Full wwPDB EM Validation Report

Jan 12, 2026 – 11:15 AM EST

PDB ID	:	9DXD / pdb_00009dxd
EMDB ID	:	EMD-47284
Title	:	attLmm bound serine integrase and RDF complex in the pre-rotation state
Authors	:	Shin, H.; Rice, P.A.; Olorunniji, F.J.
Deposited on	:	2024-10-11
Resolution	:	4.16 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:

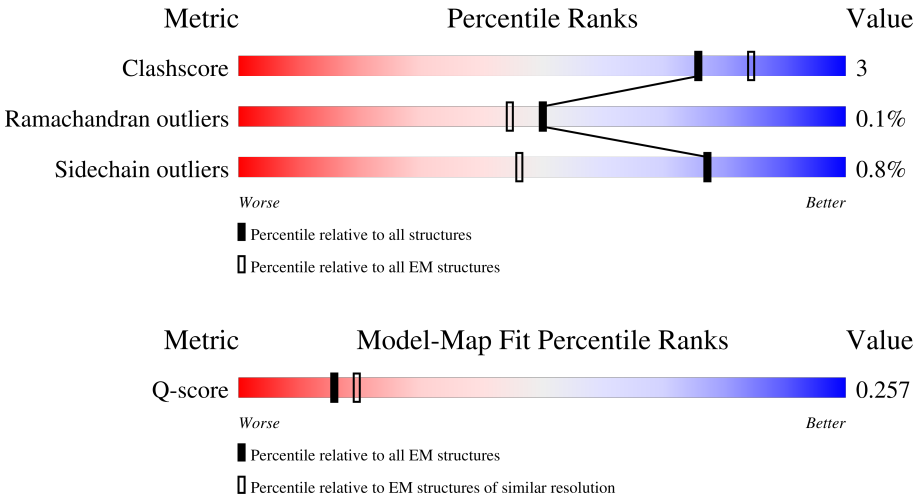
EMDB validation analysis	:	0.0.1.dev129
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.47

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 4.16 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)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	5480 (3.66 - 4.66)

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	620	7% 56% 28% • 14%
1	B	620	• 5% • 91%
1	C	620	14% 64% 20% • 14%
1	D	620	• 5% • 91%

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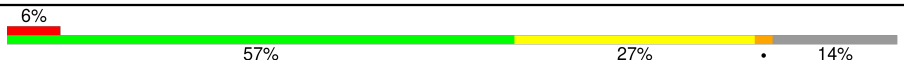
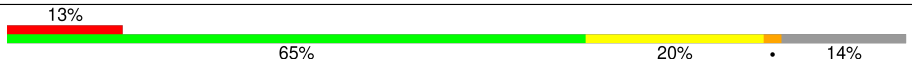
Mol	Chain	Length	Quality of chain
1	I	620	
1	J	620	
1	K	620	
1	L	620	
2	E	34	
2	M	34	
3	F	33	
3	N	33	
4	G	25	
4	O	25	
5	H	24	
5	P	24	

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 46391 atoms, of which 22275 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 Resolvase homolog YokA,SPbeta prophage-derived uncharacterized protein YotN.

Mol	Chain	Residues	Atoms	AltConf	Trace
1	A	535	Total C H N O S 8783 2741 4429 753 841 19	0	0
1	B	56	Total C H N O 955 306 474 81 94	0	0
1	C	535	Total C H N O S 8783 2741 4429 753 841 19	0	0
1	D	57	Total C H N O 970 311 480 82 97	0	0
1	I	535	Total C H N O S 8783 2741 4429 753 841 19	0	0
1	J	56	Total C H N O 955 306 474 81 94	0	0
1	K	535	Total C H N O S 8783 2741 4429 753 841 19	0	0
1	L	57	Total C H N O 971 311 481 82 97	0	0

There are 144 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	546	THR	-	linker	UNP O32006
A	547	SER	-	linker	UNP O32006
A	548	GLY	-	linker	UNP O32006
A	549	SER	-	linker	UNP O32006
A	550	GLY	-	linker	UNP O32006
A	551	GLY	-	linker	UNP O32006
A	552	SER	-	linker	UNP O32006
A	553	GLY	-	linker	UNP O32006
A	554	GLY	-	linker	UNP O32006
A	555	SER	-	linker	UNP O32006
A	556	GLY	-	linker	UNP O32006
A	557	GLY	-	linker	UNP O32006
A	558	SER	-	linker	UNP O32006

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Chain	Residue	Modelled	Actual	Comment	Reference
A	559	GLY	-	linker	UNP O32006
A	560	ARG	-	linker	UNP O32006
A	561	SER	-	linker	UNP O32006
A	562	GLY	-	linker	UNP O32006
A	563	THR	-	linker	UNP O32006
B	-16	THR	-	linker	UNP O32006
B	-15	SER	-	linker	UNP O32006
B	-14	GLY	-	linker	UNP O32006
B	-13	SER	-	linker	UNP O32006
B	-12	GLY	-	linker	UNP O32006
B	-11	GLY	-	linker	UNP O32006
B	-10	SER	-	linker	UNP O32006
B	-9	GLY	-	linker	UNP O32006
B	-8	GLY	-	linker	UNP O32006
B	-7	SER	-	linker	UNP O32006
B	-6	GLY	-	linker	UNP O32006
B	-5	GLY	-	linker	UNP O32006
B	-4	SER	-	linker	UNP O32006
B	-3	GLY	-	linker	UNP O32006
B	-2	ARG	-	linker	UNP O32006
B	-1	SER	-	linker	UNP O32006
B	0	GLY	-	linker	UNP O32006
B	1	THR	-	linker	UNP O32006
C	546	THR	-	linker	UNP O32006
C	547	SER	-	linker	UNP O32006
C	548	GLY	-	linker	UNP O32006
C	549	SER	-	linker	UNP O32006
C	550	GLY	-	linker	UNP O32006
C	551	GLY	-	linker	UNP O32006
C	552	SER	-	linker	UNP O32006
C	553	GLY	-	linker	UNP O32006
C	554	GLY	-	linker	UNP O32006
C	555	SER	-	linker	UNP O32006
C	556	GLY	-	linker	UNP O32006
C	557	GLY	-	linker	UNP O32006
C	558	SER	-	linker	UNP O32006
C	559	GLY	-	linker	UNP O32006
C	560	ARG	-	linker	UNP O32006
C	561	SER	-	linker	UNP O32006
C	562	GLY	-	linker	UNP O32006
C	563	THR	-	linker	UNP O32006
D	-16	THR	-	linker	UNP O32006

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Chain	Residue	Modelled	Actual	Comment	Reference
D	-15	SER	-	linker	UNP O32006
D	-14	GLY	-	linker	UNP O32006
D	-13	SER	-	linker	UNP O32006
D	-12	GLY	-	linker	UNP O32006
D	-11	GLY	-	linker	UNP O32006
D	-10	SER	-	linker	UNP O32006
D	-9	GLY	-	linker	UNP O32006
D	-8	GLY	-	linker	UNP O32006
D	-7	SER	-	linker	UNP O32006
D	-6	GLY	-	linker	UNP O32006
D	-5	GLY	-	linker	UNP O32006
D	-4	SER	-	linker	UNP O32006
D	-3	GLY	-	linker	UNP O32006
D	-2	ARG	-	linker	UNP O32006
D	-1	SER	-	linker	UNP O32006
D	0	GLY	-	linker	UNP O32006
D	1	THR	-	linker	UNP O32006
I	546	THR	-	linker	UNP O32006
I	547	SER	-	linker	UNP O32006
I	548	GLY	-	linker	UNP O32006
I	549	SER	-	linker	UNP O32006
I	550	GLY	-	linker	UNP O32006
I	551	GLY	-	linker	UNP O32006
I	552	SER	-	linker	UNP O32006
I	553	GLY	-	linker	UNP O32006
I	554	GLY	-	linker	UNP O32006
I	555	SER	-	linker	UNP O32006
I	556	GLY	-	linker	UNP O32006
I	557	GLY	-	linker	UNP O32006
I	558	SER	-	linker	UNP O32006
I	559	GLY	-	linker	UNP O32006
I	560	ARG	-	linker	UNP O32006
I	561	SER	-	linker	UNP O32006
I	562	GLY	-	linker	UNP O32006
I	563	THR	-	linker	UNP O32006
J	-16	THR	-	linker	UNP O32006
J	-15	SER	-	linker	UNP O32006
J	-14	GLY	-	linker	UNP O32006
J	-13	SER	-	linker	UNP O32006
J	-12	GLY	-	linker	UNP O32006
J	-11	GLY	-	linker	UNP O32006
J	-10	SER	-	linker	UNP O32006

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Chain	Residue	Modelled	Actual	Comment	Reference
J	-9	GLY	-	linker	UNP O32006
J	-8	GLY	-	linker	UNP O32006
J	-7	SER	-	linker	UNP O32006
J	-6	GLY	-	linker	UNP O32006
J	-5	GLY	-	linker	UNP O32006
J	-4	SER	-	linker	UNP O32006
J	-3	GLY	-	linker	UNP O32006
J	-2	ARG	-	linker	UNP O32006
J	-1	SER	-	linker	UNP O32006
J	0	GLY	-	linker	UNP O32006
J	1	THR	-	linker	UNP O32006
K	546	THR	-	linker	UNP O32006
K	547	SER	-	linker	UNP O32006
K	548	GLY	-	linker	UNP O32006
K	549	SER	-	linker	UNP O32006
K	550	GLY	-	linker	UNP O32006
K	551	GLY	-	linker	UNP O32006
K	552	SER	-	linker	UNP O32006
K	553	GLY	-	linker	UNP O32006
K	554	GLY	-	linker	UNP O32006
K	555	SER	-	linker	UNP O32006
K	556	GLY	-	linker	UNP O32006
K	557	GLY	-	linker	UNP O32006
K	558	SER	-	linker	UNP O32006
K	559	GLY	-	linker	UNP O32006
K	560	ARG	-	linker	UNP O32006
K	561	SER	-	linker	UNP O32006
K	562	GLY	-	linker	UNP O32006
K	563	THR	-	linker	UNP O32006
L	-16	THR	-	linker	UNP O32006
L	-15	SER	-	linker	UNP O32006
L	-14	GLY	-	linker	UNP O32006
L	-13	SER	-	linker	UNP O32006
L	-12	GLY	-	linker	UNP O32006
L	-11	GLY	-	linker	UNP O32006
L	-10	SER	-	linker	UNP O32006
L	-9	GLY	-	linker	UNP O32006
L	-8	GLY	-	linker	UNP O32006
L	-7	SER	-	linker	UNP O32006
L	-6	GLY	-	linker	UNP O32006
L	-5	GLY	-	linker	UNP O32006
L	-4	SER	-	linker	UNP O32006

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Chain	Residue	Modelled	Actual	Comment	Reference
L	-3	GLY	-	linker	UNP O32006
L	-2	ARG	-	linker	UNP O32006
L	-1	SER	-	linker	UNP O32006
L	0	GLY	-	linker	UNP O32006
L	1	THR	-	linker	UNP O32006

- Molecule 2 is a DNA chain called DNA (34-MER).

Mol	Chain	Residues	Atoms						AltConf	Trace
2	E	34	Total	C	H	N	O	P	0	0
			1087	337	393	110	213	34		
2	M	34	Total	C	H	N	O	P	0	0
			1087	337	393	110	213	34		

- Molecule 3 is a DNA chain called DNA (33-MER).

Mol	Chain	Residues	Atoms						AltConf	Trace
3	F	33	Total	C	H	N	O	P	0	0
			1052	326	373	130	190	33		
3	N	33	Total	C	H	N	O	P	0	0
			1052	326	373	130	190	33		

- Molecule 4 is a DNA chain called DNA (25-MER).

Mol	Chain	Residues	Atoms						AltConf	Trace
4	G	25	Total	C	H	N	O	P	0	0
			796	246	285	90	150	25		
4	O	25	Total	C	H	N	O	P	0	0
			796	246	285	90	150	25		

- Molecule 5 is a DNA chain called DNA (24-MER).

Mol	Chain	Residues	Atoms						AltConf	Trace
5	H	24	Total	C	H	N	O	P	0	0
			767	237	274	87	145	24		
5	P	24	Total	C	H	N	O	P	0	0
			767	237	274	87	145	24		

- Molecule 6 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

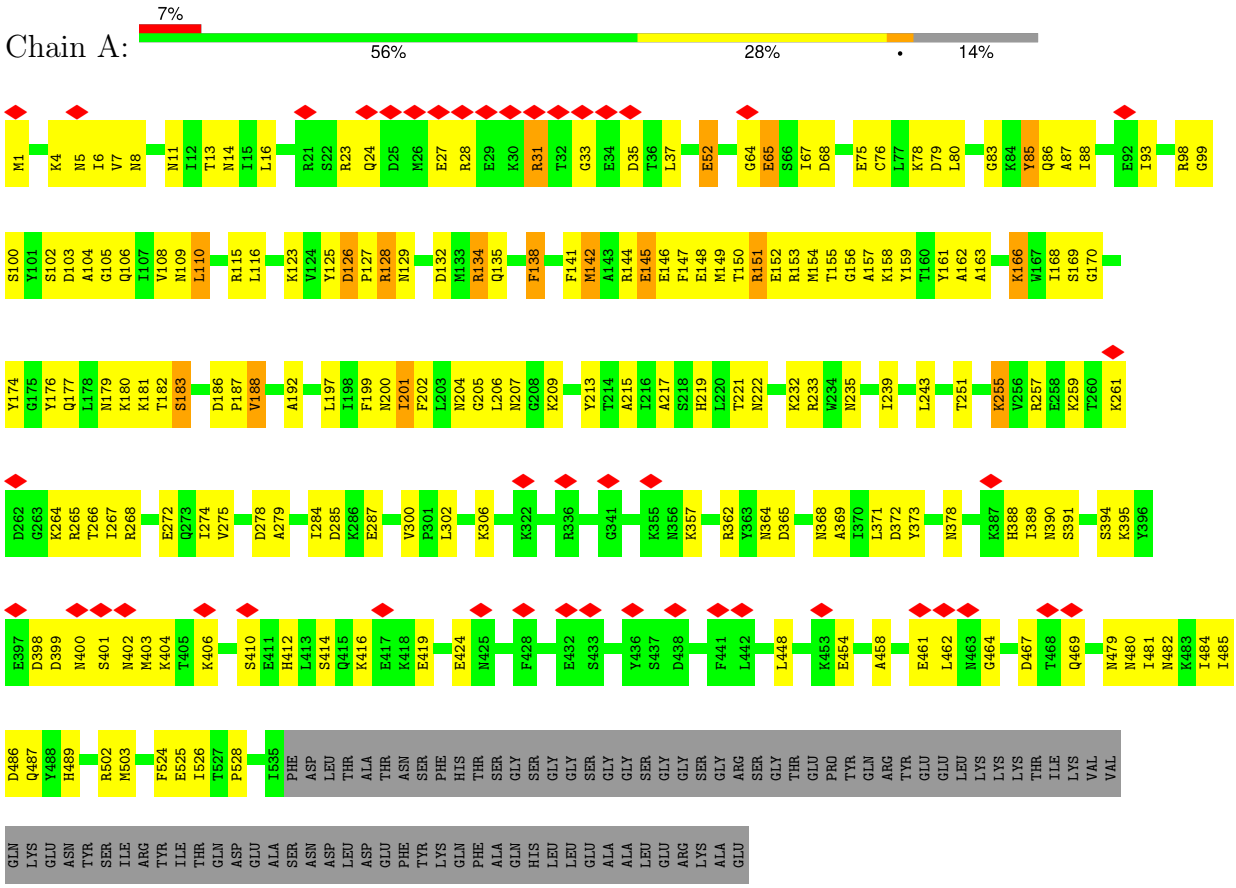
Mol	Chain	Residues	Atoms	AltConf
6	A	1	Total Zn 1 1	0
6	C	1	Total Zn 1 1	0
6	I	1	Total Zn 1 1	0
6	K	1	Total Zn 1 1	0

3 Residue-property plots (i)

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

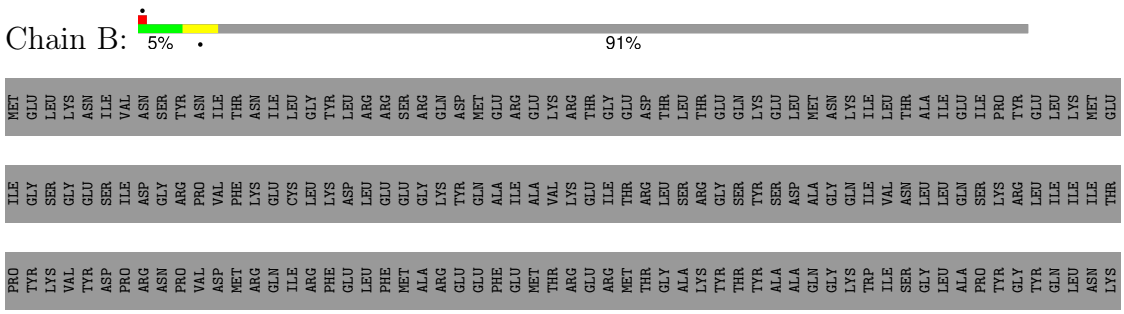
• Molecule 1: Resolvase homolog YokA,SPbeta prophage-derived uncharacterized protein YotN

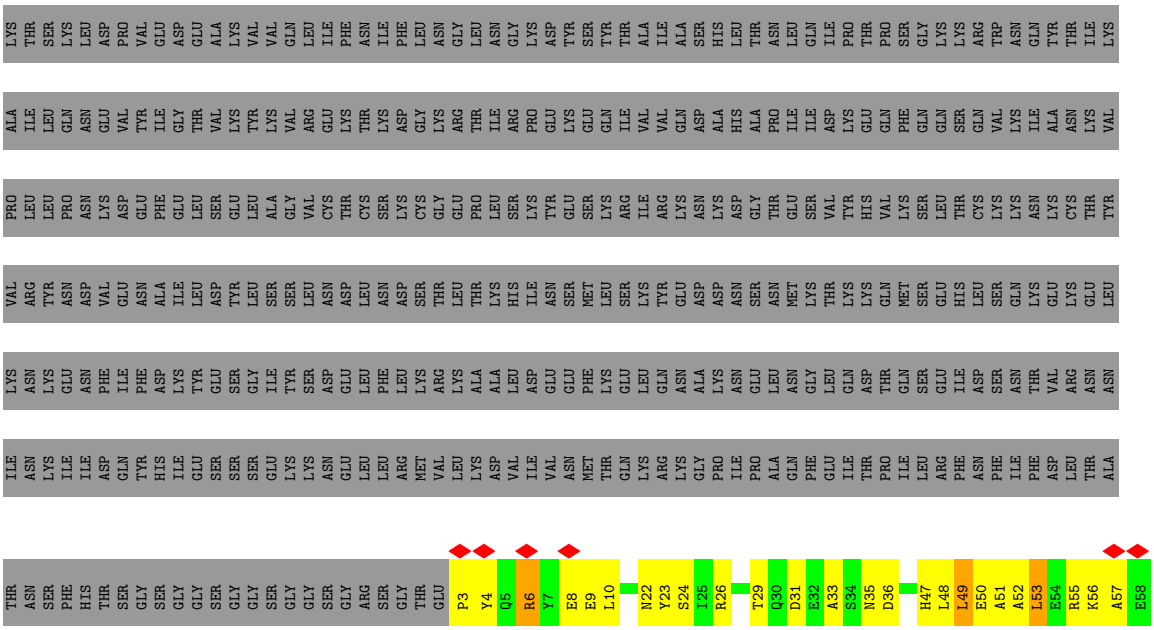
Chain A:



• Molecule 1: Resolvase homolog YokA,SPbeta prophage-derived uncharacterized protein YotN

