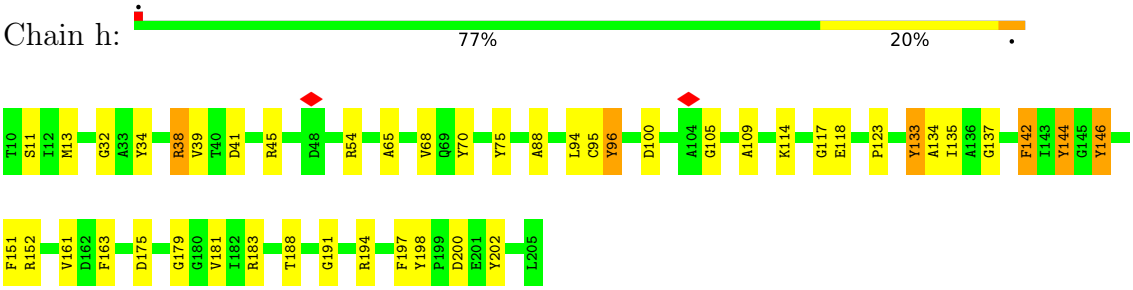
• Molecule 7: Probable proteasome subunit alpha type-7





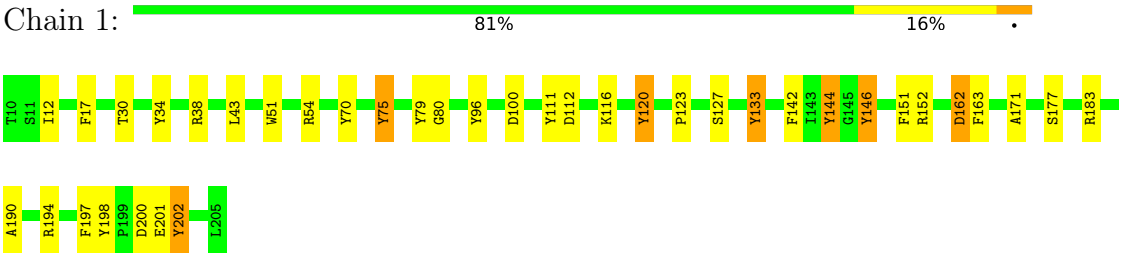
• Molecule 8: Proteasome subunit beta type-1

Chain h:



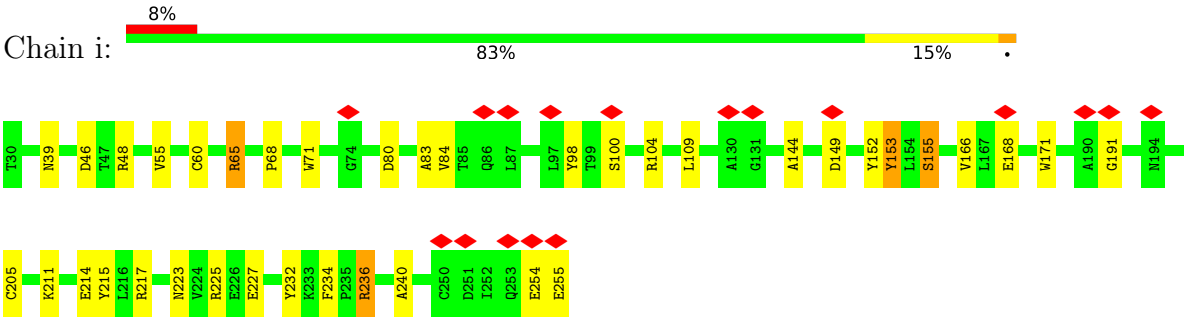
• Molecule 8: Proteasome subunit beta type-1

Chain 1:



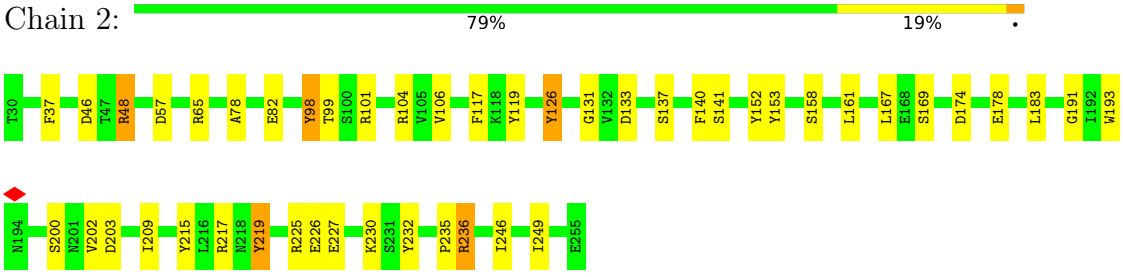
• Molecule 9: Proteasome subunit beta type-2

Chain i:



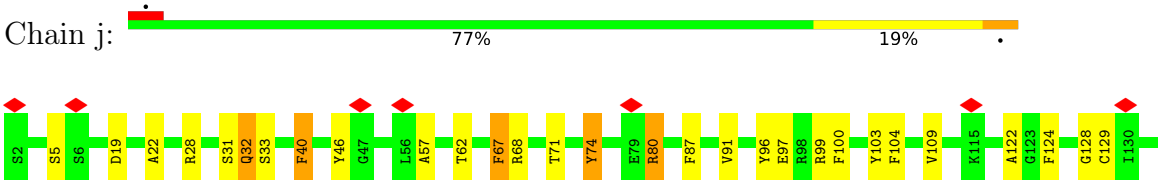
• Molecule 9: Proteasome subunit beta type-2

Chain 2:

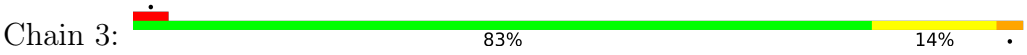


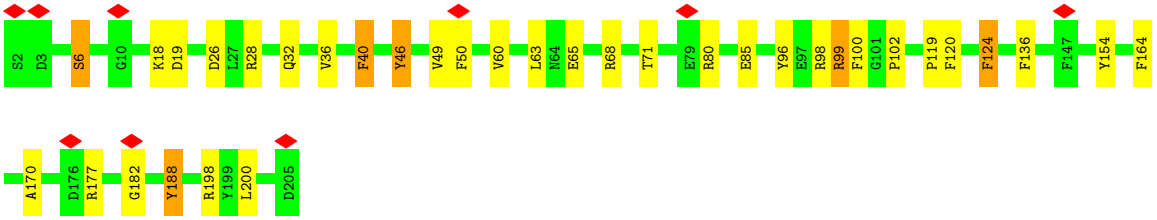
• Molecule 10: Proteasome subunit beta type-3

Chain j:

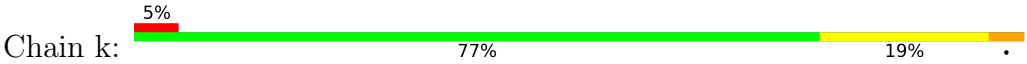


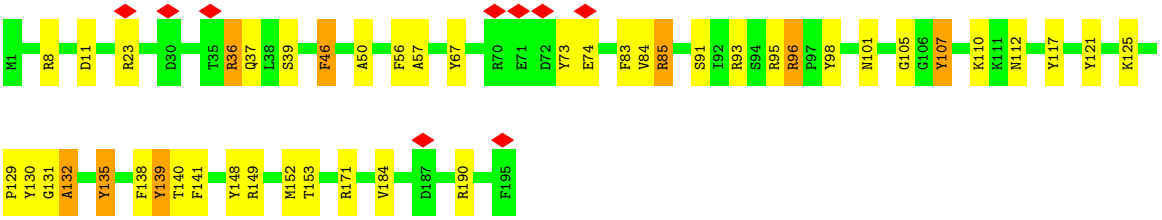
• Molecule 10: Proteasome subunit beta type-3



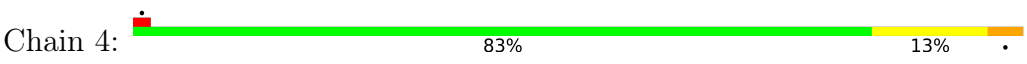


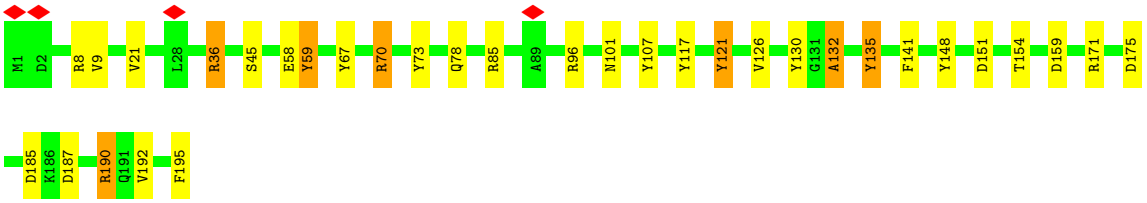
• Molecule 11: Proteasome subunit beta type-4



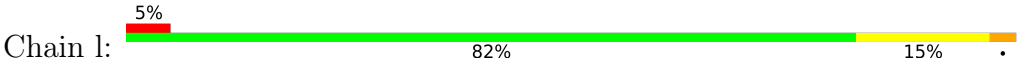


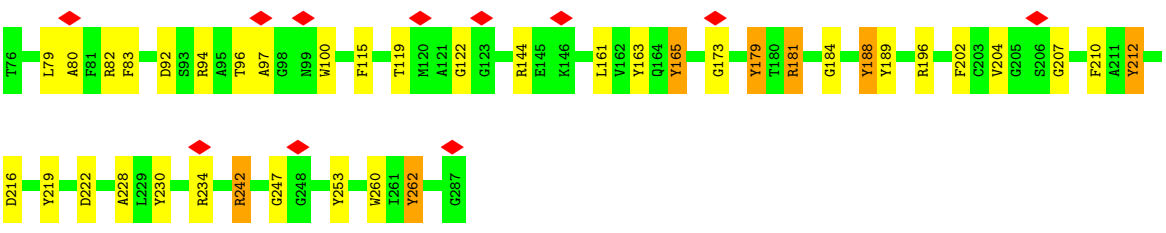
• Molecule 11: Proteasome subunit beta type-4





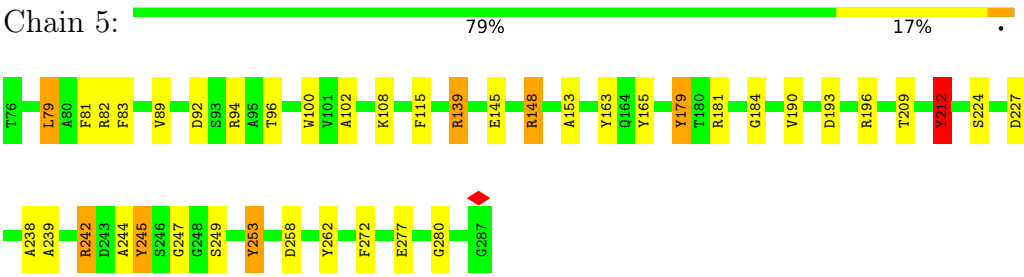
• Molecule 12: Proteasome subunit beta type-5





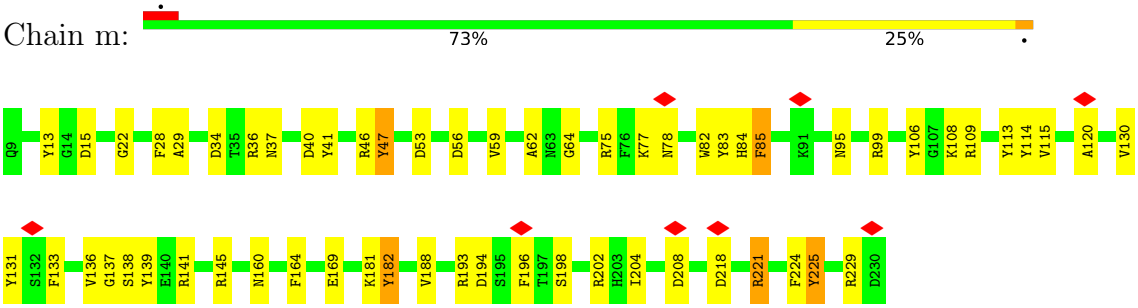
• Molecule 12: Proteasome subunit beta type-5

Chain 5:



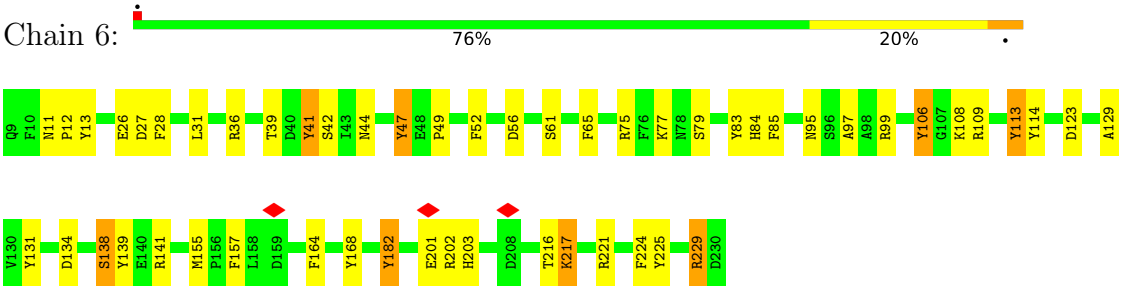
• Molecule 13: Proteasome subunit beta type-6

Chain m:



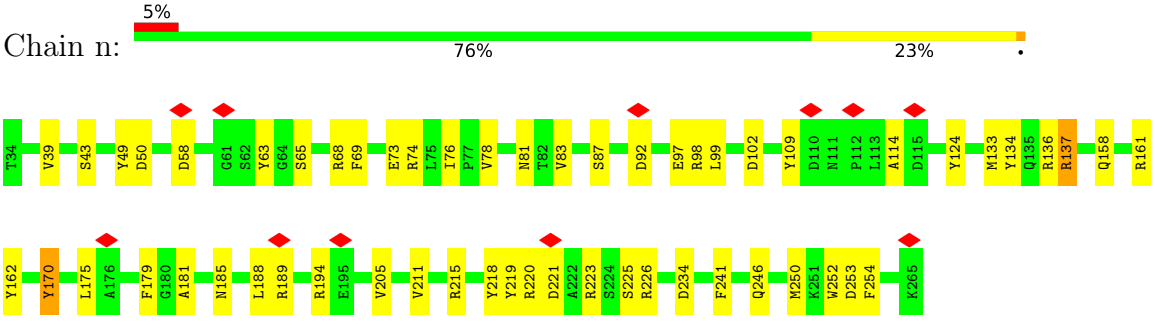
• Molecule 13: Proteasome subunit beta type-6

Chain 6:



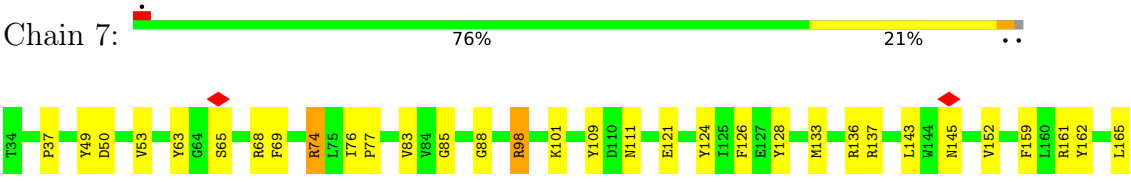
• Molecule 14: Proteasome subunit beta type-7

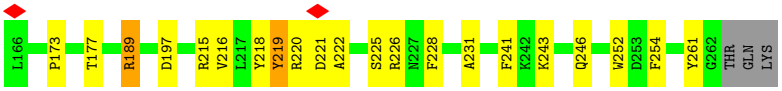
Chain n:



• Molecule 14: Proteasome subunit beta type-7

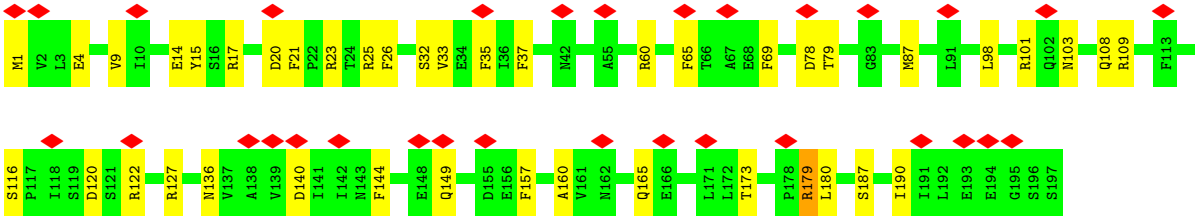
Chain 7:





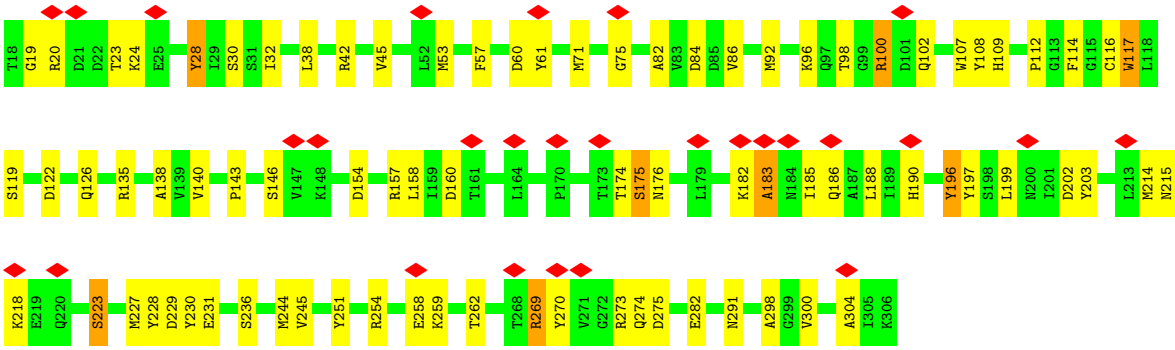
• Molecule 15: 26S proteasome regulatory subunit RPN10

Chain W:



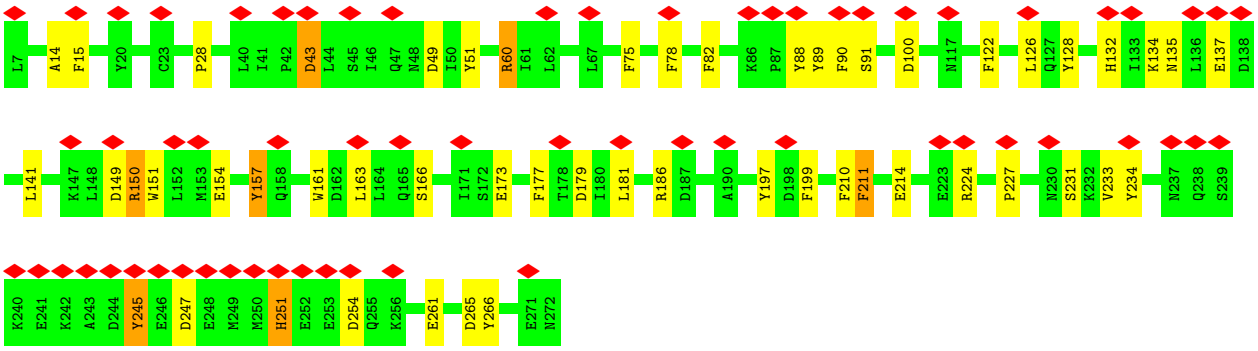
• Molecule 16: Ubiquitin carboxyl-terminal hydrolase RPN11

Chain V:



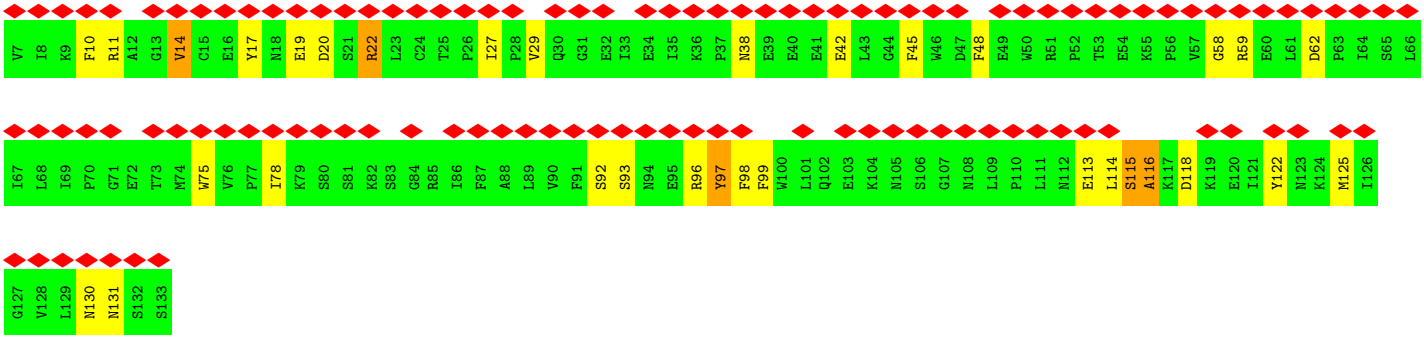
• Molecule 17: 26S proteasome regulatory subunit RPN12

Chain T:



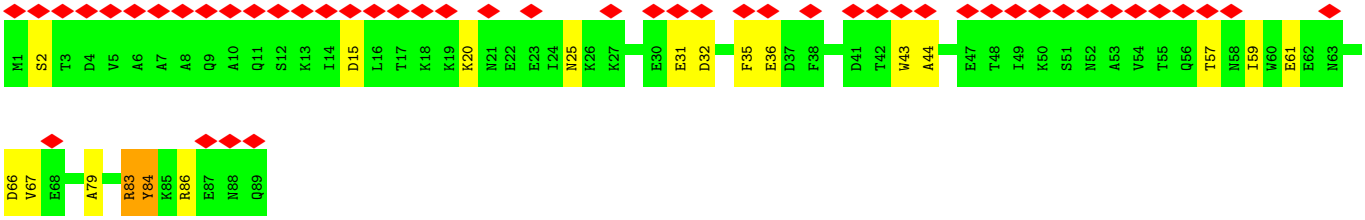
• Molecule 18: 26S proteasome regulatory subunit RPN13

Chain X:



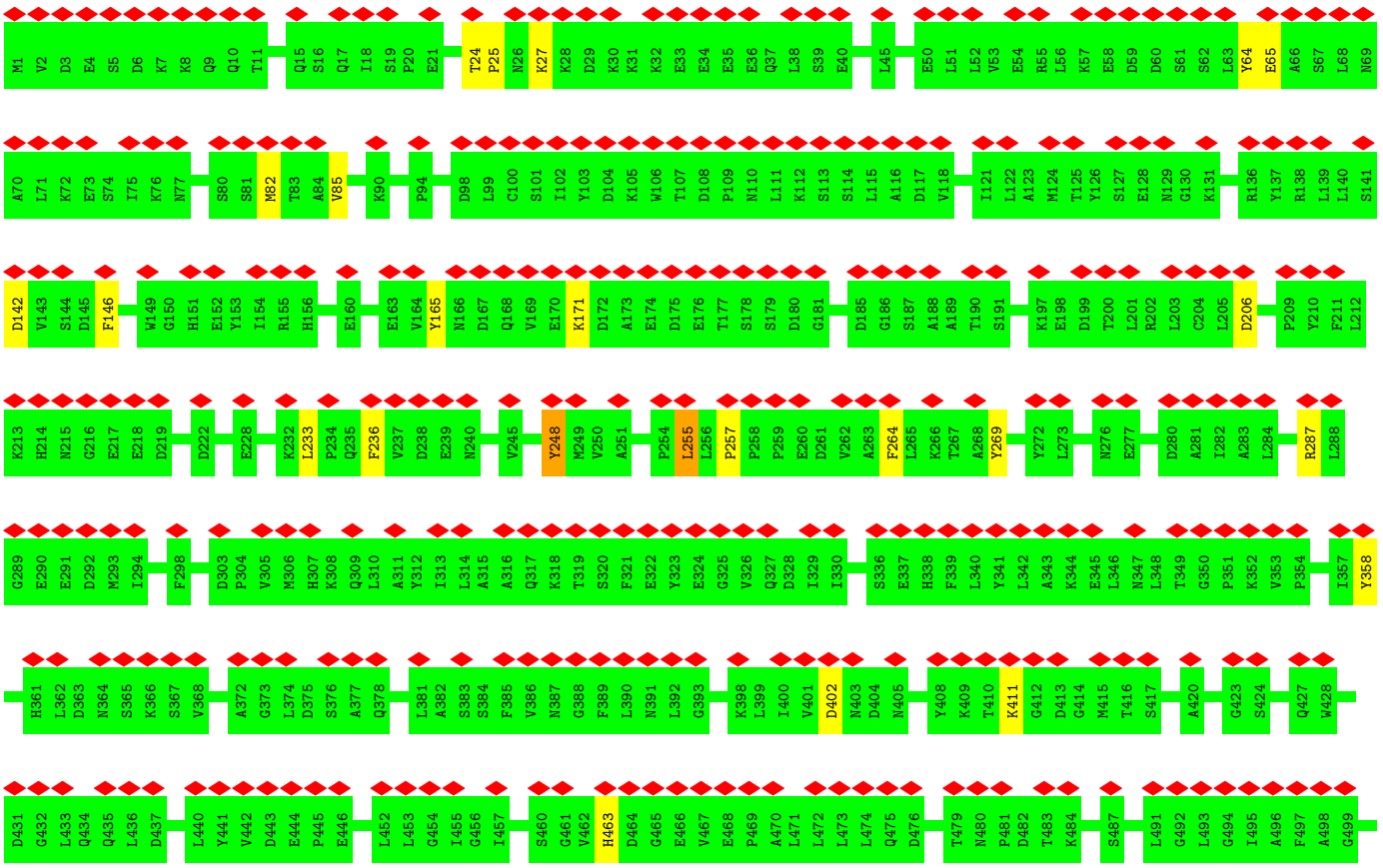
• Molecule 19: 26S proteasome complex subunit SEM1

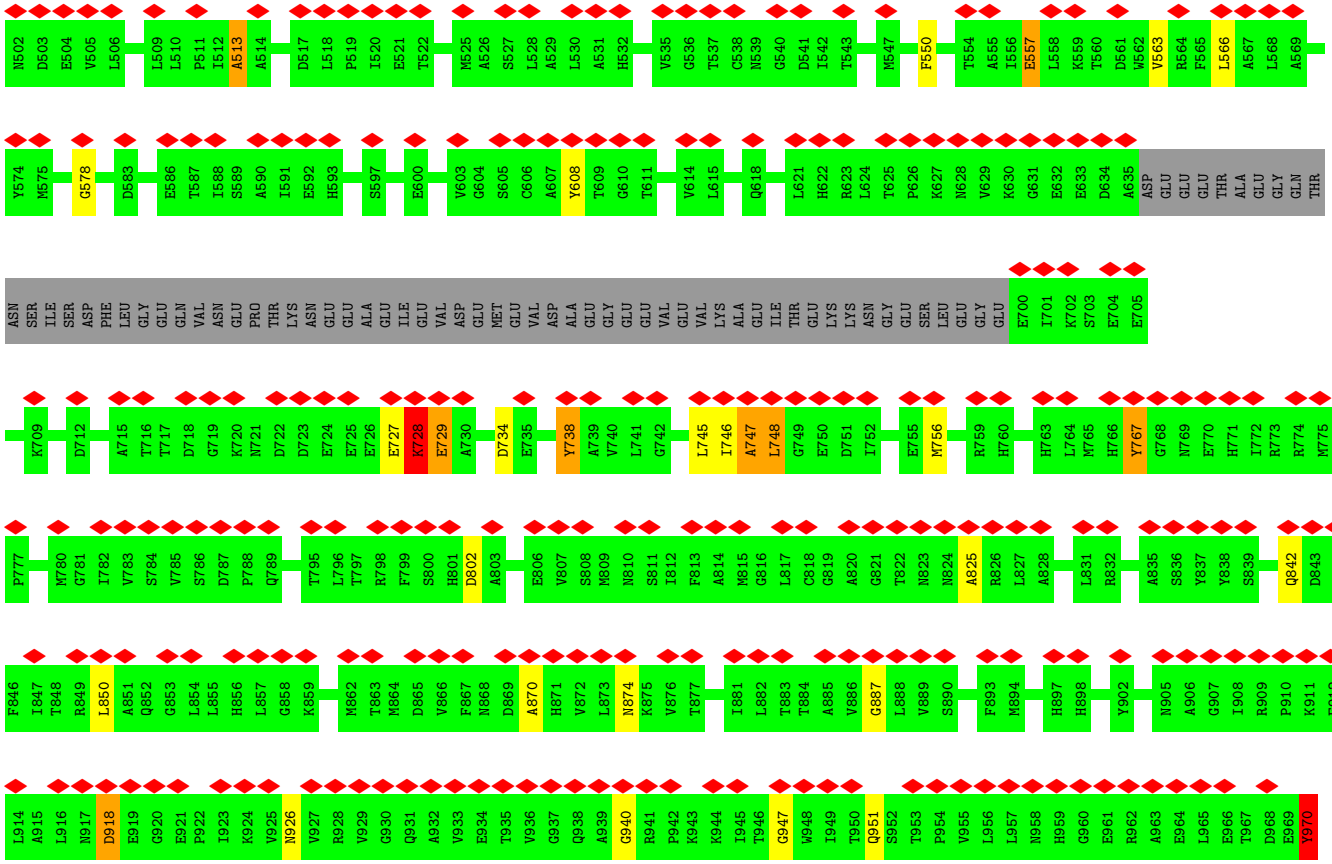
Chain Y:



• Molecule 20: 26S proteasome regulatory subunit RPN1

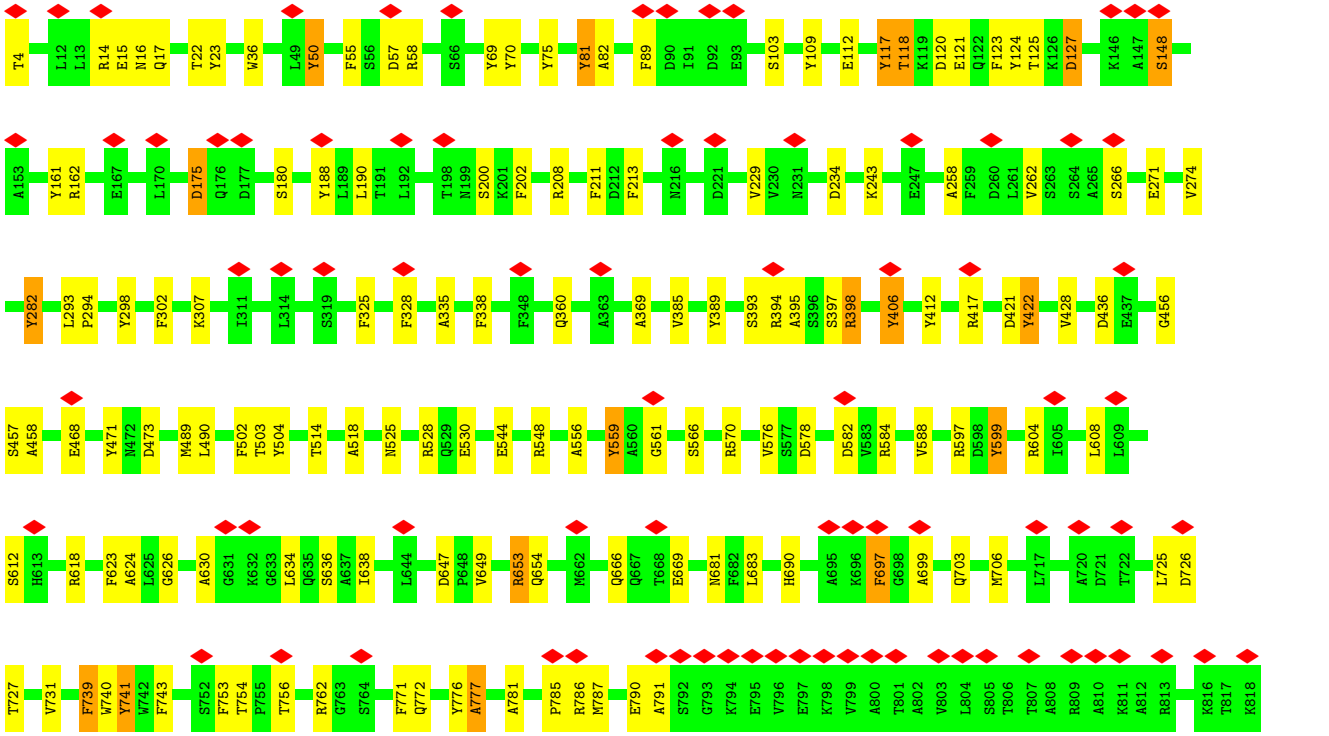
Chain Z:

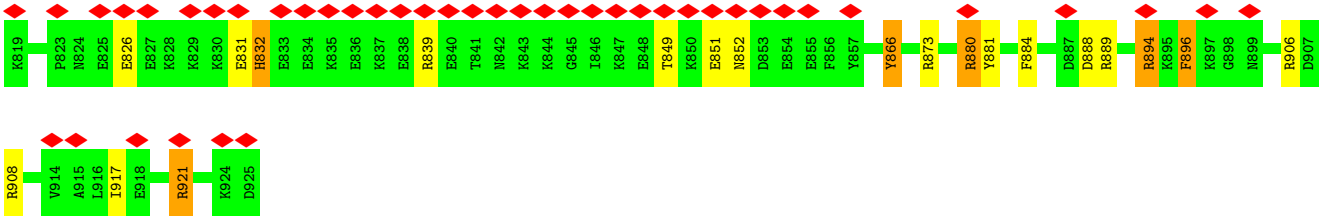




• Molecule 21: 26S proteasome regulatory subunit RPN2

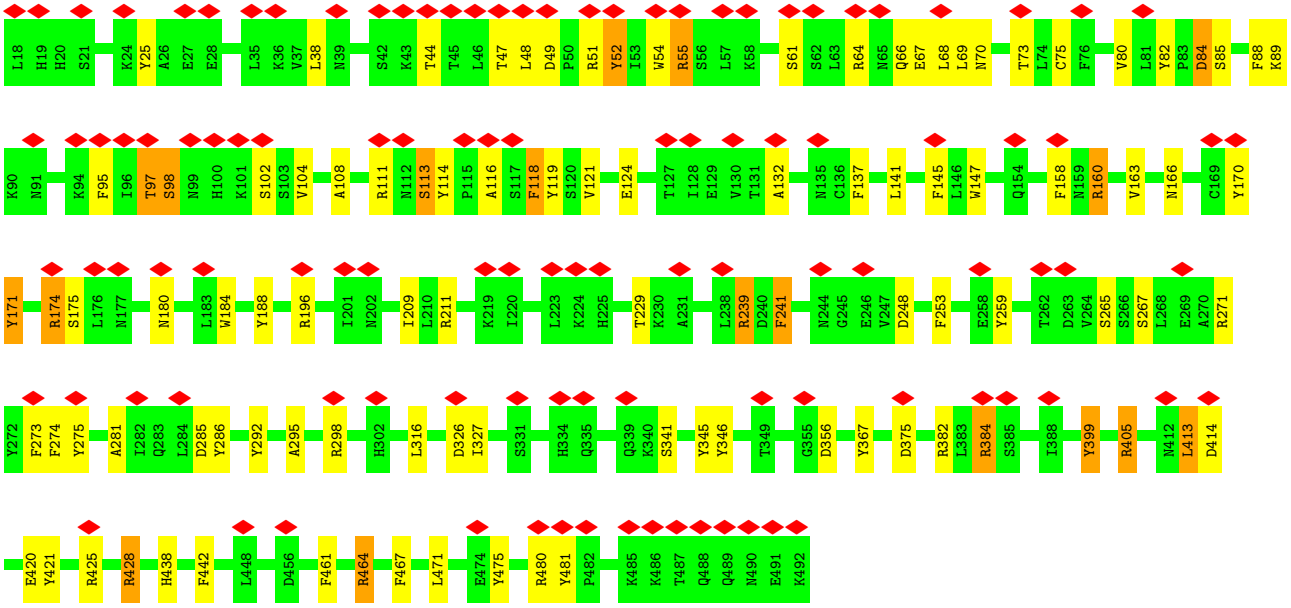
Chain N:





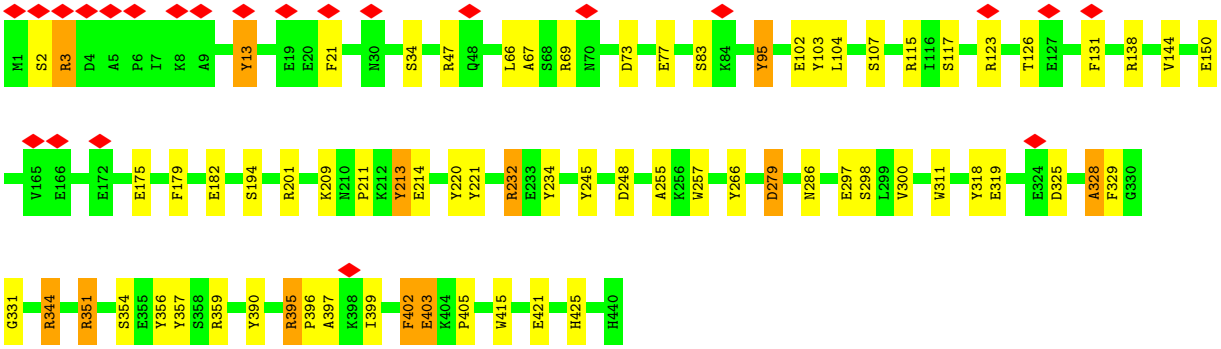
• Molecule 22: 26S proteasome regulatory subunit RPN3

Chain S:



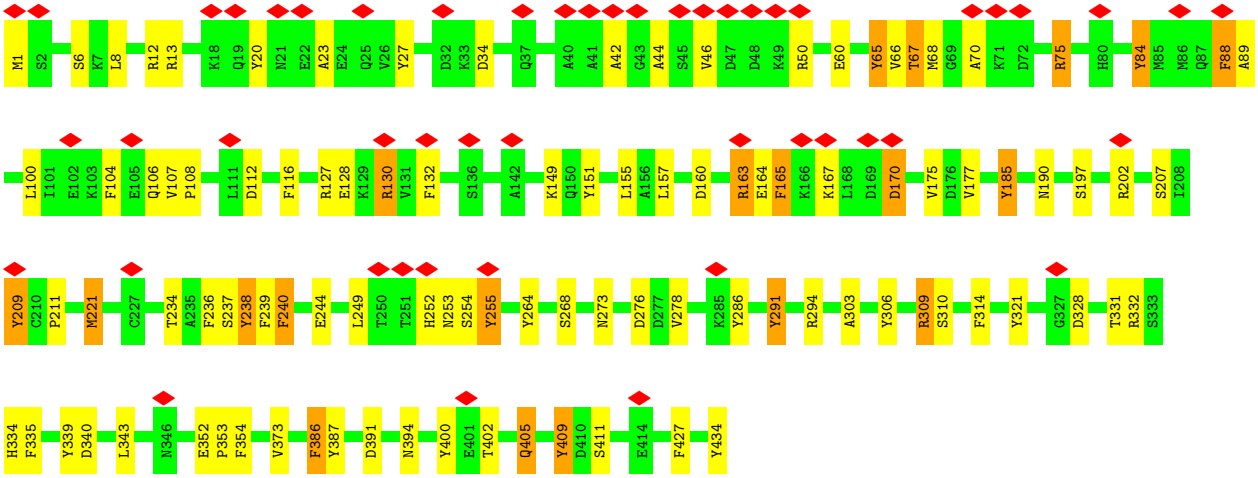
• Molecule 23: 26S proteasome regulatory subunit RPN5

Chain P:

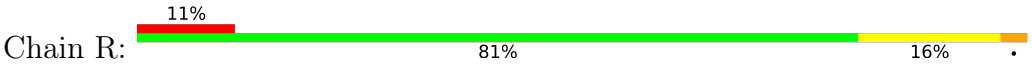


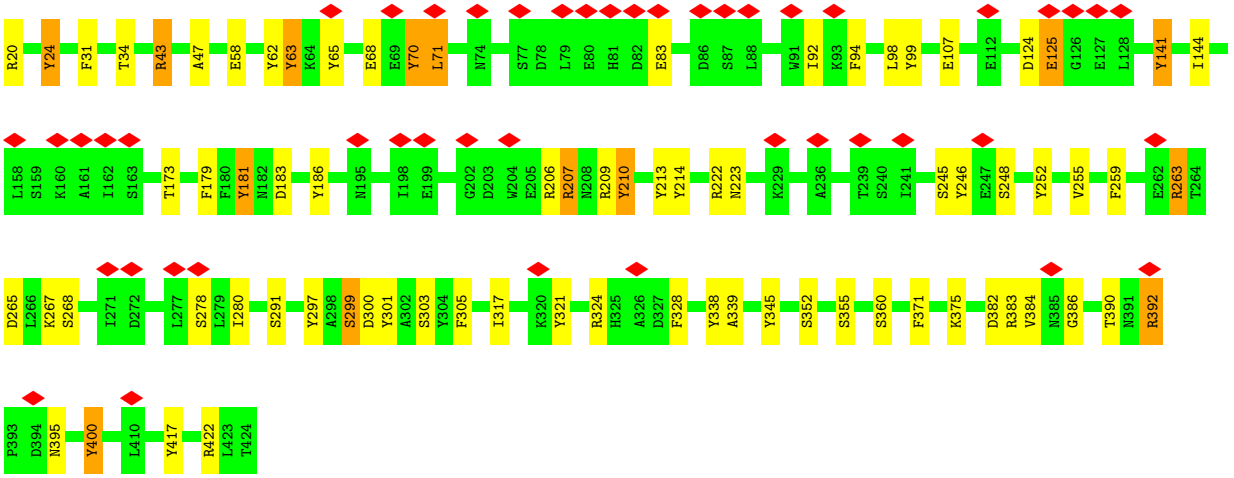
• Molecule 24: 26S proteasome regulatory subunit RPN6

Chain Q:

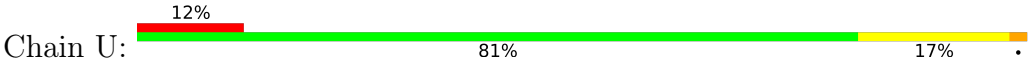


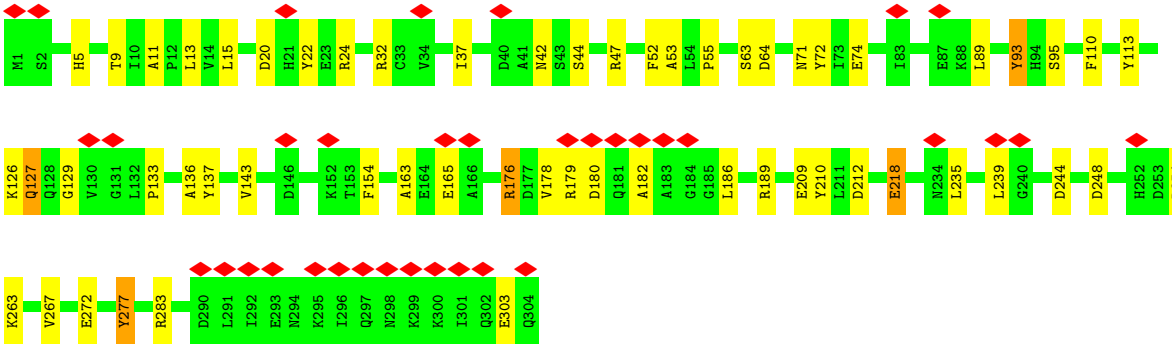
• Molecule 25: 26S proteasome regulatory subunit RPN7





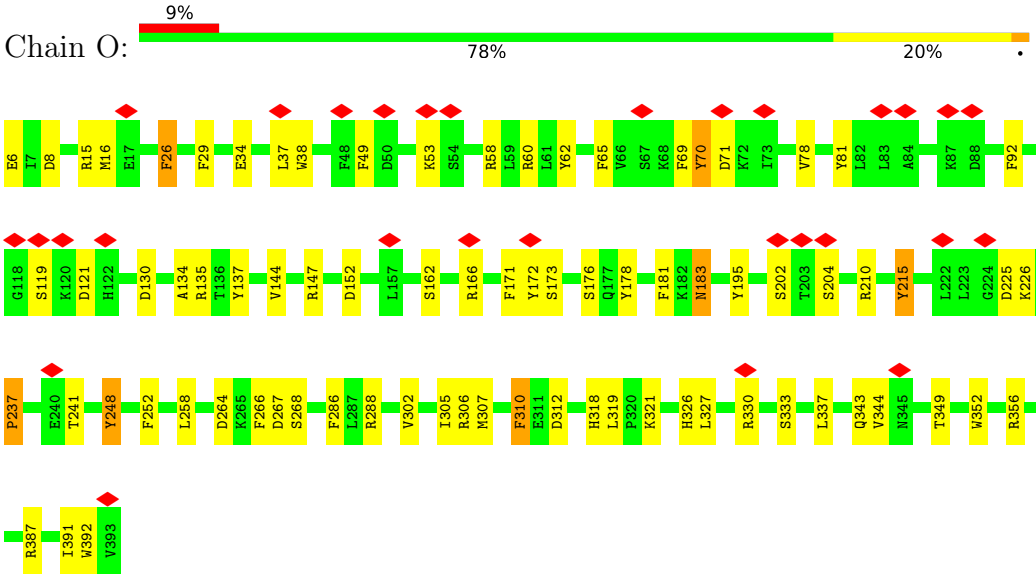
• Molecule 26: 26S proteasome regulatory subunit RPN8





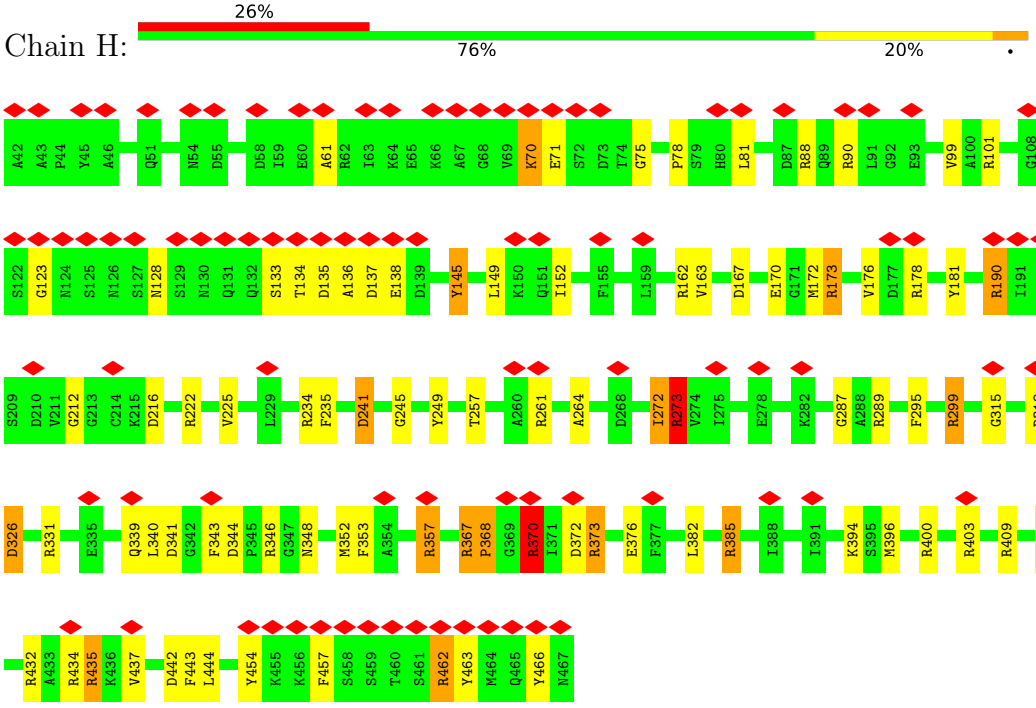
• Molecule 27: 26S proteasome regulatory subunit RPN9

Chain O:



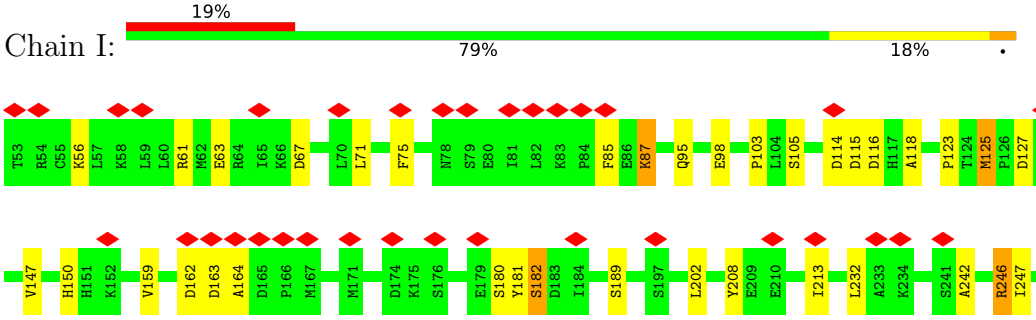
• Molecule 28: 26S proteasome regulatory subunit 7 homolog

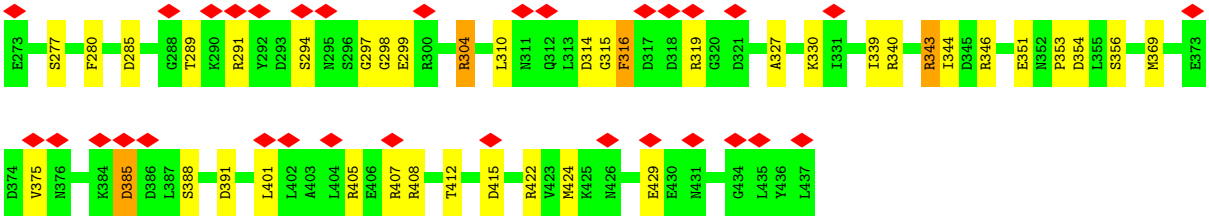
Chain H:



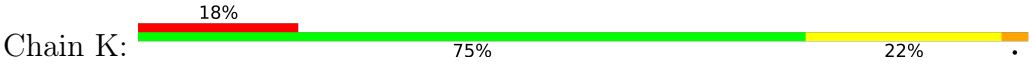
• Molecule 29: 26S proteasome regulatory subunit 4 homolog

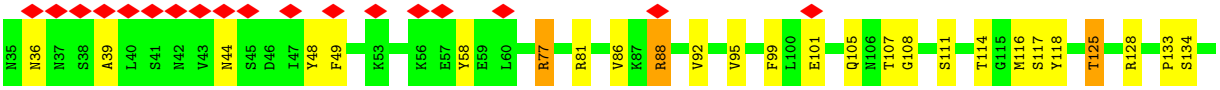
Chain I:

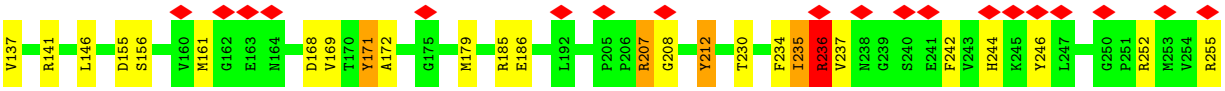


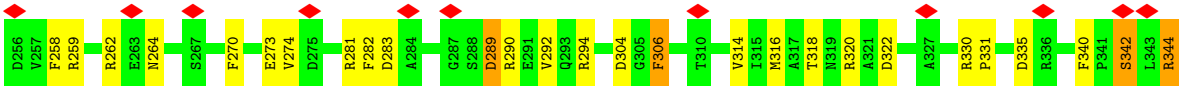


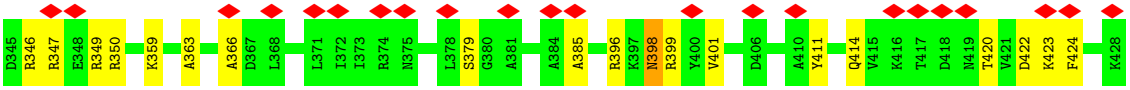
• Molecule 30: 26S proteasome regulatory subunit 6B homolog



