Full wwPDB EM Validation Report ⓘ

Dec 12, 2022 – 11:25 AM EST

PDB ID	:	6WKK
EMDB ID	:	EMD-21695
Title	:	Phage G gp27 major capsid proteins and gp26 decoration proteins
Authors	:	Monroe, L.; Gonzalez, B.; Jiang, W.; Kihara, D.
Deposited on	:	2020-04-16
Resolution	:	6.10 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:

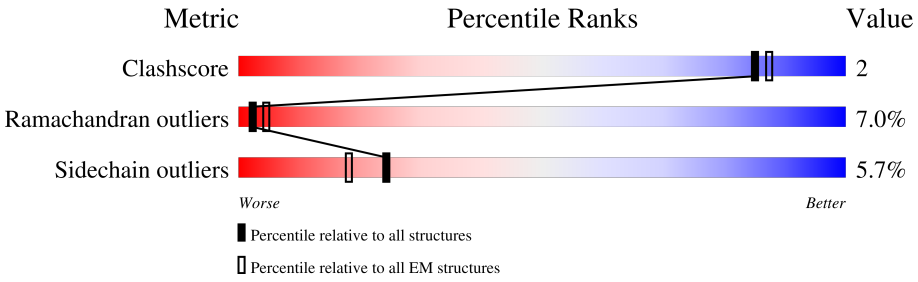
EMDB validation analysis	:	0.0.1.dev43
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	FAILED
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

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 6.10 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)
Clashscore	158937	4297
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%

Mol	Chain	Length	Quality of chain
1	A	280	74% 20% 6% •
1	B	280	73% 21% 5%
1	C	280	74% 22% • •
1	D	280	70% 24% 5% •
1	E	280	68% 26% 5% •
1	F	280	74% 20% 6%
2	G	150	67% 29% • •
2	H	150	69% 23% 7% •
2	I	150	69% 25% 5% •

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Mol	Chain	Length	Quality of chain
2	J	150	70% 23% 6%
2	K	150	63% 33%
2	L	150	60% 30% 9%
2	M	150	64% 26% 9%
2	N	150	75% 21%
2	O	150	60% 30% 9%
2	P	150	69% 25% 5%
2	Q	150	72% 23% 5%
2	R	150	69% 25%
2	S	150	71% 23% 5%
2	T	150	67% 28%
2	U	150	68% 29%
2	V	150	71% 21% 6%
2	W	150	75% 20% 5%
2	X	150	69% 21% 9%

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 33000 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 Gp27 major capsid protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	280	Total	C	N	O	S	0	0
			2182	1390	374	413	5		
1	B	280	Total	C	N	O	S	0	0
			2182	1390	374	413	5		
1	C	280	Total	C	N	O	S	0	0
			2182	1390	374	413	5		
1	D	280	Total	C	N	O	S	0	0
			2182	1390	374	413	5		
1	E	280	Total	C	N	O	S	0	0
			2182	1390	374	413	5		
1	F	280	Total	C	N	O	S	0	0
			2182	1390	374	413	5		

- Molecule 2 is a protein called Gp26 capsid decoration protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	G	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		
2	H	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		
2	I	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		
2	J	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		
2	K	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		
2	L	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		
2	M	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		
2	N	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		
2	O	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		

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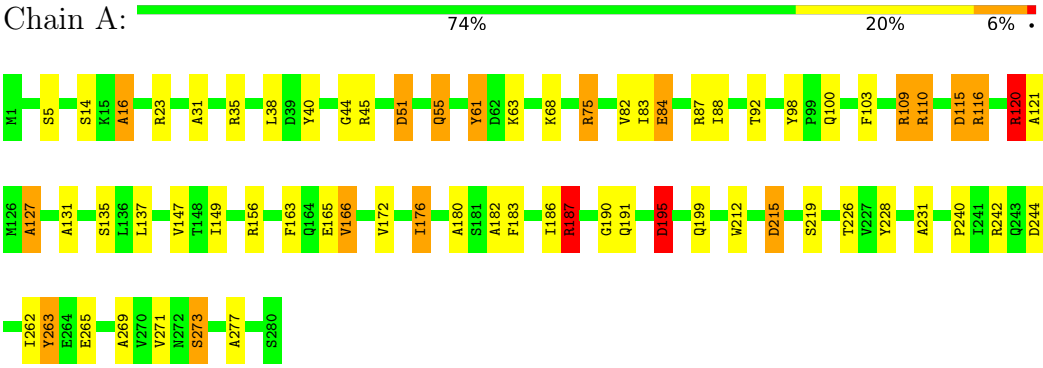
Mol	Chain	Residues	Atoms					AltConf	Trace
2	P	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		
2	Q	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		
2	R	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		
2	S	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		
2	T	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		
2	U	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		
2	V	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		
2	W	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		
2	X	150	Total	C	N	O	S	0	0
			1106	696	186	219	5		

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. 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. 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.

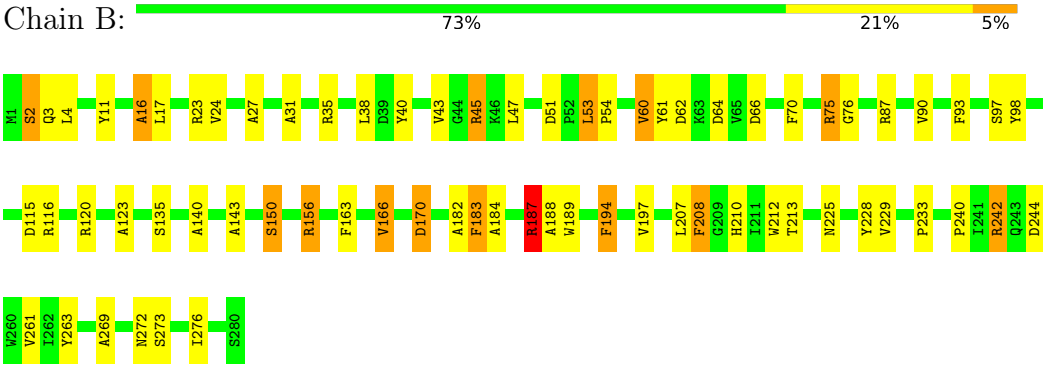
- Molecule 1: Gp27 major capsid protein

Chain A:



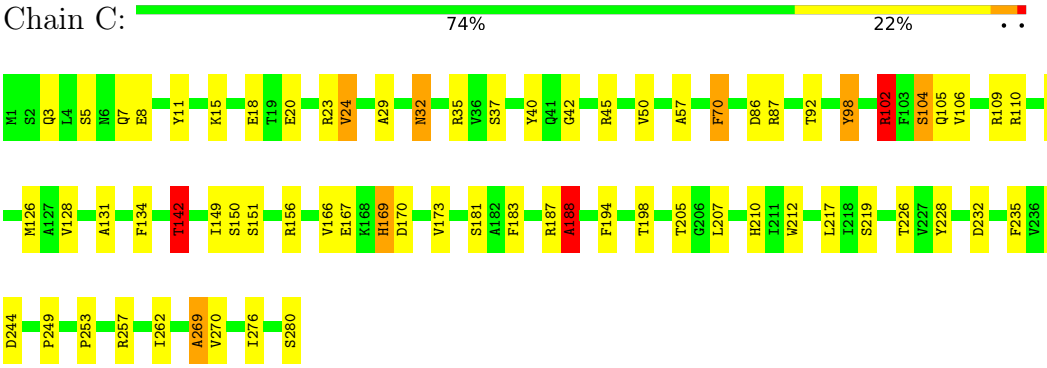
- Molecule 1: Gp27 major capsid protein

Chain B:



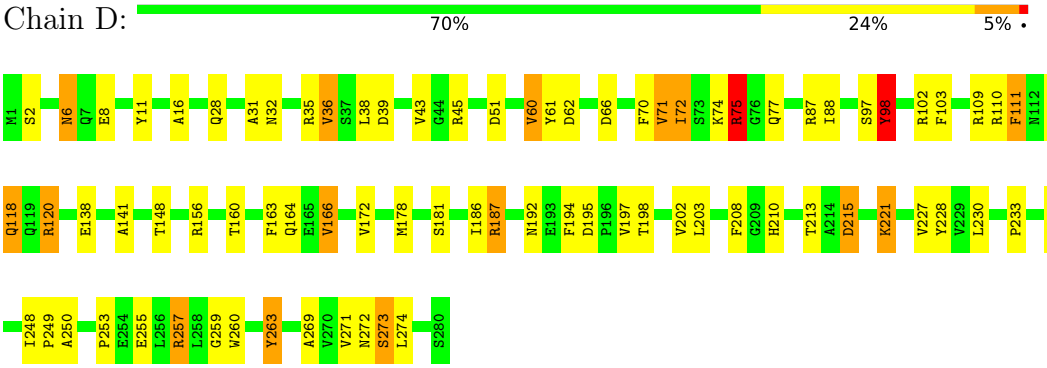
- Molecule 1: Gp27 major capsid protein

Chain C:



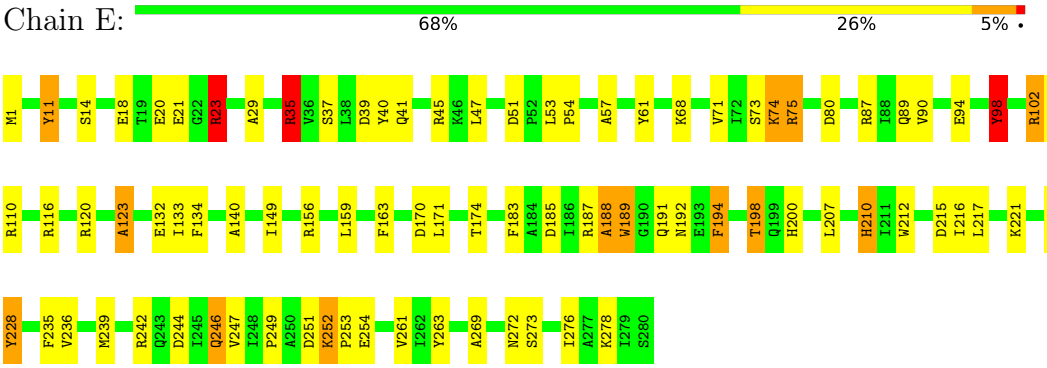
• Molecule 1: Gp27 major capsid protein

Chain D:



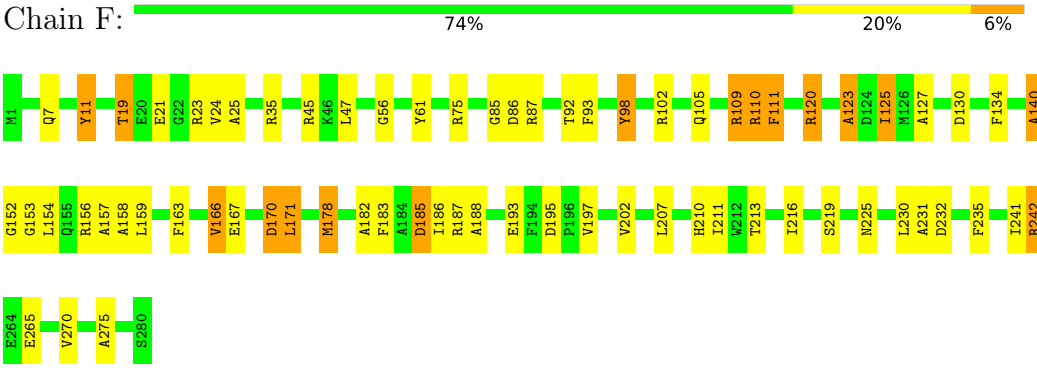
• Molecule 1: Gp27 major capsid protein

Chain E:



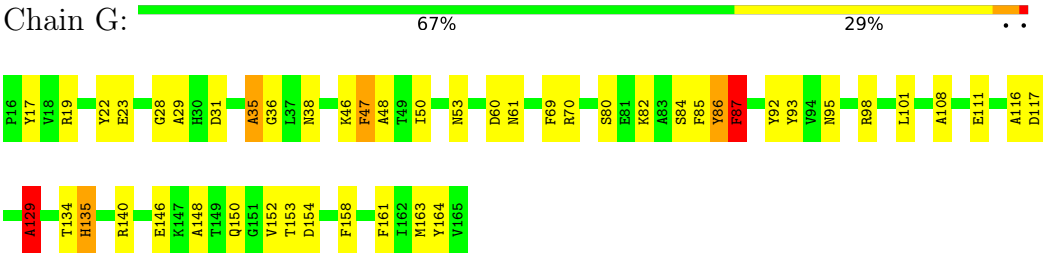
• Molecule 1: Gp27 major capsid protein

Chain F:



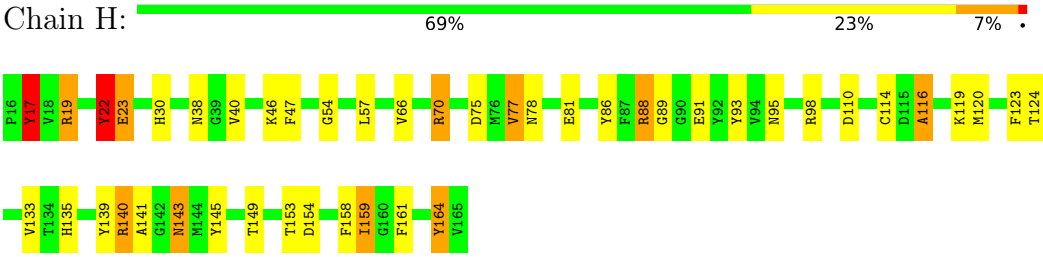
• Molecule 2: Gp26 capsid decoration protein

Chain G:



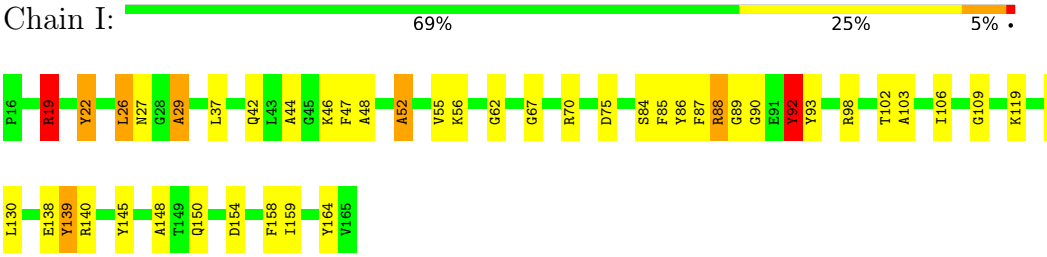
• Molecule 2: Gp26 capsid decoration protein

Chain H:



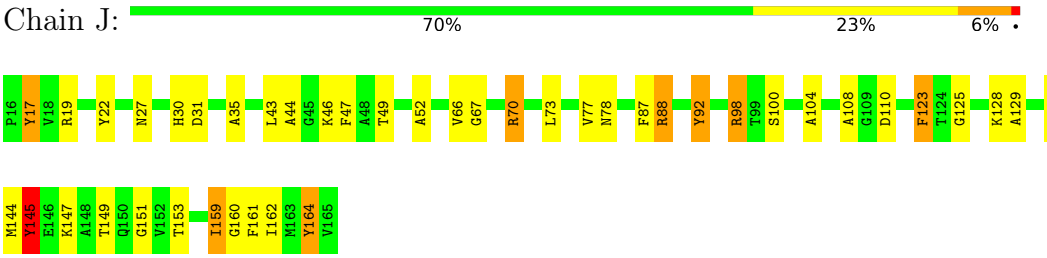
• Molecule 2: Gp26 capsid decoration protein

Chain I:



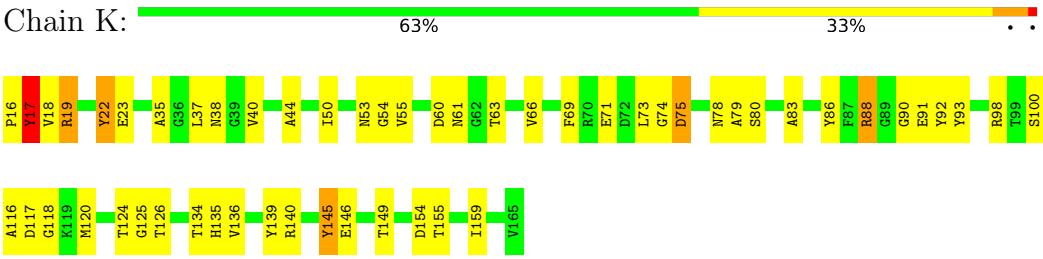
• Molecule 2: Gp26 capsid decoration protein

Chain J:



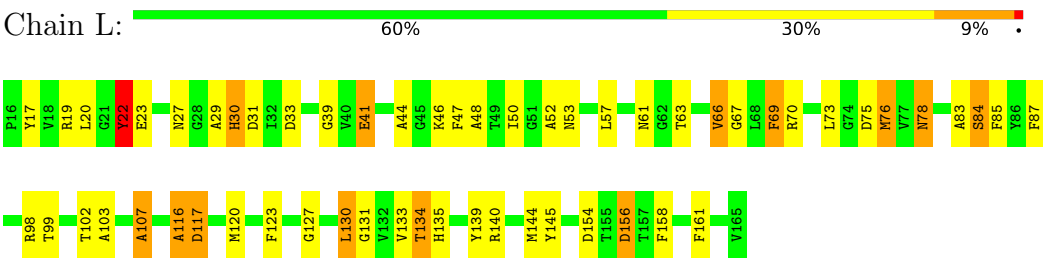
• Molecule 2: Gp26 capsid decoration protein

Chain K:



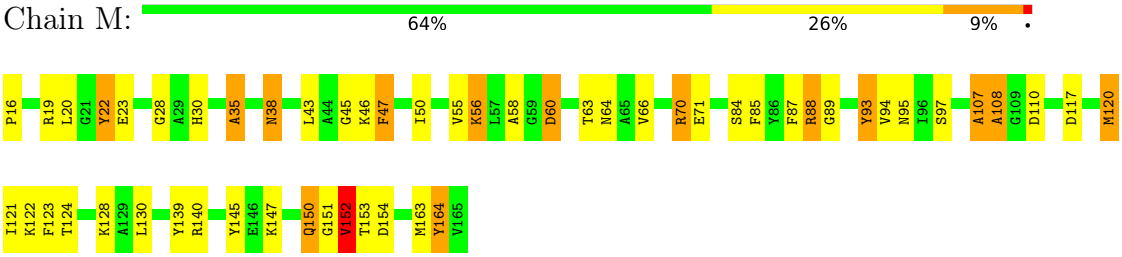
• Molecule 2: Gp26 capsid decoration protein

Chain L:



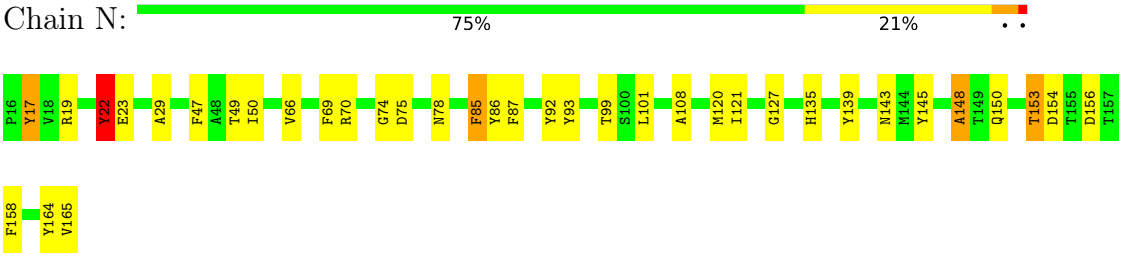
• Molecule 2: Gp26 capsid decoration protein

Chain M:



