



Full wwPDB EM Validation Report ⓘ

Oct 5, 2026 – 02:36 PM EDT

PDB ID : 9O34 / pdb_00009o34
EMDB ID : EMD-70068
Title : Replisome (map E)
Authors : Steinruecke, F.; Markert, J.; Farnung, L.
Deposited on : 2025-04-04
Resolution : 2.10 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.dev133
Mogul : 2022.3.0, CSD as543be (2022)
MolProbity : 4-5-2 with Phenix2.2
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
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) : 2.51

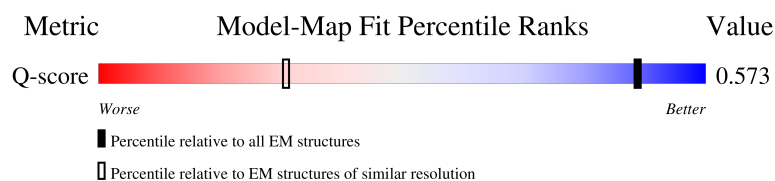
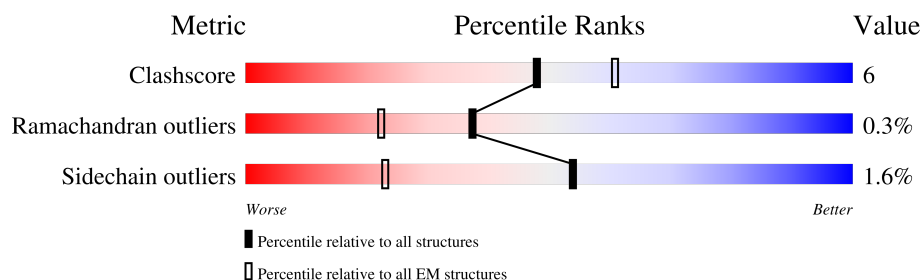
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 2.10 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.



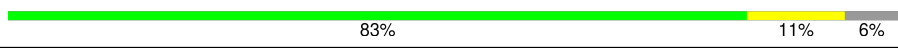
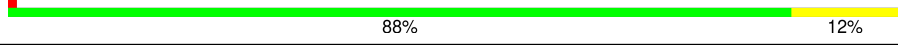
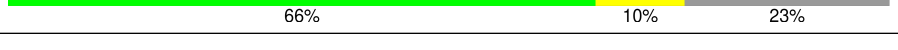
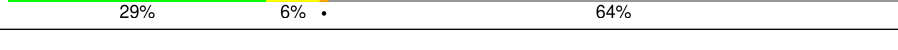
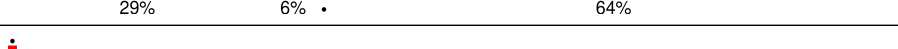
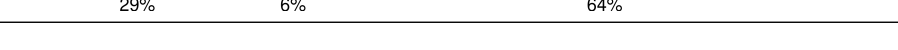
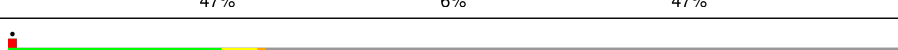
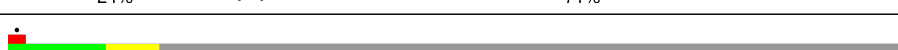
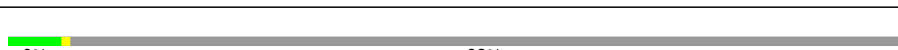
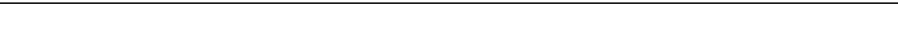
Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	229148	23984	-
Ramachandran outliers	224038	23583	-
Sidechain outliers	223484	23102	-
Q-score	-	25397	2317 (1.60 - 2.60)

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

Mol	Chain	Length	Quality of chain
1	2	904	
2	3	808	
3	4	863	
4	5	734	

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Mol	Chain	Length	Quality of chain
5	6	821	
6	7	719	
7	C	569	
8	D	196	
9	E	185	
10	F	216	
11	G	264	
12	H	1132	
12	I	1132	
12	J	1132	
13	K	1211	
14	L	301	
15	M	200	
16	N	182	
17	Q	1345	

2 Entry composition

There are 20 unique types of molecules in this entry. The entry contains 58632 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 DNA replication licensing factor MCM2.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	2	654	Total	C	N	O	S	0	0
			5158	3239	919	969	31		

- Molecule 2 is a protein called DNA replication licensing factor MCM3.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	3	632	Total	C	N	O	S	0	0
			4962	3100	876	960	26		

- Molecule 3 is a protein called DNA replication licensing factor MCM4.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	4	691	Total	C	N	O	S	0	0
			5496	3464	970	1034	28		

- Molecule 4 is a protein called DNA replication licensing factor MCM5.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	5	605	Total	C	N	O	S	0	0
			4735	2968	841	891	35		

- Molecule 5 is a protein called DNA replication licensing factor MCM6.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	6	636	Total	C	N	O	S	0	0
			5049	3170	897	956	26		

- Molecule 6 is a protein called DNA replication licensing factor MCM7.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	7	617	Total	C	N	O	S	0	0
			4904	3077	873	923	31		

- Molecule 7 is a protein called Cell division control protein 45 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	C	534	Total	C	N	O	S	0	0
			4347	2764	745	807	31		

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	135Z	ASP	GLU	conflict	UNP O75419
C	136A	TYR	-	insertion	UNP O75419
C	136B	LYS	-	insertion	UNP O75419
C	136C	ASP	-	insertion	UNP O75419
C	136D	ASP	GLU	conflict	UNP O75419
C	136E	ASP	GLU	conflict	UNP O75419

- Molecule 8 is a protein called DNA replication complex GINS protein PSF1.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	D	196	Total	C	N	O	S	0	0
			1613	1016	290	295	12		

- Molecule 9 is a protein called DNA replication complex GINS protein PSF2.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	E	176	Total	C	N	O	S	0	0
			1431	916	242	264	9		

- Molecule 10 is a protein called DNA replication complex GINS protein PSF3.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	F	194	Total	C	N	O	S	0	0
			1546	979	268	293	6		

- Molecule 11 is a protein called DNA replication complex GINS protein SLD5.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	G	203	Total	C	N	O	S	0	0
			1679	1065	290	314	10		

There are 41 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
G	-40	MET	-	initiating methionine	UNP Q9BRT9
G	-39	SER	-	expression tag	UNP Q9BRT9
G	-38	ALA	-	expression tag	UNP Q9BRT9
G	-37	TRP	-	expression tag	UNP Q9BRT9
G	-36	SER	-	expression tag	UNP Q9BRT9
G	-35	HIS	-	expression tag	UNP Q9BRT9
G	-34	PRO	-	expression tag	UNP Q9BRT9
G	-33	GLN	-	expression tag	UNP Q9BRT9
G	-32	PHE	-	expression tag	UNP Q9BRT9
G	-31	GLU	-	expression tag	UNP Q9BRT9
G	-30	LYS	-	expression tag	UNP Q9BRT9
G	-29	GLY	-	expression tag	UNP Q9BRT9
G	-28	GLY	-	expression tag	UNP Q9BRT9
G	-27	GLY	-	expression tag	UNP Q9BRT9
G	-26	SER	-	expression tag	UNP Q9BRT9
G	-25	GLY	-	expression tag	UNP Q9BRT9
G	-24	GLY	-	expression tag	UNP Q9BRT9
G	-23	GLY	-	expression tag	UNP Q9BRT9
G	-22	SER	-	expression tag	UNP Q9BRT9
G	-21	GLY	-	expression tag	UNP Q9BRT9
G	-20	GLY	-	expression tag	UNP Q9BRT9
G	-19	SER	-	expression tag	UNP Q9BRT9
G	-18	ALA	-	expression tag	UNP Q9BRT9
G	-17	TRP	-	expression tag	UNP Q9BRT9
G	-16	SER	-	expression tag	UNP Q9BRT9
G	-15	HIS	-	expression tag	UNP Q9BRT9
G	-14	PRO	-	expression tag	UNP Q9BRT9
G	-13	GLN	-	expression tag	UNP Q9BRT9
G	-12	PHE	-	expression tag	UNP Q9BRT9
G	-11	GLU	-	expression tag	UNP Q9BRT9
G	-10	LYS	-	expression tag	UNP Q9BRT9
G	-9	SER	-	expression tag	UNP Q9BRT9
G	-8	GLY	-	expression tag	UNP Q9BRT9
G	-7	LEU	-	expression tag	UNP Q9BRT9
G	-6	GLU	-	expression tag	UNP Q9BRT9
G	-5	VAL	-	expression tag	UNP Q9BRT9
G	-4	LEU	-	expression tag	UNP Q9BRT9
G	-3	PHE	-	expression tag	UNP Q9BRT9
G	-2	GLN	-	expression tag	UNP Q9BRT9
G	-1	GLY	-	expression tag	UNP Q9BRT9
G	0	PRO	-	expression tag	UNP Q9BRT9

- Molecule 12 is a protein called WD repeat and HMG-box DNA-binding protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	H	403	Total	C	N	O	S	0	0
			3192	2027	554	590	21		
12	I	403	Total	C	N	O	S	0	0
			3192	2027	554	590	21		
12	J	402	Total	C	N	O	S	0	0
			3183	2022	553	587	21		

There are 9 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
H	-2	SER	-	expression tag	UNP O75717
H	-1	ASN	-	expression tag	UNP O75717
H	0	ALA	-	expression tag	UNP O75717
I	-2	SER	-	expression tag	UNP O75717
I	-1	ASN	-	expression tag	UNP O75717
I	0	ALA	-	expression tag	UNP O75717
J	-2	SER	-	expression tag	UNP O75717
J	-1	ASN	-	expression tag	UNP O75717
J	0	ALA	-	expression tag	UNP O75717

- Molecule 13 is a protein called Protein timeless homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	K	645	Total	C	N	O	S	0	0
			5292	3373	941	950	28		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
K	-2	SER	-	expression tag	UNP Q9UNS1
K	-1	ASN	-	expression tag	UNP Q9UNS1
K	0	ALA	-	expression tag	UNP Q9UNS1

- Molecule 14 is a protein called TIMELESS-interacting protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	L	87	Total	C	N	O	S	0	0
			735	471	140	121	3		

- Molecule 15 is a DNA chain called Leading Strand DNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	M	34	Total	C	N	O	P	0	0
			703	340	113	216	34		

- Molecule 16 is a DNA chain called Lagging strand DNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	N	23	Total	C	N	O	P	0	0
			458	221	76	138	23		

- Molecule 17 is a protein called Claspin.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	Q	98	Total	C	N	O	S	0	0
			825	524	155	144	2		

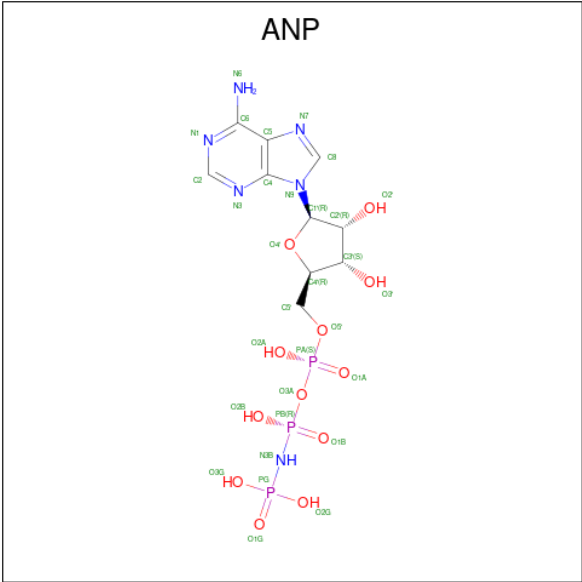
There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Q	1340	GLU	-	expression tag	UNP Q9HAW4
Q	1341	ASN	-	expression tag	UNP Q9HAW4
Q	1342	LEU	-	expression tag	UNP Q9HAW4
Q	1343	TYR	-	expression tag	UNP Q9HAW4
Q	1344	PHE	-	expression tag	UNP Q9HAW4
Q	1345	GLN	-	expression tag	UNP Q9HAW4

- Molecule 18 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
18	2	1	Total	Mg	0
			1	1	
18	3	1	Total	Mg	0
			1	1	
18	5	1	Total	Mg	0
			1	1	
18	6	1	Total	Mg	0
			1	1	

- Molecule 19 is PHOSPHOAMINOPHOSPHONIC ACID-ADENYLATE ESTER (CCD ID: ANP) (formula: C₁₀H₁₇N₆O₁₂P₃).