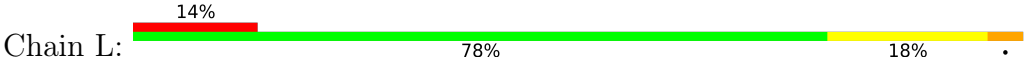


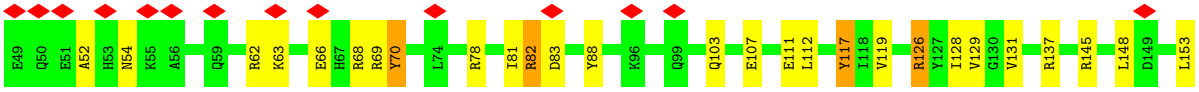


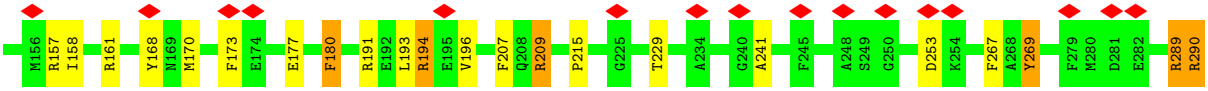


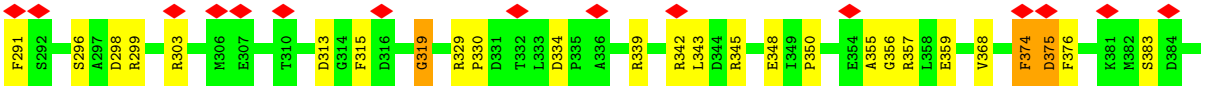


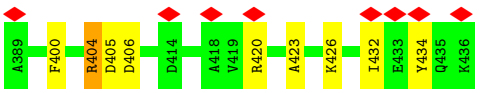
• Molecule 31: 26S proteasome subunit RPT4



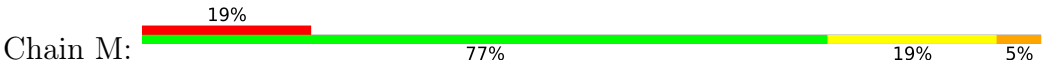


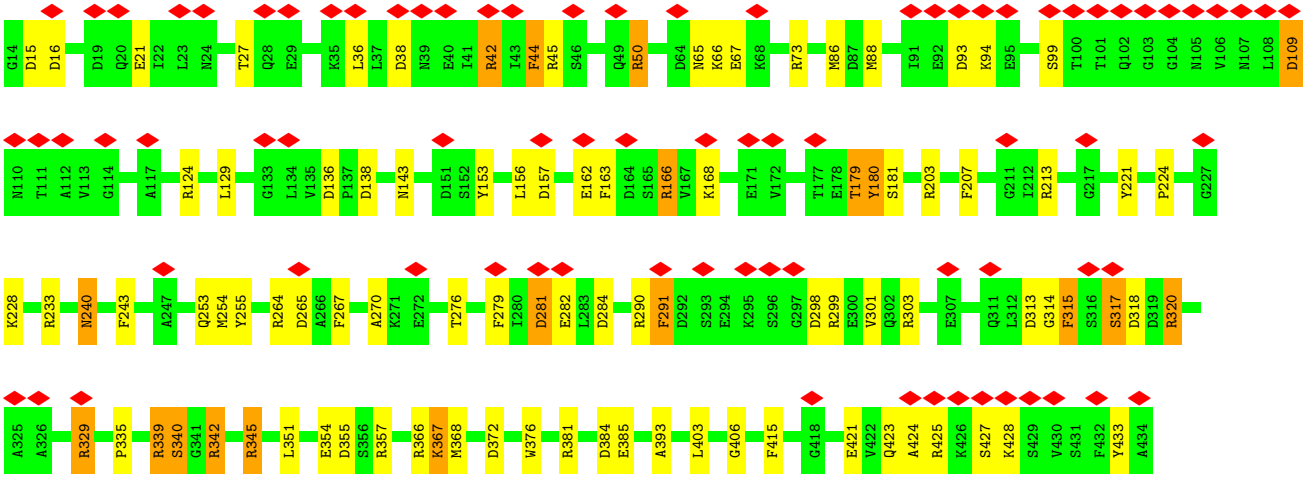






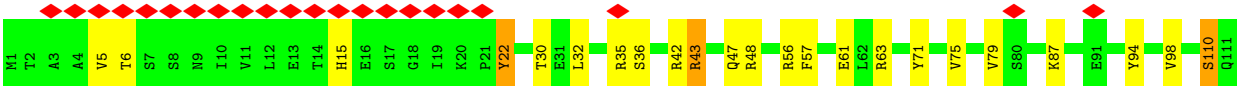
• Molecule 32: 26S proteasome regulatory subunit 6A

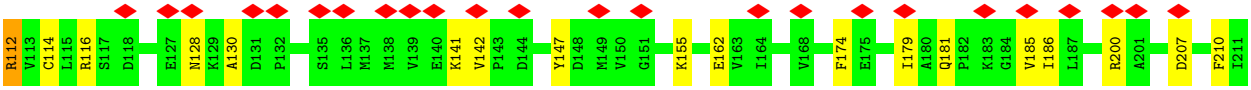


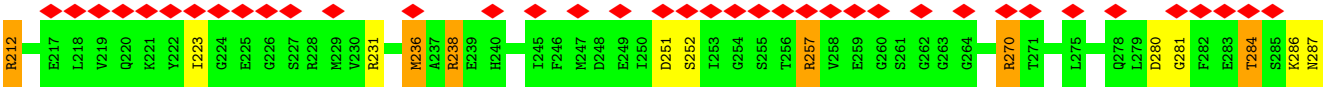


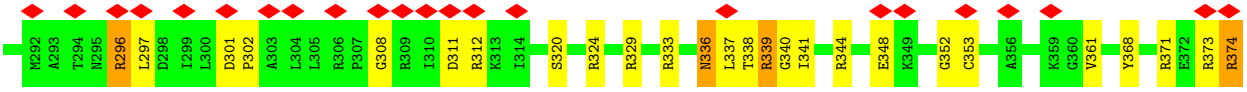
• Molecule 33: 26S proteasome regulatory subunit 8 homolog

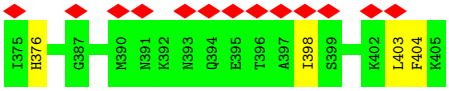
Chain J:











4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	146519	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	35	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	0.181	Depositor
Minimum map value	-0.144	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.006	Depositor
Recommended contour level	0.017	Depositor
Map size (Å)	529.92, 529.92, 529.92	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.38, 1.38, 1.38	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, MG, ADP

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	1.74	19/1951 (1.0%)	1.97	50/2641 (1.9%)
1	a	1.72	15/1951 (0.8%)	1.92	48/2641 (1.8%)
2	B	1.70	10/1918 (0.5%)	1.95	56/2597 (2.2%)
2	b	1.73	21/1918 (1.1%)	1.96	46/2597 (1.8%)
3	C	1.76	24/1914 (1.3%)	1.95	50/2591 (1.9%)
3	c	1.71	21/1914 (1.1%)	1.96	55/2591 (2.1%)
4	D	1.77	17/1892 (0.9%)	1.98	51/2562 (2.0%)
4	d	1.76	28/2016 (1.4%)	1.94	56/2723 (2.1%)
5	E	1.78	20/1909 (1.0%)	2.03	58/2571 (2.3%)
5	e	1.76	19/1909 (1.0%)	1.99	42/2571 (1.6%)
6	F	1.71	20/1811 (1.1%)	2.01	48/2447 (2.0%)
6	f	1.70	11/1811 (0.6%)	2.05	64/2447 (2.6%)
7	G	1.72	20/1937 (1.0%)	1.92	45/2614 (1.7%)
7	g	1.73	19/1937 (1.0%)	1.98	52/2614 (2.0%)
8	1	1.70	15/1541 (1.0%)	1.96	37/2087 (1.8%)
8	h	1.78	22/1541 (1.4%)	1.93	39/2087 (1.9%)
9	2	1.73	18/1751 (1.0%)	1.88	38/2373 (1.6%)
9	i	1.67	17/1751 (1.0%)	1.84	27/2373 (1.1%)
10	3	1.74	12/1611 (0.7%)	1.93	34/2174 (1.6%)
10	j	1.74	17/1611 (1.1%)	1.99	43/2174 (2.0%)
11	4	1.76	12/1590 (0.8%)	1.92	31/2142 (1.4%)
11	k	1.74	15/1590 (0.9%)	1.92	40/2142 (1.9%)
12	5	1.74	19/1681 (1.1%)	1.96	44/2274 (1.9%)
12	l	1.73	18/1681 (1.1%)	1.88	33/2274 (1.5%)
13	6	1.79	19/1795 (1.1%)	1.98	51/2420 (2.1%)
13	m	1.80	21/1795 (1.2%)	2.01	51/2420 (2.1%)
14	7	1.71	16/1821 (0.9%)	1.96	42/2470 (1.7%)
14	n	1.76	16/1847 (0.9%)	1.99	56/2503 (2.2%)
15	W	1.66	13/1558 (0.8%)	1.91	37/2111 (1.8%)
16	V	1.72	26/2309 (1.1%)	1.99	68/3115 (2.2%)
17	T	1.70	22/2236 (1.0%)	1.92	41/3017 (1.4%)
18	X	1.81	7/1059 (0.7%)	1.95	24/1432 (1.7%)

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#|Z| >5	RMSZ	#|Z| >5
19	Y	1.67	3/741 (0.4%)	1.92	15/1000 (1.5%)
20	Z	1.97	13/7123 (0.2%)	1.20	35/9645 (0.4%)
21	N	1.69	65/7273 (0.9%)	1.89	141/9822 (1.4%)
22	S	1.67	31/3967 (0.8%)	1.94	105/5355 (2.0%)
23	P	1.65	31/3664 (0.8%)	1.88	65/4940 (1.3%)
24	Q	1.69	27/3556 (0.8%)	1.99	103/4787 (2.2%)
25	R	1.72	33/3314 (1.0%)	1.97	81/4469 (1.8%)
26	U	1.68	18/2461 (0.7%)	1.85	44/3327 (1.3%)
27	O	1.68	26/3247 (0.8%)	1.93	75/4380 (1.7%)
28	H	1.73	29/3363 (0.9%)	2.02	84/4532 (1.9%)
29	I	1.71	30/3061 (1.0%)	1.88	48/4121 (1.2%)
30	K	1.74	29/3156 (0.9%)	1.94	78/4261 (1.8%)
31	L	1.73	32/3129 (1.0%)	1.89	56/4204 (1.3%)
32	M	1.72	30/3323 (0.9%)	1.93	90/4478 (2.0%)
33	J	1.69	27/3212 (0.8%)	1.89	53/4316 (1.2%)
All	All	1.74	993/112146 (0.9%)	1.90	2530/151432 (1.7%)

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	12
1	a	0	7
2	B	0	11
2	b	0	6
3	C	0	5
3	c	0	7
4	D	0	5
4	d	0	4
5	E	0	5
5	e	0	4
6	F	0	5
6	f	0	10
7	G	0	8
7	g	0	6
8	1	0	6
8	h	0	7
9	2	0	6
9	i	0	2
10	3	0	3

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Mol	Chain	#Chirality outliers	#Planarity outliers
10	j	0	6
11	4	0	7
11	k	0	7
12	5	0	7
12	l	0	7
13	6	0	6
13	m	0	6
14	7	0	10
14	n	0	4
15	W	0	1
16	V	0	6
17	T	0	7
18	X	0	4
19	Y	0	2
20	Z	1	7
21	N	0	18
22	S	0	18
23	P	0	10
24	Q	0	14
25	R	0	12
26	U	0	3
27	O	0	6
28	H	0	15
29	I	0	7
30	K	0	10
31	L	0	10
32	M	0	13
33	J	0	13
All	All	1	355

All (993) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
20	Z	748	LEU	CA-C	112.91	4.46	1.52
20	Z	255	LEU	CB-CG	51.16	3.00	1.52
20	Z	738	TYR	CZ-OH	46.62	2.17	1.37
20	Z	728	LYS	CG-CD	42.83	2.98	1.52
20	Z	748	LEU	N-CA	34.61	2.15	1.46
20	Z	255	LEU	CG-CD1	26.24	2.48	1.51
20	Z	728	LYS	CB-CG	18.39	2.02	1.52
20	Z	748	LEU	CA-CB	13.04	1.83	1.53
24	Q	50	ARG	CZ-NH2	10.45	1.46	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
14	n	65	SER	CA-CB	9.29	1.66	1.52
20	Z	738	TYR	CE1-CZ	9.15	1.50	1.38
24	Q	339	TYR	CE2-CZ	9.09	1.50	1.38
17	T	51	TYR	CE1-CZ	9.07	1.50	1.38
30	K	252	ARG	CZ-NH1	9.00	1.44	1.33
16	V	100	ARG	CZ-NH2	8.94	1.44	1.33
30	K	259	ARG	CD-NE	8.77	1.61	1.46
20	Z	728	LYS	CA-CB	8.70	1.73	1.53
12	l	230	TYR	CG-CD1	8.58	1.50	1.39
26	U	254	ARG	CZ-NH2	8.55	1.44	1.33
28	H	234	ARG	CD-NE	8.48	1.60	1.46
33	J	71	TYR	CG-CD1	8.43	1.50	1.39
12	l	100	TRP	CD2-CE2	8.36	1.51	1.41
17	T	266	TYR	CG-CD1	8.36	1.50	1.39
28	H	194	SER	CA-CB	8.30	1.65	1.52
13	6	36	ARG	NE-CZ	8.27	1.43	1.33
12	5	247	GLY	N-CA	-8.23	1.33	1.46
21	N	776	TYR	CE1-CZ	8.20	1.49	1.38
20	Z	738	TYR	CE2-CZ	8.20	1.49	1.38
17	T	199	PHE	CG-CD2	8.16	1.50	1.38
31	L	82	ARG	NE-CZ	8.10	1.43	1.33
14	n	136	ARG	NE-CZ	8.09	1.43	1.33
26	U	47	ARG	CZ-NH1	8.07	1.43	1.33
9	2	82	GLU	CG-CD	8.05	1.64	1.51
11	k	95	ARG	CZ-NH1	7.97	1.43	1.33
30	K	111	SER	CA-CB	7.88	1.64	1.52
9	i	104	ARG	NE-CZ	7.85	1.43	1.33
11	4	36	ARG	CD-NE	7.82	1.59	1.46
4	D	119	ARG	NE-CZ	7.74	1.43	1.33
26	U	165	GLU	CG-CD	7.74	1.63	1.51
17	T	210	PHE	CG-CD2	7.71	1.50	1.38
14	7	63	TYR	CG-CD2	7.66	1.49	1.39
5	e	53	ARG	CZ-NH1	7.60	1.43	1.33
5	E	166	ARG	CZ-NH2	7.56	1.42	1.33
8	h	142	PHE	CG-CD1	7.52	1.50	1.38
11	k	91	SER	CA-CB	7.50	1.64	1.52
3	c	6	TYR	CZ-OH	7.48	1.50	1.37
25	R	360	SER	CA-CB	7.47	1.64	1.52
16	V	190	HIS	CB-CG	7.47	1.63	1.50
9	i	225	ARG	CZ-NH2	7.46	1.42	1.33
8	h	194	ARG	NE-CZ	7.43	1.42	1.33
31	L	303	ARG	CZ-NH1	7.41	1.42	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	b	75	TYR	CG-CD2	7.39	1.48	1.39
33	J	329	ARG	CZ-NH2	7.37	1.42	1.33
24	Q	60	GLU	CG-CD	7.33	1.62	1.51
29	I	429	GLU	CG-CD	-7.33	1.41	1.51
25	R	352	SER	CA-CB	7.32	1.64	1.52
12	5	230	TYR	CZ-OH	7.31	1.50	1.37
25	R	301	TYR	CB-CG	7.31	1.62	1.51
28	H	368	PRO	N-CD	7.31	1.58	1.47
29	I	407	ARG	CD-NE	7.30	1.58	1.46
13	m	84	HIS	CB-CG	7.29	1.63	1.50
32	M	415	PHE	CG-CD1	7.25	1.49	1.38
12	5	277	GLU	CG-CD	7.22	1.62	1.51
21	N	471	TYR	CG-CD1	7.20	1.48	1.39
31	L	356	GLY	CA-C	-7.20	1.40	1.51
13	m	47	TYR	CB-CG	7.20	1.62	1.51
7	G	115	ARG	CZ-NH2	7.18	1.42	1.33
25	R	207	ARG	CZ-NH2	7.18	1.42	1.33
30	K	171	TYR	CG-CD1	7.17	1.48	1.39
30	K	294	ARG	NE-CZ	7.14	1.42	1.33
21	N	548	ARG	CZ-NH1	7.12	1.42	1.33
13	m	113	TYR	CE1-CZ	7.08	1.47	1.38
7	g	190	ARG	CZ-NH2	7.08	1.42	1.33
16	V	282	GLU	CG-CD	7.06	1.62	1.51
21	N	636	SER	CA-CB	7.06	1.63	1.52
12	l	165	TYR	CE1-CZ	7.04	1.47	1.38
26	U	95	SER	CA-CB	7.03	1.63	1.52
4	D	181	ARG	NE-CZ	7.02	1.42	1.33
3	C	6	TYR	CE1-CZ	7.01	1.47	1.38
21	N	584	ARG	CZ-NH2	7.01	1.42	1.33
9	2	158	SER	CA-CB	7.00	1.63	1.52
25	R	417	TYR	C-N	6.98	1.45	1.33
3	C	129	ARG	NE-CZ	6.96	1.42	1.33
8	1	79	TYR	CG-CD1	6.96	1.48	1.39
23	P	211	PRO	CA-CB	6.96	1.67	1.53
12	l	219	TYR	CZ-OH	6.95	1.49	1.37
3	C	98	TYR	CB-CG	6.94	1.62	1.51
21	N	406	TYR	CG-CD1	6.94	1.48	1.39
9	2	37	PHE	CG-CD2	6.93	1.49	1.38
11	4	67	TYR	CG-CD2	6.93	1.48	1.39
24	Q	13	ARG	NE-CZ	6.93	1.42	1.33
12	5	247	GLY	CA-C	-6.93	1.40	1.51
16	V	146	SER	CA-CB	6.93	1.63	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
26	U	267	VAL	CA-CB	-6.91	1.40	1.54
7	g	169	ARG	CZ-NH2	6.89	1.42	1.33
8	1	152	ARG	CZ-NH1	6.87	1.42	1.33
11	4	107	TYR	CE1-CZ	6.86	1.47	1.38
29	I	422	ARG	CZ-NH2	6.86	1.42	1.33
8	h	117	GLY	N-CA	-6.86	1.35	1.46
10	3	124	PHE	CB-CG	-6.86	1.39	1.51
22	S	265	SER	CA-CB	6.85	1.63	1.52
7	G	20	ARG	NE-CZ	6.84	1.42	1.33
31	L	329	ARG	NE-CZ	6.83	1.42	1.33
23	P	390	TYR	CE2-CZ	6.82	1.47	1.38
10	j	100	PHE	CG-CD1	6.82	1.49	1.38
12	5	242	ARG	CZ-NH2	6.82	1.42	1.33
21	N	70	TYR	CE1-CZ	6.82	1.47	1.38
14	7	88	GLY	CA-C	-6.81	1.41	1.51
12	l	247	GLY	CA-C	-6.81	1.41	1.51
29	I	134	SER	CB-OG	6.80	1.51	1.42
29	I	291	ARG	CZ-NH2	6.80	1.41	1.33
9	i	234	PHE	CE2-CZ	6.80	1.50	1.37
13	6	138	SER	CA-CB	6.78	1.63	1.52
3	C	109	GLU	CG-CD	6.77	1.62	1.51
28	H	101	ARG	CZ-NH1	6.76	1.41	1.33
4	D	172	ARG	CZ-NH1	6.75	1.41	1.33
30	K	350	ARG	NE-CZ	6.75	1.41	1.33
31	L	299	ARG	NE-CZ	6.75	1.41	1.33
1	a	128	TYR	CG-CD2	6.75	1.48	1.39
13	m	36	ARG	NE-CZ	6.74	1.41	1.33
26	U	272	GLU	CD-OE2	6.74	1.33	1.25
3	C	5	ARG	CD-NE	6.73	1.57	1.46
27	O	204	SER	CA-CB	6.73	1.63	1.52
14	n	98	ARG	CZ-NH2	6.72	1.41	1.33
4	d	49	ARG	NE-CZ	6.72	1.41	1.33
31	L	291	PHE	CG-CD1	6.70	1.48	1.38
7	g	149	TYR	CE2-CZ	6.69	1.47	1.38
10	3	80	ARG	CZ-NH2	6.69	1.41	1.33
20	Z	747	ALA	C-N	6.69	1.49	1.34
22	S	85	SER	CA-CB	6.69	1.62	1.52
25	R	210	TYR	CE1-CZ	6.68	1.47	1.38
1	a	199	TRP	CZ2-CH2	6.68	1.50	1.37
16	V	175	SER	CA-CB	6.67	1.62	1.52
27	O	237	PRO	CA-C	6.67	1.66	1.52
32	M	181	SER	CB-OG	6.67	1.50	1.42

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
16	V	116	CYS	CB-SG	6.66	1.93	1.82
8	1	127	SER	CA-CB	6.65	1.62	1.52
32	M	282	GLU	CD-OE2	6.65	1.32	1.25
14	n	98	ARG	NE-CZ	6.65	1.41	1.33
26	U	283	ARG	NE-CZ	6.65	1.41	1.33
31	L	290	ARG	CZ-NH1	6.64	1.41	1.33
6	F	39	ARG	CZ-NH2	6.62	1.41	1.33
2	b	99	ARG	NE-CZ	6.62	1.41	1.33
10	j	97	GLU	CB-CG	6.62	1.64	1.52
25	R	324	ARG	NE-CZ	6.61	1.41	1.33
28	H	400	ARG	CD-NE	6.59	1.57	1.46
31	L	126	ARG	CZ-NH1	6.59	1.41	1.33
27	O	369	ARG	NE-CZ	6.59	1.41	1.33
6	F	154	THR	N-CA	-6.58	1.33	1.46
11	4	59	TYR	CG-CD2	6.58	1.47	1.39
31	L	62	ARG	NE-CZ	6.57	1.41	1.33
16	V	20	ARG	NE-CZ	6.57	1.41	1.33
21	N	561	GLY	CA-C	-6.57	1.41	1.51
1	a	233	PHE	CG-CD1	6.55	1.48	1.38
4	d	148	TYR	CG-CD1	6.55	1.47	1.39
7	G	91	ARG	CZ-NH2	6.55	1.41	1.33
12	5	181	ARG	CD-NE	6.54	1.57	1.46
27	O	391	ILE	CA-C	-6.54	1.35	1.52
30	K	347	ARG	CD-NE	6.54	1.57	1.46
3	c	217	ARG	CZ-NH2	6.53	1.41	1.33
6	F	59	TYR	CZ-OH	6.53	1.49	1.37
7	G	93	ARG	NE-CZ	6.53	1.41	1.33
32	M	385	GLU	CG-CD	-6.53	1.42	1.51
2	B	246	ARG	CZ-NH1	6.53	1.41	1.33
9	2	48	ARG	CZ-NH1	6.52	1.41	1.33
5	E	187	TRP	CD2-CE2	-6.52	1.33	1.41
13	m	64	GLY	N-CA	-6.52	1.36	1.46
11	4	171	ARG	CZ-NH1	6.51	1.41	1.33
18	X	59	ARG	CZ-NH1	6.50	1.41	1.33
25	R	422	ARG	NE-CZ	6.50	1.41	1.33
4	d	181	ARG	CZ-NH2	6.49	1.41	1.33
13	6	99	ARG	NE-CZ	6.48	1.41	1.33
8	h	163	PHE	CG-CD2	6.48	1.48	1.38
22	S	267	SER	CA-CB	6.48	1.62	1.52
32	M	255	TYR	CD2-CE2	6.48	1.49	1.39
33	J	368	TYR	CG-CD1	6.48	1.47	1.39
4	d	219	SER	CA-CB	6.48	1.62	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	2	191	GLY	CA-C	-6.47	1.41	1.51
31	L	348	GLU	CD-OE2	6.47	1.32	1.25
12	5	148	ARG	CZ-NH1	6.47	1.41	1.33
5	e	242	GLU	CB-CG	6.47	1.64	1.52
5	E	10	ARG	CZ-NH1	6.47	1.41	1.33
17	T	88	TYR	CE1-CZ	6.46	1.47	1.38
1	a	108	TYR	CG-CD1	6.46	1.47	1.39
21	N	566	SER	CA-CB	6.45	1.62	1.52
9	i	217	ARG	CD-NE	6.45	1.57	1.46
7	G	93	ARG	CD-NE	6.44	1.57	1.46
25	R	291	SER	CA-CB	6.43	1.62	1.52
28	H	454	TYR	CE2-CZ	6.43	1.47	1.38
16	V	203	TYR	CE1-CZ	6.43	1.47	1.38
22	S	124	GLU	CD-OE2	6.43	1.32	1.25
3	C	20	TYR	CE2-CZ	6.43	1.47	1.38
6	F	101	ARG	CD-NE	6.43	1.57	1.46
30	K	208	GLY	N-CA	-6.43	1.36	1.46
9	i	205	CYS	CB-SG	6.42	1.93	1.82
8	h	45	ARG	CZ-NH1	6.42	1.41	1.33
2	b	148	TYR	CE2-CZ	6.41	1.46	1.38
29	I	319	ARG	CZ-NH1	6.41	1.41	1.33
15	W	144	PHE	CE1-CZ	6.41	1.49	1.37
9	2	65	ARG	NE-CZ	6.41	1.41	1.33
8	h	123	PRO	N-CD	6.40	1.56	1.47
4	D	127	ARG	CZ-NH1	6.39	1.41	1.33
1	A	55	SER	CB-OG	6.39	1.50	1.42
21	N	504	TYR	CE1-CZ	6.39	1.46	1.38
26	U	63	SER	CB-OG	6.39	1.50	1.42
32	M	290	ARG	CD-NE	6.38	1.57	1.46
4	d	108	TYR	CE1-CZ	6.37	1.46	1.38
33	J	35	ARG	NE-CZ	6.37	1.41	1.33
27	O	210	ARG	NE-CZ	6.36	1.41	1.33
16	V	251	TYR	CG-CD1	6.36	1.47	1.39
21	N	162	ARG	CZ-NH2	6.36	1.41	1.33
12	l	97	ALA	C-N	6.35	1.44	1.33
7	g	20	ARG	NE-CZ	6.34	1.41	1.33
13	m	193	ARG	NE-CZ	6.34	1.41	1.33
29	I	291	ARG	CZ-NH1	6.33	1.41	1.33
28	H	434	ARG	NE-CZ	6.33	1.41	1.33
13	m	99	ARG	CD-NE	6.32	1.57	1.46
25	R	303	SER	N-CA	-6.32	1.33	1.46
29	I	422	ARG	NE-CZ	6.31	1.41	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	c	132	GLY	CA-C	6.31	1.61	1.51
4	d	65	SER	CA-CB	6.31	1.62	1.52
25	R	222	ARG	CZ-NH2	6.30	1.41	1.33
27	O	172	TYR	CZ-OH	6.30	1.48	1.37
5	E	129	GLY	CA-C	-6.29	1.41	1.51
13	6	201	GLU	CD-OE2	6.29	1.32	1.25
29	I	180	SER	CA-CB	6.29	1.62	1.52
32	M	264	ARG	CD-NE	6.29	1.57	1.46
17	T	88	TYR	CG-CD2	6.28	1.47	1.39
19	Y	43	TRP	NE1-CE2	-6.28	1.29	1.37
3	C	67	TYR	CG-CD2	6.28	1.47	1.39
7	g	160	TYR	CE1-CZ	6.27	1.46	1.38
24	Q	244	GLU	CG-CD	6.27	1.61	1.51
3	c	234	GLU	CD-OE2	6.27	1.32	1.25
30	K	396	ARG	CZ-NH1	6.27	1.41	1.33
32	M	166	ARG	NE-CZ	6.27	1.41	1.33
5	e	156	PHE	CG-CD1	-6.26	1.29	1.38
8	1	144	TYR	CZ-OH	6.26	1.48	1.37
32	M	299	ARG	CZ-NH2	6.26	1.41	1.33
2	b	234	ARG	CZ-NH1	6.25	1.41	1.33
5	e	162	GLY	CA-C	-6.25	1.41	1.51
25	R	383	ARG	NE-CZ	6.25	1.41	1.33
24	Q	411	SER	CA-CB	6.25	1.62	1.52
32	M	267	PHE	CG-CD1	6.24	1.48	1.38
29	I	299	GLU	CD-OE2	6.24	1.32	1.25
1	A	244	ARG	CZ-NH2	6.24	1.41	1.33
1	A	120	ARG	CZ-NH2	6.21	1.41	1.33
10	3	6	SER	CA-CB	6.21	1.62	1.52
13	6	168	TYR	CB-CG	-6.20	1.42	1.51
8	1	133	TYR	CG-CD2	6.20	1.47	1.39
23	P	415	TRP	CD2-CE2	6.19	1.48	1.41
3	c	140	TYR	CE2-CZ	6.18	1.46	1.38
2	B	104	TYR	CE2-CZ	6.18	1.46	1.38
9	2	226	GLU	CB-CG	6.18	1.63	1.52
23	P	297	GLU	CB-CG	6.18	1.63	1.52
29	I	105	SER	CB-OG	6.18	1.50	1.42
2	b	113	GLU	CG-CD	6.17	1.61	1.51
21	N	604	ARG	CZ-NH2	6.17	1.41	1.33
7	G	157	TYR	CE2-CZ	6.17	1.46	1.38
2	B	210	GLU	CD-OE2	6.17	1.32	1.25
6	f	87	TYR	CZ-OH	6.16	1.48	1.37
1	A	131	ARG	NE-CZ	6.16	1.41	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	l	260	TRP	CZ2-CH2	6.16	1.49	1.37
12	5	196	ARG	CZ-NH1	6.16	1.41	1.33
13	m	139	TYR	CE1-CZ	6.15	1.46	1.38
26	U	44	SER	CA-CB	6.15	1.62	1.52
29	I	103	PRO	N-CA	-6.15	1.36	1.47
22	S	55	ARG	CZ-NH1	6.15	1.41	1.33
3	C	62	SER	CA-CB	6.14	1.62	1.52
12	5	262	TYR	CB-CG	6.14	1.60	1.51
33	J	43	ARG	NE-CZ	6.13	1.41	1.33
12	l	234	ARG	CZ-NH2	6.12	1.41	1.33
25	R	392	ARG	NE-CZ	6.12	1.41	1.33
14	n	136	ARG	CD-NE	6.12	1.56	1.46
14	n	226	ARG	CZ-NH1	6.12	1.41	1.33
10	j	198	ARG	CD-NE	6.11	1.56	1.46
13	6	84	HIS	CB-CG	6.11	1.61	1.50
15	W	122	ARG	CD-NE	6.11	1.56	1.46
24	Q	108	PRO	N-CD	-6.11	1.39	1.47
24	Q	352	GLU	CD-OE2	6.11	1.32	1.25
23	P	390	TYR	CG-CD2	6.11	1.47	1.39
31	L	339	ARG	NE-CZ	6.10	1.41	1.33
18	X	42	GLU	CG-CD	6.09	1.61	1.51
17	T	122	PHE	CG-CD1	6.08	1.47	1.38
5	e	165	TYR	CG-CD2	6.07	1.47	1.39
9	i	236	ARG	NE-CZ	6.07	1.41	1.33
13	6	229	ARG	CZ-NH1	6.07	1.41	1.33
30	K	186	GLU	CG-CD	6.06	1.61	1.51
5	E	20	ARG	CZ-NH2	6.06	1.41	1.33
21	N	618	ARG	NE-CZ	6.06	1.41	1.33
4	d	183	GLU	CG-CD	6.06	1.61	1.51
5	e	93	ARG	CZ-NH2	6.06	1.41	1.33
6	F	101	ARG	CZ-NH2	6.05	1.41	1.33
32	M	50	ARG	CZ-NH2	6.05	1.41	1.33
25	R	299	SER	CA-CB	6.05	1.62	1.52
21	N	234	ASP	N-CA	-6.04	1.34	1.46
4	d	61	PRO	N-CD	-6.04	1.39	1.47
15	W	109	ARG	NE-CZ	6.04	1.40	1.33
17	T	132	HIS	CB-CG	6.03	1.60	1.50
12	l	179	TYR	CE1-CZ	6.03	1.46	1.38
17	T	28	PRO	N-CD	-6.03	1.39	1.47
30	K	246	TYR	CZ-OH	6.03	1.48	1.37
1	a	22	GLU	CD-OE1	6.03	1.32	1.25
2	b	120	GLU	CD-OE1	6.02	1.32	1.25

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
13	m	99	ARG	CZ-NH1	6.02	1.40	1.33
4	D	148	TYR	CG-CD1	6.02	1.47	1.39
14	n	134	TYR	CZ-OH	6.02	1.48	1.37
24	Q	84	TYR	CG-CD1	6.01	1.47	1.39
5	E	103	TYR	CZ-OH	6.01	1.48	1.37
10	3	80	ARG	CD-NE	6.01	1.56	1.46
26	U	55	PRO	N-CD	-6.01	1.39	1.47
9	i	214	GLU	CD-OE1	6.01	1.32	1.25
11	k	149	ARG	NE-CZ	6.01	1.40	1.33
25	R	338	TYR	CZ-OH	6.01	1.48	1.37
13	m	109	ARG	CZ-NH2	6.00	1.40	1.33
27	O	387	ARG	CZ-NH1	6.00	1.40	1.33
13	m	141	ARG	CZ-NH2	6.00	1.40	1.33
7	G	85	GLY	N-CA	-6.00	1.37	1.46
22	S	464	ARG	NE-CZ	6.00	1.40	1.33
6	f	150	SER	CA-CB	6.00	1.61	1.52
19	Y	83	ARG	NE-CZ	6.00	1.40	1.33
25	R	338	TYR	CG-CD2	5.99	1.47	1.39
21	N	753	PHE	CB-CG	5.99	1.61	1.51
27	O	166	ARG	NE-CZ	5.99	1.40	1.33
33	J	15	HIS	CB-CG	-5.98	1.39	1.50
17	T	166	SER	CA-CB	5.98	1.61	1.52
23	P	95	TYR	CE2-CZ	5.97	1.46	1.38
2	b	75	TYR	CZ-OH	5.97	1.48	1.37
7	g	123	HIS	CB-CG	5.97	1.60	1.50
30	K	207	ARG	CZ-NH2	5.97	1.40	1.33
23	P	3	ARG	CZ-NH2	5.96	1.40	1.33
14	7	74	ARG	CZ-NH2	5.96	1.40	1.33
9	2	98	TYR	CE2-CZ	-5.96	1.30	1.38
10	3	65	GLU	CD-OE2	5.96	1.32	1.25
23	P	421	GLU	CD-OE1	5.96	1.32	1.25
32	M	345	ARG	NE-CZ	5.95	1.40	1.33
10	j	99	ARG	CZ-NH1	5.95	1.40	1.33
23	P	3	ARG	CD-NE	5.95	1.56	1.46
21	N	180	SER	CA-CB	5.94	1.61	1.52
27	O	115	ARG	NE-CZ	5.94	1.40	1.33
3	c	30	SER	CA-CB	5.93	1.61	1.52
31	L	111	GLU	CD-OE2	5.93	1.32	1.25
1	A	199	TRP	CD2-CE2	-5.93	1.34	1.41
25	R	245	SER	CA-CB	5.92	1.61	1.52
1	a	77	ARG	NE-CZ	5.92	1.40	1.33
5	E	93	ARG	CZ-NH1	5.92	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
17	T	245	TYR	CB-CG	-5.92	1.42	1.51
15	W	187	SER	CA-CB	5.92	1.61	1.52
21	N	103	SER	CA-CB	5.92	1.61	1.52
7	G	26	TYR	CG-CD2	5.91	1.46	1.39
16	V	157	ARG	NE-CZ	5.91	1.40	1.33
32	M	21	GLU	CB-CG	5.91	1.63	1.52
16	V	61	TYR	CG-CD1	5.91	1.46	1.39
24	Q	163	ARG	NE-CZ	5.91	1.40	1.33
22	S	147	TRP	CB-CG	5.90	1.60	1.50
21	N	456	GLY	N-CA	-5.90	1.37	1.46
12	5	196	ARG	CZ-NH2	5.89	1.40	1.33
21	N	881	TYR	CG-CD1	5.89	1.46	1.39
32	M	425	ARG	NE-CZ	5.89	1.40	1.33
27	O	215	TYR	CZ-OH	5.89	1.47	1.37
5	E	51	GLU	CG-CD	5.88	1.60	1.51
11	k	96	ARG	CD-NE	5.88	1.56	1.46
1	a	60	PRO	N-CA	-5.88	1.37	1.47
24	Q	309	ARG	CZ-NH2	5.88	1.40	1.33
4	d	197	ARG	CZ-NH2	5.87	1.40	1.33
9	2	119	TYR	CZ-OH	5.87	1.47	1.37
7	g	103	TYR	CB-CG	5.87	1.60	1.51
15	W	23	ARG	CZ-NH2	5.87	1.40	1.33
28	H	181	TYR	CG-CD2	5.86	1.46	1.39
1	A	233	PHE	CA-CB	5.86	1.66	1.53
31	L	319	GLY	N-CA	-5.86	1.37	1.46
22	S	174	ARG	CZ-NH1	5.86	1.40	1.33
33	J	42	ARG	CZ-NH1	5.86	1.40	1.33
17	T	224	ARG	CZ-NH2	5.86	1.40	1.33
13	m	221	ARG	NE-CZ	5.85	1.40	1.33
12	l	161	LEU	N-CA	-5.85	1.34	1.46
6	F	107	ARG	CD-NE	5.84	1.56	1.46
14	7	215	ARG	CZ-NH2	5.84	1.40	1.33
29	I	316	PHE	CB-CG	5.84	1.61	1.51
3	c	143	ARG	CD-NE	5.84	1.56	1.46
21	N	851	GLU	CD-OE1	5.84	1.32	1.25
24	Q	12	ARG	CZ-NH2	5.84	1.40	1.33
8	h	54	ARG	NE-CZ	5.83	1.40	1.33
7	G	191	GLU	CD-OE2	5.83	1.32	1.25
7	G	78	TYR	CG-CD2	5.83	1.46	1.39
27	O	178	TYR	CE1-CZ	5.83	1.46	1.38
29	I	277	SER	CA-CB	5.83	1.61	1.52
4	d	119	ARG	CZ-NH2	5.83	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	i	223	ASN	CA-C	-5.83	1.37	1.52
11	k	141	PHE	CG-CD1	5.82	1.47	1.38
10	3	50	PHE	CE1-CZ	5.82	1.48	1.37
16	V	236	SER	CB-OG	5.82	1.49	1.42
7	G	72	ARG	CZ-NH1	5.81	1.40	1.33
29	I	388	SER	CA-CB	5.81	1.61	1.52
2	B	235	PHE	N-CA	-5.81	1.34	1.46
4	D	165	GLY	CA-C	-5.81	1.42	1.51
21	N	880	ARG	CD-NE	5.81	1.56	1.46
24	Q	332	ARG	CZ-NH1	5.81	1.40	1.33
27	O	252	PHE	CG-CD2	5.80	1.47	1.38
4	d	114	ALA	N-CA	-5.80	1.34	1.46
10	j	173	ASN	CB-CG	5.79	1.64	1.51
5	E	16	SER	CA-CB	5.79	1.61	1.52
3	c	144	TYR	CD1-CE1	5.79	1.48	1.39
4	d	29	ARG	CZ-NH2	5.79	1.40	1.33
5	E	151	ASP	C-N	5.79	1.43	1.33
9	i	255	GLU	CD-OE1	5.79	1.32	1.25
18	X	122	TYR	CG-CD2	5.78	1.46	1.39
5	e	153	TYR	CG-CD1	5.78	1.46	1.39
33	J	257	ARG	CZ-NH1	5.78	1.40	1.33
22	S	253	PHE	CG-CD1	5.77	1.47	1.38
32	M	381	ARG	CZ-NH2	5.77	1.40	1.33
8	h	137	GLY	CA-C	-5.77	1.42	1.51
28	H	249	TYR	CE1-CZ	5.77	1.46	1.38
21	N	298	TYR	CG-CD2	-5.76	1.31	1.39
24	Q	294	ARG	NE-CZ	5.76	1.40	1.33
15	W	109	ARG	CZ-NH1	5.76	1.40	1.33
22	S	51	ARG	CZ-NH1	5.75	1.40	1.33
13	6	47	TYR	N-CA	-5.75	1.34	1.46
18	X	130	ASN	N-CA	-5.75	1.34	1.46
33	J	94	TYR	CG-CD2	5.75	1.46	1.39
21	N	866	TYR	CG-CD2	5.75	1.46	1.39
5	e	174	SER	CA-CB	5.74	1.61	1.52
21	N	894	ARG	CZ-NH2	5.74	1.40	1.33
3	C	13	PHE	CG-CD2	5.74	1.47	1.38
1	a	198	SER	CA-CB	5.74	1.61	1.52
8	1	183	ARG	NE-CZ	5.74	1.40	1.33
28	H	357	ARG	CD-NE	5.74	1.56	1.46
1	A	30	TYR	CG-CD1	5.74	1.46	1.39
11	k	73	TYR	CE2-CZ	5.74	1.46	1.38
31	L	157	ARG	NE-CZ	5.74	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
21	N	398	ARG	CZ-NH2	5.73	1.40	1.33
3	c	114	ARG	CD-NE	5.73	1.56	1.46
23	P	117	SER	CA-CB	5.73	1.61	1.52
11	k	139	TYR	CG-CD2	5.73	1.46	1.39
16	V	96	LYS	CA-CB	5.73	1.66	1.53
21	N	597	ARG	CZ-NH1	5.73	1.40	1.33
16	V	228	TYR	CZ-OH	5.73	1.47	1.37
6	f	94	TYR	CZ-OH	5.72	1.47	1.37
17	T	151	TRP	CZ2-CH2	5.72	1.48	1.37
18	X	22	ARG	CZ-NH1	5.72	1.40	1.33
10	j	104	PHE	CG-CD1	5.72	1.47	1.38
29	I	304	ARG	CZ-NH1	5.72	1.40	1.33
28	H	173	ARG	CZ-NH1	5.72	1.40	1.33
14	n	241	PHE	N-CA	-5.71	1.34	1.46
21	N	266	SER	CB-OG	-5.71	1.34	1.42
28	H	193	PRO	N-CD	-5.71	1.39	1.47
22	S	98	SER	CA-CB	5.71	1.61	1.52
23	P	83	SER	CA-CB	5.71	1.61	1.52
16	V	228	TYR	CG-CD1	5.71	1.46	1.39
4	d	49	ARG	CZ-NH1	5.71	1.40	1.33
4	d	166	ARG	CZ-NH1	5.70	1.40	1.33
10	j	154	TYR	CZ-OH	5.70	1.47	1.37
1	a	212	ASP	CA-CB	5.70	1.66	1.53
14	n	205	VAL	CA-CB	-5.70	1.42	1.54
4	d	168	SER	CA-CB	5.70	1.61	1.52
6	f	122	SER	CA-CB	5.70	1.61	1.52
8	h	34	TYR	CB-CG	-5.70	1.43	1.51
3	c	140	TYR	CZ-OH	5.69	1.47	1.37
9	i	254	GLU	CB-CG	5.69	1.62	1.52
11	k	93	ARG	CZ-NH1	5.68	1.40	1.33
13	m	75	ARG	CZ-NH1	5.68	1.40	1.33
11	k	190	ARG	CZ-NH1	5.68	1.40	1.33
13	m	75	ARG	CD-NE	5.68	1.56	1.46
9	i	168	GLU	CD-OE1	5.68	1.31	1.25
16	V	119	SER	CA-CB	5.68	1.61	1.52
13	6	79	SER	CA-CB	5.68	1.61	1.52
23	P	344	ARG	CZ-NH2	5.68	1.40	1.33
1	A	128	TYR	CE1-CZ	5.67	1.46	1.38
32	M	243	PHE	CE1-CZ	5.67	1.48	1.37
7	g	95	GLU	CG-CD	5.67	1.60	1.51
8	h	32	GLY	N-CA	-5.67	1.37	1.46
4	D	83	ARG	NE-CZ	5.67	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	f	101	ARG	N-CA	-5.67	1.35	1.46
13	m	169	GLU	CG-CD	5.67	1.60	1.51
8	1	146	TYR	CG-CD1	5.67	1.46	1.39
21	N	14	ARG	CZ-NH1	5.67	1.40	1.33
24	Q	75	ARG	CZ-NH1	5.67	1.40	1.33
30	K	48	TYR	CD1-CE1	5.67	1.47	1.39
14	7	225	SER	CA-CB	5.66	1.61	1.52
8	h	70	TYR	CG-CD2	5.66	1.46	1.39
14	7	69	PHE	N-CA	-5.66	1.35	1.46
22	S	170	TYR	CG-CD2	5.66	1.46	1.39
6	F	125	GLY	N-CA	-5.66	1.37	1.46
29	I	256	TYR	CG-CD2	5.66	1.46	1.39
15	W	60	ARG	CZ-NH1	5.66	1.40	1.33
25	R	181	TYR	CG-CD2	5.66	1.46	1.39
2	B	31	GLY	N-CA	-5.65	1.37	1.46
2	b	51	SER	CA-CB	5.65	1.61	1.52
25	R	268	SER	CA-CB	5.65	1.61	1.52
4	d	153	SER	CA-CB	5.65	1.61	1.52
28	H	370	ARG	NE-CZ	5.64	1.40	1.33
20	Z	748	LEU	CB-CG	5.64	1.69	1.52
28	H	123	GLY	CA-C	-5.64	1.42	1.51
25	R	58	GLU	CB-CG	5.64	1.62	1.52
30	K	118	TYR	CB-CG	-5.64	1.43	1.51
23	P	359	ARG	CZ-NH2	5.63	1.40	1.33
30	K	342	SER	CA-CB	5.63	1.61	1.52
11	k	149	ARG	CZ-NH2	5.63	1.40	1.33
4	D	6	ARG	CZ-NH2	5.63	1.40	1.33
13	m	229	ARG	NE-CZ	5.62	1.40	1.33
22	S	399	TYR	CZ-OH	5.62	1.47	1.37
7	g	78	TYR	CG-CD2	5.62	1.46	1.39
12	5	262	TYR	CZ-OH	5.61	1.47	1.37
8	1	38	ARG	CZ-NH1	5.61	1.40	1.33
21	N	202	PHE	CB-CG	-5.61	1.41	1.51
11	4	107	TYR	CG-CD1	5.61	1.46	1.39
17	T	261	GLU	CG-CD	5.61	1.60	1.51
13	6	36	ARG	CZ-NH2	5.61	1.40	1.33
26	U	22	TYR	CZ-OH	5.61	1.47	1.37
2	b	157	PHE	CE2-CZ	5.60	1.48	1.37
22	S	384	ARG	CZ-NH2	5.60	1.40	1.33
1	A	106	TYR	CZ-OH	5.60	1.47	1.37
3	C	50	ARG	NE-CZ	5.60	1.40	1.33
16	V	223	SER	CA-CB	5.60	1.61	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
21	N	398	ARG	NE-CZ	5.60	1.40	1.33
23	P	150	GLU	CG-CD	5.60	1.60	1.51
5	E	250	GLU	CB-CG	5.60	1.62	1.52
6	F	233	TYR	CD2-CE2	5.60	1.47	1.39
25	R	386	GLY	CA-C	-5.60	1.42	1.51
27	O	228	TYR	CB-CG	-5.60	1.43	1.51
12	5	230	TYR	CE2-CZ	5.60	1.45	1.38
29	I	408	ARG	CZ-NH1	5.60	1.40	1.33
13	6	139	TYR	CG-CD1	5.59	1.46	1.39
30	K	255	ARG	CZ-NH1	5.58	1.40	1.33
14	7	65	SER	CB-OG	5.58	1.49	1.42
3	C	48	ALA	CA-CB	5.58	1.64	1.52
12	5	234	ARG	NE-CZ	5.58	1.40	1.33
5	e	206	GLN	CG-CD	5.58	1.63	1.51
31	L	157	ARG	CD-NE	5.58	1.55	1.46
8	h	13	MET	CA-CB	5.58	1.66	1.53
2	b	148	TYR	CG-CD2	-5.57	1.31	1.39
7	g	47	VAL	C-N	5.57	1.46	1.34
30	K	156	SER	CA-CB	5.57	1.61	1.52
5	E	102	TYR	CE1-CZ	5.57	1.45	1.38
21	N	762	ARG	NE-CZ	5.57	1.40	1.33
22	S	160	ARG	CZ-NH2	5.57	1.40	1.33
27	O	171	PHE	CB-CG	5.57	1.60	1.51
11	k	171	ARG	CZ-NH1	5.56	1.40	1.33
17	T	51	TYR	CG-CD2	5.56	1.46	1.39
21	N	208	ARG	CD-NE	5.56	1.55	1.46
10	j	186	VAL	CB-CG1	5.55	1.64	1.52
25	R	83	GLU	CA-CB	5.55	1.66	1.53
24	Q	405	GLN	CA-CB	5.55	1.66	1.53
25	R	206	ARG	CZ-NH1	5.55	1.40	1.33
6	f	126	ARG	CZ-NH2	5.55	1.40	1.33
7	G	155	GLY	CA-C	-5.55	1.43	1.51
14	n	97	GLU	CG-CD	5.54	1.60	1.51
7	g	76	CYS	CB-SG	5.54	1.91	1.82
13	6	113	TYR	CG-CD1	5.54	1.46	1.39
25	R	63	TYR	CD1-CE1	5.54	1.47	1.39
2	B	240	SER	CA-CB	5.54	1.61	1.52
25	R	213	TYR	CB-CG	5.54	1.59	1.51
30	K	255	ARG	CZ-NH2	5.54	1.40	1.33
1	A	30	TYR	CZ-OH	5.54	1.47	1.37
11	k	152	MET	CA-CB	5.54	1.66	1.53
27	O	286	PHE	CG-CD2	5.54	1.47	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	M	213	ARG	CZ-NH2	5.54	1.40	1.33
2	b	31	GLY	N-CA	-5.53	1.37	1.46
5	e	220	SER	CA-CB	5.53	1.61	1.52
31	L	345	ARG	CZ-NH1	5.53	1.40	1.33
2	b	217	GLU	CD-OE2	5.53	1.31	1.25
10	j	28	ARG	CD-NE	5.53	1.55	1.46
23	P	138	ARG	CZ-NH2	5.53	1.40	1.33
8	h	179	GLY	CA-C	-5.53	1.43	1.51
31	L	359	GLU	CG-CD	5.53	1.60	1.51
14	7	136	ARG	NE-CZ	5.53	1.40	1.33
5	e	35	SER	CA-CB	5.52	1.61	1.52
21	N	211	PHE	CE2-CZ	5.52	1.47	1.37
8	h	133	TYR	CE2-CZ	5.51	1.45	1.38
10	3	164	PHE	CG-CD1	5.51	1.47	1.38
23	P	214	GLU	CG-CD	5.51	1.60	1.51
24	Q	409	TYR	CG-CD2	5.51	1.46	1.39
13	6	13	TYR	CE2-CZ	5.51	1.45	1.38
2	B	99	ARG	CD-NE	5.51	1.55	1.46
29	I	98	GLU	CB-CG	5.51	1.62	1.52
22	S	341	SER	CA-CB	5.51	1.61	1.52
10	j	28	ARG	NE-CZ	5.51	1.40	1.33
1	a	113	PRO	N-CD	-5.51	1.40	1.47
9	i	71	TRP	CD1-NE1	-5.51	1.28	1.38
9	i	191	GLY	CA-C	-5.50	1.43	1.51
7	G	86	ARG	CD-NE	5.50	1.55	1.46
12	l	242	ARG	CZ-NH2	5.50	1.40	1.33
17	T	137	GLU	CG-CD	-5.50	1.43	1.51
3	C	8	SER	CA-CB	5.50	1.61	1.52
30	K	128	ARG	CD-NE	5.50	1.55	1.46
30	K	411	TYR	CG-CD1	5.50	1.46	1.39
33	J	22	TYR	CE2-CZ	5.50	1.45	1.38
2	b	8	SER	CA-CB	5.50	1.61	1.52
1	A	219	SER	CA-CB	5.50	1.61	1.52
11	k	130	TYR	CE2-CZ	5.49	1.45	1.38
5	E	57	PRO	CA-C	-5.49	1.41	1.52
29	I	189	SER	CA-CB	5.49	1.61	1.52
3	c	85	GLU	CG-CD	5.49	1.60	1.51
4	d	49	ARG	CD-NE	5.49	1.55	1.46
29	I	340	ARG	CZ-NH1	5.49	1.40	1.33
6	f	14	SER	CA-CB	5.48	1.61	1.52
28	H	324	GLY	N-CA	-5.48	1.37	1.46
4	d	179	TYR	CZ-OH	5.48	1.47	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	c	213	PHE	CE1-CZ	5.48	1.47	1.37
10	j	68	ARG	CD-NE	5.48	1.55	1.46
23	P	402	PHE	CA-CB	5.47	1.66	1.53
33	J	270	ARG	NE-CZ	5.47	1.40	1.33
5	e	231	TYR	CZ-OH	5.47	1.47	1.37
21	N	50	TYR	CG-CD2	5.47	1.46	1.39
4	D	179	TYR	CE1-CZ	5.47	1.45	1.38
24	Q	190	ASN	CA-C	-5.47	1.38	1.52
31	L	215	PRO	CA-CB	5.47	1.64	1.53
30	K	236	ARG	CZ-NH2	5.47	1.40	1.33
6	F	195	GLU	CD-OE1	5.47	1.31	1.25
18	X	115	SER	CA-CB	5.46	1.61	1.52
32	M	203	ARG	NE-CZ	5.46	1.40	1.33
9	2	169	SER	CB-OG	5.46	1.49	1.42
1	A	120	ARG	NE-CZ	5.46	1.40	1.33
9	2	217	ARG	CZ-NH1	5.46	1.40	1.33
23	P	95	TYR	CG-CD2	5.46	1.46	1.39
8	h	133	TYR	CE1-CZ	5.46	1.45	1.38
26	U	126	LYS	N-CA	-5.45	1.35	1.46
22	S	147	TRP	CE3-CZ3	5.45	1.47	1.38
13	m	22	GLY	CA-C	5.45	1.60	1.51
16	V	108	TYR	CZ-OH	5.45	1.47	1.37
21	N	112	GLU	CD-OE2	-5.45	1.19	1.25
24	Q	400	TYR	CG-CD2	5.45	1.46	1.39
4	d	75	PHE	CB-CG	5.45	1.60	1.51
22	S	405	ARG	CD-NE	5.45	1.55	1.46
22	S	61	SER	CB-OG	5.44	1.49	1.42
6	f	68	GLU	CD-OE1	-5.44	1.19	1.25
7	g	126	TYR	CG-CD2	5.44	1.46	1.39
5	e	214	GLU	CB-CG	5.44	1.62	1.52
14	7	98	ARG	NE-CZ	5.44	1.40	1.33
33	J	212	ARG	CD-NE	5.43	1.55	1.46
9	2	152	TYR	CE1-CZ	5.43	1.45	1.38
30	K	108	GLY	CA-C	-5.43	1.43	1.51
28	H	289	ARG	CZ-NH1	5.43	1.40	1.33
27	O	266	PHE	CB-CG	5.43	1.60	1.51
6	F	59	TYR	CE2-CZ	5.42	1.45	1.38
27	O	137	TYR	CZ-OH	5.42	1.47	1.37
5	e	166	ARG	NE-CZ	5.42	1.40	1.33
11	4	190	ARG	NE-CZ	5.42	1.40	1.33
17	T	128	TYR	CG-CD2	-5.42	1.32	1.39
30	K	262	ARG	CZ-NH1	5.42	1.40	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	E	51	GLU	CB-CG	5.41	1.62	1.52
16	V	114	PHE	CE1-CZ	5.41	1.47	1.37
13	6	168	TYR	CG-CD2	5.41	1.46	1.39
1	a	110	TYR	CG-CD2	5.41	1.46	1.39
3	c	222	ASP	N-CA	-5.41	1.35	1.46
14	n	43	SER	CB-OG	-5.41	1.35	1.42
14	n	63	TYR	CZ-OH	5.40	1.47	1.37
27	O	34	GLU	CA-C	-5.40	1.39	1.52
3	c	23	GLU	CD-OE1	5.40	1.31	1.25
7	g	130	ARG	CZ-NH1	5.40	1.40	1.33
14	7	220	ARG	NE-CZ	5.40	1.40	1.33
17	T	154	GLU	CD-OE1	5.40	1.31	1.25
25	R	210	TYR	CG-CD1	5.40	1.46	1.39
16	V	135	ARG	NE-CZ	5.40	1.40	1.33
33	J	374	ARG	CZ-NH1	5.39	1.40	1.33
23	P	232	ARG	NE-CZ	5.39	1.40	1.33
24	Q	202	ARG	CZ-NH1	5.39	1.40	1.33
4	d	185	PRO	N-CD	-5.39	1.40	1.47
10	3	68	ARG	CZ-NH1	5.39	1.40	1.33
4	D	95	SER	CA-CB	5.38	1.61	1.52
22	S	298	ARG	CZ-NH1	5.38	1.40	1.33
1	A	26	TYR	CG-CD1	5.38	1.46	1.39
6	F	184	GLY	N-CA	-5.38	1.38	1.46
4	D	176	GLU	CG-CD	5.38	1.60	1.51
15	W	122	ARG	CZ-NH2	5.38	1.40	1.33
17	T	214	GLU	CD-OE2	-5.38	1.19	1.25
27	O	268	SER	CA-C	-5.37	1.39	1.52
13	6	221	ARG	CZ-NH2	5.37	1.40	1.33
21	N	15	GLU	CG-CD	5.37	1.59	1.51
5	e	164	PHE	CE1-CZ	5.36	1.47	1.37
22	S	428	ARG	NE-CZ	5.36	1.40	1.33
23	P	319	GLU	CD-OE1	5.36	1.31	1.25
24	Q	291	TYR	CE1-CZ	5.36	1.45	1.38
3	c	20	TYR	CZ-OH	5.36	1.47	1.37
26	U	263	LYS	CD-CE	5.36	1.64	1.51
32	M	339	ARG	CZ-NH1	5.36	1.40	1.33
32	M	421	GLU	CD-OE1	5.36	1.31	1.25
4	d	4	TYR	CG-CD1	5.36	1.46	1.39
4	d	156	TYR	CG-CD1	5.36	1.46	1.39
25	R	107	GLU	CD-OE2	5.36	1.31	1.25
32	M	368	MET	C-N	5.35	1.46	1.34
24	Q	20	TYR	CG-CD1	5.35	1.46	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
14	n	223	ARG	CD-NE	5.35	1.55	1.46
17	T	157	TYR	CG-CD1	5.35	1.46	1.39
26	U	32	ARG	CZ-NH2	5.35	1.40	1.33
13	m	46	ARG	NE-CZ	5.34	1.40	1.33
23	P	221	TYR	CD2-CE2	5.34	1.47	1.39
21	N	458	ALA	CA-CB	5.34	1.63	1.52
3	c	226	TYR	CD2-CE2	5.34	1.47	1.39
3	C	180	TYR	CG-CD1	5.34	1.46	1.39
32	M	166	ARG	CD-NE	5.34	1.55	1.46
16	V	203	TYR	CZ-OH	5.34	1.47	1.37
15	W	35	PHE	CE2-CZ	5.33	1.47	1.37
31	L	168	TYR	CZ-OH	5.33	1.47	1.37
2	b	234	ARG	NE-CZ	5.33	1.40	1.33
3	C	6	TYR	CG-CD2	-5.33	1.32	1.39
21	N	69	TYR	CZ-OH	5.33	1.47	1.37
33	J	361	VAL	CB-CG2	5.33	1.64	1.52
2	b	246	ARG	NE-CZ	5.32	1.40	1.33
7	G	39	GLY	CA-C	-5.32	1.43	1.51
30	K	396	ARG	NE-CZ	5.32	1.40	1.33
5	E	165	TYR	CG-CD1	5.32	1.46	1.39
21	N	740	TRP	NE1-CE2	5.32	1.44	1.37
24	Q	6	SER	CA-CB	5.32	1.60	1.52
31	L	119	VAL	CB-CG1	5.32	1.64	1.52
1	A	152	PRO	CA-CB	-5.31	1.43	1.53
9	2	152	TYR	CZ-OH	5.31	1.46	1.37
4	d	120	TYR	CZ-OH	5.31	1.46	1.37
2	B	176	GLU	CD-OE1	5.31	1.31	1.25
8	h	38	ARG	NE-CZ	5.31	1.40	1.33
7	g	132	PHE	N-CA	-5.31	1.35	1.46
17	T	186	ARG	NE-CZ	5.31	1.40	1.33
5	e	231	TYR	CE1-CZ	5.30	1.45	1.38
12	5	184	GLY	CA-C	-5.30	1.43	1.51
11	4	121	TYR	CE1-CZ	5.30	1.45	1.38
26	U	218	GLU	N-CA	-5.30	1.35	1.46
11	4	45	SER	CA-CB	5.29	1.60	1.52
1	a	26	TYR	CB-CG	5.29	1.59	1.51
4	D	151	GLU	CB-CG	5.29	1.62	1.52
8	1	80	GLY	N-CA	-5.29	1.38	1.46
32	M	345	ARG	CZ-NH1	5.29	1.40	1.33
28	H	420	ARG	NE-CZ	5.29	1.40	1.33
31	L	404	ARG	CZ-NH2	5.29	1.40	1.33
2	b	159	TRP	CZ2-CH2	5.28	1.47	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
9	2	131	GLY	CA-C	-5.28	1.43	1.51
21	N	81	TYR	CG-CD1	5.28	1.46	1.39
32	M	162	GLU	CD-OE1	5.28	1.31	1.25
12	l	210	PHE	N-CA	-5.28	1.35	1.46
31	L	303	ARG	CD-NE	5.28	1.55	1.46
8	1	201	GLU	CG-CD	5.28	1.59	1.51
21	N	917	ILE	N-CA	-5.28	1.35	1.46
30	K	207	ARG	NE-CZ	5.28	1.40	1.33
3	c	92	ARG	CD-NE	5.27	1.55	1.46
3	C	144	TYR	CB-CG	5.27	1.59	1.51
5	E	72	ARG	CD-NE	5.27	1.55	1.46
23	P	123	ARG	NE-CZ	5.27	1.40	1.33
14	7	128	TYR	CE1-CZ	5.27	1.45	1.38
8	1	51	TRP	CD1-NE1	-5.27	1.28	1.38
4	D	108	TYR	CE1-CZ	5.27	1.45	1.38
6	F	233	TYR	CG-CD1	-5.27	1.32	1.39
29	I	63	GLU	CD-OE1	5.27	1.31	1.25
9	2	219	TYR	CZ-OH	5.27	1.46	1.37
29	I	242	ALA	CA-CB	5.27	1.63	1.52
3	c	98	TYR	CE1-CZ	5.27	1.45	1.38
11	4	36	ARG	NE-CZ	5.26	1.39	1.33
30	K	399	ARG	NE-CZ	5.26	1.39	1.33
4	D	3	GLY	N-CA	5.26	1.53	1.46
8	1	112	ASP	CA-C	-5.26	1.39	1.52
6	f	147	PHE	CG-CD2	5.26	1.46	1.38
33	J	339	ARG	CD-NE	5.26	1.55	1.46
3	C	98	TYR	CE2-CZ	5.26	1.45	1.38
31	L	253	ASP	CB-CG	5.26	1.62	1.51
6	F	107	ARG	NE-CZ	5.26	1.39	1.33
5	e	136	ARG	CZ-NH2	5.25	1.39	1.33
28	H	426	ALA	CA-CB	5.25	1.63	1.52
12	5	145	GLU	CD-OE2	5.25	1.31	1.25
3	c	46	LEU	N-CA	-5.25	1.35	1.46
23	P	34	SER	CA-CB	5.25	1.60	1.52
23	P	47	ARG	CD-NE	5.25	1.55	1.46
12	l	188	TYR	CZ-OH	5.25	1.46	1.37
8	h	202	TYR	CG-CD1	5.24	1.46	1.39
29	I	87	LYS	CD-CE	5.24	1.64	1.51
13	6	141	ARG	CZ-NH2	5.24	1.39	1.33
14	7	49	TYR	CZ-OH	5.24	1.46	1.37
31	L	63	LYS	N-CA	-5.24	1.35	1.46
10	j	160	PRO	N-CD	-5.24	1.40	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
21	N	200	SER	CB-OG	5.24	1.49	1.42
29	I	265	ARG	NE-CZ	5.24	1.39	1.33
31	L	404	ARG	CZ-NH1	5.24	1.39	1.33
27	O	392	TRP	CB-CG	-5.23	1.40	1.50
1	A	217	GLU	CG-CD	5.23	1.59	1.51
25	R	99	TYR	CB-CG	5.23	1.59	1.51
27	O	356	ARG	NE-CZ	5.23	1.39	1.33
28	H	420	ARG	CZ-NH1	5.23	1.39	1.33
10	3	154	TYR	CB-CG	5.23	1.59	1.51
4	d	195	THR	C-N	5.22	1.46	1.34
7	G	26	TYR	CE2-CZ	-5.22	1.31	1.38
21	N	772	GLN	CG-CD	5.22	1.63	1.51
7	g	169	ARG	CD-NE	5.22	1.55	1.46
14	7	254	PHE	CG-CD2	5.22	1.46	1.38
31	L	88	TYR	CE1-CZ	5.22	1.45	1.38
31	L	296	SER	CA-CB	5.22	1.60	1.52
21	N	612	SER	CB-OG	5.22	1.49	1.42
22	S	166	ASN	CG-ND2	5.22	1.45	1.32
7	G	186	GLY	N-CA	-5.21	1.38	1.46
28	H	331	ARG	CZ-NH2	5.21	1.39	1.33
32	M	233	ARG	NE-CZ	5.21	1.39	1.33
5	E	61	SER	CA-CB	5.21	1.60	1.52
23	P	213	TYR	CZ-OH	5.21	1.46	1.37
25	R	278	SER	CA-CB	5.21	1.60	1.52
31	L	83	ASP	CA-C	-5.21	1.39	1.52
1	A	70	SER	CA-CB	5.21	1.60	1.52
23	P	357	TYR	CE1-CZ	5.21	1.45	1.38
10	j	68	ARG	CZ-NH2	5.20	1.39	1.33
3	C	135	PHE	CG-CD1	5.20	1.46	1.38
10	3	100	PHE	CB-CG	-5.20	1.42	1.51
21	N	471	TYR	CB-CG	5.20	1.59	1.51
27	O	333	SER	CB-OG	5.20	1.49	1.42
14	n	161	ARG	CZ-NH1	5.20	1.39	1.33
2	b	82	TYR	CA-CB	5.20	1.65	1.53
15	W	101	ARG	CD-NE	5.20	1.55	1.46
27	O	236	HIS	CB-CG	5.19	1.59	1.50
13	m	78	ASN	CB-CG	5.19	1.62	1.51
21	N	468	GLU	CG-CD	5.19	1.59	1.51
3	C	18	ARG	CZ-NH1	5.19	1.39	1.33
21	N	649	VAL	N-CA	-5.19	1.35	1.46
28	H	273	ARG	CA-C	-5.19	1.39	1.52
31	L	62	ARG	CD-NE	5.19	1.55	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
33	J	5	VAL	N-CA	-5.19	1.35	1.46
16	V	196	TYR	CD1-CE1	5.18	1.47	1.39
29	I	280	PHE	CG-CD1	5.18	1.46	1.38
33	J	333	ARG	CZ-NH2	5.18	1.39	1.33
9	i	227	GLU	CD-OE2	5.18	1.31	1.25
12	5	190	VAL	CB-CG1	5.18	1.63	1.52
6	F	89	ARG	NE-CZ	5.18	1.39	1.33
33	J	181	GLN	CD-NE2	5.18	1.45	1.32
1	a	130	GLN	CG-CD	5.18	1.62	1.51
33	J	371	ARG	CZ-NH2	5.18	1.39	1.33
13	6	202	ARG	CZ-NH2	5.17	1.39	1.33
21	N	36	TRP	NE1-CE2	5.17	1.44	1.37
22	S	175	SER	CA-CB	5.17	1.60	1.52
10	j	5	SER	CA-CB	5.17	1.60	1.52
10	j	128	GLY	CA-C	-5.17	1.43	1.51
14	n	220	ARG	NE-CZ	5.16	1.39	1.33
18	X	99	PHE	CG-CD2	5.16	1.46	1.38
21	N	421	ASP	CA-CB	5.16	1.65	1.53
2	B	159	TRP	NE1-CE2	5.16	1.44	1.37
6	F	123	TYR	CG-CD1	5.16	1.45	1.39
15	W	26	PHE	CG-CD2	5.16	1.46	1.38
23	P	354	SER	CA-CB	5.16	1.60	1.52
3	c	244	ILE	N-CA	-5.16	1.36	1.46
4	D	4	TYR	CE1-CZ	5.16	1.45	1.38
30	K	330	ARG	NE-CZ	5.16	1.39	1.33
33	J	56	ARG	CZ-NH1	5.16	1.39	1.33
26	U	129	GLY	CA-C	-5.15	1.43	1.51
8	h	191	GLY	CA-C	-5.15	1.43	1.51
6	F	137	TYR	CE1-CZ	5.15	1.45	1.38
29	I	356	SER	CA-CB	5.15	1.60	1.52
2	b	82	TYR	CE1-CZ	5.15	1.45	1.38
7	g	218	TRP	CZ2-CH2	5.15	1.47	1.37
6	F	128	TYR	CG-CD2	5.15	1.45	1.39
1	a	110	TYR	CE2-CZ	5.15	1.45	1.38
10	j	80	ARG	CD-NE	5.15	1.55	1.46
3	C	213	PHE	CG-CD2	5.15	1.46	1.38
25	R	252	TYR	C-N	5.15	1.45	1.34
31	L	103	GLN	CG-CD	5.14	1.62	1.51
33	J	344	ARG	CD-NE	5.14	1.55	1.46
11	4	36	ARG	CZ-NH2	5.14	1.39	1.33
9	i	84	VAL	CA-CB	-5.14	1.44	1.54
11	k	37	GLN	C-N	5.14	1.45	1.34