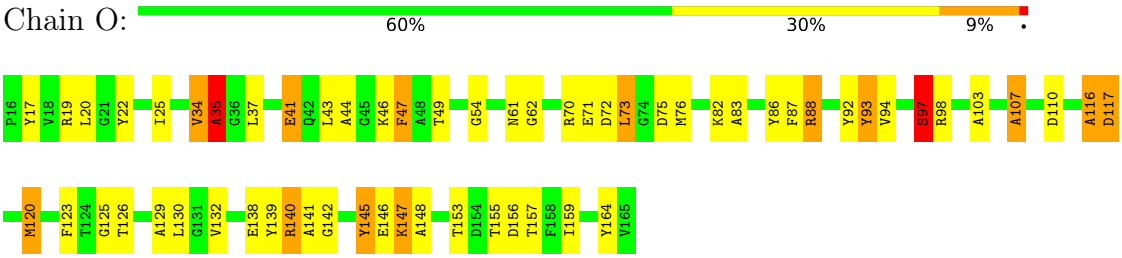
• Molecule 2: Gp26 capsid decoration protein

Chain N:



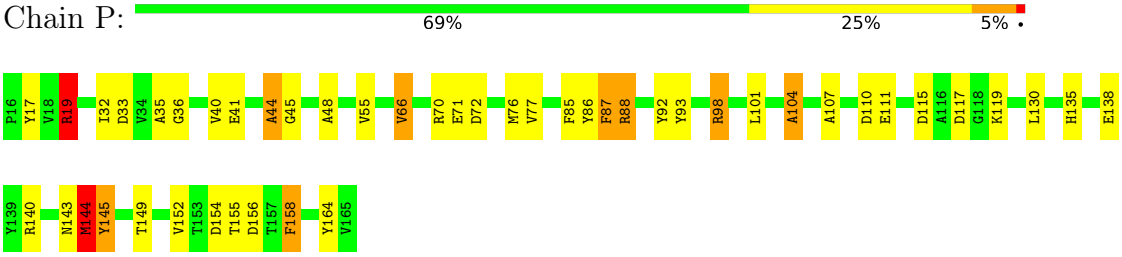
• Molecule 2: Gp26 capsid decoration protein

Chain O:



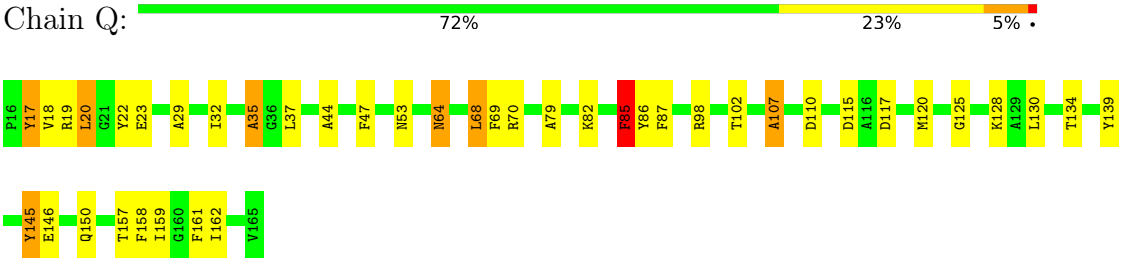
• Molecule 2: Gp26 capsid decoration protein

Chain P:



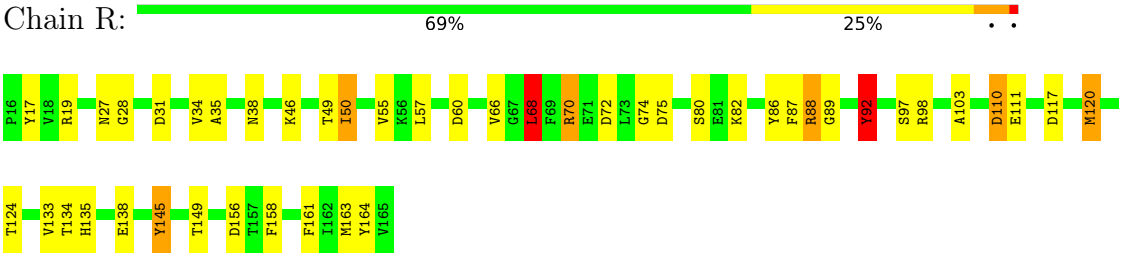
• Molecule 2: Gp26 capsid decoration protein

Chain Q:



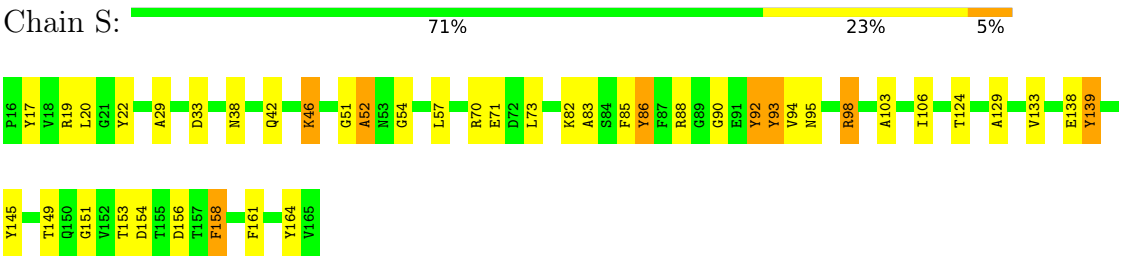
• Molecule 2: Gp26 capsid decoration protein

Chain R:



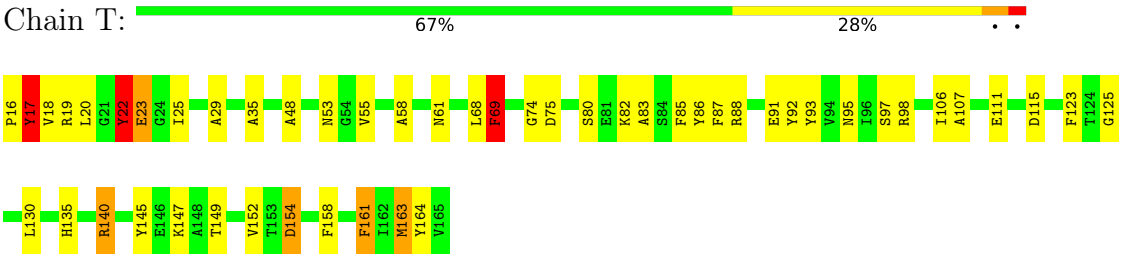
• Molecule 2: Gp26 capsid decoration protein

Chain S:



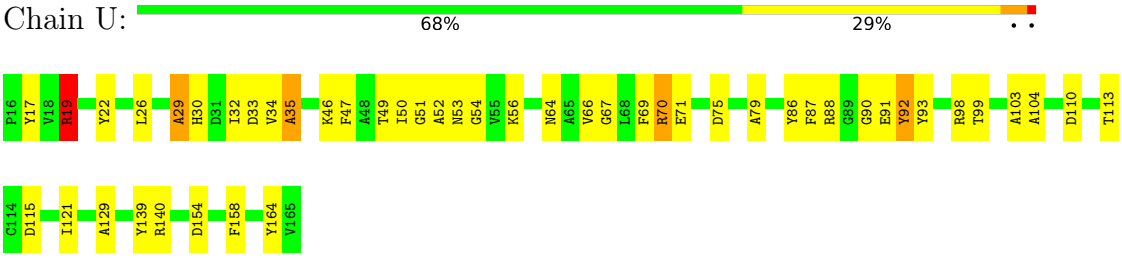
• Molecule 2: Gp26 capsid decoration protein

Chain T:



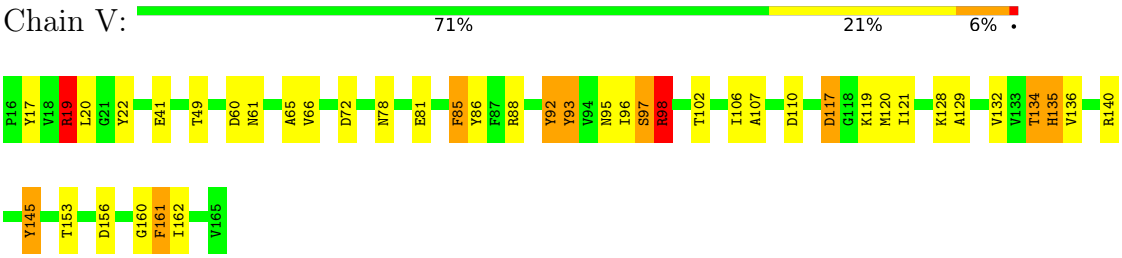
• Molecule 2: Gp26 capsid decoration protein

Chain U:



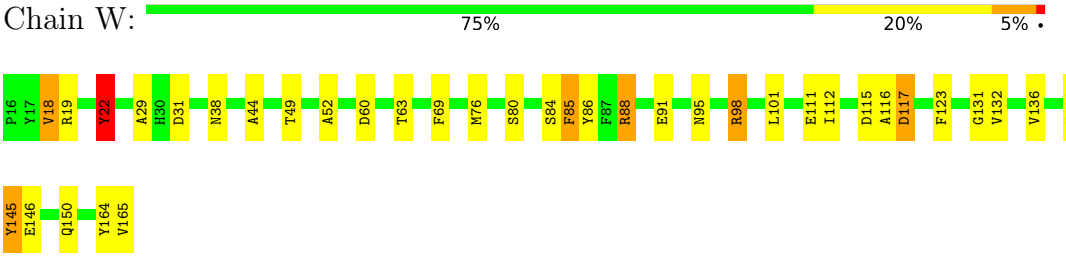
• Molecule 2: Gp26 capsid decoration protein

Chain V:



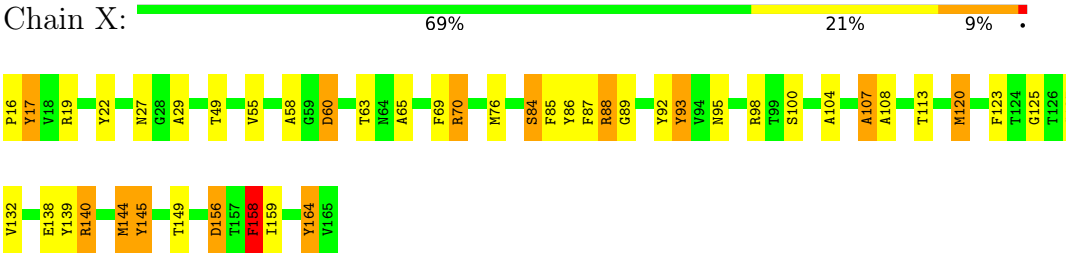
• Molecule 2: Gp26 capsid decoration protein

Chain W:



• Molecule 2: Gp26 capsid decoration protein

Chain X:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	2564	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 ($e^-/Å^2$)	14.5	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor

5 Model quality

5.1 Standard geometry

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	1.87	13/2219 (0.6%)	2.00	56/3012 (1.9%)
1	B	1.69	15/2219 (0.7%)	2.06	63/3012 (2.1%)
1	C	1.69	12/2219 (0.5%)	2.04	54/3012 (1.8%)
1	D	1.67	11/2219 (0.5%)	1.96	57/3012 (1.9%)
1	E	1.67	17/2219 (0.8%)	1.99	60/3012 (2.0%)
1	F	2.45	19/2219 (0.9%)	1.94	55/3012 (1.8%)
2	G	1.80	13/1123 (1.2%)	1.96	27/1515 (1.8%)
2	H	1.70	7/1123 (0.6%)	2.08	37/1515 (2.4%)
2	I	1.73	10/1123 (0.9%)	2.03	26/1515 (1.7%)
2	J	1.77	9/1123 (0.8%)	2.10	31/1515 (2.0%)
2	K	1.73	4/1123 (0.4%)	2.10	31/1515 (2.0%)
2	L	1.69	8/1123 (0.7%)	2.25	58/1515 (3.8%)
2	M	2.43	14/1123 (1.2%)	2.09	43/1515 (2.8%)
2	N	1.67	4/1123 (0.4%)	2.04	30/1515 (2.0%)
2	O	2.86	11/1123 (1.0%)	2.18	46/1515 (3.0%)
2	P	1.70	9/1123 (0.8%)	2.12	39/1515 (2.6%)
2	Q	1.73	5/1123 (0.4%)	1.99	25/1515 (1.7%)
2	R	1.70	11/1123 (1.0%)	2.02	34/1515 (2.2%)
2	S	1.76	8/1123 (0.7%)	2.10	35/1515 (2.3%)
2	T	1.77	7/1123 (0.6%)	1.98	31/1515 (2.0%)
2	U	1.78	7/1123 (0.6%)	2.05	31/1515 (2.0%)
2	V	1.72	5/1123 (0.4%)	1.92	20/1515 (1.3%)
2	W	1.73	6/1123 (0.5%)	1.96	22/1515 (1.5%)
2	X	1.76	14/1123 (1.2%)	2.10	39/1515 (2.6%)
All	All	1.86	239/33528 (0.7%)	2.04	950/45342 (2.1%)

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	5

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Mol	Chain	#Chirality outliers	#Planarity outliers
1	B	0	9
1	C	0	2
1	D	0	11
1	E	0	6
1	F	0	6
2	G	1	6
2	H	3	5
2	I	0	8
2	J	1	7
2	K	3	3
2	L	0	4
2	M	1	3
2	N	3	3
2	O	0	4
2	P	1	4
2	Q	3	3
2	R	0	3
2	S	1	4
2	T	2	7
2	U	0	7
2	V	2	3
2	W	3	3
2	X	0	7
All	All	24	123

All (239) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	O	35	ALA	N-CA	74.41	2.95	1.46
1	F	111	PHE	CG-CD1	43.98	2.04	1.38
1	F	111	PHE	CG-CD2	40.20	1.99	1.38
1	A	55	GLN	CD-NE2	39.08	2.30	1.32
1	F	111	PHE	CE1-CZ	32.88	1.99	1.37
1	F	111	PHE	CD2-CE2	32.14	2.03	1.39
2	M	47	PHE	CG-CD2	30.87	1.85	1.38
1	F	111	PHE	CE2-CZ	28.33	1.91	1.37
1	F	111	PHE	CD1-CE1	27.50	1.94	1.39
2	M	47	PHE	CG-CD1	26.94	1.79	1.38
2	M	47	PHE	CE2-CZ	24.65	1.84	1.37
2	M	47	PHE	CE1-CZ	22.30	1.79	1.37
2	M	47	PHE	CD1-CE1	16.54	1.72	1.39
2	M	47	PHE	CD2-CE2	15.96	1.71	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	F	85	GLY	N-CA	-8.53	1.33	1.46
2	T	80	SER	CA-CB	8.14	1.65	1.52
1	B	11	TYR	CD1-CE1	8.07	1.51	1.39
2	J	145	TYR	CG-CD2	7.89	1.49	1.39
2	P	87	PHE	CG-CD2	7.86	1.50	1.38
1	E	23	ARG	CZ-NH1	7.57	1.42	1.33
1	E	273	SER	CA-CB	7.46	1.64	1.52
2	J	92	TYR	CE2-CZ	7.42	1.48	1.38
2	R	98	ARG	CZ-NH1	7.39	1.42	1.33
2	X	139	TYR	CG-CD2	7.13	1.48	1.39
2	G	22	TYR	CZ-OH	7.12	1.50	1.37
1	B	135	SER	CA-CB	7.09	1.63	1.52
2	S	22	TYR	CB-CG	7.08	1.62	1.51
1	B	189	TRP	CD1-NE1	-7.07	1.25	1.38
1	A	183	PHE	CG-CD2	7.05	1.49	1.38
1	F	242	ARG	NE-CZ	6.98	1.42	1.33
2	U	71	GLU	CD-OE2	6.92	1.33	1.25
2	I	139	TYR	CG-CD2	6.79	1.48	1.39
2	R	70	ARG	NE-CZ	6.74	1.41	1.33
2	V	92	TYR	CZ-OH	6.74	1.49	1.37
1	E	18	GLU	CB-CG	6.71	1.64	1.52
2	V	92	TYR	CG-CD2	6.67	1.47	1.39
2	T	22	TYR	CD1-CE1	6.67	1.49	1.39
2	O	92	TYR	CE1-CZ	6.63	1.47	1.38
2	I	90	GLY	CA-C	-6.61	1.41	1.51
1	B	47	LEU	CA-CB	6.55	1.68	1.53
2	O	62	GLY	CA-C	-6.55	1.41	1.51
2	P	70	ARG	NE-CZ	6.49	1.41	1.33
2	G	158	PHE	CB-CG	6.45	1.62	1.51
1	E	75	ARG	NE-CZ	6.42	1.41	1.33
2	K	92	TYR	CZ-OH	6.42	1.48	1.37
1	A	228	TYR	CG-CD1	6.38	1.47	1.39
1	C	280	SER	CA-CB	6.37	1.62	1.52
2	X	100	SER	CA-CB	6.36	1.62	1.52
1	E	45	ARG	NE-CZ	6.36	1.41	1.33
1	E	187	ARG	CZ-NH2	6.34	1.41	1.33
2	M	71	GLU	CD-OE1	6.30	1.32	1.25
2	G	87	PHE	CG-CD2	6.29	1.48	1.38
2	R	158	PHE	CG-CD2	6.28	1.48	1.38
1	C	40	TYR	CG-CD2	6.24	1.47	1.39
1	D	181	SER	CA-CB	6.22	1.62	1.52
2	L	69	PHE	CG-CD1	6.21	1.48	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	120	ARG	NE-CZ	6.19	1.41	1.33
2	P	45	GLY	CA-C	6.18	1.61	1.51
2	X	22	TYR	CG-CD1	6.17	1.47	1.39
2	O	70	ARG	CZ-NH1	6.17	1.41	1.33
1	A	35	ARG	CZ-NH2	6.16	1.41	1.33
2	S	51	GLY	N-CA	-6.14	1.36	1.46
2	N	70	ARG	NE-CZ	6.14	1.41	1.33
1	F	187	ARG	CZ-NH2	6.13	1.41	1.33
2	R	164	TYR	CE1-CZ	6.10	1.46	1.38
2	S	29	ALA	N-CA	-6.10	1.34	1.46
1	C	151	SER	N-CA	6.08	1.58	1.46
1	E	35	ARG	CZ-NH2	6.06	1.41	1.33
1	B	187	ARG	NE-CZ	6.05	1.41	1.33
1	F	202	VAL	N-CA	-6.01	1.34	1.46
1	A	84	GLU	CB-CG	5.99	1.63	1.52
2	R	28	GLY	CA-C	-5.97	1.42	1.51
1	A	35	ARG	NE-CZ	5.97	1.40	1.33
2	U	54	GLY	N-CA	-5.96	1.37	1.46
1	D	109	ARG	NE-CZ	5.96	1.40	1.33
2	X	140	ARG	CZ-NH2	5.94	1.40	1.33
1	A	45	ARG	CZ-NH2	5.92	1.40	1.33
2	G	36	GLY	CA-C	-5.92	1.42	1.51
1	E	116	ARG	NE-CZ	5.92	1.40	1.33
2	N	22	TYR	CZ-OH	5.92	1.48	1.37
1	A	84	GLU	CD-OE1	5.91	1.32	1.25
2	H	54	GLY	N-CA	-5.91	1.37	1.46
2	O	47	PHE	CG-CD2	5.91	1.47	1.38
2	G	47	PHE	CB-CG	-5.90	1.41	1.51
2	X	98	ARG	CZ-NH2	5.88	1.40	1.33
2	G	146	GLU	CD-OE1	5.88	1.32	1.25
2	U	67	GLY	N-CA	-5.85	1.37	1.46
1	D	248	ILE	N-CA	-5.84	1.34	1.46
2	L	92	TYR	CZ-OH	5.83	1.47	1.37
2	Q	125	GLY	CA-C	-5.82	1.42	1.51
2	I	19	ARG	CZ-NH2	5.82	1.40	1.33
2	S	164	TYR	C-N	5.82	1.47	1.34
2	J	70	ARG	CZ-NH2	5.82	1.40	1.33
2	H	86	TYR	CG-CD1	5.79	1.46	1.39
2	Q	150	GLN	C-N	5.79	1.43	1.33
2	G	22	TYR	CE2-CZ	5.78	1.46	1.38
1	F	45	ARG	CZ-NH2	5.77	1.40	1.33
2	S	138	GLU	CB-CG	5.77	1.63	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	167	GLU	CD-OE2	5.76	1.31	1.25
2	W	115	ASP	CA-C	-5.76	1.38	1.52
1	F	102	ARG	CZ-NH2	5.75	1.40	1.33
2	I	88	ARG	CD-NE	5.75	1.56	1.46
2	O	35	ALA	CA-CB	5.74	1.64	1.52
2	L	98	ARG	CZ-NH2	5.72	1.40	1.33
2	U	98	ARG	CZ-NH1	5.70	1.40	1.33
1	B	35	ARG	NE-CZ	5.69	1.40	1.33
2	I	22	TYR	CE1-CZ	5.68	1.46	1.38
2	O	17	TYR	CG-CD2	5.67	1.46	1.39
2	Q	139	TYR	CE2-CZ	5.67	1.46	1.38
2	I	84	SER	CA-CB	5.67	1.61	1.52
1	F	152	GLY	CA-C	-5.65	1.42	1.51
2	S	38	ASN	N-CA	-5.65	1.35	1.46
1	C	15	LYS	CA-CB	5.64	1.66	1.53
1	E	102	ARG	CD-NE	5.64	1.56	1.46
2	I	19	ARG	CZ-NH1	5.64	1.40	1.33
1	B	116	ARG	CZ-NH2	5.62	1.40	1.33
2	X	125	GLY	CA-C	-5.62	1.42	1.51
1	E	242	ARG	NE-CZ	5.61	1.40	1.33
1	C	237	GLY	N-CA	5.61	1.54	1.46
1	B	76	GLY	N-CA	-5.59	1.37	1.46
1	D	237	GLY	CA-C	-5.59	1.42	1.51
1	A	135	SER	CA-CB	5.59	1.61	1.52
2	X	19	ARG	CD-NE	5.58	1.55	1.46
2	G	164	TYR	CG-CD1	5.58	1.46	1.39
1	C	116	ARG	CZ-NH2	5.57	1.40	1.33
1	D	118	GLN	CA-CB	5.57	1.66	1.53
2	R	89	GLY	CA-C	5.57	1.60	1.51
2	P	111	GLU	CD-OE1	5.56	1.31	1.25
1	E	110	ARG	NE-CZ	5.55	1.40	1.33
2	S	57	LEU	CA-CB	5.54	1.66	1.53
2	V	160	GLY	CA-C	5.52	1.60	1.51
2	Q	139	TYR	CE1-CZ	5.51	1.45	1.38
2	W	85	PHE	CG-CD2	5.51	1.47	1.38
1	F	35	ARG	NE-CZ	5.50	1.40	1.33
2	I	44	ALA	CA-CB	5.50	1.64	1.52
2	L	50	ILE	C-N	5.50	1.43	1.33
2	P	119	LYS	N-CA	-5.49	1.35	1.46
2	X	127	GLY	N-CA	-5.48	1.37	1.46
2	S	94	VAL	CA-CB	-5.47	1.43	1.54
2	Q	35	ALA	CA-CB	5.46	1.64	1.52