Mol	Chain	Residues	Atoms					AltConf
19	2	1	Total	C	N	O	P	0
			31	10	6	12	3	
19	3	1	Total	C	N	O	P	0
			31	10	6	12	3	
19	5	1	Total	C	N	O	P	0
			31	10	6	12	3	
19	6	1	Total	C	N	O	P	0
			31	10	6	12	3	

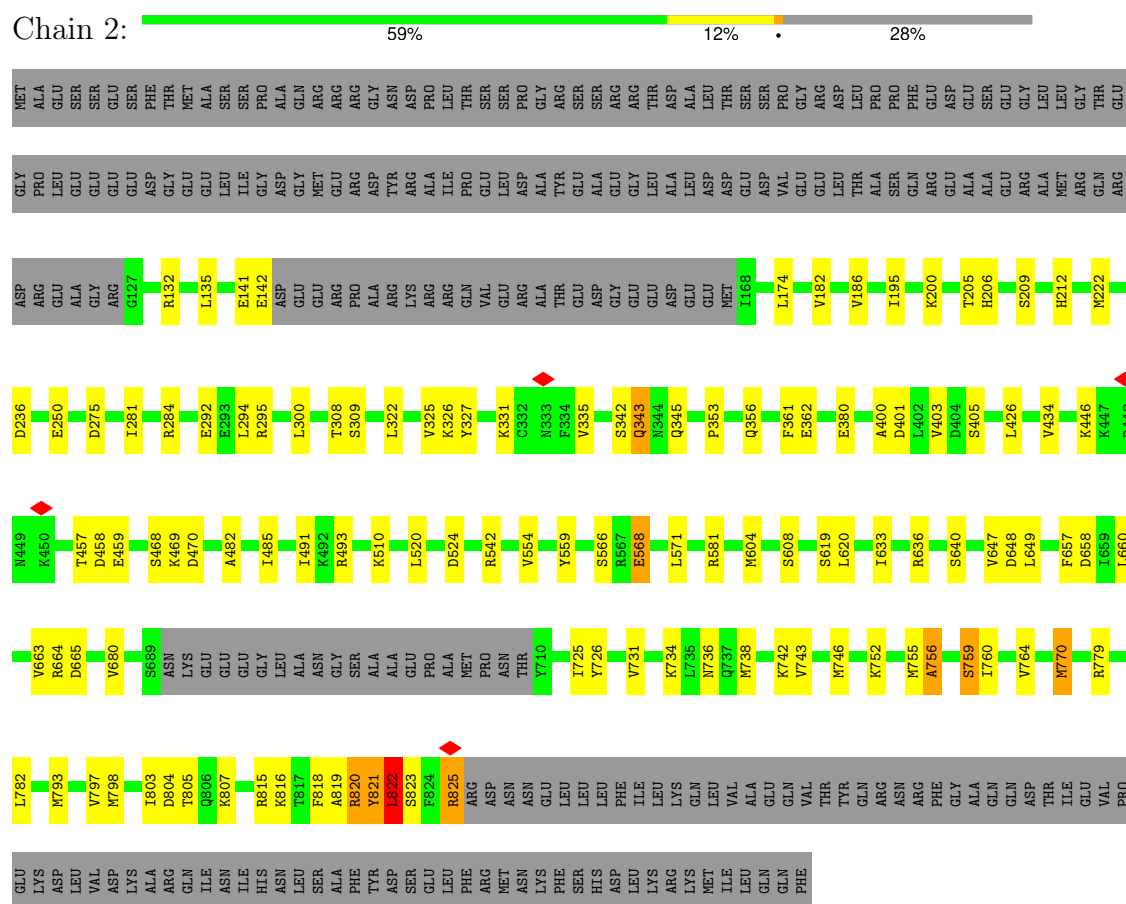
- Molecule 20 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
20	4	1	Total	Zn	0
			1	1	
20	5	1	Total	Zn	0
			1	1	
20	6	1	Total	Zn	0
			1	1	
20	7	1	Total	Zn	0
			1	1	

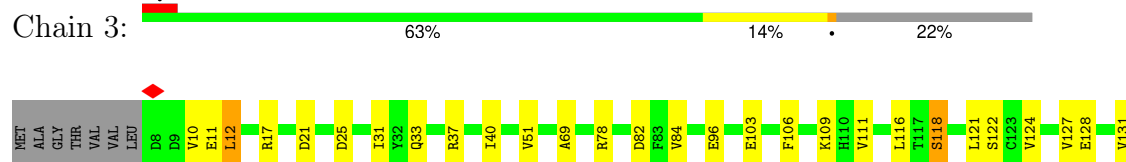
3 Residue-property plots [i](#)

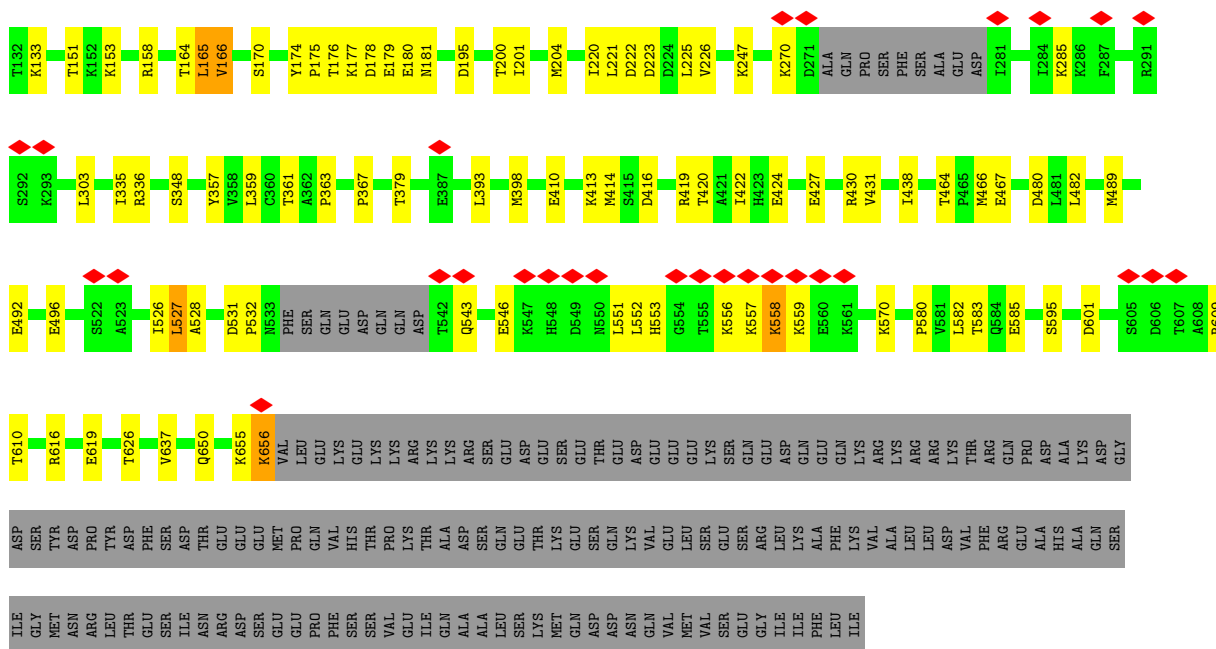
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: DNA replication licensing factor MCM2