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	4	9	VAL	CB-CG2	5.14	1.63	1.52
19	Y	20	LYS	C-N	5.14	1.45	1.34
32	M	109	ASP	CB-CG	5.14	1.62	1.51
24	Q	202	ARG	CZ-NH2	5.13	1.39	1.33
28	H	88	ARG	NE-CZ	5.13	1.39	1.33
3	c	5	ARG	NE-CZ	5.13	1.39	1.33
8	h	191	GLY	N-CA	-5.13	1.38	1.46
8	1	194	ARG	NE-CZ	5.13	1.39	1.33
16	V	107	TRP	NE1-CE2	5.13	1.44	1.37
10	3	198	ARG	NE-CZ	5.13	1.39	1.33
27	O	172	TYR	N-CA	5.13	1.56	1.46
30	K	117	SER	CA-CB	5.13	1.60	1.52
5	E	156	PHE	CE2-CZ	5.13	1.47	1.37
21	N	626	GLY	CA-C	-5.13	1.43	1.51
8	1	120	TYR	CD1-CE1	5.12	1.47	1.39
13	m	198	SER	CA-CB	5.12	1.60	1.52
7	G	149	TYR	CE1-CZ	5.12	1.45	1.38
17	T	231	SER	CA-CB	5.12	1.60	1.52
23	P	279	ASP	C-N	-5.12	1.22	1.34
22	S	137	PHE	CG-CD2	5.12	1.46	1.38
12	l	82	ARG	NE-CZ	5.12	1.39	1.33
21	N	17	GLN	CG-CD	5.12	1.62	1.51
21	N	81	TYR	CE1-CZ	5.12	1.45	1.38
29	I	294	SER	CB-OG	5.12	1.49	1.42
27	O	306	ARG	NE-CZ	5.12	1.39	1.33
23	P	266	TYR	CD1-CE1	5.11	1.47	1.39
24	Q	211	PRO	N-CD	-5.11	1.40	1.47
16	V	42	ARG	CZ-NH2	5.11	1.39	1.33
22	S	171	TYR	CD1-CE1	5.11	1.47	1.39
22	S	211	ARG	CD-NE	5.11	1.55	1.46
9	i	48	ARG	CZ-NH1	5.11	1.39	1.33
21	N	908	ARG	CD-NE	5.11	1.55	1.46
4	d	173	GLU	CD-OE1	5.11	1.31	1.25
21	N	422	TYR	CE1-CZ	5.11	1.45	1.38
12	5	258	ASP	C-N	5.10	1.42	1.33
4	d	83	ARG	CZ-NH1	5.10	1.39	1.33
8	h	114	LYS	CA-CB	5.10	1.65	1.53
32	M	45	ARG	CZ-NH2	5.10	1.39	1.33
3	C	162	ALA	CA-CB	5.10	1.63	1.52
10	3	120	PHE	CG-CD1	5.10	1.46	1.38
12	5	280	GLY	CA-C	5.10	1.60	1.51
6	F	13	PHE	CE2-CZ	5.10	1.47	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	g	155	GLY	CA-C	-5.09	1.43	1.51
3	C	208	TYR	CB-CG	5.09	1.59	1.51
12	5	94	ARG	CZ-NH1	5.09	1.39	1.33
13	6	52	PHE	CE1-CZ	5.09	1.47	1.37
33	J	302	PRO	N-CA	-5.09	1.38	1.47
24	Q	332	ARG	NE-CZ	5.09	1.39	1.33
31	L	194	ARG	NE-CZ	5.09	1.39	1.33
1	A	131	ARG	CD-NE	5.09	1.55	1.46
21	N	786	ARG	CD-NE	5.09	1.55	1.46
24	Q	238	TYR	CD1-CE1	5.09	1.47	1.39
32	M	255	TYR	CE1-CZ	5.09	1.45	1.38
33	J	116	ARG	CZ-NH2	5.08	1.39	1.33
5	e	27	SER	CA-CB	5.08	1.60	1.52
25	R	68	GLU	CD-OE2	5.08	1.31	1.25
2	b	236	ARG	CD-NE	5.08	1.55	1.46
16	V	75	GLY	CA-C	-5.08	1.43	1.51
22	S	442	PHE	CG-CD2	5.08	1.46	1.38
8	h	65	ALA	CA-CB	5.08	1.63	1.52
21	N	271	GLU	CB-CG	5.08	1.61	1.52
15	W	32	SER	CA-CB	5.07	1.60	1.52
28	H	340	LEU	C-N	5.07	1.45	1.34
7	g	9	ASP	CA-CB	5.07	1.65	1.53
14	7	85	GLY	N-CA	-5.07	1.38	1.46
25	R	213	TYR	CZ-OH	5.07	1.46	1.37
28	H	421	SER	CA-CB	5.07	1.60	1.52
3	C	92	ARG	CZ-NH2	5.06	1.39	1.33
1	a	65	ASP	CB-CG	5.06	1.62	1.51
21	N	741	TYR	CZ-OH	5.06	1.46	1.37
21	N	89	PHE	CG-CD1	5.06	1.46	1.38
12	l	165	TYR	CD2-CE2	5.06	1.47	1.39
12	l	184	GLY	N-CA	-5.06	1.38	1.46
21	N	117	TYR	CG-CD1	5.06	1.45	1.39
22	S	382	ARG	CD-NE	5.06	1.55	1.46
22	S	95	PHE	CE1-CZ	5.05	1.47	1.37
21	N	741	TYR	CE2-CZ	5.05	1.45	1.38
25	R	186	TYR	CG-CD2	5.05	1.45	1.39
30	K	379	SER	C-N	5.05	1.42	1.33
14	7	76	ILE	N-CA	-5.05	1.36	1.46
23	P	102	GLU	CD-OE2	5.05	1.31	1.25
27	O	69	PHE	CB-CG	5.05	1.59	1.51
2	B	42	GLY	CA-C	-5.05	1.43	1.51
6	F	101	ARG	CZ-NH1	5.05	1.39	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
15	W	101	ARG	CZ-NH2	5.05	1.39	1.33
9	i	152	TYR	CE2-CZ	5.05	1.45	1.38
10	j	87	PHE	CG-CD2	5.05	1.46	1.38
7	G	160	TYR	CE1-CZ	5.05	1.45	1.38
22	S	121	VAL	CA-CB	-5.05	1.44	1.54
28	H	190	ARG	CD-NE	5.04	1.55	1.46
12	l	207	GLY	N-CA	-5.04	1.38	1.46
33	J	281	GLY	CA-C	-5.04	1.43	1.51
29	I	123	PRO	N-CD	5.04	1.54	1.47
33	J	223	ILE	C-N	5.04	1.42	1.33
8	1	70	TYR	CG-CD2	5.04	1.45	1.39
28	H	178	ARG	CZ-NH2	5.04	1.39	1.33
5	E	131	GLU	CD-OE2	5.04	1.31	1.25
14	n	87	SER	CA-CB	5.04	1.60	1.52
26	U	52	PHE	CG-CD2	5.04	1.46	1.38
32	M	340	SER	CA-CB	5.04	1.60	1.52
13	m	41	TYR	CG-CD1	5.03	1.45	1.39
13	6	41	TYR	CE2-CZ	5.03	1.45	1.38
14	7	50	ASP	N-CA	-5.03	1.36	1.46
21	N	121	GLU	CD-OE2	5.03	1.31	1.25
2	b	246	ARG	CZ-NH2	5.03	1.39	1.33
8	h	163	PHE	CE2-CZ	5.03	1.47	1.37
28	H	273	ARG	CZ-NH1	5.03	1.39	1.33
4	d	252	SER	CA-CB	5.03	1.60	1.52
5	e	126	GLY	CA-C	-5.03	1.43	1.51
7	G	103	TYR	CZ-OH	5.03	1.46	1.37
21	N	109	TYR	CD1-CE1	5.03	1.46	1.39
23	P	356	TYR	CB-CG	5.03	1.59	1.51
28	H	287	GLY	CA-C	-5.03	1.43	1.51
2	b	83	ARG	CD-NE	5.03	1.54	1.46
4	D	183	GLU	CG-CD	5.03	1.59	1.51
9	2	200	SER	CA-CB	5.03	1.60	1.52
28	H	245	GLY	CA-C	-5.03	1.43	1.51
33	J	185	VAL	C-N	5.03	1.45	1.34
7	g	215	GLU	CG-CD	5.02	1.59	1.51
6	f	196	ALA	CA-CB	5.02	1.62	1.52
1	A	56	GLN	CA-CB	5.02	1.65	1.53
6	F	18	ARG	CZ-NH2	5.02	1.39	1.33
22	S	188	TYR	CZ-OH	5.02	1.46	1.37
29	I	356	SER	CB-OG	5.02	1.48	1.42
31	L	209	ARG	CZ-NH2	5.02	1.39	1.33
26	U	24	ARG	CD-NE	5.02	1.54	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
32	M	357	ARG	NE-CZ	5.02	1.39	1.33
3	C	113	ARG	CZ-NH1	5.01	1.39	1.33
7	G	75	GLY	CA-C	-5.01	1.43	1.51
21	N	124	TYR	C-N	5.01	1.45	1.34
9	2	178	GLU	CG-CD	5.01	1.59	1.51
21	N	457	SER	CA-CB	5.01	1.60	1.52
1	A	71	TYR	CE2-CZ	5.01	1.45	1.38
21	N	422	TYR	CE2-CZ	5.01	1.45	1.38
6	f	186	PRO	N-CD	5.01	1.54	1.47
11	k	105	GLY	C-N	5.01	1.42	1.33
4	D	5	ASP	N-CA	-5.01	1.36	1.46
5	E	86	ARG	NE-CZ	5.01	1.39	1.33
4	d	127	ARG	CD-NE	5.00	1.54	1.46
9	2	193	TRP	CD2-CE2	5.00	1.47	1.41
12	l	242	ARG	CD-NE	5.00	1.54	1.46
3	C	24	TYR	CE1-CZ	5.00	1.45	1.38
16	V	273	ARG	CZ-NH1	5.00	1.39	1.33
33	J	181	GLN	CA-CB	5.00	1.65	1.53