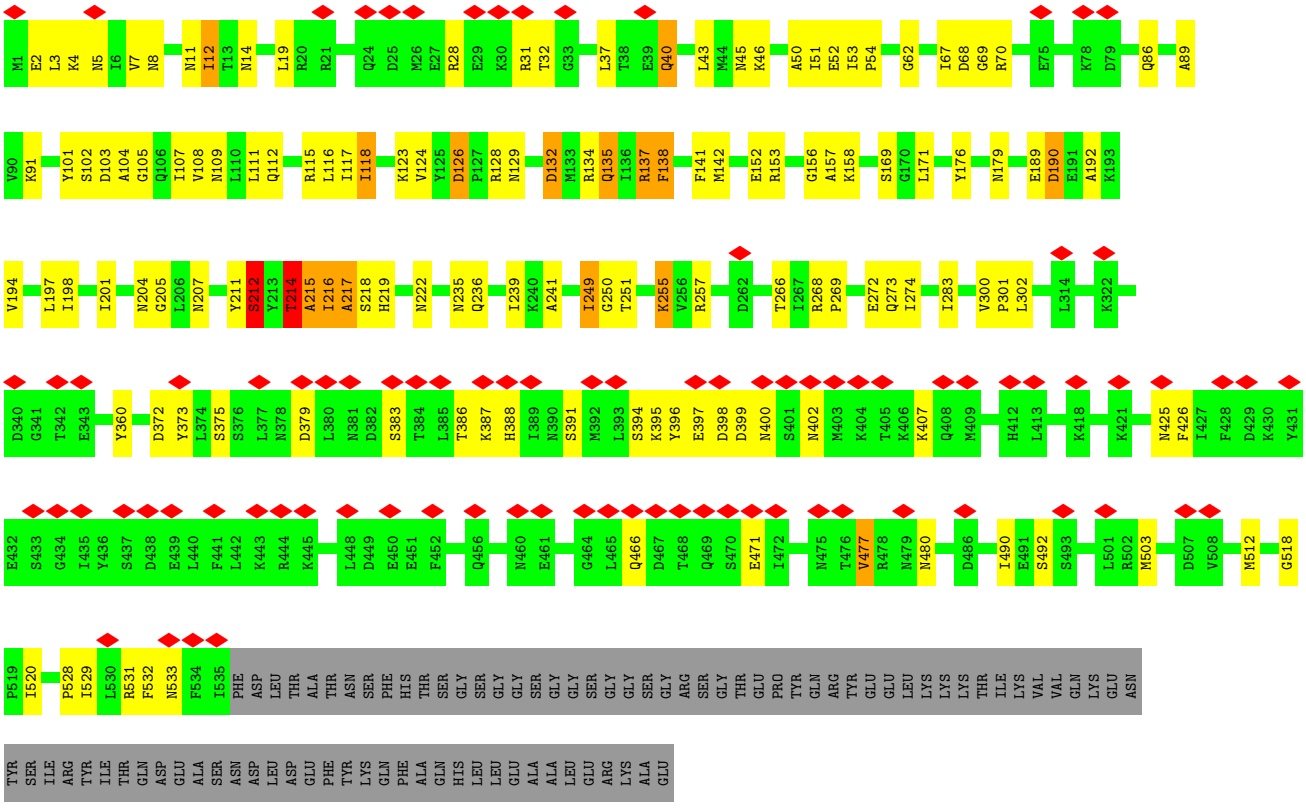
Chain B:





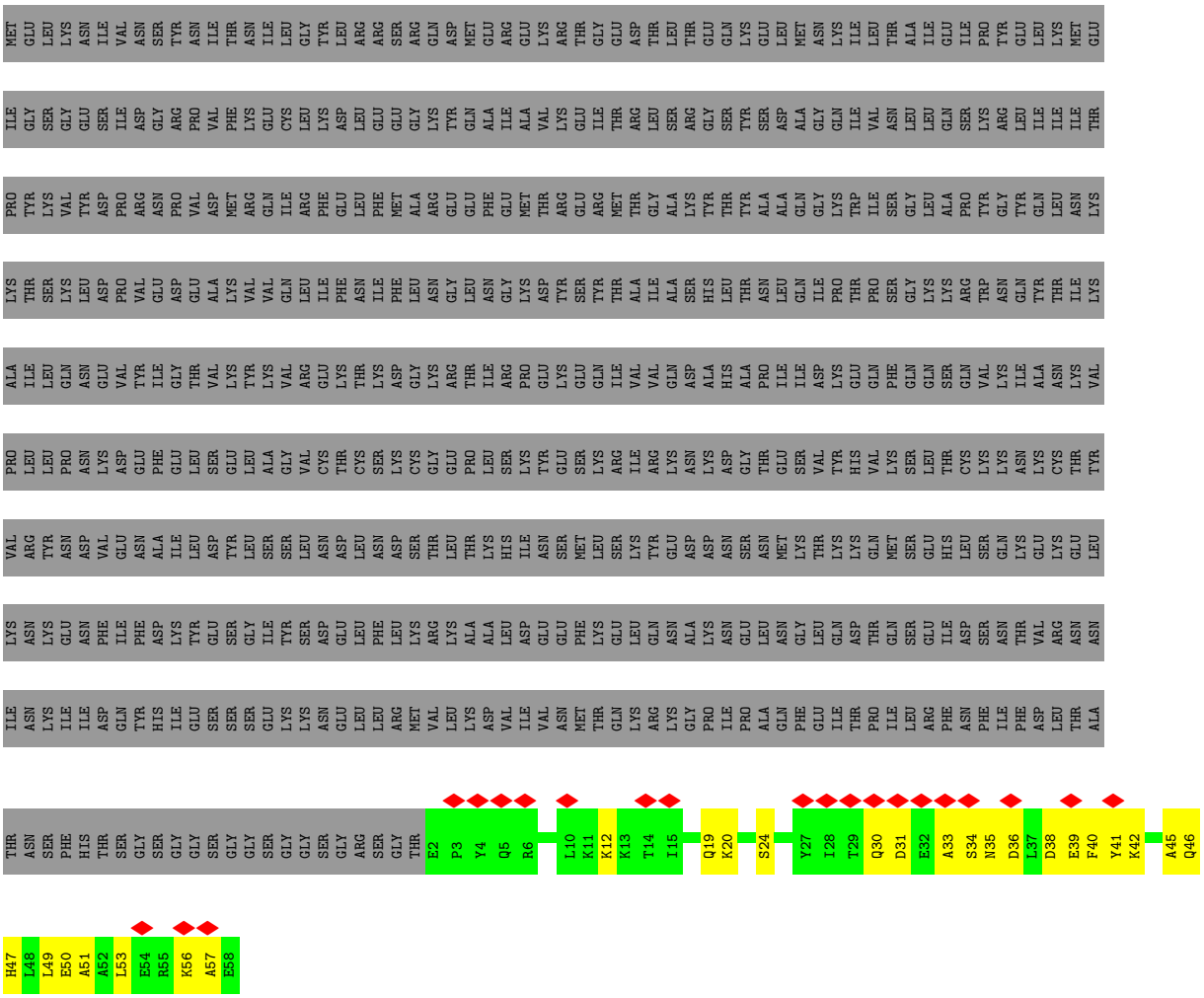
• Molecule 1: Resolvase homolog YokA,SPbeta prophage-derived uncharacterized protein YotN

Chain C:



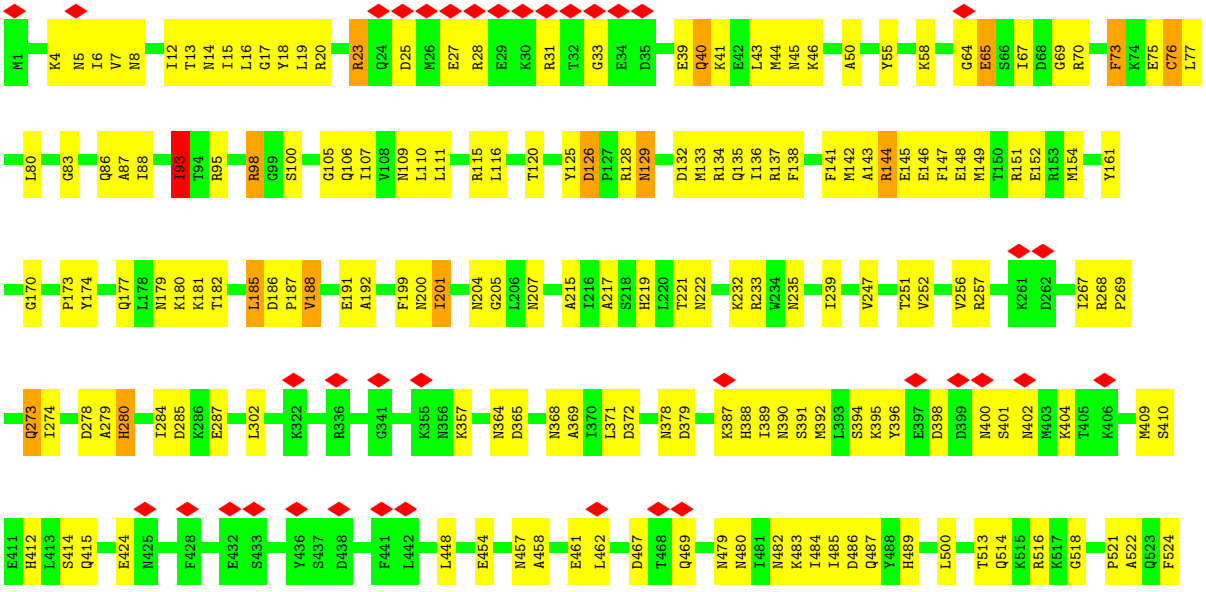
• Molecule 1: Resolvase homolog YokA,SPbeta prophage-derived uncharacterized protein YotN

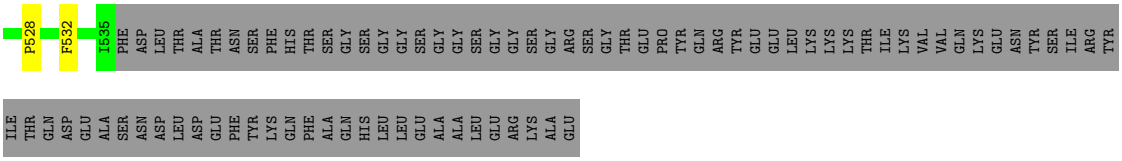
Chain D:



• Molecule 1: Resolvase homolog YokA,SPbeta prophage-derived uncharacterized protein YotN

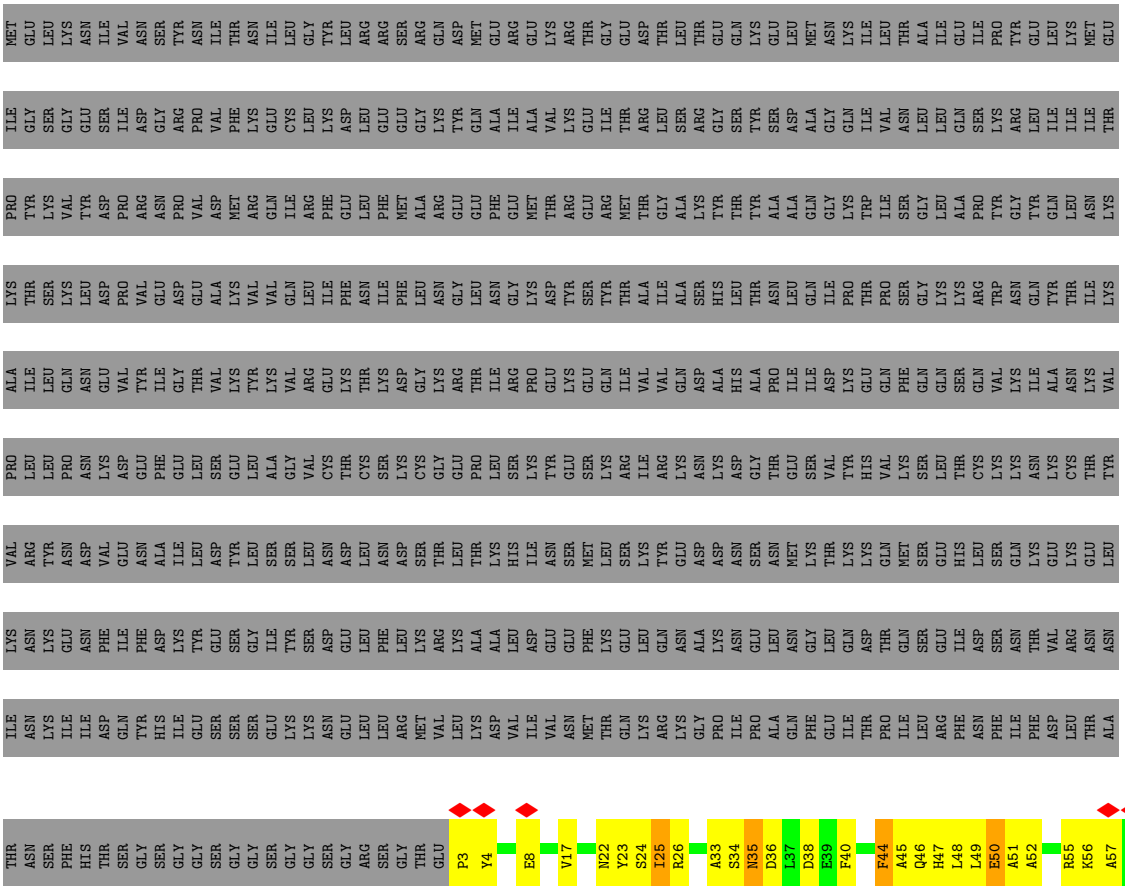
Chain I:





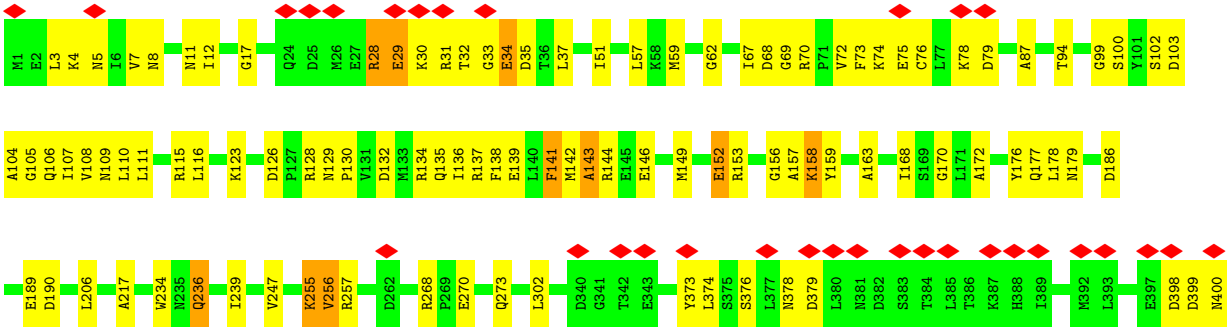
• Molecule 1: Resolvase homolog YokA,SPbeta prophage-derived uncharacterized protein YotN

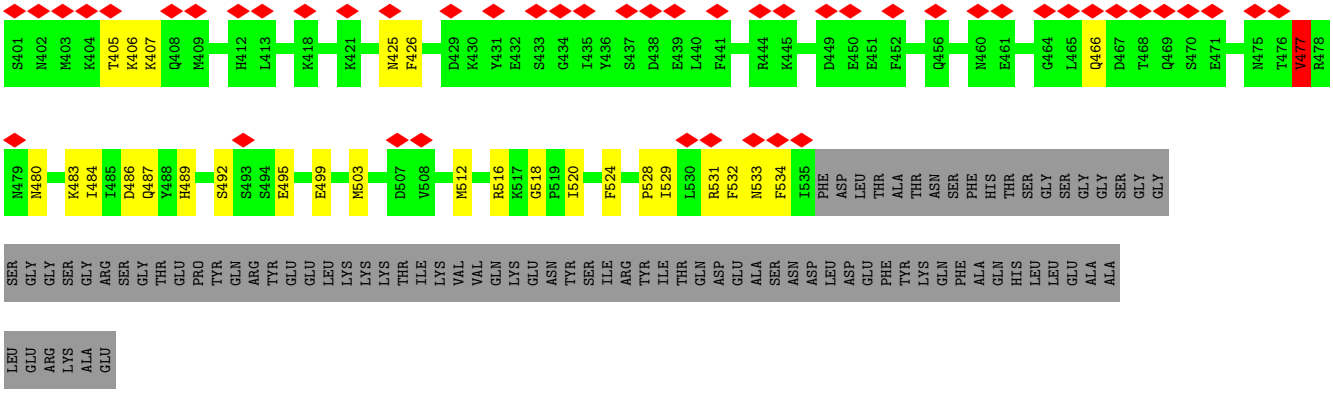
Chain J:



• Molecule 1: Resolvase homolog YokA,SPbeta prophage-derived uncharacterized protein YotN

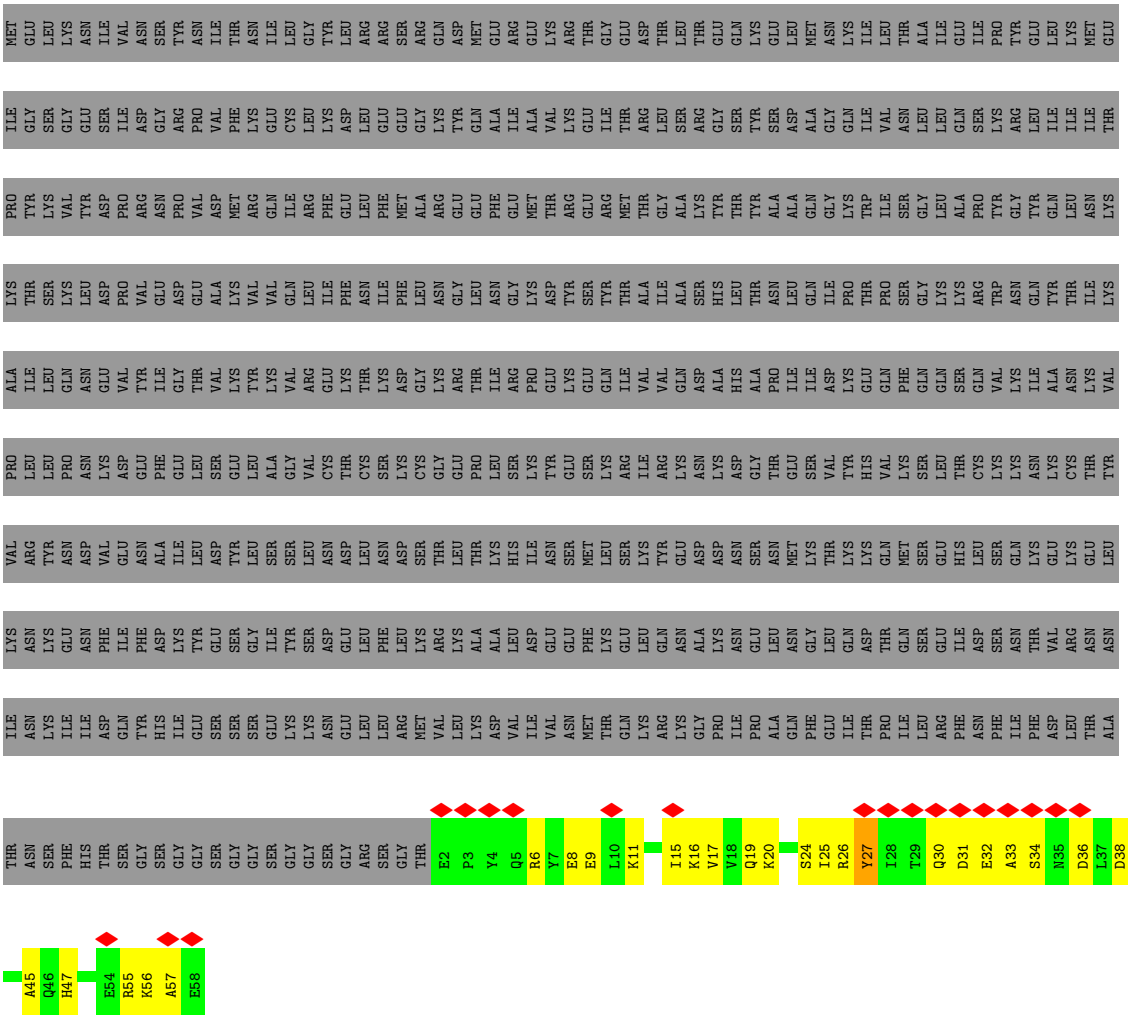
Chain K:





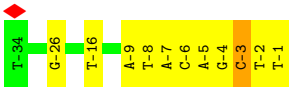
• Molecule 1: Resolvase homolog YokA,SPbeta prophage-derived uncharacterized protein YotN

Chain L:



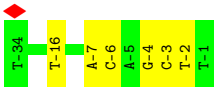
• Molecule 2: DNA (34-MER)

Chain E:



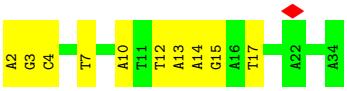
• Molecule 2: DNA (34-MER)

Chain M:



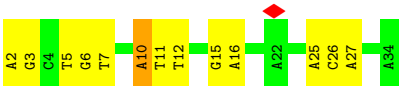
• Molecule 3: DNA (33-MER)

Chain F:



• Molecule 3: DNA (33-MER)

Chain N:

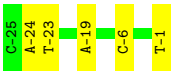


• Molecule 4: DNA (25-MER)

Chain G:

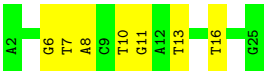
• Molecule 4: DNA (25-MER)

Chain O:



• Molecule 5: DNA (24-MER)

Chain H:



• Molecule 5: DNA (24-MER)

Chain P:

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	210561	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	65	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	2.406	Depositor
Minimum map value	-0.006	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.014	Depositor
Recommended contour level	0.0226	Depositor
Map size (Å)	505.87503, 482.44504, 445.17	wwPDB
Map dimensions	475, 453, 418	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.065, 1.065, 1.065	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: ZN