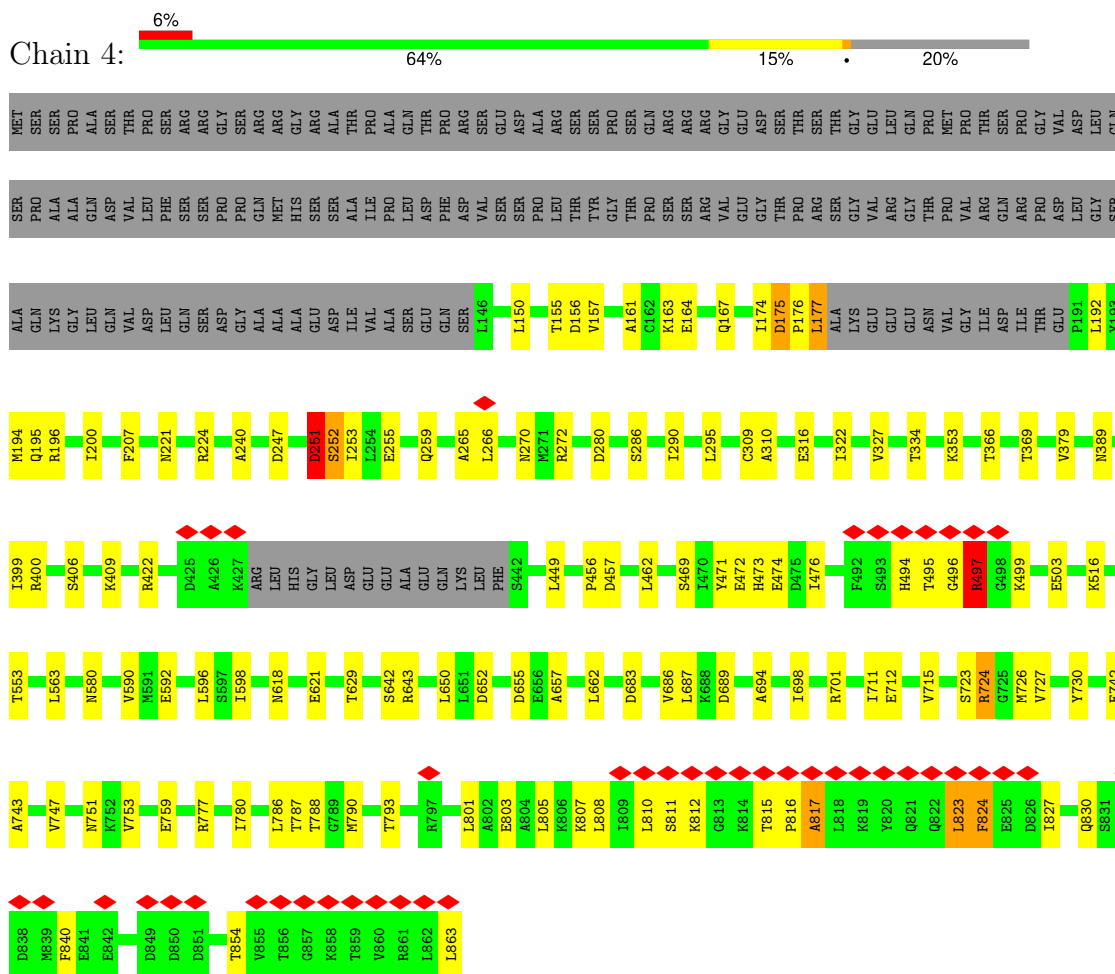


• Molecule 2: DNA replication licensing factor MCM3

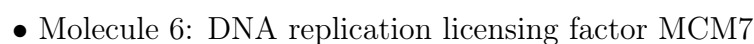


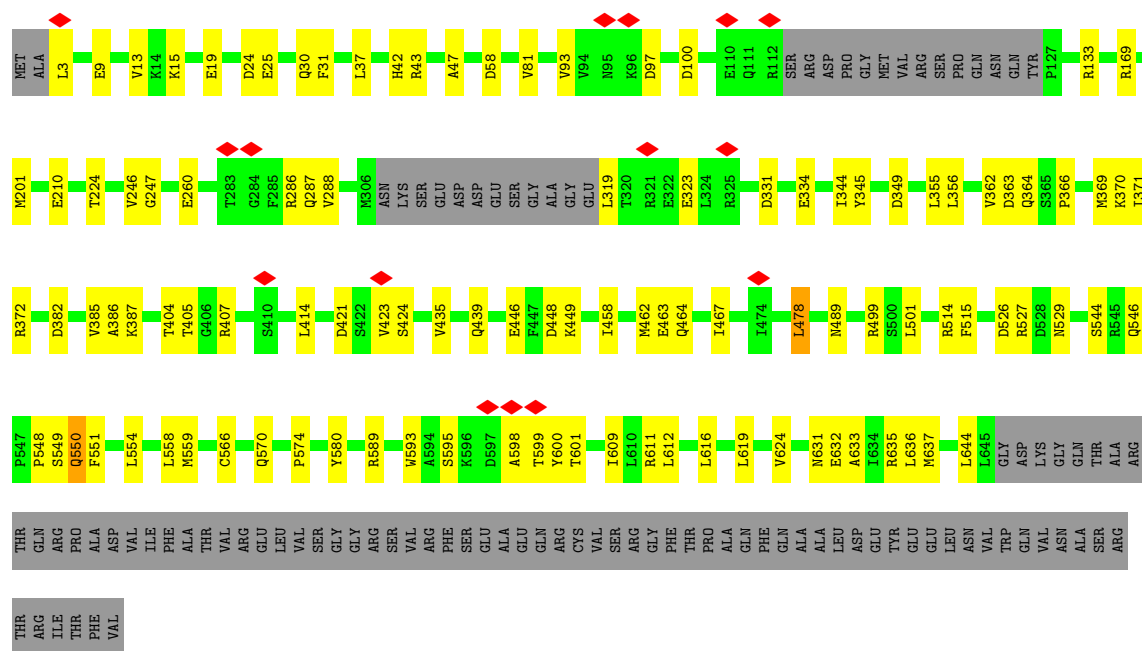


• Molecule 3: DNA replication licensing factor MCM4

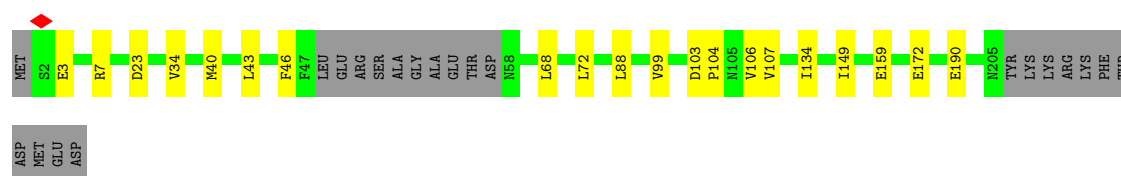


• Molecule 4: DNA replication licensing factor MCM5



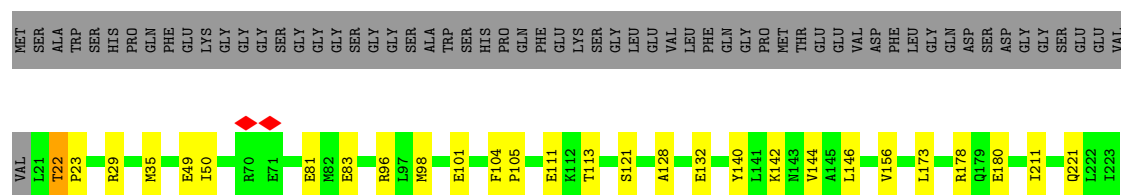


Chain F: 



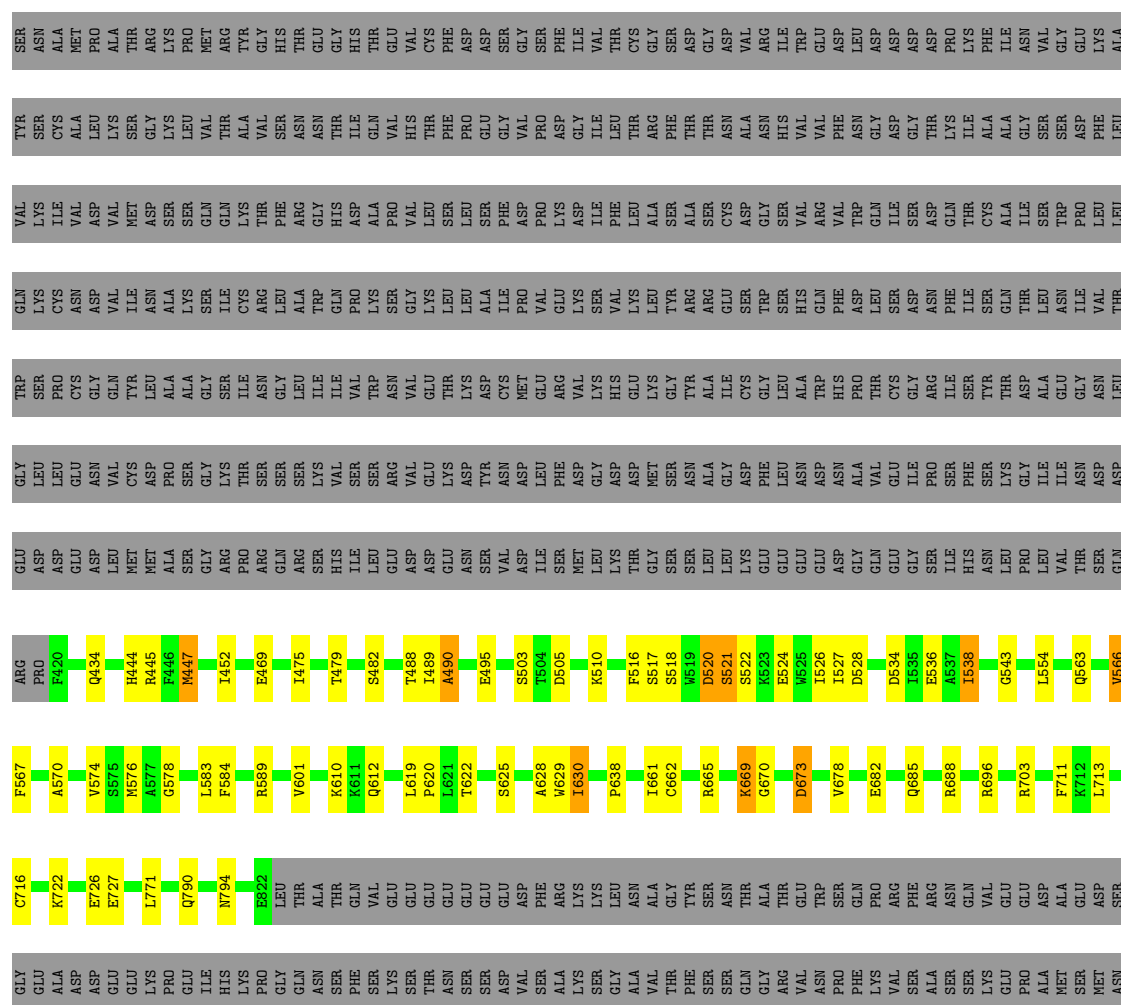
- Molecule 11: DNA replication complex GINS protein SLD5

Chain G: 



- Molecule 12: WD repeat and HMG-box DNA-binding protein 1

Chain H: 