All (2530) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	Z	748	LEU	CB-CA-C	33.53	173.91	110.20
25	R	383	ARG	NE-CZ-NH1	22.11	131.35	120.30
20	Z	748	LEU	N-CA-CB	-20.93	68.54	110.40
28	H	272	ILE	O-C-N	-19.21	91.97	122.70
3	c	143	ARG	NE-CZ-NH1	18.85	129.72	120.30
17	T	89	TYR	CB-CG-CD2	-18.56	109.87	121.00
21	N	880	ARG	NE-CZ-NH2	-18.52	111.04	120.30
21	N	906	ARG	NE-CZ-NH1	18.41	129.50	120.30
6	F	24	TYR	CB-CG-CD2	-18.10	110.14	121.00
28	H	90	ARG	NE-CZ-NH1	17.97	129.28	120.30
21	N	653	ARG	NE-CZ-NH2	-17.95	111.32	120.30
29	I	316	PHE	CB-CG-CD2	17.62	133.13	120.80
31	L	339	ARG	NE-CZ-NH1	16.54	128.57	120.30
4	D	112	TYR	CB-CG-CD1	16.35	130.81	121.00
30	K	141	ARG	NE-CZ-NH2	-16.31	112.14	120.30
5	e	10	ARG	NE-CZ-NH1	16.29	128.44	120.30
24	Q	127	ARG	NE-CZ-NH1	15.70	128.15	120.30
25	R	383	ARG	NE-CZ-NH2	-15.69	112.46	120.30
6	F	24	TYR	CB-CG-CD1	15.62	130.37	121.00
22	S	171	TYR	CB-CG-CD2	-15.62	111.63	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	T	89	TYR	CB-CG-CD1	15.50	130.30	121.00
2	b	23	TYR	CB-CG-CD1	15.34	130.20	121.00
13	m	13	TYR	CB-CG-CD2	15.04	130.02	121.00
7	g	112	PHE	CB-CG-CD1	15.01	131.30	120.80
4	D	112	TYR	CB-CG-CD2	-15.00	112.00	121.00
5	E	132	ARG	NE-CZ-NH2	-15.00	112.80	120.30
12	5	82	ARG	NE-CZ-NH2	-14.96	112.82	120.30
27	O	81	TYR	CB-CG-CD1	14.93	129.96	121.00
5	E	166	ARG	NE-CZ-NH1	14.85	127.73	120.30
28	H	434	ARG	NE-CZ-NH1	14.79	127.70	120.30
23	P	266	TYR	CB-CG-CD1	14.79	129.87	121.00
11	4	148	TYR	CB-CG-CD1	14.62	129.77	121.00
29	I	316	PHE	CB-CG-CD1	-14.54	110.62	120.80
25	R	43	ARG	NE-CZ-NH2	-14.44	113.08	120.30
5	e	166	ARG	NE-CZ-NH1	14.38	127.49	120.30
20	Z	747	ALA	CA-C-O	-14.34	89.98	120.10
21	N	653	ARG	NE-CZ-NH1	14.29	127.45	120.30
28	H	385	ARG	NE-CZ-NH2	-14.20	113.20	120.30
2	b	101	TYR	CB-CG-CD2	14.19	129.51	121.00
31	L	161	ARG	NE-CZ-NH1	14.17	127.39	120.30
5	e	15	PHE	CB-CG-CD1	-14.13	110.91	120.80
5	e	93	ARG	NE-CZ-NH1	14.04	127.32	120.30
13	6	28	PHE	CB-CG-CD2	-14.03	110.98	120.80
11	4	107	TYR	CB-CG-CD1	13.98	129.39	121.00
6	f	179	PHE	CB-CG-CD1	13.88	130.52	120.80
1	a	244	ARG	NE-CZ-NH1	13.79	127.20	120.30
5	E	72	ARG	NE-CZ-NH1	-13.73	113.44	120.30
16	V	100	ARG	NE-CZ-NH2	-13.72	113.44	120.30
27	O	310	PHE	CB-CG-CD1	-13.59	111.28	120.80
21	N	70	TYR	CB-CG-CD1	-13.53	112.88	121.00
23	P	266	TYR	CB-CG-CD2	-13.38	112.97	121.00
4	D	29	ARG	NE-CZ-NH2	-13.35	113.63	120.30
24	Q	132	PHE	CB-CG-CD2	13.32	130.13	120.80
23	P	232	ARG	NE-CZ-NH2	-13.31	113.64	120.30
25	R	20	ARG	NE-CZ-NH2	-13.31	113.64	120.30
30	K	236	ARG	NE-CZ-NH1	13.26	126.93	120.30
33	J	112	ARG	NE-CZ-NH2	-13.25	113.68	120.30
33	J	371	ARG	NE-CZ-NH1	13.25	126.92	120.30
1	A	128	TYR	CB-CG-CD2	-13.21	113.07	121.00
6	f	225	TYR	CB-CG-CD2	-13.18	113.09	121.00
29	I	246	ARG	NE-CZ-NH2	-13.06	113.77	120.30
25	R	207	ARG	NE-CZ-NH1	13.04	126.82	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
28	H	90	ARG	NE-CZ-NH2	-13.03	113.79	120.30
7	g	169	ARG	NE-CZ-NH2	-12.99	113.80	120.30
3	C	9	ARG	NE-CZ-NH2	-12.99	113.81	120.30
16	V	20	ARG	NE-CZ-NH2	-12.97	113.82	120.30
12	5	253	TYR	CB-CG-CD2	-12.96	113.22	121.00
23	P	115	ARG	NE-CZ-NH1	12.95	126.77	120.30
9	i	153	TYR	CB-CG-CD2	-12.94	113.24	121.00
29	I	181	TYR	CB-CG-CD1	12.92	128.75	121.00
21	N	70	TYR	CB-CG-CD2	12.89	128.74	121.00
22	S	25	TYR	CB-CG-CD2	-12.89	113.27	121.00
7	g	8	TYR	CB-CG-CD2	-12.87	113.28	121.00
6	F	6	TYR	CB-CG-CD2	-12.86	113.28	121.00
25	R	392	ARG	NE-CZ-NH2	-12.84	113.88	120.30
25	R	246	TYR	CB-CG-CD2	-12.83	113.30	121.00
24	Q	434	TYR	CB-CG-CD1	12.82	128.69	121.00
17	T	82	PHE	CB-CG-CD2	12.82	129.78	120.80
13	6	221	ARG	NE-CZ-NH1	12.77	126.69	120.30
5	E	9	ASP	CB-CG-OD1	12.76	129.78	118.30
14	7	162	TYR	CB-CG-CD2	-12.71	113.38	121.00
5	E	26	TYR	CB-CG-CD2	12.70	128.62	121.00
10	3	99	ARG	NE-CZ-NH2	12.55	126.58	120.30
23	P	359	ARG	NE-CZ-NH1	12.54	126.57	120.30
6	f	225	TYR	CB-CG-CD1	12.53	128.52	121.00
14	n	109	TYR	CB-CG-CD1	12.52	128.51	121.00
6	F	157	TYR	CB-CG-CD1	-12.38	113.57	121.00
20	Z	728	LYS	CA-CB-CG	12.34	140.56	113.40
4	d	48	ARG	NE-CZ-NH1	-12.32	114.14	120.30
24	Q	434	TYR	CB-CG-CD2	-12.29	113.63	121.00
32	M	279	PHE	CB-CG-CD2	-12.25	112.23	120.80
25	R	338	TYR	CB-CG-CD1	12.18	128.31	121.00
24	Q	50	ARG	NE-CZ-NH2	12.15	126.37	120.30
11	4	130	TYR	CB-CG-CD1	-12.13	113.72	121.00
13	m	47	TYR	CB-CG-CD1	-12.11	113.73	121.00
24	Q	116	PHE	CB-CG-CD1	-12.09	112.34	120.80
2	b	236	ARG	NE-CZ-NH2	-12.07	114.26	120.30
21	N	162	ARG	NE-CZ-NH1	12.06	126.33	120.30
9	2	236	ARG	NE-CZ-NH2	-12.03	114.28	120.30
29	I	316	PHE	N-CA-CB	12.01	132.22	110.60
22	S	55	ARG	NE-CZ-NH1	-12.00	114.30	120.30
27	O	58	ARG	NE-CZ-NH1	12.00	126.30	120.30
5	e	164	PHE	CB-CG-CD1	-11.98	112.41	120.80
15	W	140	ASP	CB-CG-OD1	-11.95	107.55	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
22	S	55	ARG	NE-CZ-NH2	11.92	126.26	120.30
31	L	339	ARG	NE-CZ-NH2	-11.90	114.35	120.30
16	V	157	ARG	NE-CZ-NH2	-11.84	114.38	120.30
5	E	9	ASP	CB-CG-OD2	-11.81	107.67	118.30
27	O	195	TYR	CB-CG-CD1	11.80	128.08	121.00
22	S	111	ARG	NE-CZ-NH2	-11.79	114.41	120.30
20	Z	728	LYS	CB-CG-CD	11.76	142.16	111.60
13	m	109	ARG	NE-CZ-NH2	-11.72	114.44	120.30
21	N	906	ARG	NE-CZ-NH2	-11.68	114.46	120.30
20	Z	728	LYS	CB-CA-C	11.64	133.69	110.40
1	A	30	TYR	CB-CG-CD2	-11.59	114.04	121.00
28	H	249	TYR	CB-CG-CD1	-11.59	114.05	121.00
25	R	181	TYR	CB-CG-CD1	11.58	127.95	121.00
18	X	45	PHE	CB-CG-CD2	-11.56	112.71	120.80
20	Z	738	TYR	CE1-CZ-CE2	-11.54	101.33	119.80
14	7	74	ARG	NE-CZ-NH2	-11.53	114.53	120.30
14	n	194	ARG	NE-CZ-NH1	11.50	126.05	120.30
10	3	177	ARG	NE-CZ-NH1	-11.49	114.56	120.30
8	1	163	PHE	CB-CG-CD2	-11.48	112.76	120.80
12	l	262	TYR	CB-CG-CD2	-11.45	114.13	121.00
14	n	92	ASP	CB-CG-OD1	-11.45	108.00	118.30
12	5	181	ARG	NE-CZ-NH2	-11.44	114.58	120.30
8	1	120	TYR	CB-CG-CD2	-11.43	114.14	121.00
32	M	425	ARG	NE-CZ-NH1	-11.37	114.61	120.30
2	B	130	PHE	CB-CG-CD1	11.37	128.76	120.80
10	j	68	ARG	NE-CZ-NH2	-11.37	114.62	120.30
27	O	195	TYR	CB-CG-CD2	-11.28	114.23	121.00
5	e	231	TYR	CB-CG-CD1	-11.28	114.23	121.00
12	5	82	ARG	NE-CZ-NH1	11.26	125.93	120.30
11	k	23	ARG	NE-CZ-NH1	-11.25	114.68	120.30
32	M	381	ARG	NE-CZ-NH2	-11.21	114.69	120.30
12	l	179	TYR	CB-CG-CD1	11.19	127.71	121.00
7	g	78	TYR	CB-CG-CD2	11.16	127.69	121.00
5	E	53	ARG	NE-CZ-NH2	-11.14	114.73	120.30
25	R	20	ARG	NE-CZ-NH1	11.14	125.87	120.30
11	k	36	ARG	NE-CZ-NH1	-11.13	114.73	120.30
13	m	13	TYR	CB-CG-CD1	-11.13	114.32	121.00
3	C	102	TYR	CB-CG-CD2	11.06	127.64	121.00
14	7	137	ARG	NE-CZ-NH1	11.03	125.82	120.30
3	c	146	TYR	CB-CG-CD1	11.02	127.61	121.00
27	O	330	ARG	NE-CZ-NH1	10.97	125.78	120.30
27	O	81	TYR	CB-CG-CD2	-10.96	114.42	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	g	112	PHE	CB-CG-CD2	-10.95	113.14	120.80
5	e	132	ARG	NE-CZ-NH2	-10.91	114.84	120.30
9	2	98	TYR	CB-CG-CD2	10.91	127.55	121.00
22	S	425	ARG	NE-CZ-NH1	10.91	125.75	120.30
1	a	133	TYR	CB-CG-CD1	-10.87	114.48	121.00
3	c	143	ARG	NE-CZ-NH2	-10.86	114.87	120.30
4	d	174	PHE	CB-CG-CD2	-10.81	113.23	120.80
14	7	220	ARG	NE-CZ-NH1	-10.81	114.90	120.30
15	W	122	ARG	NE-CZ-NH1	10.80	125.70	120.30
30	K	396	ARG	NE-CZ-NH2	10.80	125.70	120.30
33	J	147	TYR	CB-CG-CD2	10.78	127.47	121.00
4	d	90	ARG	NE-CZ-NH2	-10.76	114.92	120.30
22	S	405	ARG	NE-CZ-NH1	-10.76	114.92	120.30
24	Q	34	ASP	CB-CG-OD1	-10.72	108.65	118.30
6	f	107	ARG	NE-CZ-NH2	-10.71	114.95	120.30
6	F	157	TYR	CB-CG-CD2	10.71	127.42	121.00
28	H	343	PHE	CB-CG-CD2	10.69	128.28	120.80
28	H	261	ARG	NE-CZ-NH1	10.68	125.64	120.30
3	C	9	ARG	NE-CZ-NH1	10.68	125.64	120.30
5	e	231	TYR	CB-CG-CD2	10.67	127.40	121.00
13	m	109	ARG	NE-CZ-NH1	10.65	125.63	120.30
5	E	26	TYR	CB-CG-CD1	-10.63	114.62	121.00
21	N	604	ARG	NE-CZ-NH2	-10.63	114.98	120.30
27	O	288	ARG	NE-CZ-NH2	-10.63	114.98	120.30
7	G	20	ARG	NE-CZ-NH2	-10.62	114.99	120.30
8	h	175	ASP	CB-CG-OD1	10.62	127.86	118.30
1	A	30	TYR	CB-CG-CD1	10.62	127.37	121.00
6	f	101	ARG	NE-CZ-NH1	10.61	125.61	120.30
7	g	160	TYR	CB-CG-CD1	-10.60	114.64	121.00
31	L	157	ARG	NE-CZ-NH2	-10.60	115.00	120.30
24	Q	151	TYR	CB-CG-CD1	10.58	127.35	121.00
21	N	23	TYR	CB-CG-CD2	-10.56	114.66	121.00
6	F	137	TYR	CB-CG-CD2	10.55	127.33	121.00
22	S	111	ARG	NE-CZ-NH1	10.55	125.57	120.30
33	J	207	ASP	CB-CG-OD1	-10.54	108.81	118.30
21	N	884	PHE	CB-CG-CD1	-10.54	113.42	120.80
32	M	381	ARG	NE-CZ-NH1	10.50	125.55	120.30
6	f	82	ARG	NE-CZ-NH1	10.49	125.55	120.30
21	N	896	PHE	CB-CG-CD2	-10.46	113.47	120.80
3	C	5	ARG	NE-CZ-NH2	-10.45	115.07	120.30
2	b	23	TYR	CB-CG-CD2	-10.42	114.75	121.00
23	P	115	ARG	NE-CZ-NH2	-10.40	115.10	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
30	K	141	ARG	NE-CZ-NH1	10.38	125.49	120.30
3	C	50	ARG	NE-CZ-NH2	-10.38	115.11	120.30
21	N	298	TYR	CB-CG-CD2	-10.37	114.78	121.00
8	1	54	ARG	NE-CZ-NH2	-10.37	115.12	120.30
7	g	190	ARG	NE-CZ-NH1	10.35	125.48	120.30
5	E	167	TYR	CB-CG-CD2	-10.29	114.82	121.00
31	L	289	ARG	NE-CZ-NH1	10.29	125.44	120.30
3	c	144	TYR	CB-CG-CD1	-10.22	114.87	121.00
28	H	273	ARG	CA-C-N	-10.21	94.75	117.20
31	L	137	ARG	NE-CZ-NH1	10.20	125.40	120.30
14	n	137	ARG	NE-CZ-NH1	10.20	125.40	120.30
20	Z	748	LEU	CA-CB-CG	10.18	138.72	115.30
6	F	137	TYR	CB-CG-CD1	-10.17	114.90	121.00
10	3	28	ARG	NE-CZ-NH2	-10.15	115.22	120.30
26	U	248	ASP	CB-CG-OD1	10.14	127.43	118.30
30	K	255	ARG	NE-CZ-NH1	10.14	125.37	120.30
10	j	96	TYR	CB-CG-CD2	10.13	127.08	121.00
9	2	98	TYR	CB-CG-CD1	-10.11	114.93	121.00
3	C	20	TYR	CB-CG-CD2	-10.11	114.94	121.00
21	N	188	TYR	CB-CG-CD1	-10.10	114.94	121.00
32	M	124	ARG	NE-CZ-NH2	-10.10	115.25	120.30
14	7	189	ARG	NE-CZ-NH2	-10.10	115.25	120.30
24	Q	84	TYR	CB-CG-CD2	10.08	127.05	121.00
16	V	108	TYR	CB-CG-CD1	-10.05	114.97	121.00
17	T	100	ASP	CB-CG-OD1	10.05	127.35	118.30
18	X	17	TYR	CB-CG-CD1	-10.04	114.98	121.00
24	Q	112	ASP	CB-CG-OD2	-10.03	109.27	118.30
33	J	147	TYR	CB-CG-CD1	-10.03	114.98	121.00
26	U	113	TYR	CB-CG-CD2	10.02	127.01	121.00
6	F	82	ARG	NE-CZ-NH2	-10.01	115.29	120.30
25	R	345	TYR	CB-CG-CD1	10.01	127.01	121.00
24	Q	75	ARG	NE-CZ-NH1	10.01	125.30	120.30
24	Q	165	PHE	CB-CG-CD2	-10.01	113.80	120.80
29	I	316	PHE	CB-CA-C	-10.01	90.39	110.40
13	6	83	TYR	CB-CG-CD1	-9.99	115.00	121.00
1	a	73	PHE	CB-CG-CD1	9.98	127.78	120.80
1	A	212	ASP	CB-CG-OD2	9.97	127.28	118.30
14	n	109	TYR	CB-CG-CD2	-9.97	115.02	121.00
5	E	102	TYR	CB-CG-CD2	-9.97	115.02	121.00
2	b	99	ARG	NE-CZ-NH2	-9.97	115.32	120.30
5	e	53	ARG	NE-CZ-NH1	9.95	125.28	120.30
1	a	26	TYR	CB-CG-CD2	-9.92	115.05	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	b	224	TYR	CB-CG-CD1	-9.91	115.05	121.00
12	5	230	TYR	CB-CG-CD2	-9.90	115.06	121.00
23	P	359	ARG	NE-CZ-NH2	-9.88	115.36	120.30
27	O	330	ARG	NE-CZ-NH2	-9.88	115.36	120.30
16	V	122	ASP	CB-CG-OD1	9.87	127.18	118.30
14	n	137	ARG	NE-CZ-NH2	-9.86	115.37	120.30
27	O	181	PHE	CB-CG-CD2	-9.85	113.90	120.80
21	N	697	PHE	CB-CG-CD2	-9.82	113.92	120.80
4	d	179	TYR	CB-CG-CD2	-9.82	115.11	121.00
23	P	103	TYR	CB-CG-CD1	-9.81	115.11	121.00
32	M	279	PHE	CB-CG-CD1	9.81	127.67	120.80
13	6	75	ARG	NE-CZ-NH2	-9.80	115.40	120.30
22	S	239	ARG	NE-CZ-NH2	-9.79	115.40	120.30
2	B	156	TYR	CB-CG-CD2	-9.79	115.12	121.00
26	U	52	PHE	CB-CG-CD1	9.79	127.65	120.80
30	K	77	ARG	NE-CZ-NH2	-9.78	115.41	120.30
28	H	261	ARG	NE-CZ-NH2	-9.77	115.42	120.30
25	R	207	ARG	NE-CZ-NH2	-9.76	115.42	120.30
4	d	119	ARG	NE-CZ-NH2	-9.75	115.43	120.30
3	c	226	TYR	CB-CG-CD1	-9.74	115.15	121.00
21	N	188	TYR	CB-CG-CD2	9.74	126.84	121.00
29	I	75	PHE	CB-CG-CD1	-9.72	114.00	120.80
6	f	174	ARG	NE-CZ-NH2	-9.71	115.44	120.30
31	L	376	PHE	CB-CG-CD1	9.71	127.60	120.80
22	S	298	ARG	NE-CZ-NH1	-9.69	115.46	120.30
24	Q	306	TYR	CB-CG-CD1	9.68	126.81	121.00
14	n	136	ARG	NE-CZ-NH1	-9.67	115.46	120.30
25	R	213	TYR	CB-CG-CD1	-9.66	115.20	121.00
2	B	99	ARG	NE-CZ-NH1	9.63	125.12	120.30
17	T	266	TYR	CB-CG-CD1	9.63	126.78	121.00
31	L	70	TYR	CB-CG-CD2	-9.63	115.22	121.00
24	Q	84	TYR	CB-CG-CD1	-9.63	115.22	121.00
3	C	141	ASP	CB-CG-OD2	-9.62	109.64	118.30
4	d	97	ARG	NE-CZ-NH2	9.62	125.11	120.30
8	1	96	TYR	CB-CG-CD1	-9.61	115.23	121.00
30	K	282	PHE	CB-CG-CD1	-9.61	114.07	120.80
31	L	191	ARG	NE-CZ-NH2	-9.59	115.50	120.30
22	S	273	PHE	CB-CG-CD1	-9.59	114.09	120.80
8	h	202	TYR	CB-CG-CD2	-9.58	115.25	121.00
10	3	188	TYR	CB-CG-CD1	-9.58	115.25	121.00
32	M	342	ARG	NE-CZ-NH1	-9.58	115.51	120.30
32	M	255	TYR	CB-CG-CD1	-9.57	115.25	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
24	Q	13	ARG	NE-CZ-NH1	9.57	125.08	120.30
4	D	179	TYR	CB-CG-CD2	-9.55	115.27	121.00
6	f	3	ARG	NE-CZ-NH2	-9.54	115.53	120.30
16	V	100	ARG	NE-CZ-NH1	9.51	125.06	120.30
21	N	880	ARG	NE-CZ-NH1	9.51	125.06	120.30
12	l	262	TYR	CB-CG-CD1	9.51	126.70	121.00
4	D	58	ARG	NE-CZ-NH1	9.51	125.05	120.30
22	S	119	TYR	CB-CG-CD1	-9.49	115.31	121.00
17	T	82	PHE	CB-CG-CD1	-9.48	114.16	120.80
10	j	199	TYR	CB-CG-CD2	-9.47	115.31	121.00
10	j	149	MET	CG-SD-CE	-9.47	85.05	100.20
8	1	79	TYR	CB-CG-CD2	-9.44	115.34	121.00
28	H	343	PHE	CB-CG-CD1	-9.43	114.20	120.80
22	S	481	TYR	CB-CG-CD1	-9.43	115.34	121.00
30	K	207	ARG	NE-CZ-NH2	-9.42	115.59	120.30
29	I	315	GLY	O-C-N	-9.42	107.63	122.70
23	P	220	TYR	CB-CG-CD2	9.41	126.65	121.00
16	V	157	ARG	NE-CZ-NH1	9.38	124.99	120.30
22	S	160	ARG	NE-CZ-NH1	9.38	124.99	120.30
28	H	88	ARG	NE-CZ-NH2	-9.38	115.61	120.30
6	f	171	TYR	CB-CG-CD1	9.36	126.62	121.00
24	Q	65	TYR	CB-CG-CD1	9.35	126.61	121.00
10	j	68	ARG	NE-CZ-NH1	9.35	124.97	120.30
28	H	385	ARG	NE-CZ-NH1	9.35	124.97	120.30
13	6	113	TYR	CB-CG-CD1	-9.34	115.40	121.00
14	7	137	ARG	NE-CZ-NH2	-9.33	115.63	120.30
24	Q	239	PHE	CB-CG-CD1	9.33	127.33	120.80
17	T	150	ARG	NE-CZ-NH1	9.32	124.96	120.30
14	7	221	ASP	CB-CG-OD2	-9.32	109.91	118.30
27	O	147	ARG	NE-CZ-NH2	-9.31	115.65	120.30
31	L	157	ARG	NE-CZ-NH1	9.31	124.95	120.30
8	h	194	ARG	NE-CZ-NH2	-9.30	115.65	120.30
5	E	10	ARG	NE-CZ-NH1	9.29	124.95	120.30
3	C	67	TYR	CB-CG-CD2	-9.29	115.43	121.00
3	c	24	TYR	CB-CG-CD2	-9.28	115.43	121.00
9	i	98	TYR	CD1-CE1-CZ	9.28	128.15	119.80
10	j	87	PHE	CB-CG-CD1	9.28	127.30	120.80
4	d	4	TYR	CB-CG-CD1	9.28	126.57	121.00
17	T	254	ASP	CB-CG-OD1	9.25	126.63	118.30
7	G	119	TYR	CB-CG-CD2	-9.25	115.45	121.00
6	F	126	ARG	NE-CZ-NH1	9.24	124.92	120.30
14	7	74	ARG	NE-CZ-NH1	9.20	124.90	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
10	3	19	ASP	CB-CG-OD1	-9.20	110.02	118.30
27	O	115	ARG	NE-CZ-NH2	9.19	124.89	120.30
9	2	37	PHE	CB-CG-CD1	-9.19	114.37	120.80
14	7	49	TYR	CB-CG-CD1	-9.19	115.49	121.00
3	c	24	TYR	CB-CG-CD1	9.18	126.51	121.00
28	H	331	ARG	NE-CZ-NH1	9.18	124.89	120.30
28	H	462	ARG	NE-CZ-NH1	9.16	124.88	120.30
21	N	839	ARG	NE-CZ-NH2	9.16	124.88	120.30
2	B	99	ARG	NE-CZ-NH2	-9.15	115.72	120.30
12	5	179	TYR	CB-CG-CD1	9.15	126.49	121.00
3	c	129	ARG	NE-CZ-NH2	9.15	124.88	120.30
5	e	10	ARG	NE-CZ-NH2	-9.15	115.72	120.30
33	J	374	ARG	NE-CZ-NH1	9.15	124.87	120.30
11	4	141	PHE	CB-CG-CD2	-9.13	114.41	120.80
6	F	183	ASP	CB-CG-OD1	9.10	126.49	118.30
13	6	65	PHE	CB-CG-CD2	-9.10	114.43	120.80
24	Q	306	TYR	CB-CG-CD2	-9.09	115.54	121.00
22	S	171	TYR	CB-CG-CD1	9.08	126.45	121.00
27	O	29	PHE	CB-CG-CD2	-9.08	114.44	120.80
29	I	181	TYR	CB-CG-CD2	-9.08	115.55	121.00
26	U	283	ARG	NE-CZ-NH2	-9.08	115.76	120.30
2	b	246	ARG	NE-CZ-NH2	-9.06	115.77	120.30
17	T	49	ASP	CB-CG-OD2	9.05	126.45	118.30
30	K	155	ASP	CB-CG-OD2	-9.05	110.15	118.30
6	F	6	TYR	CB-CG-CD1	9.04	126.42	121.00
5	e	15	PHE	CB-CG-CD2	9.03	127.12	120.80
23	P	13	TYR	CB-CG-CD1	-9.03	115.58	121.00
29	I	391	ASP	CB-CG-OD1	-9.03	110.18	118.30
6	f	6	TYR	CB-CG-CD2	-9.02	115.59	121.00
10	j	136	PHE	CB-CG-CD2	-9.02	114.48	120.80
18	X	48	PHE	CB-CG-CD1	9.01	127.11	120.80
15	W	65	PHE	CB-CG-CD1	-9.00	114.50	120.80
13	m	141	ARG	NE-CZ-NH2	-8.98	115.81	120.30
22	S	211	ARG	NE-CZ-NH2	-8.98	115.81	120.30
1	A	199	TRP	CG-CD2-CE3	-8.97	125.82	133.90
22	S	271	ARG	NE-CZ-NH2	8.97	124.78	120.30
25	R	31	PHE	CB-CG-CD2	8.97	127.08	120.80
6	F	39	ARG	NE-CZ-NH2	-8.97	115.82	120.30
30	K	344	ARG	NE-CZ-NH2	-8.96	115.82	120.30
32	M	298	ASP	CB-CG-OD2	-8.96	110.24	118.30
33	J	207	ASP	CB-CG-OD2	8.96	126.36	118.30
32	M	138	ASP	CB-CG-OD1	-8.94	110.26	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
10	j	188	TYR	CB-CG-CD1	-8.93	115.64	121.00
27	O	356	ARG	NE-CZ-NH2	-8.92	115.84	120.30
12	5	163	TYR	CB-CG-CD1	-8.91	115.65	121.00
21	N	866	TYR	CB-CG-CD1	8.91	126.35	121.00
6	f	174	ARG	NE-CZ-NH1	8.91	124.76	120.30
18	X	122	TYR	CB-CG-CD1	8.90	126.34	121.00
2	B	246	ARG	NE-CZ-NH1	-8.90	115.85	120.30
31	L	298	ASP	CB-CG-OD2	-8.89	110.30	118.30
28	H	273	ARG	NE-CZ-NH2	8.89	124.74	120.30
15	W	37	PHE	CB-CG-CD1	-8.89	114.58	120.80
27	O	135	ARG	NE-CZ-NH1	8.88	124.74	120.30
18	X	45	PHE	CB-CG-CD1	8.87	127.01	120.80
32	M	372	ASP	CB-CG-OD2	-8.87	110.32	118.30
31	L	62	ARG	NE-CZ-NH1	-8.86	115.87	120.30
6	f	171	TYR	CB-CG-CD2	-8.86	115.68	121.00
9	i	98	TYR	CB-CG-CD2	-8.85	115.69	121.00
18	X	122	TYR	CB-CG-CD2	-8.85	115.69	121.00
10	j	162	ASP	CB-CG-OD1	-8.84	110.34	118.30
15	W	65	PHE	CB-CG-CD2	8.84	126.99	120.80
3	c	13	PHE	CB-CG-CD1	-8.84	114.61	120.80
23	P	21	PHE	CB-CG-CD2	8.84	126.98	120.80
25	R	24	TYR	CB-CG-CD1	8.83	126.30	121.00
4	D	141	ARG	NE-CZ-NH1	8.82	124.71	120.30
32	M	233	ARG	NE-CZ-NH2	-8.82	115.89	120.30
24	Q	286	TYR	CB-CG-CD2	-8.82	115.71	121.00
10	j	154	TYR	CB-CG-CD1	-8.81	115.72	121.00
3	c	188	ASP	CB-CG-OD2	-8.81	110.37	118.30
5	E	20	ARG	NE-CZ-NH1	8.80	124.70	120.30
24	Q	202	ARG	NE-CZ-NH2	-8.80	115.90	120.30
7	g	142	ASP	N-CA-CB	8.80	126.44	110.60
2	B	7	PHE	CB-CG-CD2	-8.80	114.64	120.80
9	2	104	ARG	NE-CZ-NH1	8.79	124.69	120.30
26	U	180	ASP	CB-CG-OD1	-8.78	110.40	118.30
27	O	288	ARG	NE-CZ-NH1	8.75	124.68	120.30
33	J	210	PHE	CB-CG-CD2	-8.75	114.67	120.80
4	D	138	PHE	CB-CG-CD1	8.73	126.91	120.80
28	H	344	ASP	CB-CG-OD1	8.73	126.16	118.30
12	5	139	ARG	NE-CZ-NH1	8.73	124.67	120.30
8	1	152	ARG	NE-CZ-NH1	-8.70	115.95	120.30
30	K	246	TYR	CB-CG-CD1	-8.68	115.79	121.00
13	6	229	ARG	NE-CZ-NH1	8.67	124.63	120.30
11	k	149	ARG	NE-CZ-NH2	-8.66	115.97	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	D	223	ALA	N-CA-CB	8.66	122.22	110.10
22	S	481	TYR	CB-CG-CD2	8.66	126.19	121.00
6	f	202	ARG	NE-CZ-NH1	-8.65	115.97	120.30
26	U	179	ARG	NE-CZ-NH2	-8.65	115.97	120.30
33	J	238	ARG	NE-CZ-NH1	8.65	124.63	120.30
16	V	114	PHE	CB-CG-CD1	8.63	126.84	120.80
12	l	189	TYR	CB-CG-CD2	-8.62	115.83	121.00
1	A	19	PHE	CB-CG-CD2	8.61	126.83	120.80
10	j	188	TYR	CB-CG-CD2	8.61	126.16	121.00
25	R	210	TYR	CG-CD2-CE2	8.60	128.18	121.30
4	D	143	ASP	CB-CG-OD2	-8.60	110.56	118.30
1	A	14	ARG	NE-CZ-NH1	-8.58	116.01	120.30
13	6	168	TYR	CB-CG-CD1	-8.58	115.85	121.00
25	R	210	TYR	CB-CG-CD2	8.58	126.15	121.00
22	S	428	ARG	NE-CZ-NH1	-8.57	116.01	120.30
12	l	222	ASP	N-CA-CB	8.56	126.00	110.60
14	n	215	ARG	NE-CZ-NH1	-8.55	116.02	120.30
24	Q	27	TYR	CB-CG-CD1	8.54	126.12	121.00
8	h	151	PHE	CB-CG-CD2	8.53	126.77	120.80
29	I	75	PHE	CB-CG-CD2	8.53	126.77	120.80
24	Q	391	ASP	CB-CG-OD1	-8.50	110.65	118.30
4	d	148	TYR	CB-CG-CD2	-8.47	115.92	121.00
20	Z	747	ALA	C-N-CA	8.47	142.88	121.70
30	K	171	TYR	CB-CG-CD1	8.47	126.08	121.00
22	S	273	PHE	CB-CG-CD2	8.46	126.72	120.80
25	R	246	TYR	CB-CG-CD1	8.46	126.08	121.00
5	E	136	ARG	NE-CZ-NH2	8.44	124.52	120.30
28	H	272	ILE	C-N-CA	-8.42	100.65	121.70
22	S	82	TYR	CB-CG-CD1	-8.41	115.95	121.00
5	e	165	TYR	CB-CG-CD2	8.41	126.04	121.00
11	4	185	ASP	CB-CG-OD2	-8.41	110.73	118.30
11	4	148	TYR	CB-CG-CD2	-8.40	115.96	121.00
17	T	177	PHE	CB-CG-CD2	8.40	126.68	120.80
4	D	127	ARG	NE-CZ-NH2	8.40	124.50	120.30
25	R	209	ARG	NE-CZ-NH1	8.38	124.49	120.30
27	O	369	ARG	NE-CZ-NH1	-8.38	116.11	120.30
23	P	220	TYR	CB-CG-CD1	-8.37	115.98	121.00
30	K	344	ARG	NE-CZ-NH1	8.37	124.48	120.30
12	l	210	PHE	CB-CG-CD1	-8.36	114.94	120.80
13	m	47	TYR	CB-CG-CD2	8.36	126.02	121.00
25	R	24	TYR	CB-CG-CD2	-8.36	115.99	121.00
14	n	181	ALA	N-CA-CB	8.35	121.79	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	4	141	PHE	CB-CG-CD1	8.34	126.64	120.80
20	Z	748	LEU	CB-CG-CD2	8.34	125.17	111.00
27	O	252	PHE	CB-CG-CD1	8.33	126.63	120.80
21	N	559	TYR	CB-CG-CD1	-8.31	116.01	121.00
11	4	107	TYR	CB-CG-CD2	-8.31	116.02	121.00
3	C	114	ARG	NE-CZ-NH2	-8.30	116.15	120.30
8	1	200	ASP	CB-CG-OD1	-8.30	110.83	118.30
14	7	124	TYR	CB-CG-CD1	8.30	125.98	121.00
32	M	372	ASP	CB-CG-OD1	8.29	125.77	118.30
7	g	78	TYR	CB-CG-CD1	-8.29	116.03	121.00
33	J	112	ARG	NE-CZ-NH1	8.28	124.44	120.30
26	U	254	ARG	NE-CZ-NH1	8.28	124.44	120.30
10	j	96	TYR	CB-CG-CD1	-8.28	116.03	121.00
25	R	181	TYR	CB-CG-CD2	-8.28	116.03	121.00
29	I	162	ASP	CB-CG-OD2	-8.27	110.85	118.30
1	a	212	ASP	CB-CG-OD2	-8.26	110.87	118.30
29	I	246	ARG	NE-CZ-NH1	8.25	124.43	120.30
5	e	53	ARG	NE-CZ-NH2	-8.25	116.17	120.30
22	S	442	PHE	CB-CG-CD1	8.25	126.58	120.80
4	d	179	TYR	CB-CG-CD1	8.24	125.94	121.00
28	H	318	ARG	NE-CZ-NH1	8.24	124.42	120.30
25	R	371	PHE	CB-CG-CD2	-8.23	115.04	120.80
11	k	36	ARG	NE-CZ-NH2	8.23	124.42	120.30
16	V	108	TYR	CB-CG-CD2	8.23	125.94	121.00
6	F	89	ARG	NE-CZ-NH1	8.22	124.41	120.30
22	S	442	PHE	CB-CG-CD2	-8.21	115.05	120.80
2	b	178	ARG	NE-CZ-NH2	-8.21	116.19	120.30
6	f	126	ARG	NE-CZ-NH2	-8.21	116.19	120.30
25	R	339	ALA	CB-CA-C	-8.21	97.78	110.10
4	D	102	ASP	CB-CG-OD2	8.21	125.69	118.30
8	h	197	PHE	CB-CG-CD1	-8.21	115.06	120.80
28	H	225	VAL	CA-CB-CG2	-8.20	98.60	110.90
7	g	8	TYR	CG-CD2-CE2	-8.20	114.74	121.30
20	Z	748	LEU	O-C-N	-8.20	109.27	123.20
2	b	142	PHE	CB-CG-CD1	8.19	126.53	120.80
24	Q	303	ALA	CB-CA-C	-8.19	97.82	110.10
28	H	190	ARG	NE-CZ-NH1	8.17	124.39	120.30
24	Q	335	PHE	CB-CG-CD2	8.16	126.52	120.80
32	M	45	ARG	NE-CZ-NH1	8.16	124.38	120.30
32	M	329	ARG	NE-CZ-NH1	8.16	124.38	120.30
16	V	53	MET	CG-SD-CE	-8.15	87.15	100.20
24	Q	34	ASP	CB-CG-OD2	8.15	125.64	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	I	291	ARG	NE-CZ-NH1	8.15	124.38	120.30
9	i	65	ARG	NE-CZ-NH2	8.14	124.37	120.30
28	H	432	ARG	NE-CZ-NH1	-8.14	116.23	120.30
1	a	234	PHE	CB-CG-CD1	-8.13	115.11	120.80
13	6	95	ASN	O-C-N	-8.13	109.70	122.70
27	O	286	PHE	CB-CG-CD1	8.13	126.49	120.80
2	b	159	TRP	CG-CD2-CE3	-8.12	126.59	133.90
1	A	26	TYR	CB-CG-CD1	-8.11	116.13	121.00
16	V	274	GLN	N-CA-CB	8.10	125.18	110.60
26	U	137	TYR	CB-CG-CD1	8.10	125.86	121.00
3	C	140	TYR	CB-CG-CD1	-8.10	116.14	121.00
25	R	210	TYR	CZ-CE2-CD2	-8.10	112.51	119.80
33	J	284	THR	N-CA-CB	8.10	125.68	110.30
32	M	433	TYR	CB-CG-CD1	-8.08	116.15	121.00
3	c	137	TYR	CG-CD1-CE1	-8.07	114.84	121.30
9	i	217	ARG	NE-CZ-NH1	8.07	124.34	120.30
3	c	102	TYR	CZ-CE2-CD2	-8.07	112.53	119.80
3	c	146	TYR	CB-CG-CD2	-8.07	116.16	121.00
2	B	159	TRP	CZ3-CH2-CZ2	-8.07	111.92	121.60
32	M	329	ARG	NE-CZ-NH2	-8.07	116.27	120.30
17	T	100	ASP	CB-CG-OD2	-8.06	111.04	118.30
27	O	310	PHE	CB-CG-CD2	8.06	126.44	120.80
12	l	202	PHE	CB-CG-CD2	-8.06	115.16	120.80
14	n	219	TYR	CB-CG-CD2	-8.05	116.17	121.00
28	H	145	TYR	CB-CG-CD2	-8.04	116.18	121.00
9	i	215	TYR	CB-CG-CD2	-8.03	116.18	121.00
8	1	112	ASP	CB-CG-OD1	-8.03	111.08	118.30
8	h	134	ALA	N-CA-CB	8.02	121.33	110.10
1	A	166	TYR	CG-CD1-CE1	-8.02	114.88	121.30
22	S	25	TYR	CB-CG-CD1	8.01	125.81	121.00
4	d	197	ARG	NE-CZ-NH2	-8.01	116.30	120.30
14	n	241	PHE	CB-CG-CD1	8.00	126.40	120.80
27	O	49	PHE	CB-CG-CD1	7.99	126.39	120.80
27	O	70	TYR	CB-CG-CD2	-7.99	116.20	121.00
8	1	194	ARG	NE-CZ-NH2	-7.98	116.31	120.30
7	G	15	PHE	CB-CG-CD2	7.97	126.38	120.80
16	V	183	ALA	N-CA-CB	7.96	121.24	110.10
22	S	384	ARG	NE-CZ-NH2	-7.96	116.32	120.30
11	4	96	ARG	NE-CZ-NH1	7.96	124.28	120.30
22	S	160	ARG	NE-CZ-NH2	-7.95	116.32	120.30
13	m	202	ARG	NE-CZ-NH1	-7.94	116.33	120.30
32	M	320	ARG	NE-CZ-NH2	7.93	124.27	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
13	6	28	PHE	CB-CG-CD1	7.93	126.35	120.80
24	Q	89	ALA	N-CA-CB	7.93	121.20	110.10
11	4	130	TYR	CB-CG-CD2	7.93	125.76	121.00
13	m	59	VAL	CG1-CB-CG2	-7.92	98.23	110.90
11	4	190	ARG	NE-CZ-NH1	-7.92	116.34	120.30
9	2	133	ASP	CB-CG-OD2	7.92	125.43	118.30
23	P	221	TYR	CB-CG-CD1	-7.92	116.25	121.00
30	K	424	PHE	CB-CG-CD2	-7.92	115.26	120.80
11	k	107	TYR	CZ-CE2-CD2	-7.91	112.68	119.80
9	2	117	PHE	CB-CG-CD2	7.91	126.34	120.80
6	f	126	ARG	NE-CZ-NH1	7.91	124.25	120.30
20	Z	738	TYR	CD1-CE1-CZ	7.90	126.91	119.80
32	M	124	ARG	NE-CZ-NH1	7.90	124.25	120.30
10	3	188	TYR	CG-CD2-CE2	-7.90	114.98	121.30
31	L	78	ARG	NE-CZ-NH2	7.89	124.25	120.30
5	e	86	ARG	NE-CZ-NH1	7.88	124.24	120.30
30	K	262	ARG	CD-NE-CZ	-7.88	112.58	123.60
13	m	229	ARG	NE-CZ-NH2	7.87	124.24	120.30
4	d	75	PHE	CB-CG-CD2	-7.87	115.29	120.80
8	h	144	TYR	CB-CG-CD1	-7.87	116.28	121.00
5	E	132	ARG	NE-CZ-NH1	7.86	124.23	120.30
10	j	162	ASP	CB-CG-OD2	7.86	125.37	118.30
29	I	405	ARG	NE-CZ-NH1	7.86	124.23	120.30
6	f	59	TYR	CB-CG-CD2	7.84	125.70	121.00
13	m	53	ASP	CB-CG-OD2	-7.83	111.26	118.30
24	Q	132	PHE	CB-CG-CD1	-7.83	115.32	120.80
32	M	255	TYR	CG-CD2-CE2	-7.83	115.04	121.30
7	g	241	ASP	CB-CG-OD1	-7.82	111.26	118.30
2	b	51	SER	C-N-CA	7.81	141.22	121.70
12	5	81	PHE	CB-CG-CD1	7.80	126.26	120.80
25	R	31	PHE	CB-CG-CD1	-7.80	115.34	120.80
7	G	8	TYR	CB-CG-CD2	-7.80	116.32	121.00
7	G	132	PHE	CB-CG-CD1	-7.80	115.34	120.80
22	S	54	TRP	CB-CG-CD2	-7.80	116.46	126.60
3	c	92	ARG	NE-CZ-NH1	7.79	124.20	120.30
6	f	59	TYR	CB-CG-CD1	-7.79	116.33	121.00
27	O	92	PHE	CB-CG-CD1	7.78	126.24	120.80
15	W	122	ARG	NE-CZ-NH2	-7.77	116.42	120.30
30	K	92	VAL	CA-CB-CG1	-7.76	99.26	110.90
22	S	259	TYR	CG-CD2-CE2	-7.75	115.10	121.30
2	B	130	PHE	CB-CG-CD2	-7.75	115.38	120.80
24	Q	240	PHE	CB-CG-CD2	-7.74	115.38	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
26	U	47	ARG	NE-CZ-NH1	7.74	124.17	120.30
1	a	234	PHE	CB-CG-CD2	7.73	126.21	120.80
22	S	114	TYR	CB-CG-CD2	7.73	125.64	121.00
27	O	172	TYR	CG-CD2-CE2	-7.73	115.11	121.30
24	Q	239	PHE	CB-CG-CD2	-7.73	115.39	120.80
6	F	114	ASP	CB-CG-OD2	-7.73	111.35	118.30
28	H	444	LEU	CB-CG-CD2	7.73	124.14	111.00
2	B	127	VAL	CA-CB-CG2	-7.72	99.33	110.90
26	U	248	ASP	CB-CG-OD2	-7.72	111.36	118.30
25	R	297	TYR	CB-CG-CD2	7.71	125.63	121.00
2	b	101	TYR	CB-CG-CD1	-7.71	116.37	121.00
25	R	62	TYR	CB-CG-CD1	7.71	125.63	121.00
21	N	597	ARG	NE-CZ-NH1	7.70	124.15	120.30
1	a	24	ARG	NE-CZ-NH2	-7.70	116.45	120.30
4	D	49	ARG	NE-CZ-NH2	-7.70	116.45	120.30
3	c	102	TYR	CG-CD2-CE2	7.69	127.45	121.30
13	6	224	PHE	CB-CG-CD2	7.69	126.18	120.80
31	L	161	ARG	NE-CZ-NH2	-7.68	116.46	120.30
12	l	115	PHE	CB-CG-CD1	-7.66	115.44	120.80
25	R	297	TYR	CB-CG-CD1	-7.66	116.40	121.00
22	S	298	ARG	NE-CZ-NH2	7.66	124.13	120.30
27	O	71	ASP	CB-CG-OD1	-7.66	111.41	118.30
4	D	23	ALA	N-CA-CB	7.66	120.82	110.10
3	C	32	ALA	N-CA-CB	7.65	120.82	110.10
10	3	80	ARG	N-CA-CB	7.65	124.37	110.60
16	V	245	VAL	CA-CB-CG2	-7.65	99.43	110.90
25	R	382	ASP	CB-CG-OD1	7.64	125.18	118.30
5	E	77	ALA	N-CA-CB	7.64	120.80	110.10
7	g	84	ASP	CB-CG-OD2	7.64	125.17	118.30
1	A	128	TYR	CB-CG-CD1	7.63	125.58	121.00
14	7	68	ARG	NE-CZ-NH2	-7.63	116.48	120.30
30	K	290	ARG	NE-CZ-NH2	7.63	124.12	120.30
27	O	58	ARG	NE-CZ-NH2	-7.62	116.49	120.30
31	L	290	ARG	NE-CZ-NH2	7.62	124.11	120.30
6	F	13	PHE	CB-CG-CD1	-7.61	115.47	120.80
7	g	206	ASP	CB-CG-OD2	-7.61	111.45	118.30
3	c	113	ARG	NE-CZ-NH1	-7.60	116.50	120.30
26	U	110	PHE	CB-CG-CD1	-7.58	115.50	120.80
30	K	270	PHE	CB-CG-CD2	7.57	126.10	120.80
10	3	19	ASP	N-CA-CB	7.57	124.23	110.60
29	I	114	ASP	CB-CG-OD2	7.57	125.11	118.30
32	M	317	SER	N-CA-CB	7.57	121.85	110.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	G	72	ARG	NE-CZ-NH2	7.57	124.08	120.30
1	A	166	TYR	CD1-CE1-CZ	7.56	126.60	119.80
28	H	249	TYR	CB-CG-CD2	7.56	125.53	121.00
14	7	121	GLU	N-CA-C	-7.55	90.62	111.00
21	N	302	PHE	CB-CG-CD1	-7.55	115.52	120.80
27	O	252	PHE	CB-CG-CD2	-7.55	115.52	120.80
5	E	136	ARG	NE-CZ-NH1	-7.55	116.53	120.30
21	N	338	PHE	CB-CG-CD1	7.55	126.08	120.80
22	S	141	LEU	CB-CG-CD2	7.55	123.83	111.00
8	1	171	ALA	N-CA-CB	7.54	120.65	110.10
21	N	753	PHE	CB-CG-CD1	7.54	126.08	120.80
4	D	108	TYR	CG-CD1-CE1	-7.54	115.27	121.30
22	S	281	ALA	N-CA-CB	7.54	120.65	110.10
8	h	197	PHE	CB-CG-CD2	7.53	126.07	120.80
9	2	101	ARG	NE-CZ-NH2	7.53	124.06	120.30
22	S	461	PHE	CB-CG-CD1	7.53	126.07	120.80
13	m	193	ARG	NE-CZ-NH1	-7.53	116.54	120.30
23	P	13	TYR	CB-CG-CD2	7.52	125.51	121.00
22	S	158	PHE	CB-CG-CD1	7.51	126.06	120.80
25	R	328	PHE	CB-CG-CD1	7.51	126.06	120.80
4	d	181	ARG	NE-CZ-NH2	7.51	124.06	120.30
31	L	69	ARG	NE-CZ-NH1	7.51	124.05	120.30
3	c	98	TYR	CB-CG-CD2	-7.50	116.50	121.00
1	A	229	THR	CA-CB-CG2	-7.50	101.90	112.40
27	O	181	PHE	CB-CG-CD1	7.50	126.05	120.80
29	I	280	PHE	CB-CG-CD2	-7.50	115.55	120.80
28	H	208	TYR	CB-CG-CD1	7.50	125.50	121.00
6	F	233	TYR	CB-CG-CD2	-7.49	116.50	121.00
27	O	49	PHE	CB-CG-CD2	-7.49	115.55	120.80
29	I	163	ASP	N-CA-CB	7.49	124.09	110.60
15	W	103	ASN	N-CA-CB	7.49	124.08	110.60
14	7	159	PHE	CB-CG-CD2	-7.49	115.56	120.80
16	V	251	TYR	CB-CG-CD2	-7.48	116.51	121.00
21	N	649	VAL	CA-CB-CG2	-7.48	99.68	110.90
11	k	107	TYR	CB-CG-CD2	-7.48	116.51	121.00
5	e	8	TYR	CB-CG-CD2	7.48	125.49	121.00
7	G	130	ARG	NE-CZ-NH2	-7.47	116.56	120.30
24	Q	177	VAL	CA-CB-CG2	-7.47	99.69	110.90
14	n	223	ARG	NE-CZ-NH2	-7.47	116.56	120.30
23	P	21	PHE	CB-CG-CD1	-7.46	115.58	120.80
25	R	34	THR	CA-CB-CG2	-7.46	101.95	112.40
22	S	158	PHE	CB-CG-CD2	-7.46	115.58	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	D	29	ARG	NE-CZ-NH1	7.45	124.03	120.30
32	M	281	ASP	CB-CG-OD2	7.45	125.00	118.30
30	K	58	TYR	CB-CG-CD2	7.45	125.47	121.00
10	j	154	TYR	CB-CG-CD2	7.43	125.46	121.00
24	Q	238	TYR	CB-CG-CD2	7.43	125.46	121.00
1	a	192	ASP	CB-CG-OD1	7.43	124.99	118.30
16	V	229	ASP	CB-CG-OD2	-7.43	111.62	118.30
29	I	327	ALA	CB-CA-C	-7.42	98.97	110.10
3	c	184	MET	CG-SD-CE	-7.42	88.33	100.20
30	K	420	THR	CA-CB-CG2	-7.42	102.01	112.40
2	B	148	TYR	CB-CG-CD2	-7.42	116.55	121.00
7	G	15	PHE	CB-CG-CD1	-7.42	115.61	120.80
24	Q	165	PHE	CB-CG-CD1	7.42	125.99	120.80
1	A	162	TYR	CB-CG-CD2	-7.41	116.56	121.00
21	N	75	TYR	CB-CG-CD2	7.40	125.44	121.00
13	m	15	ASP	CB-CG-OD2	-7.40	111.64	118.30
21	N	503	THR	CA-CB-CG2	-7.39	102.06	112.40
1	A	104	PHE	CB-CG-CD1	-7.39	115.63	120.80
14	7	124	TYR	CB-CG-CD2	-7.39	116.57	121.00
6	F	51	ARG	NE-CZ-NH2	-7.38	116.61	120.30
2	B	156	TYR	CB-CG-CD1	7.37	125.42	121.00
1	a	162	TYR	CB-CG-CD1	-7.37	116.58	121.00
24	Q	240	PHE	CB-CG-CD1	7.37	125.96	120.80
23	P	232	ARG	NE-CZ-NH1	7.36	123.98	120.30
3	C	6	TYR	CB-CG-CD1	-7.36	116.59	121.00
10	j	124	PHE	CB-CG-CD2	7.35	125.95	120.80
14	n	170	TYR	CB-CG-CD1	-7.35	116.59	121.00
12	5	234	ARG	NE-CZ-NH1	7.34	123.97	120.30
30	K	258	PHE	CB-CG-CD1	7.34	125.94	120.80
6	f	6	TYR	CB-CG-CD1	7.33	125.40	121.00
3	C	24	TYR	CB-CG-CD1	7.33	125.40	121.00
14	n	74	ARG	NE-CZ-NH1	7.33	123.96	120.30
15	W	21	PHE	CB-CG-CD1	-7.33	115.67	120.80
23	P	95	TYR	CB-CG-CD1	-7.32	116.61	121.00
13	m	56	ASP	CB-CG-OD2	7.31	124.88	118.30
3	c	67	TYR	CB-CG-CD1	7.31	125.39	121.00
8	1	54	ARG	NE-CZ-NH1	7.30	123.95	120.30
12	l	219	TYR	CG-CD1-CE1	-7.29	115.47	121.30
22	S	118	PHE	CB-CG-CD1	7.29	125.91	120.80
32	M	366	ARG	NE-CZ-NH2	-7.29	116.66	120.30
28	H	235	PHE	CB-CG-CD2	-7.28	115.70	120.80
9	i	232	TYR	CG-CD1-CE1	-7.28	115.48	121.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	110	TYR	CB-CG-CD2	-7.28	116.63	121.00
21	N	556	ALA	CB-CA-C	-7.28	99.19	110.10
33	J	312	ARG	NE-CZ-NH1	7.28	123.94	120.30
3	C	138	ALA	N-CA-CB	7.27	120.28	110.10
4	D	112	TYR	CZ-CE2-CD2	7.27	126.34	119.80
21	N	162	ARG	NE-CZ-NH2	-7.27	116.67	120.30
17	T	88	TYR	CB-CG-CD2	7.26	125.36	121.00
25	R	263	ARG	NE-CZ-NH2	-7.26	116.67	120.30
1	a	46	ARG	NE-CZ-NH2	7.25	123.93	120.30
27	O	264	ASP	CB-CG-OD2	-7.25	111.77	118.30
31	L	153	LEU	N-CA-CB	7.25	124.91	110.40
26	U	212	ASP	CB-CG-OD1	7.25	124.82	118.30
33	J	42	ARG	NE-CZ-NH1	-7.25	116.68	120.30
28	H	370	ARG	NE-CZ-NH1	-7.25	116.68	120.30
18	X	48	PHE	CB-CG-CD2	-7.25	115.73	120.80
32	M	366	ARG	NE-CZ-NH1	7.24	123.92	120.30
2	b	246	ARG	NE-CZ-NH1	7.24	123.92	120.30
13	m	208	ASP	CB-CG-OD1	7.24	124.81	118.30
11	4	192	VAL	CA-CB-CG1	-7.24	100.05	110.90
16	V	244	MET	CG-SD-CE	-7.24	88.62	100.20
32	M	88	MET	CG-SD-CE	-7.23	88.63	100.20
16	V	42	ARG	NE-CZ-NH2	7.23	123.92	120.30
7	g	10	LEU	N-CA-CB	7.23	124.85	110.40
23	P	3	ARG	NE-CZ-NH1	7.23	123.91	120.30
30	K	289	ASP	CB-CG-OD1	7.23	124.80	118.30
21	N	109	TYR	CB-CG-CD1	-7.22	116.67	121.00
24	Q	291	TYR	CB-CG-CD2	-7.22	116.67	121.00
5	E	156	PHE	CB-CG-CD1	-7.21	115.75	120.80
22	S	356	ASP	CB-CG-OD2	-7.21	111.81	118.30
21	N	647	ASP	CB-CG-OD2	7.20	124.78	118.30
9	i	48	ARG	NE-CZ-NH1	-7.20	116.70	120.30
21	N	161	TYR	CB-CG-CD1	7.20	125.32	121.00
32	M	16	ASP	CB-CG-OD2	7.20	124.78	118.30
32	M	318	ASP	CB-CG-OD1	-7.19	111.83	118.30
4	d	97	ARG	NH1-CZ-NH2	-7.19	111.49	119.40
24	Q	130	ARG	NE-CZ-NH1	7.18	123.89	120.30
1	a	139	VAL	CA-CB-CG1	-7.18	100.13	110.90
15	W	33	VAL	CA-CB-CG1	7.17	121.66	110.90
28	H	426	ALA	N-CA-CB	7.17	120.14	110.10
31	L	368	VAL	CA-CB-CG1	-7.17	100.14	110.90
10	j	203	ARG	NE-CZ-NH1	7.17	123.88	120.30
21	N	889	ARG	NE-CZ-NH1	7.17	123.88	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
30	K	283	ASP	CB-CG-OD2	-7.17	111.85	118.30
23	P	234	TYR	CB-CG-CD1	-7.16	116.70	121.00
14	n	215	ARG	NE-CZ-NH2	7.16	123.88	120.30
31	L	83	ASP	CB-CG-OD2	-7.16	111.85	118.30
1	a	24	ARG	NE-CZ-NH1	7.16	123.88	120.30
11	k	95	ARG	NE-CZ-NH1	7.16	123.88	120.30
13	m	224	PHE	CB-CG-CD2	7.16	125.81	120.80
19	Y	84	TYR	CB-CG-CD1	7.15	125.29	121.00
7	g	91	ARG	NE-CZ-NH2	7.15	123.88	120.30
12	l	82	ARG	NE-CZ-NH2	-7.14	116.73	120.30
32	M	355	ASP	CB-CG-OD1	7.14	124.73	118.30
5	E	165	TYR	CG-CD1-CE1	-7.14	115.59	121.30
10	j	199	TYR	CB-CG-CD1	7.13	125.28	121.00
1	A	198	SER	N-CA-CB	7.12	121.18	110.50
21	N	412	TYR	CB-CG-CD1	-7.12	116.73	121.00
2	b	234	ARG	NE-CZ-NH2	-7.11	116.74	120.30
15	W	157	PHE	CB-CG-CD2	-7.11	115.82	120.80
20	Z	738	TYR	CZ-CE2-CD2	7.11	126.20	119.80
30	K	212	TYR	CB-CG-CD1	-7.11	116.73	121.00
8	1	34	TYR	CB-CG-CD2	-7.11	116.73	121.00
23	P	69	ARG	NE-CZ-NH2	7.11	123.86	120.30
33	J	174	PHE	CB-CG-CD2	-7.11	115.82	120.80
2	B	23	TYR	CB-CG-CD1	7.11	125.26	121.00
21	N	921	ARG	NE-CZ-NH2	-7.10	116.75	120.30
8	1	79	TYR	CB-CG-CD1	7.10	125.26	121.00
11	k	148	TYR	CB-CG-CD1	7.09	125.26	121.00
13	m	218	ASP	CB-CG-OD2	7.09	124.68	118.30
27	O	286	PHE	CB-CG-CD2	-7.09	115.84	120.80
22	S	285	ASP	CB-CG-OD2	-7.09	111.92	118.30
3	C	221	ASN	N-CA-CB	7.08	123.35	110.60
13	6	123	ASP	CB-CG-OD1	-7.08	111.93	118.30
33	J	368	TYR	CB-CG-CD2	7.08	125.25	121.00
13	m	139	TYR	CB-CG-CD2	-7.08	116.75	121.00
7	g	126	TYR	CG-CD1-CE1	-7.07	115.64	121.30
22	S	52	TYR	CB-CG-CD1	-7.07	116.76	121.00
14	n	69	PHE	CB-CG-CD1	7.07	125.75	120.80
25	R	328	PHE	CB-CG-CD2	-7.06	115.86	120.80
16	V	61	TYR	CB-CG-CD1	7.06	125.23	121.00
3	c	182	ASP	CA-CB-CG	-7.05	97.88	113.40
22	S	481	TYR	CG-CD1-CE1	7.05	126.94	121.30
31	L	376	PHE	CB-CG-CD2	-7.05	115.86	120.80
14	n	219	TYR	CG-CD1-CE1	-7.05	115.66	121.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	5	163	TYR	CB-CG-CD2	7.04	125.23	121.00
4	D	14	ASP	CB-CG-OD2	-7.04	111.96	118.30
7	G	120	VAL	CA-CB-CG2	-7.04	100.34	110.90
23	P	357	TYR	CB-CG-CD1	-7.04	116.78	121.00
24	Q	127	ARG	NH1-CZ-NH2	-7.04	111.66	119.40
11	k	130	TYR	N-CA-CB	7.04	123.26	110.60
2	b	230	ASP	CB-CG-OD1	-7.03	111.97	118.30
24	Q	66	VAL	CA-CB-CG1	7.03	121.44	110.90
10	3	198	ARG	NE-CZ-NH1	7.02	123.81	120.30
25	R	263	ARG	NE-CZ-NH1	7.02	123.81	120.30
24	Q	255	TYR	CG-CD1-CE1	-7.02	115.69	121.30
6	f	18	ARG	NE-CZ-NH1	7.01	123.81	120.30
3	c	67	TYR	CB-CG-CD2	-7.01	116.79	121.00
6	f	179	PHE	CB-CG-CD2	-7.01	115.89	120.80
7	G	157	TYR	CB-CG-CD1	-7.01	116.80	121.00
21	N	127	ASP	CB-CG-OD2	-7.01	111.99	118.30
7	G	230	PHE	CB-CG-CD2	-7.00	115.90	120.80
12	5	209	THR	CA-CB-CG2	-7.00	102.60	112.40
4	d	75	PHE	CB-CG-CD1	7.00	125.70	120.80
7	G	65	VAL	CA-CB-CG2	6.99	121.39	110.90
13	6	47	TYR	CG-CD2-CE2	6.99	126.89	121.30
15	W	17	ARG	NE-CZ-NH1	6.99	123.80	120.30
4	d	49	ARG	NE-CZ-NH2	-6.99	116.81	120.30
24	Q	1	MET	CG-SD-CE	-6.98	89.03	100.20
25	R	43	ARG	NE-CZ-NH1	6.98	123.79	120.30
11	k	46	PHE	CB-CG-CD1	-6.98	115.92	120.80
9	2	57	ASP	CB-CG-OD1	-6.98	112.02	118.30
6	f	16	THR	CA-CB-CG2	-6.98	102.63	112.40
18	X	96	ARG	NE-CZ-NH1	6.98	123.79	120.30
8	h	163	PHE	CB-CG-CD2	-6.97	115.92	120.80
32	M	73	ARG	NE-CZ-NH1	6.97	123.79	120.30
8	1	144	TYR	CB-CG-CD1	6.97	125.18	121.00
23	P	103	TYR	CB-CG-CD2	6.97	125.18	121.00
13	6	106	TYR	CB-CG-CD2	-6.96	116.82	121.00
13	6	131	TYR	CG-CD2-CE2	6.95	126.86	121.30
22	S	428	ARG	NE-CZ-NH2	6.94	123.77	120.30
6	F	84	LEU	CB-CG-CD2	6.94	122.80	111.00
7	G	16	SER	N-CA-CB	6.94	120.91	110.50
2	B	245	ASP	CB-CG-OD1	6.94	124.54	118.30
4	d	14	ASP	CB-CG-OD1	-6.93	112.06	118.30
5	e	22	PHE	CB-CG-CD2	-6.93	115.95	120.80
22	S	82	TYR	CB-CG-CD2	6.93	125.16	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	E	72	ARG	NE-CZ-NH2	6.93	123.76	120.30
24	Q	202	ARG	NE-CZ-NH1	6.92	123.76	120.30
28	H	454	TYR	CB-CG-CD2	-6.92	116.85	121.00
6	F	123	TYR	CB-CG-CD2	6.91	125.15	121.00
10	3	120	PHE	CB-CG-CD2	-6.91	115.96	120.80
7	g	190	ARG	NH1-CZ-NH2	-6.91	111.80	119.40
19	Y	67	VAL	CA-CB-CG2	6.91	121.26	110.90
32	M	207	PHE	CB-CG-CD2	-6.91	115.97	120.80
8	h	151	PHE	CB-CG-CD1	-6.90	115.97	120.80
2	B	236	ARG	NE-CZ-NH1	-6.89	116.85	120.30
6	F	82	ARG	NE-CZ-NH1	6.89	123.74	120.30
3	C	131	PHE	CB-CG-CD2	-6.89	115.98	120.80
32	M	42	ARG	NE-CZ-NH1	-6.88	116.86	120.30
22	S	174	ARG	NE-CZ-NH1	-6.88	116.86	120.30
1	A	222	ASP	CB-CG-OD2	-6.88	112.11	118.30
3	c	76	ALA	CB-CA-C	-6.87	99.79	110.10
13	m	196	PHE	CB-CG-CD1	-6.87	115.99	120.80
13	6	113	TYR	CG-CD2-CE2	-6.87	115.81	121.30
8	h	161	VAL	CA-CB-CG2	-6.87	100.60	110.90
6	F	39	ARG	NE-CZ-NH1	6.87	123.73	120.30
2	B	104	TYR	CB-CG-CD2	-6.86	116.88	121.00
6	f	219	ASP	CB-CG-OD2	6.86	124.47	118.30
24	Q	160	ASP	CB-CG-OD2	-6.86	112.13	118.30
16	V	304	ALA	CB-CA-C	-6.86	99.81	110.10
21	N	771	PHE	CB-CG-CD2	-6.86	116.00	120.80
6	F	222	PHE	CB-CG-CD2	-6.86	116.00	120.80
3	C	180	TYR	CB-CG-CD1	-6.85	116.89	121.00
7	G	163	ALA	N-CA-CB	6.85	119.69	110.10
24	Q	328	ASP	CB-CG-OD1	-6.83	112.15	118.30
23	P	104	LEU	CB-CA-C	-6.83	97.22	110.20
7	g	126	TYR	CD1-CE1-CZ	6.83	125.95	119.80
12	5	272	PHE	CB-CG-CD1	-6.83	116.02	120.80
14	n	220	ARG	NE-CZ-NH1	6.83	123.72	120.30
22	S	52	TYR	CB-CG-CD2	6.83	125.10	121.00
24	Q	207	SER	N-CA-CB	6.83	120.74	110.50
28	H	299	ARG	NE-CZ-NH1	6.83	123.71	120.30
23	P	311	TRP	CG-CD2-CE3	-6.81	127.77	133.90
22	S	461	PHE	CB-CG-CD2	-6.81	116.03	120.80
14	n	58	ASP	CB-CG-OD1	6.81	124.43	118.30
6	f	128	TYR	CB-CG-CD1	6.80	125.08	121.00
13	6	97	ALA	N-CA-CB	6.80	119.62	110.10
24	Q	163	ARG	NE-CZ-NH2	-6.80	116.90	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
30	K	161	MET	CG-SD-CE	-6.80	89.32	100.20
16	V	291	ASN	CB-CG-OD1	6.79	135.19	121.60
1	a	30	TYR	CB-CG-CD2	6.79	125.08	121.00
8	1	111	TYR	CG-CD2-CE2	-6.79	115.87	121.30
14	n	179	PHE	CB-CG-CD1	-6.78	116.05	120.80
13	m	164	PHE	CB-CG-CD2	-6.77	116.06	120.80
4	d	56	ASP	CB-CG-OD2	6.77	124.39	118.30
24	Q	157	LEU	CB-CG-CD1	6.77	122.51	111.00
9	i	100	SER	N-CA-CB	6.77	120.65	110.50
15	W	87	MET	CG-SD-CE	-6.76	89.38	100.20
27	O	62	TYR	CB-CG-CD2	-6.76	116.94	121.00
9	2	78	ALA	CB-CA-C	-6.76	99.96	110.10
33	J	56	ARG	NE-CZ-NH2	-6.76	116.92	120.30
27	O	60	ARG	NE-CZ-NH1	6.76	123.68	120.30
7	g	103	TYR	CB-CG-CD2	-6.76	116.95	121.00
22	S	145	PHE	CB-CG-CD1	-6.75	116.07	120.80
2	B	224	TYR	CB-CG-CD2	-6.75	116.95	121.00
32	M	345	ARG	NE-CZ-NH2	-6.75	116.92	120.30
1	A	199	TRP	CE2-CD2-CE3	6.75	126.79	118.70
21	N	548	ARG	NE-CZ-NH1	-6.74	116.93	120.30
7	G	55	THR	CA-CB-CG2	-6.74	102.96	112.40
18	X	62	ASP	CB-CG-OD2	-6.74	112.24	118.30
3	C	35	ALA	N-CA-CB	6.73	119.53	110.10
33	J	200	ARG	NE-CZ-NH1	6.73	123.67	120.30
6	f	229	ALA	CB-CA-C	-6.73	100.01	110.10
5	E	71	ASP	CB-CG-OD2	-6.73	112.24	118.30
32	M	255	TYR	CD1-CG-CD2	6.73	125.30	117.90
17	T	43	ASP	CB-CG-OD2	-6.72	112.25	118.30
1	a	63	LEU	CB-CG-CD1	6.72	122.43	111.00
15	W	127	ARG	NE-CZ-NH1	6.72	123.66	120.30
21	N	421	ASP	CB-CG-OD1	-6.72	112.25	118.30
28	H	208	TYR	CB-CG-CD2	-6.72	116.97	121.00
6	f	70	MET	CA-CB-CG	6.72	124.72	113.30
23	P	213	TYR	CB-CG-CD1	-6.71	116.97	121.00
24	Q	310	SER	N-CA-CB	6.71	120.57	110.50
11	4	135	TYR	CB-CG-CD1	-6.70	116.98	121.00
23	P	279	ASP	CB-CG-OD1	6.70	124.33	118.30
4	D	108	TYR	CB-CG-CD2	-6.69	116.98	121.00
25	R	265	ASP	CB-CG-OD2	-6.69	112.28	118.30
1	A	19	PHE	CB-CG-CD1	-6.68	116.12	120.80
29	I	408	ARG	NE-CZ-NH1	6.68	123.64	120.30
22	S	367	TYR	CB-CG-CD1	-6.68	116.99	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
21	N	406	TYR	CB-CG-CD1	6.68	125.01	121.00
24	Q	387	TYR	CB-CG-CD1	6.68	125.00	121.00
21	N	69	TYR	CB-CG-CD2	6.67	125.00	121.00
6	f	202	ARG	NE-CZ-NH2	6.67	123.64	120.30
3	C	149	TYR	CB-CG-CD1	6.67	125.00	121.00
30	K	347	ARG	CG-CD-NE	-6.67	97.79	111.80
19	Y	84	TYR	CB-CG-CD2	-6.67	117.00	121.00
25	R	259	PHE	CB-CG-CD2	-6.67	116.13	120.80
1	a	70	SER	N-CA-CB	6.66	120.50	110.50
21	N	908	ARG	NE-CZ-NH2	-6.66	116.97	120.30
25	R	65	TYR	CB-CG-CD2	6.66	125.00	121.00
4	d	49	ARG	NE-CZ-NH1	6.66	123.63	120.30
1	A	222	ASP	CB-CG-OD1	6.66	124.29	118.30
10	j	74	TYR	CZ-CE2-CD2	6.66	125.79	119.80
3	C	217	ARG	NE-CZ-NH1	-6.66	116.97	120.30
15	W	15	TYR	CG-CD1-CE1	-6.66	115.98	121.30
26	U	52	PHE	CB-CG-CD2	-6.66	116.14	120.80
32	M	254	MET	CG-SD-CE	-6.66	89.55	100.20
3	C	141	ASP	CB-CG-OD1	6.65	124.29	118.30
7	G	190	ARG	NE-CZ-NH2	-6.65	116.97	120.30
12	l	242	ARG	NE-CZ-NH2	-6.65	116.97	120.30
22	S	367	TYR	CB-CG-CD2	6.65	124.99	121.00
33	J	71	TYR	CG-CD2-CE2	-6.65	115.98	121.30
8	h	95	CYS	N-CA-CB	6.65	122.56	110.60
6	F	147	PHE	CB-CG-CD2	-6.65	116.15	120.80
33	J	257	ARG	NE-CZ-NH1	6.65	123.62	120.30
11	k	117	TYR	CB-CG-CD2	-6.64	117.01	121.00
4	D	174	PHE	CB-CG-CD2	-6.64	116.15	120.80
30	K	146	LEU	CB-CG-CD2	6.64	122.28	111.00
11	k	85	ARG	NE-CZ-NH2	-6.63	116.98	120.30
26	U	93	TYR	CB-CG-CD2	-6.63	117.02	121.00
14	7	261	TYR	CB-CG-CD2	-6.63	117.03	121.00
27	O	349	THR	CA-CB-CG2	-6.62	103.13	112.40
20	Z	970	TYR	CB-CG-CD2	-6.62	117.03	121.00
21	N	82	ALA	CB-CA-C	-6.62	100.17	110.10
2	B	52	SER	N-CA-CB	6.62	120.43	110.50
10	3	99	ARG	NE-CZ-NH1	-6.62	116.99	120.30
14	7	68	ARG	NE-CZ-NH1	6.62	123.61	120.30
24	Q	44	ALA	N-CA-CB	6.62	119.36	110.10
12	5	115	PHE	CB-CG-CD1	6.61	125.43	120.80
3	C	227	GLN	CB-CA-C	6.60	123.60	110.40
18	X	118	ASP	CB-CG-OD2	-6.60	112.36	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	g	121	GLN	O-C-N	-6.59	112.15	122.70
5	E	232	ASP	CB-CG-OD2	-6.59	112.37	118.30
5	E	232	ASP	CB-CG-OD1	6.59	124.23	118.30
7	g	164	ALA	N-CA-CB	6.59	119.33	110.10
2	b	148	TYR	CB-CG-CD2	6.59	124.95	121.00
7	G	242	PHE	CB-CG-CD2	-6.59	116.19	120.80
8	1	152	ARG	NE-CZ-NH2	6.59	123.59	120.30
28	H	137	ASP	CB-CG-OD2	-6.58	112.37	118.30
15	W	15	TYR	CB-CG-CD1	-6.58	117.05	121.00
27	O	38	TRP	CG-CD2-CE3	-6.58	127.97	133.90
15	W	17	ARG	NE-CZ-NH2	-6.58	117.01	120.30
1	a	244	ARG	NH1-CZ-NH2	-6.58	112.16	119.40
5	e	167	TYR	CD1-CE1-CZ	6.58	125.72	119.80
2	B	17	LYS	N-CA-CB	6.58	122.44	110.60
26	U	239	LEU	CB-CG-CD1	6.58	122.18	111.00
7	g	217	SER	N-CA-CB	6.57	120.36	110.50
22	S	414	ASP	CB-CG-OD2	-6.57	112.39	118.30
27	O	267	ASP	CB-CG-OD2	-6.56	112.39	118.30
14	n	211	VAL	CA-CB-CG2	-6.56	101.06	110.90
32	M	320	ARG	NH1-CZ-NH2	-6.55	112.19	119.40
6	f	72	LEU	N-CA-CB	6.55	123.51	110.40
1	A	110	TYR	CG-CD1-CE1	-6.55	116.06	121.30
4	d	166	ARG	NE-CZ-NH2	-6.54	117.03	120.30
12	l	181	ARG	NE-CZ-NH2	6.54	123.57	120.30
16	V	38	LEU	CB-CG-CD2	6.54	122.12	111.00
1	a	162	TYR	CB-CG-CD2	6.54	124.92	121.00
4	d	68	ASP	CB-CG-OD2	-6.54	112.41	118.30
13	6	13	TYR	CB-CG-CD1	-6.54	117.08	121.00
26	U	176	ARG	NE-CZ-NH1	6.54	123.57	120.30
30	K	207	ARG	NE-CZ-NH1	6.54	123.57	120.30
7	g	26	TYR	CB-CG-CD1	6.54	124.92	121.00
12	l	179	TYR	CB-CG-CD2	-6.54	117.08	121.00
7	G	157	TYR	CB-CG-CD2	6.53	124.92	121.00
4	d	159	TRP	CH2-CZ2-CE2	6.53	123.93	117.40
4	D	4	TYR	CB-CG-CD2	-6.53	117.08	121.00
5	E	22	PHE	CB-CG-CD2	-6.53	116.23	120.80
31	L	267	PHE	CB-CG-CD2	-6.53	116.23	120.80
33	J	63	ARG	NE-CZ-NH1	-6.53	117.04	120.30
7	g	102	LEU	CB-CA-C	-6.52	97.81	110.20
8	h	146	TYR	CG-CD1-CE1	-6.52	116.08	121.30
3	C	146	TYR	CB-CG-CD1	-6.52	117.09	121.00
23	P	354	SER	N-CA-CB	6.52	120.28	110.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	e	102	TYR	CB-CG-CD2	6.52	124.91	121.00
7	G	8	TYR	CB-CG-CD1	6.51	124.91	121.00
5	E	231	TYR	CB-CG-CD1	-6.51	117.09	121.00
17	T	150	ARG	NE-CZ-NH2	-6.51	117.04	120.30
23	P	221	TYR	CB-CG-CD2	6.51	124.91	121.00
3	c	144	TYR	CB-CG-CD2	6.51	124.90	121.00
3	C	70	ASN	N-CA-CB	6.51	122.31	110.60
17	T	49	ASP	CB-CG-OD1	-6.50	112.45	118.30
4	d	22	TYR	CG-CD2-CE2	-6.50	116.10	121.30
27	O	130	ASP	CB-CG-OD2	6.50	124.15	118.30
4	D	129	PHE	CB-CG-CD2	6.50	125.35	120.80
18	X	10	PHE	CB-CG-CD1	6.49	125.34	120.80
21	N	683	LEU	CB-CG-CD1	-6.49	99.97	111.00
10	j	91	VAL	CG1-CB-CG2	-6.49	100.52	110.90
3	C	50	ARG	N-CA-CB	6.49	122.27	110.60
28	H	344	ASP	CB-CG-OD2	-6.48	112.47	118.30
31	L	269	TYR	CB-CG-CD2	-6.48	117.11	121.00
14	n	68	ARG	NE-CZ-NH1	6.48	123.54	120.30
4	D	90	ARG	NE-CZ-NH2	-6.48	117.06	120.30
2	b	130	PHE	CB-CG-CD2	6.48	125.33	120.80
5	e	12	VAL	CB-CA-C	-6.48	99.10	111.40
25	R	338	TYR	CB-CG-CD2	-6.47	117.12	121.00
22	S	259	TYR	CB-CG-CD1	-6.47	117.12	121.00
5	E	196	ALA	N-CA-CB	6.47	119.15	110.10
2	b	159	TRP	CE2-CD2-CE3	6.46	126.45	118.70
6	f	171	TYR	CD1-CE1-CZ	-6.46	113.99	119.80
22	S	64	ARG	NE-CZ-NH2	-6.46	117.07	120.30
22	S	384	ARG	NE-CZ-NH1	6.46	123.53	120.30
28	H	134	THR	N-CA-CB	6.46	122.57	110.30
6	f	24	TYR	CZ-CE2-CD2	-6.45	114.00	119.80
5	E	150	ASP	CB-CG-OD1	6.45	124.10	118.30
24	Q	104	PHE	CB-CG-CD2	6.45	125.31	120.80
23	P	95	TYR	CB-CG-CD2	6.45	124.87	121.00
30	K	179	MET	CG-SD-CE	-6.45	89.89	100.20
24	Q	306	TYR	CG-CD1-CE1	6.44	126.45	121.30
1	A	108	TYR	CB-CG-CD2	-6.44	117.14	121.00
20	Z	358	TYR	CB-CG-CD2	-6.44	117.14	121.00
25	R	268	SER	N-CA-CB	6.44	120.16	110.50
23	P	329	PHE	CB-CG-CD2	-6.44	116.30	120.80
32	M	93	ASP	CB-CG-OD1	-6.43	112.51	118.30
14	n	81	ASN	CB-CA-C	-6.43	97.54	110.40
32	M	303	ARG	NE-CZ-NH1	6.43	123.52	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	23	TYR	CB-CG-CD2	-6.43	117.14	121.00
3	C	71	ASP	CB-CG-OD1	-6.43	112.52	118.30
22	S	170	TYR	CB-CG-CD2	-6.42	117.15	121.00
24	Q	400	TYR	CB-CG-CD1	6.42	124.85	121.00
13	6	41	TYR	CB-CG-CD2	-6.42	117.15	121.00
21	N	398	ARG	NE-CZ-NH2	-6.42	117.09	120.30
21	N	731	VAL	CA-CB-CG2	-6.42	101.27	110.90
26	U	9	THR	CA-CB-CG2	-6.42	103.41	112.40
4	d	11	PHE	CB-CG-CD1	-6.42	116.31	120.80
14	7	162	TYR	CG-CD2-CE2	-6.42	116.17	121.30
16	V	28	TYR	CD1-CE1-CZ	6.42	125.57	119.80
22	S	95	PHE	CB-CG-CD1	-6.41	116.31	120.80
4	D	187	THR	N-CA-CB	6.41	122.48	110.30
9	2	225	ARG	NE-CZ-NH2	6.41	123.50	120.30
10	j	22	ALA	N-CA-CB	6.40	119.07	110.10
17	T	43	ASP	N-CA-CB	6.40	122.12	110.60
31	L	420	ARG	NE-CZ-NH1	6.40	123.50	120.30
8	1	144	TYR	CB-CG-CD2	-6.40	117.16	121.00
17	T	128	TYR	CB-CG-CD1	-6.40	117.16	121.00
21	N	394	ARG	NE-CZ-NH1	-6.40	117.10	120.30
9	2	140	PHE	CG-CD2-CE2	6.40	127.83	120.80
3	c	5	ARG	NE-CZ-NH1	-6.39	117.10	120.30
11	k	57	ALA	CB-CA-C	-6.39	100.51	110.10
12	5	100	TRP	N-CA-CB	6.39	122.11	110.60
28	H	463	TYR	CB-CG-CD2	6.39	124.84	121.00
14	n	234	ASP	CB-CG-OD1	6.39	124.05	118.30
10	3	170	ALA	CB-CA-C	-6.39	100.52	110.10
9	i	46	ASP	CB-CG-OD2	-6.39	112.55	118.30
2	B	58	SER	N-CA-CB	6.39	120.08	110.50
13	6	56	ASP	CB-CG-OD1	6.38	124.04	118.30
24	Q	291	TYR	CG-CD2-CE2	-6.38	116.20	121.30
21	N	528	ARG	NE-CZ-NH2	6.38	123.49	120.30
4	d	6	ARG	NE-CZ-NH2	-6.37	117.11	120.30
8	1	142	PHE	CB-CG-CD1	-6.37	116.34	120.80
20	Z	748	LEU	CA-C-N	6.37	128.95	116.20
21	N	328	PHE	CB-CG-CD1	6.37	125.26	120.80
31	L	420	ARG	NE-CZ-NH2	-6.37	117.11	120.30
14	7	189	ARG	NE-CZ-NH1	6.37	123.48	120.30
13	m	225	TYR	CB-CG-CD2	-6.37	117.18	121.00
32	M	27	THR	CA-CB-CG2	-6.37	103.48	112.40
13	m	145	ARG	NE-CZ-NH2	6.37	123.48	120.30
5	e	135	SER	N-CA-CB	6.36	120.04	110.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
13	6	109	ARG	NE-CZ-NH2	6.36	123.48	120.30
14	n	188	LEU	O-C-N	-6.36	112.53	122.70
14	7	49	TYR	CB-CG-CD2	6.36	124.81	121.00
11	4	73	TYR	CB-CG-CD2	6.35	124.81	121.00
4	D	220	ASP	N-CA-CB	6.35	122.03	110.60
10	3	40	PHE	N-CA-CB	6.35	122.03	110.60
7	G	26	TYR	CZ-CE2-CD2	6.35	125.51	119.80
7	g	62	GLN	O-C-N	6.34	132.85	122.70
5	E	165	TYR	CB-CG-CD1	-6.34	117.19	121.00
21	N	647	ASP	CB-CG-OD1	-6.34	112.59	118.30
13	6	47	TYR	CZ-CE2-CD2	-6.34	114.10	119.80
30	K	385	ALA	CB-CA-C	-6.34	100.59	110.10
3	C	67	TYR	CG-CD2-CE2	-6.33	116.23	121.30
11	4	135	TYR	CG-CD2-CE2	-6.33	116.23	121.30
14	n	134	TYR	CG-CD1-CE1	-6.33	116.24	121.30
15	W	98	LEU	CB-CG-CD2	6.33	121.76	111.00
30	K	258	PHE	CB-CG-CD2	-6.33	116.37	120.80
14	n	170	TYR	CG-CD1-CE1	-6.33	116.24	121.30
17	T	161	TRP	CB-CG-CD2	-6.33	118.38	126.60
1	a	73	PHE	CB-CG-CD2	-6.32	116.37	120.80
29	I	232	LEU	N-CA-CB	6.32	123.05	110.40
27	O	326	HIS	CA-CB-CG	-6.32	102.86	113.60
28	H	88	ARG	NE-CZ-NH1	6.32	123.46	120.30
2	B	70	ASP	CB-CG-OD2	-6.32	112.61	118.30
22	S	375	ASP	N-CA-CB	6.32	121.97	110.60
28	H	396	MET	CG-SD-CE	-6.32	90.09	100.20
30	K	304	ASP	CB-CG-OD1	6.32	123.99	118.30
4	d	22	TYR	CB-CG-CD1	-6.32	117.21	121.00
10	j	31	SER	N-CA-CB	6.32	119.97	110.50
12	5	96	THR	CA-CB-CG2	-6.32	103.56	112.40
17	T	78	PHE	CB-CG-CD1	6.31	125.22	120.80
9	2	104	ARG	NE-CZ-NH2	-6.31	117.14	120.30
5	E	53	ARG	NE-CZ-NH1	6.31	123.45	120.30
5	E	148	ASP	N-CA-C	-6.31	93.96	111.00
9	2	37	PHE	CB-CG-CD2	6.31	125.22	120.80
16	V	20	ARG	NE-CZ-NH1	6.31	123.45	120.30
24	Q	294	ARG	NE-CZ-NH1	-6.30	117.15	120.30
6	f	219	ASP	CB-CG-OD1	-6.30	112.63	118.30
2	B	44	VAL	CG1-CB-CG2	6.30	120.98	110.90
11	k	138	PHE	CB-CG-CD2	-6.30	116.39	120.80
11	k	149	ARG	NE-CZ-NH1	6.30	123.45	120.30
4	d	222	VAL	N-CA-CB	6.29	125.34	111.50