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	R	86	TYR	CG-CD1	5.46	1.46	1.39
1	E	120	ARG	CZ-NH2	5.45	1.40	1.33
2	L	93	TYR	CZ-OH	5.43	1.47	1.37
1	E	156	ARG	CZ-NH1	5.43	1.40	1.33
2	H	23	GLU	CB-CG	5.43	1.62	1.52
1	D	228	TYR	CD2-CE2	5.42	1.47	1.39
1	B	2	SER	CB-OG	5.42	1.49	1.42
2	W	131	GLY	N-CA	-5.42	1.38	1.46
1	B	97	SER	CA-CB	5.41	1.61	1.52
1	B	103	PHE	CG-CD1	5.41	1.46	1.38
2	T	17	TYR	CA-CB	5.41	1.65	1.53
2	P	92	TYR	CG-CD1	5.40	1.46	1.39
1	B	150	SER	CA-CB	5.39	1.61	1.52
2	G	28	GLY	CA-C	-5.39	1.43	1.51
2	R	111	GLU	CD-OE2	5.39	1.31	1.25
2	M	45	GLY	N-CA	5.38	1.54	1.46
2	W	88	ARG	NE-CZ	5.37	1.40	1.33
1	A	271	VAL	N-CA	-5.37	1.35	1.46
2	M	164	TYR	CE1-CZ	5.36	1.45	1.38
1	F	163	PHE	CE2-CZ	5.36	1.47	1.37
2	M	28	GLY	N-CA	-5.36	1.38	1.46
1	E	98	TYR	CG-CD1	5.36	1.46	1.39
2	W	139	TYR	CG-CD1	5.35	1.46	1.39
1	D	187	ARG	CZ-NH2	5.34	1.40	1.33
2	I	123	PHE	CG-CD1	5.34	1.46	1.38
2	G	61	ASN	C-N	5.34	1.42	1.33
1	B	11	TYR	CG-CD1	-5.33	1.32	1.39
2	V	135	HIS	CB-CG	5.33	1.59	1.50
1	F	21	GLU	CG-CD	5.33	1.59	1.51
1	E	87	ARG	NE-CZ	5.32	1.40	1.33
2	G	98	ARG	CD-NE	5.29	1.55	1.46
2	I	70	ARG	CZ-NH1	5.29	1.40	1.33
2	P	71	GLU	CB-CG	5.29	1.62	1.52
2	T	16	PRO	N-CD	5.28	1.55	1.47
1	C	110	ARG	NE-CZ	5.28	1.40	1.33
2	T	125	GLY	N-CA	-5.28	1.38	1.46
2	J	138	GLU	CG-CD	5.28	1.59	1.51
2	L	22	TYR	N-CA	-5.27	1.35	1.46
2	X	140	ARG	NE-CZ	5.24	1.39	1.33
2	O	140	ARG	CD-NE	5.22	1.55	1.46
1	E	134	PHE	CG-CD1	5.22	1.46	1.38
2	P	104	ALA	C-N	5.22	1.42	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	U	51	GLY	CA-C	-5.21	1.43	1.51
2	H	98	ARG	CZ-NH1	5.21	1.39	1.33
2	J	67	GLY	CA-C	-5.21	1.43	1.51
2	K	118	GLY	CA-C	-5.20	1.43	1.51
2	L	131	GLY	C-O	5.20	1.31	1.23
1	D	263	TYR	CB-CG	5.20	1.59	1.51
1	C	104	SER	CA-CB	5.19	1.60	1.52
2	X	19	ARG	NE-CZ	5.19	1.39	1.33
2	G	93	TYR	CE1-CZ	5.18	1.45	1.38
1	C	70	PHE	CE2-CZ	5.18	1.47	1.37
2	X	17	TYR	CG-CD2	5.18	1.45	1.39
2	L	83	ALA	CA-CB	5.17	1.63	1.52
2	P	36	GLY	N-CA	-5.16	1.38	1.46
1	F	56	GLY	CA-C	-5.16	1.43	1.51
2	M	89	GLY	CA-C	-5.15	1.43	1.51
1	D	102	ARG	CZ-NH1	5.15	1.39	1.33
1	F	109	ARG	NE-CZ	5.15	1.39	1.33
2	X	138	GLU	CG-CD	5.14	1.59	1.51
2	H	145	TYR	CD1-CE1	5.14	1.47	1.39
2	J	87	PHE	CG-CD2	5.14	1.46	1.38
1	B	249	PRO	N-CA	5.13	1.55	1.47
2	X	145	TYR	CG-CD1	5.13	1.45	1.39
1	C	11	TYR	CE1-CZ	5.12	1.45	1.38
2	H	70	ARG	CZ-NH2	5.12	1.39	1.33
2	O	125	GLY	CA-C	-5.12	1.43	1.51
2	V	97	SER	CA-CB	5.11	1.60	1.52
2	M	145	TYR	CZ-OH	5.11	1.46	1.37
1	F	167	GLU	CG-CD	5.10	1.59	1.51
2	J	30	HIS	CA-C	-5.10	1.39	1.52
1	D	8	GLU	CD-OE2	5.09	1.31	1.25
2	N	165	VAL	CB-CG2	5.09	1.63	1.52
1	A	100	GLN	CG-CD	5.08	1.62	1.51
2	G	23	GLU	CG-CD	5.07	1.59	1.51
2	U	22	TYR	CE1-CZ	5.06	1.45	1.38
2	R	163	MET	CA-C	-5.06	1.39	1.52
2	H	140	ARG	CZ-NH1	5.06	1.39	1.33
1	A	219	SER	CA-CB	5.06	1.60	1.52
2	N	85	PHE	CB-CG	5.05	1.59	1.51
2	K	74	GLY	CA-C	-5.05	1.43	1.51
1	D	35	ARG	NE-CZ	5.05	1.39	1.33
1	E	235	PHE	CG-CD2	5.05	1.46	1.38
2	R	86	TYR	CZ-OH	5.05	1.46	1.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	W	98	ARG	CZ-NH2	5.04	1.39	1.33
2	O	139	TYR	CZ-OH	5.04	1.46	1.37
2	M	23	GLU	C-N	5.03	1.42	1.33
2	J	78	ASN	N-CA	-5.03	1.36	1.46
2	K	80	SER	CA-CB	5.03	1.60	1.52
1	C	126	MET	CA-CB	5.02	1.65	1.53
2	J	159	ILE	C-N	5.02	1.42	1.33
2	O	97	SER	CB-OG	5.02	1.48	1.42
2	T	140	ARG	NE-CZ	5.01	1.39	1.33
2	R	97	SER	N-CA	-5.01	1.36	1.46
2	M	130	LEU	N-CA	-5.01	1.36	1.46
2	T	17	TYR	CE1-CZ	5.01	1.45	1.38
2	U	158	PHE	CE1-CZ	5.01	1.46	1.37
2	X	164	TYR	CZ-OH	5.00	1.46	1.37
1	B	208	PHE	CE1-CZ	5.00	1.46	1.37