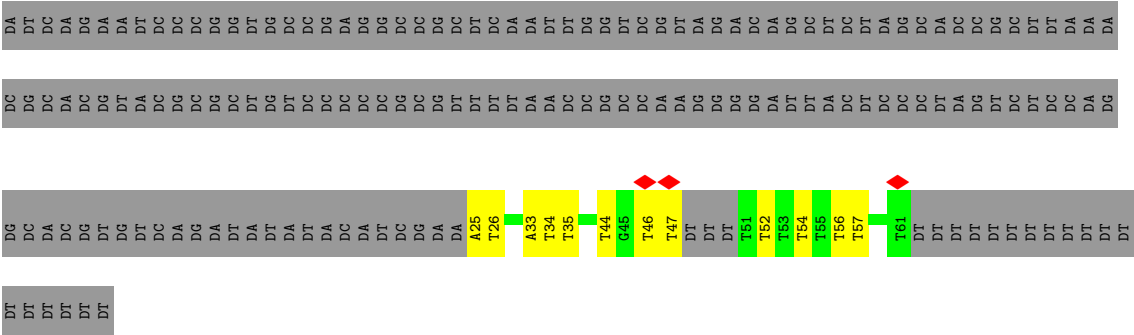


LYS	GLN	GLY	GLU	THR	SER
LYS	LYS	MET	GLU	GLU	ALA
PRO	PRO	ILE	VAL	VAL	SER
LEU	LEU	ARG	GLU	GLU	ASN
ASP	ASP	PHE	ARG	GLU	ILE
PHE	PHE	VAL	VAL	ASN	LEU
SER	SER	VAL	VAL	ASN	ASP
THR	THR	LEU	LEU	LYS	ASN
ASN	ASN	SER	SER	MET	GLY
GLN	GLN	THR	THR	GLY	LYS
LYS	LYS	GLU	GLU	LEU	LYS
LEU	LEU	ARG	ARG	GLU	SER
SER	SER	LYS	LYS	THR	SER
ALA	ALA	VAL	VAL	THR	LYS
PHE	PHE	ALA	ALA	ALA	SER
LYS	LYS	ASN	ASN	ILE	THR
GLN	GLN	ALA	ALA	CYS	ALA
GLU	GLU	ALA	ALA	PRO	LEU
		GLY	GLY	PRO	SER
		GLU	GLU	GLN	ARG
		THR	THR	ASN	THR
		THR	THR	THR	THR
		ALA	GLU	GLU	ASN
		SER	ASN	ASN	ASN
		GLU	GLN	GLU	GLY
		GLY	ARG	GLN	LYS
		THR	PRO	PRO	SER
		GLU	LYS	LYS	PRO
		ALA	THR	ILE	ILE
		LYS	GLY	ILE	LYS
		LYS	PHE	LYS	PRO
		ARG	GLN	PRO	LEU
		LYS	MET	LEU	ILE
		ARG	TRP	ILE	ILE
		VAL	LEU	PRO	LYS
		VAL	GLU	GLU	PRO
		ASP	GLU	ASN	LYS
		GLU	ASN	ARG	PRO
		SER	SER	SER	LYS
		ASP	GLU	ASN	GLN
		THR	THR	ILE	ALA
		GLU	GLU	LEU	SER
		ASN	ASN	SER	ALA
		GLN	GLN	ASP	ALA
		GLU	GLU	ASN	SER
		VAL	VAL	PRO	TYR
		LYS	LYS	ASP	PHE
		ALA	ALA	PHE	GLN
		LYS	LYS	SER	LYS
		GLU	GLU	ASP	ARG
		ASN	ASN	GLU	ASN
		LEU	LEU	ALA	SER
		ASN	ASN	ASP	GLN
		LEU	LEU	ILE	THR
		THR	THR	ILE	ASN
		LYS	LYS	LYS	LYS

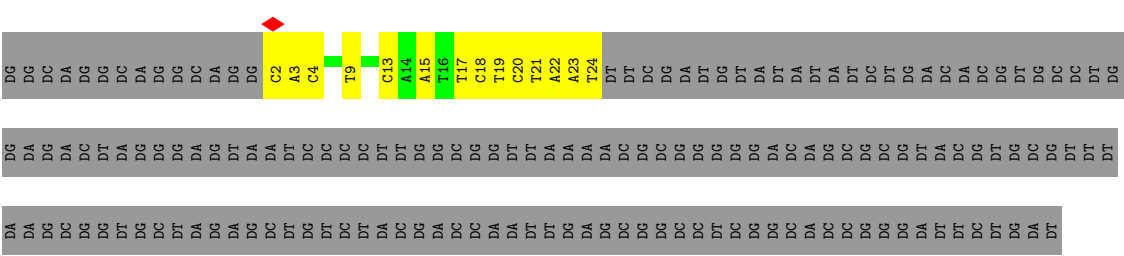
- Molecule 12: WD repeat and HMG-box DNA-binding protein 1

[illegible]

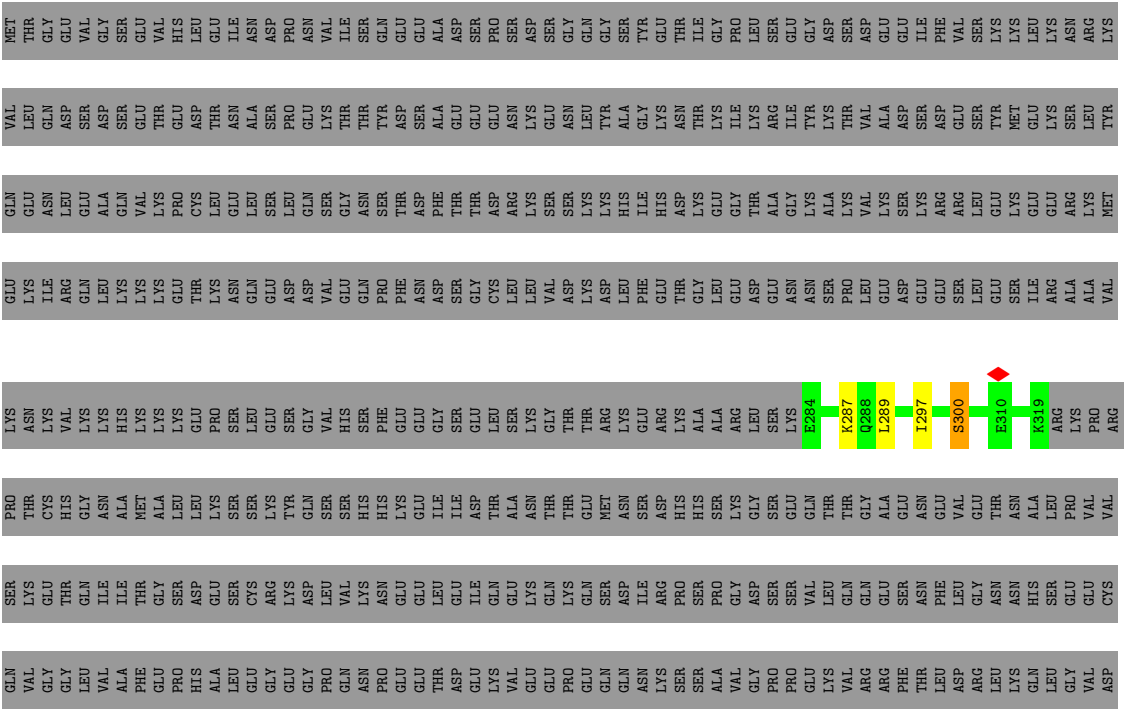




• Molecule 16: Lagging strand DNA



• Molecule 17: Claspin





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	2128300	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	500	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	1.692	Depositor
Minimum map value	-0.002	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.021	Depositor
Recommended contour level	0.00859	Depositor
Map size (Å)	470.0, 470.0, 470.0	wwPDB
Map dimensions	500, 500, 500	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.94, 0.94, 0.94	Depositor

5 Model quality

5.1 Standard geometry

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

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	2	0.20	0/5253	0.41	2/7095 (0.0%)
2	3	0.19	0/5037	0.45	4/6797 (0.1%)
3	4	0.20	0/5588	0.51	8/7547 (0.1%)
4	5	0.20	0/4807	0.40	0/6468
5	6	0.19	0/5131	0.36	1/6925 (0.0%)
6	7	0.18	0/4980	0.37	0/6721
7	C	0.18	0/4439	0.33	0/5992
8	D	0.19	0/1645	0.35	0/2210
9	E	0.19	0/1462	0.34	1/1981 (0.1%)
10	F	0.17	0/1580	0.30	0/2133
11	G	0.18	0/1711	0.35	0/2305
12	H	0.19	0/3269	1.28	78/4429 (1.8%)
12	I	0.19	0/3269	1.26	84/4429 (1.9%)
12	J	0.19	0/3260	1.23	78/4417 (1.8%)
13	K	0.20	0/5398	0.43	4/7273 (0.1%)
14	L	0.48	0/750	0.55	1/999 (0.1%)
15	M	0.88	0/784	1.34	0/1209
16	N	1.04	0/510	1.69	1/781 (0.1%)
17	Q	0.27	0/834	0.54	2/1112 (0.2%)
All	All	0.24	0/59707	0.67	264/80823 (0.3%)

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	2	0	1
3	4	0	1
14	L	0	1
All	All	0	3

There are no bond length outliers.

All (264) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
16	N	17	DT	OP1-P-O3'	-31.55	13.34	108.00
12	H	682	GLU	CA-C-N	21.93	146.39	122.26
12	H	682	GLU	C-N-CA	21.93	146.39	122.26
12	J	669	LYS	CA-C-N	21.69	140.23	121.58
12	J	669	LYS	C-N-CA	21.69	140.23	121.58
12	I	665	ARG	CA-C-N	12.25	140.82	122.08
12	I	665	ARG	C-N-CA	12.25	140.82	122.08
12	I	671	LYS	CA-C-N	12.11	140.69	121.44
12	I	671	LYS	C-N-CA	12.11	140.69	121.44
12	H	475	ILE	CA-C-N	11.73	143.08	121.62
12	H	475	ILE	C-N-CA	11.73	143.08	121.62
12	H	521	SER	CA-C-N	11.56	142.30	121.85
12	H	521	SER	C-N-CA	11.56	142.30	121.85
3	4	496	GLY	CA-C-N	11.36	143.23	121.54
3	4	496	GLY	C-N-CA	11.36	143.23	121.54
12	I	523	LYS	CA-C-N	10.95	138.11	123.00
12	I	523	LYS	C-N-CA	10.95	138.11	123.00
3	4	816	PRO	CA-C-N	10.72	142.03	122.09
3	4	816	PRO	C-N-CA	10.72	142.03	122.09
12	H	669	LYS	CA-C-N	10.49	141.97	121.41
12	H	669	LYS	C-N-CA	10.49	141.97	121.41
12	J	685	GLN	CA-C-N	10.38	137.75	122.39
12	J	685	GLN	C-N-CA	10.38	137.75	122.39
12	I	517	SER	CA-C-N	10.27	141.15	121.54
12	I	517	SER	C-N-CA	10.27	141.15	121.54
12	I	520	ASP	CA-C-N	10.21	138.54	122.62
12	I	520	ASP	C-N-CA	10.21	138.54	122.62
12	J	491	ASP	CA-C-N	10.16	137.10	122.77
12	J	491	ASP	C-N-CA	10.16	137.10	122.77
12	H	589	ARG	CA-C-N	10.11	132.84	120.51
12	H	589	ARG	C-N-CA	10.11	132.84	120.51
12	H	688	ARG	CA-C-N	10.09	138.55	122.21
12	H	688	ARG	C-N-CA	10.09	138.55	122.21
12	I	491	ASP	CA-C-N	9.96	136.81	122.77
12	I	491	ASP	C-N-CA	9.96	136.81	122.77
12	I	821	ALA	CA-C-N	9.93	139.57	121.70
12	I	821	ALA	C-N-CA	9.93	139.57	121.70
12	J	610	LYS	CA-C-N	9.87	138.02	122.62
12	J	610	LYS	C-N-CA	9.87	138.02	122.62
12	I	544	TRP	CA-C-N	9.75	139.14	122.37