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	2.09	67/4420 (1.5%)	2.14	224/5937 (3.8%)
1	B	2.48	15/489 (3.1%)	2.52	35/654 (5.4%)
1	C	1.77	50/4420 (1.1%)	1.91	158/5937 (2.7%)
1	D	2.04	4/498 (0.8%)	2.35	42/667 (6.3%)
1	I	2.18	81/4420 (1.8%)	2.17	230/5937 (3.9%)
1	J	2.57	13/489 (2.7%)	2.64	38/654 (5.8%)
1	K	1.79	51/4420 (1.2%)	1.94	172/5937 (2.9%)
1	L	2.52	14/498 (2.8%)	2.69	58/667 (8.7%)
2	E	1.30	4/774 (0.5%)	1.50	3/1193 (0.3%)
2	M	1.23	3/774 (0.4%)	1.46	2/1193 (0.2%)
3	F	1.36	1/764 (0.1%)	1.51	2/1176 (0.2%)
3	N	1.47	1/764 (0.1%)	1.59	2/1176 (0.2%)
4	G	1.22	1/572 (0.2%)	1.50	0/880
4	O	1.22	1/572 (0.2%)	1.51	0/880
5	H	1.30	0/552	1.52	1/850 (0.1%)
5	P	1.22	0/552	1.49	1/850 (0.1%)
All	All	1.89	306/24978 (1.2%)	1.97	968/34588 (2.8%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	2
1	C	0	3
1	I	0	2
2	E	0	2
2	M	0	2
3	F	0	2
3	N	0	3

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Mol	Chain	#Chirality outliers	#Planarity outliers
4	G	0	4
4	O	0	3
5	H	0	3
5	P	0	2
All	All	0	28

All (306) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	I	489	HIS	CE1-NE2	-9.00	1.23	1.32
1	I	280	HIS	CE1-NE2	-8.98	1.23	1.32
1	B	47	HIS	CE1-NE2	-8.95	1.23	1.32
1	A	169	SER	CA-CB	-8.95	1.40	1.53
1	C	219	HIS	CE1-NE2	-8.89	1.23	1.32
1	A	219	HIS	CE1-NE2	-8.89	1.23	1.32
1	I	412	HIS	CE1-NE2	-8.88	1.23	1.32
1	I	388	HIS	CE1-NE2	-8.83	1.23	1.32
1	J	47	HIS	CE1-NE2	-8.83	1.23	1.32
1	L	47	HIS	CE1-NE2	-8.81	1.23	1.32
1	C	388	HIS	CE1-NE2	-8.79	1.23	1.32
1	A	489	HIS	CE1-NE2	-8.79	1.23	1.32
1	A	412	HIS	CE1-NE2	-8.77	1.23	1.32
1	D	47	HIS	ND1-CE1	-8.77	1.23	1.32
1	K	489	HIS	CE1-NE2	-8.75	1.23	1.32
1	I	219	HIS	CE1-NE2	-8.75	1.23	1.32
1	K	489	HIS	ND1-CE1	-8.74	1.23	1.32
1	L	47	HIS	ND1-CE1	-8.71	1.23	1.32
1	I	388	HIS	ND1-CE1	-8.59	1.24	1.32
1	A	219	HIS	CD2-NE2	-8.35	1.28	1.37
1	B	55	ARG	CZ-NH2	-8.31	1.22	1.33
1	A	489	HIS	CD2-NE2	-8.30	1.28	1.37
1	I	219	HIS	CD2-NE2	-8.29	1.28	1.37
1	C	268	ARG	CZ-NH2	-8.28	1.22	1.33
1	I	20	ARG	CZ-NH2	-8.23	1.22	1.33
1	K	144	ARG	CZ-NH2	-8.23	1.22	1.33
1	B	47	HIS	CD2-NE2	-8.22	1.28	1.37
1	C	115	ARG	CZ-NH2	-8.20	1.22	1.33
1	I	489	HIS	CD2-NE2	-8.17	1.28	1.37
1	J	47	HIS	CD2-NE2	-8.16	1.28	1.37
1	I	280	HIS	CD2-NE2	-8.14	1.28	1.37
1	A	268	ARG	CZ-NH2	-8.13	1.22	1.33
1	A	233	ARG	CZ-NH2	-8.13	1.22	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	137	ARG	CZ-NH2	-8.09	1.23	1.33
1	A	257	ARG	CZ-NH2	-8.08	1.23	1.33
1	K	28	ARG	CZ-NH2	-8.08	1.23	1.33
1	A	265	ARG	CZ-NH2	-8.06	1.23	1.33
1	J	55	ARG	CZ-NH2	-8.06	1.23	1.33
1	C	219	HIS	CD2-NE2	-8.06	1.28	1.37
1	I	115	ARG	CZ-NH2	-8.05	1.23	1.33
1	B	26	ARG	CZ-NH2	-8.04	1.23	1.33
1	K	489	HIS	CD2-NE2	-8.04	1.29	1.37
1	I	70	ARG	CZ-NH2	-8.04	1.23	1.33
1	I	98	ARG	CZ-NH2	-8.04	1.23	1.33
1	I	412	HIS	CD2-NE2	-8.02	1.29	1.37
1	A	412	HIS	CD2-NE2	-8.02	1.29	1.37
1	I	23	ARG	CZ-NH2	-8.02	1.23	1.33
1	I	95	ARG	CZ-NH2	-8.01	1.23	1.33
1	A	362	ARG	CZ-NH2	-8.01	1.23	1.33
1	C	388	HIS	CD2-NE2	-8.01	1.29	1.37
1	K	31	ARG	CZ-NH2	-7.99	1.23	1.33
1	I	137	ARG	CZ-NH2	-7.99	1.23	1.33
1	I	388	HIS	CD2-NE2	-7.98	1.29	1.37
1	I	233	ARG	CZ-NH2	-7.97	1.23	1.33
1	I	516	ARG	CZ-NH2	-7.96	1.23	1.33
1	I	144	ARG	CZ-NH2	-7.94	1.23	1.33
1	I	268	ARG	CZ-NH2	-7.94	1.23	1.33
1	L	47	HIS	CD2-NE2	-7.94	1.29	1.37
1	K	153	ARG	CZ-NH2	-7.94	1.23	1.33
1	I	257	ARG	CZ-NH2	-7.93	1.23	1.33
1	A	128	ARG	CZ-NH2	-7.93	1.23	1.33
1	J	26	ARG	CZ-NH2	-7.92	1.23	1.33
1	K	128	ARG	CZ-NH2	-7.92	1.23	1.33
1	A	23	ARG	CZ-NH2	-7.91	1.23	1.33
1	B	6	ARG	CZ-NH2	-7.91	1.23	1.33
1	I	134	ARG	CZ-NH2	-7.91	1.23	1.33
1	K	115	ARG	CZ-NH2	-7.90	1.23	1.33
1	A	153	ARG	CZ-NH2	-7.89	1.23	1.33
1	I	151	ARG	CZ-NH2	-7.89	1.23	1.33
1	K	137	ARG	CZ-NH2	-7.89	1.23	1.33
1	A	144	ARG	CZ-NH2	-7.88	1.23	1.33
1	K	268	ARG	CZ-NH2	-7.88	1.23	1.33
1	A	28	ARG	CZ-NH2	-7.88	1.23	1.33
1	A	115	ARG	CZ-NH2	-7.88	1.23	1.33
1	C	257	ARG	CZ-NH2	-7.87	1.23	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	I	128	ARG	CZ-NH2	-7.86	1.23	1.33
1	K	257	ARG	CZ-NH2	-7.86	1.23	1.33
1	C	134	ARG	CZ-NH2	-7.86	1.23	1.33
1	C	31	ARG	CZ-NH2	-7.85	1.23	1.33
1	A	134	ARG	CZ-NH2	-7.85	1.23	1.33
1	C	153	ARG	CZ-NH2	-7.84	1.23	1.33
1	A	31	ARG	CZ-NH2	-7.83	1.23	1.33
1	K	134	ARG	CZ-NH2	-7.82	1.23	1.33
1	L	55	ARG	CZ-NH2	-7.82	1.23	1.33
1	K	70	ARG	CZ-NH2	-7.82	1.23	1.33
1	I	31	ARG	CZ-NH2	-7.81	1.23	1.33
1	A	151	ARG	CZ-NH2	-7.80	1.23	1.33
1	I	28	ARG	CZ-NH2	-7.79	1.23	1.33
1	C	70	ARG	CZ-NH2	-7.78	1.23	1.33
1	C	128	ARG	CZ-NH2	-7.78	1.23	1.33
1	L	6	ARG	CZ-NH2	-7.74	1.23	1.33
1	K	531	ARG	CZ-NH2	-7.74	1.23	1.33
1	L	26	ARG	CZ-NH2	-7.71	1.23	1.33
1	C	531	ARG	CZ-NH2	-7.60	1.23	1.33
1	K	172	ALA	CA-CB	-7.09	1.43	1.53
1	J	33	ALA	CA-CB	-7.08	1.43	1.53
1	A	162	ALA	CA-CB	-6.96	1.42	1.53
1	I	192	ALA	CA-CB	-6.89	1.42	1.53
1	A	192	ALA	CA-CB	-6.88	1.42	1.53
1	A	268	ARG	CZ-NH1	-6.86	1.23	1.32
1	J	52	ALA	CA-CB	-6.82	1.42	1.53
1	C	50	ALA	CA-CB	-6.81	1.42	1.53
1	J	57	ALA	CA-CB	-6.81	1.42	1.53
1	L	45	ALA	CA-CB	-6.81	1.42	1.53
1	I	50	ALA	CA-CB	-6.79	1.42	1.53
1	I	143	ALA	CA-CB	-6.79	1.42	1.53
1	A	369	ALA	CA-CB	-6.78	1.42	1.53
1	B	57	ALA	CA-CB	-6.75	1.42	1.53
1	A	265	ARG	CZ-NH1	-6.74	1.23	1.32
1	C	89	ALA	CA-CB	-6.74	1.43	1.53
1	D	45	ALA	CA-CB	-6.73	1.43	1.53
1	D	57	ALA	CA-CB	-6.71	1.43	1.53
1	K	157	ALA	CA-CB	-6.71	1.43	1.53
1	A	170	GLY	N-CA	-6.67	1.37	1.45
1	B	33	ALA	CA-CB	-6.66	1.43	1.53
1	C	157	ALA	CA-CB	-6.65	1.43	1.53
1	I	170	GLY	N-CA	-6.65	1.37	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	K	143	ALA	CA-CB	-6.65	1.43	1.53
1	I	458	ALA	CA-CB	-6.64	1.43	1.53
1	B	52	ALA	CA-CB	-6.63	1.43	1.53
1	A	458	ALA	CA-CB	-6.62	1.43	1.53
1	A	215	ALA	CA-CB	-6.61	1.42	1.53
1	A	134	ARG	CZ-NH1	-6.59	1.23	1.32
1	I	217	ALA	CA-CB	-6.59	1.43	1.53
1	L	57	ALA	CA-CB	-6.59	1.43	1.53
1	J	51	ALA	CA-CB	-6.58	1.43	1.53
1	A	233	ARG	CZ-NH1	-6.57	1.23	1.32
1	K	104	ALA	CA-CB	-6.56	1.43	1.53
1	B	51	ALA	CA-CB	-6.56	1.43	1.53
1	C	115	ARG	CZ-NH1	-6.55	1.23	1.32
1	C	268	ARG	CZ-NH1	-6.55	1.23	1.32
1	C	137	ARG	CZ-NH1	-6.54	1.23	1.32
1	A	104	ALA	CA-CB	-6.54	1.43	1.53
1	I	95	ARG	CZ-NH1	-6.53	1.23	1.32
1	A	217	ALA	CA-CB	-6.53	1.43	1.53
1	I	369	ALA	CA-CB	-6.52	1.43	1.53
1	I	215	ALA	CA-CB	-6.52	1.43	1.53
1	B	55	ARG	CZ-NH1	-6.51	1.23	1.32
1	A	257	ARG	CZ-NH1	-6.51	1.23	1.32
1	I	20	ARG	CZ-NH1	-6.51	1.23	1.32
1	A	157	ALA	CA-CB	-6.51	1.43	1.53
1	K	31	ARG	CZ-NH1	-6.50	1.23	1.32
1	K	144	ARG	CZ-NH1	-6.49	1.23	1.32
1	J	45	ALA	CA-CB	-6.48	1.43	1.53
1	C	31	ARG	CZ-NH1	-6.46	1.23	1.32
1	I	105	GLY	N-CA	-6.45	1.37	1.45
1	I	233	ARG	CZ-NH1	-6.45	1.23	1.32
1	I	70	ARG	CZ-NH1	-6.44	1.23	1.32
1	I	134	ARG	CZ-NH1	-6.43	1.23	1.32
1	A	362	ARG	CZ-NH1	-6.42	1.23	1.32
1	C	104	ALA	CA-CB	-6.42	1.43	1.53
1	J	55	ARG	CZ-NH1	-6.42	1.23	1.32
1	A	163	ALA	CA-CB	-6.41	1.42	1.53
1	I	268	ARG	CZ-NH1	-6.39	1.23	1.32
1	C	153	ARG	CZ-NH1	-6.39	1.23	1.32
1	K	153	ARG	CZ-NH1	-6.39	1.23	1.32
1	K	257	ARG	CZ-NH1	-6.38	1.23	1.32
1	K	115	ARG	CZ-NH1	-6.38	1.23	1.32
1	I	115	ARG	CZ-NH1	-6.38	1.23	1.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	31	ARG	CZ-NH1	-6.38	1.23	1.32
1	I	98	ARG	CZ-NH1	-6.37	1.23	1.32
1	K	268	ARG	CZ-NH1	-6.37	1.23	1.32
1	A	151	ARG	CZ-NH1	-6.37	1.23	1.32
1	I	87	ALA	CA-CB	-6.37	1.43	1.53
1	I	516	ARG	CZ-NH1	-6.37	1.23	1.32
1	I	257	ARG	CZ-NH1	-6.37	1.23	1.32
1	I	23	ARG	CZ-NH1	-6.36	1.23	1.32
1	K	28	ARG	CZ-NH1	-6.36	1.23	1.32
1	C	128	ARG	CZ-NH1	-6.36	1.23	1.32
1	B	6	ARG	CZ-NH1	-6.36	1.23	1.32
1	B	26	ARG	CZ-NH1	-6.36	1.23	1.32
1	J	26	ARG	CZ-NH1	-6.36	1.23	1.32
1	K	128	ARG	CZ-NH1	-6.35	1.23	1.32
1	A	128	ARG	CZ-NH1	-6.35	1.23	1.32
1	K	105	GLY	N-CA	-6.35	1.38	1.45
1	I	151	ARG	CZ-NH1	-6.35	1.23	1.32
1	A	23	ARG	CZ-NH1	-6.35	1.23	1.32
1	L	55	ARG	CZ-NH1	-6.35	1.23	1.32
1	I	128	ARG	CZ-NH1	-6.34	1.23	1.32
1	A	115	ARG	CZ-NH1	-6.33	1.23	1.32
1	I	144	ARG	CZ-NH1	-6.33	1.23	1.32
1	K	137	ARG	CZ-NH1	-6.32	1.23	1.32
1	I	137	ARG	CZ-NH1	-6.32	1.23	1.32
1	A	28	ARG	CZ-NH1	-6.31	1.24	1.32
1	C	134	ARG	CZ-NH1	-6.31	1.24	1.32
1	C	217	ALA	CA-CB	-6.28	1.42	1.53
1	C	105	GLY	N-CA	-6.28	1.38	1.45
1	I	28	ARG	CZ-NH1	-6.26	1.24	1.32
1	I	31	ARG	CZ-NH1	-6.26	1.24	1.32
1	C	70	ARG	CZ-NH1	-6.25	1.24	1.32
1	K	134	ARG	CZ-NH1	-6.25	1.24	1.32
1	A	153	ARG	CZ-NH1	-6.24	1.24	1.32
1	K	163	ALA	CA-CB	-6.23	1.43	1.53
1	A	144	ARG	CZ-NH1	-6.23	1.24	1.32
1	K	70	ARG	CZ-NH1	-6.23	1.24	1.32
1	C	257	ARG	CZ-NH1	-6.22	1.24	1.32
1	A	105	GLY	N-CA	-6.22	1.38	1.45
1	A	279	ALA	CA-CB	-6.21	1.43	1.53
1	I	522	ALA	CA-CB	-6.18	1.43	1.53
1	A	87	ALA	CA-CB	-6.18	1.43	1.53
1	L	26	ARG	CZ-NH1	-6.16	1.24	1.32

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	L	6	ARG	CZ-NH1	-6.16	1.24	1.32
1	K	531	ARG	CZ-NH1	-6.16	1.24	1.32
1	A	156	GLY	N-CA	-6.15	1.37	1.45
1	I	279	ALA	CA-CB	-6.13	1.43	1.53
1	C	531	ARG	CZ-NH1	-6.09	1.24	1.32
1	K	156	GLY	N-CA	-6.07	1.38	1.45
1	C	156	GLY	N-CA	-5.97	1.38	1.45
1	A	134	ARG	CD-NE	-5.93	1.38	1.46
1	C	215	ALA	CA-CB	-5.88	1.43	1.53
1	I	134	ARG	CD-NE	-5.72	1.38	1.46
1	C	52	GLU	CA-CB	-5.61	1.47	1.54
1	A	268	ARG	CD-NE	-5.61	1.38	1.46
1	A	265	ARG	CD-NE	-5.58	1.38	1.46
1	K	257	ARG	CD-NE	-5.55	1.38	1.46
1	C	70	ARG	CD-NE	-5.53	1.38	1.46
1	J	26	ARG	CD-NE	-5.53	1.38	1.46
1	A	257	ARG	CD-NE	-5.52	1.38	1.46
1	I	17	GLY	N-CA	-5.52	1.37	1.45
1	I	268	ARG	CD-NE	-5.52	1.38	1.46
1	I	31	ARG	CD-NE	-5.51	1.38	1.46
1	I	257	ARG	CD-NE	-5.51	1.38	1.46
1	A	31	ARG	CD-NE	-5.50	1.38	1.46
1	A	464	GLY	N-CA	-5.49	1.37	1.45
1	I	151	ARG	CD-NE	-5.48	1.38	1.46
1	A	151	ARG	CD-NE	-5.47	1.38	1.46
1	I	518	GLY	N-CA	-5.47	1.37	1.44
1	K	518	GLY	N-CA	-5.46	1.37	1.44
1	I	98	ARG	CD-NE	-5.45	1.38	1.46
1	L	26	ARG	CD-NE	-5.44	1.38	1.46
1	K	144	ARG	CD-NE	-5.43	1.38	1.46
1	I	83	GLY	N-CA	-5.42	1.37	1.45
1	K	99	GLY	N-CA	-5.41	1.37	1.45
1	C	31	ARG	CD-NE	-5.41	1.38	1.46
1	I	28	ARG	CD-NE	-5.40	1.38	1.46
1	C	518	GLY	N-CA	-5.40	1.37	1.44
1	K	531	ARG	CD-NE	-5.39	1.38	1.46
1	C	62	GLY	N-CA	-5.39	1.37	1.45
1	K	70	ARG	CA-CB	-5.39	1.47	1.53
1	A	28	ARG	CD-NE	-5.39	1.38	1.46
1	K	62	GLY	N-CA	-5.38	1.37	1.45
1	C	257	ARG	CD-NE	-5.38	1.38	1.46
1	K	31	ARG	CD-NE	-5.38	1.38	1.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	26	ARG	CD-NE	-5.36	1.38	1.46
1	K	137	ARG	CD-NE	-5.36	1.38	1.46
1	C	531	ARG	CD-NE	-5.35	1.38	1.46
1	K	128	ARG	CD-NE	-5.34	1.38	1.46
1	K	115	ARG	CD-NE	-5.33	1.38	1.46
1	L	6	ARG	CD-NE	-5.33	1.38	1.46
1	A	362	ARG	CD-NE	-5.32	1.38	1.46
1	K	153	ARG	CD-NE	-5.32	1.38	1.46
1	I	115	ARG	CD-NE	-5.31	1.38	1.46
1	C	268	ARG	CD-NE	-5.30	1.38	1.46
1	I	137	ARG	CD-NE	-5.29	1.38	1.46
1	K	17	GLY	N-CA	-5.29	1.37	1.45
1	A	23	ARG	CD-NE	-5.29	1.38	1.46
1	A	233	ARG	CD-NE	-5.29	1.38	1.46
1	I	269	PRO	CA-CB	-5.28	1.46	1.53
1	C	137	ARG	CD-NE	-5.27	1.38	1.46
1	I	144	ARG	CD-NE	-5.27	1.38	1.46
1	C	115	ARG	CD-NE	-5.27	1.38	1.46
1	I	23	ARG	CD-NE	-5.25	1.38	1.46
1	K	268	ARG	CD-NE	-5.25	1.39	1.46
1	I	70	ARG	CD-NE	-5.24	1.39	1.46
2	E	-6	DC	C4-N4	-5.24	1.23	1.34
1	C	134	ARG	CD-NE	-5.23	1.39	1.46
1	I	233	ARG	CD-NE	-5.23	1.39	1.46
1	J	55	ARG	CD-NE	-5.23	1.39	1.46
1	C	128	ARG	CD-NE	-5.23	1.39	1.46
1	C	241	ALA	CA-CB	-5.23	1.45	1.53
1	L	55	ARG	CD-NE	-5.22	1.39	1.46
1	I	95	ARG	CD-NE	-5.22	1.39	1.46
1	C	153	ARG	CD-NE	-5.21	1.39	1.46
1	A	33	GLY	N-CA	-5.21	1.38	1.45
1	I	20	ARG	CD-NE	-5.21	1.39	1.46
1	A	144	ARG	CD-NE	-5.21	1.39	1.46
1	A	115	ARG	CD-NE	-5.21	1.39	1.46
1	K	70	ARG	CD-NE	-5.20	1.39	1.46
1	I	128	ARG	CD-NE	-5.20	1.39	1.46
2	M	-6	DC	C4-N4	-5.20	1.23	1.34
1	I	33	GLY	N-CA	-5.19	1.38	1.45
1	B	6	ARG	CD-NE	-5.18	1.39	1.46
1	B	55	ARG	CD-NE	-5.18	1.39	1.46
1	C	70	ARG	CA-CB	-5.18	1.47	1.53
1	A	83	GLY	N-CA	-5.17	1.37	1.45