All (950) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	156	ARG	NE-CZ-NH1	18.74	129.67	120.30
1	C	242	ARG	NE-CZ-NH1	17.05	128.82	120.30
2	P	98	ARG	NE-CZ-NH1	16.72	128.66	120.30
1	A	55	GLN	CG-CD-OE1	-16.37	88.87	121.60
1	D	242	ARG	NE-CZ-NH2	16.24	128.42	120.30
1	A	87	ARG	NE-CZ-NH1	16.23	128.42	120.30
2	O	35	ALA	CB-CA-C	-16.09	85.96	110.10
1	A	87	ARG	NE-CZ-NH2	-15.88	112.36	120.30
2	J	140	ARG	NE-CZ-NH2	-15.32	112.64	120.30
2	K	88	ARG	NE-CZ-NH2	-14.93	112.83	120.30
1	A	45	ARG	NE-CZ-NH1	14.89	127.75	120.30
2	O	35	ALA	N-CA-CB	14.88	130.93	110.10
1	C	242	ARG	NE-CZ-NH2	-14.72	112.94	120.30
2	H	88	ARG	NE-CZ-NH1	14.13	127.36	120.30
1	B	87	ARG	NE-CZ-NH2	-14.05	113.28	120.30
2	S	17	TYR	CB-CG-CD1	-13.88	112.67	121.00
1	B	109	ARG	NE-CZ-NH1	13.64	127.12	120.30
2	X	140	ARG	NE-CZ-NH2	-13.36	113.62	120.30
2	J	70	ARG	NE-CZ-NH1	13.22	126.91	120.30
2	H	88	ARG	NE-CZ-NH2	-13.19	113.70	120.30
2	L	88	ARG	NE-CZ-NH2	12.92	126.76	120.30
1	C	187	ARG	NE-CZ-NH2	-12.91	113.84	120.30
1	C	87	ARG	NE-CZ-NH1	12.90	126.75	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	E	263	TYR	CB-CG-CD1	-12.85	113.29	121.00
1	B	87	ARG	NE-CZ-NH1	12.82	126.71	120.30
2	K	88	ARG	NE-CZ-NH1	12.72	126.66	120.30
1	F	87	ARG	NE-CZ-NH2	-12.48	114.06	120.30
2	S	17	TYR	CB-CG-CD2	12.48	128.49	121.00
2	U	70	ARG	NE-CZ-NH2	-12.37	114.12	120.30
1	F	102	ARG	NE-CZ-NH2	-12.28	114.16	120.30
2	O	19	ARG	NE-CZ-NH1	12.21	126.41	120.30
2	G	164	TYR	CB-CG-CD2	-12.16	113.71	121.00
2	K	140	ARG	NE-CZ-NH2	12.08	126.34	120.30
2	M	164	TYR	CB-CG-CD2	-11.85	113.89	121.00
1	C	257	ARG	NE-CZ-NH1	11.85	126.22	120.30
2	N	17	TYR	CB-CG-CD1	-11.80	113.92	121.00
1	F	110	ARG	NE-CZ-NH1	11.77	126.18	120.30
2	W	164	TYR	CB-CG-CD2	-11.72	113.97	121.00
2	L	87	PHE	CB-CG-CD2	11.69	128.98	120.80
2	K	19	ARG	NE-CZ-NH1	11.62	126.11	120.30
2	S	88	ARG	NE-CZ-NH1	11.62	126.11	120.30
2	N	19	ARG	NE-CZ-NH2	-11.54	114.53	120.30
1	E	40	TYR	CB-CG-CD2	-11.52	114.09	121.00
1	A	16	ALA	N-CA-CB	11.48	126.17	110.10
2	J	47	PHE	CB-CG-CD2	11.48	128.84	120.80
1	B	45	ARG	NE-CZ-NH2	-11.47	114.57	120.30
2	M	88	ARG	NE-CZ-NH2	-11.43	114.58	120.30
2	Q	85	PHE	CB-CG-CD1	11.42	128.79	120.80
2	I	140	ARG	NE-CZ-NH2	-11.41	114.59	120.30
2	L	69	PHE	CB-CG-CD1	-11.39	112.83	120.80
2	W	145	TYR	CB-CG-CD2	11.36	127.82	121.00
1	C	45	ARG	NE-CZ-NH1	11.14	125.87	120.30
1	B	183	PHE	CB-CG-CD1	-11.12	113.02	120.80
2	K	140	ARG	NE-CZ-NH1	-11.04	114.78	120.30
2	X	86	TYR	CB-CG-CD1	-11.03	114.38	121.00
2	V	86	TYR	CB-CG-CD2	-11.02	114.39	121.00
1	A	187	ARG	NE-CZ-NH2	-10.99	114.81	120.30
2	L	70	ARG	NE-CZ-NH1	10.97	125.79	120.30
1	F	75	ARG	NE-CZ-NH1	10.96	125.78	120.30
2	H	19	ARG	NE-CZ-NH1	-10.89	114.85	120.30
2	N	156	ASP	CB-CG-OD2	-10.79	108.59	118.30
1	D	75	ARG	NE-CZ-NH1	10.76	125.68	120.30
1	E	235	PHE	CB-CG-CD2	10.76	128.33	120.80
2	P	87	PHE	CB-CG-CD1	10.72	128.30	120.80
2	P	98	ARG	NE-CZ-NH2	-10.67	114.97	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	S	70	ARG	NE-CZ-NH2	-10.67	114.97	120.30
2	R	164	TYR	CB-CG-CD1	-10.61	114.64	121.00
2	U	98	ARG	NE-CZ-NH2	-10.57	115.01	120.30
1	F	187	ARG	NE-CZ-NH2	-10.55	115.03	120.30
1	D	75	ARG	NE-CZ-NH2	-10.54	115.03	120.30
2	U	29	ALA	N-CA-CB	10.54	124.85	110.10
2	L	19	ARG	NE-CZ-NH1	10.52	125.56	120.30
1	E	102	ARG	NE-CZ-NH1	-10.37	115.11	120.30
2	G	164	TYR	CB-CG-CD1	10.33	127.20	121.00
1	B	23	ARG	NE-CZ-NH2	10.30	125.45	120.30
2	N	69	PHE	CB-CG-CD1	10.19	127.93	120.80
1	C	232	ASP	CB-CG-OD2	10.19	127.47	118.30
1	E	102	ARG	NE-CZ-NH2	10.16	125.38	120.30
1	A	187	ARG	NE-CZ-NH1	10.14	125.37	120.30
2	L	93	TYR	CG-CD1-CE1	10.12	129.40	121.30
2	P	72	ASP	CB-CG-OD2	-10.11	109.20	118.30
1	A	156	ARG	NE-CZ-NH1	10.01	125.30	120.30
2	R	17	TYR	CB-CG-CD1	-9.99	115.01	121.00
2	R	19	ARG	NE-CZ-NH2	-9.98	115.31	120.30
1	C	187	ARG	NE-CZ-NH1	9.94	125.27	120.30
1	F	120	ARG	NE-CZ-NH1	9.92	125.26	120.30
2	X	140	ARG	NE-CZ-NH1	9.88	125.24	120.30
2	O	34	VAL	C-N-CA	9.84	146.30	121.70
1	B	93	PHE	CB-CG-CD1	-9.83	113.92	120.80
2	W	164	TYR	CB-CG-CD1	9.81	126.88	121.00
2	S	19	ARG	NE-CZ-NH2	-9.78	115.41	120.30
1	F	45	ARG	NE-CZ-NH2	-9.77	115.41	120.30
2	K	60	ASP	CB-CG-OD2	-9.74	109.54	118.30
2	X	17	TYR	CB-CG-CD2	-9.73	115.16	121.00
2	Q	98	ARG	NE-CZ-NH1	9.70	125.15	120.30
1	C	35	ARG	NE-CZ-NH1	9.69	125.14	120.30
2	L	33	ASP	CB-CG-OD2	-9.68	109.59	118.30
1	C	116	ARG	NE-CZ-NH2	-9.64	115.48	120.30
2	I	98	ARG	NE-CZ-NH2	9.55	125.08	120.30
1	C	244	ASP	CB-CG-OD2	-9.52	109.73	118.30
1	A	116	ARG	NE-CZ-NH1	9.50	125.05	120.30
2	I	158	PHE	CB-CG-CD2	9.49	127.44	120.80
2	I	22	TYR	CB-CG-CD1	-9.48	115.31	121.00
2	J	70	ARG	NE-CZ-NH2	-9.47	115.57	120.30
1	A	156	ARG	NE-CZ-NH2	-9.45	115.57	120.30
2	V	92	TYR	CB-CG-CD1	9.45	126.67	121.00
2	L	22	TYR	CB-CG-CD2	9.42	126.65	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	L	33	ASP	CB-CG-OD1	9.42	126.78	118.30
1	C	120	ARG	NE-CZ-NH1	-9.39	115.61	120.30
1	D	45	ARG	NE-CZ-NH2	9.38	124.99	120.30
1	E	39	ASP	CB-CG-OD1	9.38	126.75	118.30
2	M	87	PHE	CB-CG-CD1	-9.38	114.24	120.80
2	J	47	PHE	CB-CG-CD1	-9.34	114.26	120.80
2	H	47	PHE	CB-CG-CD1	-9.32	114.28	120.80
2	I	92	TYR	CB-CG-CD2	-9.32	115.41	121.00
2	P	93	TYR	CB-CG-CD2	9.32	126.59	121.00
2	O	87	PHE	CB-CG-CD2	-9.29	114.30	120.80
2	Q	35	ALA	N-CA-CB	9.25	123.06	110.10
1	B	61	TYR	CB-CG-CD2	9.25	126.55	121.00
2	V	17	TYR	CB-CG-CD2	-9.18	115.49	121.00
1	A	45	ARG	NE-CZ-NH2	-9.18	115.71	120.30
1	C	228	TYR	CB-CG-CD1	-9.15	115.51	121.00
2	H	161	PHE	CB-CG-CD2	-9.15	114.39	120.80
2	X	69	PHE	CB-CG-CD1	9.14	127.20	120.80
2	J	140	ARG	NE-CZ-NH1	9.11	124.85	120.30
2	X	19	ARG	NE-CZ-NH2	-9.10	115.75	120.30
2	I	158	PHE	CB-CG-CD1	-9.09	114.44	120.80
1	E	98	TYR	CB-CG-CD1	9.08	126.44	121.00
2	L	85	PHE	CB-CG-CD1	-9.05	114.46	120.80
2	P	17	TYR	CG-CD1-CE1	-9.03	114.08	121.30
1	B	93	PHE	CB-CG-CD2	9.02	127.12	120.80
2	K	17	TYR	CB-CG-CD1	-9.01	115.59	121.00
1	A	55	GLN	CG-CD-NE2	8.98	138.25	116.70
1	C	156	ARG	NE-CZ-NH2	-8.98	115.81	120.30
2	P	92	TYR	CB-CG-CD2	-8.98	115.61	121.00
1	E	120	ARG	NE-CZ-NH2	8.97	124.78	120.30
2	X	139	TYR	CB-CG-CD1	-8.93	115.64	121.00
2	T	86	TYR	CB-CG-CD2	8.92	126.35	121.00
2	S	124	THR	CA-CB-CG2	-8.79	100.09	112.40
2	M	145	TYR	CB-CG-CD2	8.79	126.27	121.00
1	C	257	ARG	NE-CZ-NH2	-8.78	115.91	120.30
2	O	47	PHE	CB-CG-CD2	-8.76	114.67	120.80
1	A	75	ARG	NE-CZ-NH2	-8.75	115.92	120.30
1	B	61	TYR	CB-CG-CD1	-8.75	115.75	121.00
2	H	19	ARG	NE-CZ-NH2	8.71	124.65	120.30
2	O	35	ALA	N-CA-C	8.69	134.47	111.00
2	M	93	TYR	CB-CG-CD1	-8.69	115.79	121.00
2	L	154	ASP	CB-CG-OD1	-8.66	110.50	118.30
2	M	85	PHE	CB-CG-CD1	-8.61	114.77	120.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	L	107	ALA	N-CA-CB	8.60	122.14	110.10
1	D	257	ARG	NE-CZ-NH2	-8.59	116.01	120.30
2	Q	98	ARG	NE-CZ-NH2	-8.59	116.01	120.30
2	Q	85	PHE	CB-CG-CD2	-8.51	114.84	120.80
2	R	98	ARG	NE-CZ-NH1	-8.49	116.05	120.30
2	S	98	ARG	NE-CZ-NH2	-8.48	116.06	120.30
2	L	158	PHE	CB-CG-CD1	8.47	126.73	120.80
1	C	45	ARG	N-CA-CB	8.45	125.81	110.60
1	D	98	TYR	CB-CG-CD2	-8.41	115.95	121.00
2	X	19	ARG	NE-CZ-NH1	8.40	124.50	120.30
2	M	164	TYR	CB-CG-CD1	8.40	126.04	121.00
2	V	88	ARG	NE-CZ-NH2	8.38	124.49	120.30
1	D	156	ARG	NE-CZ-NH2	-8.38	116.11	120.30
1	C	183	PHE	CB-CG-CD1	-8.36	114.95	120.80
2	S	19	ARG	NE-CZ-NH1	8.35	124.47	120.30
2	L	145	TYR	CB-CG-CD2	-8.34	116.00	121.00
2	U	69	PHE	CB-CG-CD2	8.32	126.62	120.80
1	F	45	ARG	NE-CZ-NH1	8.31	124.46	120.30
1	A	277	ALA	N-CA-CB	8.29	121.71	110.10
2	Q	161	PHE	CB-CG-CD1	8.29	126.60	120.80
2	J	31	ASP	CB-CG-OD1	8.29	125.76	118.30
2	L	140	ARG	NE-CZ-NH2	-8.28	116.16	120.30
2	N	69	PHE	CB-CG-CD2	-8.28	115.01	120.80
2	X	86	TYR	CB-CG-CD2	8.26	125.96	121.00
2	Q	145	TYR	CB-CG-CD1	-8.21	116.07	121.00
2	Q	145	TYR	CG-CD2-CE2	-8.14	114.79	121.30
2	S	86	TYR	CB-CG-CD1	-8.14	116.12	121.00
2	H	86	TYR	CB-CG-CD1	-8.13	116.12	121.00
1	E	251	ASP	CB-CG-OD2	-8.10	111.01	118.30
2	M	70	ARG	NE-CZ-NH1	8.09	124.34	120.30
2	H	47	PHE	CB-CG-CD2	8.06	126.44	120.80
2	X	60	ASP	CB-CG-OD1	8.03	125.53	118.30
2	R	164	TYR	CB-CG-CD2	8.03	125.82	121.00
2	L	139	TYR	CB-CG-CD2	-8.00	116.20	121.00
2	S	149	THR	CA-CB-CG2	-8.00	101.19	112.40
1	A	263	TYR	CB-CG-CD2	-7.99	116.20	121.00
2	Q	120	MET	CG-SD-CE	-7.98	87.43	100.20
2	W	145	TYR	CB-CG-CD1	-7.98	116.21	121.00
2	M	108	ALA	N-CA-CB	7.96	121.25	110.10
2	U	19	ARG	NE-CZ-NH1	7.95	124.27	120.30
1	F	156	ARG	NE-CZ-NH2	-7.92	116.34	120.30
1	F	178	MET	CG-SD-CE	-7.92	87.53	100.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	P	33	ASP	CB-CG-OD1	7.91	125.42	118.30
1	A	228	TYR	CG-CD1-CE1	-7.90	114.98	121.30
2	S	83	ALA	N-CA-CB	7.90	121.16	110.10
2	O	93	TYR	CB-CG-CD2	7.88	125.73	121.00
1	D	70	PHE	CB-CG-CD1	7.88	126.31	120.80
1	D	187	ARG	NE-CZ-NH2	-7.87	116.36	120.30
2	X	164	TYR	CG-CD1-CE1	-7.87	115.01	121.30
1	E	116	ARG	NE-CZ-NH1	7.86	124.23	120.30
2	P	93	TYR	CB-CG-CD1	-7.85	116.29	121.00
1	B	189	TRP	CD1-NE1-CE2	7.85	116.06	109.00
2	U	164	TYR	CG-CD2-CE2	-7.84	115.03	121.30
2	I	88	ARG	NE-CZ-NH1	7.83	124.22	120.30
2	I	164	TYR	CB-CG-CD2	-7.83	116.30	121.00
1	D	197	VAL	CA-CB-CG1	-7.83	99.16	110.90
1	D	238	VAL	CG1-CB-CG2	7.82	123.41	110.90
1	B	163	PHE	CB-CG-CD2	7.82	126.27	120.80
2	U	104	ALA	CB-CA-C	-7.79	98.42	110.10
2	O	17	TYR	CB-CG-CD2	7.78	125.67	121.00
2	G	95	ASN	N-CA-CB	7.78	124.60	110.60
1	F	93	PHE	CB-CG-CD2	-7.78	115.36	120.80
2	I	92	TYR	CB-CG-CD1	7.78	125.67	121.00
2	G	154	ASP	CB-CG-OD1	-7.77	111.31	118.30
1	E	188	ALA	N-CA-CB	7.77	120.98	110.10
1	E	75	ARG	NE-CZ-NH2	-7.77	116.42	120.30
1	A	115	ASP	CB-CG-OD1	7.76	125.28	118.30
2	R	19	ARG	NE-CZ-NH1	7.75	124.17	120.30
2	L	48	ALA	CB-CA-C	-7.74	98.49	110.10
1	D	208	PHE	CB-CG-CD1	-7.73	115.39	120.80
1	B	170	ASP	CB-CG-OD2	-7.71	111.36	118.30
2	T	98	ARG	NE-CZ-NH2	-7.71	116.44	120.30
2	K	17	TYR	CB-CG-CD2	7.70	125.62	121.00
2	L	139	TYR	CB-CG-CD1	7.70	125.62	121.00
1	C	109	ARG	NE-CZ-NH2	7.70	124.15	120.30
2	P	164	TYR	CB-CG-CD2	-7.68	116.39	121.00
1	F	109	ARG	NE-CZ-NH1	7.68	124.14	120.30
2	R	75	ASP	CB-CG-OD1	7.67	125.20	118.30
1	C	244	ASP	CB-CG-OD1	7.66	125.20	118.30
1	F	156	ARG	NE-CZ-NH1	7.66	124.13	120.30
2	U	46	LYS	N-CA-CB	7.66	124.39	110.60
2	T	161	PHE	CB-CG-CD2	-7.63	115.46	120.80
2	N	121	ILE	CA-CB-CG1	7.62	125.48	111.00
2	P	77	VAL	CA-CB-CG1	-7.61	99.48	110.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	102	ARG	NE-CZ-NH1	7.58	124.09	120.30
2	W	136	VAL	CA-CB-CG1	-7.58	99.53	110.90
2	O	98	ARG	NE-CZ-NH2	-7.55	116.52	120.30
2	J	139	TYR	CG-CD1-CE1	7.55	127.34	121.30
2	S	164	TYR	CB-CG-CD1	7.54	125.52	121.00
2	M	120	MET	N-CA-CB	7.54	124.17	110.60
2	G	31	ASP	CB-CG-OD1	-7.53	111.53	118.30
1	B	156	ARG	NE-CZ-NH2	-7.53	116.54	120.30
1	C	45	ARG	NE-CZ-NH2	-7.51	116.54	120.30
1	A	163	PHE	CB-CG-CD2	-7.51	115.54	120.80
1	C	109	ARG	NE-CZ-NH1	7.50	124.05	120.30
2	M	35	ALA	N-CA-CB	7.50	120.60	110.10
1	B	64	ASP	CB-CG-OD2	-7.50	111.55	118.30
2	R	17	TYR	CB-CG-CD2	7.45	125.47	121.00
2	J	139	TYR	CB-CG-CD2	7.45	125.47	121.00
1	B	263	TYR	CZ-CE2-CD2	7.41	126.47	119.80
1	A	231	ALA	N-CA-CB	7.40	120.46	110.10
2	K	126	THR	O-C-N	7.39	135.76	123.20
1	F	195	ASP	CB-CG-OD1	-7.38	111.66	118.30
2	H	110	ASP	CB-CG-OD2	-7.38	111.66	118.30
2	H	22	TYR	CB-CG-CD1	-7.36	116.58	121.00
1	B	62	ASP	CB-CG-OD2	7.36	124.92	118.30
2	K	69	PHE	CB-CG-CD1	-7.36	115.65	120.80
2	U	115	ASP	CB-CG-OD1	-7.36	111.68	118.30
2	N	86	TYR	CG-CD2-CE2	-7.35	115.42	121.30
2	X	123	PHE	CB-CG-CD2	-7.34	115.66	120.80
1	B	244	ASP	CA-CB-CG	7.34	129.54	113.40
2	M	140	ARG	NE-CZ-NH2	7.34	123.97	120.30
2	W	31	ASP	CB-CG-OD2	7.33	124.90	118.30
1	A	61	TYR	CB-CG-CD2	7.33	125.40	121.00
2	V	98	ARG	NE-CZ-NH2	-7.32	116.64	120.30
2	W	123	PHE	CB-CG-CD1	-7.32	115.67	120.80
2	X	144	MET	N-CA-CB	7.31	123.75	110.60
1	A	110	ARG	NE-CZ-NH1	7.30	123.95	120.30
2	J	22	TYR	CB-CG-CD1	7.29	125.37	121.00
2	O	41	GLU	N-CA-CB	7.29	123.72	110.60
1	C	212	TRP	CE2-CD2-CG	7.29	113.13	107.30
2	L	93	TYR	CD1-CE1-CZ	-7.28	113.25	119.80
2	J	77	VAL	CA-CB-CG1	7.28	121.81	110.90
2	M	22	TYR	CB-CG-CD2	-7.27	116.64	121.00
2	X	88	ARG	NE-CZ-NH2	-7.27	116.67	120.30
2	U	70	ARG	NE-CZ-NH1	7.27	123.94	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	I	87	PHE	CB-CG-CD1	-7.27	115.71	120.80
2	S	164	TYR	CB-CG-CD2	-7.26	116.65	121.00
2	T	19	ARG	NE-CZ-NH1	7.25	123.92	120.30
1	D	11	TYR	CB-CG-CD2	-7.24	116.66	121.00
2	P	19	ARG	NE-CZ-NH2	-7.24	116.68	120.30
2	U	54	GLY	N-CA-C	-7.23	95.02	113.10
1	E	228	TYR	CG-CD1-CE1	-7.23	115.52	121.30
2	H	126	THR	CA-CB-CG2	-7.22	102.29	112.40
2	K	60	ASP	CB-CG-OD1	7.22	124.80	118.30
2	O	117	ASP	CB-CG-OD2	-7.20	111.82	118.30
2	P	86	TYR	CD1-CE1-CZ	7.20	126.28	119.80
2	X	120	MET	CG-SD-CE	-7.19	88.69	100.20
2	L	139	TYR	CZ-CE2-CD2	-7.19	113.33	119.80
2	O	88	ARG	NE-CZ-NH2	-7.18	116.71	120.30
2	U	93	TYR	CB-CG-CD1	-7.18	116.69	121.00
2	H	158	PHE	CB-CG-CD2	-7.17	115.78	120.80
2	U	164	TYR	CB-CG-CD2	-7.17	116.70	121.00
2	O	70	ARG	NE-CZ-NH2	7.17	123.89	120.30
1	D	208	PHE	CB-CG-CD2	7.16	125.81	120.80
2	M	47	PHE	CB-CG-CD2	-7.16	115.79	120.80
1	D	2	SER	N-CA-CB	7.15	121.23	110.50
2	Q	158	PHE	CB-CG-CD1	-7.15	115.80	120.80
1	B	208	PHE	CB-CG-CD1	7.15	125.80	120.80
2	P	86	TYR	CB-CG-CD2	-7.14	116.72	121.00
2	H	145	TYR	CB-CG-CD2	-7.14	116.72	121.00
2	M	47	PHE	CB-CG-CD1	7.14	125.80	120.80
1	E	183	PHE	CB-CG-CD2	-7.12	115.82	120.80
2	N	29	ALA	CB-CA-C	-7.11	99.44	110.10
1	C	109	ARG	NH1-CZ-NH2	-7.07	111.62	119.40
1	C	142	THR	CA-CB-CG2	-7.05	102.53	112.40
2	L	22	TYR	CB-CG-CD1	-7.04	116.78	121.00
2	L	31	ASP	CB-CG-OD2	-7.04	111.97	118.30
2	N	139	TYR	CG-CD2-CE2	-7.04	115.67	121.30
2	M	22	TYR	CG-CD2-CE2	-7.03	115.67	121.30
2	O	19	ARG	NE-CZ-NH2	-7.02	116.79	120.30
2	R	75	ASP	CB-CG-OD2	-7.00	112.00	118.30
2	G	152	VAL	CA-CB-CG2	-6.99	100.42	110.90
2	K	75	ASP	CB-CG-OD1	6.99	124.59	118.30
1	C	232	ASP	CB-CG-OD1	-6.96	112.03	118.30
1	A	215	ASP	CB-CG-OD2	6.96	124.56	118.30
2	X	156	ASP	CB-CG-OD2	-6.94	112.05	118.30
2	J	88	ARG	NE-CZ-NH1	6.94	123.77	120.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	M	88	ARG	NE-CZ-NH1	6.94	123.77	120.30
2	P	92	TYR	CG-CD2-CE2	-6.94	115.75	121.30
2	W	165	VAL	CA-CB-CG2	-6.93	100.50	110.90
1	E	140	ALA	CB-CA-C	6.93	120.49	110.10
2	T	22	TYR	CB-CG-CD2	-6.92	116.85	121.00
2	M	164	TYR	N-CA-CB	6.92	123.05	110.60
2	U	29	ALA	CB-CA-C	-6.89	99.77	110.10
2	P	144	MET	N-CA-CB	6.87	122.97	110.60
2	O	17	TYR	CB-CG-CD1	-6.87	116.88	121.00
2	S	153	THR	CA-CB-CG2	-6.86	102.80	112.40
2	K	120	MET	CG-SD-CE	-6.85	89.24	100.20
1	E	75	ARG	NE-CZ-NH1	-6.84	116.88	120.30
2	Q	107	ALA	N-CA-CB	6.84	119.68	110.10
1	C	102	ARG	NE-CZ-NH2	-6.84	116.88	120.30
2	R	161	PHE	CB-CG-CD2	6.83	125.58	120.80
1	B	53	LEU	CB-CG-CD2	6.83	122.61	111.00
2	Q	69	PHE	CB-CG-CD1	6.83	125.58	120.80
1	F	235	PHE	CB-CG-CD1	6.83	125.58	120.80
1	F	235	PHE	CB-CG-CD2	-6.83	116.02	120.80
2	O	72	ASP	CB-CG-OD1	-6.83	112.16	118.30
2	W	140	ARG	NE-CZ-NH2	-6.82	116.89	120.30
2	T	85	PHE	CB-CG-CD2	-6.82	116.03	120.80
2	X	69	PHE	CB-CG-CD2	-6.81	116.03	120.80
2	N	153	THR	CA-CB-CG2	-6.80	102.88	112.40
2	O	141	ALA	N-CA-CB	6.80	119.62	110.10
1	F	231	ALA	N-CA-CB	6.78	119.60	110.10
2	P	44	ALA	N-CA-CB	6.78	119.59	110.10
1	D	156	ARG	NE-CZ-NH1	6.78	123.69	120.30
2	M	70	ARG	NE-CZ-NH2	-6.77	116.91	120.30
2	S	70	ARG	NE-CZ-NH1	6.77	123.69	120.30
2	N	156	ASP	CB-CG-OD1	6.77	124.39	118.30
1	E	123	ALA	N-CA-CB	6.76	119.56	110.10
2	H	86	TYR	CB-CG-CD2	6.75	125.05	121.00
2	M	145	TYR	CB-CG-CD1	-6.74	116.96	121.00
2	N	47	PHE	CB-CG-CD2	-6.74	116.08	120.80
1	B	170	ASP	CB-CG-OD1	6.73	124.36	118.30
2	O	140	ARG	NE-CZ-NH2	6.73	123.67	120.30
1	B	208	PHE	CB-CG-CD2	-6.73	116.09	120.80
1	F	86	ASP	CB-CG-OD2	6.72	124.35	118.30
1	A	251	ASP	CB-CG-OD1	-6.71	112.26	118.30
1	A	75	ARG	NE-CZ-NH1	6.71	123.65	120.30
1	F	170	ASP	CB-CG-OD2	-6.69	112.28	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	L	117	ASP	N-CA-CB	6.69	122.64	110.60
1	B	276	ILE	CA-CB-CG1	6.68	123.70	111.00
2	N	50	ILE	N-CA-C	-6.68	92.95	111.00
2	I	52	ALA	N-CA-CB	6.68	119.45	110.10
2	K	145	TYR	CB-CG-CD1	-6.67	117.00	121.00
2	O	98	ARG	NE-CZ-NH1	6.67	123.63	120.30
1	F	130	ASP	CB-CG-OD2	-6.66	112.31	118.30
2	L	88	ARG	NH1-CZ-NH2	-6.66	112.07	119.40
2	L	134	THR	CA-CB-CG2	-6.65	103.09	112.40
2	S	92	TYR	CB-CG-CD2	-6.65	117.01	121.00
2	Q	145	TYR	CD1-CG-CD2	6.64	125.20	117.90
2	H	123	PHE	CB-CG-CD2	-6.62	116.17	120.80
2	H	161	PHE	CB-CG-CD1	6.62	125.43	120.80
2	J	92	TYR	CB-CG-CD1	-6.61	117.03	121.00
2	X	55	VAL	CA-CB-CG1	6.61	120.81	110.90
2	S	161	PHE	CB-CG-CD1	-6.61	116.17	120.80
2	X	108	ALA	N-CA-CB	6.61	119.35	110.10
1	A	242	ARG	NE-CZ-NH1	6.60	123.60	120.30
1	C	92	THR	CA-CB-CG2	-6.60	103.16	112.40
2	I	85	PHE	CB-CG-CD1	-6.60	116.18	120.80
2	J	164	TYR	CB-CG-CD2	-6.59	117.04	121.00
2	Q	29	ALA	CB-CA-C	-6.59	100.21	110.10
2	P	140	ARG	NE-CZ-NH2	-6.59	117.01	120.30
2	M	84	SER	N-CA-CB	6.58	120.38	110.50
2	J	161	PHE	CB-CG-CD1	-6.58	116.19	120.80
1	F	167	GLU	OE1-CD-OE2	6.58	131.19	123.30
2	G	17	TYR	CB-CG-CD2	-6.57	117.06	121.00
1	B	140	ALA	N-CA-CB	6.57	119.30	110.10
2	U	26	LEU	CB-CG-CD1	6.55	122.13	111.00
2	L	161	PHE	CB-CG-CD1	-6.54	116.22	120.80
2	T	35	ALA	N-CA-CB	6.54	119.26	110.10
1	E	244	ASP	CB-CG-OD2	6.52	124.17	118.30
1	E	156	ARG	NE-CZ-NH2	6.52	123.56	120.30
2	L	133	VAL	CG1-CB-CG2	6.52	121.33	110.90
2	P	158	PHE	CB-CG-CD1	-6.50	116.25	120.80
2	H	153	THR	CA-CB-CG2	-6.50	103.31	112.40
2	G	111	GLU	N-CA-CB	6.49	122.28	110.60
2	V	161	PHE	N-CA-C	-6.48	93.50	111.00
2	S	95	ASN	N-CA-CB	6.48	122.26	110.60
2	S	52	ALA	N-CA-CB	6.48	119.17	110.10
2	P	33	ASP	CB-CG-OD2	-6.47	112.47	118.30
1	E	159	LEU	CB-CA-C	-6.46	97.92	110.20