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	D	75	PHE	CB-CG-CD1	6.29	125.20	120.80
8	h	175	ASP	CB-CG-OD2	-6.29	112.64	118.30
10	3	188	TYR	CA-CB-CG	-6.28	101.46	113.40
15	W	23	ARG	NE-CZ-NH2	6.28	123.44	120.30
24	Q	354	PHE	CG-CD1-CE1	6.28	127.71	120.80
15	W	37	PHE	CB-CG-CD2	6.28	125.19	120.80
21	N	117	TYR	CB-CG-CD2	-6.28	117.23	121.00
15	W	20	ASP	CB-CG-OD1	6.28	123.95	118.30
5	e	213	ASP	CB-CG-OD1	-6.28	112.65	118.30
30	K	185	ARG	NE-CZ-NH2	-6.28	117.16	120.30
33	J	324	ARG	NE-CZ-NH2	6.27	123.44	120.30
2	b	245	ASP	CB-CG-OD1	6.27	123.94	118.30
6	F	123	TYR	CB-CG-CD1	-6.27	117.24	121.00
28	H	136	ALA	N-CA-CB	6.27	118.88	110.10
1	a	77	ARG	NE-CZ-NH2	-6.27	117.17	120.30
7	g	132	PHE	CB-CG-CD1	6.27	125.19	120.80
24	Q	155	LEU	CB-CG-CD1	6.27	121.66	111.00
25	R	65	TYR	CB-CG-CD1	-6.27	117.24	121.00
7	G	78	TYR	CB-CG-CD2	6.26	124.76	121.00
1	a	186	PHE	CZ-CE2-CD2	6.26	127.61	120.10
7	G	164	ALA	CB-CA-C	-6.26	100.71	110.10
30	K	168	ASP	CB-CG-OD1	-6.26	112.67	118.30
21	N	406	TYR	CB-CG-CD2	-6.26	117.25	121.00
2	b	12	PHE	CB-CG-CD2	-6.25	116.42	120.80
13	6	52	PHE	CB-CG-CD2	-6.25	116.42	120.80
15	W	78	ASP	CB-CG-OD1	-6.25	112.67	118.30
19	Y	57	THR	CA-CB-CG2	-6.25	103.65	112.40
21	N	118	THR	CA-CB-CG2	-6.25	103.64	112.40
31	L	375	ASP	CB-CG-OD2	-6.25	112.67	118.30
3	c	146	TYR	CG-CD2-CE2	6.25	126.30	121.30
14	n	99	LEU	CB-CG-CD2	-6.25	100.37	111.00
20	Z	747	ALA	CA-C-N	6.25	130.95	117.20
31	L	107	GLU	N-CA-CB	6.25	121.85	110.60
5	E	97	VAL	CA-CB-CG2	-6.25	101.53	110.90
6	F	223	THR	CA-CB-CG2	-6.25	103.65	112.40
30	K	306	PHE	CB-CG-CD2	-6.25	116.43	120.80
11	k	153	THR	CA-CB-CG2	-6.24	103.66	112.40
28	H	339	GLN	CG-CD-OE1	-6.24	109.11	121.60
21	N	4	THR	CA-CB-CG2	-6.24	103.66	112.40
25	R	99	TYR	CB-CG-CD2	6.24	124.75	121.00
3	C	136	ILE	N-CA-C	-6.24	94.15	111.00
22	S	73	THR	CA-CB-CG2	-6.24	103.66	112.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
32	M	15	ASP	CB-CG-OD2	-6.24	112.68	118.30
9	i	83	ALA	CB-CA-C	-6.24	100.74	110.10
32	M	143	ASN	N-CA-CB	6.23	121.82	110.60
16	V	30	SER	N-CA-CB	6.23	119.85	110.50
32	M	366	ARG	N-CA-CB	-6.23	99.39	110.60
13	6	168	TYR	CB-CG-CD2	6.23	124.74	121.00
16	V	60	ASP	CB-CG-OD2	6.23	123.91	118.30
21	N	777	ALA	N-CA-CB	6.23	118.82	110.10
25	R	371	PHE	CG-CD2-CE2	-6.23	113.95	120.80
10	3	68	ARG	NE-CZ-NH2	-6.22	117.19	120.30
3	c	105	ASP	CB-CG-OD1	-6.22	112.70	118.30
5	E	123	PHE	CB-CG-CD1	-6.22	116.45	120.80
22	S	275	TYR	CB-CA-C	-6.22	97.96	110.40
30	K	212	TYR	CD1-CE1-CZ	-6.22	114.20	119.80
28	H	352	MET	CG-SD-CE	-6.22	90.25	100.20
2	B	160	LYS	N-CA-CB	6.21	121.78	110.60
3	C	14	SER	N-CA-CB	6.21	119.82	110.50
28	H	101	ARG	NE-CZ-NH2	-6.21	117.19	120.30
8	1	34	TYR	N-CA-C	-6.21	94.23	111.00
13	m	62	ALA	N-CA-CB	6.21	118.79	110.10
5	E	60	GLU	N-CA-CB	6.21	121.78	110.60
21	N	428	VAL	CA-CB-CG1	-6.21	101.59	110.90
21	N	578	ASP	CB-CG-OD2	-6.21	112.71	118.30
12	5	212	TYR	CB-CG-CD2	6.21	124.72	121.00
22	S	241	PHE	CB-CG-CD1	-6.21	116.46	120.80
11	4	70	ARG	NE-CZ-NH2	6.20	123.40	120.30
4	d	29	ARG	NE-CZ-NH1	-6.20	117.20	120.30
33	J	301	ASP	CB-CG-OD2	6.20	123.88	118.30
10	j	67	PHE	CB-CG-CD2	-6.20	116.46	120.80
14	n	58	ASP	CB-CG-OD2	-6.20	112.72	118.30
9	i	155	SER	N-CA-CB	6.20	119.80	110.50
1	A	106	TYR	CD1-CE1-CZ	-6.20	114.22	119.80
27	O	352	TRP	CB-CG-CD2	-6.20	118.54	126.60
8	h	109	ALA	N-CA-CB	6.20	118.77	110.10
32	M	427	SER	N-CA-CB	6.20	119.79	110.50
7	g	178	LYS	CB-CA-C	-6.19	98.02	110.40
21	N	584	ARG	NE-CZ-NH1	6.19	123.40	120.30
21	N	398	ARG	NE-CZ-NH1	6.19	123.39	120.30
11	k	190	ARG	NE-CZ-NH1	-6.19	117.21	120.30
2	B	159	TRP	CE3-CZ3-CH2	6.18	128.00	121.20
21	N	630	ALA	N-CA-CB	6.18	118.75	110.10
2	B	142	PHE	CB-CG-CD2	-6.18	116.47	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	F	5	ASN	N-CA-CB	6.18	121.73	110.60
29	I	385	ASP	CB-CG-OD1	-6.18	112.74	118.30
2	B	87	ASP	CB-CG-OD1	-6.18	112.74	118.30
4	d	4	TYR	CB-CG-CD2	-6.17	117.30	121.00
12	l	212	TYR	CB-CG-CD1	-6.17	117.30	121.00
12	5	212	TYR	CB-CG-CD1	-6.17	117.30	121.00
20	Z	358	TYR	CB-CG-CD1	6.16	124.70	121.00
1	A	231	ASP	CB-CG-OD2	6.16	123.84	118.30
21	N	473	ASP	CB-CG-OD1	-6.16	112.76	118.30
31	L	423	ALA	CB-CA-C	-6.16	100.86	110.10
3	c	210	ARG	NE-CZ-NH2	6.15	123.38	120.30
10	3	46	TYR	CZ-CE2-CD2	-6.15	114.26	119.80
6	F	194	VAL	CA-CB-CG2	-6.15	101.67	110.90
15	W	23	ARG	NE-CZ-NH1	-6.15	117.22	120.30
23	P	248	ASP	CB-CG-OD2	-6.15	112.76	118.30
26	U	209	GLU	N-CA-CB	6.15	121.67	110.60
1	a	65	ASP	N-CA-C	-6.15	94.40	111.00
14	n	252	TRP	CD1-NE1-CE2	-6.15	103.47	109.00
11	4	159	ASP	CB-CG-OD1	6.14	123.83	118.30
2	B	92	VAL	CA-CB-CG1	6.14	120.11	110.90
28	H	212	GLY	C-N-CA	6.14	135.19	122.30
14	7	128	TYR	CB-CG-CD2	-6.13	117.32	121.00
15	W	60	ARG	NE-CZ-NH2	6.13	123.37	120.30
2	b	148	TYR	CG-CD2-CE2	6.13	126.20	121.30
7	g	235	LEU	CB-CG-CD1	6.13	121.42	111.00
18	X	116	ALA	N-CA-CB	6.13	118.68	110.10
2	b	90	ARG	NE-CZ-NH1	-6.13	117.24	120.30
29	I	343	ARG	NE-CZ-NH2	-6.13	117.24	120.30
6	F	147	PHE	CB-CG-CD1	6.13	125.09	120.80
13	6	77	LYS	CB-CA-C	-6.13	98.15	110.40
32	M	45	ARG	NE-CZ-NH2	-6.13	117.24	120.30
5	e	153	TYR	CB-CG-CD2	-6.12	117.33	121.00
9	2	167	LEU	CB-CG-CD2	6.12	121.41	111.00
33	J	231	ARG	NE-CZ-NH2	-6.12	117.24	120.30
32	M	44	PHE	CB-CG-CD2	-6.12	116.52	120.80
11	4	85	ARG	NE-CZ-NH1	6.12	123.36	120.30
22	S	67	GLU	CB-CA-C	-6.12	98.16	110.40
25	R	417	TYR	CB-CG-CD2	6.12	124.67	121.00
31	L	253	ASP	CB-CG-OD1	-6.12	112.80	118.30
26	U	186	LEU	CB-CG-CD1	6.12	121.40	111.00
18	X	17	TYR	CG-CD2-CE2	-6.11	116.41	121.30
14	n	74	ARG	NE-CZ-NH2	-6.11	117.25	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
14	7	231	ALA	N-CA-CB	6.11	118.65	110.10
16	V	188	LEU	CB-CG-CD2	6.11	121.38	111.00
21	N	866	TYR	CB-CG-CD2	-6.11	117.33	121.00
4	D	111	ARG	NE-CZ-NH1	6.11	123.35	120.30
6	F	13	PHE	CB-CA-C	-6.11	98.19	110.40
8	1	75	TYR	CB-CG-CD1	6.11	124.66	121.00
6	f	3	ARG	NE-CZ-NH1	6.10	123.35	120.30
14	n	50	ASP	CB-CG-OD1	-6.10	112.81	118.30
16	V	300	VAL	CA-CB-CG1	6.10	120.06	110.90
25	R	141	TYR	CB-CG-CD2	-6.10	117.34	121.00
2	B	157	PHE	CB-CG-CD2	-6.10	116.53	120.80
14	7	83	VAL	CG1-CB-CG2	-6.10	101.15	110.90
24	Q	386	PHE	CB-CG-CD2	-6.09	116.53	120.80
3	c	144	TYR	CD1-CE1-CZ	-6.09	114.32	119.80
14	n	69	PHE	CB-CG-CD2	-6.09	116.54	120.80
5	E	248	ALA	CB-CA-C	-6.09	100.96	110.10
10	3	136	PHE	N-CA-CB	6.09	121.56	110.60
6	f	54	ASP	N-CA-CB	6.08	121.55	110.60
2	B	246	ARG	NE-CZ-NH2	6.08	123.34	120.30
24	Q	276	ASP	CB-CG-OD2	-6.08	112.83	118.30
16	V	61	TYR	CB-CG-CD2	-6.08	117.35	121.00
17	T	43	ASP	CB-CG-OD1	6.08	123.77	118.30
3	c	66	LEU	CB-CG-CD1	6.08	121.33	111.00
4	D	38	GLY	N-CA-C	-6.08	97.91	113.10
21	N	888	ASP	CB-CG-OD1	-6.08	112.83	118.30
5	e	166	ARG	NH1-CZ-NH2	-6.07	112.72	119.40
33	J	308	GLY	CA-C-O	-6.07	109.67	120.60
16	V	92	MET	CG-SD-CE	6.07	109.92	100.20
30	K	39	ALA	N-CA-CB	6.07	118.60	110.10
7	g	149	TYR	CG-CD2-CE2	6.07	126.16	121.30
14	7	63	TYR	CB-CG-CD1	6.07	124.64	121.00
17	T	78	PHE	CB-CG-CD2	-6.07	116.55	120.80
23	P	328	ALA	N-CA-CB	6.07	118.60	110.10
9	i	80	ASP	CB-CG-OD2	6.07	123.76	118.30
12	5	244	ALA	CB-CA-C	-6.07	101.00	110.10
13	6	203	HIS	CA-CB-CG	6.07	123.91	113.60
6	F	233	TYR	CG-CD2-CE2	-6.06	116.45	121.30
21	N	422	TYR	CB-CG-CD1	6.06	124.64	121.00
30	K	359	LYS	N-CA-CB	6.06	121.52	110.60
10	3	198	ARG	NE-CZ-NH2	-6.06	117.27	120.30
32	M	240	ASN	N-CA-CB	6.06	121.51	110.60
22	S	49	ASP	CB-CG-OD2	-6.06	112.85	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
14	n	189	ARG	NE-CZ-NH2	-6.05	117.27	120.30
28	H	133	SER	O-C-N	-6.05	113.01	122.70
13	m	224	PHE	CB-CG-CD1	-6.05	116.56	120.80
2	b	220	ASP	CB-CG-OD2	-6.05	112.86	118.30
3	c	9	ARG	NE-CZ-NH2	6.05	123.33	120.30
5	E	98	THR	CA-CB-CG2	-6.05	103.93	112.40
27	O	62	TYR	CG-CD1-CE1	-6.05	116.46	121.30
13	6	113	TYR	CD1-CG-CD2	6.05	124.55	117.90
25	R	70	TYR	CG-CD2-CE2	6.04	126.14	121.30
12	5	179	TYR	CG-CD1-CE1	6.04	126.13	121.30
28	H	99	VAL	CA-CB-CG1	-6.04	101.84	110.90
30	K	44	ASN	CB-CA-C	-6.04	98.31	110.40
32	M	221	TYR	CD1-CE1-CZ	-6.04	114.36	119.80
2	b	220	ASP	CB-CG-OD1	6.04	123.73	118.30
1	A	237	SER	N-CA-CB	6.04	119.56	110.50
12	5	245	TYR	CB-CG-CD1	6.04	124.62	121.00
10	j	109	VAL	CA-CB-CG2	-6.04	101.85	110.90
2	B	181	ASP	CB-CG-OD1	6.04	123.73	118.30
17	T	247	ASP	CB-CG-OD2	-6.04	112.87	118.30
5	e	232	ASP	CB-CG-OD1	-6.03	112.87	118.30
15	W	25	ARG	NE-CZ-NH1	6.03	123.32	120.30
7	g	31	VAL	CG1-CB-CG2	-6.03	101.25	110.90
31	L	400	PHE	CG-CD1-CE1	-6.03	114.17	120.80
4	D	220	ASP	CB-CG-OD1	-6.03	112.87	118.30
11	k	56	PHE	CB-CG-CD2	6.03	125.02	120.80
16	V	199	LEU	N-CA-CB	6.03	122.46	110.40
14	n	254	PHE	CB-CG-CD2	6.03	125.02	120.80
20	Z	970	TYR	CB-CG-CD1	6.03	124.61	121.00
1	a	26	TYR	CD1-CG-CD2	6.02	124.52	117.90
4	d	97	ARG	NE-CZ-NH1	6.02	123.31	120.30
22	S	399	TYR	CB-CG-CD1	6.02	124.61	121.00
23	P	13	TYR	CG-CD1-CE1	-6.02	116.48	121.30
9	2	153	TYR	CD1-CE1-CZ	6.02	125.22	119.80
18	X	58	GLY	O-C-N	-6.02	113.07	122.70
32	M	265	ASP	CB-CG-OD1	6.02	123.72	118.30
11	k	132	ALA	N-CA-CB	6.01	118.52	110.10
13	m	193	ARG	NE-CZ-NH2	6.01	123.31	120.30
15	W	25	ARG	NE-CZ-NH2	-6.01	117.30	120.30
33	J	207	ASP	N-CA-CB	6.01	121.42	110.60
11	k	46	PHE	CB-CG-CD2	6.01	125.01	120.80
11	k	110	LYS	CB-CA-C	-6.01	98.38	110.40
13	m	133	PHE	CB-CG-CD2	-6.01	116.59	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
33	J	48	ARG	NE-CZ-NH2	6.01	123.31	120.30
5	E	166	ARG	NH1-CZ-NH2	-6.01	112.79	119.40
14	7	177	THR	N-CA-CB	6.01	121.71	110.30
7	G	84	ASP	N-CA-CB	-6.00	99.79	110.60
2	b	187	ASP	CB-CG-OD2	6.00	123.70	118.30
4	d	166	ARG	NE-CZ-NH1	6.00	123.30	120.30
6	F	107	ARG	CA-CB-CG	6.00	126.60	113.40
3	C	50	ARG	NH1-CZ-NH2	6.00	126.00	119.40
7	G	103	TYR	CB-CG-CD1	6.00	124.60	121.00
23	P	325	ASP	CB-CG-OD2	5.99	123.69	118.30
1	a	228	ALA	N-CA-CB	5.99	118.48	110.10
6	f	24	TYR	CB-CG-CD2	-5.99	117.41	121.00
32	M	16	ASP	CB-CG-OD1	-5.99	112.91	118.30
8	1	151	PHE	CB-CG-CD1	5.98	124.99	120.80
27	O	152	ASP	CB-CG-OD1	-5.98	112.92	118.30
24	Q	373	VAL	CA-CB-CG1	5.98	119.87	110.90
3	c	137	TYR	CB-CG-CD2	-5.98	117.41	121.00
12	5	193	ASP	CB-CG-OD2	-5.98	112.92	118.30
31	L	161	ARG	N-CA-CB	-5.98	99.84	110.60
5	E	223	THR	O-C-N	-5.97	113.14	122.70
23	P	403	GLU	N-CA-CB	5.97	121.35	110.60
9	i	98	TYR	CB-CG-CD1	5.97	124.58	121.00
21	N	599	TYR	CB-CG-CD2	-5.97	117.42	121.00
28	H	222	ARG	NE-CZ-NH1	-5.97	117.32	120.30
3	C	76	ALA	CB-CA-C	-5.97	101.15	110.10
12	5	272	PHE	CZ-CE2-CD2	5.97	127.26	120.10
15	W	26	PHE	CB-CG-CD1	-5.97	116.62	120.80
28	H	133	SER	N-CA-CB	5.97	119.45	110.50
2	b	82	TYR	CB-CG-CD1	-5.96	117.42	121.00
27	O	318	HIS	N-CA-CB	5.96	121.33	110.60
3	C	14	SER	CB-CA-C	-5.96	98.78	110.10
12	5	239	ALA	CB-CA-C	-5.96	101.16	110.10
24	Q	340	ASP	CB-CG-OD1	5.96	123.66	118.30
1	a	249	ALA	CB-CA-C	-5.96	101.16	110.10
30	K	262	ARG	NE-CZ-NH2	-5.96	117.32	120.30
13	m	188	VAL	CG1-CB-CG2	-5.96	101.37	110.90
11	4	187	ASP	CB-CG-OD1	-5.95	112.94	118.30
23	P	179	PHE	CB-CG-CD2	5.95	124.97	120.80
27	O	307	MET	CG-SD-CE	-5.95	90.68	100.20
32	M	433	TYR	CG-CD1-CE1	-5.95	116.54	121.30
3	C	149	TYR	CB-CG-CD2	-5.95	117.43	121.00
4	D	235	GLN	CG-CD-OE1	-5.95	109.70	121.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	57	LYS	N-CA-C	-5.95	94.94	111.00
3	C	160	TRP	CB-CG-CD2	-5.95	118.87	126.60
8	h	202	TYR	CB-CG-CD1	5.94	124.57	121.00
7	g	209	GLU	OE1-CD-OE2	-5.94	116.17	123.30
12	5	230	TYR	CD1-CG-CD2	5.94	124.43	117.90
21	N	576	VAL	CA-CB-CG1	5.94	119.81	110.90
24	Q	309	ARG	N-CA-CB	5.94	121.29	110.60
22	S	118	PHE	CB-CG-CD2	-5.94	116.64	120.80
31	L	128	ILE	N-CA-C	-5.94	94.97	111.00
33	J	210	PHE	CG-CD2-CE2	-5.94	114.27	120.80
30	K	105	GLN	CA-CB-CG	5.94	126.46	113.40
7	g	26	TYR	CB-CG-CD2	-5.93	117.44	121.00
10	j	177	ARG	NE-CZ-NH1	5.93	123.27	120.30
14	n	87	SER	N-CA-CB	5.93	119.40	110.50
30	K	114	THR	CA-CB-CG2	-5.93	104.09	112.40
31	L	355	ALA	N-CA-C	-5.93	94.99	111.00
28	H	135	ASP	CB-CG-OD1	5.93	123.64	118.30
13	m	113	TYR	CG-CD1-CE1	5.93	126.04	121.30
14	n	102	ASP	CB-CG-OD2	-5.93	112.97	118.30
14	n	226	ARG	NE-CZ-NH2	-5.93	117.34	120.30
14	7	228	PHE	CB-CG-CD2	-5.93	116.65	120.80
29	I	71	LEU	N-CA-CB	5.93	122.25	110.40
5	E	122	ARG	N-CA-CB	5.92	121.27	110.60
22	S	114	TYR	CG-CD1-CE1	5.92	126.04	121.30
33	J	212	ARG	NE-CZ-NH1	5.92	123.26	120.30
1	A	234	PHE	CB-CG-CD1	-5.92	116.66	120.80
2	B	209	ILE	CA-CB-CG1	-5.92	99.75	111.00
9	i	39	ASN	O-C-N	-5.92	113.14	123.20
17	T	181	LEU	CB-CG-CD1	5.92	121.06	111.00
6	F	153	VAL	N-CA-C	-5.92	95.03	111.00
10	j	57	ALA	N-CA-CB	5.91	118.38	110.10
13	6	31	LEU	CB-CG-CD2	5.91	121.05	111.00
28	H	264	ALA	N-CA-CB	5.91	118.38	110.10
6	f	101	ARG	NH1-CZ-NH2	-5.91	112.90	119.40
22	S	54	TRP	CG-CD2-CE3	-5.91	128.58	133.90
5	e	104	ASP	CB-CG-OD1	-5.91	112.98	118.30
7	g	119	TYR	CG-CD1-CE1	-5.91	116.58	121.30
17	T	233	VAL	CG1-CB-CG2	5.90	120.34	110.90
1	A	14	ARG	CG-CD-NE	-5.90	99.41	111.80
27	O	16	MET	CG-SD-CE	-5.90	90.76	100.20
21	N	618	ARG	NE-CZ-NH1	5.90	123.25	120.30
2	B	145	PHE	CZ-CE2-CD2	-5.89	113.03	120.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	5	102	ALA	N-CA-CB	-5.89	101.85	110.10
22	S	375	ASP	CB-CG-OD2	5.89	123.60	118.30
20	Z	727	GLU	N-CA-CB	-5.89	100.00	110.60
28	H	81	LEU	CB-CA-C	-5.89	99.01	110.20
5	e	9	ASP	CB-CG-OD1	5.89	123.60	118.30
20	Z	729	GLU	N-CA-CB	5.88	121.19	110.60
23	P	144	VAL	CA-CB-CG2	-5.88	102.08	110.90
22	S	399	TYR	C-N-CA	5.88	136.40	121.70
30	K	282	PHE	CB-CG-CD2	5.88	124.91	120.80
22	S	180	ASN	N-CA-CB	5.88	121.17	110.60
13	6	39	THR	N-CA-C	-5.87	95.14	111.00
22	S	97	THR	N-CA-CB	5.87	121.46	110.30
26	U	244	ASP	CB-CG-OD2	5.87	123.59	118.30
28	H	216	ASP	CB-CG-OD1	5.87	123.58	118.30
28	H	341	ASP	CB-CG-OD2	5.87	123.58	118.30
28	H	435	ARG	NE-CZ-NH1	5.87	123.23	120.30
24	Q	50	ARG	NH1-CZ-NH2	-5.87	112.95	119.40
21	N	489	MET	CG-SD-CE	-5.87	90.82	100.20
6	f	171	TYR	CG-CD2-CE2	-5.86	116.61	121.30
23	P	77	GLU	OE1-CD-OE2	-5.86	116.27	123.30
24	Q	286	TYR	CB-CG-CD1	5.86	124.52	121.00
17	T	75	PHE	CB-CG-CD2	-5.86	116.70	120.80
16	V	202	ASP	CB-CA-C	-5.86	98.69	110.40
24	Q	175	VAL	CA-CB-CG1	-5.86	102.11	110.90
24	Q	255	TYR	CB-CG-CD1	-5.86	117.49	121.00
10	3	98	ARG	N-CA-CB	5.86	121.14	110.60
13	6	114	TYR	CB-CG-CD1	5.85	124.51	121.00
32	M	163	PHE	CB-CG-CD1	5.85	124.90	120.80
7	G	119	TYR	CB-CG-CD1	5.85	124.51	121.00
6	f	3	ARG	CD-NE-CZ	-5.85	115.41	123.60
12	5	227	ASP	CB-CG-OD1	5.85	123.56	118.30
14	7	145	ASN	CB-CA-C	-5.85	98.70	110.40
21	N	756	THR	O-C-N	5.85	132.06	122.70
26	U	165	GLU	OE1-CD-OE2	5.85	130.32	123.30
1	a	32	PHE	CB-CG-CD1	-5.85	116.71	120.80
7	g	201	TYR	CB-CG-CD1	-5.85	117.49	121.00
10	j	157	ASN	CB-CG-OD1	-5.84	109.91	121.60
7	G	221	LEU	CB-CG-CD1	5.84	120.93	111.00
32	M	180	TYR	CB-CG-CD2	5.84	124.51	121.00
20	Z	513	ALA	N-CA-CB	5.84	118.28	110.10
19	Y	43	TRP	N-CA-CB	5.84	121.11	110.60
32	M	136	ASP	CB-CG-OD1	-5.84	113.05	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	k	98	TYR	CB-CA-C	-5.83	98.73	110.40
10	3	154	TYR	CB-CG-CD2	-5.83	117.50	121.00
22	S	88	PHE	CB-CG-CD2	-5.83	116.72	120.80
33	J	251	ASP	N-CA-CB	5.83	121.10	110.60
6	F	171	TYR	CB-CG-CD2	-5.83	117.50	121.00
6	F	225	TYR	CZ-CE2-CD2	5.82	125.04	119.80
22	S	113	SER	N-CA-CB	5.82	119.23	110.50
5	E	86	ARG	NE-CZ-NH1	-5.82	117.39	120.30
12	5	92	ASP	CB-CG-OD1	-5.82	113.06	118.30
16	V	138	ALA	N-CA-CB	5.82	118.25	110.10
32	M	335	PRO	N-CA-CB	5.82	110.29	103.30
3	c	13	PHE	CB-CG-CD2	5.82	124.87	120.80
25	R	400	TYR	CG-CD1-CE1	-5.82	116.64	121.30
1	a	223	LEU	N-CA-CB	5.82	122.03	110.40
13	6	11	ASN	N-CA-C	-5.82	95.30	111.00
21	N	417	ARG	NE-CZ-NH2	5.82	123.21	120.30
3	C	20	TYR	CB-CG-CD1	5.81	124.49	121.00
21	N	608	LEU	CB-CA-C	-5.81	99.15	110.20
32	M	367	LYS	CA-CB-CG	5.81	126.19	113.40
14	7	197	ASP	CB-CG-OD2	5.81	123.53	118.30
5	E	163	THR	C-N-CA	5.81	136.22	121.70
33	J	162	GLU	OE1-CD-OE2	-5.81	116.33	123.30
10	j	176	ASP	CB-CG-OD2	-5.81	113.07	118.30
13	6	157	PHE	CD1-CE1-CZ	-5.81	113.13	120.10
1	a	30	TYR	CG-CD1-CE1	5.80	125.94	121.30
10	3	36	VAL	CA-CB-CG1	-5.80	102.19	110.90
13	6	13	TYR	CG-CD1-CE1	-5.80	116.66	121.30
18	X	20	ASP	CB-CG-OD1	5.80	123.53	118.30
14	n	189	ARG	NE-CZ-NH1	5.80	123.20	120.30
13	6	129	ALA	N-CA-C	-5.80	95.33	111.00
30	K	320	ARG	NE-CZ-NH2	5.80	123.20	120.30
33	J	238	ARG	NH1-CZ-NH2	-5.80	113.02	119.40
6	f	94	TYR	CB-CG-CD2	5.79	124.47	121.00
13	m	225	TYR	N-CA-CB	5.79	121.02	110.60
4	D	83	ARG	NE-CZ-NH1	5.79	123.20	120.30
12	5	230	TYR	CG-CD1-CE1	-5.79	116.67	121.30
5	e	165	TYR	CG-CD1-CE1	5.79	125.93	121.30
4	d	172	ARG	NE-CZ-NH2	-5.79	117.41	120.30
1	A	71	TYR	CB-CG-CD1	-5.79	117.53	121.00
1	a	84	ASN	N-CA-C	-5.79	95.38	111.00
7	g	103	TYR	CB-CG-CD1	5.79	124.47	121.00
1	A	199	TRP	CD1-NE1-CE2	-5.78	103.80	109.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
16	V	160	ASP	CB-CG-OD2	-5.78	113.09	118.30
1	A	30	TYR	CZ-CE2-CD2	5.78	125.00	119.80
9	i	153	TYR	CB-CG-CD1	5.78	124.47	121.00
23	P	300	VAL	CG1-CB-CG2	-5.78	101.65	110.90
11	4	154	THR	CA-CB-CG2	-5.78	104.31	112.40
29	I	314	ASP	CB-CG-OD1	-5.78	113.10	118.30
30	K	169	VAL	CA-CB-CG1	-5.78	102.23	110.90
14	n	158	GLN	CG-CD-OE1	-5.78	110.05	121.60
22	S	413	LEU	CB-CG-CD2	5.78	120.82	111.00
5	E	122	ARG	NE-CZ-NH1	5.77	123.19	120.30
23	P	255	ALA	CB-CA-C	-5.77	101.44	110.10
10	j	129	CYS	N-CA-CB	5.77	120.99	110.60
6	f	59	TYR	CD1-CE1-CZ	-5.77	114.61	119.80
12	5	79	LEU	CB-CG-CD2	5.77	120.81	111.00
21	N	22	THR	CA-CB-CG2	-5.77	104.32	112.40
21	N	502	PHE	CB-CG-CD2	5.77	124.84	120.80
24	Q	234	THR	CA-CB-CG2	-5.77	104.32	112.40
32	M	73	ARG	NH1-CZ-NH2	-5.77	113.06	119.40
6	f	135	ILE	CA-CB-CG1	5.76	121.95	111.00
6	f	166	GLN	N-CA-CB	5.76	120.98	110.60
8	1	116	LYS	N-CA-CB	5.76	120.98	110.60
21	N	578	ASP	CB-CG-OD1	5.76	123.49	118.30
27	O	37	LEU	CB-CG-CD2	5.76	120.80	111.00
28	H	198	MET	N-CA-CB	5.76	120.98	110.60
29	I	354	ASP	CB-CG-OD1	-5.76	113.11	118.30
14	7	228	PHE	CB-CG-CD1	5.76	124.83	120.80
7	g	235	LEU	CB-CG-CD2	-5.76	101.21	111.00
29	I	401	LEU	CB-CG-CD1	5.76	120.79	111.00
16	V	154	ASP	N-CA-CB	5.76	120.96	110.60
23	P	357	TYR	CB-CG-CD2	5.76	124.45	121.00
24	Q	409	TYR	CG-CD2-CE2	-5.76	116.69	121.30
19	Y	32	ASP	CB-CG-OD1	-5.75	113.12	118.30
21	N	727	THR	CA-CB-CG2	-5.75	104.34	112.40
22	S	84	ASP	CB-CG-OD1	-5.75	113.12	118.30
9	2	226	GLU	N-CA-CB	5.75	120.95	110.60
21	N	369	ALA	CB-CA-C	-5.75	101.47	110.10
3	c	9	ARG	CG-CD-NE	-5.75	99.73	111.80
21	N	604	ARG	NE-CZ-NH1	5.75	123.17	120.30
30	K	270	PHE	CB-CG-CD1	-5.75	116.78	120.80
31	L	434	TYR	CB-CG-CD1	-5.75	117.55	121.00
15	W	69	PHE	CB-CG-CD2	-5.75	116.78	120.80
16	V	28	TYR	CG-CD1-CE1	-5.75	116.70	121.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	216	THR	CA-CB-CG2	-5.74	104.36	112.40
2	B	92	VAL	CA-CB-CG2	-5.74	102.29	110.90
32	M	320	ARG	NE-CZ-NH1	5.74	123.17	120.30
21	N	849	THR	N-CA-C	-5.74	95.51	111.00
24	Q	107	VAL	CA-CB-CG1	5.74	119.51	110.90
32	M	384	ASP	N-CA-C	-5.74	95.50	111.00
24	Q	88	PHE	CB-CG-CD1	-5.74	116.78	120.80
13	m	202	ARG	NE-CZ-NH2	5.74	123.17	120.30
4	D	58	ARG	NE-CZ-NH2	-5.74	117.43	120.30
7	G	26	TYR	CB-CG-CD1	5.74	124.44	121.00
17	T	234	TYR	CB-CG-CD2	5.74	124.44	121.00
23	P	425	HIS	N-CA-CB	5.74	120.92	110.60
11	k	8	ARG	NE-CZ-NH2	5.73	123.17	120.30
21	N	16	ASN	O-C-N	-5.73	113.53	122.70
3	c	237	ASP	CB-CG-OD1	5.73	123.46	118.30
10	3	164	PHE	CB-CG-CD2	-5.73	116.79	120.80
20	Z	550	PHE	CB-CG-CD1	5.73	124.81	120.80
26	U	136	ALA	N-CA-CB	5.73	118.13	110.10
31	L	405	ASP	CB-CG-OD1	5.73	123.46	118.30
9	2	152	TYR	CZ-CE2-CD2	5.73	124.96	119.80
23	P	201	ARG	NE-CZ-NH1	5.73	123.17	120.30
7	g	196	ALA	CB-CA-C	-5.73	101.51	110.10
10	3	96	TYR	CB-CG-CD1	5.72	124.44	121.00
11	k	135	TYR	CB-CG-CD1	-5.72	117.57	121.00
4	D	143	ASP	CB-CG-OD1	5.72	123.45	118.30
22	S	316	LEU	CB-CG-CD1	5.72	120.73	111.00
8	h	96	TYR	CD1-CE1-CZ	5.72	124.95	119.80
22	S	184	TRP	CA-CB-CG	5.72	124.57	113.70
22	S	405	ARG	NE-CZ-NH2	5.72	123.16	120.30
1	a	26	TYR	CG-CD2-CE2	-5.72	116.73	121.30
13	6	47	TYR	CB-CG-CD1	5.71	124.43	121.00
18	X	118	ASP	CB-CG-OD1	5.71	123.44	118.30
28	H	197	MET	CG-SD-CE	-5.71	91.06	100.20
9	i	149	ASP	CB-CG-OD2	5.71	123.44	118.30
17	T	90	PHE	CB-CG-CD1	-5.71	116.80	120.80
11	k	140	THR	CA-CB-CG2	-5.71	104.41	112.40
16	V	135	ARG	NE-CZ-NH2	-5.71	117.45	120.30
9	2	141	SER	N-CA-CB	5.71	119.06	110.50
13	m	114	TYR	CG-CD1-CE1	-5.70	116.74	121.30
13	m	229	ARG	CD-NE-CZ	5.70	131.59	123.60
5	E	118	ASP	CB-CG-OD2	-5.70	113.17	118.30
33	J	61	GLU	OE1-CD-OE2	-5.70	116.46	123.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	5	224	SER	N-CA-CB	5.70	119.05	110.50
29	I	415	ASP	CB-CG-OD2	-5.70	113.17	118.30
32	M	73	ARG	NE-CZ-NH2	5.70	123.15	120.30
11	k	130	TYR	CG-CD2-CE2	5.70	125.86	121.30
20	Z	264	PHE	CB-CG-CD1	5.70	124.79	120.80
28	H	348	ASN	N-CA-CB	5.70	120.86	110.60
1	a	249	ALA	N-CA-CB	5.70	118.08	110.10
32	M	67	GLU	CB-CA-C	-5.70	99.01	110.40
2	B	161	ALA	N-CA-CB	5.70	118.07	110.10
6	F	185	ASN	N-CA-CB	5.69	120.85	110.60
24	Q	151	TYR	CB-CG-CD2	-5.69	117.58	121.00
5	E	169	ALA	CB-CA-C	-5.69	101.56	110.10
19	Y	25	ASN	O-C-N	-5.69	113.59	122.70
28	H	434	ARG	NE-CZ-NH2	-5.69	117.45	120.30
4	d	129	PHE	CB-CG-CD1	-5.69	116.82	120.80
1	a	162	TYR	CD1-CE1-CZ	-5.69	114.68	119.80
21	N	791	ALA	N-CA-CB	5.69	118.06	110.10
4	d	135	ILE	CA-CB-CG1	-5.69	100.19	111.00
3	C	95	ALA	CB-CA-C	-5.69	101.57	110.10
29	I	208	TYR	CB-CG-CD2	-5.69	117.59	121.00
25	R	141	TYR	CB-CG-CD1	5.69	124.41	121.00
12	5	153	ALA	CB-CA-C	-5.68	101.57	110.10
28	H	249	TYR	N-CA-CB	5.68	120.83	110.60
32	M	109	ASP	N-CA-CB	5.68	120.83	110.60
4	d	197	ARG	NE-CZ-NH1	5.68	123.14	120.30
13	m	108	LYS	N-CA-C	-5.68	95.66	111.00
1	A	91	ARG	CG-CD-NE	-5.68	99.87	111.80
21	N	120	ASP	CB-CG-OD1	-5.68	113.19	118.30
4	D	120	TYR	CB-CG-CD1	5.68	124.41	121.00
28	H	331	ARG	NH1-CZ-NH2	-5.68	113.16	119.40
30	K	363	ALA	N-CA-CB	5.68	118.05	110.10
32	M	44	PHE	CB-CG-CD1	5.68	124.77	120.80
18	X	131	ASN	N-CA-CB	5.67	120.81	110.60
19	Y	32	ASP	CB-CG-OD2	5.67	123.41	118.30
2	B	5	TYR	CB-CG-CD1	5.67	124.40	121.00
22	S	80	VAL	CG1-CB-CG2	5.67	119.97	110.90
4	d	148	TYR	CG-CD1-CE1	-5.67	116.77	121.30
9	2	203	ASP	CB-CG-OD2	5.67	123.40	118.30
31	L	426	LYS	CA-CB-CG	5.67	125.86	113.40
4	D	181	ARG	NE-CZ-NH1	-5.66	117.47	120.30
10	3	188	TYR	CD1-CG-CD2	5.66	124.13	117.90
25	R	124	ASP	N-CA-CB	5.66	120.79	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	D	112	TYR	CG-CD2-CE2	-5.66	116.77	121.30
7	G	40	ILE	N-CA-C	-5.66	95.72	111.00
11	4	21	VAL	CA-CB-CG1	-5.66	102.41	110.90
22	S	102	SER	N-CA-CB	5.66	118.99	110.50
27	O	230	PHE	CB-CG-CD1	-5.66	116.84	120.80
28	H	353	PHE	CG-CD1-CE1	5.66	127.02	120.80
25	R	183	ASP	CB-CG-OD2	5.66	123.39	118.30
19	Y	2	SER	N-CA-CB	5.65	118.98	110.50
9	2	106	VAL	CG1-CB-CG2	5.65	119.94	110.90
8	h	11	SER	N-CA-CB	5.65	118.97	110.50
14	7	143	LEU	N-CA-C	-5.65	95.75	111.00
7	g	241	ASP	CB-CG-OD2	5.65	123.38	118.30
15	W	149	GLN	N-CA-CB	5.65	120.76	110.60
23	P	319	GLU	CA-C-O	-5.65	108.24	120.10
31	L	145	ARG	NE-CZ-NH1	5.65	123.12	120.30
8	h	88	ALA	CB-CA-C	-5.64	101.63	110.10
2	B	234	ARG	NE-CZ-NH2	-5.64	117.48	120.30
25	R	324	ARG	NE-CZ-NH1	5.64	123.12	120.30
1	a	131	ARG	NE-CZ-NH1	5.64	123.12	120.30
4	D	204	GLN	N-CA-CB	5.64	120.76	110.60
7	G	242	PHE	CB-CG-CD1	5.64	124.75	120.80
9	2	99	THR	CA-CB-CG2	-5.64	104.50	112.40
32	M	38	ASP	N-CA-CB	5.64	120.76	110.60
1	A	199	TRP	NE1-CE2-CD2	5.64	112.94	107.30
5	E	231	TYR	CB-CG-CD2	5.64	124.38	121.00
31	L	69	ARG	NE-CZ-NH2	-5.64	117.48	120.30
25	R	179	PHE	CB-CG-CD2	5.64	124.75	120.80
21	N	884	PHE	N-CA-CB	5.63	120.74	110.60
33	J	114	CYS	N-CA-CB	5.63	120.74	110.60
31	L	88	TYR	CG-CD2-CE2	-5.63	116.80	121.30
10	j	33	SER	N-CA-CB	5.63	118.94	110.50
22	S	259	TYR	CD1-CE1-CZ	-5.63	114.73	119.80
5	E	41	ALA	N-CA-CB	5.63	117.98	110.10
23	P	201	ARG	NE-CZ-NH2	5.63	123.11	120.30
2	B	84	VAL	CG1-CB-CG2	-5.63	101.90	110.90
4	D	138	PHE	CB-CG-CD2	-5.63	116.86	120.80
16	V	107	TRP	CD2-CE2-CZ2	-5.63	115.55	122.30
22	S	285	ASP	CB-CG-OD1	5.63	123.36	118.30
4	d	233	VAL	CA-CB-CG1	5.62	119.34	110.90
9	2	126	TYR	CG-CD2-CE2	-5.62	116.80	121.30
32	M	301	VAL	CG1-CB-CG2	5.62	119.90	110.90
3	c	7	ASP	CB-CG-OD1	5.62	123.36	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	E	68	VAL	CA-CB-CG1	-5.62	102.47	110.90
8	1	163	PHE	CB-CG-CD1	5.62	124.73	120.80
31	L	70	TYR	CB-CG-CD1	5.62	124.37	121.00
1	a	91	ARG	NE-CZ-NH2	-5.62	117.49	120.30
16	V	107	TRP	CH2-CZ2-CE2	5.62	123.02	117.40
24	Q	331	THR	CA-CB-CG2	-5.62	104.54	112.40
28	H	167	ASP	CB-CG-OD1	5.62	123.35	118.30
18	X	75	TRP	N-CA-CB	5.61	120.70	110.60
1	A	234	PHE	N-CA-CB	5.61	120.70	110.60
22	S	275	TYR	N-CA-CB	5.61	120.70	110.60
6	f	25	ALA	N-CA-CB	5.61	117.95	110.10
29	I	95	GLN	N-CA-CB	5.61	120.69	110.60
3	C	197	LEU	CB-CG-CD2	-5.60	101.47	111.00
5	e	28	LEU	CB-CG-CD2	-5.60	101.47	111.00
8	1	162	ASP	N-CA-CB	5.60	120.69	110.60
16	V	117	TRP	CD1-CG-CD2	5.60	110.78	106.30
14	7	77	PRO	N-CA-CB	5.60	110.02	103.30
25	R	62	TYR	CG-CD2-CE2	5.60	125.78	121.30
9	i	166	VAL	CA-CB-CG1	-5.60	102.50	110.90
11	k	141	PHE	CB-CG-CD1	-5.60	116.88	120.80
25	R	255	VAL	CA-CB-CG2	-5.60	102.50	110.90
27	O	356	ARG	NH1-CZ-NH2	5.60	125.56	119.40
16	V	197	TYR	CB-CG-CD1	-5.59	117.64	121.00
20	Z	918	ASP	CB-CA-C	-5.59	99.21	110.40
22	S	188	TYR	O-C-N	-5.59	113.75	122.70
33	J	336	ASN	N-CA-CB	5.59	120.67	110.60
1	a	84	ASN	N-CA-CB	5.59	120.67	110.60
2	B	103	GLU	OE1-CD-OE2	5.59	130.01	123.30
25	R	300	ASP	N-CA-C	-5.59	95.90	111.00
32	M	393	ALA	N-CA-CB	5.59	117.93	110.10
9	i	144	ALA	N-CA-CB	5.59	117.93	110.10
8	1	43	LEU	CB-CG-CD1	5.59	120.51	111.00
11	k	117	TYR	CA-CB-CG	-5.59	102.78	113.40
23	P	395	ARG	NE-CZ-NH1	5.59	123.09	120.30
14	7	133	MET	CG-SD-CE	-5.59	91.26	100.20
13	m	37	ASN	N-CA-C	-5.58	95.92	111.00
1	A	19	PHE	N-CA-CB	5.58	120.65	110.60
1	a	14	ARG	NE-CZ-NH2	5.58	123.09	120.30
8	h	118	GLU	O-C-N	5.58	131.63	122.70
30	K	318	THR	CA-CB-CG2	-5.58	104.58	112.40
6	F	26	LEU	N-CA-CB	5.58	121.56	110.40
21	N	23	TYR	CB-CG-CD1	5.58	124.35	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	g	177	GLU	N-CA-CB	5.58	120.64	110.60
16	V	122	ASP	CB-CG-OD2	-5.58	113.28	118.30
22	S	51	ARG	NE-CZ-NH1	-5.58	117.51	120.30
8	h	34	TYR	CG-CD2-CE2	-5.58	116.84	121.30
3	C	5	ARG	NE-CZ-NH1	5.58	123.09	120.30
5	E	123	PHE	CB-CG-CD2	5.58	124.71	120.80
16	V	215	ASN	N-CA-CB	5.58	120.64	110.60
23	P	319	GLU	CA-C-N	5.58	132.72	117.10
29	I	67	ASP	CB-CG-OD2	-5.58	113.28	118.30
30	K	86	VAL	CG1-CB-CG2	5.58	119.82	110.90
25	R	206	ARG	NE-CZ-NH2	5.58	123.09	120.30
8	h	105	GLY	N-CA-C	-5.57	99.17	113.10
12	l	122	GLY	N-CA-C	-5.57	99.17	113.10
21	N	514	THR	CA-CB-CG2	-5.57	104.60	112.40
30	K	88	ARG	NE-CZ-NH2	-5.57	117.51	120.30
6	f	30	LYS	N-CA-CB	5.57	120.63	110.60
24	Q	70	ALA	CB-CA-C	-5.57	101.74	110.10
1	A	134	MET	N-CA-CB	5.57	120.63	110.60
27	O	319	LEU	CB-CA-C	-5.57	99.62	110.20
28	H	235	PHE	CB-CG-CD1	5.57	124.70	120.80
31	L	313	ASP	N-CA-CB	5.57	120.63	110.60
4	D	134	LEU	N-CA-C	-5.57	95.97	111.00
8	1	123	PRO	O-C-N	5.57	131.61	122.70
27	O	134	ALA	CB-CA-C	-5.57	101.75	110.10
10	j	32	GLN	N-CA-CB	5.56	120.61	110.60
5	E	15	PHE	CB-CG-CD1	-5.56	116.91	120.80
5	E	155	LEU	CB-CG-CD2	-5.56	101.54	111.00
8	1	197	PHE	CB-CG-CD1	-5.56	116.91	120.80
24	Q	321	TYR	CB-CG-CD1	-5.56	117.66	121.00
25	R	384	VAL	CA-CB-CG1	-5.56	102.56	110.90
8	h	200	ASP	CB-CG-OD1	5.56	123.31	118.30
14	n	98	ARG	NE-CZ-NH2	-5.56	117.52	120.30
22	S	48	LEU	CB-CG-CD2	5.56	120.45	111.00
26	U	189	ARG	NE-CZ-NH2	-5.56	117.52	120.30
14	n	225	SER	N-CA-CB	5.56	118.84	110.50
2	B	34	SER	N-CA-CB	5.56	118.84	110.50
15	W	4	GLU	OE1-CD-OE2	-5.56	116.63	123.30
12	l	144	ARG	NE-CZ-NH1	5.56	123.08	120.30
21	N	213	PHE	CG-CD2-CE2	-5.56	114.69	120.80
14	7	225	SER	N-CA-CB	5.56	118.83	110.50
16	V	86	VAL	CG1-CB-CG2	-5.56	102.01	110.90
3	C	81	THR	O-C-N	-5.55	113.81	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
9	2	140	PHE	CZ-CE2-CD2	-5.55	113.43	120.10
6	F	225	TYR	CB-CG-CD2	-5.55	117.67	121.00
32	M	367	LYS	O-C-N	-5.55	113.81	122.70
2	B	140	ASP	N-CA-CB	5.55	120.59	110.60
7	G	161	LYS	C-N-CA	5.55	133.96	122.30
4	D	33	ALA	N-CA-C	-5.55	96.02	111.00
12	l	228	ALA	N-CA-CB	5.55	117.87	110.10
21	N	294	PRO	N-CA-CB	5.55	109.96	103.30
32	M	276	THR	N-CA-C	-5.55	96.02	111.00
6	f	39	ARG	NE-CZ-NH2	-5.55	117.53	120.30
25	R	345	TYR	CB-CG-CD2	-5.54	117.67	121.00
1	A	104	PHE	CB-CG-CD2	5.54	124.68	120.80
6	f	187	ASP	CB-CG-OD2	5.54	123.29	118.30
27	O	302	VAL	CA-CB-CG2	5.54	119.21	110.90
16	V	202	ASP	CB-CG-OD2	-5.54	113.32	118.30
12	l	253	TYR	N-CA-CB	-5.54	100.63	110.60
24	Q	236	PHE	CB-CG-CD2	-5.54	116.92	120.80
4	d	156	TYR	N-CA-CB	5.53	120.56	110.60
21	N	921	ARG	NE-CZ-NH1	5.53	123.07	120.30
25	R	47	ALA	N-CA-CB	5.53	117.85	110.10
30	K	316	MET	N-CA-CB	5.53	120.56	110.60
9	i	171	TRP	NE1-CE2-CZ2	5.53	136.49	130.40
2	B	82	TYR	CB-CG-CD2	-5.53	117.68	121.00
1	A	135	ARG	NE-CZ-NH2	-5.53	117.53	120.30
13	m	85	PHE	CB-CG-CD2	-5.53	116.93	120.80
14	7	63	TYR	CA-CB-CG	5.53	123.90	113.40
22	S	38	LEU	CB-CG-CD1	5.53	120.39	111.00
14	n	68	ARG	NE-CZ-NH2	-5.52	117.54	120.30
10	3	102	PRO	N-CA-CB	-5.52	96.53	102.60
16	V	158	LEU	CB-CA-C	5.52	120.69	110.20
13	m	204	ILE	O-C-N	-5.52	113.87	122.70
6	f	164	ARG	CD-NE-CZ	5.52	131.33	123.60
21	N	787	MET	N-CA-CB	5.52	120.53	110.60
25	R	305	PHE	CB-CG-CD2	5.52	124.66	120.80
26	U	182	ALA	N-CA-CB	5.52	117.83	110.10
10	j	74	TYR	CG-CD2-CE2	-5.52	116.89	121.30
2	b	188	ALA	CB-CA-C	-5.51	101.83	110.10
32	M	298	ASP	CB-CG-OD1	5.51	123.26	118.30
3	c	114	ARG	NE-CZ-NH1	5.51	123.06	120.30
8	h	34	TYR	CB-CG-CD1	-5.51	117.69	121.00
16	V	229	ASP	CB-CG-OD1	5.51	123.26	118.30
16	V	174	THR	CA-CB-CG2	-5.51	104.69	112.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
28	H	176	VAL	CA-CB-CG2	5.51	119.16	110.90
8	h	198	TYR	CA-CB-CG	-5.51	102.94	113.40
22	S	68	LEU	CB-CG-CD1	5.51	120.36	111.00
21	N	908	ARG	NE-CZ-NH1	5.50	123.05	120.30
28	H	443	PHE	CG-CD1-CE1	-5.50	114.75	120.80
24	Q	273	ASN	N-CA-CB	5.50	120.50	110.60
27	O	337	LEU	O-C-N	-5.50	113.89	122.70
31	L	357	ARG	CB-CA-C	-5.50	99.39	110.40
13	m	77	LYS	N-CA-CB	-5.50	100.70	110.60
4	D	48	ARG	NE-CZ-NH1	5.50	123.05	120.30
4	D	179	TYR	CB-CG-CD1	5.50	124.30	121.00
21	N	148	SER	N-CA-CB	5.50	118.75	110.50
26	U	64	ASP	CB-CG-OD2	-5.50	113.35	118.30
30	K	116	MET	CG-SD-CE	5.50	109.00	100.20
21	N	109	TYR	CB-CG-CD2	5.50	124.30	121.00
21	N	208	ARG	NE-CZ-NH2	-5.50	117.55	120.30
1	A	58	LYS	N-CA-C	-5.50	96.16	111.00
6	f	171	TYR	CG-CD1-CE1	5.50	125.70	121.30
7	G	111	ALA	CA-C-O	5.49	131.64	120.10
23	P	67	ALA	CB-CA-C	-5.49	101.86	110.10
31	L	88	TYR	CB-CG-CD2	-5.49	117.70	121.00
9	i	240	ALA	N-CA-CB	5.49	117.79	110.10
13	6	168	TYR	CG-CD2-CE2	-5.49	116.91	121.30
31	L	180	PHE	CZ-CE2-CD2	-5.49	113.51	120.10
5	e	138	PHE	CB-CG-CD1	5.49	124.64	120.80
22	S	356	ASP	CB-CG-OD1	5.49	123.24	118.30
8	1	75	TYR	CB-CG-CD2	-5.49	117.71	121.00
24	Q	268	SER	N-CA-CB	5.49	118.73	110.50
6	f	19	LEU	N-CA-CB	5.48	121.37	110.40
14	7	49	TYR	N-CA-CB	5.48	120.47	110.60
16	V	84	ASP	N-CA-CB	5.48	120.47	110.60
21	N	771	PHE	N-CA-CB	5.48	120.47	110.60
4	d	27	VAL	CA-CB-CG2	-5.48	102.68	110.90
28	H	372	ASP	CB-CG-OD1	-5.48	113.37	118.30
21	N	490	LEU	CB-CG-CD2	-5.48	101.69	111.00
27	O	349	THR	N-CA-C	-5.48	96.22	111.00