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	N	10	DA	C6-N6	-5.17	1.23	1.34
1	D	51	ALA	CA-CB	-5.16	1.45	1.53
1	I	205	GLY	N-CA	-5.16	1.37	1.45
1	A	128	ARG	CD-NE	-5.15	1.39	1.46
1	C	205	GLY	N-CA	-5.13	1.38	1.45
2	E	-3	DC	C4-N4	-5.10	1.24	1.34
1	A	205	GLY	N-CA	-5.09	1.38	1.45
1	C	217	ALA	C-N	-5.08	1.27	1.33
1	I	521	PRO	CA-CB	-5.08	1.46	1.53
1	A	153	ARG	CD-NE	-5.08	1.39	1.46
1	K	170	GLY	N-CA	-5.08	1.38	1.45
4	G	-6	DC	C4-N4	-5.07	1.24	1.34
1	K	28	ARG	CD-NE	-5.07	1.39	1.46
2	M	-3	DC	C4-N4	-5.06	1.24	1.34
2	E	-7	DA	C6-N6	-5.06	1.24	1.34
2	M	-7	DA	C6-N6	-5.06	1.24	1.34
4	O	-6	DC	C4-N4	-5.04	1.24	1.34
1	C	269	PRO	CA-CB	-5.04	1.47	1.53
1	I	516	ARG	CD-NE	-5.04	1.39	1.46
3	F	10	DA	C6-N6	-5.00	1.24	1.34
2	E	-5	DA	C6-N6	-5.00	1.24	1.34

All (968) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	477	VAL	CA-CB-CG1	11.03	129.15	110.40
1	C	251	THR	N-CA-C	9.87	125.72	110.42
1	B	36	ASP	CA-CB-CG	9.65	122.25	112.60
1	J	24	SER	CA-C-N	9.34	130.43	121.65
1	J	24	SER	C-N-CA	9.34	130.43	121.65
1	B	24	SER	CA-C-N	8.88	130.00	121.65
1	B	24	SER	C-N-CA	8.88	130.00	121.65
1	A	138	PHE	CA-CB-CG	7.99	121.79	113.80
5	H	13	DT	C4'-C3'-O3'	7.53	121.29	110.00
1	A	479	ASN	CA-CB-CG	7.49	120.09	112.60
1	A	179	ASN	CA-CB-CG	7.30	119.90	112.60
1	K	236	GLN	OE1-CD-NE2	-7.25	115.35	122.60
5	P	13	DT	C4'-C3'-O3'	7.21	120.81	110.00
1	I	45	ASN	CA-CB-CG	7.21	119.81	112.60
1	K	477	VAL	CA-CB-CG1	7.20	122.64	110.40
1	J	35	ASN	CA-CB-CG	7.19	119.79	112.60
1	J	44	PHE	CA-CB-CG	7.18	120.98	113.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	512	MET	CA-C-N	7.17	129.76	120.44
1	C	512	MET	C-N-CA	7.17	129.76	120.44
1	A	267	ILE	CA-C-N	7.16	131.56	120.68
1	A	267	ILE	C-N-CA	7.16	131.56	120.68
1	K	68	ASP	CA-CB-CG	7.15	119.75	112.60
1	I	147	PHE	CA-CB-CG	7.14	120.94	113.80
1	I	479	ASN	CA-CB-CG	7.12	119.72	112.60
1	C	138	PHE	CA-CB-CG	7.08	120.88	113.80
1	K	378	ASN	CA-CB-CG	7.08	119.68	112.60
1	K	109	ASN	CA-CB-CG	7.07	119.67	112.60
1	C	388	HIS	CA-CB-CG	7.03	120.83	113.80
1	I	179	ASN	CA-CB-CG	7.02	119.62	112.60
1	I	278	ASP	CA-CB-CG	7.01	119.61	112.60
1	A	278	ASP	CA-CB-CG	7.01	119.61	112.60
1	K	35	ASP	CA-CB-CG	7.00	119.60	112.60
1	C	109	ASN	CA-CB-CG	6.98	119.58	112.60
1	C	45	ASN	CA-CB-CG	6.97	119.57	112.60
1	A	402	ASN	CA-CB-CG	6.96	119.56	112.60
1	A	8	ASN	CA-CB-CG	6.96	119.56	112.60
1	I	8	ASN	CA-CB-CG	6.93	119.53	112.60
1	C	235	ASN	CA-C-N	6.92	131.27	120.89
1	C	235	ASN	C-N-CA	6.92	131.27	120.89
1	C	379	ASP	CA-CB-CG	6.92	119.52	112.60
1	K	512	MET	CA-C-N	6.92	129.43	120.44
1	K	512	MET	C-N-CA	6.92	129.43	120.44
1	K	489	HIS	CA-CB-CG	6.91	120.71	113.80
1	I	388	HIS	CA-CB-CG	6.90	120.70	113.80
1	A	368	ASN	CA-CB-CG	6.90	119.50	112.60
1	A	364	ASN	CA-CB-CG	6.88	119.48	112.60
1	C	222	ASN	CA-CB-CG	6.88	119.48	112.60
1	I	402	ASN	CA-CB-CG	6.87	119.47	112.60
1	K	379	ASP	CA-CB-CG	6.87	119.47	112.60
1	A	186	ASP	CA-CB-CG	6.86	119.46	112.60
1	A	365	ASP	CA-CB-CG	6.84	119.44	112.60
1	I	412	HIS	CA-CB-CG	6.82	120.62	113.80
1	I	222	ASN	CA-CB-CG	6.81	119.41	112.60
1	C	68	ASP	CA-CB-CG	6.81	119.41	112.60
1	A	209	LYS	CB-CA-C	6.80	119.51	110.06
1	C	8	ASN	CA-CB-CG	6.79	119.39	112.60
1	C	402	ASN	CA-CB-CG	6.79	119.39	112.60
1	I	364	ASN	CA-CB-CG	6.79	119.39	112.60
1	I	5	ASN	CA-CB-CG	6.78	119.38	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	109	ASN	CA-CB-CG	6.77	119.37	112.60
1	L	38	ASP	CA-CB-CG	6.77	119.37	112.60
1	D	38	ASP	CA-CB-CG	6.77	119.37	112.60
1	A	147	PHE	CA-CB-CG	6.76	120.56	113.80
1	I	109	ASN	CA-CB-CG	6.75	119.35	112.60
1	C	123	LYS	CA-CB-CG	6.75	127.60	114.10
1	B	31	ASP	CA-CB-CG	6.75	119.35	112.60
1	A	222	ASN	CA-CB-CG	6.74	119.33	112.60
1	C	69	GLY	CA-C-N	6.73	131.29	123.15
1	C	69	GLY	C-N-CA	6.73	131.29	123.15
1	I	186	ASP	CA-CB-CG	6.72	119.32	112.60
1	K	186	ASP	CA-CB-CG	6.72	119.32	112.60
1	K	533	ASN	CA-CB-CG	6.71	119.31	112.60
1	A	390	ASN	CA-CB-CG	6.71	119.31	112.60
1	L	47	HIS	CA-CB-CG	6.70	120.50	113.80
1	A	5	ASN	CA-CB-CG	6.69	119.29	112.60
1	I	365	ASP	CA-CB-CG	6.69	119.29	112.60
1	L	36	ASP	CA-CB-CG	6.69	119.29	112.60
1	I	368	ASN	CA-CB-CG	6.69	119.29	112.60
1	K	132	ASP	CA-CB-CG	6.68	119.28	112.60
1	C	400	ASN	CA-CB-CG	6.67	119.27	112.60
1	C	103	ASP	CA-CB-CG	6.66	119.26	112.60
1	A	132	ASP	CA-CB-CG	6.65	119.25	112.60
1	C	132	ASP	CA-CB-CG	6.64	119.24	112.60
1	K	8	ASN	CA-CB-CG	6.64	119.24	112.60
1	I	73	PHE	CA-CB-CG	6.64	120.44	113.80
1	A	400	ASN	CA-CB-CG	6.64	119.24	112.60
1	I	14	ASN	CA-CB-CG	6.64	119.24	112.60
1	D	36	ASP	CA-CB-CG	6.63	119.23	112.60
1	I	513	THR	CA-C-N	6.62	132.32	122.99
1	I	513	THR	C-N-CA	6.62	132.32	122.99
1	C	204	ASN	CA-CB-CG	6.61	119.21	112.60
1	A	35	ASP	CA-CB-CG	6.59	119.19	112.60
1	I	141	PHE	CA-CB-CG	6.57	120.37	113.80
1	A	480	ASN	CA-CB-CG	6.57	119.17	112.60
1	K	400	ASN	CA-CB-CG	6.55	119.15	112.60
1	A	486	ASP	CA-CB-CG	6.54	119.14	112.60
1	A	14	ASN	CA-CB-CG	6.54	119.14	112.60
1	A	103	ASP	CA-CB-CG	6.54	119.14	112.60
1	I	400	ASN	CA-CB-CG	6.54	119.14	112.60
1	L	31	ASP	CA-CB-CG	6.54	119.14	112.60
1	B	22	ASN	CA-CB-CG	6.54	119.14	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	14	ASN	CA-CB-CG	6.54	119.14	112.60
1	C	212	SER	N-CA-C	6.54	119.98	109.79
1	A	398	ASP	CA-CB-CG	6.53	119.13	112.60
1	I	486	ASP	CA-CB-CG	6.53	119.13	112.60
1	A	204	ASN	CA-CB-CG	6.51	119.11	112.60
1	I	132	ASP	CA-CB-CG	6.50	119.10	112.60
1	A	79	ASP	CA-CB-CG	6.50	119.10	112.60
1	A	372	ASP	CA-CB-CG	6.50	119.09	112.60
1	A	68	ASP	CA-CB-CG	6.49	119.09	112.60
1	I	204	ASN	CA-CB-CG	6.49	119.09	112.60
1	A	126	ASP	CA-CB-CG	6.48	119.08	112.60
1	A	129	ASN	CA-CB-CG	6.48	119.08	112.60
1	A	207	ASN	CA-CB-CG	6.48	119.08	112.60
1	A	467	ASP	CA-CB-CG	6.47	119.07	112.60
1	I	129	ASN	CA-CB-CG	6.47	119.07	112.60
1	C	179	ASN	CA-CB-CG	6.47	119.07	112.60
1	K	73	PHE	CA-CB-CG	6.47	120.27	113.80
1	I	390	ASN	CA-CB-CG	6.46	119.06	112.60
1	I	467	ASP	CA-CB-CG	6.46	119.06	112.60
1	C	533	ASN	CA-CB-CG	6.45	119.05	112.60
1	I	489	HIS	CA-CB-CG	6.44	120.24	113.80
1	I	126	ASP	CA-CB-CG	6.44	119.04	112.60
1	A	251	THR	CA-C-N	6.44	131.94	122.99
1	A	251	THR	C-N-CA	6.44	131.94	122.99
1	I	398	ASP	CA-CB-CG	6.43	119.03	112.60
1	I	480	ASN	CA-CB-CG	6.42	119.02	112.60
1	I	235	ASN	CA-CB-CG	6.41	119.01	112.60
1	L	24	SER	CA-C-N	6.40	131.09	122.90
1	L	24	SER	C-N-CA	6.40	131.09	122.90
1	J	22	ASN	CA-CB-CG	6.39	118.99	112.60
1	K	179	ASN	CA-CB-CG	6.39	118.99	112.60
1	B	35	ASN	CA-CB-CG	6.39	118.99	112.60
1	C	426	PHE	CA-CB-CG	6.38	120.19	113.80
1	D	31	ASP	CA-CB-CG	6.38	118.98	112.60
1	C	11	ASN	CA-CB-CG	6.38	118.97	112.60
1	I	524	PHE	CA-C-N	6.37	131.97	122.99
1	I	524	PHE	C-N-CA	6.37	131.97	122.99
1	K	532	PHE	CA-CB-CG	6.37	120.17	113.80
1	D	35	ASN	CA-CB-CG	6.36	118.96	112.60
1	D	24	SER	CA-C-N	6.36	131.39	123.12
1	D	24	SER	C-N-CA	6.36	131.39	123.12
1	I	378	ASN	CA-CB-CG	6.36	118.96	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	47	HIS	CA-CB-CG	6.35	120.15	113.80
1	I	207	ASN	CA-CB-CG	6.35	118.95	112.60
1	I	372	ASP	CA-CB-CG	6.35	118.95	112.60
1	K	534	PHE	CA-CB-CG	6.34	120.14	113.80
1	A	489	HIS	CA-CB-CG	6.34	120.14	113.80
1	K	138	PHE	CA-CB-CG	6.33	120.13	113.80
1	A	528	PRO	CA-C-N	6.33	131.35	123.12
1	A	528	PRO	C-N-CA	6.33	131.35	123.12
1	K	103	ASP	CA-CB-CG	6.32	118.92	112.60
1	C	398	ASP	CA-CB-CG	6.31	118.91	112.60
1	B	47	HIS	CA-CB-CG	6.29	120.09	113.80
1	C	89	ALA	CA-C-N	6.28	132.07	123.46
1	C	89	ALA	C-N-CA	6.28	132.07	123.46
1	A	235	ASN	CA-CB-CG	6.27	118.87	112.60
1	A	412	HIS	CA-CB-CG	6.27	120.07	113.80
1	I	528	PRO	CA-C-N	6.25	131.41	123.10
1	I	528	PRO	C-N-CA	6.25	131.41	123.10
1	K	79	ASP	CA-CB-CG	6.24	118.84	112.60
1	B	55	ARG	CD-NE-CZ	6.23	133.12	124.40
1	C	137	ARG	CA-CB-CG	6.23	126.55	114.10
1	I	219	HIS	CA-CB-CG	6.23	120.03	113.80
1	J	36	ASP	CA-C-N	6.21	128.89	120.38
1	J	36	ASP	C-N-CA	6.21	128.89	120.38
1	K	399	ASP	CA-CB-CG	6.21	118.81	112.60
1	I	187	PRO	CA-C-N	6.20	131.18	123.12
1	I	187	PRO	C-N-CA	6.20	131.18	123.12
1	C	126	ASP	CA-CB-CG	6.19	118.79	112.60
1	K	426	PHE	CA-CB-CG	6.19	119.99	113.80
1	K	126	ASP	CA-CB-CG	6.19	118.79	112.60
1	C	134	ARG	CD-NE-CZ	6.19	133.06	124.40
1	A	98	ARG	CA-C-N	6.18	130.34	122.00
1	A	98	ARG	C-N-CA	6.18	130.34	122.00
1	K	486	ASP	CA-CB-CG	6.17	118.77	112.60
1	C	118	ILE	CA-C-N	6.17	131.01	122.93
1	C	118	ILE	C-N-CA	6.17	131.01	122.93
1	K	11	ASN	CA-CB-CG	6.17	118.77	112.60
1	A	482	ASN	CA-CB-CG	6.17	118.77	112.60
1	K	5	ASN	CA-CB-CG	6.16	118.76	112.60
1	C	528	PRO	CA-C-N	6.16	131.29	123.10
1	C	528	PRO	C-N-CA	6.16	131.29	123.10
1	J	47	HIS	CA-CB-CG	6.16	119.95	113.80
1	C	5	ASN	CA-CB-CG	6.15	118.75	112.60

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	J	55	ARG	CD-NE-CZ	6.15	133.01	124.40
1	A	153	ARG	CD-NE-CZ	6.14	133.00	124.40
1	C	399	ASP	CA-CB-CG	6.14	118.74	112.60
1	K	69	GLY	CA-C-N	6.13	131.25	123.34
1	K	69	GLY	C-N-CA	6.13	131.25	123.34
1	A	187	PRO	CA-C-N	6.11	131.23	123.10
1	A	187	PRO	C-N-CA	6.11	131.23	123.10
1	K	528	PRO	CA-C-N	6.11	131.23	123.10
1	K	528	PRO	C-N-CA	6.11	131.23	123.10
1	C	153	ARG	CD-NE-CZ	6.11	132.95	124.40
1	C	532	PHE	CA-CB-CG	6.10	119.90	113.80
1	K	136	ILE	N-CA-CB	6.09	117.67	110.55
1	C	397	GLU	CA-C-N	6.08	128.72	120.44
1	C	397	GLU	C-N-CA	6.08	128.72	120.44
1	L	17	VAL	CA-C-N	6.08	131.02	123.12
1	L	17	VAL	C-N-CA	6.08	131.02	123.12
1	B	6	ARG	CD-NE-CZ	6.08	132.91	124.40
1	A	23	ARG	CD-NE-CZ	6.07	132.89	124.40
1	I	138	PHE	CA-CB-CG	6.06	119.86	113.80
1	J	38	ASP	CA-CB-CG	6.06	118.66	112.60
1	A	285	ASP	CA-CB-CG	6.05	118.65	112.60
1	C	477	VAL	N-CA-C	6.05	120.44	112.76
1	C	492	SER	CA-C-N	6.03	130.44	122.30
1	C	492	SER	C-N-CA	6.03	130.44	122.30
1	I	285	ASP	CA-CB-CG	6.03	118.63	112.60
1	L	40	PHE	CA-CB-CG	6.01	119.81	113.80
1	I	23	ARG	CD-NE-CZ	6.00	132.81	124.40
1	J	33	ALA	CA-C-N	5.99	131.27	123.00
1	J	33	ALA	C-N-CA	5.99	131.27	123.00
1	C	273	GLN	CA-C-N	5.99	129.86	122.37
1	C	273	GLN	C-N-CA	5.99	129.86	122.37
1	I	532	PHE	CA-C-N	5.99	130.06	121.50
1	I	532	PHE	C-N-CA	5.99	130.06	121.50
1	L	16	LYS	CA-C-N	5.98	130.90	123.12
1	L	16	LYS	C-N-CA	5.98	130.90	123.12
1	A	128	ARG	CD-NE-CZ	5.98	132.77	124.40
1	A	144	ARG	CD-NE-CZ	5.98	132.77	124.40
1	J	40	PHE	CA-CB-CG	5.97	119.77	113.80
1	I	95	ARG	CD-NE-CZ	5.96	132.75	124.40
1	K	116	LEU	CA-C-N	5.95	131.22	122.94
1	K	116	LEU	C-N-CA	5.95	131.22	122.94
1	L	26	ARG	CA-C-N	5.95	130.68	122.77

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	L	26	ARG	C-N-CA	5.95	130.68	122.77
1	C	236	GLN	CA-C-N	5.95	128.25	120.28
1	C	236	GLN	C-N-CA	5.95	128.25	120.28
1	I	482	ASN	CA-CB-CG	5.95	118.55	112.60
1	C	129	ASN	CA-CB-CG	5.94	118.54	112.60
1	I	128	ARG	CD-NE-CZ	5.94	132.71	124.40
1	A	219	HIS	CA-CB-CG	5.93	119.73	113.80
1	I	20	ARG	CD-NE-CZ	5.92	132.69	124.40
1	I	70	ARG	CD-NE-CZ	5.91	132.67	124.40
1	A	116	LEU	CA-C-N	5.89	131.30	122.75
1	A	116	LEU	C-N-CA	5.89	131.30	122.75
1	A	274	ILE	CA-C-N	5.88	130.85	123.14
1	A	274	ILE	C-N-CA	5.88	130.85	123.14
1	A	481	ILE	N-CA-CB	5.88	118.25	111.90
1	I	93	ILE	CA-C-N	5.88	128.48	120.54
1	I	93	ILE	C-N-CA	5.88	128.48	120.54
1	I	116	LEU	CA-C-N	5.88	131.28	122.75
1	I	116	LEU	C-N-CA	5.88	131.28	122.75
1	I	274	ILE	CA-C-N	5.88	130.84	123.14
1	I	274	ILE	C-N-CA	5.88	130.84	123.14
1	A	524	PHE	CA-C-N	5.87	131.74	122.94
1	A	524	PHE	C-N-CA	5.87	131.74	122.94
1	C	115	ARG	CD-NE-CZ	5.86	132.61	124.40
1	I	516	ARG	CD-NE-CZ	5.86	132.60	124.40
1	K	28	ARG	CD-NE-CZ	5.85	132.59	124.40
1	C	190	ASP	CA-CB-CG	5.84	118.44	112.60
1	C	268	ARG	CD-NE-CZ	5.84	132.57	124.40
1	K	129	ASN	CA-CB-CG	5.83	118.43	112.60
1	I	135	GLN	CA-C-N	5.83	127.90	120.56
1	I	135	GLN	C-N-CA	5.83	127.90	120.56
1	A	264	LYS	CA-C-N	5.82	131.03	123.00
1	A	264	LYS	C-N-CA	5.82	131.03	123.00
1	J	4	TYR	CA-C-N	5.82	128.35	120.38
1	J	4	TYR	C-N-CA	5.82	128.35	120.38
1	K	176	TYR	CA-C-N	5.82	131.64	122.21
1	K	176	TYR	C-N-CA	5.82	131.64	122.21
1	I	257	ARG	CD-NE-CZ	5.82	132.54	124.40
1	K	134	ARG	CD-NE-CZ	5.82	132.54	124.40
1	K	190	ASP	CA-CB-CG	5.80	118.40	112.60
1	A	378	ASN	CA-CB-CG	5.79	118.39	112.60
1	I	239	ILE	N-CA-CB	5.78	116.92	110.51
1	A	177	GLN	CA-C-N	5.77	130.59	121.99