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	110	ARG	NE-CZ-NH1	-6.46	117.07	120.30
2	G	140	ARG	NE-CZ-NH1	6.46	123.53	120.30
2	X	89	GLY	N-CA-C	-6.46	96.95	113.10
2	O	44	ALA	N-CA-CB	6.46	119.14	110.10
2	R	156	ASP	CB-CG-OD1	6.45	124.11	118.30
1	B	261	VAL	CA-CB-CG1	-6.45	101.23	110.90
2	M	154	ASP	CB-CG-OD1	6.44	124.10	118.30
2	W	86	TYR	CG-CD1-CE1	6.44	126.45	121.30
2	I	164	TYR	CG-CD1-CE1	-6.43	116.15	121.30
2	G	153	THR	CA-CB-CG2	-6.43	103.40	112.40
2	K	104	ALA	N-CA-CB	6.43	119.10	110.10
2	G	80	SER	N-CA-CB	6.42	120.13	110.50
1	B	23	ARG	NE-CZ-NH1	-6.41	117.10	120.30
2	U	129	ALA	N-CA-CB	6.40	119.07	110.10
1	C	87	ARG	NH1-CZ-NH2	-6.40	112.36	119.40
2	Q	79	ALA	N-CA-CB	6.40	119.06	110.10
2	Q	87	PHE	CB-CG-CD1	-6.40	116.32	120.80
2	U	158	PHE	CB-CG-CD2	-6.40	116.32	120.80
1	E	210	HIS	N-CA-CB	6.38	122.08	110.60
1	E	75	ARG	NH1-CZ-NH2	6.37	126.41	119.40
2	O	120	MET	CG-SD-CE	-6.37	90.01	100.20
2	H	123	PHE	CB-CG-CD1	6.37	125.26	120.80
2	R	149	THR	CA-CB-CG2	-6.37	103.49	112.40
1	D	163	PHE	CB-CG-CD1	-6.36	116.35	120.80
2	O	47	PHE	CB-CG-CD1	6.36	125.25	120.80
2	J	145	TYR	CB-CG-CD1	-6.35	117.19	121.00
2	X	84	SER	N-CA-CB	6.34	120.01	110.50
2	X	132	VAL	O-C-N	6.34	132.84	122.70
1	A	40	TYR	CZ-CE2-CD2	-6.33	114.11	119.80
2	O	20	LEU	CB-CG-CD2	6.33	121.75	111.00
2	P	145	TYR	CB-CG-CD1	6.32	124.79	121.00
2	R	110	ASP	N-CA-CB	6.32	121.98	110.60
1	A	273	SER	N-CA-C	-6.32	93.93	111.00
2	P	86	TYR	CG-CD1-CE1	-6.32	116.24	121.30
2	O	88	ARG	NE-CZ-NH1	-6.32	117.14	120.30
2	J	27	ASN	N-CA-CB	6.32	121.97	110.60
2	N	75	ASP	CB-CG-OD1	-6.32	112.62	118.30
1	A	182	ALA	CB-CA-C	-6.31	100.63	110.10
2	I	98	ARG	NE-CZ-NH1	-6.31	117.14	120.30
2	L	69	PHE	CB-CG-CD2	6.31	125.22	120.80
2	R	68	LEU	CB-CG-CD2	-6.31	100.27	111.00
2	S	133	VAL	CG1-CB-CG2	6.31	121.00	110.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	186	ILE	CA-CB-CG2	6.30	123.51	110.90
1	E	116	ARG	NE-CZ-NH2	-6.30	117.15	120.30
2	H	158	PHE	CB-CA-C	-6.30	97.79	110.40
1	B	16	ALA	N-CA-CB	6.30	118.92	110.10
2	M	64	ASN	N-CA-CB	6.30	121.94	110.60
2	X	107	ALA	N-CA-CB	6.30	118.92	110.10
2	O	155	THR	CA-CB-CG2	-6.30	103.58	112.40
2	H	164	TYR	CG-CD1-CE1	-6.29	116.27	121.30
2	T	158	PHE	CB-CG-CD1	-6.29	116.40	120.80
1	F	182	ALA	N-CA-CB	6.29	118.90	110.10
2	P	110	ASP	CB-CG-OD1	6.28	123.95	118.30
2	S	161	PHE	CB-CG-CD2	6.28	125.19	120.80
1	F	134	PHE	CB-CG-CD2	6.26	125.18	120.80
2	I	52	ALA	CB-CA-C	-6.26	100.71	110.10
2	N	86	TYR	CZ-CE2-CD2	6.26	125.44	119.80
1	F	102	ARG	NE-CZ-NH1	6.26	123.43	120.30
2	P	156	ASP	CB-CG-OD1	6.26	123.93	118.30
1	B	263	TYR	CG-CD2-CE2	-6.25	116.30	121.30
2	U	92	TYR	CB-CG-CD2	-6.25	117.25	121.00
1	D	250	ALA	CB-CA-C	-6.25	100.72	110.10
2	P	88	ARG	NE-CZ-NH1	6.25	123.43	120.30
1	E	239	MET	CG-SD-CE	6.25	110.20	100.20
2	L	69	PHE	CG-CD1-CE1	-6.25	113.93	120.80
1	F	110	ARG	NE-CZ-NH2	-6.24	117.18	120.30
1	F	193	GLU	OE1-CD-OE2	6.23	130.78	123.30
1	F	197	VAL	CA-CB-CG2	6.22	120.23	110.90
1	B	259	GLY	N-CA-C	-6.22	97.56	113.10
1	B	182	ALA	N-CA-CB	6.21	118.80	110.10
1	E	90	VAL	CA-CB-CG1	6.21	120.22	110.90
2	J	70	ARG	CD-NE-CZ	-6.21	114.91	123.60
2	O	83	ALA	N-CA-CB	6.20	118.79	110.10
2	X	158	PHE	CB-CG-CD2	6.20	125.14	120.80
1	B	109	ARG	NE-CZ-NH2	-6.20	117.20	120.30
1	A	183	PHE	CB-CG-CD1	6.20	125.14	120.80
2	W	44	ALA	N-CA-CB	6.19	118.77	110.10
2	H	158	PHE	CB-CG-CD1	6.18	125.13	120.80
1	C	235	PHE	CB-CG-CD2	6.18	125.13	120.80
1	D	87	ARG	NE-CZ-NH1	6.18	123.39	120.30
2	L	145	TYR	CB-CG-CD1	6.18	124.71	121.00
2	X	139	TYR	CB-CG-CD2	6.17	124.70	121.00
1	A	92	THR	CA-CB-CG2	-6.16	103.77	112.40
1	D	39	ASP	CB-CG-OD2	6.16	123.85	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	N	93	TYR	CB-CG-CD2	6.16	124.70	121.00
1	B	66	ASP	CB-CG-OD1	-6.16	112.76	118.30
1	E	189	TRP	CD2-CE3-CZ3	-6.16	110.79	118.80
1	E	163	PHE	CG-CD1-CE1	-6.15	114.03	120.80
2	N	158	PHE	CB-CG-CD2	6.15	125.11	120.80
2	Q	70	ARG	NE-CZ-NH1	6.15	123.38	120.30
2	W	117	ASP	CB-CG-OD2	-6.15	112.77	118.30
1	C	226	THR	CA-CB-CG2	-6.14	103.80	112.40
2	I	55	VAL	CA-CB-CG2	-6.14	101.69	110.90
1	E	110	ARG	NE-CZ-NH2	6.14	123.37	120.30
2	H	139	TYR	CZ-CE2-CD2	-6.13	114.28	119.80
2	L	92	TYR	C-N-CA	6.13	137.03	121.70
1	E	187	ARG	NE-CZ-NH2	-6.13	117.24	120.30
2	M	93	TYR	CB-CG-CD2	6.13	124.68	121.00
2	T	17	TYR	CA-CB-CG	-6.13	101.76	113.40
2	G	161	PHE	CB-CG-CD2	-6.12	116.52	120.80
1	E	132	GLU	N-CA-CB	6.12	121.61	110.60
2	O	156	ASP	CB-CG-OD2	6.11	123.80	118.30
2	X	88	ARG	NE-CZ-NH1	6.11	123.35	120.30
2	O	43	LEU	CB-CG-CD1	6.10	121.38	111.00
2	X	60	ASP	CB-CG-OD2	-6.10	112.81	118.30
1	C	23	ARG	NE-CZ-NH2	6.10	123.35	120.30
1	A	121	ALA	N-CA-CB	6.10	118.64	110.10
1	A	176	ILE	CB-CA-C	6.10	123.79	111.60
2	R	88	ARG	NE-CZ-NH1	6.09	123.35	120.30
2	I	139	TYR	CZ-CE2-CD2	-6.09	114.32	119.80
1	D	98	TYR	CB-CG-CD1	6.09	124.65	121.00
1	D	160	THR	CA-CB-CG2	-6.08	103.89	112.40
2	N	99	THR	N-CA-CB	6.07	121.83	110.30
2	T	83	ALA	CB-CA-C	-6.07	101.00	110.10
2	V	92	TYR	CB-CG-CD2	-6.07	117.36	121.00
2	T	48	ALA	N-CA-CB	6.07	118.59	110.10
1	C	198	THR	CA-CB-CG2	-6.06	103.91	112.40
1	D	263	TYR	CB-CG-CD1	-6.06	117.36	121.00
1	E	272	ASN	N-CA-CB	6.05	121.50	110.60
2	V	162	ILE	CA-CB-CG2	-6.05	98.79	110.90
2	X	158	PHE	CB-CG-CD1	-6.05	116.56	120.80
1	D	71	VAL	N-CA-C	-6.05	94.66	111.00
1	D	111	PHE	CB-CA-C	-6.05	98.30	110.40
2	U	19	ARG	N-CA-CB	6.05	121.49	110.60
2	M	20	LEU	N-CA-CB	6.04	122.49	110.40
1	A	110	ARG	NH1-CZ-NH2	-6.04	112.76	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	L	116	ALA	CB-CA-C	-6.04	101.04	110.10
2	I	164	TYR	CA-CB-CG	-6.04	101.93	113.40
2	L	44	ALA	N-CA-CB	6.03	118.55	110.10
1	A	82	VAL	CA-CB-CG2	-6.03	101.86	110.90
2	M	97	SER	N-CA-CB	6.03	119.54	110.50
2	S	33	ASP	CB-CG-OD2	-6.02	112.88	118.30
2	G	92	TYR	CB-CG-CD2	6.02	124.61	121.00
2	V	156	ASP	CB-CG-OD1	-6.01	112.89	118.30
2	M	58	ALA	CB-CA-C	-6.01	101.08	110.10
2	S	145	TYR	CG-CD1-CE1	-6.01	116.49	121.30
2	M	123	PHE	CB-CG-CD2	6.01	125.00	120.80
2	W	22	TYR	CB-CG-CD2	-6.00	117.40	121.00
2	N	85	PHE	CB-CG-CD2	5.99	125.00	120.80
1	B	43	VAL	CA-CB-CG1	5.99	119.89	110.90
2	R	38	ASN	O-C-N	-5.99	113.02	123.20
1	B	40	TYR	CD1-CE1-CZ	-5.99	114.41	119.80
2	P	48	ALA	CB-CA-C	-5.99	101.12	110.10
2	W	76	MET	CG-SD-CE	-5.99	90.62	100.20
2	N	139	TYR	CB-CG-CD1	-5.98	117.41	121.00
2	G	163	MET	CG-SD-CE	-5.97	90.64	100.20
2	S	153	THR	N-CA-C	-5.97	94.88	111.00
1	A	163	PHE	CB-CG-CD1	5.97	124.98	120.80
2	X	93	TYR	CB-CG-CD2	5.97	124.58	121.00
1	B	31	ALA	CB-CA-C	-5.96	101.15	110.10
1	F	185	ASP	CB-CG-OD1	-5.96	112.94	118.30
2	O	164	TYR	CB-CG-CD1	-5.96	117.43	121.00
2	O	88	ARG	NH1-CZ-NH2	5.95	125.95	119.40
2	G	35	ALA	N-CA-CB	5.94	118.42	110.10
2	T	53	ASN	N-CA-CB	5.94	121.29	110.60
1	E	236	VAL	C-N-CA	5.93	134.76	122.30
1	F	232	ASP	CB-CG-OD2	5.93	123.64	118.30
2	J	145	TYR	CG-CD2-CE2	-5.92	116.56	121.30
2	P	35	ALA	CB-CA-C	-5.92	101.22	110.10
2	N	17	TYR	CG-CD2-CE2	-5.92	116.56	121.30
2	O	73	LEU	CB-CG-CD1	5.92	121.06	111.00
2	K	98	ARG	NE-CZ-NH2	5.92	123.26	120.30
1	C	183	PHE	CB-CG-CD2	5.91	124.93	120.80
2	M	139	TYR	CB-CG-CD1	-5.89	117.47	121.00
2	G	123	PHE	CB-CG-CD1	-5.89	116.68	120.80
2	L	123	PHE	CB-CG-CD2	-5.88	116.68	120.80
2	O	107	ALA	N-CA-CB	5.88	118.33	110.10
2	H	75	ASP	CB-CG-OD1	5.88	123.59	118.30