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	I	544	TRP	C-N-CA	9.75	139.14	122.37
12	H	495	GLU	CA-C-N	9.73	137.80	122.62
12	H	495	GLU	C-N-CA	9.73	137.80	122.62
13	K	3	LEU	CA-C-N	9.65	140.06	122.50
13	K	3	LEU	C-N-CA	9.65	140.06	122.50
13	K	804	THR	CA-C-N	9.61	139.00	121.70
13	K	804	THR	C-N-CA	9.61	139.00	121.70
12	J	462	GLN	CA-C-N	9.51	138.68	121.85
12	J	462	GLN	C-N-CA	9.51	138.68	121.85
12	H	685	GLN	CA-C-N	9.50	136.87	121.86
12	H	685	GLN	C-N-CA	9.50	136.87	121.86
12	H	630	ILE	CA-C-N	9.49	134.00	120.91
12	H	630	ILE	C-N-CA	9.49	134.00	120.91
1	2	141	GLU	CA-C-N	9.46	138.73	121.70
1	2	141	GLU	C-N-CA	9.46	138.73	121.70
12	H	610	LYS	CA-C-N	9.43	137.61	122.81
12	H	610	LYS	C-N-CA	9.43	137.61	122.81
12	I	475	ILE	CA-C-N	9.38	138.79	121.62
12	I	475	ILE	C-N-CA	9.38	138.79	121.62
12	H	479	THR	CA-C-N	9.30	137.06	122.74
12	H	479	THR	C-N-CA	9.30	137.06	122.74
12	J	680	ILE	CA-C-N	9.19	135.95	122.99
12	J	680	ILE	C-N-CA	9.19	135.95	122.99
2	3	551	LEU	CA-C-N	9.17	139.05	121.54
2	3	551	LEU	C-N-CA	9.17	139.05	121.54
12	J	688	ARG	CA-C-N	9.16	137.04	122.21
12	J	688	ARG	C-N-CA	9.16	137.04	122.21
12	H	517	SER	CA-C-N	9.13	138.98	121.54
12	H	517	SER	C-N-CA	9.13	138.98	121.54
12	H	670	GLY	CA-C-N	9.11	136.02	122.08
12	H	670	GLY	C-N-CA	9.11	136.02	122.08
12	I	495	GLU	CA-C-N	9.10	136.82	122.62
12	I	495	GLU	C-N-CA	9.10	136.82	122.62
12	I	479	THR	CA-C-N	9.10	135.59	122.77
12	I	479	THR	C-N-CA	9.10	135.59	122.77
12	I	685	GLN	CA-C-N	9.09	137.93	121.94
12	I	685	GLN	C-N-CA	9.09	137.93	121.94
12	I	490	ALA	CA-C-N	9.03	137.83	121.94
12	I	490	ALA	C-N-CA	9.03	137.83	121.94
12	J	443	THR	CA-C-N	9.00	135.46	122.77
12	J	443	THR	C-N-CA	9.00	135.46	122.77
12	I	628	ALA	CA-C-N	8.95	136.86	121.64

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	I	628	ALA	C-N-CA	8.95	136.86	121.64
12	H	490	ALA	CA-C-N	8.94	137.67	121.85
12	H	490	ALA	C-N-CA	8.94	137.67	121.85
12	I	536	GLU	CA-C-N	8.94	137.67	121.94
12	I	536	GLU	C-N-CA	8.94	137.67	121.94
12	H	489	ILE	CA-C-N	8.93	136.68	122.21
12	H	489	ILE	C-N-CA	8.93	136.68	122.21
12	I	543	GLY	CA-C-N	8.93	137.19	121.75
12	I	543	GLY	C-N-CA	8.93	137.19	121.75
12	H	447	MET	CA-C-N	8.92	138.03	121.97
12	H	447	MET	C-N-CA	8.92	138.03	121.97
12	H	536	GLU	CA-C-N	8.90	137.61	121.94
12	H	536	GLU	C-N-CA	8.90	137.61	121.94
12	J	475	ILE	CA-C-N	8.89	138.62	122.09
12	J	475	ILE	C-N-CA	8.89	138.62	122.09
12	J	578	GLY	CA-C-N	8.88	135.88	121.86
12	J	578	GLY	C-N-CA	8.88	135.88	121.86
12	I	680	ILE	CA-C-N	8.86	135.49	122.99
12	I	680	ILE	C-N-CA	8.86	135.49	122.99
12	J	673	ASP	CA-C-N	8.85	136.49	122.59
12	J	673	ASP	C-N-CA	8.85	136.49	122.59
12	H	629	TRP	CA-C-N	8.85	135.49	121.95
12	H	629	TRP	C-N-CA	8.85	135.49	121.95
12	J	490	ALA	CA-C-N	8.85	137.59	122.37
12	J	490	ALA	C-N-CA	8.85	137.59	122.37
12	J	495	GLU	CA-C-N	8.82	136.38	122.62
12	J	495	GLU	C-N-CA	8.82	136.38	122.62
12	I	578	GLY	CA-C-N	8.80	135.76	121.86
12	I	578	GLY	C-N-CA	8.80	135.76	121.86
12	J	696	ARG	CA-C-N	8.78	144.17	122.74
12	J	696	ARG	C-N-CA	8.78	144.17	122.74
12	H	620	PRO	CA-C-N	8.74	136.25	122.62
12	H	620	PRO	C-N-CA	8.74	136.25	122.62
12	I	525	TRP	CA-C-N	8.71	135.10	122.99
12	I	525	TRP	C-N-CA	8.71	135.10	122.99
12	I	489	ILE	CA-C-N	8.63	136.52	122.29
12	I	489	ILE	C-N-CA	8.63	136.52	122.29
12	H	578	GLY	CA-C-N	8.61	135.46	121.86
12	H	578	GLY	C-N-CA	8.61	135.46	121.86
12	H	661	ILE	CA-C-N	8.59	137.35	121.62
12	H	661	ILE	C-N-CA	8.59	137.35	121.62
2	3	552	LEU	CA-C-N	8.55	135.66	122.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	3	552	LEU	C-N-CA	8.55	135.66	122.23
12	H	524	GLU	CA-C-N	8.54	136.97	121.94
12	H	524	GLU	C-N-CA	8.54	136.97	121.94
12	J	524	GLU	CA-C-N	8.54	138.02	121.63
12	J	524	GLU	C-N-CA	8.54	138.02	121.63
12	J	628	ALA	CA-C-N	8.53	136.95	121.94
12	J	628	ALA	C-N-CA	8.53	136.95	121.94
12	J	694	GLY	CA-C-N	8.53	136.26	122.53
12	J	694	GLY	C-N-CA	8.53	136.26	122.53
12	I	610	LYS	CA-C-N	8.53	135.92	122.62
12	I	610	LYS	C-N-CA	8.53	135.92	122.62
12	I	711	PHE	CA-C-N	8.53	134.85	121.72
12	I	711	PHE	C-N-CA	8.53	134.85	121.72
12	H	444	HIS	CA-C-N	8.52	136.35	122.29
12	H	444	HIS	C-N-CA	8.52	136.35	122.29
12	H	638	PRO	CA-C-N	8.52	136.35	122.29
12	H	638	PRO	C-N-CA	8.52	136.35	122.29
12	J	536	GLU	CA-C-N	8.49	136.98	122.37
12	J	536	GLU	C-N-CA	8.49	136.98	122.37
12	H	520	ASP	CA-C-N	8.48	139.12	121.91
12	H	520	ASP	C-N-CA	8.48	139.12	121.91
12	I	688	ARG	CA-C-N	8.48	135.94	122.21
12	I	688	ARG	C-N-CA	8.48	135.94	122.21
12	J	570	ALA	CA-C-N	8.48	135.18	121.87
12	J	570	ALA	C-N-CA	8.48	135.18	121.87
12	I	576	MET	CA-C-N	8.46	136.26	122.29
12	I	576	MET	C-N-CA	8.46	136.26	122.29
12	I	570	ALA	CA-C-N	8.39	135.04	121.87
12	I	570	ALA	C-N-CA	8.39	135.04	121.87
12	I	443	THR	CA-C-N	8.36	134.74	122.86
12	I	443	THR	C-N-CA	8.36	134.74	122.86
12	J	523	LYS	CA-C-N	8.36	137.67	121.63
12	J	523	LYS	C-N-CA	8.36	137.67	121.63
12	J	447	MET	CA-C-N	8.35	134.72	121.95
12	J	447	MET	C-N-CA	8.35	134.72	121.95
12	I	638	PRO	CA-C-N	8.32	136.59	121.94
12	I	638	PRO	C-N-CA	8.32	136.59	121.94
12	H	711	PHE	CA-C-N	8.30	134.30	121.76
12	H	711	PHE	C-N-CA	8.30	134.30	121.76
12	H	576	MET	CA-C-N	8.30	136.11	121.75
12	H	576	MET	C-N-CA	8.30	136.11	121.75
14	L	74	SER	N-CA-C	8.29	120.20	110.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	H	570	ALA	CA-C-N	8.29	134.89	121.87
12	H	570	ALA	C-N-CA	8.29	134.89	121.87
12	I	432	PRO	CA-C-N	8.29	136.08	121.75
12	I	432	PRO	C-N-CA	8.29	136.08	121.75
12	H	543	GLY	CA-C-N	8.28	136.07	121.75
12	H	543	GLY	C-N-CA	8.28	136.07	121.75
12	I	694	GLY	CA-C-N	8.27	136.06	121.75
12	I	694	GLY	C-N-CA	8.27	136.06	121.75
12	I	447	MET	CA-C-N	8.26	134.59	121.95
12	I	447	MET	C-N-CA	8.26	134.59	121.95
12	I	620	PRO	CA-C-N	8.23	136.42	121.85
12	I	620	PRO	C-N-CA	8.23	136.42	121.85
12	J	543	GLY	CA-C-N	8.20	136.36	121.85
12	J	543	GLY	C-N-CA	8.20	136.36	121.85
12	J	489	ILE	CA-C-N	8.15	136.39	122.37
12	J	489	ILE	C-N-CA	8.15	136.39	122.37
12	J	638	PRO	CA-C-N	8.14	136.26	121.85
12	J	638	PRO	C-N-CA	8.14	136.26	121.85
12	J	620	PRO	CA-C-N	8.10	136.19	121.85
12	J	620	PRO	C-N-CA	8.10	136.19	121.85
12	I	521	SER	CA-C-N	8.08	135.94	121.89
12	I	521	SER	C-N-CA	8.08	135.94	121.89
3	4	817	ALA	CA-C-N	8.04	135.66	121.75
3	4	817	ALA	C-N-CA	8.04	135.66	121.75
12	J	711	PHE	CA-C-N	8.02	133.87	121.76
12	J	711	PHE	C-N-CA	8.02	133.87	121.76
12	I	524	GLU	CA-C-N	8.01	136.14	122.37
12	I	524	GLU	C-N-CA	8.01	136.14	122.37
12	I	661	ILE	CA-C-N	7.98	136.95	121.63
12	I	661	ILE	C-N-CA	7.98	136.95	121.63
12	J	671	LYS	CA-C-N	7.98	135.05	122.60
12	J	671	LYS	C-N-CA	7.98	135.05	122.60
12	J	614	LEU	CA-C-N	7.96	135.73	123.23
12	J	614	LEU	C-N-CA	7.96	135.73	123.23
12	H	673	ASP	CA-C-N	7.96	136.18	122.81
12	H	673	ASP	C-N-CA	7.96	136.18	122.81
12	I	574	VAL	CA-C-N	7.95	136.89	121.63
12	I	574	VAL	C-N-CA	7.95	136.89	121.63
12	H	662	CYS	CA-C-N	7.88	136.29	121.87
12	H	662	CYS	C-N-CA	7.88	136.29	121.87
12	J	661	ILE	CA-C-N	7.84	136.69	121.63
12	J	661	ILE	C-N-CA	7.84	136.69	121.63