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	177	GLN	C-N-CA	5.77	130.59	121.99
1	C	124	VAL	CA-C-N	5.77	130.97	123.00
1	C	124	VAL	C-N-CA	5.77	130.97	123.00
1	I	138	PHE	N-CA-CB	5.77	118.60	110.12
1	I	14	ASN	CA-C-N	5.75	131.13	122.91
1	I	14	ASN	C-N-CA	5.75	131.13	122.91
1	I	87	ALA	CA-C-N	5.74	130.92	122.94
1	I	87	ALA	C-N-CA	5.74	130.92	122.94
1	L	55	ARG	CD-NE-CZ	5.74	132.43	124.40
1	C	137	ARG	CA-C-N	5.73	127.89	120.44
1	C	137	ARG	C-N-CA	5.73	127.89	120.44
1	A	526	ILE	CA-C-N	5.73	130.73	123.34
1	A	526	ILE	C-N-CA	5.73	130.73	123.34
1	K	3	LEU	CA-C-N	5.72	127.88	120.44
1	K	3	LEU	C-N-CA	5.72	127.88	120.44
1	A	141	PHE	CA-CB-CG	5.72	119.52	113.80
1	K	398	ASP	CA-C-N	5.72	127.88	120.44
1	K	398	ASP	C-N-CA	5.72	127.88	120.44
1	A	154	MET	CA-CB-CG	5.72	125.53	114.10
1	C	239	ILE	N-CA-CB	5.71	117.23	110.55
1	C	5	ASN	CA-C-N	5.71	127.76	120.56
1	C	5	ASN	C-N-CA	5.71	127.76	120.56
1	I	251	THR	CA-C-N	5.71	129.51	122.37
1	I	251	THR	C-N-CA	5.71	129.51	122.37
1	A	158	LYS	CA-CB-CG	5.71	125.52	114.10
1	K	141	PHE	N-CA-CB	5.70	118.28	110.01
1	K	126	ASP	N-CA-CB	5.70	117.40	110.17
1	I	482	ASN	CA-C-N	5.68	131.00	122.99
1	I	482	ASN	C-N-CA	5.68	131.00	122.99
1	C	219	HIS	CA-CB-CG	5.67	119.47	113.80
1	K	520	ILE	N-CA-CB	5.67	116.46	110.17
1	A	206	LEU	CA-C-O	-5.66	114.86	120.98
1	I	273	GLN	CA-C-N	5.66	130.05	122.01
1	I	273	GLN	C-N-CA	5.66	130.05	122.01
1	K	70	ARG	CD-NE-CZ	5.66	132.32	124.40
1	A	98	ARG	NE-CZ-NH2	5.65	124.28	119.20
1	C	117	ILE	CA-C-N	5.64	130.78	123.11
1	C	117	ILE	C-N-CA	5.64	130.78	123.11
1	K	87	ALA	CA-C-N	5.64	130.99	122.98
1	K	87	ALA	C-N-CA	5.64	130.99	122.98
1	C	201	ILE	N-CA-CB	5.64	117.15	110.55
1	C	520	ILE	N-CA-CB	5.64	116.42	110.17

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	I	146	GLU	N-CA-CB	5.63	118.40	110.12
1	L	25	ILE	CA-C-N	5.63	130.77	123.00
1	L	25	ILE	C-N-CA	5.63	130.77	123.00
1	B	3	PRO	CA-N-CD	-5.63	104.12	112.00
1	I	69	GLY	CA-C-N	5.62	131.04	123.46
1	I	69	GLY	C-N-CA	5.62	131.04	123.46
1	A	402	ASN	CA-C-N	5.61	127.79	120.28
1	A	402	ASN	C-N-CA	5.61	127.79	120.28
1	K	477	VAL	N-CA-C	5.60	118.05	111.05
1	A	239	ILE	N-CA-CB	5.59	117.10	110.55
1	A	484	ILE	CA-C-N	5.59	127.82	120.60
1	A	484	ILE	C-N-CA	5.59	127.82	120.60
1	C	91	LYS	CA-C-N	5.59	131.04	122.93
1	C	91	LYS	C-N-CA	5.59	131.04	122.93
1	I	201	ILE	N-CA-CB	5.59	117.09	110.55
1	A	123	LYS	CA-C-N	5.58	130.46	123.14
1	A	123	LYS	C-N-CA	5.58	130.46	123.14
1	A	11	ASN	CA-C-N	5.58	128.05	120.63
1	A	11	ASN	C-N-CA	5.58	128.05	120.63
1	L	40	PHE	N-CA-CB	5.57	118.09	110.01
1	C	425	ASN	CA-C-N	5.57	127.68	120.44
1	C	425	ASN	C-N-CA	5.57	127.68	120.44
1	I	404	LYS	CA-C-N	5.57	127.68	120.44
1	I	404	LYS	C-N-CA	5.57	127.68	120.44
1	K	110	LEU	N-CA-CB	5.57	118.08	110.01
1	A	410	SER	CA-C-N	5.56	127.67	120.44
1	A	410	SER	C-N-CA	5.56	127.67	120.44
1	I	402	ASN	CA-C-N	5.56	127.73	120.28
1	I	402	ASN	C-N-CA	5.56	127.73	120.28
1	I	148	GLU	N-CA-CB	5.56	118.07	110.01
1	K	5	ASN	CA-C-N	5.56	127.56	120.56
1	K	5	ASN	C-N-CA	5.56	127.56	120.56
1	A	525	GLU	CA-C-N	5.55	130.70	122.99
1	A	525	GLU	C-N-CA	5.55	130.70	122.99
1	C	207	ASN	CA-CB-CG	5.55	118.15	112.60
1	C	153	ARG	CA-CB-CG	5.54	125.19	114.10
1	A	106	GLN	N-CA-CB	5.54	118.05	110.01
1	A	166	LYS	CB-CG-CD	5.54	124.04	111.30
1	C	531	ARG	CA-C-N	5.54	131.25	122.94
1	C	531	ARG	C-N-CA	5.54	131.25	122.94
1	A	219	HIS	N-CA-CB	5.52	118.02	110.01
1	J	49	LEU	CA-C-N	5.52	127.62	120.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	J	49	LEU	C-N-CA	5.52	127.62	120.44
1	A	67	ILE	CA-C-N	5.52	127.61	120.44
1	A	67	ILE	C-N-CA	5.52	127.61	120.44
1	K	178	LEU	CA-C-N	5.52	129.76	122.42
1	K	178	LEU	C-N-CA	5.52	129.76	122.42
1	K	76	CYS	CA-C-N	5.52	127.61	120.44
1	K	76	CYS	C-N-CA	5.52	127.61	120.44
1	I	64	GLY	CA-C-N	5.51	127.93	120.44
1	I	64	GLY	C-N-CA	5.51	127.93	120.44
1	J	3	PRO	CA-N-CD	-5.51	104.29	112.00
1	A	141	PHE	N-CA-CB	5.48	118.18	110.12
1	C	529	ILE	CA-C-N	5.48	128.65	120.87
1	C	529	ILE	C-N-CA	5.48	128.65	120.87
1	I	40	GLN	CA-C-N	5.48	127.56	120.44
1	I	40	GLN	C-N-CA	5.48	127.56	120.44
1	I	28	ARG	CA-C-N	5.48	128.17	120.28
1	I	28	ARG	C-N-CA	5.48	128.17	120.28
1	A	145	GLU	N-CA-CB	5.47	118.25	110.16
1	K	425	ASN	CA-C-N	5.47	127.55	120.44
1	K	425	ASN	C-N-CA	5.47	127.55	120.44
1	A	275	VAL	CA-C-N	5.46	130.59	122.99
1	A	275	VAL	C-N-CA	5.46	130.59	122.99
1	C	218	SER	CA-C-N	5.46	129.08	120.89
1	C	218	SER	C-N-CA	5.46	129.08	120.89
1	A	7	VAL	CA-C-N	5.46	127.59	120.28
1	A	7	VAL	C-N-CA	5.46	127.59	120.28
1	D	47	HIS	CE1-NE2-CD2	-5.45	103.55	109.00
1	I	154	MET	CA-CB-CG	5.45	124.99	114.10
1	C	372	ASP	CA-C-N	5.44	127.51	120.44
1	C	372	ASP	C-N-CA	5.44	127.51	120.44
1	K	138	PHE	N-CA-CB	5.44	117.90	110.01
1	C	197	LEU	N-CA-CB	5.44	117.90	110.01
1	C	37	LEU	CA-C-N	5.44	127.51	120.44
1	C	37	LEU	C-N-CA	5.44	127.51	120.44
1	A	85	TYR	CA-C-N	5.43	131.36	121.41
1	A	85	TYR	C-N-CA	5.43	131.36	121.41
1	A	27	GLU	CA-C-N	5.43	127.50	120.44
1	A	27	GLU	C-N-CA	5.43	127.50	120.44
1	I	149	MET	N-CA-CB	5.42	117.88	110.01
1	I	252	VAL	N-CA-CB	5.42	117.18	111.00
1	C	158	LYS	CA-CB-CG	5.42	124.94	114.10
1	L	9	GLU	CA-C-N	5.42	127.49	120.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	L	9	GLU	C-N-CA	5.42	127.49	120.44
1	C	135	GLN	CA-C-N	5.42	127.39	120.56
1	C	135	GLN	C-N-CA	5.42	127.39	120.56
1	A	158	LYS	CG-CD-CE	5.42	123.75	111.30
1	I	7	VAL	CA-C-N	5.41	127.48	120.44
1	I	7	VAL	C-N-CA	5.41	127.48	120.44
1	I	379	ASP	CA-CB-CG	5.41	118.01	112.60
1	K	489	HIS	CA-C-N	5.40	127.37	120.56
1	K	489	HIS	C-N-CA	5.40	127.37	120.56
1	A	482	ASN	CA-C-N	5.39	131.03	122.94
1	A	482	ASN	C-N-CA	5.39	131.03	122.94
1	A	146	GLU	N-CA-CB	5.39	118.05	110.12
1	I	412	HIS	CA-C-N	5.39	127.44	120.44
1	I	412	HIS	C-N-CA	5.39	127.44	120.44
1	C	40	GLN	CA-C-N	5.38	127.44	120.44
1	C	40	GLN	C-N-CA	5.38	127.44	120.44
1	I	13	THR	CA-C-N	5.38	130.50	122.86
1	I	13	THR	C-N-CA	5.38	130.50	122.86
1	K	484	ILE	N-CA-CB	5.38	116.27	110.62
1	I	12	ILE	N-CA-CB	5.38	116.68	110.49
1	A	148	GLU	N-CA-CB	5.38	117.81	110.01
1	A	257	ARG	CA-CB-CG	5.38	124.86	114.10
1	A	5	ASN	CA-C-N	5.38	127.33	120.56
1	A	5	ASN	C-N-CA	5.38	127.33	120.56
1	A	153	ARG	N-CA-CB	5.37	118.11	110.16
1	L	6	ARG	N-CA-CB	5.37	117.80	110.01
1	I	5	ASN	CA-C-N	5.37	127.32	120.56
1	I	5	ASN	C-N-CA	5.37	127.32	120.56
1	I	106	GLN	N-CA-CB	5.37	117.79	110.01
1	I	398	ASP	N-CA-CB	5.36	118.35	109.88
1	B	6	ARG	N-CA-CB	5.36	117.78	110.01
1	A	86	GLN	CA-CB-CG	5.36	124.81	114.10
1	K	78	LYS	CA-C-N	5.36	127.73	120.44
1	K	78	LYS	C-N-CA	5.36	127.73	120.44
1	A	134	ARG	N-CA-CB	5.35	117.92	109.94
1	C	274	ILE	CA-C-N	5.35	130.43	122.99
1	C	274	ILE	C-N-CA	5.35	130.43	122.99
1	I	141	PHE	CA-C-N	5.35	127.40	120.44
1	I	141	PHE	C-N-CA	5.35	127.40	120.44
1	K	141	PHE	CA-CB-CG	5.35	119.15	113.80
1	A	267	ILE	N-CA-CB	5.35	116.94	110.95
1	K	152	GLU	N-CA-CB	5.35	117.77	110.01

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	47	HIS	ND1-CG-CD2	-5.35	100.75	106.10
1	K	483	LYS	CA-C-N	5.34	127.77	120.77
1	K	483	LYS	C-N-CA	5.34	127.77	120.77
1	A	14	ASN	CA-C-N	5.34	131.04	122.50
1	A	14	ASN	C-N-CA	5.34	131.04	122.50
1	I	73	PHE	N-CA-CB	5.34	117.75	110.01
1	I	215	ALA	CA-C-N	5.34	127.28	120.56
1	I	215	ALA	C-N-CA	5.34	127.28	120.56
1	J	25	ILE	N-CA-CB	5.34	117.62	112.28
1	A	78	LYS	CA-C-N	5.33	127.38	120.44
1	A	78	LYS	C-N-CA	5.33	127.38	120.44
1	I	12	ILE	CA-C-N	5.33	130.56	122.56
1	I	12	ILE	C-N-CA	5.33	130.56	122.56
1	A	395	LYS	CA-C-N	5.33	127.37	120.44
1	A	395	LYS	C-N-CA	5.33	127.37	120.44
1	D	47	HIS	N-CA-CB	5.33	117.75	110.01
1	I	67	ILE	CA-C-N	5.33	127.43	120.28
1	I	67	ILE	C-N-CA	5.33	127.43	120.28
1	I	388	HIS	CA-C-N	5.33	127.28	120.56
1	I	388	HIS	C-N-CA	5.33	127.28	120.56
2	E	-4	DG	C3'-C2'-C1'	5.33	109.60	101.60
1	I	394	SER	N-CA-CB	5.33	117.74	110.01
1	C	189	GLU	CA-C-N	5.33	127.37	120.44
1	C	189	GLU	C-N-CA	5.33	127.37	120.44
1	J	50	GLU	CA-C-N	5.33	127.37	120.44
1	J	50	GLU	C-N-CA	5.33	127.37	120.44
1	A	368	ASN	CA-C-N	5.33	127.36	120.44
1	A	368	ASN	C-N-CA	5.33	127.36	120.44
1	I	43	LEU	CA-C-N	5.33	127.36	120.44
1	I	43	LEU	C-N-CA	5.33	127.36	120.44
1	I	516	ARG	N-CA-CB	5.33	117.87	109.83
1	A	371	LEU	CA-C-N	5.32	127.36	120.44
1	A	371	LEU	C-N-CA	5.32	127.36	120.44
1	I	371	LEU	CA-C-N	5.32	127.36	120.44
1	I	371	LEU	C-N-CA	5.32	127.36	120.44
1	K	79	ASP	CA-C-N	5.32	127.36	120.44
1	K	79	ASP	C-N-CA	5.32	127.36	120.44
1	K	516	ARG	CA-C-N	5.32	131.35	122.73
1	K	516	ARG	C-N-CA	5.32	131.35	122.73
1	A	255	LYS	CA-CB-CG	5.32	124.74	114.10
1	B	23	TYR	CA-C-N	5.32	130.61	122.95
1	B	23	TYR	C-N-CA	5.32	130.61	122.95

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	I	55	TYR	CA-C-N	5.32	131.16	122.81
1	I	55	TYR	C-N-CA	5.32	131.16	122.81
1	C	274	ILE	N-CA-CB	5.32	117.06	111.00
1	I	15	ILE	CA-C-N	5.31	130.60	122.95
1	I	15	ILE	C-N-CA	5.31	130.60	122.95
1	I	395	LYS	CA-C-N	5.31	127.34	120.44
1	I	395	LYS	C-N-CA	5.31	127.34	120.44
1	A	65	GLU	CA-CB-CG	5.31	124.71	114.10
1	A	144	ARG	N-CA-CB	5.30	117.70	110.01
1	K	111	LEU	CA-C-N	5.30	127.33	120.44
1	K	111	LEU	C-N-CA	5.30	127.33	120.44
1	A	401	SER	CA-C-N	5.30	127.33	120.44
1	A	401	SER	C-N-CA	5.30	127.33	120.44
1	I	115	ARG	CD-NE-CZ	5.29	131.81	124.40
1	L	56	LYS	CA-C-N	5.29	127.32	120.44
1	L	56	LYS	C-N-CA	5.29	127.32	120.44
1	K	134	ARG	CA-CB-CG	5.29	124.68	114.10
1	I	27	GLU	CA-C-N	5.29	127.32	120.44
1	I	27	GLU	C-N-CA	5.29	127.32	120.44
1	A	115	ARG	CD-NE-CZ	5.29	131.80	124.40
1	C	490	ILE	CA-C-N	5.29	128.36	120.90
1	C	490	ILE	C-N-CA	5.29	128.36	120.90
1	D	47	HIS	CG-CD2-NE2	5.29	112.49	107.20
1	K	134	ARG	CG-CD-NE	5.29	123.64	112.00
1	J	46	GLN	CA-C-N	5.29	127.31	120.44
1	J	46	GLN	C-N-CA	5.29	127.31	120.44
1	A	188	VAL	CA-C-N	5.29	127.31	120.44
1	A	188	VAL	C-N-CA	5.29	127.31	120.44
1	L	47	HIS	N-CA-CB	5.29	117.67	110.01
1	I	58	LYS	CA-C-N	5.28	130.87	122.74
1	I	58	LYS	C-N-CA	5.28	130.87	122.74
1	I	107	ILE	N-CA-CB	5.28	116.73	110.55
1	K	30	LYS	CA-C-N	5.28	127.35	120.28
1	K	30	LYS	C-N-CA	5.28	127.35	120.28
1	K	37	LEU	CA-C-N	5.28	127.30	120.44
1	K	37	LEU	C-N-CA	5.28	127.30	120.44
1	K	374	LEU	CA-C-N	5.28	127.35	120.28
1	K	374	LEU	C-N-CA	5.28	127.35	120.28
1	J	8	GLU	CA-C-N	5.27	127.29	120.44
1	J	8	GLU	C-N-CA	5.27	127.29	120.44
1	K	158	LYS	CA-CB-CG	5.27	124.64	114.10
1	A	151	ARG	CA-C-N	5.27	127.29	120.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	151	ARG	C-N-CA	5.27	127.29	120.44
1	B	4	TYR	CA-C-N	5.27	127.65	120.54
1	B	4	TYR	C-N-CA	5.27	127.65	120.54
1	A	201	ILE	N-CA-CB	5.27	117.31	110.57
1	A	394	SER	N-CA-CB	5.27	117.65	110.01
1	D	41	TYR	CA-C-N	5.27	127.29	120.44
1	D	41	TYR	C-N-CA	5.27	127.29	120.44
2	E	-3	DC	C3'-C2'-C1'	5.27	109.50	101.60
1	A	13	THR	CA-C-N	5.26	130.07	122.44
1	A	13	THR	C-N-CA	5.26	130.07	122.44
1	A	64	GLY	CA-C-N	5.26	127.28	120.44
1	A	64	GLY	C-N-CA	5.26	127.28	120.44
1	A	373	TYR	CA-C-N	5.26	127.33	120.28
1	A	373	TYR	C-N-CA	5.26	127.33	120.28
1	C	123	LYS	CA-C-N	5.26	130.44	122.98
1	C	123	LYS	C-N-CA	5.26	130.44	122.98
1	I	65	GLU	CA-CB-CG	5.26	124.61	114.10
1	A	232	LYS	CA-C-N	5.25	130.41	123.05
1	A	232	LYS	C-N-CA	5.25	130.41	123.05
1	C	383	SER	CA-C-N	5.25	127.27	120.44
1	C	383	SER	C-N-CA	5.25	127.27	120.44
1	A	152	GLU	N-CA-CB	5.25	117.62	110.01
1	L	47	HIS	ND1-CG-CD2	-5.25	100.85	106.10
1	D	49	LEU	N-CA-CB	5.25	117.62	110.01
1	C	40	GLN	CA-CB-CG	5.24	124.59	114.10
1	J	49	LEU	N-CA-CB	5.24	117.61	110.01
1	C	407	LYS	CA-C-N	5.24	127.25	120.44
1	C	407	LYS	C-N-CA	5.24	127.25	120.44
1	K	489	HIS	ND1-CG-CD2	-5.24	100.86	106.10
1	C	67	ILE	CA-C-N	5.24	127.25	120.44
1	C	67	ILE	C-N-CA	5.24	127.25	120.44
1	I	487	GLN	N-CA-CB	5.23	117.81	110.12
1	I	188	VAL	CA-C-N	5.23	127.24	120.44
1	I	188	VAL	C-N-CA	5.23	127.24	120.44
1	C	471	GLU	CA-C-N	5.23	130.33	122.75
1	C	471	GLU	C-N-CA	5.23	130.33	122.75
1	I	4	LYS	N-CA-CB	5.23	117.81	110.12
3	F	4	DC	N1-C1'-C2'	5.23	121.34	113.50
1	L	11	LYS	CA-CB-CG	5.23	124.55	114.10
1	A	388	HIS	CA-C-N	5.22	127.14	120.56
1	A	388	HIS	C-N-CA	5.22	127.14	120.56
1	L	34	SER	N-CA-CB	5.22	117.65	109.97