4	d	48	ARG	NH1-CZ-NH2	5.47	125.42	119.40
23	P	66	LEU	CB-CG-CD1	5.47	120.31	111.00
27	O	38	TRP	CB-CG-CD1	5.47	134.12	127.00
29	I	412	THR	CA-CB-CG2	-5.47	104.74	112.40
33	J	57	PHE	CG-CD1-CE1	-5.47	114.78	120.80
33	J	57	PHE	N-CA-CB	5.47	120.45	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	I	125	MET	N-CA-CB	5.47	120.44	110.60
30	K	172	ALA	CB-CA-C	-5.47	101.90	110.10
1	a	212	ASP	CB-CG-OD1	5.47	123.22	118.30
15	W	160	ALA	CB-CA-C	-5.47	101.90	110.10
1	a	38	THR	CA-CB-CG2	-5.47	104.75	112.40
1	a	186	PHE	CG-CD2-CE2	-5.47	114.79	120.80
21	N	124	TYR	CG-CD1-CE1	5.47	125.67	121.30
21	N	743	PHE	CB-CG-CD2	5.47	124.63	120.80
4	d	43	VAL	N-CA-C	-5.46	96.25	111.00
7	g	86	ARG	CD-NE-CZ	5.46	131.25	123.60
26	U	163	ALA	CB-CA-C	-5.46	101.91	110.10
12	5	209	THR	O-C-N	5.46	131.44	122.70
12	5	253	TYR	CG-CD1-CE1	-5.46	116.93	121.30
2	b	104	TYR	CG-CD2-CE2	-5.46	116.93	121.30
1	A	192	ASP	CB-CG-OD1	5.46	123.21	118.30
5	E	199	LEU	CB-CG-CD1	5.46	120.28	111.00
2	b	224	TYR	CB-CG-CD2	5.46	124.27	121.00
29	I	424	MET	CG-SD-CE	-5.46	91.47	100.20
31	L	68	ARG	NE-CZ-NH2	-5.46	117.57	120.30
6	F	89	ARG	NE-CZ-NH2	-5.45	117.57	120.30
12	5	238	ALA	CB-CA-C	-5.45	101.92	110.10
22	S	481	TYR	CA-C-N	5.45	132.37	117.10
18	X	125	MET	CG-SD-CE	-5.45	91.48	100.20
5	E	141	ALA	N-CA-CB	5.45	117.73	110.10
25	R	390	THR	CA-CB-CG2	-5.45	104.77	112.40
12	l	260	TRP	CE2-CD2-CE3	5.45	125.23	118.70
29	I	182	SER	N-CA-CB	5.45	118.67	110.50
24	Q	167	LYS	N-CA-CB	5.44	120.40	110.60
4	d	83	ARG	NE-CZ-NH2	5.44	123.02	120.30
6	f	24	TYR	CB-CG-CD1	5.44	124.27	121.00
27	O	144	VAL	CA-CB-CG2	-5.44	102.73	110.90
23	P	69	ARG	NE-CZ-NH1	-5.44	117.58	120.30
13	m	28	PHE	CG-CD1-CE1	5.44	126.78	120.80
9	2	246	ILE	N-CA-C	-5.44	96.31	111.00
21	N	690	HIS	CB-CA-C	-5.44	99.52	110.40
28	H	341	ASP	CB-CG-OD1	-5.44	113.41	118.30
2	B	60	THR	CA-CB-CG2	-5.44	104.79	112.40
1	a	67	THR	CA-CB-CG2	-5.44	104.79	112.40
10	3	40	PHE	N-CA-C	-5.44	96.32	111.00
15	W	9	VAL	CA-CB-CG2	-5.43	102.75	110.90
27	O	267	ASP	N-CA-CB	5.43	120.38	110.60
33	J	56	ARG	NE-CZ-NH1	5.43	123.02	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
32	M	284	ASP	CB-CG-OD2	5.43	123.19	118.30
33	J	79	VAL	N-CA-C	-5.43	96.33	111.00
19	Y	36	GLU	N-CA-C	-5.43	96.33	111.00
33	J	47	GLN	N-CA-CB	5.43	120.37	110.60
25	R	355	SER	O-C-N	5.43	131.38	122.70
28	H	273	ARG	NH1-CZ-NH2	-5.43	113.43	119.40
5	e	93	ARG	NH1-CZ-NH2	-5.43	113.43	119.40
6	f	6	TYR	CG-CD1-CE1	-5.43	116.96	121.30
12	5	193	ASP	CB-CG-OD1	5.43	123.18	118.30
16	V	298	ALA	N-CA-CB	5.42	117.69	110.10
26	U	277	TYR	CG-CD2-CE2	-5.42	116.96	121.30
25	R	328	PHE	N-CA-CB	-5.42	100.84	110.60
31	L	404	ARG	NE-CZ-NH2	-5.42	117.59	120.30
7	G	147	HIS	N-CA-CB	5.42	120.36	110.60
29	I	85	PHE	CB-CG-CD2	5.42	124.59	120.80
10	j	160	PRO	N-CD-CG	5.42	111.33	103.20
26	U	5	HIS	N-CA-CB	5.42	120.35	110.60
27	O	248	TYR	CG-CD1-CE1	5.42	125.64	121.30
7	G	112	PHE	CB-CG-CD1	-5.42	117.01	120.80
33	J	6	THR	CA-CB-CG2	-5.42	104.82	112.40
22	S	188	TYR	CB-CG-CD1	-5.42	117.75	121.00
22	S	248	ASP	CB-CG-OD2	-5.42	113.43	118.30
26	U	235	LEU	CB-CG-CD2	5.41	120.20	111.00
27	O	101	ASP	CB-CG-OD2	5.41	123.17	118.30
32	M	179	THR	CA-CB-CG2	-5.41	104.82	112.40
21	N	23	TYR	CG-CD2-CE2	-5.41	116.97	121.30
28	H	61	ALA	N-CA-CB	5.41	117.67	110.10
11	k	121	TYR	CB-CG-CD1	-5.41	117.75	121.00
4	D	119	ARG	NE-CZ-NH2	-5.41	117.60	120.30
16	V	82	ALA	CB-CA-C	-5.41	101.99	110.10
20	Z	287	ARG	NE-CZ-NH2	-5.41	117.60	120.30
30	K	95	VAL	CG1-CB-CG2	5.41	119.55	110.90
6	f	223	THR	N-CA-CB	5.41	120.57	110.30
9	2	202	VAL	CB-CA-C	-5.41	101.13	111.40
15	W	60	ARG	NE-CZ-NH1	-5.40	117.60	120.30
12	l	212	TYR	CG-CD1-CE1	-5.40	116.98	121.30
6	F	11	VAL	CA-CB-CG1	-5.40	102.80	110.90
7	G	66	LYS	N-CA-CB	5.40	120.32	110.60
21	N	544	GLU	N-CA-CB	5.40	120.32	110.60
29	I	340	ARG	NE-CZ-NH2	-5.40	117.60	120.30
7	g	54	ILE	N-CA-C	-5.39	96.44	111.00
10	j	62	THR	O-C-N	5.39	131.33	122.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	G	231	VAL	CA-CB-CG2	-5.39	102.81	110.90
3	c	6	TYR	C-N-CA	5.39	135.18	121.70
13	6	65	PHE	CB-CG-CD1	5.39	124.57	120.80
24	Q	67	THR	C-N-CA	5.39	135.18	121.70
33	J	371	ARG	NE-CZ-NH2	-5.39	117.61	120.30
6	f	218	LYS	CA-CB-CG	5.39	125.25	113.40
16	V	254	ARG	CD-NE-CZ	5.39	131.14	123.60
2	b	224	TYR	N-CA-CB	5.39	120.30	110.60
20	Z	746	ILE	CB-CA-C	5.38	122.37	111.60
7	g	160	TYR	CB-CG-CD2	5.38	124.23	121.00
11	4	195	PHE	CB-CG-CD1	5.38	124.57	120.80
12	5	108	LYS	CB-CA-C	-5.38	99.64	110.40
24	Q	23	ALA	CB-CA-C	-5.38	102.03	110.10
2	b	40	THR	N-CA-CB	5.38	120.53	110.30
10	j	164	PHE	CB-CG-CD1	5.38	124.57	120.80
23	P	104	LEU	N-CA-CB	5.38	121.16	110.40
24	Q	400	TYR	CG-CD1-CE1	5.38	125.61	121.30
32	M	425	ARG	NE-CZ-NH2	5.38	122.99	120.30
6	f	128	TYR	CB-CG-CD2	-5.38	117.77	121.00
24	Q	197	SER	CB-CA-C	-5.38	99.88	110.10
32	M	342	ARG	NE-CZ-NH2	5.38	122.99	120.30
22	S	104	VAL	CA-CB-CG1	-5.38	102.83	110.90
29	I	316	PHE	O-C-N	5.38	131.31	122.70
30	K	77	ARG	NE-CZ-NH1	5.38	122.99	120.30
6	f	189	LEU	CB-CG-CD1	5.38	120.14	111.00
8	h	197	PHE	CZ-CE2-CD2	5.38	126.55	120.10
16	V	258	GLU	N-CA-CB	5.38	120.28	110.60
20	Z	255	LEU	CA-CB-CG	5.38	127.67	115.30
21	N	422	TYR	CB-CG-CD2	-5.38	117.78	121.00
3	c	54	SER	N-CA-CB	5.37	118.56	110.50
1	A	140	ILE	CA-CB-CG1	-5.37	100.79	111.00
22	S	326	ASP	CB-CG-OD1	-5.37	113.46	118.30
2	b	216	ASP	CB-CG-OD1	5.37	123.14	118.30
10	j	40	PHE	CG-CD2-CE2	5.37	126.71	120.80
7	g	115	ARG	NE-CZ-NH2	-5.37	117.61	120.30
17	T	199	PHE	CB-CG-CD2	5.37	124.56	120.80
27	O	352	TRP	CB-CG-CD1	5.37	133.98	127.00
10	3	85	GLU	CA-CB-CG	-5.37	101.60	113.40
20	Z	255	LEU	CD1-CG-CD2	5.37	126.60	110.50
10	3	60	VAL	CA-CB-CG1	5.36	118.95	110.90
13	6	44	ASN	CB-CA-C	-5.36	99.67	110.40
17	T	14	ALA	N-CA-CB	5.36	117.61	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
21	N	125	THR	CA-CB-CG2	-5.36	104.89	112.40
11	k	98	TYR	CB-CG-CD2	-5.36	117.78	121.00
21	N	518	ALA	CB-CA-C	-5.36	102.06	110.10
14	n	49	TYR	CB-CG-CD1	-5.36	117.78	121.00
1	A	19	PHE	CB-CA-C	-5.36	99.68	110.40
1	a	30	TYR	CG-CD2-CE2	5.36	125.59	121.30
5	e	51	GLU	N-CA-C	-5.36	96.54	111.00
6	f	123	TYR	CB-CG-CD2	5.36	124.22	121.00
3	C	71	ASP	CB-CG-OD2	5.36	123.12	118.30
12	l	163	TYR	CB-CG-CD2	5.36	124.21	121.00
21	N	69	TYR	CB-CG-CD1	-5.36	117.79	121.00
30	K	235	ILE	N-CA-C	-5.35	96.55	111.00
32	M	354	GLU	OE1-CD-OE2	5.35	129.72	123.30
6	F	163	ALA	CB-CA-C	-5.35	102.07	110.10
13	6	182	TYR	CB-CG-CD1	5.35	124.21	121.00
16	V	269	ARG	NE-CZ-NH1	5.35	122.98	120.30
27	O	26	PHE	CB-CG-CD1	-5.35	117.05	120.80
28	H	346	ARG	NE-CZ-NH1	5.35	122.98	120.30
27	O	312	ASP	CB-CG-OD2	-5.35	113.48	118.30
13	m	196	PHE	CD1-CE1-CZ	-5.35	113.68	120.10
10	3	154	TYR	CB-CG-CD1	5.35	124.21	121.00
14	7	189	ARG	CD-NE-CZ	-5.35	116.11	123.60
30	K	401	VAL	CA-CB-CG1	-5.35	102.88	110.90
2	b	157	PHE	CB-CG-CD1	-5.35	117.06	120.80
11	k	138	PHE	CG-CD1-CE1	-5.35	114.92	120.80
31	L	170	MET	N-CA-CB	5.35	120.23	110.60
32	M	376	TRP	CE2-CD2-CG	-5.35	103.02	107.30
32	M	313	ASP	CB-CG-OD2	5.35	123.11	118.30
4	d	89	ALA	CB-CA-C	-5.34	102.08	110.10
8	h	70	TYR	CG-CD1-CE1	-5.34	117.02	121.30
26	U	15	LEU	CB-CG-CD1	5.34	120.08	111.00
5	e	138	PHE	CB-CG-CD2	-5.34	117.06	120.80
21	N	599	TYR	CB-CG-CD1	5.34	124.21	121.00
8	h	39	VAL	CA-CB-CG1	-5.34	102.89	110.90
2	B	101	TYR	CB-CG-CD1	-5.34	117.80	121.00
25	R	324	ARG	NE-CZ-NH2	-5.34	117.63	120.30
30	K	134	SER	N-CA-CB	5.34	118.51	110.50
2	B	244	ASN	CB-CA-C	-5.34	99.72	110.40
14	n	194	ARG	NE-CZ-NH2	-5.34	117.63	120.30
16	V	214	MET	CG-SD-CE	-5.34	91.66	100.20
22	S	54	TRP	CB-CG-CD1	5.34	133.94	127.00
5	E	95	ALA	CB-CA-C	-5.33	102.10	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
8	1	152	ARG	N-CA-CB	5.33	120.20	110.60
17	T	234	TYR	CA-CB-CG	-5.33	103.26	113.40
2	B	68	THR	CA-CB-OG1	5.33	120.20	109.00
2	B	179	TRP	CD1-CG-CD2	5.33	110.56	106.30
11	k	98	TYR	CB-CG-CD1	5.33	124.20	121.00
16	V	231	GLU	OE1-CD-OE2	5.33	129.70	123.30
21	N	826	GLU	N-CA-CB	5.33	120.19	110.60
5	e	12	VAL	CA-CB-CG2	5.33	118.89	110.90
28	H	457	PHE	CB-CG-CD2	-5.33	117.07	120.80
27	O	8	ASP	CB-CG-OD1	-5.33	113.51	118.30
2	B	43	VAL	CA-CB-CG1	-5.33	102.91	110.90
8	1	190	ALA	CB-CA-C	5.33	118.09	110.10
17	T	15	PHE	CD1-CE1-CZ	5.33	126.49	120.10
30	K	414	GLN	O-C-N	5.33	131.22	122.70
4	d	102	ASP	CB-CG-OD2	5.32	123.09	118.30
9	i	234	PHE	CB-CG-CD1	-5.32	117.07	120.80
21	N	884	PHE	CB-CG-CD2	5.32	124.53	120.80
22	S	25	TYR	CG-CD2-CE2	-5.32	117.04	121.30
21	N	243	LYS	N-CA-CB	-5.32	101.02	110.60
28	H	172	MET	CG-SD-CE	-5.32	91.69	100.20
6	f	35	THR	N-CA-CB	5.32	120.40	110.30
21	N	896	PHE	CB-CG-CD1	5.32	124.52	120.80
27	O	344	VAL	CA-CB-CG1	-5.32	102.92	110.90
5	e	210	GLU	N-CA-CB	5.32	120.17	110.60
16	V	23	THR	CA-CB-OG1	5.32	120.16	109.00
13	6	138	SER	N-CA-CB	5.31	118.47	110.50
14	7	216	VAL	CA-CB-CG1	5.31	118.87	110.90
4	D	114	ALA	N-CA-CB	5.31	117.53	110.10
13	m	29	ALA	N-CA-CB	5.31	117.53	110.10
8	1	177	SER	N-CA-CB	5.31	118.46	110.50
19	Y	15	ASP	CB-CG-OD2	5.31	123.08	118.30
24	Q	23	ALA	N-CA-CB	5.31	117.53	110.10
24	Q	75	ARG	NH1-CZ-NH2	-5.31	113.56	119.40
29	I	118	ALA	CB-CA-C	-5.31	102.14	110.10
33	J	130	ALA	N-CA-C	-5.31	96.67	111.00
11	k	135	TYR	CG-CD1-CE1	-5.30	117.06	121.30
14	7	152	VAL	N-CA-CB	5.30	123.17	111.50
16	V	19	GLY	N-CA-C	-5.30	99.84	113.10
25	R	267	LYS	CD-CE-NZ	5.30	123.90	111.70
26	U	154	PHE	CG-CD1-CE1	-5.30	114.97	120.80
23	P	221	TYR	N-CA-CB	5.30	120.15	110.60
25	R	98	LEU	CB-CG-CD2	5.30	120.02	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	I	265	ARG	NE-CZ-NH2	-5.30	117.65	120.30
7	G	103	TYR	CB-CG-CD2	-5.30	117.82	121.00
12	5	239	ALA	N-CA-CB	5.30	117.52	110.10
1	a	30	TYR	CD1-CG-CD2	-5.30	112.07	117.90
8	h	54	ARG	NE-CZ-NH1	5.30	122.95	120.30
5	E	222	ILE	N-CA-C	-5.30	96.69	111.00
16	V	108	TYR	N-CA-CB	5.30	120.14	110.60
19	Y	86	ARG	NE-CZ-NH2	5.30	122.95	120.30
21	N	397	SER	N-CA-CB	5.30	118.45	110.50
5	E	187	TRP	N-CA-C	-5.30	96.69	111.00
7	G	26	TYR	CD1-CE1-CZ	5.30	124.57	119.80
14	7	222	ALA	N-CA-CB	5.30	117.52	110.10
7	g	163	ALA	N-CA-CB	5.30	117.52	110.10
2	B	57	MET	CA-CB-CG	-5.30	104.30	113.30
8	1	202	TYR	CG-CD1-CE1	-5.30	117.06	121.30
24	Q	278	VAL	CB-CA-C	-5.30	101.34	111.40
25	R	124	ASP	CB-CG-OD2	5.30	123.07	118.30
16	V	215	ASN	CB-CA-C	-5.29	99.81	110.40
17	T	149	ASP	CB-CG-OD1	5.29	123.07	118.30
2	b	117	ILE	O-C-N	-5.29	114.23	122.70
4	d	128	PRO	C-N-CA	5.29	134.93	121.70
14	n	162	TYR	CD1-CE1-CZ	5.29	124.56	119.80
24	Q	394	ASN	CB-CA-C	-5.29	99.81	110.40
30	K	107	THR	N-CA-CB	5.29	120.36	110.30
31	L	383	SER	N-CA-CB	5.29	118.44	110.50
31	L	193	LEU	CB-CG-CD2	-5.29	102.00	111.00
32	M	38	ASP	CB-CG-OD1	-5.29	113.54	118.30
9	2	217	ARG	NE-CZ-NH2	-5.29	117.66	120.30
23	P	194	SER	N-CA-CB	5.29	118.43	110.50
24	Q	163	ARG	CD-NE-CZ	-5.29	116.20	123.60
14	n	83	VAL	CA-CB-CG2	-5.29	102.97	110.90
30	K	44	ASN	N-CA-CB	5.29	120.11	110.60
12	l	253	TYR	CD1-CE1-CZ	-5.28	115.05	119.80
2	B	65	SER	N-CA-C	-5.28	96.74	111.00
25	R	62	TYR	CZ-CE2-CD2	-5.28	115.04	119.80
25	R	179	PHE	CB-CG-CD1	-5.28	117.10	120.80
30	K	49	PHE	CB-CG-CD2	-5.28	117.10	120.80
6	f	82	ARG	NE-CZ-NH2	-5.28	117.66	120.30
13	m	182	TYR	CG-CD1-CE1	-5.28	117.08	121.30
3	C	6	TYR	CD1-CE1-CZ	-5.28	115.05	119.80
3	C	20	TYR	CG-CD1-CE1	-5.28	117.08	121.30
28	H	163	VAL	CA-CB-CG1	-5.28	102.98	110.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	4	117	TYR	N-CA-CB	5.28	120.10	110.60
27	O	172	TYR	N-CA-CB	5.28	120.09	110.60
13	m	83	TYR	CZ-CE2-CD2	5.27	124.55	119.80
9	2	46	ASP	CB-CG-OD1	5.27	123.05	118.30
24	Q	249	LEU	CB-CG-CD1	5.27	119.96	111.00
26	U	53	ALA	N-CA-CB	5.27	117.48	110.10
15	W	101	ARG	NE-CZ-NH1	5.27	122.94	120.30
29	I	310	LEU	CB-CG-CD2	5.27	119.96	111.00
8	1	79	TYR	CG-CD1-CE1	-5.27	117.08	121.30
17	T	211	PHE	CB-CG-CD1	-5.27	117.11	120.80
8	1	34	TYR	CD1-CG-CD2	5.27	123.69	117.90
10	3	98	ARG	NE-CZ-NH1	5.27	122.93	120.30
24	Q	27	TYR	CG-CD2-CE2	5.27	125.51	121.30
13	m	106	TYR	CZ-CE2-CD2	5.27	124.54	119.80
26	U	93	TYR	CG-CD2-CE2	-5.27	117.09	121.30
30	K	289	ASP	O-C-N	5.27	131.12	122.70
31	L	241	ALA	O-C-N	5.26	131.12	122.70
18	X	27	ILE	N-CA-C	-5.26	96.79	111.00
11	4	151	ASP	N-CA-CB	5.26	120.07	110.60
26	U	24	ARG	NE-CZ-NH2	-5.26	117.67	120.30
4	d	204	GLN	N-CA-CB	5.26	120.07	110.60
12	l	196	ARG	NE-CZ-NH1	-5.26	117.67	120.30
4	D	201	GLU	CB-CG-CD	-5.26	100.00	114.20
19	Y	79	ALA	CB-CA-C	-5.26	102.21	110.10
23	P	286	ASN	C-N-CA	5.26	134.85	121.70
4	d	138	PHE	CB-CG-CD1	-5.26	117.12	120.80
14	7	243	LYS	C-N-CA	5.26	134.84	121.70
6	f	128	TYR	CZ-CE2-CD2	5.25	124.53	119.80
12	l	80	ALA	CB-CA-C	-5.25	102.22	110.10
12	l	196	ARG	CG-CD-NE	-5.25	100.77	111.80
8	1	100	ASP	CB-CG-OD1	5.25	123.03	118.30
13	6	61	SER	N-CA-C	-5.25	96.81	111.00
1	A	91	ARG	N-CA-CB	5.25	120.05	110.60
6	F	187	ASP	CB-CG-OD1	5.25	123.03	118.30
15	W	116	SER	CA-C-O	-5.25	109.07	120.10
22	S	209	ILE	CG1-CB-CG2	-5.25	99.85	111.40
28	H	376	GLU	OE1-CD-OE2	-5.25	117.00	123.30
8	h	70	TYR	CB-CG-CD2	-5.25	117.85	121.00
16	V	218	LYS	CA-CB-CG	5.25	124.95	113.40
5	e	154	GLN	OE1-CD-NE2	5.25	133.97	121.90
3	C	213	PHE	N-CA-CB	5.25	120.05	110.60
28	H	149	LEU	CB-CG-CD2	5.25	119.92	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	c	161	LYS	CB-CA-C	-5.25	99.91	110.40
4	d	207	ALA	N-CA-CB	5.25	117.45	110.10
23	P	201	ARG	NH1-CZ-NH2	-5.25	113.63	119.40
9	2	57	ASP	CB-CG-OD2	5.24	123.02	118.30
22	S	229	THR	CA-CB-CG2	-5.24	105.06	112.40
28	H	241	ASP	N-CA-C	-5.24	96.85	111.00
32	M	339	ARG	N-CA-CB	5.24	120.03	110.60
7	g	236	LEU	CB-CG-CD2	5.24	119.91	111.00
31	L	209	ARG	NE-CZ-NH1	5.24	122.92	120.30
32	M	270	ALA	N-CA-CB	5.24	117.43	110.10
33	J	110	SER	N-CA-CB	5.24	118.36	110.50
25	R	173	THR	N-CA-CB	5.24	120.25	110.30
13	m	120	ALA	CB-CA-C	-5.24	102.25	110.10
1	A	83	VAL	CG1-CB-CG2	-5.24	102.52	110.90
22	S	286	TYR	CB-CG-CD2	5.24	124.14	121.00
30	K	322	ASP	CB-CG-OD1	5.24	123.01	118.30
9	2	227	GLU	N-CA-CB	5.23	120.02	110.60
16	V	140	VAL	CA-CB-CG2	-5.23	103.05	110.90
27	O	53	LYS	CB-CA-C	-5.23	99.93	110.40
4	d	111	ARG	NE-CZ-NH2	5.23	122.92	120.30
4	d	159	TRP	CZ3-CH2-CZ2	-5.23	115.32	121.60
13	m	208	ASP	CB-CG-OD2	-5.23	113.59	118.30
25	R	125	GLU	N-CA-C	-5.23	96.87	111.00
30	K	396	ARG	NH1-CZ-NH2	-5.23	113.64	119.40
11	k	84	VAL	CA-CB-CG2	-5.23	103.05	110.90
13	m	34	ASP	CB-CG-OD2	5.23	123.01	118.30
26	U	13	LEU	CB-CG-CD2	-5.23	102.11	111.00
30	K	242	PHE	CB-CG-CD2	-5.23	117.14	120.80
2	b	142	PHE	CB-CG-CD2	-5.23	117.14	120.80
23	P	415	TRP	O-C-N	-5.23	114.34	122.70
29	I	346	ARG	N-CA-CB	5.23	120.01	110.60
4	d	199	LEU	O-C-N	-5.22	114.34	122.70
24	Q	334	HIS	CA-CB-CG	-5.22	104.72	113.60
7	G	132	PHE	CB-CG-CD2	5.22	124.45	120.80
9	2	46	ASP	CB-CG-OD2	-5.22	113.60	118.30
23	P	103	TYR	CD1-CE1-CZ	-5.22	115.10	119.80
6	f	113	CYS	CA-CB-SG	5.22	123.39	114.00
12	l	80	ALA	N-CA-CB	5.22	117.41	110.10
26	U	178	VAL	CA-CB-CG1	-5.22	103.07	110.90
32	M	357	ARG	NE-CZ-NH1	-5.22	117.69	120.30
27	O	176	SER	N-CA-CB	5.22	118.33	110.50
31	L	334	ASP	CB-CG-OD1	5.22	123.00	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	C	102	TYR	CB-CG-CD1	-5.22	117.87	121.00
10	j	122	ALA	N-CA-CB	5.21	117.40	110.10
1	A	162	TYR	CB-CG-CD1	5.21	124.13	121.00
2	B	101	TYR	CB-CG-CD2	5.21	124.13	121.00
6	F	145	LEU	CB-CG-CD1	5.21	119.86	111.00
17	T	89	TYR	CG-CD1-CE1	-5.21	117.13	121.30
6	f	214	ALA	N-CA-C	-5.21	96.93	111.00
10	j	176	ASP	CB-CG-OD1	5.21	122.99	118.30
21	N	428	VAL	CA-CB-CG2	5.21	118.72	110.90
21	N	638	ILE	CB-CA-C	-5.21	101.18	111.60
26	U	154	PHE	CB-CG-CD1	-5.21	117.15	120.80
30	K	99	PHE	CB-CG-CD1	-5.21	117.15	120.80
1	a	205	PHE	CB-CG-CD1	5.21	124.45	120.80
2	b	7	PHE	N-CA-CB	5.21	119.98	110.60
7	g	35	THR	CA-CB-CG2	-5.21	105.11	112.40
1	a	74	CYS	N-CA-C	-5.21	96.94	111.00
2	b	236	ARG	N-CA-C	-5.21	96.94	111.00
9	2	183	LEU	CB-CG-CD1	5.21	119.85	111.00
25	R	70	TYR	CB-CG-CD1	5.21	124.12	121.00
25	R	392	ARG	NH1-CZ-NH2	5.21	125.13	119.40
26	U	180	ASP	CB-CG-OD2	5.21	122.98	118.30
13	6	108	LYS	N-CA-C	-5.20	96.95	111.00
23	P	175	GLU	OE1-CD-OE2	5.20	129.54	123.30
24	Q	65	TYR	CB-CG-CD2	-5.20	117.88	121.00
24	Q	237	SER	O-C-N	5.20	131.03	122.70
33	J	75	VAL	CA-CB-CG1	5.20	118.70	110.90
3	c	157	TYR	CB-CG-CD2	-5.20	117.88	121.00
3	c	213	PHE	N-CA-CB	5.20	119.96	110.60
5	e	32	LYS	CB-CG-CD	5.20	125.12	111.60
7	g	181	ASP	CB-CG-OD2	5.20	122.98	118.30
9	i	60	CYS	N-CA-CB	5.20	119.96	110.60
11	4	107	TYR	CG-CD2-CE2	5.20	125.46	121.30
30	K	346	ARG	NE-CZ-NH1	5.20	122.90	120.30
2	b	182	GLU	N-CA-CB	5.20	119.96	110.60
2	B	11	THR	CA-CB-OG1	5.20	119.92	109.00
27	O	344	VAL	CG1-CB-CG2	5.20	119.22	110.90
32	M	156	LEU	CB-CG-CD2	5.20	119.84	111.00
7	g	72	ARG	NE-CZ-NH2	-5.20	117.70	120.30
14	n	234	ASP	CB-CG-OD2	-5.20	113.62	118.30
11	4	132	ALA	N-CA-CB	5.20	117.38	110.10
21	N	588	VAL	CG1-CB-CG2	-5.20	102.58	110.90
22	S	114	TYR	CD1-CE1-CZ	-5.20	115.12	119.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	E	192	THR	N-CA-C	-5.20	96.97	111.00
20	Z	550	PHE	CB-CG-CD2	-5.20	117.16	120.80
21	N	649	VAL	CG1-CB-CG2	5.20	119.21	110.90
28	H	418	GLU	N-CA-CB	5.19	119.95	110.60
4	D	224	LEU	CB-CG-CD1	-5.19	102.17	111.00
6	f	226	ASP	CB-CG-OD1	-5.19	113.63	118.30
22	S	481	TYR	CD1-CE1-CZ	-5.19	115.13	119.80
4	d	120	TYR	CG-CD2-CE2	-5.19	117.15	121.30
7	G	203	ALA	CB-CA-C	5.19	117.88	110.10
32	M	65	ASN	N-CA-CB	5.19	119.94	110.60
14	n	185	ASN	CB-CG-OD1	-5.19	111.23	121.60
20	Z	767	TYR	CB-CG-CD2	-5.19	117.89	121.00
24	Q	170	ASP	CB-CG-OD1	-5.19	113.63	118.30
26	U	32	ARG	NE-CZ-NH1	-5.19	117.71	120.30
27	O	135	ARG	NE-CZ-NH2	-5.19	117.71	120.30
30	K	169	VAL	N-CA-C	-5.18	97.00	111.00
32	M	228	LYS	N-CA-CB	5.18	119.93	110.60
4	D	45	GLY	N-CA-C	-5.18	100.14	113.10
15	W	20	ASP	CB-CG-OD2	-5.18	113.64	118.30
20	Z	248	TYR	N-CA-CB	5.18	119.93	110.60
24	Q	112	ASP	CB-CG-OD1	5.18	122.97	118.30
24	Q	306	TYR	CD1-CE1-CZ	-5.18	115.14	119.80
25	R	209	ARG	NE-CZ-NH2	-5.18	117.71	120.30
29	I	150	HIS	CA-CB-CG	5.18	122.41	113.60
1	a	147	ASP	CB-CG-OD2	-5.18	113.64	118.30
3	c	103	ASN	N-CA-CB	5.18	119.92	110.60
4	d	167	ASN	N-CA-CB	5.18	119.92	110.60
10	j	103	TYR	CZ-CE2-CD2	5.18	124.46	119.80
1	A	41	ASN	N-CA-CB	5.18	119.92	110.60
23	P	405	PRO	N-CA-CB	5.18	109.52	103.30
29	I	202	LEU	CB-CG-CD2	5.18	119.81	111.00
32	M	406	GLY	O-C-N	5.18	130.99	122.70
5	E	121	LEU	CB-CA-C	-5.18	100.37	110.20
33	J	71	TYR	CB-CG-CD2	-5.18	117.89	121.00
9	i	211	LYS	CA-CB-CG	5.17	124.78	113.40
27	O	162	SER	N-CA-CB	5.17	118.26	110.50
30	K	398	ASN	N-CA-CB	5.17	119.92	110.60
4	D	148	TYR	CB-CG-CD1	-5.17	117.90	121.00
9	2	119	TYR	CB-CG-CD1	-5.17	117.90	121.00
26	U	20	ASP	O-C-N	-5.17	114.43	122.70
3	c	13	PHE	CB-CA-C	-5.17	100.06	110.40
21	N	624	ALA	N-CA-CB	5.17	117.34	110.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
29	I	71	LEU	CB-CG-CD2	5.17	119.78	111.00
10	3	119	PRO	N-CD-CG	5.17	110.95	103.20
20	Z	729	GLU	CB-CA-C	-5.17	100.07	110.40
19	Y	83	ARG	O-C-N	-5.17	114.44	122.70
21	N	161	TYR	CD1-CE1-CZ	-5.17	115.15	119.80
22	S	399	TYR	CB-CG-CD2	-5.17	117.90	121.00
11	k	50	ALA	CB-CA-C	-5.16	102.36	110.10
23	P	182	GLU	O-C-N	-5.16	114.44	122.70
28	H	462	ARG	NE-CZ-NH2	-5.16	117.72	120.30
31	L	81	ILE	N-CA-CB	5.16	122.67	110.80
16	V	109	HIS	CA-CB-CG	5.16	122.38	113.60
32	M	291	PHE	CZ-CE2-CD2	-5.16	113.91	120.10
2	b	70	ASP	CB-CG-OD2	-5.16	113.66	118.30
6	f	19	LEU	CB-CA-C	-5.16	100.39	110.20
10	j	71	THR	CA-CB-CG2	-5.16	105.17	112.40
5	E	250	GLU	OE1-CD-OE2	5.16	129.49	123.30
7	G	151	LEU	N-CA-C	-5.16	97.07	111.00
5	e	48	LEU	CB-CA-C	-5.16	100.40	110.20
21	N	699	ALA	CB-CA-C	-5.16	102.36	110.10
21	N	175	ASP	CB-CG-OD2	-5.16	113.66	118.30
27	O	62	TYR	CD1-CE1-CZ	5.16	124.44	119.80
3	c	22	VAL	CB-CA-C	-5.16	101.61	111.40
10	j	103	TYR	CG-CD2-CE2	-5.16	117.18	121.30
2	B	104	TYR	CD1-CG-CD2	5.16	123.57	117.90
17	T	60	ARG	NE-CZ-NH1	5.16	122.88	120.30
21	N	161	TYR	CB-CG-CD2	-5.16	117.91	121.00
25	R	47	ALA	CB-CA-C	-5.16	102.37	110.10
14	n	76	ILE	N-CA-C	-5.15	97.08	111.00
6	F	94	TYR	CB-CG-CD2	-5.15	117.91	121.00
8	1	183	ARG	NE-CZ-NH2	-5.15	117.72	120.30
24	Q	221	MET	CA-CB-CG	5.15	122.06	113.30
33	J	32	LEU	CB-CG-CD2	5.15	119.76	111.00
3	c	205	ALA	N-CA-CB	5.15	117.31	110.10
12	l	216	ASP	CB-CG-OD2	-5.15	113.66	118.30
25	R	255	VAL	CA-CB-CG1	5.15	118.63	110.90
33	J	348	GLU	CB-CG-CD	-5.15	100.29	114.20
17	T	266	TYR	CG-CD1-CE1	5.15	125.42	121.30
3	c	226	TYR	CD1-CG-CD2	5.15	123.56	117.90
16	V	61	TYR	CD1-CE1-CZ	5.15	124.43	119.80
24	Q	427	PHE	O-C-N	5.15	130.94	122.70
2	b	82	TYR	CG-CD2-CE2	-5.15	117.18	121.30
6	f	216	VAL	N-CA-C	-5.15	97.11	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
27	O	202	SER	O-C-N	-5.15	114.47	122.70
2	b	10	THR	CA-CB-CG2	-5.14	105.20	112.40
21	N	826	GLU	CB-CA-C	-5.14	100.11	110.40
24	Q	155	LEU	CB-CA-C	-5.14	100.42	110.20
12	l	165	TYR	CB-CG-CD2	-5.14	117.92	121.00
12	5	249	SER	CB-CA-C	-5.14	100.33	110.10
13	6	225	TYR	CB-CG-CD1	-5.14	117.91	121.00
23	P	107	SER	N-CA-CB	5.14	118.21	110.50
3	c	146	TYR	N-CA-CB	5.14	119.85	110.60
7	g	14	VAL	CB-CA-C	5.14	121.17	111.40
11	k	148	TYR	CB-CG-CD2	-5.14	117.92	121.00
14	n	246	GLN	CB-CA-C	-5.14	100.12	110.40
1	A	89	ASP	CB-CA-C	-5.14	100.12	110.40
6	F	161	ILE	CG1-CB-CG2	5.14	122.71	111.40
21	N	338	PHE	CG-CD1-CE1	5.14	126.45	120.80
33	J	87	LYS	N-CA-CB	5.14	119.85	110.60
24	Q	254	SER	C-N-CA	5.14	134.54	121.70
30	K	340	PHE	CB-CG-CD2	-5.13	117.20	120.80
6	f	98	VAL	CA-CB-CG1	5.13	118.60	110.90
16	V	196	TYR	CZ-CE2-CD2	5.13	124.42	119.80
29	I	56	LYS	N-CA-CB	5.13	119.84	110.60
8	h	96	TYR	CG-CD1-CE1	-5.13	117.20	121.30
30	K	236	ARG	NH1-CZ-NH2	-5.13	113.76	119.40
1	a	19	PHE	CD1-CE1-CZ	-5.13	113.95	120.10
5	e	103	TYR	CB-CG-CD2	-5.13	117.92	121.00
11	k	11	ASP	CB-CG-OD1	-5.13	113.69	118.30
13	6	155	MET	CA-CB-CG	5.13	122.01	113.30
21	N	570	ARG	NE-CZ-NH2	5.13	122.86	120.30
22	S	61	SER	N-CA-CB	5.13	118.19	110.50
32	M	423	GLN	CB-CA-C	-5.13	100.15	110.40
3	C	69	LEU	CB-CA-C	-5.12	100.47	110.20
4	D	158	SER	N-CA-CB	5.12	118.19	110.50
15	W	69	PHE	N-CA-CB	5.12	119.82	110.60
18	X	14	VAL	CG1-CB-CG2	5.12	119.09	110.90
30	K	172	ALA	N-CA-CB	5.12	117.27	110.10
12	5	272	PHE	CG-CD2-CE2	-5.12	115.17	120.80
13	6	155	MET	CG-SD-CE	-5.12	92.01	100.20
21	N	325	PHE	CB-CG-CD2	-5.12	117.22	120.80
21	N	762	ARG	CA-CB-CG	5.12	124.66	113.40
21	N	504	TYR	CB-CG-CD2	-5.12	117.93	121.00
9	2	193	TRP	CB-CG-CD1	5.12	133.65	127.00
15	W	173	THR	CA-CB-CG2	-5.12	105.24	112.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
17	T	163	LEU	CB-CG-CD1	5.12	119.69	111.00
28	H	264	ALA	CB-CA-C	-5.12	102.43	110.10
32	M	424	ALA	N-CA-CB	5.12	117.26	110.10
8	h	183	ARG	NE-CZ-NH2	-5.11	117.74	120.30
14	7	177	THR	CA-CB-CG2	-5.11	105.24	112.40
5	e	71	ASP	C-N-CA	5.11	134.47	121.70
10	j	28	ARG	CG-CD-NE	-5.11	101.07	111.80
21	N	654	GLN	CB-CA-C	-5.11	100.18	110.40
28	H	295	PHE	CG-CD1-CE1	-5.11	115.18	120.80
12	l	219	TYR	CD1-CE1-CZ	5.11	124.40	119.80
28	H	163	VAL	CG1-CB-CG2	5.11	119.07	110.90
32	M	301	VAL	CA-CB-CG2	-5.11	103.24	110.90
11	k	184	VAL	CA-CB-CG2	-5.11	103.24	110.90
13	m	130	VAL	CB-CA-C	-5.11	101.70	111.40
4	D	129	PHE	C-N-CA	5.11	133.02	122.30
5	E	223	THR	N-CA-C	-5.10	97.22	111.00
20	Z	608	TYR	CB-CG-CD1	5.10	124.06	121.00
21	N	335	ALA	CB-CA-C	-5.10	102.45	110.10
32	M	357	ARG	NE-CZ-NH2	5.10	122.85	120.30
33	J	280	ASP	CB-CG-OD2	-5.10	113.71	118.30
3	c	200	THR	CA-CB-CG2	-5.10	105.26	112.40
8	h	39	VAL	CA-CB-CG2	5.10	118.55	110.90
7	G	116	LEU	CB-CA-C	-5.10	100.52	110.20
13	6	85	PHE	CB-CG-CD2	-5.10	117.23	120.80
21	N	229	VAL	CB-CA-C	-5.10	101.72	111.40
22	S	274	PHE	CB-CG-CD2	-5.10	117.23	120.80
24	Q	167	LYS	CB-CA-C	-5.10	100.21	110.40
2	b	97	TYR	CB-CG-CD2	-5.09	117.94	121.00
8	h	202	TYR	CG-CD2-CE2	-5.09	117.22	121.30
5	E	231	TYR	CZ-CE2-CD2	5.09	124.39	119.80
21	N	161	TYR	CG-CD1-CE1	5.09	125.38	121.30
21	N	258	ALA	CB-CA-C	-5.09	102.46	110.10
21	N	754	THR	N-CA-CB	5.09	119.98	110.30
24	Q	100	LEU	CB-CG-CD1	5.09	119.66	111.00
30	K	424	PHE	CB-CG-CD1	5.09	124.37	120.80
33	J	403	LEU	CB-CG-CD1	5.09	119.66	111.00
8	h	34	TYR	CD1-CE1-CZ	-5.09	115.22	119.80
33	J	236	MET	CG-SD-CE	-5.09	92.05	100.20
9	i	98	TYR	CG-CD1-CE1	-5.09	117.23	121.30
4	D	162	GLN	CA-CB-CG	5.09	124.60	113.40
28	H	190	ARG	CA-C-O	5.09	130.79	120.10
30	K	273	GLU	N-CA-C	-5.09	97.26	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
21	N	55	PHE	N-CA-CB	5.09	119.76	110.60
8	h	41	ASP	CB-CG-OD2	-5.09	113.72	118.30
13	m	194	ASP	CB-CG-OD2	-5.09	113.72	118.30
9	2	178	GLU	N-CA-CB	-5.09	101.44	110.60
23	P	245	TYR	CB-CG-CD2	-5.09	117.95	121.00
27	O	241	THR	CA-CB-CG2	-5.09	105.28	112.40
1	a	247	ALA	N-CA-CB	5.08	117.22	110.10
12	5	89	VAL	CG1-CB-CG2	-5.08	102.77	110.90
21	N	726	ASP	N-CA-CB	-5.08	101.45	110.60
31	L	117	TYR	CD1-CE1-CZ	5.08	124.38	119.80
25	R	259	PHE	CD1-CE1-CZ	-5.08	114.00	120.10
2	b	99	ARG	CD-NE-CZ	-5.08	116.49	123.60
14	n	92	ASP	CB-CG-OD2	5.08	122.87	118.30
7	G	197	ALA	CB-CA-C	-5.08	102.48	110.10
14	7	219	TYR	CB-CG-CD2	-5.08	117.95	121.00
21	N	706	MET	CG-SD-CE	-5.08	92.07	100.20
7	G	201	TYR	CG-CD1-CE1	5.08	125.36	121.30
21	N	669	GLU	C-N-CA	5.08	134.39	121.70
8	h	94	LEU	CB-CG-CD1	-5.08	102.37	111.00
14	n	221	ASP	N-CA-C	-5.08	97.29	111.00
6	F	13	PHE	CB-CG-CD2	5.08	124.35	120.80
9	2	217	ARG	NE-CZ-NH1	5.08	122.84	120.30
31	L	129	VAL	CB-CA-C	-5.08	101.75	111.40
13	6	84	HIS	N-CA-CB	5.08	119.74	110.60
26	U	127	GLN	N-CA-CB	5.07	119.73	110.60
18	X	97	TYR	CG-CD2-CE2	5.07	125.36	121.30
23	P	351	ARG	N-CA-CB	5.07	119.72	110.60
33	J	98	VAL	CG1-CB-CG2	-5.07	102.79	110.90
10	j	19	ASP	N-CA-CB	5.07	119.72	110.60
7	g	72	ARG	NE-CZ-NH1	5.07	122.83	120.30
9	i	104	ARG	NE-CZ-NH2	-5.07	117.77	120.30
17	T	265	ASP	CB-CG-OD2	-5.07	113.74	118.30
21	N	293	LEU	CB-CG-CD2	5.07	119.61	111.00
29	I	314	ASP	N-CA-CB	5.06	119.72	110.60
3	c	67	TYR	O-C-N	-5.06	114.60	122.70
4	d	120	TYR	N-CA-CB	5.06	119.71	110.60
10	j	160	PRO	N-CA-CB	5.06	109.37	103.30
24	Q	236	PHE	CB-CA-C	5.06	120.52	110.40
30	K	234	PHE	CB-CG-CD2	-5.06	117.26	120.80
4	d	159	TRP	NE1-CE2-CZ2	5.06	135.97	130.40
7	G	130	ARG	CB-CA-C	-5.06	100.28	110.40
11	4	130	TYR	CD1-CE1-CZ	5.06	124.36	119.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	b	43	VAL	CB-CA-C	-5.06	101.79	111.40
12	l	188	TYR	CG-CD2-CE2	-5.06	117.25	121.30
1	A	69	VAL	CG1-CB-CG2	-5.06	102.81	110.90
3	C	24	TYR	CG-CD2-CE2	5.06	125.35	121.30
21	N	754	THR	CA-CB-CG2	-5.06	105.32	112.40
25	R	144	ILE	CA-CB-CG1	5.06	120.61	111.00
26	U	11	ALA	CB-CA-C	-5.06	102.51	110.10
31	L	88	TYR	CD1-CG-CD2	5.06	123.47	117.90
3	c	204	SER	O-C-N	5.06	130.79	122.70
8	1	51	TRP	CB-CG-CD1	5.06	133.58	127.00
16	V	273	ARG	NE-CZ-NH2	-5.06	117.77	120.30
19	Y	61	GLU	N-CA-CB	5.06	119.70	110.60
23	P	257	TRP	CG-CD2-CE3	-5.06	129.35	133.90
2	b	13	SER	N-CA-CB	5.06	118.08	110.50
9	i	55	VAL	CG1-CB-CG2	-5.06	102.81	110.90
12	5	181	ARG	CA-CB-CG	5.06	124.52	113.40
17	T	179	ASP	CB-CA-C	-5.06	100.29	110.40
12	5	231	LEU	CB-CG-CD2	-5.05	102.41	111.00
27	O	78	VAL	CA-CB-CG1	5.05	118.48	110.90
4	d	42	VAL	N-CA-C	-5.05	97.36	111.00
12	l	247	GLY	N-CA-C	-5.05	100.47	113.10
14	n	134	TYR	CD1-CE1-CZ	5.05	124.35	119.80
12	5	92	ASP	CB-CG-OD2	5.05	122.85	118.30
33	J	296	ARG	CG-CD-NE	-5.05	101.19	111.80
3	C	160	TRP	CB-CG-CD1	5.05	133.56	127.00
26	U	267	VAL	CG1-CB-CG2	-5.05	102.82	110.90
27	O	337	LEU	CA-CB-CG	-5.05	103.69	115.30
10	3	49	VAL	CA-CB-CG2	-5.05	103.33	110.90
25	R	223	ASN	N-CA-CB	5.05	119.69	110.60
30	K	349	ARG	NE-CZ-NH2	-5.05	117.78	120.30
21	N	190	LEU	O-C-N	-5.05	114.63	122.70
24	Q	402	THR	CA-CB-CG2	-5.05	105.33	112.40
3	c	226	TYR	CG-CD1-CE1	-5.04	117.26	121.30
25	R	248	SER	N-CA-CB	5.04	118.07	110.50
14	n	250	MET	CG-SD-CE	-5.04	92.13	100.20
13	6	52	PHE	CB-CA-C	-5.04	100.31	110.40
22	S	420	GLU	N-CA-CB	5.04	119.68	110.60
23	P	266	TYR	CG-CD2-CE2	5.04	125.33	121.30
13	m	82	TRP	N-CA-CB	5.04	119.67	110.60
22	S	295	ALA	N-CA-CB	5.04	117.16	110.10
5	e	197	GLU	OE1-CD-OE2	5.04	129.34	123.30
6	f	59	TYR	CG-CD1-CE1	5.04	125.33	121.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	b	171	ALA	N-CA-CB	5.04	117.15	110.10
3	c	124	GLN	CG-CD-OE1	-5.04	111.53	121.60
3	c	188	ASP	CB-CG-OD1	5.04	122.83	118.30
2	B	174	PHE	CD1-CE1-CZ	-5.04	114.06	120.10
3	C	144	TYR	CA-CB-CG	-5.04	103.83	113.40
6	F	38	LEU	O-C-N	-5.04	114.64	122.70
16	V	182	LYS	N-CA-C	-5.04	97.41	111.00
18	X	92	SER	N-CA-C	-5.04	97.40	111.00
11	k	107	TYR	CD1-CE1-CZ	-5.03	115.27	119.80
1	A	133	TYR	CZ-CE2-CD2	5.03	124.33	119.80
16	V	126	GLN	CA-CB-CG	5.03	124.47	113.40
28	H	326	ASP	CB-CG-OD2	5.03	122.83	118.30
32	M	15	ASP	CB-CG-OD1	5.03	122.83	118.30
13	6	157	PHE	CG-CD1-CE1	5.03	126.33	120.80
27	O	183	ASN	N-CA-CB	5.03	119.66	110.60
31	L	207	PHE	CZ-CE2-CD2	-5.03	114.06	120.10
8	h	68	VAL	CA-CB-CG2	-5.03	103.36	110.90
17	T	126	LEU	N-CA-CB	5.03	120.46	110.40
3	c	113	ARG	CB-CA-C	-5.03	100.34	110.40
4	d	17	ILE	N-CA-C	-5.03	97.43	111.00
28	H	382	LEU	CB-CG-CD1	5.03	119.55	111.00
5	e	86	ARG	NH1-CZ-NH2	-5.03	113.87	119.40
7	g	112	PHE	O-C-N	-5.03	114.66	122.70
11	k	112	ASN	N-CA-CB	5.03	119.65	110.60
13	6	217	LYS	CA-CB-CG	5.03	124.45	113.40
24	Q	314	PHE	CB-CG-CD1	-5.03	117.28	120.80
25	R	299	SER	N-CA-CB	5.03	118.04	110.50
26	U	303	GLU	CB-CG-CD	-5.03	100.63	114.20
3	c	141	ASP	CB-CG-OD2	5.02	122.82	118.30
11	4	192	VAL	N-CA-C	-5.02	97.44	111.00
12	l	96	THR	CA-CB-CG2	-5.02	105.37	112.40
14	n	133	MET	CG-SD-CE	-5.02	92.16	100.20
9	2	174	ASP	N-CA-CB	5.02	119.64	110.60
21	N	666	GLN	CA-CB-CG	5.02	124.45	113.40
12	l	119	THR	N-CA-C	-5.02	97.44	111.00
1	a	233	PHE	CB-CG-CD1	-5.02	117.29	120.80
8	h	100	ASP	CB-CG-OD2	-5.02	113.78	118.30
6	F	183	ASP	CB-CG-OD2	-5.02	113.78	118.30
10	3	200	LEU	CB-CG-CD2	5.02	119.53	111.00
22	S	346	TYR	CB-CG-CD2	-5.02	117.99	121.00
7	g	49	ALA	N-CA-CB	5.02	117.12	110.10
13	m	181	LYS	N-CA-CB	5.02	119.63	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	F	54	ASP	N-CA-CB	5.02	119.63	110.60
10	3	63	LEU	CB-CG-CD2	5.02	119.53	111.00
20	Z	608	TYR	CB-CG-CD2	-5.02	117.99	121.00
21	N	436	ASP	N-CA-CB	5.02	119.63	110.60
5	e	8	TYR	CB-CG-CD1	-5.02	117.99	121.00
7	G	126	TYR	CB-CA-C	-5.02	100.37	110.40
3	C	45	VAL	CA-CB-CG2	5.01	118.42	110.90
11	4	85	ARG	CD-NE-CZ	-5.01	116.58	123.60
11	4	175	ASP	CB-CG-OD1	5.01	122.81	118.30
21	N	208	ARG	NE-CZ-NH1	5.01	122.81	120.30
30	K	101	GLU	N-CA-CB	5.01	119.63	110.60
4	D	100	LEU	CB-CG-CD2	5.01	119.52	111.00
2	B	249	ALA	N-CA-CB	5.01	117.11	110.10
17	T	15	PHE	CB-CG-CD1	5.01	124.31	120.80
27	O	121	ASP	N-CA-CB	5.01	119.62	110.60
29	I	159	VAL	N-CA-C	-5.01	97.47	111.00
2	B	128	ARG	NE-CZ-NH1	5.01	122.81	120.30
3	C	27	GLU	CB-CA-C	-5.01	100.38	110.40
11	4	117	TYR	CG-CD2-CE2	-5.01	117.29	121.30
22	S	47	THR	CA-CB-CG2	5.01	119.42	112.40
32	M	224	PRO	N-CD-CG	5.01	110.71	103.20
14	7	246	GLN	N-CA-CB	5.01	119.61	110.60
13	m	160	ASN	CA-CB-CG	-5.00	102.39	113.40
28	H	437	VAL	CG1-CB-CG2	-5.00	102.89	110.90
13	6	12	PRO	N-CA-CB	5.00	109.30	103.30
16	V	227	MET	N-CA-CB	5.00	119.61	110.60
18	X	93	SER	N-CA-CB	5.00	118.01	110.50
24	Q	185	TYR	CB-CG-CD1	-5.00	118.00	121.00
32	M	213	ARG	CD-NE-CZ	5.00	130.60	123.60
2	B	209	ILE	N-CA-C	-5.00	97.50	111.00
9	2	236	ARG	NH1-CZ-NH2	5.00	124.90	119.40
21	N	262	VAL	CB-CA-C	-5.00	101.90	111.40