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	R	57	LEU	C-N-CA	5.87	136.38	121.70
2	J	123	PHE	CB-CG-CD2	5.87	124.91	120.80
2	U	35	ALA	CB-CA-C	-5.87	101.30	110.10
2	G	135	HIS	CA-CB-CG	-5.87	103.63	113.60
2	N	120	MET	N-CA-CB	5.87	121.16	110.60
2	W	165	VAL	CB-CA-C	-5.87	100.25	111.40
2	L	156	ASP	N-CA-CB	-5.86	100.05	110.60
2	L	85	PHE	CB-CG-CD2	5.86	124.90	120.80
2	S	139	TYR	CB-CG-CD1	5.86	124.51	121.00
2	L	75	ASP	CB-CG-OD1	5.85	123.56	118.30
2	O	155	THR	N-CA-CB	5.85	121.41	110.30
1	F	123	ALA	N-CA-CB	5.84	118.27	110.10
2	O	126	THR	C-N-CA	5.84	134.56	122.30
1	E	11	TYR	N-CA-CB	5.83	121.10	110.60
1	F	154	LEU	CB-CG-CD2	5.83	120.91	111.00
1	D	202	VAL	CG1-CB-CG2	-5.83	101.58	110.90
1	D	215	ASP	CB-CG-OD2	-5.83	113.06	118.30
1	C	42	GLY	N-CA-C	-5.82	98.55	113.10
1	E	170	ASP	CB-CG-OD2	-5.82	113.06	118.30
1	D	233	PRO	N-CD-CG	5.82	111.92	103.20
1	A	240	PRO	N-CD-CG	5.81	111.92	103.20
2	H	93	TYR	CB-CG-CD2	5.81	124.49	121.00
1	D	228	TYR	CB-CG-CD1	-5.81	117.52	121.00
2	H	98	ARG	NE-CZ-NH1	5.81	123.20	120.30
1	E	29	ALA	N-CA-CB	5.80	118.23	110.10
1	A	212	TRP	N-CA-CB	5.79	121.03	110.60
1	A	115	ASP	CB-CG-OD2	-5.79	113.09	118.30
2	O	145	TYR	N-CA-CB	5.79	121.03	110.60
2	L	29	ALA	N-CA-CB	5.79	118.21	110.10
2	X	164	TYR	CB-CG-CD1	-5.79	117.53	121.00
2	J	98	ARG	NE-CZ-NH1	5.79	123.19	120.30
1	C	8	GLU	CB-CA-C	-5.79	98.83	110.40
2	X	58	ALA	N-CA-CB	5.79	118.20	110.10
2	W	88	ARG	N-CA-CB	5.78	121.01	110.60
2	R	92	TYR	CB-CG-CD1	-5.78	117.53	121.00
2	Q	47	PHE	CB-CG-CD2	5.77	124.84	120.80
2	M	150	GLN	N-CA-CB	5.77	120.99	110.60
1	B	263	TYR	CB-CG-CD2	-5.77	117.54	121.00
2	H	93	TYR	CB-CG-CD1	-5.77	117.54	121.00
1	C	205	THR	N-CA-CB	5.77	121.26	110.30
1	D	260	TRP	CD1-CG-CD2	-5.77	101.69	106.30
1	A	195	ASP	N-CA-CB	5.76	120.97	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	27	ALA	CB-CA-C	5.76	118.73	110.10
1	F	157	ALA	CB-CA-C	5.75	118.73	110.10
2	H	164	TYR	CB-CG-CD2	-5.75	117.55	121.00
2	P	17	TYR	CB-CG-CD2	-5.75	117.55	121.00
1	B	261	VAL	N-CA-C	-5.75	95.47	111.00
2	N	148	ALA	CB-CA-C	-5.75	101.47	110.10
1	E	228	TYR	CB-CG-CD1	-5.75	117.55	121.00
1	E	194	PHE	CB-CG-CD2	5.75	124.82	120.80
2	Q	68	LEU	CB-CG-CD2	-5.75	101.23	111.00
2	J	17	TYR	CZ-CE2-CD2	5.74	124.97	119.80
2	X	85	PHE	CB-CG-CD2	-5.74	116.78	120.80
2	H	57	LEU	N-CA-C	-5.74	95.50	111.00
1	D	221	LYS	N-CA-CB	5.74	120.92	110.60
2	K	40	VAL	CA-CB-CG1	-5.73	102.30	110.90
1	A	251	ASP	CB-CG-OD2	5.73	123.46	118.30
2	N	164	TYR	CB-CG-CD1	-5.73	117.56	121.00
2	H	124	THR	N-CA-CB	5.73	121.18	110.30
1	E	11	TYR	CG-CD2-CE2	-5.72	116.72	121.30
2	J	17	TYR	CB-CG-CD2	-5.72	117.57	121.00
2	L	102	THR	N-CA-C	-5.72	95.56	111.00
2	I	154	ASP	CB-CG-OD1	5.72	123.45	118.30
2	V	81	GLU	N-CA-C	-5.71	95.57	111.00
2	R	72	ASP	CB-CG-OD2	5.71	123.44	118.30
2	J	100	SER	CB-CA-C	5.71	120.94	110.10
2	M	153	THR	CA-CB-CG2	-5.70	104.42	112.40
1	C	194	PHE	CB-CG-CD2	-5.70	116.81	120.80
2	L	76	MET	CG-SD-CE	5.70	109.32	100.20
2	L	93	TYR	CB-CG-CD1	5.70	124.42	121.00
1	B	228	TYR	CA-CB-CG	5.69	124.22	113.40
2	O	138	GLU	N-CA-CB	5.69	120.84	110.60
2	N	164	TYR	CG-CD2-CE2	-5.68	116.76	121.30
1	B	240	PRO	N-CD-CG	5.67	111.71	103.20
1	F	85	GLY	N-CA-C	-5.67	98.92	113.10
1	A	180	ALA	CB-CA-C	5.66	118.59	110.10
2	T	25	ILE	CA-CB-CG2	-5.66	99.58	110.90
1	D	141	ALA	N-CA-CB	5.66	118.02	110.10
2	G	69	PHE	CD1-CE1-CZ	5.66	126.89	120.10
1	C	219	SER	N-CA-CB	5.65	118.98	110.50
2	X	98	ARG	NE-CZ-NH1	5.65	123.13	120.30
2	K	116	ALA	CB-CA-C	-5.65	101.63	110.10
1	A	51	ASP	N-CA-CB	-5.65	100.44	110.60
2	U	121	ILE	CA-CB-CG1	5.64	121.72	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	163	PHE	CB-CG-CD1	-5.64	116.85	120.80
2	X	84	SER	N-CA-C	-5.64	95.78	111.00
1	C	210	HIS	N-CA-CB	5.64	120.75	110.60
1	F	195	ASP	CB-CG-OD2	5.63	123.36	118.30
2	H	116	ALA	N-CA-CB	5.63	117.98	110.10
2	L	84	SER	O-C-N	5.63	131.70	122.70
2	O	145	TYR	CB-CG-CD1	-5.62	117.63	121.00
1	C	134	PHE	CB-CG-CD2	-5.62	116.87	120.80
1	B	156	ARG	NH1-CZ-NH2	-5.61	113.23	119.40
1	C	217	LEU	CB-CG-CD1	5.61	120.54	111.00
2	L	47	PHE	CB-CG-CD1	5.61	124.72	120.80
2	U	99	THR	CA-CB-CG2	-5.60	104.56	112.40
2	W	60	ASP	CB-CG-OD2	-5.60	113.26	118.30
2	P	154	ASP	CB-CG-OD2	-5.59	113.27	118.30
2	R	70	ARG	NE-CZ-NH2	5.59	123.10	120.30
2	N	101	LEU	CB-CG-CD2	-5.59	101.50	111.00
1	E	87	ARG	NE-CZ-NH1	5.58	123.09	120.30
2	Q	145	TYR	CG-CD1-CE1	-5.58	116.83	121.30
1	C	188	ALA	N-CA-CB	5.58	117.92	110.10
2	Q	102	THR	CA-CB-CG2	-5.58	104.59	112.40
2	H	110	ASP	CB-CG-OD1	5.58	123.32	118.30
2	M	94	VAL	CA-CB-CG2	-5.58	102.53	110.90
2	V	145	TYR	CG-CD1-CE1	-5.58	116.84	121.30
2	R	120	MET	CA-CB-CG	5.57	122.77	113.30
2	L	39	GLY	O-C-N	-5.57	113.79	122.70
2	W	111	GLU	OE1-CD-OE2	5.57	129.98	123.30
1	D	120	ARG	CD-NE-CZ	5.57	131.40	123.60
1	D	198	THR	CA-CB-CG2	-5.57	104.60	112.40
1	A	199	GLN	N-CA-C	-5.56	95.98	111.00
1	D	70	PHE	CD1-CG-CD2	-5.56	111.07	118.30
2	S	156	ASP	CB-CG-OD1	5.56	123.31	118.30
1	F	219	SER	N-CA-CB	5.55	118.83	110.50
1	D	260	TRP	CG-CD2-CE3	-5.55	128.90	133.90
2	R	34	VAL	N-CA-C	-5.55	96.01	111.00
2	T	111	GLU	OE1-CD-OE2	-5.55	116.64	123.30
2	K	134	THR	CA-CB-CG2	-5.55	104.63	112.40
1	D	113	VAL	CA-CB-CG1	5.54	119.22	110.90
1	A	228	TYR	CB-CG-CD2	-5.54	117.67	121.00
2	V	140	ARG	CB-CA-C	-5.54	99.31	110.40
1	A	38	LEU	CB-CG-CD1	5.54	120.42	111.00
2	M	87	PHE	CB-CG-CD2	5.54	124.68	120.80
2	O	117	ASP	N-CA-CB	5.54	120.57	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	X	70	ARG	NE-CZ-NH1	5.54	123.07	120.30
1	C	86	ASP	CA-CB-CG	5.53	125.58	113.40
2	R	86	TYR	CB-CG-CD1	5.53	124.32	121.00
2	T	88	ARG	NE-CZ-NH1	5.53	123.06	120.30
2	L	87	PHE	CB-CG-CD1	-5.53	116.93	120.80
2	S	129	ALA	N-CA-CB	5.53	117.84	110.10
2	W	85	PHE	N-CA-CB	5.51	120.52	110.60
1	B	242	ARG	NE-CZ-NH1	-5.51	117.55	120.30
1	F	11	TYR	CA-CB-CG	-5.51	102.94	113.40
1	F	140	ALA	N-CA-CB	5.51	117.81	110.10
2	P	130	LEU	CB-CG-CD1	5.51	120.36	111.00
2	T	17	TYR	CB-CG-CD2	-5.50	117.70	121.00
1	F	230	LEU	O-C-N	-5.50	113.89	122.70
1	E	276	ILE	N-CA-C	-5.50	96.16	111.00
2	L	93	TYR	CA-CB-CG	-5.50	102.95	113.40
2	T	123	PHE	CB-CG-CD1	-5.50	116.95	120.80
1	A	131	ALA	CB-CA-C	-5.50	101.86	110.10
2	S	154	ASP	CB-CG-OD1	5.50	123.25	118.30
2	U	104	ALA	N-CA-CB	5.50	117.79	110.10
2	P	107	ALA	N-CA-CB	5.49	117.79	110.10
2	W	88	ARG	NE-CZ-NH1	5.49	123.05	120.30
1	E	261	VAL	CB-CA-C	-5.49	100.97	111.40
1	D	110	ARG	CB-CG-CD	5.48	125.86	111.60
1	D	72	ILE	O-C-N	5.48	131.47	122.70
1	D	230	LEU	CB-CA-C	-5.48	99.79	110.20
1	F	7	GLN	N-CA-CB	5.47	120.45	110.60
2	L	154	ASP	CB-CG-OD2	5.47	123.22	118.30
1	B	90	VAL	CA-CB-CG2	-5.47	102.69	110.90
2	L	117	ASP	CB-CG-OD1	-5.47	113.38	118.30
2	M	94	VAL	N-CA-CB	5.47	123.53	111.50
2	P	19	ARG	NE-CZ-NH1	5.47	123.03	120.30
2	T	87	PHE	CB-CG-CD1	5.47	124.63	120.80
2	T	154	ASP	N-CA-CB	5.47	120.44	110.60
2	T	20	LEU	CB-CG-CD2	5.46	120.29	111.00
2	O	82	LYS	N-CA-CB	5.46	120.43	110.60
2	K	93	TYR	CG-CD2-CE2	5.46	125.67	121.30
2	J	17	TYR	CG-CD2-CE2	-5.46	116.93	121.30
2	N	139	TYR	CZ-CE2-CD2	5.46	124.71	119.80
2	S	93	TYR	O-C-N	-5.46	113.97	122.70
1	D	166	VAL	CG1-CB-CG2	-5.46	102.17	110.90
2	X	113	THR	N-CA-CB	5.46	120.66	110.30
1	D	164	GLN	N-CA-CB	5.45	120.42	110.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	L	156	ASP	CB-CG-OD2	5.45	123.21	118.30
1	B	54	PRO	N-CD-CG	5.45	111.37	103.20
2	K	86	TYR	CB-CG-CD1	-5.45	117.73	121.00
1	B	189	TRP	CG-CD2-CE3	5.44	138.80	133.90
2	G	48	ALA	CB-CA-C	5.44	118.27	110.10
2	U	164	TYR	CD1-CG-CD2	5.44	123.89	117.90
1	F	211	ILE	N-CA-C	-5.44	96.31	111.00
2	H	114	CYS	CA-CB-SG	-5.44	104.20	114.00
2	R	50	ILE	CA-CB-CG1	5.44	121.34	111.00
1	F	158	ALA	CB-CA-C	-5.44	101.94	110.10
2	G	86	TYR	N-CA-CB	-5.44	100.81	110.60
1	F	98	TYR	CA-CB-CG	5.44	123.73	113.40
2	G	125	GLY	N-CA-C	-5.44	99.50	113.10
2	L	41	GLU	N-CA-C	-5.44	96.32	111.00
1	E	74	LYS	N-CA-CB	5.43	120.38	110.60
2	K	44	ALA	N-CA-CB	5.43	117.71	110.10
2	V	145	TYR	N-CA-CB	5.43	120.37	110.60
1	E	227	VAL	CG1-CB-CG2	5.43	119.58	110.90
2	U	47	PHE	CB-CG-CD2	-5.43	117.00	120.80
1	F	19	THR	N-CA-CB	5.42	120.59	110.30
2	S	85	PHE	CZ-CE2-CD2	5.42	126.60	120.10
1	E	263	TYR	CB-CG-CD2	5.42	124.25	121.00
2	R	158	PHE	CB-CG-CD1	-5.41	117.01	120.80
2	U	64	ASN	N-CA-CB	5.41	120.34	110.60
2	G	22	TYR	CB-CG-CD1	-5.41	117.75	121.00
1	C	173	VAL	CG1-CB-CG2	5.41	119.56	110.90
2	L	130	LEU	N-CA-CB	5.41	121.22	110.40
1	A	16	ALA	CB-CA-C	-5.41	101.99	110.10
1	D	259	GLY	N-CA-C	-5.41	99.58	113.10
2	I	138	GLU	N-CA-CB	5.41	120.33	110.60
2	I	164	TYR	CB-CG-CD1	5.40	124.24	121.00
2	U	32	ILE	C-N-CA	5.40	135.20	121.70
2	T	115	ASP	CB-CG-OD1	-5.40	113.44	118.30
2	S	161	PHE	C-N-CA	5.39	135.18	121.70
2	T	29	ALA	N-CA-CB	5.39	117.65	110.10
1	F	263	TYR	CB-CG-CD1	5.39	124.23	121.00
2	V	17	TYR	CG-CD2-CE2	-5.38	116.99	121.30
2	X	27	ASN	N-CA-CB	5.38	120.28	110.60
2	J	73	LEU	CB-CG-CD1	5.37	120.14	111.00
1	C	37	SER	N-CA-CB	5.36	118.54	110.50
2	L	52	ALA	CB-CA-C	-5.36	102.06	110.10
2	K	139	TYR	CB-CG-CD1	-5.36	117.78	121.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	M	66	VAL	N-CA-C	-5.36	96.53	111.00
1	E	107	LYS	N-CA-CB	5.35	120.23	110.60
2	G	108	ALA	CB-CA-C	-5.35	102.07	110.10
1	B	184	ALA	CB-CA-C	-5.35	102.07	110.10
2	M	85	PHE	CG-CD2-CE2	-5.35	114.92	120.80
2	R	124	THR	C-N-CA	5.35	133.53	122.30
1	B	166	VAL	CA-CB-CG2	5.34	118.92	110.90
1	D	181	SER	N-CA-CB	5.34	118.51	110.50
2	V	132	VAL	CG1-CB-CG2	5.34	119.44	110.90
1	D	215	ASP	CB-CG-OD1	5.34	123.10	118.30
2	K	17	TYR	CA-CB-CG	-5.34	103.26	113.40
1	C	98	TYR	N-CA-CB	5.33	120.20	110.60
2	P	149	THR	CA-CB-CG2	-5.33	104.94	112.40
1	D	195	ASP	CB-CG-OD2	-5.33	113.51	118.30
1	C	106	VAL	CB-CA-C	-5.32	101.30	111.40
1	E	244	ASP	CB-CG-OD1	-5.32	113.51	118.30
2	J	35	ALA	CB-CA-C	5.32	118.08	110.10
1	B	75	ARG	NE-CZ-NH1	5.32	122.96	120.30
1	A	44	GLY	N-CA-C	-5.31	99.83	113.10
2	O	87	PHE	C-N-CA	5.30	134.96	121.70
2	H	154	ASP	CB-CG-OD2	-5.30	113.53	118.30
1	E	246	GLN	N-CA-C	-5.29	96.71	111.00
2	Q	115	ASP	CB-CG-OD1	-5.29	113.54	118.30
2	H	89	GLY	C-N-CA	5.29	133.41	122.30
2	T	75	ASP	N-CA-CB	5.29	120.12	110.60
2	J	147	LYS	N-CA-CB	5.29	120.11	110.60
1	C	35	ARG	NE-CZ-NH2	-5.28	117.66	120.30
1	E	110	ARG	NE-CZ-NH1	-5.28	117.66	120.30
2	K	71	GLU	N-CA-CB	5.27	120.09	110.60
2	K	124	THR	CA-CB-OG1	5.27	120.07	109.00
2	V	117	ASP	CB-CG-OD2	5.26	123.03	118.30
2	R	46	LYS	CA-CB-CG	5.26	124.97	113.40
1	E	37	SER	N-CA-CB	5.25	118.38	110.50
2	G	60	ASP	N-CA-CB	5.25	120.06	110.60
2	X	49	THR	CA-CB-CG2	-5.25	105.05	112.40
1	A	120	ARG	NE-CZ-NH2	-5.25	117.67	120.30
1	B	115	ASP	CB-CG-OD2	5.25	123.02	118.30
2	N	92	TYR	O-C-N	-5.25	114.30	122.70
2	R	35	ALA	N-CA-CB	5.24	117.44	110.10
2	K	35	ALA	N-CA-CB	5.24	117.44	110.10
2	T	145	TYR	CA-CB-CG	-5.22	103.47	113.40
1	A	137	LEU	CB-CG-CD1	5.22	119.88	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	L	66	VAL	CA-CB-CG2	-5.22	103.07	110.90
2	G	48	ALA	N-CA-CB	-5.22	102.80	110.10
2	H	78	ASN	N-CA-CB	5.22	119.99	110.60
2	M	110	ASP	CB-CG-OD2	-5.21	113.61	118.30
1	B	184	ALA	N-CA-CB	5.21	117.40	110.10
2	I	75	ASP	CB-CA-C	5.21	120.83	110.40
1	A	262	ILE	N-CA-C	-5.21	96.93	111.00
2	L	73	LEU	N-CA-CB	5.21	120.82	110.40
2	V	72	ASP	CB-CG-OD1	5.21	122.99	118.30
2	R	138	GLU	N-CA-CB	5.21	119.97	110.60
2	S	158	PHE	CB-CA-C	-5.21	99.99	110.40
2	L	57	LEU	CB-CG-CD1	5.20	119.84	111.00
2	P	138	GLU	N-CA-CB	5.20	119.96	110.60
2	H	159	ILE	CA-CB-CG1	5.20	120.88	111.00
1	E	194	PHE	CB-CG-CD1	-5.20	117.16	120.80
2	K	79	ALA	N-CA-CB	5.19	117.37	110.10
1	F	263	TYR	CD1-CE1-CZ	-5.19	115.13	119.80
2	I	37	LEU	CB-CG-CD1	-5.19	102.18	111.00
2	K	73	LEU	N-CA-C	-5.19	97.00	111.00
1	E	20	GLU	OE1-CD-OE2	5.18	129.52	123.30
2	W	101	LEU	N-CA-CB	5.18	120.76	110.40
1	F	120	ARG	NE-CZ-NH2	-5.18	117.71	120.30
2	T	92	TYR	CA-CB-CG	-5.18	103.56	113.40
1	E	189	TRP	CE3-CZ3-CH2	5.18	126.89	121.20
1	B	90	VAL	CA-CB-CG1	5.17	118.66	110.90
1	D	36	VAL	CA-CB-CG1	-5.17	103.14	110.90
1	C	50	VAL	CA-CB-CG1	-5.17	103.15	110.90
1	D	87	ARG	CG-CD-NE	-5.17	100.95	111.80
2	R	87	PHE	CB-CG-CD2	5.17	124.42	120.80
2	S	86	TYR	N-CA-CB	5.16	119.90	110.60
2	T	149	THR	CA-CB-CG2	-5.16	105.18	112.40
1	B	233	PRO	N-CA-CB	5.16	109.49	103.30
2	M	60	ASP	N-CA-CB	5.16	119.89	110.60
1	D	273	SER	N-CA-CB	5.16	118.23	110.50
2	U	17	TYR	CG-CD2-CE2	-5.15	117.18	121.30
2	M	85	PHE	CZ-CE2-CD2	5.15	126.28	120.10
1	E	73	SER	N-CA-CB	5.15	118.22	110.50
1	E	98	TYR	CB-CG-CD2	-5.14	117.91	121.00
2	M	121	ILE	CA-CB-CG2	-5.14	100.61	110.90
1	C	40	TYR	CB-CG-CD1	5.13	124.08	121.00
1	B	17	LEU	N-CA-CB	5.13	120.66	110.40
1	D	242	ARG	NH1-CZ-NH2	-5.13	113.76	119.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	F	265	GLU	N-CA-CB	5.13	119.83	110.60
2	G	17	TYR	CB-CG-CD1	5.12	124.08	121.00
1	B	108	GLU	OE1-CD-OE2	5.12	129.45	123.30
1	B	269	ALA	N-CA-CB	5.12	117.27	110.10
2	G	158	PHE	CB-CA-C	5.12	120.65	110.40
1	E	224	GLN	N-CA-CB	5.12	119.82	110.60
2	V	49	THR	CA-CB-CG2	-5.12	105.23	112.40
2	Q	18	VAL	CG1-CB-CG2	5.12	119.09	110.90
2	H	143	ASN	N-CA-CB	5.12	119.81	110.60
2	U	103	ALA	N-CA-C	-5.12	97.18	111.00
2	M	97	SER	N-CA-C	-5.12	97.19	111.00
1	F	92	THR	CA-CB-CG2	-5.11	105.24	112.40
1	D	60	VAL	N-CA-C	-5.11	97.20	111.00
1	D	172	VAL	CA-CB-CG1	5.11	118.57	110.90
1	B	70	PHE	CB-CG-CD1	5.11	124.38	120.80
1	B	45	ARG	NH1-CZ-NH2	5.11	125.02	119.40
2	M	120	MET	CA-CB-CG	5.11	121.98	113.30
2	P	41	GLU	N-CA-CB	5.11	119.79	110.60
1	F	166	VAL	CA-CB-CG2	5.11	118.56	110.90
2	V	128	LYS	N-CA-CB	5.11	119.79	110.60
1	F	207	LEU	CB-CG-CD1	5.10	119.68	111.00
2	I	29	ALA	N-CA-CB	5.10	117.24	110.10
2	J	139	TYR	CD1-CG-CD2	-5.10	112.29	117.90
1	B	143	ALA	N-CA-CB	-5.10	102.96	110.10
2	T	55	VAL	N-CA-CB	5.10	122.72	111.50
1	E	45	ARG	NE-CZ-NH1	-5.10	117.75	120.30
2	M	56	LYS	N-CA-CB	5.10	119.78	110.60
1	A	88	ILE	N-CA-C	-5.10	97.24	111.00
2	V	22	TYR	CG-CD1-CE1	-5.10	117.22	121.30
1	B	64	ASP	N-CA-C	-5.09	97.25	111.00
1	B	182	ALA	CB-CA-C	-5.09	102.46	110.10
1	E	120	ARG	NH1-CZ-NH2	-5.09	113.80	119.40
1	E	212	TRP	CH2-CZ2-CE2	5.09	122.49	117.40
2	U	17	TYR	CZ-CE2-CD2	5.09	124.38	119.80
2	T	158	PHE	CB-CG-CD2	5.08	124.36	120.80
1	A	127	ALA	N-CA-CB	5.08	117.22	110.10
1	A	116	ARG	NE-CZ-NH2	-5.08	117.76	120.30
1	F	87	ARG	CG-CD-NE	-5.08	101.13	111.80
2	I	47	PHE	CB-CG-CD2	-5.07	117.25	120.80
1	B	62	ASP	OD1-CG-OD2	-5.07	113.67	123.30
2	I	87	PHE	CB-CG-CD2	5.07	124.35	120.80
2	P	40	VAL	CA-CB-CG1	-5.07	103.30	110.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	R	92	TYR	CG-CD2-CE2	-5.07	117.25	121.30
1	C	262	ILE	N-CA-C	-5.07	97.32	111.00
1	E	228	TYR	CG-CD2-CE2	-5.07	117.25	121.30
2	N	108	ALA	N-CA-CB	5.07	117.19	110.10
1	D	116	ARG	NE-CZ-NH2	5.06	122.83	120.30
2	P	115	ASP	O-C-N	-5.06	114.61	122.70
1	F	183	PHE	N-CA-CB	5.06	119.70	110.60
2	K	115	ASP	CB-CG-OD1	5.05	122.85	118.30
2	R	50	ILE	CA-C-N	5.05	126.30	116.20
2	P	143	ASN	N-CA-C	-5.05	97.37	111.00
2	L	78	ASN	N-CA-CB	5.04	119.68	110.60
1	C	37	SER	CB-CA-C	-5.04	100.52	110.10
2	S	156	ASP	CB-CG-OD2	-5.04	113.76	118.30
2	O	145	TYR	CB-CG-CD2	5.04	124.02	121.00
2	X	63	THR	N-CA-C	-5.04	97.39	111.00
1	D	242	ARG	NE-CZ-NH1	-5.04	117.78	120.30
2	L	44	ALA	CB-CA-C	-5.04	102.54	110.10
2	O	116	ALA	N-CA-C	-5.04	97.40	111.00
1	F	86	ASP	CB-CG-OD1	-5.03	113.77	118.30
2	U	30	HIS	N-CA-CB	5.03	119.66	110.60
2	R	55	VAL	CA-CB-CG1	5.03	118.45	110.90
1	C	134	PHE	CB-CG-CD1	5.03	124.32	120.80
2	J	110	ASP	CB-CG-OD1	5.03	122.83	118.30
1	D	255	GLU	CG-CD-OE1	-5.03	108.25	118.30
1	F	186	ILE	CA-CB-CG1	5.03	120.55	111.00
2	J	44	ALA	N-CA-CB	5.03	117.13	110.10
2	O	34	VAL	CA-CB-CG1	5.03	118.44	110.90
2	S	145	TYR	CB-CG-CD1	-5.03	117.98	121.00
2	T	69	PHE	CD1-CE1-CZ	-5.03	114.07	120.10
2	K	139	TYR	CG-CD1-CE1	-5.02	117.28	121.30
2	O	140	ARG	NE-CZ-NH1	-5.02	117.79	120.30
2	O	159	ILE	CA-CB-CG1	5.02	120.54	111.00
2	L	70	ARG	CD-NE-CZ	5.02	130.63	123.60
1	E	40	TYR	CB-CG-CD1	5.02	124.01	121.00
2	W	19	ARG	C-N-CA	5.02	134.24	121.70
2	Q	64	ASN	N-CA-CB	5.01	119.63	110.60
2	P	164	TYR	CG-CD2-CE2	-5.01	117.29	121.30
2	T	163	MET	CG-SD-CE	-5.01	92.18	100.20
2	T	147	LYS	N-CA-C	-5.01	97.47	111.00
2	Q	110	ASP	N-CA-CB	5.01	119.61	110.60
1	A	40	TYR	CB-CG-CD1	-5.01	118.00	121.00
1	D	97	SER	C-N-CA	5.01	134.22	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	R	134	THR	C-N-CA	5.01	134.22	121.70
1	F	24	VAL	CA-CB-CG2	-5.00	103.39	110.90
2	N	78	ASN	O-C-N	5.00	130.70	122.70