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	484	ILE	N-CA-CB	5.22	116.30	110.51
1	C	102	SER	CA-C-N	5.22	127.22	120.44
1	C	102	SER	C-N-CA	5.22	127.22	120.44
1	C	391	SER	CA-C-N	5.22	127.22	120.44
1	C	391	SER	C-N-CA	5.22	127.22	120.44
1	I	368	ASN	CA-C-N	5.22	127.22	120.44
1	I	368	ASN	C-N-CA	5.22	127.22	120.44
1	K	407	LYS	CA-C-N	5.22	127.22	120.44
1	K	407	LYS	C-N-CA	5.22	127.22	120.44
1	A	1	MET	CA-C-N	5.21	128.75	121.24
1	A	1	MET	C-N-CA	5.21	128.75	121.24
1	A	285	ASP	CA-C-N	5.21	127.22	120.44
1	A	285	ASP	C-N-CA	5.21	127.22	120.44
1	I	484	ILE	CA-C-N	5.21	127.33	120.60
1	I	484	ILE	C-N-CA	5.21	127.33	120.60
1	I	500	LEU	N-CA-CB	5.21	117.57	110.01
2	M	-3	DC	C3'-C2'-C1'	5.21	109.42	101.60
1	K	255	LYS	CA-CB-CG	5.21	124.52	114.10
1	B	6	ARG	CB-CG-CD	5.21	123.28	111.30
1	C	112	GLN	CA-CB-CG	5.21	124.51	114.10
1	D	31	ASP	CA-C-N	5.21	127.78	120.28
1	D	31	ASP	C-N-CA	5.21	127.78	120.28
1	D	34	SER	N-CA-CB	5.21	117.62	109.97
1	K	73	PHE	N-CA-CB	5.21	117.77	110.12
1	C	43	LEU	CA-C-N	5.20	127.25	120.28
1	C	43	LEU	C-N-CA	5.20	127.25	120.28
1	A	404	LYS	CA-C-N	5.20	127.20	120.44
1	A	404	LYS	C-N-CA	5.20	127.20	120.44
1	I	86	GLN	CA-CB-CG	5.20	124.50	114.10
1	I	401	SER	CA-C-N	5.20	127.20	120.44
1	I	401	SER	C-N-CA	5.20	127.20	120.44
1	K	102	SER	CA-C-N	5.20	127.20	120.44
1	K	102	SER	C-N-CA	5.20	127.20	120.44
1	A	102	SER	CA-C-N	5.20	127.20	120.44
1	A	102	SER	C-N-CA	5.20	127.20	120.44
1	D	56	LYS	CA-C-N	5.20	127.20	120.44
1	D	56	LYS	C-N-CA	5.20	127.20	120.44
1	K	405	THR	CA-C-N	5.20	127.20	120.44
1	K	405	THR	C-N-CA	5.20	127.20	120.44
1	K	144	ARG	N-CA-CB	5.20	117.68	109.94
1	A	487	GLN	N-CA-CB	5.19	117.75	110.12
1	K	189	GLU	CA-C-N	5.19	127.19	120.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	K	189	GLU	C-N-CA	5.19	127.19	120.44
1	A	146	GLU	CA-C-N	5.19	127.55	120.54
1	A	146	GLU	C-N-CA	5.19	127.55	120.54
1	B	51	ALA	CA-C-N	5.19	127.19	120.44
1	B	51	ALA	C-N-CA	5.19	127.19	120.44
2	M	-4	DG	C3'-C2'-C1'	5.19	109.38	101.60
1	I	133	MET	CA-C-N	5.19	127.54	120.54
1	I	133	MET	C-N-CA	5.19	127.54	120.54
1	L	20	LYS	CA-C-N	5.18	127.23	120.28
1	L	20	LYS	C-N-CA	5.18	127.23	120.28
1	A	414	SER	CA-C-N	5.18	127.17	120.44
1	A	414	SER	C-N-CA	5.18	127.17	120.44
1	I	302	LEU	CB-CA-C	5.18	118.07	109.53
1	K	107	ILE	CA-C-N	5.18	127.08	120.56
1	K	107	ILE	C-N-CA	5.18	127.08	120.56
1	K	135	GLN	N-CA-CB	5.18	117.52	110.01
1	B	48	LEU	CA-C-N	5.17	127.17	120.44
1	B	48	LEU	C-N-CA	5.17	127.17	120.44
1	K	67	ILE	CA-C-N	5.17	127.17	120.44
1	K	67	ILE	C-N-CA	5.17	127.17	120.44
1	K	268	ARG	CD-NE-CZ	5.17	131.64	124.40
1	L	8	GLU	CA-C-N	5.17	127.16	120.44
1	L	8	GLU	C-N-CA	5.17	127.16	120.44
1	C	115	ARG	CB-CG-CD	5.17	123.19	111.30
1	I	107	ILE	CA-C-N	5.17	127.07	120.56
1	I	107	ILE	C-N-CA	5.17	127.07	120.56
1	C	107	ILE	CA-C-N	5.17	127.07	120.56
1	C	107	ILE	C-N-CA	5.17	127.07	120.56
1	C	396	TYR	N-CA-CB	5.17	117.50	110.01
1	K	499	GLU	N-CA-CB	5.17	117.56	110.07
1	I	152	GLU	N-CA-CB	5.17	117.50	110.01
1	A	4	LYS	N-CA-CB	5.16	117.71	110.12
1	A	259	LYS	CA-C-N	5.16	129.04	120.94
1	A	259	LYS	C-N-CA	5.16	129.04	120.94
1	C	12	ILE	CA-C-N	5.16	130.30	122.56
1	C	12	ILE	C-N-CA	5.16	130.30	122.56
2	E	-1	DT	C2'-C3'-O3'	5.16	119.24	111.50
1	I	461	GLU	CA-C-N	5.16	127.15	120.44
1	I	461	GLU	C-N-CA	5.16	127.15	120.44
1	I	268	ARG	CA-CB-CG	5.16	124.42	114.10
1	A	213	TYR	N-CA-C	5.16	117.30	111.11
1	C	198	ILE	N-CA-CB	5.16	116.58	110.55

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	I	454	GLU	CA-C-N	5.16	127.19	120.28
1	I	454	GLU	C-N-CA	5.16	127.19	120.28
1	L	42	LYS	N-CA-CB	5.15	117.48	110.01
1	C	219	HIS	N-CA-CB	5.15	117.42	110.10
1	I	410	SER	CA-C-N	5.15	127.14	120.44
1	I	410	SER	C-N-CA	5.15	127.14	120.44
1	J	44	PHE	CA-C-N	5.15	127.14	120.44
1	J	44	PHE	C-N-CA	5.15	127.14	120.44
1	I	378	ASN	N-CA-CB	5.15	117.60	109.83
1	A	6	ILE	CA-C-N	5.15	127.04	120.56
1	A	6	ILE	C-N-CA	5.15	127.04	120.56
1	I	484	ILE	N-CA-CB	5.14	116.22	110.51
1	K	149	MET	N-CA-CB	5.14	117.47	110.01
1	K	532	PHE	CA-C-N	5.14	129.68	121.66
1	K	532	PHE	C-N-CA	5.14	129.68	121.66
1	I	75	GLU	CA-C-N	5.14	127.12	120.44
1	I	75	GLU	C-N-CA	5.14	127.12	120.44
1	A	261	LYS	CB-CG-CD	5.14	123.12	111.30
1	B	8	GLU	CA-C-N	5.14	127.12	120.44
1	B	8	GLU	C-N-CA	5.14	127.12	120.44
1	D	56	LYS	N-CA-CB	5.14	117.46	110.01
1	I	6	ILE	CA-C-N	5.14	127.04	120.56
1	I	6	ILE	C-N-CA	5.14	127.04	120.56
1	I	514	GLN	CA-C-N	5.14	129.01	120.94
1	I	514	GLN	C-N-CA	5.14	129.01	120.94
1	K	75	GLU	N-CA-CB	5.14	117.46	110.01
1	L	9	GLU	N-CA-CB	5.14	117.46	110.01
1	A	75	GLU	N-CA-CB	5.14	117.46	110.01
1	K	487	GLN	N-CA-CB	5.14	117.46	110.01
1	C	398	ASP	CA-C-N	5.13	127.12	120.44
1	C	398	ASP	C-N-CA	5.13	127.12	120.44
1	D	50	GLU	CA-C-N	5.13	127.11	120.44
1	D	50	GLU	C-N-CA	5.13	127.11	120.44
1	J	56	LYS	N-CA-CB	5.13	117.45	110.01
1	B	49	LEU	CA-C-N	5.13	127.11	120.44
1	B	49	LEU	C-N-CA	5.13	127.11	120.44
1	K	373	TYR	CA-C-N	5.13	127.16	120.28
1	K	373	TYR	C-N-CA	5.13	127.16	120.28
1	A	266	THR	CA-C-N	5.13	128.98	121.80
1	A	266	THR	C-N-CA	5.13	128.98	121.80
1	D	20	LYS	CA-C-N	5.13	127.11	120.44
1	D	20	LYS	C-N-CA	5.13	127.11	120.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	I	274	ILE	N-CA-CB	5.13	117.34	111.39
1	K	376	SER	CA-C-N	5.13	129.16	121.72
1	K	376	SER	C-N-CA	5.13	129.16	121.72
1	A	28	ARG	CA-C-N	5.13	128.10	120.31
1	A	28	ARG	C-N-CA	5.13	128.10	120.31
1	B	50	GLU	CA-C-N	5.13	127.10	120.44
1	B	50	GLU	C-N-CA	5.13	127.10	120.44
1	C	386	THR	CA-C-N	5.13	127.11	120.44
1	C	386	THR	C-N-CA	5.13	127.11	120.44
1	I	388	HIS	ND1-CG-CD2	-5.13	100.97	106.10
1	K	529	ILE	CA-C-N	5.12	128.75	121.42
1	K	529	ILE	C-N-CA	5.12	128.75	121.42
1	L	41	TYR	CA-C-N	5.12	127.10	120.44
1	L	41	TYR	C-N-CA	5.12	127.10	120.44
1	K	57	LEU	CA-C-N	5.12	130.63	122.59
1	K	57	LEU	C-N-CA	5.12	130.63	122.59
1	K	146	GLU	N-CA-CB	5.12	117.44	110.01
1	A	454	GLU	CA-C-N	5.12	127.14	120.28
1	A	454	GLU	C-N-CA	5.12	127.14	120.28
1	C	266	THR	CA-C-N	5.12	129.45	122.90
1	C	266	THR	C-N-CA	5.12	129.45	122.90
1	K	177	GLN	CA-C-N	5.12	129.78	122.72
1	K	177	GLN	C-N-CA	5.12	129.78	122.72
1	K	255	LYS	CA-C-N	5.12	127.47	120.46
1	K	255	LYS	C-N-CA	5.12	127.47	120.46
1	A	110	LEU	N-CA-CB	5.11	117.43	110.01
1	A	268	ARG	CA-CB-CG	5.11	124.33	114.10
1	K	106	GLN	CA-C-N	5.11	127.00	120.56
1	K	106	GLN	C-N-CA	5.11	127.00	120.56
1	L	39	GLU	CA-C-N	5.11	127.09	120.44
1	L	39	GLU	C-N-CA	5.11	127.09	120.44
1	A	503	MET	N-CA-CB	5.11	117.48	110.07
1	D	39	GLU	N-CA-CB	5.11	117.42	110.01
1	I	232	LYS	CA-C-N	5.11	129.57	122.77
1	I	232	LYS	C-N-CA	5.11	129.57	122.77
1	I	389	ILE	N-CA-CB	5.11	116.53	110.55
1	A	412	HIS	N-CA-CB	5.11	117.72	110.16
1	C	532	PHE	CA-C-N	5.11	129.63	121.66
1	C	532	PHE	C-N-CA	5.11	129.63	121.66
1	L	31	ASP	CA-C-N	5.11	127.63	120.28
1	L	31	ASP	C-N-CA	5.11	127.63	120.28
1	A	78	LYS	N-CA-CB	5.10	117.41	110.01

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	389	ILE	N-CA-CB	5.10	116.52	110.55
1	D	53	LEU	CA-C-N	5.10	127.08	120.44
1	D	53	LEU	C-N-CA	5.10	127.08	120.44
1	I	154	MET	CA-C-N	5.10	127.12	120.28
1	I	154	MET	C-N-CA	5.10	127.12	120.28
1	A	35	ASP	CA-C-N	5.10	127.12	120.28
1	A	35	ASP	C-N-CA	5.10	127.12	120.28
1	A	183	SER	CA-C-N	5.10	130.58	122.62
1	A	183	SER	C-N-CA	5.10	130.58	122.62
1	A	390	ASN	CA-C-N	5.10	127.07	120.44
1	A	390	ASN	C-N-CA	5.10	127.07	120.44
1	A	469	GLN	CB-CG-CD	5.10	121.28	112.60
1	I	415	GLN	N-CA-CB	5.10	117.41	110.01
1	I	483	LYS	CA-C-N	5.10	127.18	120.60
1	I	483	LYS	C-N-CA	5.10	127.18	120.60
1	K	4	LYS	CA-C-N	5.10	127.07	120.44
1	K	4	LYS	C-N-CA	5.10	127.07	120.44
1	L	39	GLU	N-CA-CB	5.10	117.41	110.01
1	I	372	ASP	N-CA-CB	5.10	117.40	110.01
1	A	75	GLU	CA-C-N	5.10	127.07	120.44
1	A	75	GLU	C-N-CA	5.10	127.07	120.44
1	B	56	LYS	CA-C-N	5.10	127.07	120.44
1	B	56	LYS	C-N-CA	5.10	127.07	120.44
1	K	499	GLU	CA-C-N	5.10	127.42	120.54
1	K	499	GLU	C-N-CA	5.10	127.42	120.54
1	L	19	GLN	CA-C-N	5.10	130.22	122.11
1	L	19	GLN	C-N-CA	5.10	130.22	122.11
1	J	47	HIS	N-CA-CB	5.09	117.40	110.01
1	K	102	SER	N-CA-CB	5.09	117.40	110.01
1	L	33	ALA	CA-C-N	5.09	128.10	120.87
1	L	33	ALA	C-N-CA	5.09	128.10	120.87
1	L	42	LYS	CA-C-N	5.09	127.06	120.44
1	L	42	LYS	C-N-CA	5.09	127.06	120.44
3	N	25	DA	O5'-C5'-C4'	5.09	118.44	110.80
1	D	33	ALA	CA-C-N	5.09	128.09	120.87
1	D	33	ALA	C-N-CA	5.09	128.09	120.87
1	I	41	LYS	N-CA-CB	5.09	117.39	110.01
1	I	135	GLN	N-CA-CB	5.09	117.39	110.01
1	C	255	LYS	CA-CB-CG	5.09	124.27	114.10
1	K	373	TYR	N-CA-CB	5.09	117.66	110.13
1	C	387	LYS	N-CA-CB	5.08	117.38	110.01
1	I	95	ARG	CG-CD-NE	5.08	123.19	112.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	I	390	ASN	CA-C-N	5.08	127.05	120.44
1	I	390	ASN	C-N-CA	5.08	127.05	120.44
1	L	56	LYS	N-CA-CB	5.08	117.38	110.01
1	B	29	THR	CA-C-N	5.08	129.57	122.05
1	B	29	THR	C-N-CA	5.08	129.57	122.05
1	I	177	GLN	CA-C-N	5.08	130.40	122.17
1	I	177	GLN	C-N-CA	5.08	130.40	122.17
1	K	34	GLU	CA-C-N	5.08	130.49	123.07
1	K	34	GLU	C-N-CA	5.08	130.49	123.07
1	C	116	LEU	CA-C-N	5.08	131.20	122.67
1	C	116	LEU	C-N-CA	5.08	131.20	122.67
1	I	387	LYS	N-CA-CB	5.08	117.37	110.01
1	I	414	SER	CA-C-N	5.08	127.04	120.44
1	I	414	SER	C-N-CA	5.08	127.04	120.44
1	K	503	MET	N-CA-CB	5.08	117.43	110.07
1	D	38	ASP	CA-C-N	5.08	127.04	120.44
1	D	38	ASP	C-N-CA	5.08	127.04	120.44
3	F	12	DT	O5'-C5'-C4'	5.08	118.41	110.80
1	J	23	TYR	CA-C-N	5.08	130.79	123.13
1	J	23	TYR	C-N-CA	5.08	130.79	123.13
1	K	492	SER	CA-C-N	5.07	129.07	121.72
1	K	492	SER	C-N-CA	5.07	129.07	121.72
1	A	461	GLU	N-CA-CB	5.07	117.52	109.82
1	D	19	GLN	CA-C-N	5.07	130.17	122.11
1	D	19	GLN	C-N-CA	5.07	130.17	122.11
1	I	137	ARG	N-CA-CB	5.07	117.36	110.01
1	K	503	MET	CA-C-N	5.07	127.05	120.56
1	K	503	MET	C-N-CA	5.07	127.05	120.56
1	L	32	GLU	CA-C-N	5.07	127.97	120.82
1	L	32	GLU	C-N-CA	5.07	127.97	120.82
1	C	375	SER	CA-C-N	5.07	127.07	120.28
1	C	375	SER	C-N-CA	5.07	127.07	120.28
1	K	100	SER	CA-C-N	5.07	127.03	120.44
1	K	100	SER	C-N-CA	5.07	127.03	120.44
1	A	222	ASN	CA-C-N	5.06	128.70	120.60
1	A	222	ASN	C-N-CA	5.06	128.70	120.60
1	C	107	ILE	N-CA-CB	5.06	116.47	110.55
1	K	72	VAL	N-CA-CB	5.06	116.13	110.51
1	K	406	LYS	N-CA-CB	5.06	117.35	110.01
1	I	46	LYS	CA-CB-CG	5.06	124.22	114.10
1	I	138	PHE	CA-C-N	5.06	127.02	120.44
1	I	138	PHE	C-N-CA	5.06	127.02	120.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	46	LYS	N-CA-CB	5.06	117.47	109.94
1	I	267	ILE	CA-C-N	5.06	128.34	120.60
1	I	267	ILE	C-N-CA	5.06	128.34	120.60
1	L	30	GLN	CA-C-N	5.06	127.01	120.44
1	L	30	GLN	C-N-CA	5.06	127.01	120.44
1	K	270	GLU	CA-C-N	5.06	127.56	120.28
1	K	270	GLU	C-N-CA	5.06	127.56	120.28
1	A	37	LEU	CA-C-N	5.05	127.01	120.44
1	A	37	LEU	C-N-CA	5.05	127.01	120.44
1	A	394	SER	CA-C-N	5.05	127.01	120.44
1	A	394	SER	C-N-CA	5.05	127.01	120.44
1	I	115	ARG	CA-CB-CG	5.05	124.21	114.10
1	J	34	SER	CA-C-N	5.05	129.27	120.68
1	J	34	SER	C-N-CA	5.05	129.27	120.68
1	K	108	VAL	N-CA-CB	5.05	116.46	110.55
1	A	85	TYR	CA-CB-CG	5.05	122.99	113.90
1	C	214	THR	N-CA-C	-5.05	105.22	111.33
1	A	461	GLU	CA-C-N	5.05	127.00	120.44
1	A	461	GLU	C-N-CA	5.05	127.00	120.44
1	C	135	GLN	CA-CB-CG	5.05	124.20	114.10
1	C	395	LYS	CA-C-N	5.05	127.00	120.44
1	C	395	LYS	C-N-CA	5.05	127.00	120.44
1	K	153	ARG	CA-CB-CG	5.05	124.20	114.10
1	A	115	ARG	CA-CB-CG	5.05	124.20	114.10
1	C	387	LYS	CA-C-N	5.05	127.00	120.44
1	C	387	LYS	C-N-CA	5.05	127.00	120.44
1	I	287	GLU	CA-C-N	5.05	127.00	120.44
1	I	287	GLU	C-N-CA	5.05	127.00	120.44
1	I	462	LEU	N-CA-CB	5.05	117.33	110.01
1	I	469	GLN	CB-CG-CD	5.05	121.18	112.60
1	C	128	ARG	CD-NE-CZ	5.04	131.46	124.40
1	K	486	ASP	CA-C-N	5.04	127.00	120.44
1	K	486	ASP	C-N-CA	5.04	127.00	120.44
1	L	36	ASP	CA-C-N	5.04	127.54	120.28
1	L	36	ASP	C-N-CA	5.04	127.54	120.28
1	A	99	GLY	N-CA-C	5.04	123.33	115.72
1	I	400	ASN	CA-C-N	5.04	127.31	120.65
1	I	400	ASN	C-N-CA	5.04	127.31	120.65
1	K	524	PHE	N-CA-C	5.04	116.50	108.79
1	K	533	ASN	CA-C-N	5.04	130.90	122.73
1	K	533	ASN	C-N-CA	5.04	130.90	122.73
3	N	12	DT	O5'-C5'-C4'	5.04	118.36	110.80