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
20	Z	748	LEU	CA

All (355) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
8	1	120	TYR	Sidechain

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Mol	Chain	Res	Type	Group
8	1	133	TYR	Sidechain
8	1	146	TYR	Sidechain
8	1	198	TYR	Sidechain
8	1	202	TYR	Sidechain
8	1	75	TYR	Sidechain
9	2	126	TYR	Sidechain
9	2	215	TYR	Sidechain
9	2	219	TYR	Sidechain
9	2	232	TYR	Sidechain
9	2	48	ARG	Sidechain
9	2	98	TYR	Sidechain
10	3	124	PHE	Sidechain
10	3	188	TYR	Sidechain
10	3	46	TYR	Sidechain
11	4	121	TYR	Sidechain
11	4	135	TYR	Sidechain
11	4	190	ARG	Sidechain
11	4	36	ARG	Sidechain
11	4	59	TYR	Sidechain
11	4	70	ARG	Sidechain
11	4	8	ARG	Sidechain
12	5	148	ARG	Sidechain
12	5	165	TYR	Sidechain
12	5	212	TYR	Sidechain
12	5	242	ARG	Sidechain
12	5	245	TYR	Sidechain
12	5	253	TYR	Sidechain
12	5	83	PHE	Sidechain
13	6	106	TYR	Sidechain
13	6	113	TYR	Sidechain
13	6	164	PHE	Sidechain
13	6	182	TYR	Sidechain
13	6	229	ARG	Sidechain
13	6	41	TYR	Sidechain
14	7	109	TYR	Sidechain
14	7	126	PHE	Sidechain
14	7	161	ARG	Sidechain
14	7	189	ARG	Sidechain
14	7	218	TYR	Sidechain
14	7	219	TYR	Peptide,Sidechain
14	7	226	ARG	Sidechain
14	7	74	ARG	Sidechain

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Mol	Chain	Res	Type	Group
14	7	98	ARG	Sidechain
1	A	106	TYR	Sidechain
1	A	108	TYR	Sidechain
1	A	11	GLY	Peptide,Mainchain
1	A	110	TYR	Sidechain
1	A	12	TYR	Peptide
1	A	120	ARG	Sidechain
1	A	14	ARG	Sidechain
1	A	166	TYR	Sidechain
1	A	234	PHE	Sidechain
1	A	24	ARG	Sidechain
1	A	244	ARG	Sidechain
2	B	157	PHE	Sidechain
2	B	178	ARG	Sidechain
2	B	236	ARG	Sidechain
2	B	5	TYR	Sidechain
2	B	6	SER	Peptide,Mainchain
2	B	7	PHE	Peptide
2	B	83	ARG	Sidechain
2	B	90	ARG	Sidechain
2	B	97	TYR	Sidechain
2	B	99	ARG	Sidechain
3	C	122	TYR	Sidechain
3	C	129	ARG	Sidechain
3	C	13	PHE	Peptide
3	C	208	TYR	Sidechain
3	C	24	TYR	Sidechain
4	D	108	TYR	Sidechain
4	D	11	PHE	Peptide,Sidechain
4	D	120	TYR	Sidechain
4	D	90	ARG	Sidechain
5	E	103	TYR	Sidechain
5	E	166	ARG	Sidechain
5	E	231	TYR	Sidechain
5	E	72	ARG	Sidechain
5	E	8	TYR	Sidechain
6	F	143	HIS	Sidechain
6	F	164	ARG	Sidechain
6	F	225	TYR	Sidechain
6	F	4	ASN	Peptide
6	F	6	TYR	Peptide
7	G	103	TYR	Sidechain

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Mol	Chain	Res	Type	Group
7	G	126	TYR	Sidechain
7	G	15	PHE	Sidechain
7	G	20	ARG	Sidechain
7	G	201	TYR	Sidechain
7	G	22	PHE	Sidechain
7	G	8	TYR	Peptide
7	G	93	ARG	Sidechain
28	H	145	TYR	Sidechain
28	H	173	ARG	Sidechain
28	H	272	ILE	Mainchain
28	H	273	ARG	Peptide,Mainchain
28	H	299	ARG	Sidechain
28	H	357	ARG	Sidechain
28	H	367	ARG	Peptide
28	H	373	ARG	Sidechain
28	H	385	ARG	Sidechain
28	H	403	ARG	Sidechain
28	H	409	ARG	Sidechain
28	H	435	ARG	Sidechain
28	H	462	ARG	Sidechain
28	H	70	LYS	Peptide
29	I	182	SER	Peptide
29	I	246	ARG	Sidechain
29	I	256	TYR	Sidechain
29	I	304	ARG	Sidechain
29	I	339	ILE	Peptide
29	I	61	ARG	Sidechain
29	I	87	LYS	Peptide
33	J	112	ARG	Sidechain
33	J	212	ARG	Sidechain
33	J	22	TYR	Sidechain
33	J	238	ARG	Sidechain
33	J	257	ARG	Sidechain
33	J	270	ARG	Sidechain
33	J	286	LYS	Peptide
33	J	296	ARG	Sidechain
33	J	339	ARG	Sidechain
33	J	374	ARG	Sidechain
33	J	376	HIS	Sidechain
33	J	404	PHE	Sidechain
33	J	43	ARG	Sidechain
30	K	171	TYR	Sidechain

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Mol	Chain	Res	Type	Group
30	K	207	ARG	Sidechain
30	K	212	TYR	Sidechain
30	K	235	ILE	Peptide,Mainchain
30	K	236	ARG	Sidechain
30	K	281	ARG	Sidechain
30	K	344	ARG	Sidechain
30	K	77	ARG	Sidechain
30	K	88	ARG	Sidechain
31	L	117	TYR	Sidechain
31	L	126	ARG	Sidechain
31	L	173	PHE	Sidechain
31	L	194	ARG	Sidechain
31	L	209	ARG	Sidechain
31	L	290	ARG	Sidechain
31	L	315	PHE	Peptide
31	L	342	ARG	Peptide
31	L	404	ARG	Sidechain
31	L	82	ARG	Sidechain
32	M	153	TYR	Sidechain
32	M	166	ARG	Sidechain
32	M	180	TYR	Sidechain
32	M	314	GLY	Peptide
32	M	315	PHE	Peptide
32	M	320	ARG	Sidechain
32	M	342	ARG	Sidechain
32	M	345	ARG	Sidechain
32	M	42	ARG	Sidechain
32	M	428	LYS	Peptide,Mainchain
32	M	44	PHE	Sidechain
32	M	50	ARG	Sidechain
21	N	117	TYR	Sidechain
21	N	282	TYR	Sidechain
21	N	389	TYR	Sidechain
21	N	398	ARG	Sidechain
21	N	422	TYR	Sidechain
21	N	50	TYR	Sidechain
21	N	559	TYR	Sidechain
21	N	58	ARG	Sidechain
21	N	653	ARG	Sidechain
21	N	697	PHE	Sidechain
21	N	739	PHE	Sidechain
21	N	741	TYR	Sidechain

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Mol	Chain	Res	Type	Group
21	N	785	PRO	Peptide
21	N	81	TYR	Sidechain
21	N	866	TYR	Sidechain
21	N	873	ARG	Sidechain
21	N	880	ARG	Sidechain
21	N	921	ARG	Sidechain
27	O	15	ARG	Sidechain
27	O	215	TYR	Sidechain
27	O	248	TYR	Sidechain
27	O	310	PHE	Sidechain
27	O	65	PHE	Sidechain
27	O	70	TYR	Sidechain
23	P	13	TYR	Sidechain
23	P	213	TYR	Sidechain
23	P	232	ARG	Sidechain
23	P	3	ARG	Sidechain
23	P	318	TYR	Sidechain
23	P	344	ARG	Sidechain
23	P	351	ARG	Sidechain
23	P	395	ARG	Sidechain
23	P	402	PHE	Sidechain
23	P	95	TYR	Sidechain
24	Q	130	ARG	Sidechain
24	Q	163	ARG	Sidechain
24	Q	165	PHE	Sidechain
24	Q	185	TYR	Sidechain
24	Q	209	TYR	Sidechain
24	Q	238	TYR	Sidechain
24	Q	255	TYR	Sidechain
24	Q	264	TYR	Sidechain
24	Q	291	TYR	Sidechain
24	Q	309	ARG	Sidechain
24	Q	65	TYR	Sidechain
24	Q	75	ARG	Sidechain
24	Q	84	TYR	Sidechain
24	Q	88	PHE	Sidechain
25	R	141	TYR	Sidechain
25	R	181	TYR	Sidechain
25	R	207	ARG	Sidechain
25	R	210	TYR	Sidechain
25	R	214	TYR	Sidechain
25	R	24	TYR	Sidechain

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Mol	Chain	Res	Type	Group
25	R	321	TYR	Sidechain
25	R	392	ARG	Sidechain
25	R	400	TYR	Sidechain
25	R	43	ARG	Sidechain
25	R	63	TYR	Sidechain
25	R	70	TYR	Peptide
22	S	160	ARG	Sidechain
22	S	171	TYR	Sidechain
22	S	174	ARG	Sidechain
22	S	196	ARG	Sidechain
22	S	239	ARG	Sidechain
22	S	241	PHE	Sidechain
22	S	292	TYR	Sidechain
22	S	345	TYR	Sidechain
22	S	384	ARG	Sidechain
22	S	399	TYR	Sidechain
22	S	413	LEU	Peptide
22	S	421	TYR	Sidechain
22	S	428	ARG	Sidechain
22	S	464	ARG	Sidechain
22	S	467	PHE	Sidechain
22	S	480	ARG	Sidechain
22	S	52	TYR	Sidechain
22	S	55	ARG	Sidechain
17	T	157	TYR	Sidechain
17	T	197	TYR	Sidechain
17	T	211	PHE	Sidechain
17	T	245	TYR	Sidechain
17	T	251	HIS	Peptide
17	T	60	ARG	Sidechain
17	T	91	SER	Peptide
26	U	210	TYR	Sidechain
26	U	72	TYR	Sidechain
26	U	93	TYR	Sidechain
16	V	100	ARG	Sidechain
16	V	230	TYR	Sidechain
16	V	269	ARG	Sidechain
16	V	270	TYR	Sidechain
16	V	28	TYR	Sidechain
16	V	57	PHE	Sidechain
15	W	179	ARG	Sidechain
18	X	11	ARG	Sidechain

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Mol	Chain	Res	Type	Group
18	X	22	ARG	Sidechain
18	X	97	TYR	Sidechain
18	X	98	PHE	Sidechain
19	Y	83	ARG	Sidechain
19	Y	84	TYR	Sidechain
20	Z	165	TYR	Sidechain
20	Z	248	TYR	Sidechain
20	Z	269	TYR	Sidechain
20	Z	738	TYR	Sidechain
20	Z	747	ALA	Peptide,Mainchain
20	Z	970	TYR	Sidechain
1	a	105	ARG	Sidechain
1	a	106	TYR	Sidechain
1	a	11	GLY	Peptide
1	a	12	TYR	Peptide
1	a	120	ARG	Sidechain
1	a	133	TYR	Sidechain
1	a	143	PHE	Sidechain
2	b	101	TYR	Sidechain
2	b	104	TYR	Sidechain
2	b	178	ARG	Sidechain
2	b	23	TYR	Sidechain
2	b	6	SER	Peptide
2	b	82	TYR	Sidechain
3	c	13	PHE	Peptide
3	c	157	TYR	Sidechain
3	c	18	ARG	Sidechain
3	c	217	ARG	Sidechain
3	c	230	PHE	Sidechain
3	c	50	ARG	Sidechain
3	c	98	TYR	Sidechain
4	d	11	PHE	Peptide
4	d	119	ARG	Sidechain
4	d	141	ARG	Sidechain
4	d	29	ARG	Sidechain
5	e	103	TYR	Sidechain
5	e	164	PHE	Sidechain
5	e	20	ARG	Sidechain
5	e	231	TYR	Sidechain
6	f	123	TYR	Sidechain
6	f	126	ARG	Peptide
6	f	128	TYR	Sidechain

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Mol	Chain	Res	Type	Group
6	f	147	PHE	Sidechain
6	f	164	ARG	Sidechain
6	f	18	ARG	Sidechain
6	f	4	ASN	Peptide
6	f	6	TYR	Peptide,Sidechain
6	f	89	ARG	Sidechain
7	g	119	TYR	Sidechain
7	g	160	TYR	Sidechain
7	g	22	PHE	Sidechain
7	g	26	TYR	Sidechain
7	g	8	TYR	Peptide,Sidechain
8	h	133	TYR	Sidechain
8	h	142	PHE	Sidechain
8	h	146	TYR	Sidechain
8	h	152	ARG	Sidechain
8	h	38	ARG	Sidechain
8	h	75	TYR	Sidechain
8	h	96	TYR	Sidechain
9	i	153	TYR	Sidechain
9	i	65	ARG	Sidechain
10	j	188	TYR	Sidechain
10	j	199	TYR	Sidechain
10	j	40	PHE	Sidechain
10	j	46	TYR	Sidechain
10	j	67	PHE	Sidechain
10	j	74	TYR	Sidechain
11	k	107	TYR	Sidechain
11	k	135	TYR	Sidechain
11	k	139	TYR	Sidechain
11	k	36	ARG	Sidechain
11	k	67	TYR	Sidechain
11	k	83	PHE	Sidechain
11	k	96	ARG	Sidechain
12	l	165	TYR	Sidechain
12	l	181	ARG	Sidechain
12	l	188	TYR	Sidechain
12	l	212	TYR	Sidechain
12	l	242	ARG	Sidechain
12	l	262	TYR	Sidechain
12	l	94	ARG	Sidechain
13	m	131	TYR	Sidechain
13	m	182	TYR	Sidechain

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Mol	Chain	Res	Type	Group
13	m	221	ARG	Sidechain
13	m	225	TYR	Sidechain
13	m	47	TYR	Sidechain
13	m	85	PHE	Sidechain
14	n	124	TYR	Sidechain
14	n	170	TYR	Sidechain
14	n	218	TYR	Sidechain
14	n	78	VAL	Peptide

5.2 Too-close contacts

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

5.3 Torsion angles

5.3.1 Protein backbone

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%)	230 (96%)	7 (3%)	3 (1%)	12 48
1	a	240/242 (99%)	230 (96%)	10 (4%)	0	100 100
2	B	244/246 (99%)	230 (94%)	10 (4%)	4 (2%)	9 44
2	b	244/246 (99%)	229 (94%)	11 (4%)	4 (2%)	9 44
3	C	239/241 (99%)	223 (93%)	12 (5%)	4 (2%)	9 43
3	c	239/241 (99%)	220 (92%)	16 (7%)	3 (1%)	12 48
4	D	236/252 (94%)	225 (95%)	8 (3%)	3 (1%)	12 48
4	d	250/252 (99%)	238 (95%)	9 (4%)	3 (1%)	13 50
5	E	242/244 (99%)	229 (95%)	10 (4%)	3 (1%)	13 50
5	e	242/244 (99%)	229 (95%)	9 (4%)	4 (2%)	9 43
6	F	230/232 (99%)	222 (96%)	7 (3%)	1 (0%)	34 72
6	f	230/232 (99%)	221 (96%)	8 (4%)	1 (0%)	34 72

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
7	G	242/244 (99%)	225 (93%)	13 (5%)	4 (2%)	9 43
7	g	242/244 (99%)	227 (94%)	13 (5%)	2 (1%)	19 60
8	1	194/196 (99%)	188 (97%)	6 (3%)	0	100 100
8	h	194/196 (99%)	183 (94%)	11 (6%)	0	100 100
9	2	224/226 (99%)	214 (96%)	7 (3%)	3 (1%)	12 48
9	i	224/226 (99%)	218 (97%)	6 (3%)	0	100 100
10	3	202/204 (99%)	186 (92%)	12 (6%)	4 (2%)	7 39
10	j	202/204 (99%)	190 (94%)	10 (5%)	2 (1%)	15 54
11	4	193/195 (99%)	182 (94%)	10 (5%)	1 (0%)	29 68
11	k	193/195 (99%)	177 (92%)	13 (7%)	3 (2%)	9 44
12	5	210/212 (99%)	200 (95%)	10 (5%)	0	100 100
12	l	210/212 (99%)	202 (96%)	7 (3%)	1 (0%)	29 68
13	6	220/222 (99%)	205 (93%)	12 (6%)	3 (1%)	11 46
13	m	220/222 (99%)	202 (92%)	15 (7%)	3 (1%)	11 46
14	7	227/232 (98%)	212 (93%)	13 (6%)	2 (1%)	17 56
14	n	230/232 (99%)	212 (92%)	17 (7%)	1 (0%)	34 72
15	W	195/197 (99%)	180 (92%)	10 (5%)	5 (3%)	5 34
16	V	287/289 (99%)	260 (91%)	15 (5%)	12 (4%)	3 24
17	T	264/266 (99%)	238 (90%)	19 (7%)	7 (3%)	5 33
18	X	125/127 (98%)	108 (86%)	11 (9%)	6 (5%)	2 23
19	Y	87/89 (98%)	76 (87%)	8 (9%)	3 (3%)	3 29
20	Z	902/970 (93%)	821 (91%)	61 (7%)	20 (2%)	6 37
21	N	920/922 (100%)	863 (94%)	45 (5%)	12 (1%)	12 48
22	S	473/475 (100%)	442 (93%)	21 (4%)	10 (2%)	7 38
23	P	438/440 (100%)	416 (95%)	14 (3%)	8 (2%)	8 41
24	Q	432/434 (100%)	396 (92%)	24 (6%)	12 (3%)	5 32
25	R	403/405 (100%)	379 (94%)	19 (5%)	5 (1%)	13 50
26	U	302/304 (99%)	284 (94%)	15 (5%)	3 (1%)	15 54
27	O	386/388 (100%)	370 (96%)	12 (3%)	4 (1%)	15 54
28	H	424/426 (100%)	384 (91%)	26 (6%)	14 (3%)	4 29
29	I	383/385 (100%)	342 (89%)	30 (8%)	11 (3%)	4 31

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
30	K	392/394 (100%)	347 (88%)	37 (9%)	8 (2%)	7 39
31	L	386/388 (100%)	353 (92%)	24 (6%)	9 (2%)	6 36
32	M	419/421 (100%)	376 (90%)	34 (8%)	9 (2%)	7 38
33	J	403/405 (100%)	357 (89%)	32 (8%)	14 (4%)	3 28
All	All	13924/14101 (99%)	12941 (93%)	749 (5%)	234 (2%)	13 43

All (234) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	7	PHE
3	C	14	SER
4	D	166	ARG
15	W	165	GLN
16	V	112	PRO
16	V	176	ASN
17	T	43	ASP
17	T	134	LYS
17	T	251	HIS
18	X	29	VAL
19	Y	44	ALA
20	Z	24	THR
20	Z	85	VAL
20	Z	870	ALA
21	N	790	GLU
22	S	97	THR
22	S	98	SER
22	S	116	ALA
22	S	118	PHE
24	Q	67	THR
24	Q	68	MET
24	Q	253	ASN
25	R	71	LEU
27	O	183	ASN
28	H	71	GLU
28	H	138	GLU
28	H	190	ARG
28	H	273	ARG
28	H	323	ALA
29	I	116	ASP
29	I	125	MET
29	I	213	ILE

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Mol	Chain	Res	Type
30	K	236	ARG
30	K	398	ASN
31	L	343	LEU
32	M	315	PHE
32	M	317	SER
32	M	339	ARG
33	J	284	THR
2	b	52	SER
4	d	40	ASN
4	d	204	GLN
5	e	12	VAL
6	f	7	ASP
7	g	10	LEU
10	j	32	GLN
10	j	192	LYS
11	k	131	GLY
13	m	138	SER
14	n	114	ALA
2	B	52	SER
3	C	64	GLU
4	D	70	HIS
9	2	235	PRO
9	2	249	ILE
10	3	6	SER
10	3	40	PHE
14	7	252	TRP
15	W	179	ARG
15	W	190	ILE
18	X	116	ALA
20	Z	728	LYS
20	Z	729	GLU
21	N	175	ASP
21	N	725	LEU
22	S	44	THR
22	S	69	LEU
23	P	2	SER
23	P	209	LYS
23	P	397	ALA
23	P	403	GLU
24	Q	46	VAL
24	Q	128	GLU
24	Q	252	HIS

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Mol	Chain	Res	Type
24	Q	353	PRO
24	Q	405	GLN
25	R	263	ARG
25	R	375	LYS
26	U	218	GLU
28	H	194	SER
29	I	115	ASP
29	I	344	ILE
30	K	331	PRO
30	K	366	ALA
30	K	423	LYS
31	L	52	ALA
31	L	406	ASP
33	J	110	SER
33	J	287	ASN
33	J	320	SER
5	e	73	HIS
5	e	126	GLY
11	k	132	ALA
1	A	11	GLY
1	A	37	GLN
1	A	49	ASP
3	C	184	MET
3	C	221	ASN
5	E	126	GLY
10	3	182	GLY
13	6	138	SER
15	W	136	ASN
17	T	135	ASN
17	T	141	LEU
17	T	173	GLU
18	X	19	GLU
18	X	115	SER
19	Y	35	PHE
20	Z	825	ALA
20	Z	887	GLY
20	Z	940	GLY
20	Z	947	GLY
21	N	148	SER
21	N	393	SER
21	N	395	ALA
21	N	777	ALA

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Mol	Chain	Res	Type
21	N	781	ALA
21	N	831	GLU
22	S	84	ASP
22	S	108	ALA
22	S	132	ALA
23	P	131	PHE
23	P	328	ALA
23	P	331	GLY
24	Q	42	ALA
26	U	133	PRO
28	H	75	GLY
28	H	315	GLY
28	H	325	GLY
28	H	368	PRO
28	H	370	ARG
30	K	36	ASN
31	L	319	GLY
32	M	179	THR
32	M	367	LYS
33	J	352	GLY
33	J	353	CYS
2	b	98	LYS
5	e	151	ASP
7	g	63	LYS
2	B	51	SER
4	D	40	ASN
7	G	13	SER
7	G	187	LEU
10	3	32	GLN
11	4	132	ALA
13	6	27	ASP
13	6	47	TYR
14	7	111	ASN
16	V	175	SER
16	V	183	ALA
16	V	186	GLN
16	V	223	SER
16	V	259	LYS
16	V	262	THR
16	V	275	ASP
18	X	78	ILE
18	X	113	GLU

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Mol	Chain	Res	Type
20	Z	82	MET
20	Z	142	ASP
20	Z	233	LEU
20	Z	578	GLY
20	Z	926	ASN
21	N	832	HIS
22	S	327	ILE
23	P	126	THR
24	Q	149	LYS
24	Q	170	ASP
25	R	280	ILE
28	H	70	LYS
28	H	466	TYR
29	I	289	THR
29	I	298	GLY
29	I	375	VAL
31	L	330	PRO
31	L	432	ILE
32	M	99	SER
32	M	240	ASN
33	J	141	LYS
33	J	252	SER
33	J	337	LEU
33	J	340	GLY
33	J	398	ILE
2	b	41	ASN
3	c	70	ASN
4	d	70	HIS
11	k	129	PRO
13	m	40	ASP
2	B	203	GLU
5	E	13	SER
6	F	59	TYR
7	G	63	LYS
7	G	73	HIS
15	W	180	LEU
16	V	102	GLN
16	V	185	ILE
17	T	227	PRO
19	Y	31	GLU
20	Z	25	PRO
20	Z	65	GLU

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Mol	Chain	Res	Type
20	Z	463	HIS
20	Z	513	ALA
20	Z	557	GLU
25	R	125	GLU
27	O	119	SER
27	O	226	LYS
29	I	143	PRO
29	I	164	ALA
30	K	125	THR
30	K	314	VAL
31	L	289	ARG
31	L	374	PHE
32	M	94	LYS
32	M	109	ASP
33	J	311	ASP
33	J	341	ILE
33	J	373	ARG
3	c	132	GLY
12	l	173	GLY
9	2	209	ILE
20	Z	802	ASP
21	N	123	PHE
21	N	894	ARG
24	Q	386	PHE
26	U	42	ASN
31	L	350	PRO
2	b	228	PRO
13	m	137	GLY
16	V	143	PRO
3	c	14	SER
27	O	305	ILE
5	E	12	VAL
28	H	152	ILE
29	I	297	GLY

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	206/206 (100%)	200 (97%)	6 (3%)	42	64
1	a	206/206 (100%)	203 (98%)	3 (2%)	65	80
2	B	205/205 (100%)	203 (99%)	2 (1%)	76	86
2	b	205/205 (100%)	200 (98%)	5 (2%)	49	69
3	C	201/201 (100%)	198 (98%)	3 (2%)	65	80
3	c	201/201 (100%)	197 (98%)	4 (2%)	55	73
4	D	210/224 (94%)	203 (97%)	7 (3%)	38	61
4	d	224/224 (100%)	220 (98%)	4 (2%)	59	77
5	E	200/200 (100%)	197 (98%)	3 (2%)	65	80
5	e	200/200 (100%)	197 (98%)	3 (2%)	65	80
6	F	191/191 (100%)	183 (96%)	8 (4%)	30	54
6	f	191/191 (100%)	184 (96%)	7 (4%)	34	58
7	G	201/201 (100%)	195 (97%)	6 (3%)	41	63
7	g	201/201 (100%)	198 (98%)	3 (2%)	65	80
8	1	162/162 (100%)	157 (97%)	5 (3%)	40	62
8	h	162/162 (100%)	158 (98%)	4 (2%)	47	68
9	2	185/185 (100%)	181 (98%)	4 (2%)	52	71
9	i	185/185 (100%)	181 (98%)	4 (2%)	52	71
10	3	172/172 (100%)	168 (98%)	4 (2%)	50	70
10	j	172/172 (100%)	169 (98%)	3 (2%)	60	78
11	4	173/173 (100%)	169 (98%)	4 (2%)	50	70
11	k	173/173 (100%)	167 (96%)	6 (4%)	36	60
12	5	169/169 (100%)	165 (98%)	4 (2%)	49	69
12	l	169/169 (100%)	164 (97%)	5 (3%)	41	63
13	6	185/185 (100%)	179 (97%)	6 (3%)	39	61
13	m	185/185 (100%)	182 (98%)	3 (2%)	62	79
14	7	195/198 (98%)	189 (97%)	6 (3%)	40	62
14	n	198/198 (100%)	193 (98%)	5 (2%)	47	68
15	W	171/171 (100%)	166 (97%)	5 (3%)	42	64
16	V	253/253 (100%)	246 (97%)	7 (3%)	43	65
17	T	249/249 (100%)	248 (100%)	1 (0%)	91	94
18	X	116/116 (100%)	113 (97%)	3 (3%)	46	67

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
19	Y	81/81 (100%)	79 (98%)	2 (2%)	47	68
20	Z	773/828 (93%)	748 (97%)	25 (3%)	39	61
21	N	776/776 (100%)	755 (97%)	21 (3%)	44	65
22	S	447/447 (100%)	437 (98%)	10 (2%)	52	71
23	P	412/412 (100%)	407 (99%)	5 (1%)	71	84
24	Q	391/391 (100%)	383 (98%)	8 (2%)	55	73
25	R	356/356 (100%)	350 (98%)	6 (2%)	60	78
26	U	277/277 (100%)	269 (97%)	8 (3%)	42	64
27	O	363/363 (100%)	351 (97%)	12 (3%)	38	61
28	H	361/361 (100%)	347 (96%)	14 (4%)	32	57
29	I	342/342 (100%)	330 (96%)	12 (4%)	36	60
30	K	346/346 (100%)	331 (96%)	15 (4%)	29	54
31	L	332/332 (100%)	318 (96%)	14 (4%)	30	54
32	M	364/364 (100%)	351 (96%)	13 (4%)	35	59
33	J	352/352 (100%)	341 (97%)	11 (3%)	40	62
All	All	12089/12161 (99%)	11770 (97%)	319 (3%)	49	67

All (319) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	a	19	PHE
1	a	126	GLN
1	a	163	TYR
2	b	52	SER
2	b	74	VAL
2	b	81	ASP
2	b	146	SER
2	b	211	LEU
3	c	66	LEU
3	c	130	PRO
3	c	156	ASN
3	c	222	ASP
4	d	5	ASP
4	d	24	LEU
4	d	32	CYS
4	d	81	ASP
5	e	23	GLN

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Mol	Chain	Res	Type
5	e	88	MET
5	e	208	MET
6	f	54	ASP
6	f	72	LEU
6	f	74	LEU
6	f	153	VAL
6	f	156	LEU
6	f	159	THR
6	f	219	ASP
7	g	107	ILE
7	g	218	TRP
7	g	224	THR
8	h	135	ILE
8	h	144	TYR
8	h	181	VAL
8	h	188	THR
9	i	68	PRO
9	i	109	LEU
9	i	155	SER
9	i	236	ARG
10	j	80	ARG
10	j	135	ASP
10	j	176	ASP
11	k	39	SER
11	k	46	PHE
11	k	74	GLU
11	k	85	ARG
11	k	101	ASN
11	k	125	LYS
12	l	79	LEU
12	l	83	PHE
12	l	92	ASP
12	l	179	TYR
12	l	204	VAL
13	m	95	ASN
13	m	115	VAL
13	m	136	VAL
14	n	39	VAL
14	n	73	GLU
14	n	137	ARG
14	n	175	LEU
14	n	253	ASP

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Mol	Chain	Res	Type
1	A	49	ASP
1	A	76	SER
1	A	126	GLN
1	A	176	GLN
1	A	239	GLU
1	A	245	LEU
2	B	96	SER
2	B	97	TYR
3	C	51	LYS
3	C	118	ILE
3	C	184	MET
4	D	5	ASP
4	D	68	ASP
4	D	73	LEU
4	D	81	ASP
4	D	126	VAL
4	D	168	SER
4	D	194	LEU
5	E	22	PHE
5	E	78	MET
5	E	100	ASN
6	F	7	ASP
6	F	42	THR
6	F	45	VAL
6	F	72	LEU
6	F	153	VAL
6	F	198	SER
6	F	204	GLU
6	F	208	VAL
7	G	11	SER
7	G	46	VAL
7	G	100	LYS
7	G	109	ILE
7	G	218	TRP
7	G	224	THR
8	1	12	ILE
8	1	17	PHE
8	1	30	THR
8	1	144	TYR
8	1	162	ASP
9	2	137	SER
9	2	161	LEU

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Mol	Chain	Res	Type
9	2	230	LYS
9	2	236	ARG
10	3	18	LYS
10	3	26	ASP
10	3	71	THR
10	3	99	ARG
11	4	58	GLU
11	4	78	GLN
11	4	101	ASN
11	4	126	VAL
12	5	79	LEU
12	5	139	ARG
12	5	179	TYR
12	5	212	TYR
13	6	26	GLU
13	6	42	SER
13	6	49	PRO
13	6	134	ASP
13	6	216	THR
13	6	217	LYS
14	7	37	PRO
14	7	53	VAL
14	7	101	LYS
14	7	165	LEU
14	7	173	PRO
14	7	241	PHE
15	W	1	MET
15	W	14	GLU
15	W	79	THR
15	W	108	GLN
15	W	120	ASP
16	V	24	LYS
16	V	32	ILE
16	V	45	VAL
16	V	71	MET
16	V	98	THR
16	V	117	TRP
16	V	196	TYR
17	T	150	ARG
18	X	14	VAL
18	X	38	ASN
18	X	114	LEU

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Mol	Chain	Res	Type
19	Y	59	ILE
19	Y	66	ASP
20	Z	27	LYS
20	Z	64	TYR
20	Z	146	PHE
20	Z	171	LYS
20	Z	206	ASP
20	Z	236	PHE
20	Z	255	LEU
20	Z	257	PRO
20	Z	402	ASP
20	Z	411	LYS
20	Z	557	GLU
20	Z	563	VAL
20	Z	566	LEU
20	Z	728	LYS
20	Z	734	ASP
20	Z	745	LEU
20	Z	748	LEU
20	Z	756	MET
20	Z	767	TYR
20	Z	842	GLN
20	Z	850	LEU
20	Z	874	ASN
20	Z	918	ASP
20	Z	951	GLN
20	Z	970	TYR
21	N	57	ASP
21	N	118	THR
21	N	127	ASP
21	N	274	VAL
21	N	282	TYR
21	N	307	LYS
21	N	360	GLN
21	N	385	VAL
21	N	406	TYR
21	N	525	ASN
21	N	530	GLU
21	N	582	ASP
21	N	599	TYR
21	N	623	PHE
21	N	634	LEU

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Mol	Chain	Res	Type
21	N	681	ASN
21	N	703	GLN
21	N	739	PHE
21	N	832	HIS
21	N	852	ASN
21	N	896	PHE
22	S	66	GLN
22	S	70	ASN
22	S	75	CYS
22	S	89	LYS
22	S	113	SER
22	S	163	VAL
22	S	405	ARG
22	S	438	HIS
22	S	471	LEU
22	S	475	TYR
23	P	73	ASP
23	P	279	ASP
23	P	298	SER
23	P	396	PRO
23	P	399	ILE
24	Q	8	LEU
24	Q	106	GLN
24	Q	164	GLU
24	Q	209	TYR
24	Q	221	MET
24	Q	240	PHE
24	Q	343	LEU
24	Q	409	TYR
25	R	71	LEU
25	R	92	ILE
25	R	94	PHE
25	R	299	SER
25	R	317	ILE
25	R	395	ASN
26	U	37	ILE
26	U	71	ASN
26	U	74	GLU
26	U	89	LEU
26	U	127	GLN
26	U	143	VAL
26	U	176	ARG

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Mol	Chain	Res	Type
26	U	277	TYR
27	O	6	GLU
27	O	26	PHE
27	O	115	ARG
27	O	173	SER
27	O	225	ASP
27	O	237	PRO
27	O	258	LEU
27	O	321	LYS
27	O	327	LEU
27	O	343	GLN
27	O	359	SER
27	O	362	GLN
28	H	78	PRO
28	H	128	ASN
28	H	162	ARG
28	H	170	GLU
28	H	203	LYS
28	H	241	ASP
28	H	257	THR
28	H	326	ASP
28	H	367	ARG
28	H	370	ARG
28	H	373	ARG
28	H	394	LYS
28	H	423	CYS
28	H	442	ASP
29	I	127	ASP
29	I	134	SER
29	I	147	VAL
29	I	247	ILE
29	I	285	ASP
29	I	316	PHE
29	I	330	LYS
29	I	343	ARG
29	I	351	GLU
29	I	353	PRO
29	I	369	MET
29	I	385	ASP
30	K	81	ARG
30	K	125	THR
30	K	133	PRO

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Mol	Chain	Res	Type
30	K	137	VAL
30	K	230	THR
30	K	237	VAL
30	K	244	HIS
30	K	264	ASN
30	K	274	VAL
30	K	289	ASP
30	K	292	VAL
30	K	306	PHE
30	K	335	ASP
30	K	342	SER
30	K	422	ASP
31	L	54	ASN
31	L	66	GLU
31	L	70	TYR
31	L	112	LEU
31	L	131	VAL
31	L	148	LEU
31	L	158	ILE
31	L	177	GLU
31	L	180	PHE
31	L	196	VAL
31	L	229	THR
31	L	269	TYR
31	L	374	PHE
31	L	375	ASP
32	M	36	LEU
32	M	66	LYS
32	M	86	MET
32	M	129	LEU
32	M	157	ASP
32	M	168	LYS
32	M	253	GLN
32	M	281	ASP
32	M	291	PHE
32	M	329	ARG
32	M	340	SER
32	M	351	LEU
32	M	403	LEU
33	J	30	THR
33	J	36	SER
33	J	128	ASN

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Mol	Chain	Res	Type
33	J	142	VAL
33	J	155	LYS
33	J	179	ILE
33	J	186	ILE
33	J	236	MET
33	J	297	LEU
33	J	336	ASN
33	J	338	THR

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (128) such sidechains are listed below:

Mol	Chain	Res	Type
1	a	41	ASN
1	a	126	GLN
1	a	184	ASN
2	b	218	ASN
3	c	21	GLN
3	c	70	ASN
3	c	89	ASN
3	c	227	GLN
4	d	19	GLN
4	d	149	GLN
4	d	230	ASN
5	e	73	HIS
5	e	147	HIS
5	e	154	GLN
5	e	157	HIS
7	g	123	HIS
7	g	204	HIS
8	h	47	HIS
8	h	101	ASN
9	i	59	ASN
10	j	145	GLN
10	j	204	GLN
11	k	61	GLN
11	k	65	GLN
11	k	101	ASN
11	k	133	HIS
11	k	166	GLN
12	l	208	GLN
12	l	241	HIS
12	l	263	HIS

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Mol	Chain	Res	Type
13	m	9	GLN
13	m	16	ASN
13	m	95	ASN
14	n	212	ASN
1	A	27	GLN
1	A	41	ASN
1	A	56	GLN
1	A	92	ASN
1	A	195	ASN
1	A	209	HIS
2	B	139	HIS
2	B	149	GLN
3	C	125	HIS
3	C	156	ASN
4	D	55	GLN
4	D	117	GLN
4	D	178	ASN
5	E	147	HIS
6	F	69	HIS
6	F	121	GLN
7	G	21	ASN
7	G	64	ASN
7	G	118	GLN
8	1	47	HIS
8	1	166	HIS
9	2	38	ASN
9	2	138	HIS
9	2	201	ASN
11	4	55	GLN
11	4	78	GLN
12	5	241	HIS
15	W	29	GLN
15	W	165	GLN
16	V	73	GLN
16	V	102	GLN
16	V	222	GLN
17	T	116	GLN
20	Z	15	GLN
20	Z	214	HIS
20	Z	235	GLN
20	Z	622	HIS
20	Z	823	ASN

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Mol	Chain	Res	Type
20	Z	829	GLN
21	N	17	GLN
21	N	41	ASN
21	N	231	ASN
21	N	329	HIS
21	N	525	ASN
21	N	607	GLN
21	N	672	ASN
21	N	688	ASN
21	N	712	ASN
21	N	716	GLN
21	N	824	ASN
22	S	99	ASN
22	S	417	GLN
22	S	438	HIS
23	P	275	ASN
23	P	282	HIS
23	P	296	GLN
24	Q	213	GLN
24	Q	361	HIS
24	Q	420	ASN
25	R	23	ASN
25	R	143	GLN
25	R	149	ASN
25	R	374	ASN
25	R	395	ASN
26	U	230	GLN
26	U	252	HIS
26	U	302	GLN
27	O	211	GLN
27	O	235	HIS
27	O	345	ASN
27	O	354	GLN
27	O	376	GLN
28	H	128	ASN
28	H	130	ASN
28	H	392	HIS
28	H	413	ASN
29	I	274	ASN
29	I	410	GLN
30	K	35	ASN
30	K	37	ASN

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Mol	Chain	Res	Type
30	K	98	GLN
30	K	194	GLN
31	L	54	ASN
31	L	189	GLN
31	L	411	ASN
32	M	72	ASN
32	M	125	GLN
32	M	238	GLN
32	M	253	GLN
33	J	52	ASN
33	J	66	GLN
33	J	123	HIS
33	J	240	HIS
33	J	331	HIS

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 12 ligands modelled in this entry, 6 are monoatomic - leaving 6 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	$\#\|Z\|>2$
34	ATP	M	501	35	26,33,33	1.15	1 (3%)	31,52,52	1.91	7 (22%)
34	ATP	L	501	35	26,33,33	1.90	5 (19%)	31,52,52	2.14	8 (25%)
36	ADP	J	501	35	24,29,29	1.13	1 (4%)	29,45,45	1.82	3 (10%)
34	ATP	H	501	35	26,33,33	1.57	6 (23%)	31,52,52	2.08	4 (12%)
34	ATP	I	501	35	26,33,33	1.70	5 (19%)	31,52,52	2.10	6 (19%)
34	ATP	K	501	35	26,33,33	1.43	3 (11%)	31,52,52	1.80	6 (19%)

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
34	ATP	M	501	35	-	7/18/38/38	0/3/3/3
34	ATP	L	501	35	-	5/18/38/38	0/3/3/3
36	ADP	J	501	35	-	6/12/32/32	0/3/3/3
34	ATP	H	501	35	-	8/18/38/38	0/3/3/3
34	ATP	I	501	35	-	9/18/38/38	0/3/3/3
34	ATP	K	501	35	-	4/18/38/38	0/3/3/3

All (21) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	L	501	ATP	C2'-C1'	-6.84	1.43	1.53
34	I	501	ATP	O4'-C1'	4.82	1.47	1.41
34	H	501	ATP	C4-N3	3.85	1.41	1.35
34	K	501	ATP	C2-N3	3.61	1.37	1.32
34	I	501	ATP	C2'-C1'	-3.29	1.48	1.53
34	K	501	ATP	C8-N7	-3.25	1.28	1.34
34	K	501	ATP	C3'-C4'	3.10	1.60	1.53
34	M	501	ATP	C8-N7	-3.02	1.29	1.34
36	J	501	ADP	C4-N3	2.74	1.39	1.35
34	I	501	ATP	C5-N7	-2.66	1.30	1.39
34	L	501	ATP	O4'-C4'	-2.61	1.39	1.45
34	L	501	ATP	C8-N7	-2.57	1.30	1.34
34	I	501	ATP	C4-N3	2.48	1.39	1.35
34	H	501	ATP	C8-N7	-2.47	1.30	1.34
34	H	501	ATP	O4'-C4'	2.37	1.50	1.45
34	H	501	ATP	C2'-C1'	-2.24	1.50	1.53

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
34	L	501	ATP	PA-O2A	-2.23	1.44	1.55
34	I	501	ATP	C2-N3	2.17	1.35	1.32
34	L	501	ATP	C4-N3	-2.12	1.32	1.35
34	H	501	ATP	C2-N3	2.05	1.35	1.32
34	H	501	ATP	C2-N1	2.04	1.37	1.33

All (34) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	H	501	ATP	PA-O3A-PB	8.68	162.61	132.83
34	I	501	ATP	PA-O3A-PB	7.80	159.59	132.83
34	L	501	ATP	PA-O3A-PB	7.79	159.57	132.83
36	J	501	ADP	PA-O3A-PB	6.73	155.90	132.83
34	K	501	ATP	N6-C6-N1	6.57	132.21	118.57
34	M	501	ATP	PA-O3A-PB	6.32	154.51	132.83
36	J	501	ADP	C1'-N9-C4	-4.48	118.76	126.64
34	M	501	ATP	N3-C2-N1	4.19	135.22	128.68
34	I	501	ATP	N6-C6-N1	4.06	127.00	118.57
34	H	501	ATP	C5-C6-N1	-3.73	111.89	120.35
34	I	501	ATP	O4'-C4'-C3'	-3.68	97.82	105.11
34	L	501	ATP	C1'-N9-C4	3.68	133.10	126.64
34	K	501	ATP	C5-C6-N6	-3.67	114.78	120.35
34	L	501	ATP	C5'-C4'-C3'	3.66	128.89	115.18
34	H	501	ATP	N6-C6-N1	3.51	125.86	118.57
34	H	501	ATP	C1'-N9-C4	-3.48	120.53	126.64
34	M	501	ATP	N6-C6-N1	3.34	125.50	118.57
34	K	501	ATP	C5-C6-N1	-3.28	112.92	120.35
34	L	501	ATP	N6-C6-N1	3.23	125.29	118.57
34	K	501	ATP	PA-O3A-PB	3.08	143.38	132.83
34	I	501	ATP	C5-C6-N1	-2.92	113.73	120.35
34	L	501	ATP	C4-C5-N7	2.71	112.23	109.40
36	J	501	ADP	N3-C2-N1	2.43	132.48	128.68
34	M	501	ATP	C5-C6-N1	-2.39	114.93	120.35
34	L	501	ATP	PB-O3B-PG	2.38	140.98	132.83
34	M	501	ATP	O4'-C4'-C3'	-2.36	100.45	105.11
34	I	501	ATP	N3-C2-N1	2.33	132.32	128.68
34	L	501	ATP	O2B-PB-O1B	2.27	123.46	112.24
34	K	501	ATP	C1'-N9-C4	2.26	130.61	126.64
34	I	501	ATP	O3B-PG-O1G	-2.21	98.95	111.19
34	M	501	ATP	C2-N1-C6	-2.10	115.16	118.75
34	M	501	ATP	O3G-PG-O2G	2.02	115.35	107.64
34	L	501	ATP	C5-C6-N6	-2.00	117.31	120.35

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
34	K	501	ATP	O3G-PG-O2G	2.00	115.30	107.64

There are no chirality outliers.