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	J	538	ILE	CA-C-N	7.81	135.91	121.62
12	J	538	ILE	C-N-CA	7.81	135.91	121.62
12	I	630	ILE	CA-C-N	7.78	131.64	120.91
12	I	630	ILE	C-N-CA	7.78	131.64	120.91
12	H	538	ILE	CA-C-N	7.76	135.82	121.62
12	H	538	ILE	C-N-CA	7.76	135.82	121.62
12	H	516	PHE	CA-C-N	7.63	133.69	121.18
12	H	516	PHE	C-N-CA	7.63	133.69	121.18
12	J	566	VAL	CA-C-N	7.60	134.90	121.75
12	J	566	VAL	C-N-CA	7.60	134.90	121.75
12	H	566	VAL	CA-C-N	7.57	134.85	121.75
12	H	566	VAL	C-N-CA	7.57	134.85	121.75
12	I	538	ILE	CA-C-N	7.52	136.07	121.63
12	I	538	ILE	C-N-CA	7.52	136.07	121.63
12	H	628	ALA	CA-C-N	7.42	138.50	121.87
12	H	628	ALA	C-N-CA	7.42	138.50	121.87
12	J	589	ARG	CA-C-N	7.35	129.47	120.51
12	J	589	ARG	C-N-CA	7.35	129.47	120.51
12	H	678	VAL	CA-C-N	7.33	131.78	121.09
12	H	678	VAL	C-N-CA	7.33	131.78	121.09
12	J	576	MET	CA-C-N	7.29	135.63	121.63
12	J	576	MET	C-N-CA	7.29	135.63	121.63
12	I	678	VAL	CA-C-N	7.22	131.64	121.09
12	I	678	VAL	C-N-CA	7.22	131.64	121.09
12	I	566	VAL	CA-C-N	7.19	134.19	121.75
12	I	566	VAL	C-N-CA	7.19	134.19	121.75
3	4	812	LYS	CA-C-N	7.04	135.20	121.41
3	4	812	LYS	C-N-CA	7.04	135.20	121.41
12	J	464	ASN	CA-C-N	6.99	134.56	122.82
12	J	464	ASN	C-N-CA	6.99	134.56	122.82
12	J	630	ILE	CA-C-N	6.79	130.28	120.91
12	J	630	ILE	C-N-CA	6.79	130.28	120.91
12	J	682	GLU	CA-C-N	6.79	129.72	122.26
12	J	682	GLU	C-N-CA	6.79	129.72	122.26
12	J	574	VAL	CA-C-N	6.76	137.01	121.87
12	J	574	VAL	C-N-CA	6.76	137.01	121.87
12	H	696	ARG	CA-C-N	6.34	138.21	122.74
12	H	696	ARG	C-N-CA	6.34	138.21	122.74
17	Q	569	LYS	CA-C-N	6.29	133.55	121.54
17	Q	569	LYS	C-N-CA	6.29	133.55	121.54
12	I	589	ARG	CA-C-N	6.26	129.54	120.91
12	I	589	ARG	C-N-CA	6.26	129.54	120.91

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
12	H	574	VAL	CA-C-N	6.23	136.52	122.19
12	H	574	VAL	C-N-CA	6.23	136.52	122.19
12	J	678	VAL	CA-C-N	6.01	129.86	121.09
12	J	678	VAL	C-N-CA	6.01	129.86	121.09
12	J	452	ILE	CA-C-N	5.87	128.89	120.56
12	J	452	ILE	C-N-CA	5.87	128.89	120.56
12	I	614	LEU	CA-C-N	5.86	132.94	123.33
12	I	614	LEU	C-N-CA	5.86	132.94	123.33
12	H	452	ILE	CA-C-N	5.82	130.00	120.51
12	H	452	ILE	C-N-CA	5.82	130.00	120.51
12	I	452	ILE	CA-C-N	5.82	128.82	120.56
12	I	452	ILE	C-N-CA	5.82	128.82	120.56
9	E	108	PRO	CA-N-CD	-5.48	104.33	112.00
5	6	559	ILE	CG1-CB-CG2	5.09	125.97	110.70

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	2	822	LEU	Peptide
3	4	251	ASP	Peptide
14	L	145	LEU	Peptide

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	2	5158	0	5157	80	0
2	3	4962	0	4998	73	0
3	4	5496	0	5576	101	0
4	5	4735	0	4801	61	0
5	6	5049	0	5076	56	0
6	7	4904	0	4967	71	0
7	C	4347	0	4296	47	0
8	D	1613	0	1606	19	0
9	E	1431	0	1456	15	0
10	F	1546	0	1500	14	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
11	G	1679	0	1700	24	0
12	H	3192	0	3149	25	0
12	I	3192	0	3149	24	0
12	J	3183	0	3143	26	0
13	K	5292	0	5297	58	0
14	L	735	0	766	7	0
15	M	703	0	395	17	0
16	N	458	0	261	25	0
17	Q	825	0	858	18	0
18	2	1	0	0	0	0
18	3	1	0	0	0	0
18	5	1	0	0	0	0
18	6	1	0	0	0	0
19	2	31	0	13	0	0
19	3	31	0	13	0	0
19	5	31	0	13	0	0
19	6	31	0	13	1	0
20	4	1	0	0	0	0
20	5	1	0	0	0	0
20	6	1	0	0	0	0
20	7	1	0	0	0	0
All	All	58632	0	58203	684	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 6.