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	D	38	ASP	N-CA-CB	5.04	117.45	109.94
1	L	45	ALA	CA-C-N	5.04	126.99	120.44
1	L	45	ALA	C-N-CA	5.04	126.99	120.44
1	A	485	ILE	CA-C-N	5.04	126.99	120.44
1	A	485	ILE	C-N-CA	5.04	126.99	120.44
1	I	485	ILE	CA-C-N	5.04	126.99	120.44
1	I	485	ILE	C-N-CA	5.04	126.99	120.44
1	D	46	GLN	N-CA-CB	5.04	117.44	109.94
1	I	485	ILE	N-CA-CB	5.04	116.10	110.51
1	A	161	TYR	CA-C-N	5.04	126.98	120.44
1	A	161	TYR	C-N-CA	5.04	126.98	120.44
1	A	462	LEU	N-CA-CB	5.04	117.31	110.01
1	I	111	LEU	CA-C-N	5.04	126.99	120.44
1	I	111	LEU	C-N-CA	5.04	126.99	120.44
1	I	136	ILE	CA-C-N	5.03	126.98	120.44
1	I	136	ILE	C-N-CA	5.03	126.98	120.44
1	I	191	GLU	CA-C-N	5.03	126.98	120.44
1	I	191	GLU	C-N-CA	5.03	126.98	120.44
1	J	51	ALA	CA-C-N	5.03	126.98	120.44
1	J	51	ALA	C-N-CA	5.03	126.98	120.44
1	A	52	GLU	CA-C-N	5.03	131.44	122.13
1	A	52	GLU	C-N-CA	5.03	131.44	122.13
1	B	53	LEU	CA-C-N	5.03	126.98	120.44
1	B	53	LEU	C-N-CA	5.03	126.98	120.44
1	D	30	GLN	CA-C-N	5.03	126.98	120.44
1	D	30	GLN	C-N-CA	5.03	126.98	120.44
1	A	391	SER	CA-C-N	5.03	126.98	120.44
1	A	391	SER	C-N-CA	5.03	126.98	120.44
1	I	76	CYS	CA-C-N	5.03	126.97	120.44
1	I	76	CYS	C-N-CA	5.03	126.97	120.44
1	I	151	ARG	CA-C-N	5.03	126.98	120.44
1	I	151	ARG	C-N-CA	5.03	126.98	120.44
1	I	457	ASN	CA-C-N	5.03	126.97	120.44
1	I	457	ASN	C-N-CA	5.03	126.97	120.44
1	B	56	LYS	N-CA-CB	5.03	117.30	110.01
1	C	4	LYS	CA-C-N	5.03	126.97	120.44
1	C	4	LYS	C-N-CA	5.03	126.97	120.44
1	K	132	ASP	CA-C-N	5.03	126.97	120.44
1	K	132	ASP	C-N-CA	5.03	126.97	120.44
1	K	159	TYR	CA-C-N	5.03	126.97	120.44
1	K	159	TYR	C-N-CA	5.03	126.97	120.44
1	A	28	ARG	CA-CB-CG	5.02	124.15	114.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	108	VAL	N-CA-CB	5.02	116.43	110.55
1	A	372	ASP	N-CA-CB	5.02	117.29	110.01
1	D	12	LYS	N-CA-CB	5.02	117.59	110.06
1	A	287	GLU	N-CA-CB	5.02	117.24	109.91
1	A	406	LYS	CB-CG-CD	5.02	122.85	111.30
1	C	4	LYS	N-CA-CB	5.02	117.42	109.94
1	I	43	LEU	N-CA-CB	5.02	117.50	110.12
1	I	389	ILE	CA-C-N	5.02	126.97	120.44
1	I	389	ILE	C-N-CA	5.02	126.97	120.44
1	A	197	LEU	N-CA-CB	5.02	117.29	110.01
1	A	302	LEU	CB-CA-C	5.02	117.81	109.53
1	C	152	GLU	N-CA-CB	5.02	117.29	110.01
1	I	391	SER	CA-C-N	5.02	126.97	120.44
1	I	391	SER	C-N-CA	5.02	126.97	120.44
1	K	59	MET	CA-C-N	5.02	128.00	120.87
1	K	59	MET	C-N-CA	5.02	128.00	120.87
1	C	394	SER	CA-C-N	5.02	126.96	120.44
1	C	394	SER	C-N-CA	5.02	126.96	120.44
1	I	151	ARG	N-CA-CB	5.02	117.50	110.12
1	A	142	MET	N-CA-CB	5.02	117.28	110.01
1	I	396	TYR	N-CA-CB	5.02	117.28	110.01
1	A	83	GLY	CA-C-N	5.01	127.25	120.38
1	A	83	GLY	C-N-CA	5.01	127.25	120.38
1	B	9	GLU	CA-C-N	5.01	127.00	120.28
1	B	9	GLU	C-N-CA	5.01	127.00	120.28
1	C	3	LEU	CA-C-N	5.01	127.31	120.54
1	C	3	LEU	C-N-CA	5.01	127.31	120.54
1	I	221	THR	CA-C-N	5.01	126.96	120.44
1	I	221	THR	C-N-CA	5.01	126.96	120.44
1	K	139	GLU	CA-C-N	5.01	126.96	120.44
1	K	139	GLU	C-N-CA	5.01	126.96	120.44
1	A	102	SER	N-CA-CB	5.01	117.22	109.91
1	D	36	ASP	CA-C-N	5.01	127.50	120.28
1	D	36	ASP	C-N-CA	5.01	127.50	120.28
1	K	531	ARG	CA-C-N	5.01	130.85	122.73
1	K	531	ARG	C-N-CA	5.01	130.85	122.73
1	C	2	GLU	CA-C-N	5.01	126.99	120.28
1	C	2	GLU	C-N-CA	5.01	126.99	120.28
1	C	373	TYR	N-CA-CB	5.01	117.27	110.01
1	I	522	ALA	CA-C-N	5.01	130.64	122.07
1	I	522	ALA	C-N-CA	5.01	130.64	122.07
1	L	38	ASP	CA-C-N	5.01	126.95	120.44

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	L	38	ASP	C-N-CA	5.01	126.95	120.44
1	A	400	ASN	CA-C-N	5.01	127.26	120.65
1	A	400	ASN	C-N-CA	5.01	127.26	120.65
1	D	42	LYS	CA-C-N	5.01	126.95	120.44
1	D	42	LYS	C-N-CA	5.01	126.95	120.44
1	A	108	VAL	N-CA-CB	5.01	116.41	110.55
1	A	235	ASN	N-CA-CB	5.01	117.24	109.48
1	K	12	ILE	CA-C-N	5.01	130.07	122.56
1	K	12	ILE	C-N-CA	5.01	130.07	122.56
1	K	29	GLU	CA-C-N	5.01	126.95	120.44
1	K	29	GLU	C-N-CA	5.01	126.95	120.44
1	K	74	LYS	CA-CB-CG	5.01	124.11	114.10
1	J	56	LYS	CA-C-N	5.00	126.95	120.44
1	J	56	LYS	C-N-CA	5.00	126.95	120.44
1	K	28	ARG	CG-CD-NE	5.00	123.01	112.00
1	K	256	VAL	CA-C-N	5.00	130.19	122.93
1	K	256	VAL	C-N-CA	5.00	130.19	122.93
1	A	221	THR	CA-C-N	5.00	126.94	120.44
1	A	221	THR	C-N-CA	5.00	126.94	120.44
1	I	39	GLU	N-CA-CB	5.00	117.27	110.01
1	K	4	LYS	N-CA-CB	5.00	117.27	110.01
1	K	130	PRO	CA-C-N	5.00	126.86	120.56
1	K	130	PRO	C-N-CA	5.00	126.86	120.56
1	L	27	TYR	CA-C-N	5.00	130.58	122.68
1	L	27	TYR	C-N-CA	5.00	130.58	122.68
1	C	91	LYS	CG-CD-CE	5.00	122.81	111.30
1	I	144	ARG	N-CA-CB	5.00	117.42	109.82

There are no chirality outliers.

All (28) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	174	TYR	Sidechain
1	A	176	TYR	Sidechain
1	C	101	TYR	Sidechain
1	C	176	TYR	Sidechain
1	C	250	GLY	Peptide
2	E	-16	DT	Sidechain
2	E	-26	DG	Sidechain
3	F	15	DG	Sidechain
3	F	7	DT	Sidechain
4	G	-12	DT	Sidechain

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Mol	Chain	Res	Type	Group
4	G	-22	DG	Sidechain
4	G	-23	DT	Sidechain
4	G	-24	DA	Sidechain
5	H	10	DT	Sidechain
5	H	11	DG	Sidechain
5	H	16	DT	Sidechain
1	I	161	TYR	Sidechain
1	I	174	TYR	Sidechain
2	M	-16	DT	Sidechain
2	M	-2	DT	Sidechain
3	N	15	DG	Sidechain
3	N	16	DA	Sidechain
3	N	7	DT	Sidechain
4	O	-19	DA	Sidechain
4	O	-23	DT	Sidechain
4	O	-24	DA	Sidechain
5	P	10	DT	Sidechain
5	P	7	DT	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	4354	4429	4424	38	0
1	B	481	474	474	2	0
1	C	4354	4429	4424	32	0
1	D	490	480	479	1	0
1	I	4354	4429	4424	33	0
1	J	481	474	474	7	0
1	K	4354	4429	4424	17	0
1	L	490	481	479	1	0
2	E	694	393	373	3	0
2	M	694	393	373	0	0
3	F	679	373	348	3	0
3	N	679	373	339	4	0
4	G	511	285	269	2	0
4	O	511	285	269	1	0
5	H	493	274	257	4	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	P	493	274	258	3	0
6	A	1	0	0	0	0
6	C	1	0	0	0	0
6	I	1	0	0	0	0
6	K	1	0	0	0	0
All	All	24116	22275	22088	136	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 3.

All (136) 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)
1:I:80:LEU:HD11	1:I:88:ILE:HD11	1.46	0.97
1:K:477:VAL:HA	1:K:480:ASN:ND2	2.02	0.73
1:J:17:VAL:O	1:J:17:VAL:HG13	1.89	0.72
1:C:141:PHE:CE1	1:I:142:MET:HE1	2.27	0.69
1:C:141:PHE:HE1	1:I:142:MET:HE1	1.58	0.69
1:J:25:ILE:O	1:J:25:ILE:HG23	1.94	0.67
1:A:80:LEU:HD11	1:A:88:ILE:HD11	1.77	0.66
1:K:256:VAL:HG23	1:K:273:GLN:OE1	1.95	0.66
1:A:149:MET:HE2	1:A:149:MET:HA	1.80	0.63
1:K:28:ARG:NH1	1:K:34:GLU:OE2	2.34	0.61
1:A:16:LEU:HD21	1:A:76:CYS:SG	2.42	0.59
1:C:255:LYS:N	5:H:6:DG:OP1	2.36	0.58
1:I:200:ASN:OD1	1:I:201:ILE:N	2.36	0.58
1:I:185:LEU:HD13	1:I:280:HIS:CD2	2.39	0.57
1:I:19:LEU:HD22	1:I:40:GLN:OE1	2.04	0.56
1:I:80:LEU:HD11	1:I:88:ILE:CD1	2.30	0.56
1:I:98:ARG:O	1:I:144:ARG:N	2.39	0.56
1:C:477:VAL:HA	1:C:480:ASN:ND2	2.20	0.55
1:K:477:VAL:HG22	1:K:480:ASN:HD21	1.71	0.55
1:I:182:THR:HG22	1:I:182:THR:O	2.07	0.55
1:I:65:GLU:OE2	1:I:100:SER:OG	2.24	0.54
1:I:23:ARG:O	1:I:25:ASP:N	2.40	0.54
1:C:192:ALA:HA	1:C:283:ILE:HD11	1.88	0.54
1:C:7:VAL:CG2	1:C:12:ILE:HD13	2.37	0.54
1:A:65:GLU:OE2	1:A:100:SER:OG	2.26	0.54
1:I:16:LEU:HD21	1:I:76:CYS:SG	2.47	0.54
1:A:155:THR:HG22	1:A:159:TYR:CE2	2.43	0.53
1:K:217:ALA:HB2	1:K:236:GLN:OE1	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:392:MET:HA	1:I:392:MET:HE2	1.90	0.53
1:K:7:VAL:HG11	1:K:51:ILE:HG23	1.91	0.53
1:B:6:ARG:O	1:B:10:LEU:HD23	2.08	0.53
1:I:44:MET:HE3	1:I:44:MET:HA	1.91	0.52
1:I:199:PHE:CG	1:I:284:ILE:HD12	2.46	0.51
1:C:272:GLU:OE2	1:C:272:GLU:O	2.28	0.51
1:A:416:LYS:O	1:A:419:GLU:HG3	2.10	0.51
5:H:7:DT:C2	5:H:8:DA:C8	2.98	0.50
3:N:5:DT:H2"	3:N:6:DG:C8	2.46	0.50
1:K:28:ARG:NH2	1:K:32:THR:HG21	2.26	0.50
1:A:255:LYS:O	1:A:255:LYS:CG	2.59	0.50
1:A:272:GLU:OE2	1:A:272:GLU:O	2.30	0.50
1:I:256:VAL:HG13	1:I:273:GLN:OE1	2.12	0.49
1:C:215:ALA:O	1:C:216:ILE:C	2.56	0.49
1:C:190:ASP:O	1:C:194:VAL:HG23	2.13	0.49
1:K:236:GLN:HE22	1:K:239:ILE:CG2	2.26	0.48
1:J:17:VAL:O	1:J:17:VAL:CG1	2.59	0.48
1:A:93:ILE:HD11	1:A:125:TYR:CE1	2.49	0.48
1:A:110:LEU:HD23	1:A:110:LEU:O	2.14	0.48
1:A:16:LEU:HD22	1:A:85:TYR:CE2	2.49	0.48
1:I:93:ILE:HD11	1:I:125:TYR:CE2	2.48	0.48
1:J:44:PHE:O	1:J:48:LEU:HD13	2.14	0.48
1:A:16:LEU:HD21	1:A:76:CYS:HB3	1.96	0.48
1:I:110:LEU:HD23	1:I:110:LEU:O	2.13	0.47
1:L:15:ILE:N	1:L:27:TYR:O	2.43	0.47
1:A:255:LYS:O	1:A:255:LYS:HG2	2.14	0.47
1:K:152:GLU:HA	1:K:152:GLU:OE1	2.15	0.46
1:C:249:ILE:C	1:C:249:ILE:HD13	2.41	0.46
1:C:211:TYR:CD2	1:C:215:ALA:HB1	2.51	0.46
1:J:35:ASN:O	1:J:35:ASN:OD1	2.34	0.46
2:E:-3:DC:H2'	2:E:-2:DT:C5	2.50	0.46
5:H:6:DG:C5	5:H:7:DT:C4	3.03	0.46
1:K:29:GLU:O	1:K:33:GLY:N	2.45	0.46
1:C:141:PHE:CD1	1:C:141:PHE:C	2.94	0.46
1:C:214:THR:O	1:C:217:ALA:HB3	2.16	0.46
1:C:215:ALA:C	1:C:217:ALA:N	2.68	0.46
1:A:142:MET:HE1	1:K:141:PHE:CE1	2.51	0.45
1:B:49:LEU:O	1:B:53:LEU:HD23	2.16	0.45
1:C:19:LEU:HD11	1:C:40:GLN:NE2	2.32	0.45
1:J:44:PHE:CE2	1:J:48:LEU:HD11	2.51	0.45
1:K:94:THR:HG22	1:K:143:ALA:HB2	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:53:ILE:HG22	1:C:54:PRO:HD2	1.98	0.45
1:C:138:PHE:CZ	1:I:145:GLU:OE2	2.70	0.45
1:A:182:THR:HG22	1:A:182:THR:O	2.17	0.45
1:A:272:GLU:O	1:A:272:GLU:CG	2.64	0.44
1:I:357:LYS:O	1:I:357:LYS:HG3	2.16	0.44
1:I:409:MET:N	1:I:409:MET:HE2	2.32	0.44
1:K:466:GLN:CD	1:K:466:GLN:O	2.61	0.44
1:A:199:PHE:CG	1:A:284:ILE:HD12	2.52	0.44
1:C:255:LYS:O	1:C:255:LYS:HG2	2.18	0.44
1:A:188:VAL:O	1:A:188:VAL:HG13	2.17	0.44
1:I:73:PHE:CE2	1:I:77:LEU:HD11	2.53	0.44
1:I:173:PRO:HG2	1:I:247:VAL:HG11	2.00	0.44
3:F:13:DA:C6	3:F:14:DA:C6	3.05	0.43
1:C:466:GLN:CD	1:C:466:GLN:O	2.61	0.43
5:P:6:DG:C2	5:P:7:DT:C2	3.07	0.43
1:A:200:ASN:OD1	1:A:201:ILE:N	2.52	0.43
1:K:255:LYS:N	5:P:6:DG:OP1	2.52	0.43
1:A:306:LYS:HE3	3:F:17:DT:O2	2.18	0.43
1:I:357:LYS:O	1:I:357:LYS:CG	2.66	0.43
1:I:392:MET:HE2	1:I:392:MET:CA	2.48	0.43
1:A:145:GLU:HB3	1:K:142:MET:CE	2.48	0.43
1:A:202:PHE:CD2	1:A:243:LEU:HD13	2.54	0.43
1:A:145:GLU:OE1	1:C:137:ARG:NE	2.47	0.43
5:H:6:DG:C2	5:H:7:DT:C2	3.07	0.43
1:I:185:LEU:HD13	1:I:280:HIS:NE2	2.34	0.43
1:K:158:LYS:HG2	1:K:168:ILE:HD12	2.01	0.42
1:A:126:ASP:O	1:A:128:ARG:N	2.52	0.42
1:A:168:ILE:HD11	2:E:-2:DT:C4'	2.49	0.42
1:C:300:VAL:HA	1:C:301:PRO:HD3	1.89	0.42
1:A:138:PHE:CE1	1:I:142:MET:HE3	2.54	0.42
1:A:180:LYS:O	1:A:181:LYS:C	2.62	0.42
1:A:357:LYS:O	1:A:357:LYS:HG3	2.19	0.42
1:C:7:VAL:HG11	1:C:51:ILE:HG23	2.02	0.42
1:A:424:GLU:HB2	1:A:448:LEU:HD21	2.01	0.42
3:F:2:DA:C2	3:F:3:DG:C2	3.08	0.42
1:K:217:ALA:HB1	1:K:234:TRP:O	2.20	0.42
1:I:18:TYR:O	1:I:19:LEU:HD23	2.21	0.41
1:I:126:ASP:O	1:I:129:ASN:N	2.52	0.41
1:A:16:LEU:HD11	1:A:76:CYS:SG	2.60	0.41
1:A:31:ARG:NH1	4:O:-1:DT:OP2	2.53	0.41
1:C:212:SER:O	1:C:215:ALA:HB3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:424:GLU:HB2	1:I:448:LEU:HD21	2.02	0.41
1:C:171:LEU:HG	4:G:-5:DA:O4'	2.21	0.41
1:A:166:LYS:HB3	1:A:183:SER:O	2.21	0.41
2:E:-9:DA:H2'	2:E:-8:DT:H71	2.02	0.41
1:I:180:LYS:O	1:I:181:LYS:C	2.63	0.41
1:A:134:ARG:HG3	1:A:138:PHE:CZ	2.56	0.41
1:I:188:VAL:O	1:I:188:VAL:HG13	2.21	0.41
1:A:126:ASP:O	1:A:127:PRO:C	2.63	0.41
1:C:28:ARG:CZ	1:C:32:THR:HG21	2.51	0.41
1:C:126:ASP:OD1	1:C:126:ASP:C	2.64	0.41
1:C:360:TYR:CE1	4:G:-19:DA:H3'	2.56	0.41
3:N:2:DA:H1'	3:N:3:DG:C8	2.56	0.41
5:P:6:DG:C5	5:P:7:DT:C4	3.09	0.41
1:A:16:LEU:HD21	1:A:76:CYS:CB	2.51	0.41
1:A:300:VAL:HG11	1:A:502:ARG:HB3	2.03	0.41
1:A:399:ASP:O	1:A:403:MET:HG3	2.21	0.41
1:C:111:LEU:HD13	1:C:118:ILE:HD11	2.03	0.41
3:N:10:DA:C8	3:N:11:DT:H72	2.56	0.41
1:C:86:GLN:OE1	1:C:86:GLN:N	2.53	0.40
1:C:503:MET:HE3	1:D:40:PHE:CE1	2.56	0.40
1:C:215:ALA:O	1:C:217:ALA:N	2.54	0.40
3:N:26:DC:C2	3:N:27:DA:C8	3.09	0.40
1:A:150:THR:HG23	1:A:151:ARG:N	2.37	0.40
1:C:132:ASP:O	1:C:135:GLN:HB2	2.22	0.40
1:I:392:MET:HE2	1:I:392:MET:N	2.37	0.40
1:J:50:GLU:O	1:J:50:GLU:OE1	2.40	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	533/620 (86%)	503 (94%)	29 (5%)	1 (0%)	44 77
1	B	54/620 (9%)	50 (93%)	4 (7%)	0	100 100
1	C	533/620 (86%)	493 (92%)	40 (8%)	0	100 100
1	D	55/620 (9%)	54 (98%)	1 (2%)	0	100 100
1	I	533/620 (86%)	507 (95%)	25 (5%)	1 (0%)	44 77
1	J	54/620 (9%)	50 (93%)	4 (7%)	0	100 100
1	K	533/620 (86%)	506 (95%)	27 (5%)	0	100 100
1	L	55/620 (9%)	53 (96%)	2 (4%)	0	100 100
All	All	2350/4960 (47%)	2216 (94%)	132 (6%)	2 (0%)	50 82

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	24	GLN
1	I	93	ILE

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	490/560 (88%)	488 (100%)	2 (0%)	89 91
1	B	51/560 (9%)	51 (100%)	0	100 100
1	C	490/560 (88%)	483 (99%)	7 (1%)	62 75
1	D	52/560 (9%)	52 (100%)	0	100 100
1	I	490/560 (88%)	488 (100%)	2 (0%)	89 91
1	J	51/560 (9%)	51 (100%)	0	100 100
1	K	490/560 (88%)	484 (99%)	6 (1%)	67 78
1	L	52/560 (9%)	52 (100%)	0	100 100
All	All	2166/4480 (48%)	2149 (99%)	17 (1%)	77 84

All (17) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	52	GLU
1	A	135	GLN
1	C	142	MET
1	C	169	SER
1	C	212	SER
1	C	214	THR
1	C	216	ILE
1	C	249	ILE
1	C	302	LEU
1	I	120	THR
1	I	185	LEU
1	K	123	LYS
1	K	206	LEU
1	K	247	VAL
1	K	302	LEU
1	K	477	VAL
1	K	495	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (26) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	177	GLN
1	A	291	GLN
1	A	479	ASN
1	A	498	ASN
1	C	219	HIS
1	C	288	GLN
1	C	338	ASN
1	C	347	HIS
1	C	498	ASN
1	C	523	GLN
1	D	22	ASN
1	D	35	ASN
1	I	14	ASN
1	I	177	GLN
1	I	244	GLN
1	I	291	GLN
1	I	347	HIS
1	I	498	ASN
1	J	35	ASN
1	K	45	ASN
1	K	236	GLN
1	K	244	GLN

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Mol	Chain	Res	Type
1	K	338	ASN
1	K	347	HIS
1	K	480	ASN
1	K	523	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

5.4 Non-standard residues in protein, DNA, RNA chains (i)

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 4 ligands modelled in this entry, 4 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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-47284. These allow visual inspection of the internal detail of the map and identification of artifacts.