All (39) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
34	H	501	ATP	PB-O3B-PG-O2G
34	H	501	ATP	C5'-O5'-PA-O1A
34	H	501	ATP	C5'-O5'-PA-O2A
34	I	501	ATP	C5'-O5'-PA-O3A
34	L	501	ATP	PB-O3B-PG-O2G
34	L	501	ATP	C5'-O5'-PA-O1A
34	L	501	ATP	C5'-O5'-PA-O2A
34	M	501	ATP	PB-O3B-PG-O3G
34	M	501	ATP	C5'-O5'-PA-O2A
34	M	501	ATP	C5'-O5'-PA-O3A
36	J	501	ADP	C5'-O5'-PA-O2A
34	M	501	ATP	PB-O3B-PG-O1G
34	I	501	ATP	C4'-C5'-O5'-PA
34	M	501	ATP	C4'-C5'-O5'-PA
34	L	501	ATP	C5'-O5'-PA-O3A
36	J	501	ADP	C5'-O5'-PA-O3A
34	M	501	ATP	C3'-C4'-C5'-O5'
34	I	501	ATP	PG-O3B-PB-O2B
34	I	501	ATP	C5'-O5'-PA-O1A
36	J	501	ADP	C5'-O5'-PA-O1A
34	L	501	ATP	PB-O3B-PG-O1G
34	H	501	ATP	PG-O3B-PB-O2B
34	I	501	ATP	PB-O3B-PG-O1G
36	J	501	ADP	PA-O3A-PB-O1B
34	M	501	ATP	O4'-C4'-C5'-O5'
34	H	501	ATP	PA-O3A-PB-O1B
34	H	501	ATP	PA-O3A-PB-O2B
34	K	501	ATP	PB-O3A-PA-O1A
36	J	501	ADP	PB-O3A-PA-O1A
36	J	501	ADP	PB-O3A-PA-O2A
34	H	501	ATP	PB-O3B-PG-O1G
34	I	501	ATP	PB-O3B-PG-O2G
34	I	501	ATP	PB-O3B-PG-O3G
34	K	501	ATP	PB-O3B-PG-O3G
34	H	501	ATP	C5'-O5'-PA-O3A
34	K	501	ATP	C5'-O5'-PA-O3A

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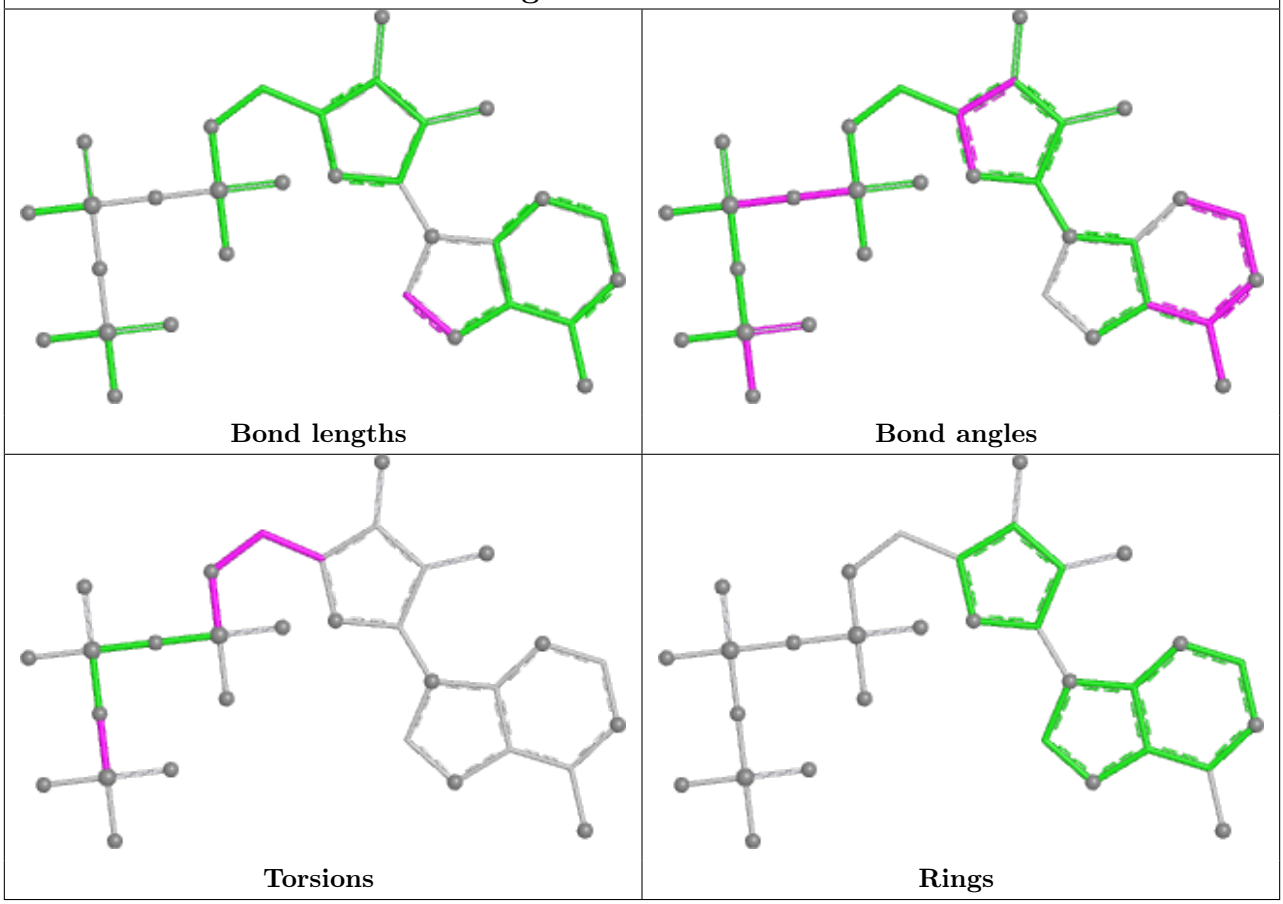
Mol	Chain	Res	Type	Atoms
34	I	501	ATP	PG-O3B-PB-O1B
34	I	501	ATP	PB-O3A-PA-O2A
34	K	501	ATP	C5'-O5'-PA-O1A

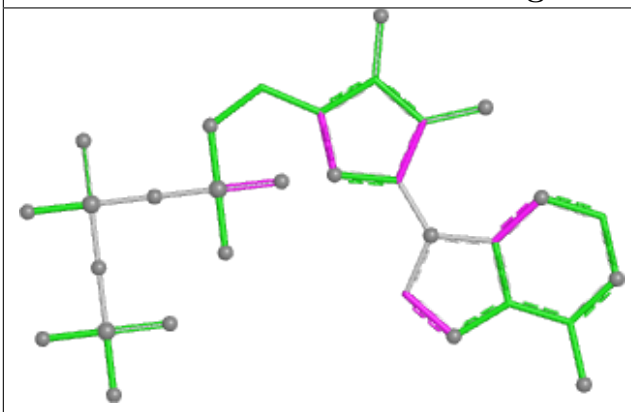
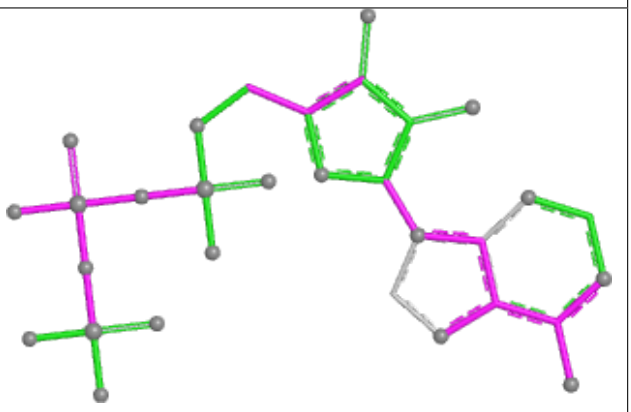
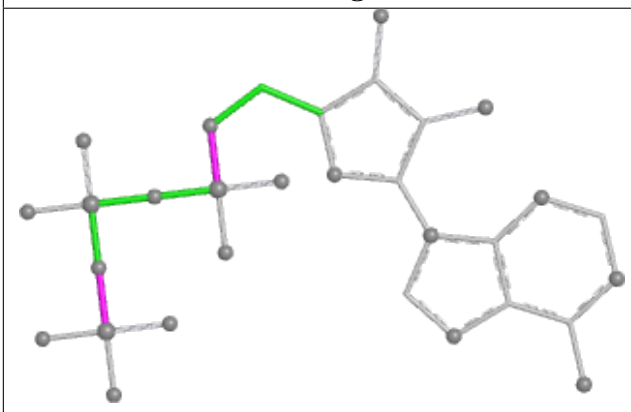
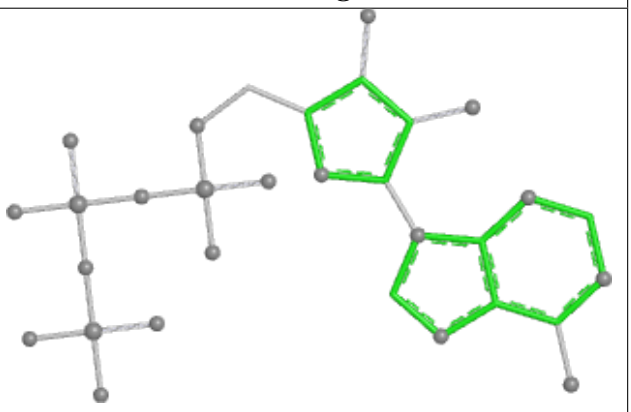
There are no ring outliers.

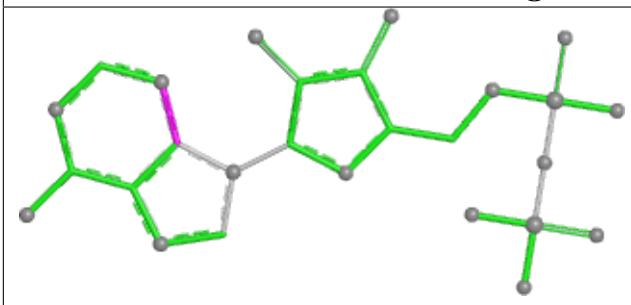
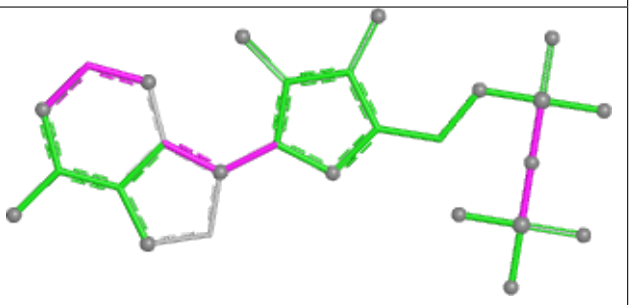
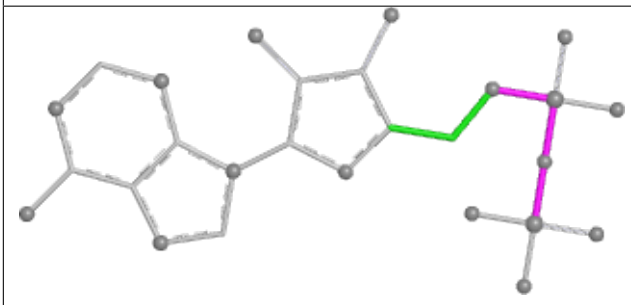
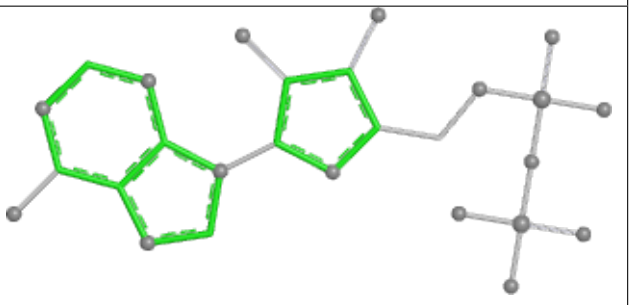
No monomer is involved in short contacts.

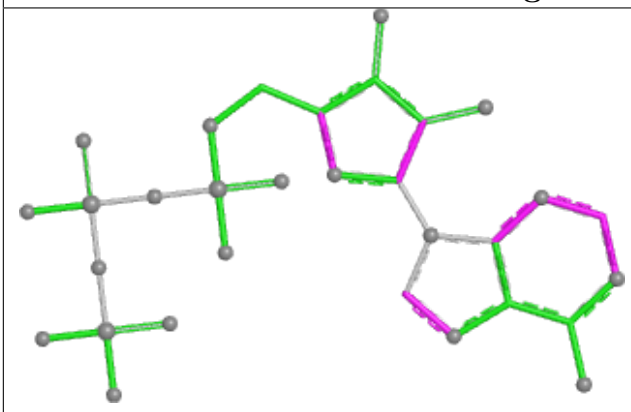
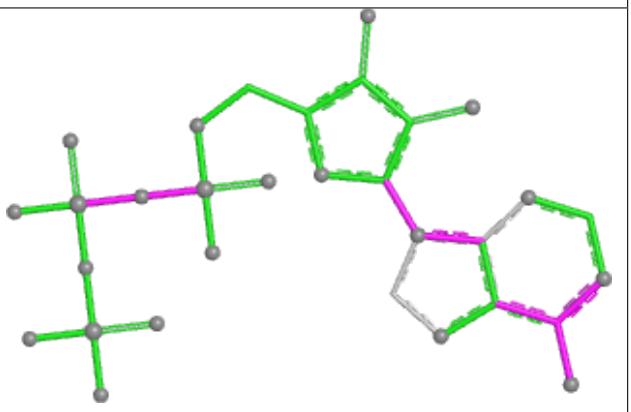
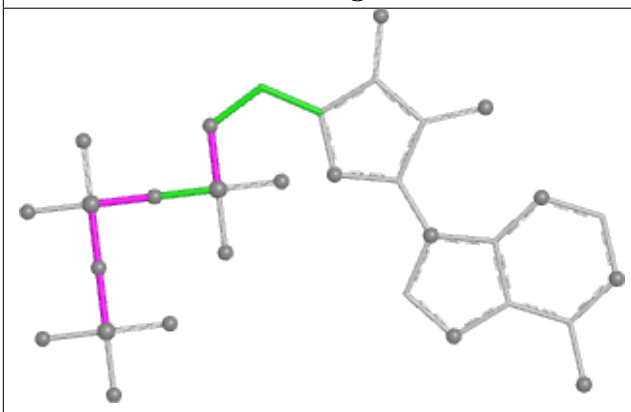
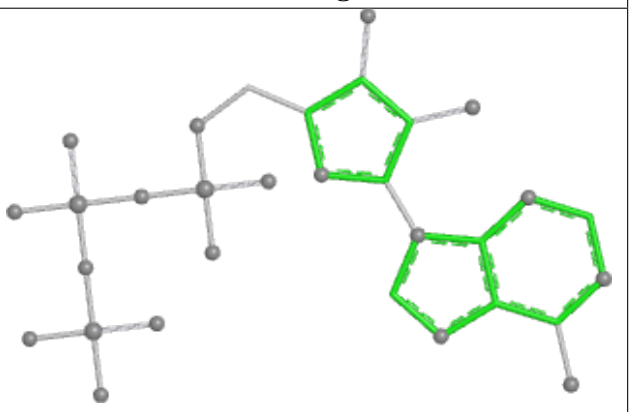
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 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.

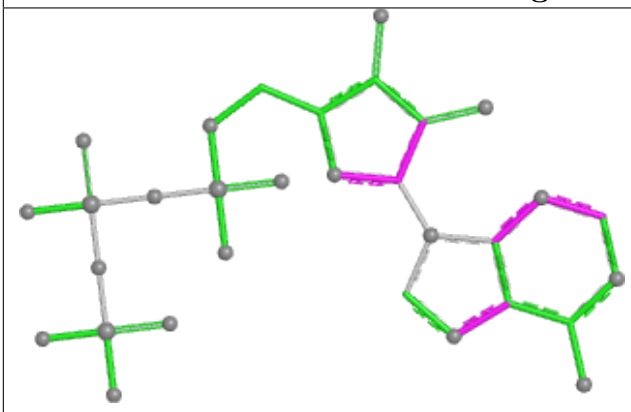
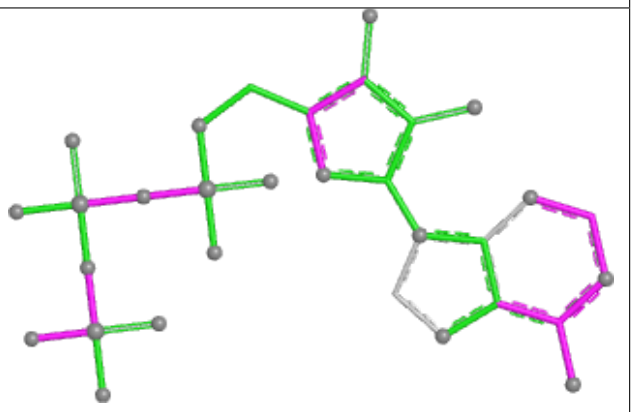
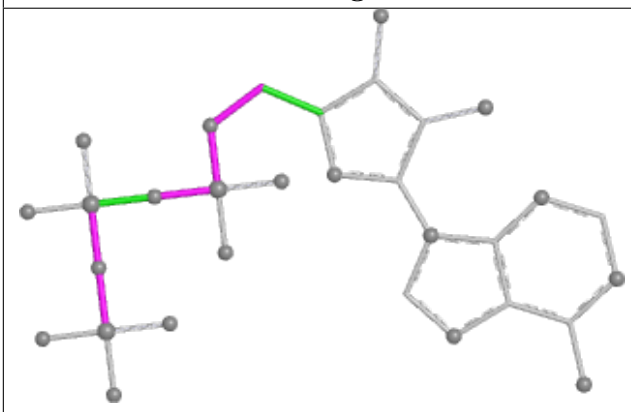
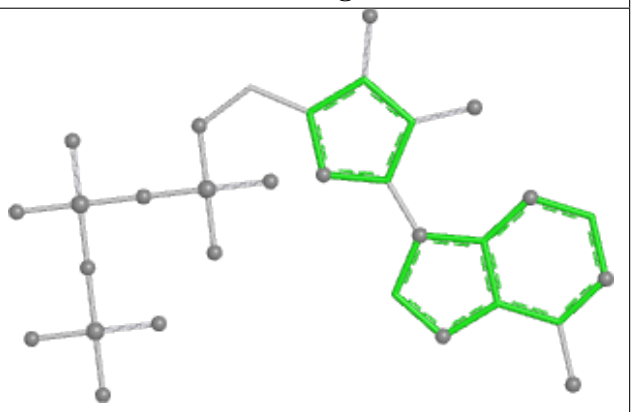
Ligand ATP M 501

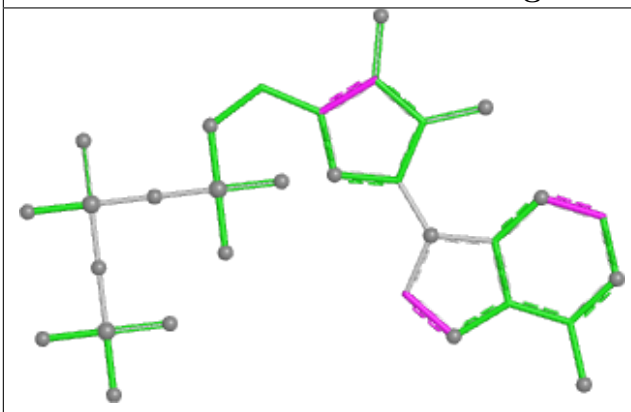
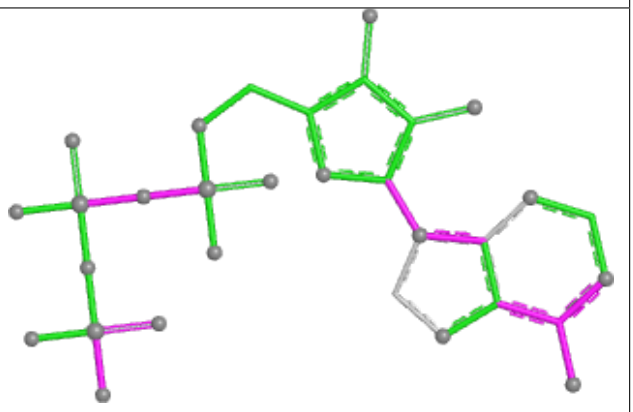
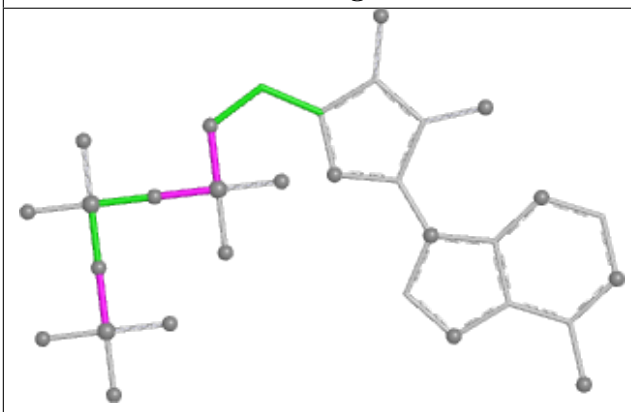
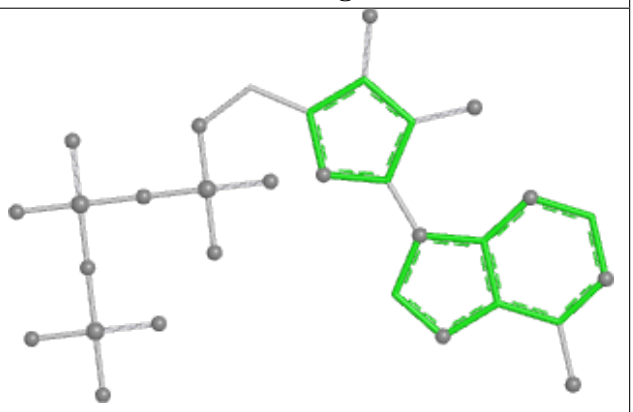


Ligand ATP L 501	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand ADP J 501	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand ATP H 501	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand ATP I 501	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand ATP K 501	
 Bond lengths	 Bond angles
 Torsions	 Rings

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.

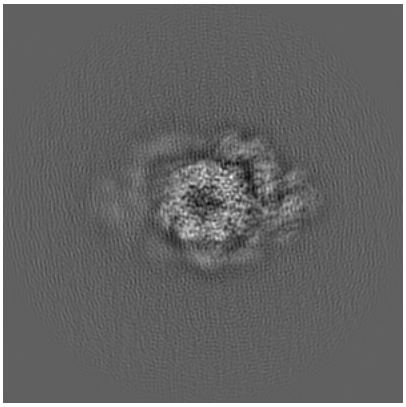
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-4323. These allow visual inspection of the internal detail of the map and identification of artifacts.

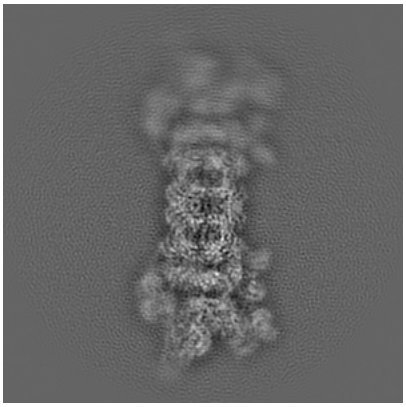
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

6.1.1 Primary map



X



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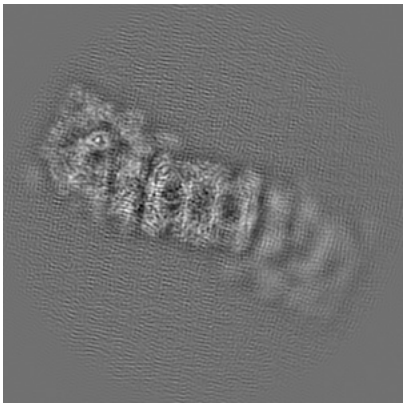
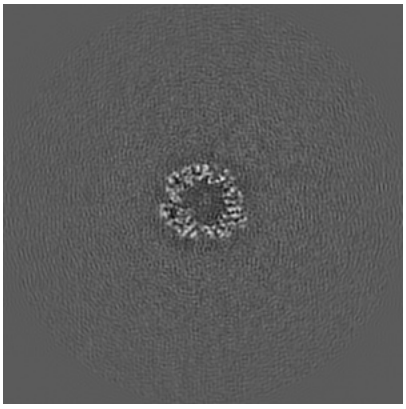


Z

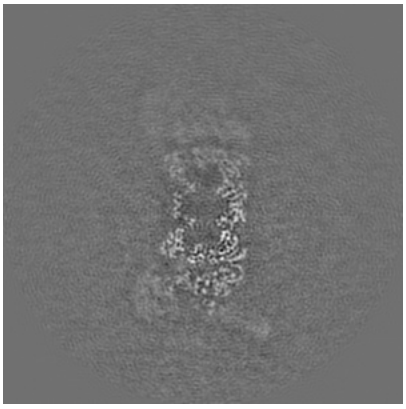
The images above show the map projected in three orthogonal directions.

6.2 Central slices

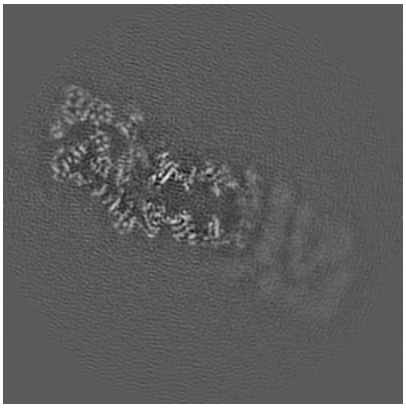
6.2.1 Primary map



X Index: 192



Y Index: 192

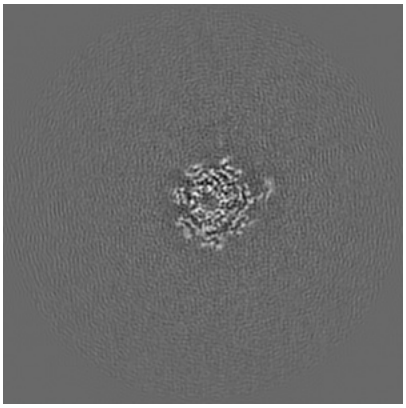


Z Index: 192

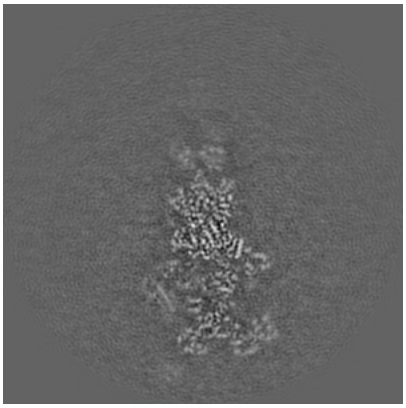
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

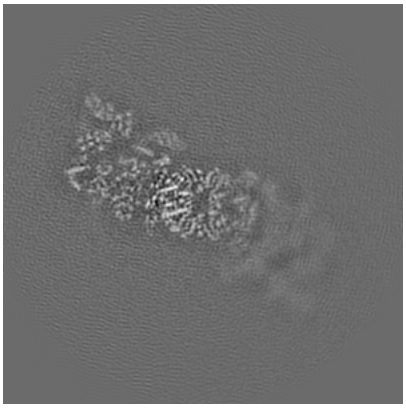
6.3.1 Primary map



X Index: 149



Y Index: 216

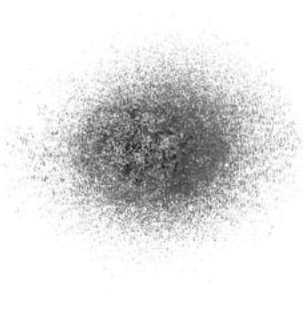


Z Index: 210

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

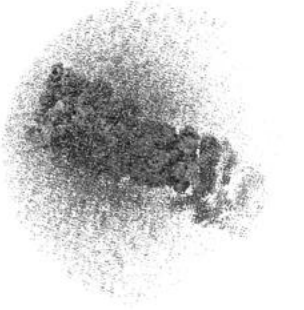
6.4 Orthogonal surface views (i)

6.4.1 Primary map



X

Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.017. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

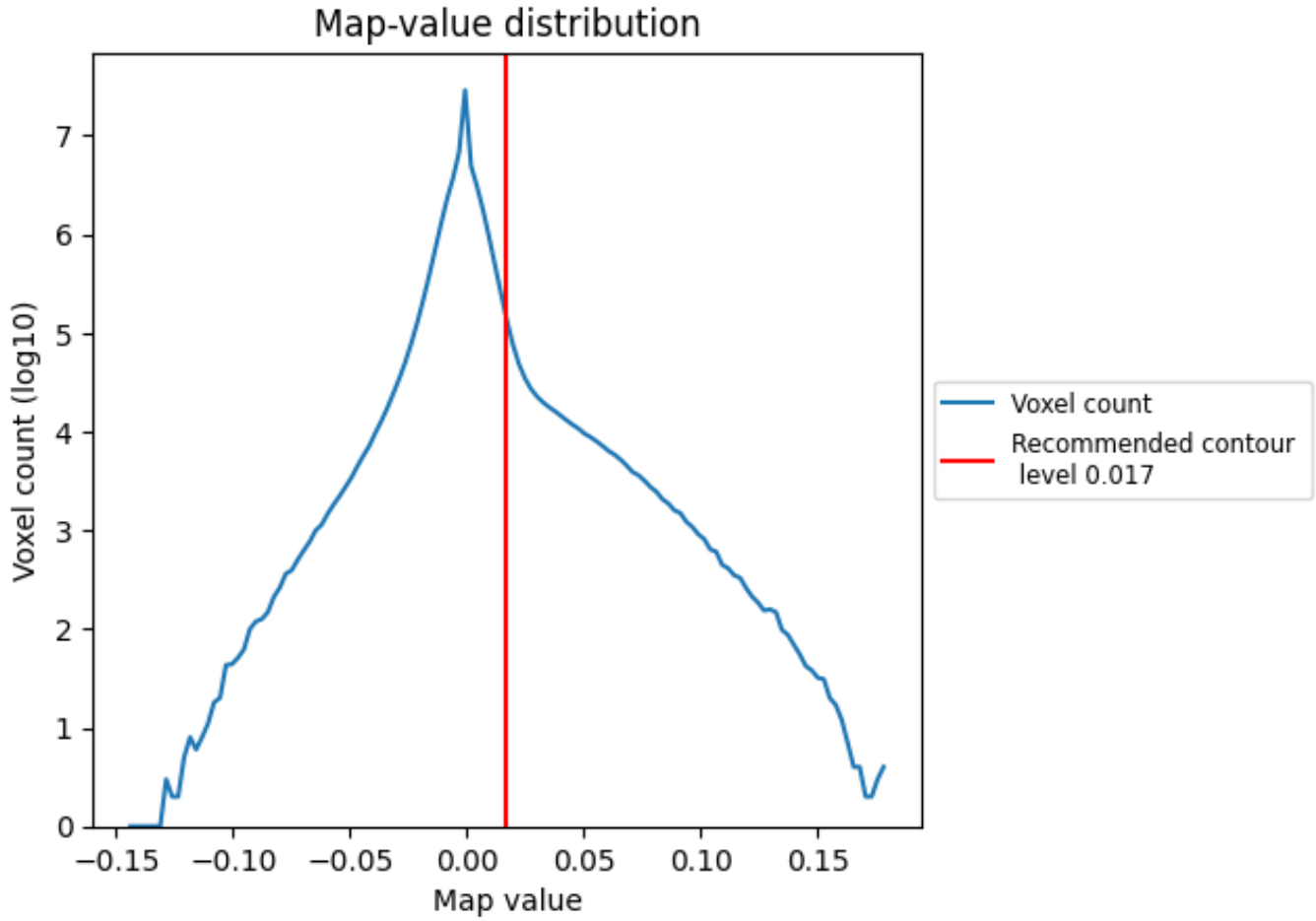
6.5 Mask visualisation (i)

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

7 Map analysis

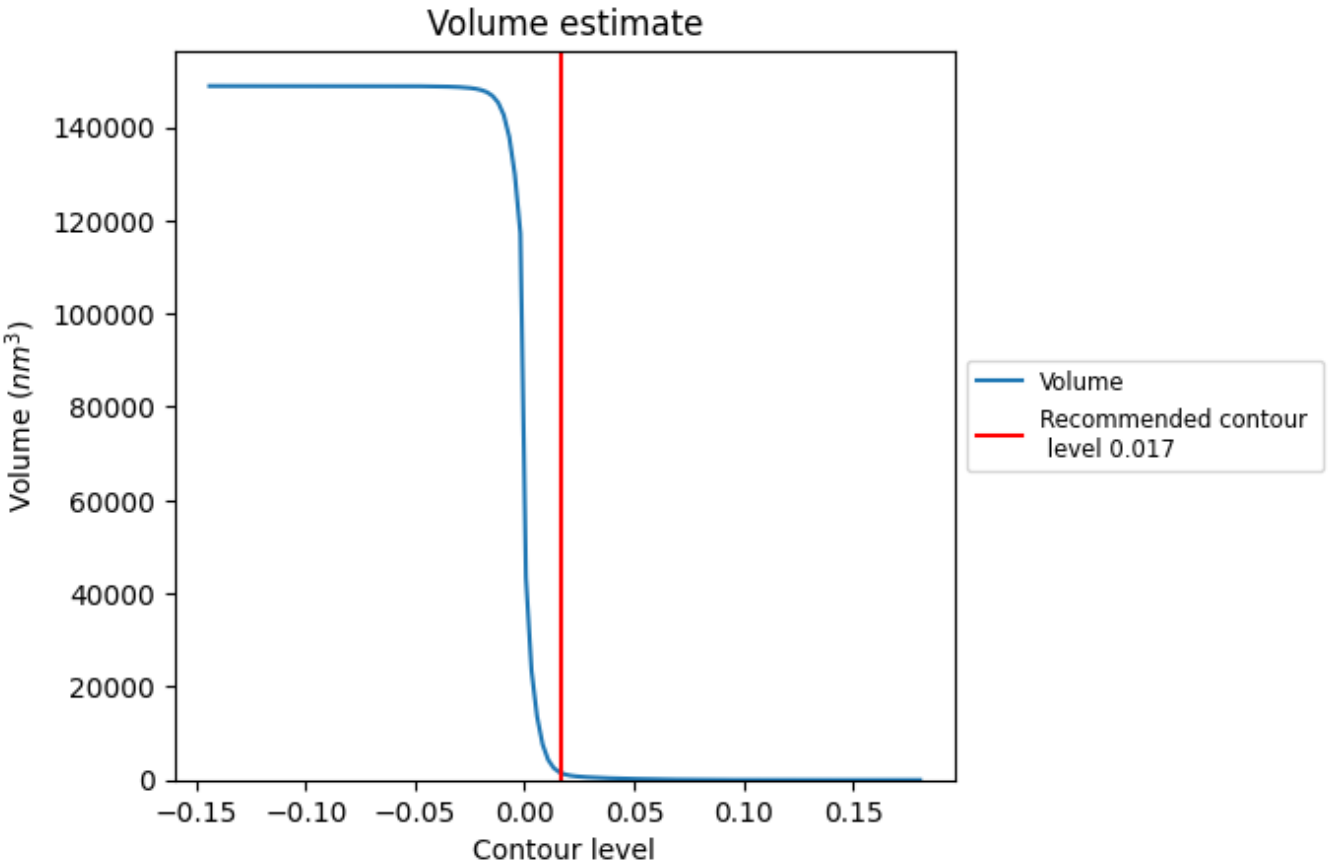
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

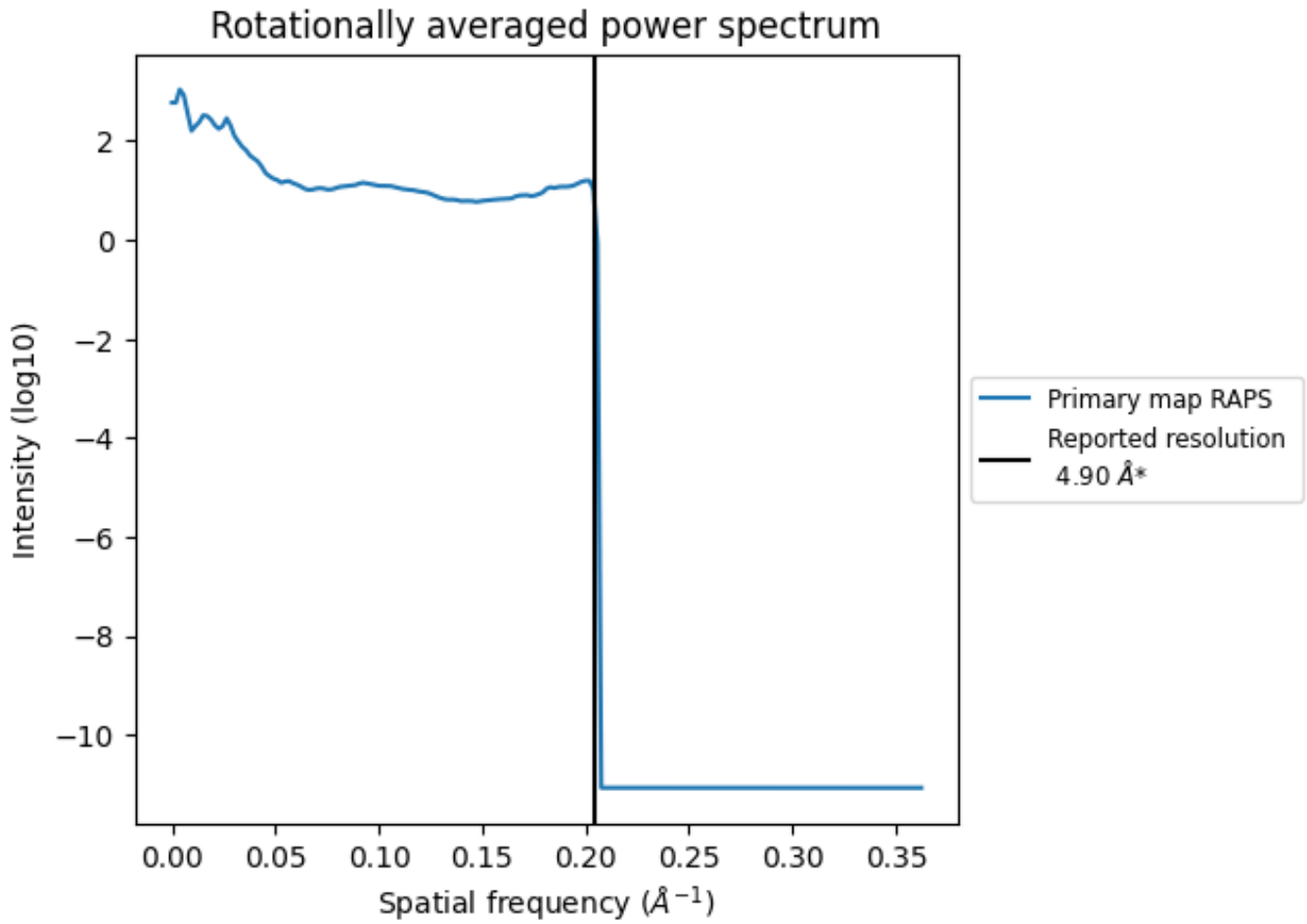
7.2 Volume estimate



The volume at the recommended contour level is 1456 nm^3; this corresponds to an approximate mass of 1315 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 0.204 Å^{-1}

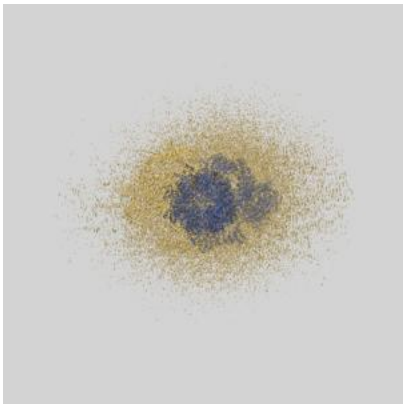
8 Fourier-Shell correlation

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

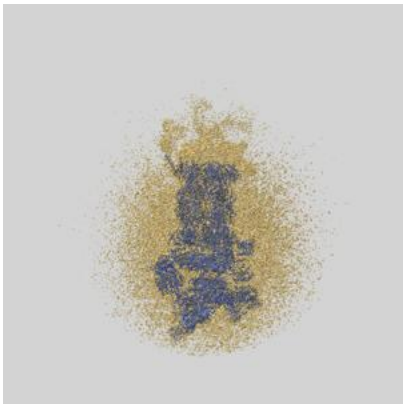
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-4323 and PDB model 6FVX. Per-residue inclusion information can be found in section 3 on page 13.

9.1 Map-model overlay



X

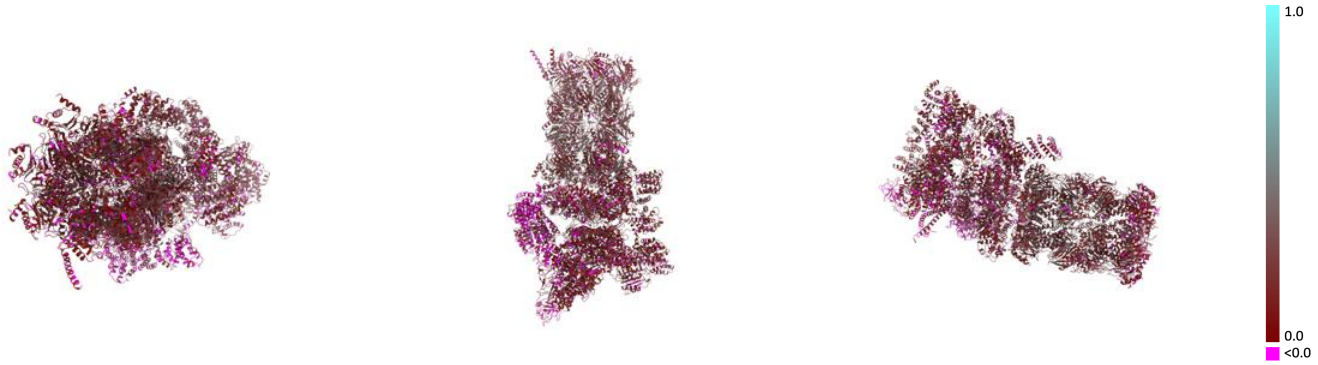


Y

Z

The images above show the 3D surface view of the map at the recommended contour level 0.017 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

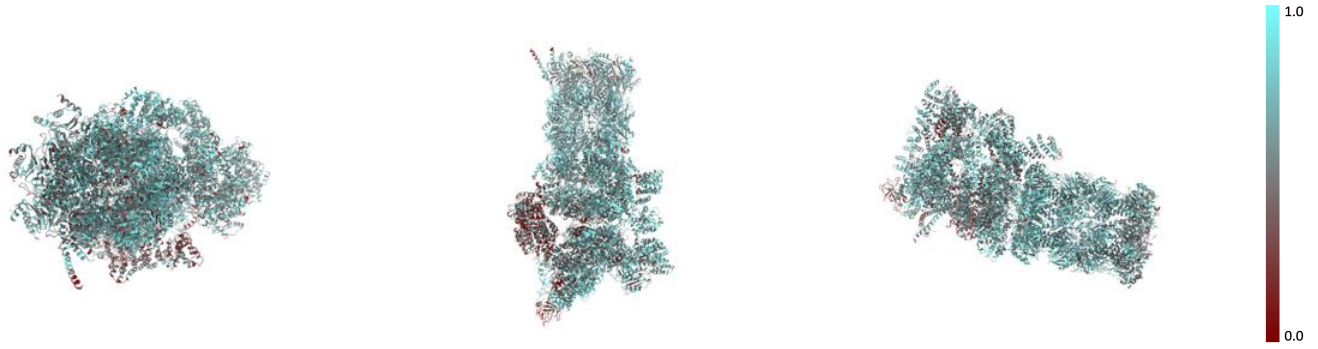
9.2 Q-score mapped to coordinate model



X Y Z

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

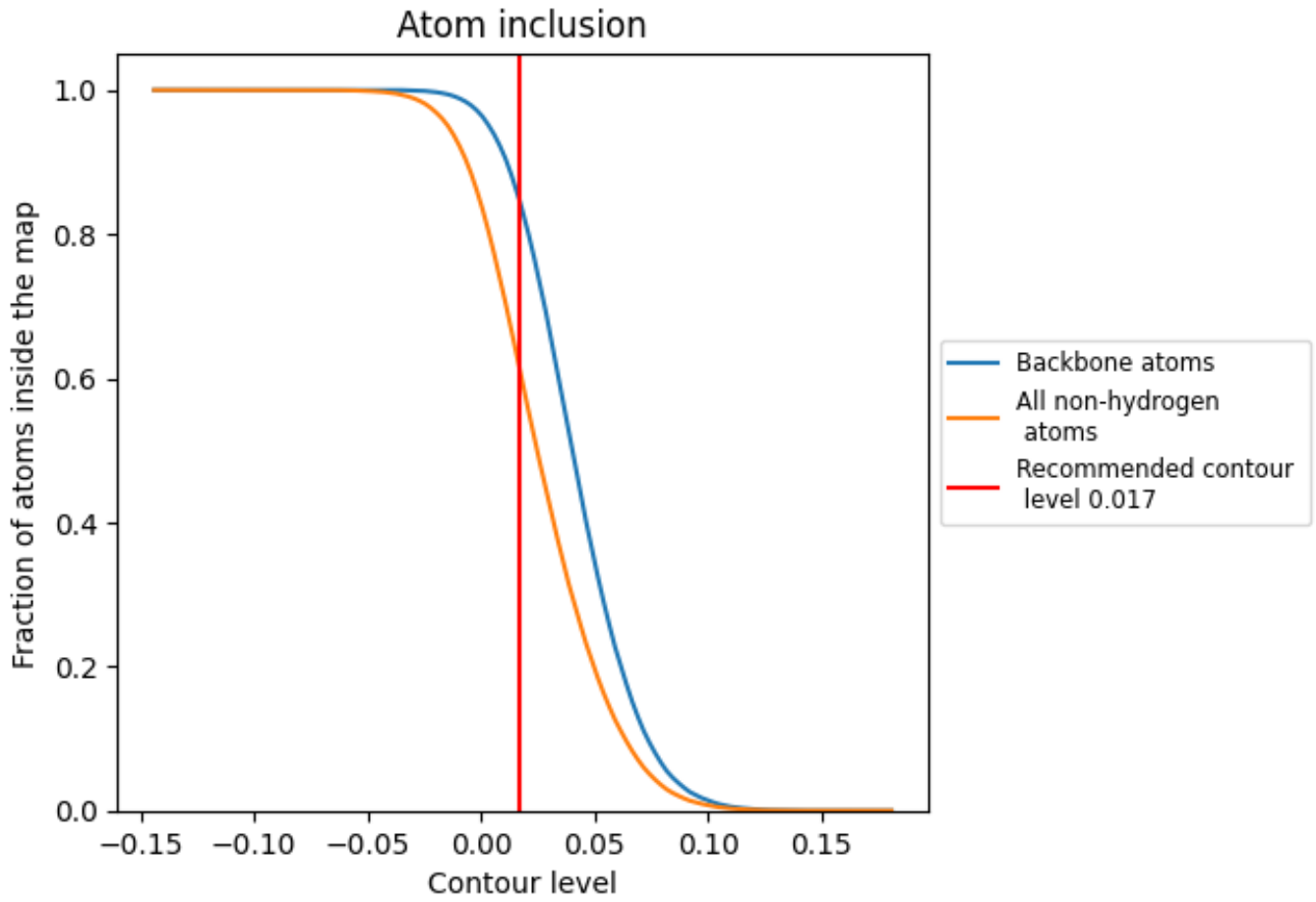
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.017).

9.4 Atom inclusion (i)



At the recommended contour level, 85% of all backbone atoms, 61% 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 (0.017) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6126	0.1870
1	0.7527	0.2680
2	0.7286	0.2690
3	0.7102	0.2560
4	0.7181	0.2530
5	0.7557	0.2600
6	0.7195	0.2540
7	0.7222	0.2600
A	0.7240	0.2630
B	0.7053	0.2620
C	0.7024	0.2480
D	0.7029	0.2350
E	0.6920	0.2330
F	0.7260	0.2510
G	0.7386	0.2710
H	0.5594	0.1620
I	0.5777	0.1670
J	0.5241	0.1580
K	0.5914	0.1820
L	0.6349	0.2030
M	0.5975	0.1750
N	0.6180	0.1780
O	0.6556	0.1730
P	0.6926	0.1880
Q	0.6547	0.1650
R	0.6286	0.1630
S	0.5596	0.1480
T	0.5712	0.1520
U	0.6142	0.1930
V	0.6653	0.2110
W	0.6008	0.1530
X	0.1440	0.0360
Y	0.3693	0.0970
Z	0.3071	0.0310
a	0.5765	0.1750

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Chain	Atom inclusion	Q-score
b	0.5488	0.1700
c	0.5816	0.1820
d	0.5309	0.1640
e	0.5539	0.1620
f	0.5789	0.1590
g	0.5892	0.1740
h	0.7055	0.2410
i	0.6867	0.2290
j	0.6729	0.2330
k	0.6821	0.2260
l	0.7060	0.2340
m	0.6928	0.2240
n	0.6987	0.2390