All (684) 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)
16:N:18:DC:C6	16:N:19:DT:H72	1.79	1.16
15:M:25:DA:N6	16:N:23:DA:N6	1.96	1.13
2:3:556:LYS:O	2:3:558:LYS:NZ	1.98	0.95
17:Q:556:ILE:HG22	17:Q:568:LEU:HD22	1.47	0.93
7:C:41:GLN:NE2	8:D:149:GLU:OE1	2.06	0.89
2:3:121:LEU:O	2:3:122:SER:OG	1.91	0.88
9:E:78:GLU:OE2	9:E:85:THR:OG1	1.91	0.87
16:N:18:DC:C5	16:N:19:DT:H72	2.11	0.85
15:M:25:DA:N6	16:N:23:DA:H61	1.71	0.85
13:K:103:GLU:OE2	13:K:105:SER:OG	1.95	0.83
1:2:738:MET:HE3	1:2:743:VAL:HG21	1.61	0.83
5:6:28:LYS:NZ	13:K:249:ASP:OD2	2.13	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:118:SER:OG	4:5:223:ASP:OD1	1.98	0.81
8:D:179:ARG:NH2	11:G:83:GLU:OE2	2.15	0.80
12:I:635:GLU:OE1	12:I:635:GLU:N	2.15	0.79
16:N:23:DA:C8	16:N:24:DT:H72	2.18	0.78
3:4:286:SER:OG	3:4:389:ASN:OD1	2.01	0.78
12:H:469:GLU:OE2	12:H:703:ARG:NH2	2.18	0.77
15:M:25:DA:H61	16:N:23:DA:N6	1.81	0.76
4:5:144:MET:HE3	4:5:144:MET:HA	1.67	0.76
7:C:15:GLN:NE2	7:C:43:ASP:OD2	2.18	0.76
1:2:738:MET:HE1	1:2:770:MET:HE1	1.68	0.76
3:4:742:GLU:OE1	3:4:753:VAL:HG21	1.86	0.76
10:F:40:MET:HE2	10:F:43:LEU:HD22	1.66	0.75
6:7:580:TYR:OH	6:7:631:ASN:OD1	2.03	0.75
6:7:287:GLN:N	6:7:287:GLN:OE1	2.20	0.74
4:5:208:PRO:O	4:5:210:ASP:N	2.20	0.73
3:4:449:LEU:HD11	3:4:689:ASP:OD2	1.88	0.73
6:7:548:PRO:O	6:7:550:GLN:NE2	2.22	0.73
6:7:387:LYS:NZ	6:7:489:ASN:OD1	2.20	0.72
12:I:601:VAL:CG2	12:I:619:LEU:HD13	2.19	0.72
1:2:491:ILE:HD11	1:2:663:VAL:HG22	1.73	0.71
8:D:1:MET:SD	8:D:2:PHE:N	2.64	0.71
10:F:40:MET:CE	10:F:43:LEU:HD22	2.21	0.70
2:3:464:THR:OG1	2:3:467:GLU:OE2	2.09	0.70
5:6:558:ARG:NH2	5:6:561:GLU:OE2	2.24	0.70
2:3:595:SER:OG	6:7:527:ARG:NH1	2.24	0.70
2:3:165:LEU:O	2:3:166:VAL:HG12	1.92	0.69
12:I:460:ASP:OD1	12:I:463:ASP:N	2.26	0.69
2:3:526:ILE:HG22	2:3:526:ILE:O	1.92	0.69
4:5:40:ARG:NH1	9:E:119:ASP:OD2	2.26	0.69
12:I:788:MET:O	12:I:819:LYS:NZ	2.26	0.69
15:M:25:DA:N6	16:N:23:DA:C6	2.60	0.68
1:2:295:ARG:NH1	1:2:380:GLU:OE2	2.26	0.68
13:K:726:VAL:HG21	13:K:766:LEU:HD12	1.74	0.68
3:4:251:ASP:O	3:4:253:ILE:N	2.28	0.67
7:C:475:LYS:NZ	7:C:479:CYS:SG	2.59	0.67
1:2:640:SER:O	1:2:807:LYS:NZ	2.27	0.67
4:5:27:ARG:NH2	4:5:94:GLU:OE2	2.26	0.67
10:F:7:ARG:NH2	10:F:23:ASP:OD1	2.27	0.67
2:3:336:ARG:NH2	2:3:480:ASP:OD1	2.27	0.66
5:6:189:ARG:NH1	16:N:9:DT:OP2	2.28	0.66
17:Q:297:ILE:O	17:Q:300:SER:OG	2.12	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:746:MET:HE1	1:2:798:MET:HE1	1.78	0.66
3:4:495:THR:HG22	3:4:495:THR:O	1.95	0.66
7:C:133:ILE:O	7:C:181:ARG:NH1	2.27	0.66
2:3:393:LEU:HD11	2:3:438:ILE:HG21	1.76	0.66
12:J:605:GLU:OE1	12:J:613:ILE:HD11	1.96	0.66
1:2:822:LEU:HD22	1:2:822:LEU:H	1.60	0.66
1:2:469:LYS:O	17:Q:557:VAL:HG22	1.96	0.65
13:K:137:LEU:HD12	13:K:156:ILE:HD13	1.78	0.65
13:K:143:LEU:HD22	13:K:147:GLU:OE1	1.97	0.65
7:C:169:MET:SD	7:C:169:MET:N	2.69	0.65
4:5:646:VAL:HG23	4:5:646:VAL:O	1.96	0.65
6:7:363:ASP:O	6:7:370:LYS:NZ	2.30	0.64
7:C:530:ALA:O	7:C:534:SER:N	2.30	0.64
7:C:314:PHE:CE2	7:C:318:MET:HE2	2.32	0.64
4:5:451:ARG:NH1	4:5:454:ASP:OD2	2.31	0.64
13:K:804:THR:OG1	13:K:806:GLU:N	2.31	0.64
8:D:46:ASP:HB3	8:D:62:ILE:HD11	1.80	0.63
6:7:369:MET:SD	6:7:370:LYS:N	2.68	0.63
12:I:554:LEU:HD21	12:I:583:LEU:HD21	1.80	0.63
5:6:250:VAL:HG22	5:6:294:TYR:HB3	1.79	0.63
3:4:295:LEU:HD11	3:4:379:VAL:HG11	1.79	0.63
4:5:578:ALA:HB1	4:5:637:VAL:HG21	1.81	0.63
3:4:280:ASP:OD2	6:7:224:THR:OG1	2.16	0.63
1:2:554:VAL:HG22	1:2:559:TYR:HB3	1.81	0.62
1:2:542:ARG:NH1	1:2:581:ARG:O	2.32	0.62
11:G:140:TYR:O	11:G:144:VAL:HG23	1.99	0.62
13:K:427:LYS:HD2	13:K:427:LYS:N	2.14	0.62
11:G:22:THR:HG22	11:G:23:PRO:HD2	1.82	0.62
12:J:601:VAL:CG2	12:J:619:LEU:HD13	2.29	0.61
13:K:454:ASP:OD2	13:K:469:LYS:NZ	2.23	0.61
4:5:340:ALA:HB1	4:5:343:ILE:HD12	1.82	0.61
8:D:90:LEU:HD11	8:D:102:LEU:HD22	1.82	0.61
13:K:687:LYS:NZ	13:K:688:GLU:O	2.33	0.61
1:2:470:ASP:HA	17:Q:555:VAL:HG13	1.81	0.61
3:4:655:ASP:OD1	3:4:657:ALA:N	2.32	0.61
6:7:97:ASP:OD2	6:7:133:ARG:NH2	2.34	0.61
8:D:146:LEU:HD12	11:G:83:GLU:OE1	2.00	0.61
4:5:184:MET:HE3	4:5:184:MET:HA	1.82	0.61
3:4:316:GLU:OE2	13:K:271:ARG:NH1	2.33	0.61
13:K:428:GLU:N	13:K:428:GLU:OE1	2.34	0.61
13:K:688:GLU:N	13:K:688:GLU:OE2	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:H:601:VAL:CG2	12:H:619:LEU:HD13	2.31	0.61
6:7:30:GLN:O	6:7:31:PHE:C	2.43	0.61
6:7:210:GLU:OE2	6:7:210:GLU:N	2.34	0.60
2:3:466:MET:HA	2:3:466:MET:HE3	1.82	0.60
2:3:379:THR:HB	2:3:431:VAL:HG21	1.81	0.60
17:Q:552:ASN:HB3	17:Q:572:VAL:HG11	1.83	0.60
4:5:231:GLU:OE1	4:5:236:VAL:HG22	2.02	0.60
5:6:533:PHE:O	5:6:658:ARG:NH1	2.31	0.60
2:3:359:LEU:HD11	2:3:367:PRO:HB3	1.83	0.60
4:5:333:GLU:OE2	4:5:333:GLU:N	2.34	0.60
4:5:184:MET:HE1	4:5:191:TYR:HB2	1.84	0.60
1:2:755:MET:O	1:2:756:ALA:HB2	2.01	0.60
2:3:96:GLU:OE2	2:3:158:ARG:NH1	2.33	0.60
12:H:713:LEU:N	12:H:727:GLU:OE1	2.35	0.60
17:Q:551:VAL:HG13	17:Q:575:VAL:HB	1.82	0.59
17:Q:569:LYS:CG	17:Q:570:ALA:H	2.15	0.59
11:G:178:ARG:NH1	11:G:180:GLU:OE2	2.34	0.59
5:6:19:ARG:NH1	13:K:176:GLU:O	2.31	0.59
13:K:739:GLU:OE1	13:K:739:GLU:N	2.36	0.59
5:6:614:TRP:CE3	5:6:659:VAL:HG21	2.38	0.59
8:D:64:PHE:CE2	10:F:72:LEU:HD21	2.38	0.59
7:C:126:GLU:HA	7:C:126:GLU:OE1	2.03	0.59
12:H:503:SER:OG	12:H:534:ASP:OD1	2.17	0.58
2:3:121:LEU:C	2:3:122:SER:HG	2.05	0.58
6:7:478:LEU:N	6:7:478:LEU:HD22	2.19	0.58
7:C:236:MET:SD	7:C:236:MET:N	2.76	0.58
3:4:621:GLU:OE1	3:4:621:GLU:N	2.29	0.58
3:4:174:ILE:HG23	3:4:174:ILE:O	2.04	0.58
3:4:327:VAL:HG21	13:K:317:LYS:CD	2.34	0.58
7:C:318:MET:SD	7:C:344:ILE:HD13	2.44	0.58
1:2:816:LYS:HA	1:2:819:ALA:HB2	1.85	0.57
9:E:144:LYS:NZ	9:E:146:ASP:OD1	2.38	0.57
5:6:425:SER:OG	5:6:427:ALA:O	2.14	0.57
12:H:790:GLN:O	12:H:794:ASN:ND2	2.38	0.57
3:4:652:ASP:OD1	3:4:652:ASP:N	2.37	0.57
4:5:582:LEU:HD11	4:5:616:ILE:HG21	1.87	0.57
6:7:423:VAL:O	6:7:423:VAL:HG13	2.05	0.57
7:C:355:ASP:OD1	7:C:355:ASP:N	2.36	0.57
13:K:740:ALA:HB3	13:K:799:VAL:HG13	1.86	0.57
4:5:169:SER:OG	4:5:215:MET:HE3	2.05	0.56
12:J:788:MET:O	12:J:819:LYS:NZ	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:E:115:THR:O	9:E:119:ASP:OD1	2.23	0.56
2:3:527:LEU:HD12	10:F:99:VAL:HG22	1.88	0.56
11:G:113:THR:HG22	11:G:113:THR:O	2.05	0.56
1:2:275:ASP:OD1	1:2:275:ASP:N	2.37	0.56
5:6:655:SER:O	5:6:659:VAL:HG23	2.05	0.56
12:I:586:VAL:HG11	12:I:627:LEU:HD22	1.87	0.56
13:K:373:HIS:O	13:K:376:THR:OG1	2.23	0.56
4:5:555:ASP:OD1	4:5:555:ASP:N	2.38	0.56
2:3:128:GLU:OE1	2:3:204:MET:HE2	2.06	0.55
3:4:495:THR:O	5:6:408:HIS:NE2	2.40	0.55
10:F:88:LEU:HD13	10:F:134:ILE:HD11	1.89	0.55
16:N:18:DC:N1	16:N:19:DT:H72	2.21	0.55
3:4:456:PRO:O	3:4:457:ASP:OD1	2.25	0.55
6:7:446:GLU:OE2	6:7:449:LYS:NZ	2.40	0.55
11:G:96:ARG:NH2	11:G:121:SER:O	2.40	0.55
6:7:385:VAL:HG12	6:7:386:ALA:H	1.72	0.55
3:4:155:THR:HG22	3:4:157:VAL:HG23	1.89	0.54
16:N:18:DC:C5	16:N:19:DT:C7	2.89	0.54
4:5:416:ALA:HB3	4:5:469:ILE:HD11	1.89	0.54
6:7:288:VAL:HG21	16:N:3:DA:C4	2.42	0.54
2:3:131:VAL:HG22	2:3:201:ILE:CD1	2.38	0.54
11:G:173:LEU:CD2	11:G:211:ILE:HD13	2.38	0.54
12:I:554:LEU:HD11	12:I:576:MET:HE1	1.89	0.54
2:3:51:VAL:HG22	2:3:103:GLU:O	2.08	0.54
2:3:133:LYS:HZ3	2:3:200:THR:HB	1.73	0.54
14:L:78:LEU:N	14:L:79:PRO:CD	2.71	0.54
3:4:156:ASP:OD1	3:4:156:ASP:C	2.50	0.54