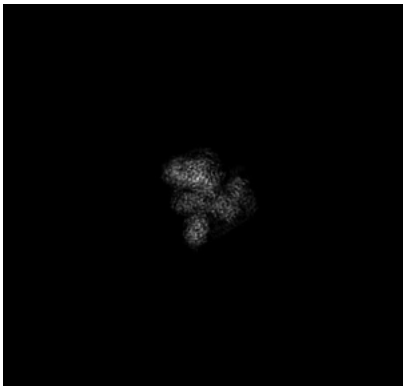
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

6.1.1 Primary map

X

Y



Z

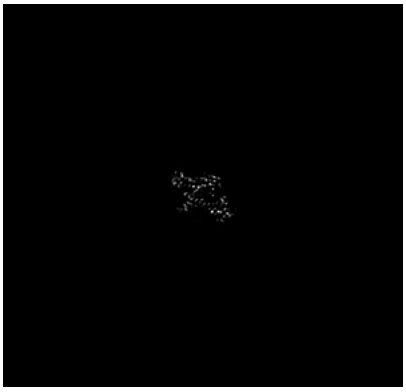
The images above show the map projected in three orthogonal directions.

6.2 Central slices

6.2.1 Primary map

X Index: 237

Y Index: 226



Z Index: 209

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

6.3 Largest variance slices (i)

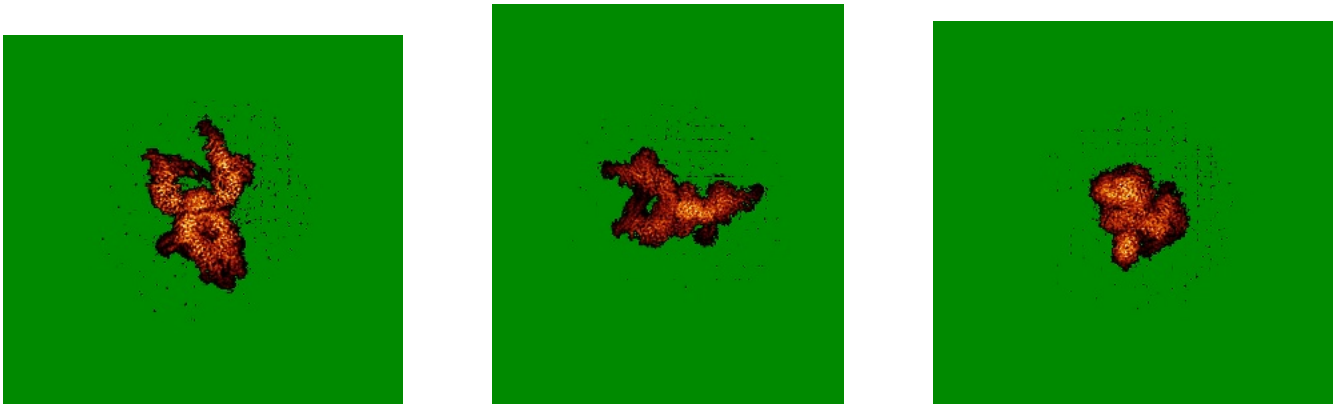
6.3.1 Primary map

X Index: 228 Y Index: 245 Z Index: 231

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

6.4 Orthogonal standard-deviation projections (False-color) (i)

6.4.1 Primary map



X Y Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map

X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.0226. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

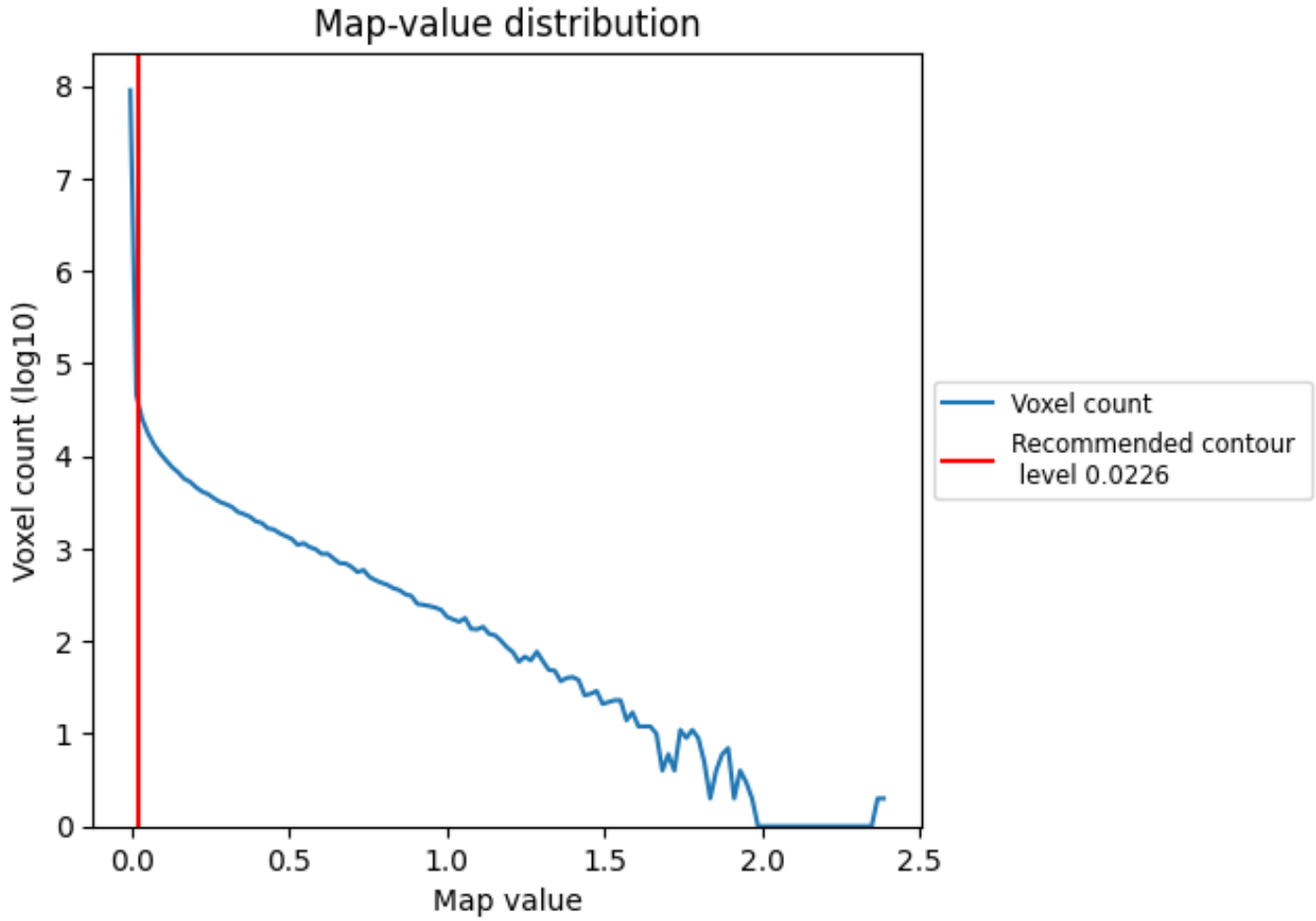
6.6 Mask visualisation (i)

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

7 Map analysis

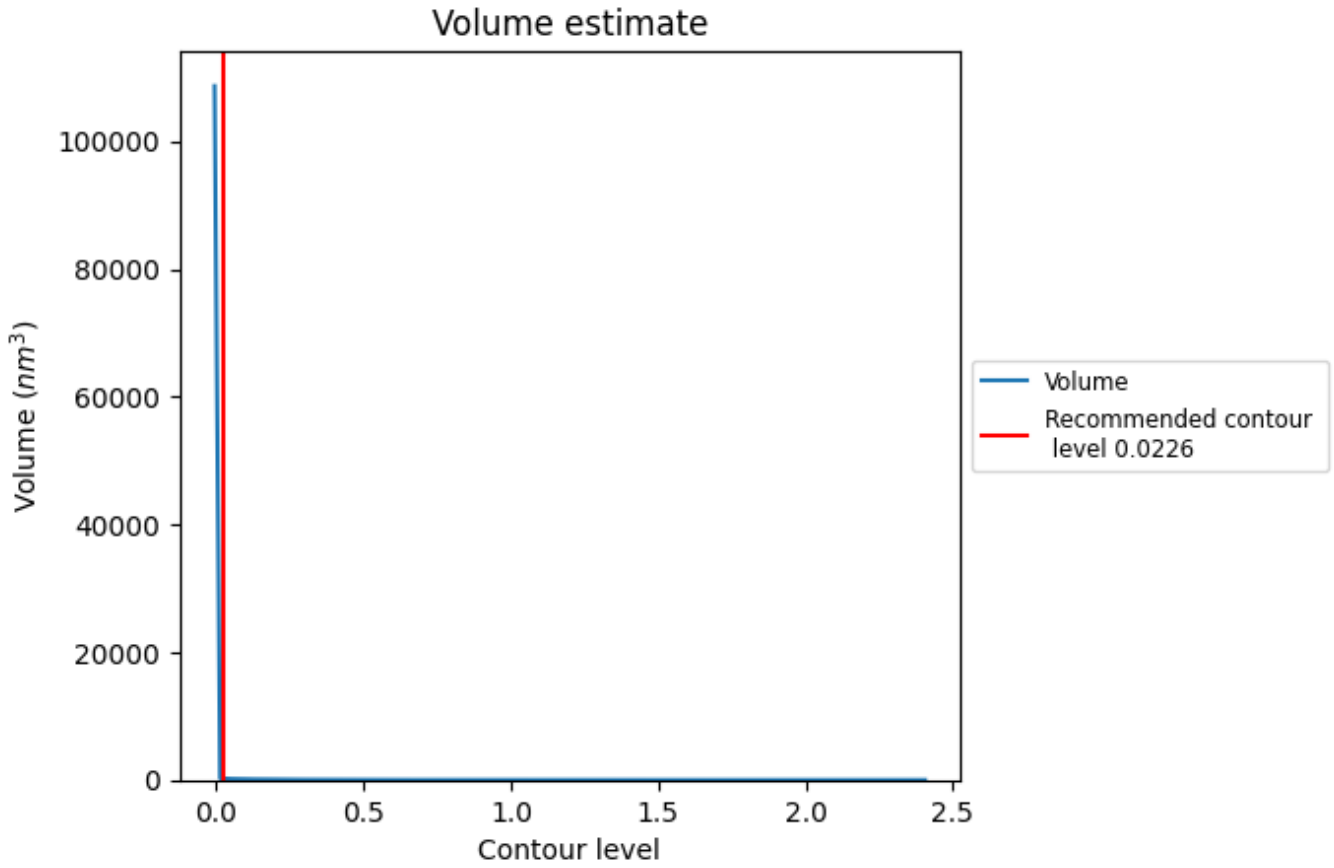
This section contains the results of statistical analysis of the map.

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 222 nm^3; this corresponds to an approximate mass of 201 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

This section was not generated. The rotationally averaged power spectrum is only generated for cubic maps.

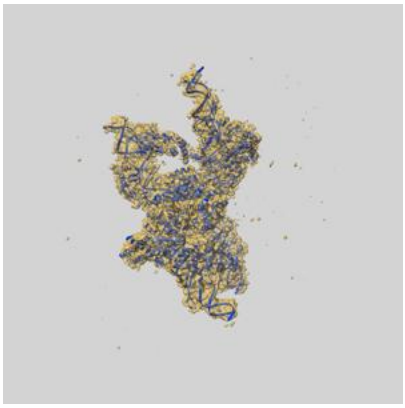
8 Fourier-Shell correlation (i)

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

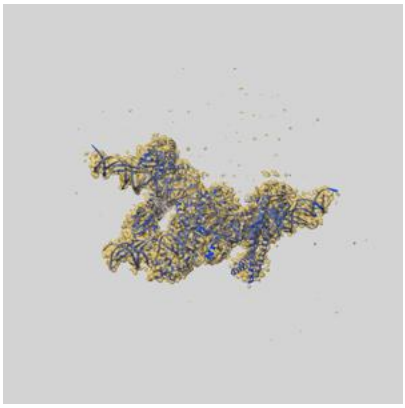
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-47284 and PDB model 9DXD. Per-residue inclusion information can be found in section 3 on page 10.

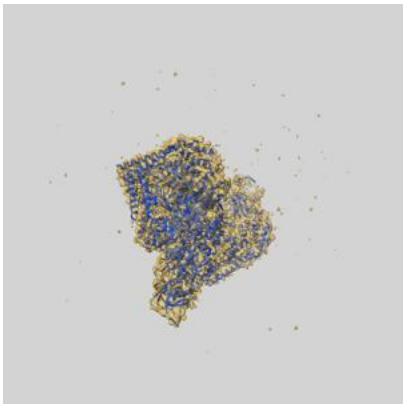
9.1 Map-model overlay



X



Y



Z

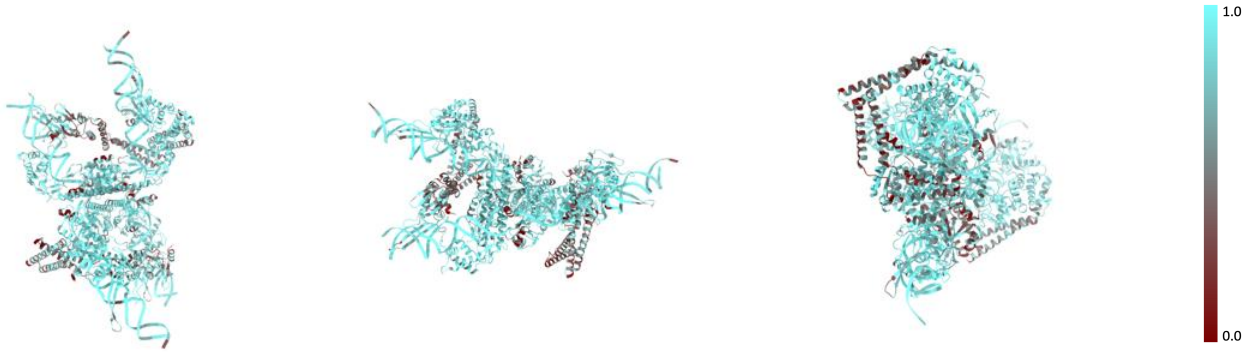
The images above show the 3D surface view of the map at the recommended contour level 0.0226 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model (i)

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.

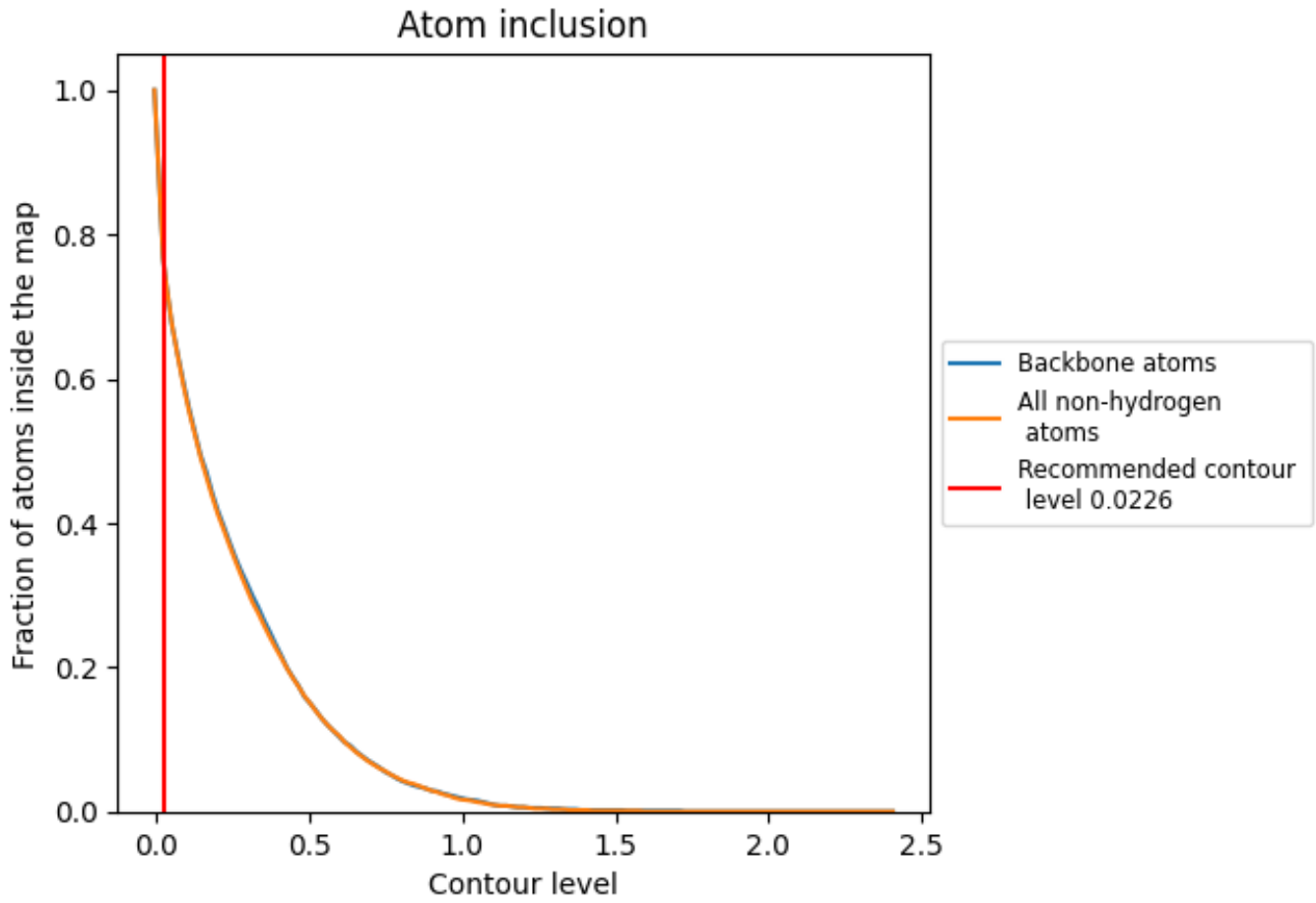
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.0226).

9.4 Atom inclusion (i)



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

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.0226) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7680	0.2570
A	0.7980	0.2860
B	0.7600	0.2900
C	0.6980	0.2130
D	0.4970	0.1190
E	0.8730	0.2690
F	0.8840	0.2940
G	0.9370	0.2990
H	0.8940	0.2890
I	0.8290	0.2950
J	0.7890	0.3040
K	0.7190	0.2160
L	0.5220	0.1340
M	0.8920	0.2770
N	0.9170	0.3040
O	0.9650	0.3160
P	0.9270	0.2880