All (24) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
2	G	19	ARG	CA
2	H	17	TYR	CA
2	H	22	TYR	CA
2	H	23	GLU	CA
2	J	19	ARG	CA
2	K	17	TYR	CA
2	K	22	TYR	CA
2	K	23	GLU	CA
2	M	19	ARG	CA
2	N	17	TYR	CA
2	N	22	TYR	CA
2	N	23	GLU	CA
2	P	19	ARG	CA
2	Q	17	TYR	CA
2	Q	22	TYR	CA
2	Q	23	GLU	CA
2	S	19	ARG	CA
2	T	17	TYR	CA
2	T	23	GLU	CA
2	V	19	ARG	CA
2	V	85	PHE	CA
2	W	18	VAL	CA
2	W	22	TYR	CA
2	W	23	GLU	CA

All (123) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	109	ARG	Sidechain
1	A	110	ARG	Sidechain
1	A	116	ARG	Sidechain
1	A	120	ARG	Sidechain
1	A	187	ARG	Sidechain
1	B	120	ARG	Sidechain
1	B	156	ARG	Sidechain

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Mol	Chain	Res	Type	Group
1	B	183	PHE	Sidechain
1	B	187	ARG	Sidechain
1	B	188	ALA	Peptide
1	B	208	PHE	Sidechain
1	B	210	HIS	Sidechain
1	B	45	ARG	Sidechain
1	B	75	ARG	Sidechain
1	C	102	ARG	Sidechain
1	C	188	ALA	Peptide
1	D	103	PHE	Sidechain
1	D	111	PHE	Sidechain
1	D	120	ARG	Sidechain
1	D	187	ARG	Sidechain
1	D	194	PHE	Sidechain
1	D	210	HIS	Sidechain
1	D	257	ARG	Sidechain
1	D	263	TYR	Sidechain
1	D	61	TYR	Sidechain
1	D	75	ARG	Sidechain
1	D	98	TYR	Sidechain
1	E	102	ARG	Sidechain
1	E	210	HIS	Sidechain
1	E	228	TYR	Sidechain
1	E	35	ARG	Sidechain
1	E	61	TYR	Sidechain
1	E	98	TYR	Sidechain
1	F	109	ARG	Sidechain
1	F	11	TYR	Sidechain
1	F	110	ARG	Sidechain
1	F	120	ARG	Sidechain
1	F	210	HIS	Sidechain
1	F	61	TYR	Sidechain
2	G	129	ALA	Peptide
2	G	135	HIS	Sidechain
2	G	47	PHE	Sidechain
2	G	70	ARG	Sidechain
2	G	86	TYR	Sidechain
2	G	87	PHE	Sidechain
2	H	135	HIS	Sidechain
2	H	164	TYR	Sidechain
2	H	17	TYR	Sidechain
2	H	19	ARG	Sidechain

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Mol	Chain	Res	Type	Group
2	H	88	ARG	Sidechain
2	I	139	TYR	Sidechain
2	I	145	TYR	Sidechain
2	I	19	ARG	Sidechain
2	I	22	TYR	Sidechain
2	I	86	TYR	Sidechain
2	I	88	ARG	Sidechain
2	I	92	TYR	Sidechain
2	I	93	TYR	Sidechain
2	J	139	TYR	Sidechain
2	J	140	ARG	Peptide
2	J	145	TYR	Sidechain
2	J	164	TYR	Sidechain
2	J	17	TYR	Sidechain
2	J	43	LEU	Peptide
2	J	92	TYR	Sidechain
2	K	145	TYR	Sidechain
2	K	17	TYR	Sidechain
2	K	19	ARG	Sidechain
2	L	17	TYR	Sidechain
2	L	22	TYR	Sidechain
2	L	30	HIS	Sidechain
2	L	88	ARG	Sidechain
2	M	22	TYR	Sidechain
2	M	70	ARG	Sidechain
2	M	93	TYR	Sidechain
2	N	145	TYR	Sidechain
2	N	154	ASP	Peptide
2	N	22	TYR	Sidechain
2	O	123	PHE	Sidechain
2	O	145	TYR	Sidechain
2	O	86	TYR	Sidechain
2	O	88	ARG	Sidechain
2	P	145	TYR	Sidechain
2	P	87	PHE	Sidechain
2	P	88	ARG	Sidechain
2	P	98	ARG	Peptide
2	Q	17	TYR	Sidechain
2	Q	19	ARG	Sidechain
2	Q	86	TYR	Sidechain
2	R	103	ALA	Peptide
2	R	145	TYR	Sidechain

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Mol	Chain	Res	Type	Group
2	R	92	TYR	Peptide
2	S	139	TYR	Sidechain
2	S	46	LYS	Peptide
2	S	86	TYR	Sidechain
2	S	93	TYR	Sidechain
2	T	135	HIS	Sidechain
2	T	140	ARG	Sidechain
2	T	161	PHE	Sidechain
2	T	164	TYR	Sidechain
2	T	17	TYR	Sidechain
2	T	22	TYR	Sidechain
2	T	69	PHE	Sidechain
2	U	139	TYR	Sidechain
2	U	19	ARG	Sidechain
2	U	70	ARG	Sidechain
2	U	86	TYR	Sidechain
2	U	87	PHE	Sidechain
2	U	88	ARG	Sidechain
2	U	92	TYR	Sidechain
2	V	19	ARG	Sidechain
2	V	93	TYR	Sidechain
2	V	98	ARG	Sidechain
2	W	18	VAL	Mainchain
2	W	69	PHE	Sidechain
2	W	88	ARG	Sidechain
2	X	140	ARG	Sidechain
2	X	164	TYR	Sidechain
2	X	70	ARG	Sidechain
2	X	87	PHE	Peptide
2	X	88	ARG	Sidechain
2	X	92	TYR	Sidechain
2	X	93	TYR	Sidechain

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2182	0	2222	27	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	B	2182	0	2222	5	0
1	C	2182	0	2222	12	0
1	D	2182	0	2222	8	0
1	E	2182	0	2222	8	0
1	F	2182	0	2222	32	0
2	G	1106	0	1072	2	0
2	H	1106	0	1072	4	0
2	I	1106	0	1072	4	0
2	J	1106	0	1072	5	0
2	K	1106	0	1072	5	0
2	L	1106	0	1072	3	0
2	M	1106	0	1072	33	0
2	N	1106	0	1072	2	0
2	O	1106	0	1072	32	0
2	P	1106	0	1072	1	0
2	Q	1106	0	1072	3	0
2	R	1106	0	1072	3	0
2	S	1106	0	1072	4	0
2	T	1106	0	1072	3	0
2	U	1106	0	1072	1	0
2	V	1106	0	1072	4	0
2	W	1106	0	1072	2	0
2	X	1106	0	1072	2	0
All	All	33000	0	32628	144	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 2.

All (144) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:M:47:PHE:CG	2:M:47:PHE:CD1	1.79	1.70
2:M:47:PHE:CE1	2:M:47:PHE:CZ	1.79	1.65
2:M:47:PHE:CZ	2:M:47:PHE:CE2	1.84	1.63
2:M:47:PHE:CG	2:M:47:PHE:CD2	1.85	1.63
1:F:111:PHE:CE2	1:F:111:PHE:CZ	1.91	1.57
1:F:111:PHE:CE1	1:F:111:PHE:CD1	1.94	1.52
1:F:111:PHE:CD2	1:F:111:PHE:CG	1.99	1.51
1:F:111:PHE:CZ	1:F:111:PHE:CE1	1.99	1.50
2:M:47:PHE:CD1	2:O:35:ALA:HA	1.45	1.49
2:M:47:PHE:CE1	2:O:35:ALA:HA	1.48	1.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:111:PHE:CD1	1:F:111:PHE:CG	2.04	1.46
1:F:111:PHE:CE2	1:F:111:PHE:CD2	2.03	1.44
2:M:47:PHE:CD2	2:O:35:ALA:CA	2.28	1.16
2:M:47:PHE:CZ	2:O:35:ALA:CA	2.30	1.15
2:M:47:PHE:CG	2:O:35:ALA:CA	2.30	1.14
2:M:47:PHE:CD1	2:O:35:ALA:CA	2.28	1.14
2:M:47:PHE:CE1	2:O:35:ALA:CA	2.31	1.14
2:M:47:PHE:CE2	2:O:35:ALA:CA	2.30	1.13
1:A:55:GLN:CD	1:F:111:PHE:CD1	2.25	1.10
1:A:55:GLN:CD	1:F:111:PHE:CE2	2.27	1.08
1:A:55:GLN:NE2	1:F:111:PHE:CG	2.27	1.03
1:A:55:GLN:NE2	1:F:111:PHE:CD1	2.27	1.03
1:A:55:GLN:CD	1:F:111:PHE:CE1	2.32	1.02
1:A:55:GLN:NE2	1:F:111:PHE:CD2	2.27	1.02
1:A:55:GLN:NE2	1:F:111:PHE:CE1	2.28	1.01
1:A:55:GLN:CD	1:F:111:PHE:CZ	2.33	1.01
1:A:55:GLN:CD	1:F:111:PHE:CG	2.34	1.01
1:A:55:GLN:CD	1:F:111:PHE:CD2	2.33	1.00
1:A:55:GLN:NE2	1:F:111:PHE:CE2	2.29	1.00
1:A:55:GLN:NE2	1:F:111:PHE:CZ	2.30	0.99
2:M:47:PHE:CE1	2:O:35:ALA:N	2.30	0.99
2:M:47:PHE:CD2	2:O:35:ALA:N	2.33	0.97
2:M:47:PHE:CZ	2:O:35:ALA:N	2.33	0.97
2:M:47:PHE:CG	2:O:35:ALA:N	2.32	0.96
2:M:47:PHE:CD1	2:O:35:ALA:N	2.35	0.95
2:M:47:PHE:CE2	2:O:35:ALA:N	2.35	0.95
1:A:55:GLN:CD	1:A:55:GLN:NE2	2.30	0.84
1:A:55:GLN:CG	1:F:111:PHE:CE1	2.60	0.84
2:M:47:PHE:CG	2:O:35:ALA:HA	2.16	0.81
2:M:47:PHE:CZ	2:O:35:ALA:HA	2.16	0.80
1:A:55:GLN:HG2	1:F:111:PHE:CZ	2.18	0.79
1:A:55:GLN:CG	1:F:111:PHE:CZ	2.66	0.78
2:M:47:PHE:CZ	2:O:35:ALA:CB	2.67	0.77
1:A:55:GLN:HG2	1:F:111:PHE:CE1	2.22	0.75
1:A:55:GLN:OE1	1:F:111:PHE:CG	2.42	0.73
2:S:92:TYR:H	2:S:151:GLY:HA3	1.52	0.72
2:M:47:PHE:CE2	2:O:35:ALA:CB	2.73	0.72
1:A:55:GLN:OE1	1:F:111:PHE:CD2	2.43	0.71
2:M:47:PHE:CG	2:O:35:ALA:C	2.72	0.62
2:J:149:THR:HG22	2:J:151:GLY:H	1.68	0.58
1:E:35:ARG:HH22	1:E:133:ILE:HD11	1.68	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:J:125:GLY:HA2	2:J:139:TYR:HB2	1.87	0.57
2:M:47:PHE:CZ	2:O:35:ALA:HB2	2.39	0.57
2:I:89:GLY:HA3	2:I:148:ALA:HB3	1.87	0.56
2:M:107:ALA:H	2:O:37:LEU:HD13	1.71	0.55
2:U:52:ALA:H	2:U:79:ALA:HB3	1.71	0.55
2:M:47:PHE:CE2	2:O:35:ALA:HB3	2.41	0.55
1:A:125:ILE:HG22	1:A:127:ALA:H	1.71	0.54
2:H:119:LYS:HG3	2:H:120:MET:H	1.74	0.53
1:C:32:ASN:HD22	1:C:32:ASN:H	1.58	0.52
1:D:75:ARG:HD3	1:D:75:ARG:H	1.74	0.52
1:C:24:VAL:CG1	1:D:272:ASN:HD21	2.22	0.52
1:C:18:GLU:HG2	1:C:20:GLU:H	1.75	0.50
2:M:30:HIS:CD2	2:M:30:HIS:H	2.29	0.50
1:C:119:GLN:HE21	1:C:119:GLN:HA	1.76	0.50
1:C:270:VAL:O	1:C:270:VAL:HG12	2.12	0.50
2:O:71:GLU:HG3	2:O:93:TYR:CE2	2.46	0.50
2:M:47:PHE:CG	2:O:34:VAL:C	2.85	0.49
2:H:70:ARG:HE	2:H:81:GLU:H	1.60	0.49
1:A:109:ARG:HA	1:A:109:ARG:HE	1.77	0.49
2:V:98:ARG:HB3	2:V:106:ILE:HD13	1.94	0.49
1:C:149:ILE:HD12	1:C:150:SER:H	1.78	0.49
2:M:47:PHE:CD2	2:O:35:ALA:C	2.86	0.49
2:J:125:GLY:HA2	2:J:139:TYR:CB	2.42	0.49
1:C:3:GLN:HG3	1:C:5:SER:H	1.79	0.48
2:M:55:VAL:HG22	2:O:147:LYS:HB2	1.96	0.47
2:L:66:VAL:HB	2:L:69:PHE:CE2	2.49	0.47
2:N:85:PHE:HB2	2:O:75:ASP:H	1.79	0.47
2:V:20:LEU:HD13	2:X:149:THR:HG21	1.97	0.47
1:A:83:ILE:HG23	1:A:115:ASP:HB2	1.97	0.46
2:M:151:GLY:O	2:M:152:VAL:HG13	2.15	0.46
2:Q:85:PHE:HB3	2:R:74:GLY:H	1.80	0.46
1:C:104:SER:HA	1:D:71:VAL:HG11	1.97	0.46
1:B:229:VAL:HG22	1:B:272:ASN:HB3	1.98	0.46
2:K:18:VAL:HG23	2:L:41:GLU:H	1.81	0.46
2:V:119:LYS:HB3	2:V:120:MET:HA	1.98	0.46
2:M:43:LEU:HD22	2:O:97:SER:O	2.16	0.45
2:T:22:TYR:H	2:T:61:ASN:HB3	1.81	0.45
2:J:70:ARG:HH22	2:K:38:ASN:HD22	1.64	0.45
2:J:88:ARG:NH1	2:K:90:GLY:H	2.15	0.45
1:F:241:ILE:HG13	1:F:260:TRP:HE1	1.81	0.45
2:K:125:GLY:H	2:K:159:ILE:HG22	1.80	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:170:ASP:HB3	1:F:171:LEU:HD23	1.97	0.45
1:C:169:HIS:CG	1:C:170:ASP:H	2.35	0.45
2:G:129:ALA:HA	2:G:150:GLN:HG3	1.99	0.45
2:R:82:LYS:HG2	2:R:133:VAL:HG21	1.99	0.45
1:F:125:ILE:CG2	2:Q:53:ASN:HD21	2.30	0.44
2:H:77:VAL:HG11	2:H:95:ASN:HD21	1.82	0.44
2:V:134:THR:HG22	2:V:135:HIS:H	1.83	0.44
2:I:48:ALA:HB1	2:I:106:ILE:HG13	2.00	0.44
2:W:132:VAL:HG23	2:W:140:ARG:HE	1.81	0.44
1:A:109:ARG:HA	1:A:109:ARG:NE	2.33	0.43
1:E:246:GLN:HG3	1:E:247:VAL:H	1.82	0.43
1:E:89:GLN:HE21	1:E:94:GLU:HG2	1.83	0.43
2:S:42:GLN:HA	2:S:46:LYS:HE2	2.00	0.43
1:E:23:ARG:HD3	1:E:103:PHE:CE2	2.54	0.43
1:D:138:GLU:H	1:D:274:LEU:HA	1.84	0.43
2:P:32:ILE:HA	2:P:66:VAL:HG11	2.01	0.43
2:T:95:ASN:HD21	2:T:106:ILE:HD12	1.83	0.43
2:H:30:HIS:HB2	2:H:66:VAL:HG11	2.00	0.43
1:A:120:ARG:HH12	1:A:265:GLU:HA	1.83	0.42
1:D:36:VAL:CG1	1:D:227:VAL:HG13	2.50	0.42
2:G:101:LEU:N	2:G:101:LEU:HD23	2.34	0.42
1:E:252:LYS:HD3	1:E:254:GLU:HG3	2.01	0.42
1:A:190:GLY:H	1:B:187:ARG:HG2	1.84	0.42
1:A:23:ARG:HB3	1:A:103:PHE:CE2	2.55	0.42
1:C:142:THR:HG23	1:C:276:ILE:HG21	2.02	0.42
1:D:88:ILE:HG22	1:E:68:LYS:HB3	2.00	0.42
1:B:207:LEU:HD23	1:B:207:LEU:HA	2.01	0.42
2:S:92:TYR:H	2:S:151:GLY:CA	2.26	0.42
2:T:152:VAL:HG23	2:T:163:MET:HB3	2.02	0.42
1:F:125:ILE:HG22	2:Q:53:ASN:HD21	1.82	0.41
2:I:26:LEU:HD23	2:I:26:LEU:H	1.85	0.41
1:D:186:ILE:HD13	1:D:192:ASN:HD22	1.85	0.41
2:R:68:LEU:HA	2:R:92:TYR:CE1	2.55	0.41
2:X:156:ASP:HB3	2:X:158:PHE:CE1	2.55	0.41
2:I:129:ALA:C	2:I:130:LEU:HD23	2.41	0.41
1:B:170:ASP:H	1:B:225:ASN:HA	1.86	0.41
1:F:213:THR:HG23	1:F:216:ILE:HG22	2.02	0.41
2:L:84:SER:HA	2:L:135:HIS:HB2	2.03	0.41
1:B:24:VAL:HA	1:C:269:ALA:HA	2.02	0.41
1:C:7:GLN:HE21	2:K:136:VAL:HG13	1.86	0.41
2:O:146:GLU:H	2:O:146:GLU:CD	2.23	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:W:112:ILE:HD12	2:W:112:ILE:HA	1.98	0.41
1:D:213:THR:HG22	1:D:215:ASP:H	1.86	0.41
1:F:148:THR:HG21	1:F:153:GLY:HA3	2.02	0.41
2:M:47:PHE:CD2	2:M:47:PHE:CB	2.88	0.41
2:O:61:ASN:HA	2:O:110:ASP:HB3	2.03	0.41
1:E:53:LEU:HD22	1:E:71:VAL:HB	2.03	0.40
2:S:106:ILE:HD12	2:S:106:ILE:HA	2.00	0.40
1:A:166:VAL:O	1:F:25:ALA:HB1	2.22	0.40
2:N:148:ALA:HA	2:O:47:PHE:CD2	2.57	0.40
2:O:61:ASN:HD22	2:O:110:ASP:CB	2.34	0.40
1:E:200:HIS:HE1	1:F:159:LEU:HD12	1.86	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	278/280 (99%)	240 (86%)	20 (7%)	18 (6%)	1 16
1	B	278/280 (99%)	242 (87%)	25 (9%)	11 (4%)	3 23
1	C	278/280 (99%)	244 (88%)	23 (8%)	11 (4%)	3 23
1	D	278/280 (99%)	245 (88%)	19 (7%)	14 (5%)	2 20
1	E	278/280 (99%)	233 (84%)	25 (9%)	20 (7%)	1 14
1	F	278/280 (99%)	248 (89%)	20 (7%)	10 (4%)	3 25
2	G	148/150 (99%)	115 (78%)	20 (14%)	13 (9%)	1 11
2	H	148/150 (99%)	114 (77%)	24 (16%)	10 (7%)	1 15
2	I	148/150 (99%)	118 (80%)	18 (12%)	12 (8%)	1 12
2	J	148/150 (99%)	118 (80%)	21 (14%)	9 (6%)	1 16
2	K	148/150 (99%)	115 (78%)	15 (10%)	18 (12%)	0 5

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	L	148/150 (99%)	119 (80%)	14 (10%)	15 (10%)	0 9
2	M	148/150 (99%)	113 (76%)	22 (15%)	13 (9%)	1 11
2	N	148/150 (99%)	119 (80%)	19 (13%)	10 (7%)	1 15
2	O	148/150 (99%)	114 (77%)	20 (14%)	14 (10%)	0 10
2	P	148/150 (99%)	115 (78%)	23 (16%)	10 (7%)	1 15
2	Q	148/150 (99%)	118 (80%)	15 (10%)	15 (10%)	0 9
2	R	148/150 (99%)	123 (83%)	16 (11%)	9 (6%)	1 16
2	S	148/150 (99%)	120 (81%)	20 (14%)	8 (5%)	2 19
2	T	148/150 (99%)	121 (82%)	14 (10%)	13 (9%)	1 11
2	U	148/150 (99%)	116 (78%)	19 (13%)	13 (9%)	1 11
2	V	148/150 (99%)	117 (79%)	16 (11%)	15 (10%)	0 9
2	W	148/150 (99%)	116 (78%)	19 (13%)	13 (9%)	1 11
2	X	148/150 (99%)	114 (77%)	25 (17%)	9 (6%)	1 16
All	All	4332/4380 (99%)	3557 (82%)	472 (11%)	303 (7%)	2 14

All (303) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	5	SER
1	A	16	ALA
1	A	98	TYR
1	A	122	LYS
1	A	123	ALA
1	A	187	ARG
1	A	273	SER
1	B	98	TYR
1	B	123	ALA
1	B	150	SER
1	B	194	PHE
1	C	29	ALA
1	C	98	TYR
1	D	16	ALA
1	D	66	ASP
1	D	98	TYR
1	D	271	VAL
1	D	273	SER
1	E	11	TYR

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Mol	Chain	Res	Type
1	E	14	SER
1	E	57	ALA
1	E	98	TYR
1	E	123	ALA
1	E	185	ASP
1	E	188	ALA
1	E	216	ILE
1	E	278	LYS
1	F	98	TYR
1	F	123	ALA
1	F	127	ALA
1	F	185	ASP
2	G	19	ARG
2	H	17	TYR
2	H	38	ASN
2	H	116	ALA
2	H	141	ALA
2	H	159	ILE
2	I	102	THR
2	I	103	ALA
2	J	19	ARG
2	J	52	ALA
2	J	108	ALA
2	K	17	TYR
2	K	50	ILE
2	K	154	ASP
2	L	20	LEU
2	L	23	GLU
2	L	53	ASN
2	L	117	ASP
2	M	56	LYS
2	M	60	ASP
2	M	108	ALA
2	M	152	VAL
2	M	164	TYR
2	N	17	TYR
2	N	22	TYR
2	N	23	GLU
2	N	87	PHE
2	O	41	GLU
2	P	19	ARG
2	P	144	MET

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Mol	Chain	Res	Type
2	Q	17	TYR
2	Q	22	TYR
2	Q	23	GLU
2	Q	117	ASP
2	R	31	ASP
2	R	66	VAL
2	R	135	HIS
2	R	145	TYR
2	S	20	LEU
2	S	52	ALA
2	T	17	TYR
2	T	23	GLU
2	U	29	ALA
2	U	35	ALA
2	U	91	GLU
2	V	19	ARG
2	V	65	ALA
2	V	85	PHE
2	V	97	SER
2	V	117	ASP
2	V	145	TYR
2	W	18	VAL
2	W	22	TYR
2	W	29	ALA
2	W	80	SER
2	X	107	ALA
2	X	145	TYR
1	A	31	ALA
1	A	269	ALA
1	B	166	VAL
1	C	57	ALA
1	C	131	ALA
1	D	203	LEU
1	D	269	ALA
1	F	140	ALA
1	F	166	VAL
1	F	275	ALA
2	G	35	ALA
2	G	38	ASN
2	G	84	SER
2	G	87	PHE
2	G	116	ALA

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Mol	Chain	Res	Type
2	G	117	ASP
2	H	22	TYR
2	H	129	ALA
2	I	27	ASN
2	I	52	ALA
2	I	159	ILE
2	J	104	ALA
2	J	129	ALA
2	K	23	GLU
2	K	37	LEU
2	K	53	ASN
2	K	54	GLY
2	K	66	VAL
2	K	75	ASP
2	K	100	SER
2	K	104	ALA
2	K	146	GLU
2	L	22	TYR
2	L	156	ASP
2	M	117	ASP
2	N	153	THR
2	O	35	ALA
2	O	129	ALA
2	O	148	ALA
2	P	101	LEU
2	Q	20	LEU
2	Q	35	ALA
2	Q	68	LEU
2	Q	85	PHE
2	Q	107	ALA
2	Q	146	GLU
2	R	110	ASP
2	S	103	ALA
2	S	158	PHE
2	T	58	ALA
2	T	74	GLY
2	T	82	LYS
2	T	91	GLU
2	T	107	ALA
2	U	34	VAL
2	U	56	LYS
2	U	66	VAL

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Mol	Chain	Res	Type
2	V	60	ASP
2	V	66	VAL
2	W	38	ASN
2	W	52	ALA
2	W	84	SER
2	W	91	GLU
2	W	116	ALA
2	W	150	GLN
2	X	65	ALA
1	A	215	ASP
1	B	4	LEU
1	C	128	VAL
1	C	169	HIS
1	C	269	ALA
1	D	6	ASN
1	D	62	ASP
1	F	188	ALA
1	F	270	VAL
2	H	23	GLU
2	I	62	GLY
2	I	67	GLY
2	I	92	TYR
2	I	128	LYS
2	K	22	TYR
2	K	63	THR
2	L	27	ASN
2	L	30	HIS
2	L	67	GLY
2	L	107	ALA
2	L	130	LEU
2	N	74	GLY
2	N	135	HIS
2	O	103	ALA
2	O	116	ALA
2	O	117	ASP
2	O	142	GLY
2	P	44	ALA
2	P	117	ASP
2	P	135	HIS
2	P	152	VAL
2	P	158	PHE
2	Q	37	LEU

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Mol	Chain	Res	Type
2	Q	64	ASN
2	Q	145	TYR
2	R	80	SER
2	S	82	LYS
2	T	130	LEU
2	U	19	ARG
2	U	75	ASP
2	U	110	ASP
2	V	92	TYR
2	V	129	ALA
1	A	51	ASP
1	A	63	LYS
1	A	124	ASP
1	A	195	ASP
1	B	2	SER
1	B	60	VAL
1	B	273	SER
1	C	188	ALA
1	C	207	LEU
1	D	60	VAL
1	E	194	PHE
1	E	207	LEU
1	E	253	PRO
1	E	269	ALA
2	G	148	ALA
2	I	29	ALA
2	J	98	ARG
2	K	83	ALA
2	K	88	ARG
2	K	91	GLU
2	L	116	ALA
2	L	127	GLY
2	M	38	ASN
2	M	147	LYS
2	M	150	GLN
2	N	49	THR
2	N	66	VAL
2	O	22	TYR
2	O	107	ALA
2	O	130	LEU
2	Q	44	ALA
2	R	60	ASP

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Mol	Chain	Res	Type
2	S	54	GLY
2	S	90	GLY
2	T	68	LEU
2	T	69	PHE
2	V	93	TYR
2	V	107	ALA
2	X	29	ALA
2	X	104	ALA
2	X	144	MET
2	X	158	PHE
2	X	159	ILE
1	A	14	SER
1	A	61	TYR
1	A	147	VAL
1	C	166	VAL
1	D	51	ASP
1	E	21	GLU
1	E	54	PRO
1	E	191	GLN
1	E	198	THR
1	E	215	ASP
1	E	217	LEU
1	F	125	ILE
2	G	29	ALA
2	G	82	LYS
2	G	129	ALA
2	H	40	VAL
2	I	109	GLY
2	I	150	GLN
2	J	66	VAL
2	L	99	THR
2	L	103	ALA
2	M	35	ALA
2	O	73	LEU
2	Q	159	ILE
2	R	117	ASP
2	T	93	TYR
2	T	97	SER
2	T	154	ASP
2	U	33	ASP
2	U	53	ASN
2	V	96	ILE

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Mol	Chain	Res	Type
2	V	102	THR
2	V	136	VAL
2	W	85	PHE
2	W	117	ASP
2	W	146	GLU
2	X	60	ASP
1	A	166	VAL
1	B	16	ALA
1	D	31	ALA
1	D	166	VAL
1	D	253	PRO
2	G	53	ASN
2	H	143	ASN
2	J	159	ILE
2	K	149	THR
2	M	19	ARG
2	M	107	ALA
2	N	127	GLY
2	O	147	LYS
2	P	104	ALA
2	R	27	ASN
2	S	98	ARG
2	U	154	ASP
1	B	51	ASP
1	E	51	ASP
2	P	55	VAL
1	C	253	PRO
2	G	50	ILE
2	M	50	ILE
2	O	54	GLY
2	U	90	GLY
2	J	160	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	235/235 (100%)	222 (94%)	13 (6%)	21 47
1	B	235/235 (100%)	226 (96%)	9 (4%)	33 57
1	C	235/235 (100%)	226 (96%)	9 (4%)	33 57
1	D	235/235 (100%)	221 (94%)	14 (6%)	19 44
1	E	235/235 (100%)	218 (93%)	17 (7%)	14 39
1	F	235/235 (100%)	225 (96%)	10 (4%)	29 53
2	G	109/109 (100%)	105 (96%)	4 (4%)	34 58
2	H	109/109 (100%)	101 (93%)	8 (7%)	14 39
2	I	109/109 (100%)	102 (94%)	7 (6%)	17 42
2	J	109/109 (100%)	101 (93%)	8 (7%)	14 39
2	K	109/109 (100%)	101 (93%)	8 (7%)	14 39
2	L	109/109 (100%)	101 (93%)	8 (7%)	14 39
2	M	109/109 (100%)	97 (89%)	12 (11%)	6 23
2	N	109/109 (100%)	107 (98%)	2 (2%)	59 77
2	O	109/109 (100%)	98 (90%)	11 (10%)	7 25
2	P	109/109 (100%)	103 (94%)	6 (6%)	21 47
2	Q	109/109 (100%)	101 (93%)	8 (7%)	14 39
2	R	109/109 (100%)	103 (94%)	6 (6%)	21 47
2	S	109/109 (100%)	107 (98%)	2 (2%)	59 77
2	T	109/109 (100%)	107 (98%)	2 (2%)	59 77
2	U	109/109 (100%)	105 (96%)	4 (4%)	34 58
2	V	109/109 (100%)	98 (90%)	11 (10%)	7 25
2	W	109/109 (100%)	103 (94%)	6 (6%)	21 47
2	X	109/109 (100%)	102 (94%)	7 (6%)	17 42
All	All	3372/3372 (100%)	3180 (94%)	192 (6%)	24 46

All (192) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	68	LYS
1	A	75	ARG
1	A	84	GLU
1	A	149	ILE
1	A	165	GLU
1	A	172	VAL

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Mol	Chain	Res	Type
1	A	176	ILE
1	A	191	GLN
1	A	195	ASP
1	A	226	THR
1	A	244	ASP
1	A	249	PRO
1	A	263	TYR
1	B	3	GLN
1	B	38	LEU
1	B	53	LEU
1	B	60	VAL
1	B	194	PHE
1	B	197	VAL
1	B	212	TRP
1	B	213	THR
1	B	242	ARG
1	C	24	VAL
1	C	32	ASN
1	C	70	PHE
1	C	102	ARG
1	C	105	GLN
1	C	119	GLN
1	C	142	THR
1	C	181	SER
1	C	249	PRO
1	D	6	ASN
1	D	28	GLN
1	D	32	ASN
1	D	38	LEU
1	D	43	VAL
1	D	72	ILE
1	D	74	LYS
1	D	75	ARG
1	D	77	GLN
1	D	118	GLN
1	D	148	THR
1	D	178	MET
1	D	221	LYS
1	D	249	PRO
1	E	1	MET
1	E	23	ARG
1	E	41	GLN

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Mol	Chain	Res	Type
1	E	47	LEU
1	E	74	LYS
1	E	75	ARG
1	E	80	ASP
1	E	149	ILE
1	E	171	LEU
1	E	174	THR
1	E	189	TRP
1	E	192	ASN
1	E	198	THR
1	E	221	LYS
1	E	226	THR
1	E	249	PRO
1	E	252	LYS
1	F	19	THR
1	F	23	ARG
1	F	47	LEU
1	F	105	GLN
1	F	148	THR
1	F	149	ILE
1	F	171	LEU
1	F	178	MET
1	F	225	ASN
1	F	242	ARG
2	G	46	LYS
2	G	85	PHE
2	G	87	PHE
2	G	134	THR
2	H	17	TYR
2	H	22	TYR
2	H	46	LYS
2	H	77	VAL
2	H	91	GLU
2	H	133	VAL
2	H	140	ARG
2	H	149	THR
2	I	19	ARG
2	I	26	LEU
2	I	42	GLN
2	I	46	LYS
2	I	56	LYS
2	I	119	LYS

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Mol	Chain	Res	Type
2	I	128	LYS
2	J	46	LYS
2	J	49	THR
2	J	123	PHE
2	J	128	LYS
2	J	144	MET
2	J	145	TYR
2	J	153	THR
2	J	162	ILE
2	K	16	PRO
2	K	22	TYR
2	K	55	VAL
2	K	61	ASN
2	K	78	ASN
2	K	117	ASP
2	K	135	HIS
2	K	155	THR
2	L	46	LYS
2	L	61	ASN
2	L	63	THR
2	L	76	MET
2	L	78	ASN
2	L	120	MET
2	L	134	THR
2	L	144	MET
2	M	16	PRO
2	M	38	ASN
2	M	46	LYS
2	M	63	THR
2	M	88	ARG
2	M	95	ASN
2	M	120	MET
2	M	122	LYS
2	M	124	THR
2	M	128	LYS
2	M	152	VAL
2	M	163	MET
2	N	143	ASN
2	N	150	GLN
2	O	25	ILE
2	O	46	LYS
2	O	49	THR

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Mol	Chain	Res	Type
2	O	76	MET
2	O	94	VAL
2	O	97	SER
2	O	120	MET
2	O	132	VAL
2	O	140	ARG
2	O	153	THR
2	O	157	THR
2	P	19	ARG
2	P	66	VAL
2	P	76	MET
2	P	85	PHE
2	P	144	MET
2	P	155	THR
2	Q	20	LEU
2	Q	32	ILE
2	Q	82	LYS
2	Q	128	LYS
2	Q	130	LEU
2	Q	134	THR
2	Q	157	THR
2	Q	162	ILE
2	R	49	THR
2	R	50	ILE
2	R	68	LEU
2	R	70	ARG
2	R	88	ARG
2	R	120	MET
2	S	71	GLU
2	S	73	LEU
2	T	18	VAL
2	T	23	GLU
2	U	49	THR
2	U	50	ILE
2	U	113	THR
2	U	140	ARG
2	V	19	ARG
2	V	41	GLU
2	V	61	ASN
2	V	78	ASN
2	V	85	PHE
2	V	95	ASN

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Mol	Chain	Res	Type
2	V	110	ASP
2	V	121	ILE
2	V	134	THR
2	V	153	THR
2	V	161	PHE
2	W	22	TYR
2	W	49	THR
2	W	63	THR
2	W	95	ASN
2	W	98	ARG
2	W	145	TYR
2	X	16	PRO
2	X	17	TYR
2	X	76	MET
2	X	84	SER
2	X	95	ASN
2	X	120	MET
2	X	128	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (43) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	6	ASN
1	A	55	GLN
1	A	81	GLN
1	A	191	GLN
1	C	7	GLN
1	C	32	ASN
1	C	81	GLN
1	C	105	GLN
1	C	119	GLN
1	C	145	ASN
1	C	179	ASN
1	D	6	ASN
1	D	118	GLN
1	D	192	ASN
1	D	200	HIS
1	D	210	HIS
1	D	272	ASN
1	E	3	GLN
1	E	200	HIS
1	F	28	GLN

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Mol	Chain	Res	Type
1	F	105	GLN
1	F	118	GLN
1	F	155	GLN
1	F	192	ASN
1	F	200	HIS
1	F	225	ASN
2	H	42	GLN
2	I	95	ASN
2	K	53	ASN
2	K	61	ASN
2	K	95	ASN
2	K	135	HIS
2	L	78	ASN
2	M	30	HIS
2	N	64	ASN
2	O	38	ASN
2	O	61	ASN
2	Q	53	ASN
2	Q	135	HIS
2	S	95	ASN
2	S	135	HIS
2	U	143	ASN
2	X	38	ASN

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

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Map visualisation

This section contains visualisations of the EMDB entry EMD-21695. These allow visual inspection of the internal detail of the map and identification of artifacts.

Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

This section was not generated.

6.2 Central slices

This section was not generated.

6.3 Largest variance slices

This section was not generated.

6.4 Orthogonal surface views

This section was not generated.

6.5 Mask visualisation

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

This section was not generated.

7.2 Volume estimate versus contour level

This section was not generated.

7.3 Rotationally averaged power spectrum

This section was not generated. The rotationally averaged power spectrum had issues being displayed.

8 Fourier-Shell correlation (i)

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

9 Map-model fit

This section was not generated.