3:4:150:LEU:HD21	13:K:304:LEU:HD13	1.90	0.54
1:2:755:MET:O	1:2:756:ALA:CB	2.56	0.53
3:4:759:GLU:HA	3:4:759:GLU:OE1	2.08	0.53
1:2:292:GLU:O	1:2:308:THR:HG23	2.09	0.53
2:3:427:GLU:OE1	2:3:616:ARG:NH2	2.41	0.53
7:C:499:MET:SD	7:C:499:MET:N	2.81	0.53
1:2:680:VAL:HG11	5:6:591:GLU:HG3	1.91	0.53
16:N:23:DA:N9	16:N:24:DT:H72	2.21	0.53
1:2:222:MET:HE1	1:2:281:ILE:HD12	1.90	0.53
1:2:822:LEU:HD22	1:2:822:LEU:N	2.21	0.53
4:5:526:GLU:OE2	4:5:526:GLU:HA	2.07	0.53
13:K:797:THR:O	13:K:800:VAL:HG22	2.07	0.53
12:J:445:ARG:NH2	12:J:488:THR:O	2.42	0.53
2:3:585:GLU:OE1	2:3:585:GLU:N	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:7:549:SER:O	6:7:551:PHE:N	2.42	0.53
5:6:143:ARG:NH2	5:6:438:GLU:OE2	2.42	0.53
11:G:128:ALA:O	11:G:132:GLU:HG3	2.08	0.53
12:H:622:THR:O	12:H:625:SER:OG	2.17	0.53
1:2:664:ARG:NH2	1:2:804:ASP:OD1	2.42	0.53
12:H:445:ARG:NH2	12:H:488:THR:O	2.42	0.53
10:F:3:GLU:HA	11:G:98:MET:HE3	1.91	0.53
1:2:294:LEU:HD23	1:2:308:THR:HG21	1.89	0.52
1:2:566:SER:OG	1:2:568:GLU:OE1	2.08	0.52
4:5:519:ILE:HB	4:5:650:ASP:OD2	2.09	0.52
5:6:564:ASP:OD1	5:6:565:ARG:N	2.39	0.52
12:H:434:GLN:NE2	12:H:538:ILE:O	2.41	0.52
3:4:196:ARG:HG3	3:4:196:ARG:HH11	1.75	0.52
3:4:694:ALA:HA	3:4:698:ILE:HD13	1.92	0.52
7:C:306:HIS:O	7:C:306:HIS:ND1	2.43	0.52
12:H:726:GLU:OE1	12:J:563:GLN:N	2.40	0.52
6:7:9:GLU:O	6:7:13:VAL:HG23	2.09	0.52
2:3:151:THR:HG21	2:3:153:LYS:HE3	1.92	0.52
5:6:207:ARG:NH1	5:6:223:SER:OG	2.42	0.52
16:N:23:DA:C2'	16:N:24:DT:C7	2.88	0.52
4:5:47:ASP:OD1	4:5:47:ASP:N	2.42	0.52
12:I:554:LEU:HD22	12:I:567:PHE:CZ	2.45	0.52
10:F:103:ASP:O	10:F:106:VAL:HG22	2.10	0.52
17:Q:569:LYS:HD2	17:Q:570:ALA:H	1.74	0.52
1:2:342:SER:O	1:2:343:GLN:HB2	2.10	0.51
1:2:633:ILE:HD11	1:2:648:ASP:HB2	1.91	0.51
6:7:448:ASP:C	6:7:448:ASP:OD1	2.53	0.51
12:I:491:ASP:OD2	12:I:540:LEU:N	2.43	0.51
3:4:406:SER:OG	6:7:201:MET:SD	2.68	0.51
1:2:731:VAL:O	1:2:779:ARG:NH1	2.43	0.51
1:2:823:SER:HB3	1:2:825:ARG:HG3	1.92	0.51
2:3:111:VAL:HG21	2:3:116:LEU:HD13	1.92	0.51
3:4:221:ASN:OD1	3:4:224:ARG:NH1	2.43	0.51
6:7:546:GLN:OE1	6:7:546:GLN:N	2.40	0.51
15:M:25:DA:H62	16:N:23:DA:N6	2.01	0.51
1:2:353:PRO:O	1:2:356:GLN:NE2	2.42	0.51
14:L:146:ASP:O	14:L:147:LEU:HD23	2.10	0.51
1:2:327:TYR:O	1:2:335:VAL:HG13	2.10	0.51
5:6:43:GLU:O	5:6:48:GLN:NE2	2.43	0.51
6:7:58:ASP:OD1	6:7:58:ASP:N	2.40	0.51
1:2:665:ASP:OD1	5:6:602:ARG:NH2	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:164:THR:HG22	2:3:165:LEU:O	2.10	0.51
5:6:94:LEU:HD22	5:6:112:VAL:HG22	1.91	0.51
10:F:88:LEU:CD1	10:F:134:ILE:HD11	2.41	0.51
12:I:601:VAL:HG21	12:I:619:LEU:HD13	1.91	0.51
13:K:738:MET:HE2	13:K:799:VAL:HG11	1.93	0.51
3:4:495:THR:HG22	5:6:408:HIS:CD2	2.46	0.51
3:4:655:ASP:OD1	3:4:655:ASP:C	2.53	0.51
3:4:730:TYR:CD1	3:4:786:LEU:HD11	2.46	0.51
1:2:820:ARG:HA	1:2:823:SER:CB	2.40	0.51
1:2:308:THR:HG22	1:2:309:SER:H	1.76	0.51
2:3:17:ARG:O	2:3:21:ASP:OD1	2.29	0.51
3:4:476:ILE:HD13	3:4:650:LEU:HD11	1.92	0.51
2:3:489:MET:O	4:5:594:ARG:NE	2.43	0.50
3:4:259:GLN:HG2	13:K:273:ASN:ND2	2.26	0.50
6:7:319:LEU:HD12	6:7:323:GLU:HB2	1.92	0.50
1:2:493:ARG:HD2	1:2:793:MET:HE2	1.94	0.50
2:3:223:ASP:O	2:3:226:VAL:HG23	2.11	0.50
2:3:357:TYR:O	2:3:361:THR:HG22	2.11	0.50
3:4:462:LEU:HD22	3:4:687:LEU:HD12	1.92	0.50
3:4:805:LEU:HG	3:4:827:ILE:HG23	1.94	0.50
6:7:404:THR:OG1	6:7:405:THR:N	2.44	0.50
11:G:142:LYS:HA	11:G:146:LEU:HB2	1.93	0.50
13:K:496:ARG:HB2	13:K:496:ARG:NH1	2.26	0.50
2:3:220:ILE:HG22	2:3:222:ASP:OD1	2.12	0.50
17:Q:555:VAL:HG12	17:Q:557:VAL:HG23	1.92	0.50
1:2:604:MET:HE1	1:2:657:PHE:CZ	2.46	0.50
1:2:755:MET:O	1:2:755:MET:HG3	2.10	0.50
6:7:169:ARG:NH2	6:7:421:ASP:OD1	2.44	0.50
8:D:88:ARG:HD2	11:G:101:GLU:OE2	2.11	0.50
3:4:327:VAL:HG21	13:K:317:LYS:CE	2.41	0.50
15:M:35:DT:O4	16:N:13:DC:N4	2.45	0.50
1:2:820:ARG:O	1:2:821:TYR:CB	2.59	0.49
3:4:400:ARG:NH1	5:6:289:VAL:O	2.44	0.49
7:C:6:PHE:HE2	7:C:201:VAL:HG13	1.75	0.49
12:J:554:LEU:HD21	12:J:583:LEU:HD21	1.94	0.49
14:L:73:ILE:HD11	14:L:136:VAL:HA	1.94	0.49
16:N:23:DA:C2'	16:N:24:DT:H72	2.42	0.49
1:2:400:ALA:O	1:2:403:VAL:HG22	2.12	0.49
3:4:494:HIS:NE2	5:6:559:ILE:HA	2.28	0.49
13:K:7:ASN:OD1	13:K:7:ASN:C	2.54	0.49
13:K:477:GLU:CD	13:K:477:GLU:H	2.21	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:759:SER:OG	1:2:805:THR:O	2.29	0.49
12:I:750:GLU:O	12:I:753:THR:HG22	2.13	0.49
3:4:790:MET:SD	3:4:790:MET:N	2.71	0.49
6:7:47:ALA:HB2	6:7:260:GLU:HG3	1.94	0.49
6:7:633:ALA:O	6:7:637:MET:HE3	2.11	0.49
8:D:46:ASP:CB	8:D:62:ILE:HD11	2.43	0.49
8:D:149:GLU:HG2	8:D:194:ILE:HD11	1.94	0.49
3:4:265:ALA:O	3:4:422:ARG:NH2	2.43	0.49
8:D:8:GLU:O	8:D:12:GLU:HG3	2.13	0.49
1:2:647:VAL:HG13	1:2:649:LEU:H	1.78	0.48
4:5:582:LEU:CD1	4:5:616:ILE:HG21	2.43	0.48
15:M:44:DT:O4	16:N:4:DC:N4	2.46	0.48
5:6:570:ASP:OD1	5:6:573:ARG:NH1	2.45	0.48
7:C:446:LEU:HB2	7:C:491:LEU:HD12	1.95	0.48
12:J:434:GLN:NE2	12:J:538:ILE:O	2.47	0.48
2:3:655:LYS:O	2:3:656:LYS:C	2.56	0.48
2:3:348:SER:O	2:3:348:SER:OG	2.29	0.48
3:4:801:LEU:C	3:4:801:LEU:HD23	2.37	0.48
12:H:665:ARG:HG3	12:H:665:ARG:HH11	1.77	0.48
12:I:584:PHE:HE1	12:I:601:VAL:HG13	1.78	0.48
1:2:482:ALA:HB1	1:2:485:ILE:HD12	1.95	0.48
6:7:574:PRO:HG3	6:7:624:VAL:HG13	1.95	0.48
13:K:103:GLU:OE2	13:K:106:PHE:N	2.45	0.48
15:M:46:DT:H4'	15:M:47:DT:OP1	2.12	0.48
1:2:755:MET:O	1:2:755:MET:CG	2.61	0.48
2:3:165:LEU:O	2:3:166:VAL:CG1	2.60	0.48
2:3:582:LEU:HD12	2:3:637:VAL:HB	1.96	0.48
5:6:167:ASP:OD1	5:6:199:ARG:NH2	2.46	0.48
13:K:524:VAL:CG1	13:K:686:GLU:HB3	2.43	0.48
15:M:33:DA:N6	16:N:15:DA:N6	2.62	0.48
1:2:284:ARG:NH2	1:2:401:ASP:OD1	2.40	0.48
3:4:642:SER:OG	3:4:643:ARG:NH1	2.47	0.48
6:7:349:ASP:OD1	6:7:635:ARG:NH2	2.46	0.48
7:C:507:VAL:HG12	7:C:546:VAL:HG22	1.96	0.48
7:C:528:LYS:HB3	7:C:528:LYS:HZ2	1.79	0.48
13:K:146:GLU:OE1	13:K:146:GLU:N	2.41	0.48
12:J:512:HIS:NE2	12:J:524:GLU:OE2	2.47	0.48
17:Q:569:LYS:CD	17:Q:570:ALA:H	2.27	0.48
4:5:179:LEU:N	4:5:179:LEU:HD22	2.29	0.47
8:D:131:ASP:C	8:D:132:GLU:HG3	2.37	0.47
11:G:49:GLU:OE1	11:G:49:GLU:N	2.42	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:K:148:ARG:NH2	13:K:211:GLU:OE1	2.47	0.47
15:M:26:DT:O4	16:N:22:DA:N6	2.47	0.47
3:4:207:PHE:C	3:4:207:PHE:CD1	2.91	0.47
7:C:530:ALA:HB2	7:C:537:MET:HE3	1.96	0.47
13:K:7:ASN:OD1	13:K:8:CYS:N	2.47	0.47
1:2:300:LEU:C	1:2:300:LEU:HD12	2.39	0.47
3:4:497:ARG:HE	3:4:499:LYS:H	1.61	0.47
6:7:554:LEU:HD12	6:7:558:LEU:HD23	1.96	0.47
7:C:278:LEU:HB3	7:C:289:SER:OG	2.14	0.47
7:C:422:GLN:OE1	7:C:459:LEU:HD11	2.14	0.47
17:Q:551:VAL:HG22	17:Q:552:ASN:N	2.29	0.47
1:2:343:GLN:HA	1:2:343:GLN:NE2	2.29	0.47
1:2:746:MET:CE	1:2:798:MET:HE1	2.44	0.47
7:C:342:GLU:OE2	7:C:342:GLU:N	2.47	0.47
5:6:614:TRP:CZ3	5:6:656:ILE:HD13	2.50	0.47
12:J:444:HIS:CG	12:J:700:THR:HG21	2.49	0.47
11:G:29:ARG:HE	11:G:50:ILE:HD11	1.80	0.47
13:K:7:ASN:OD1	13:K:9:GLU:N	2.46	0.47
1:2:520:LEU:HD23	1:2:660:LEU:HD21	1.97	0.47
3:4:472:GLU:HB3	3:4:474:GLU:OE1	2.15	0.47
5:6:42:GLY:O	5:6:43:GLU:HG2	2.15	0.47
12:I:472:ASP:C	12:I:472:ASP:OD1	2.56	0.47
17:Q:552:ASN:ND2	17:Q:572:VAL:HG11	2.30	0.47
2:3:69:ALA:HB2	2:3:124:VAL:HG23	1.96	0.47
2:3:335:ILE:HG21	2:3:619:GLU:OE2	2.14	0.47
4:5:185:ARG:HH11	4:5:185:ARG:HG2	1.78	0.47
4:5:462:MET:HE2	4:5:513:ARG:HB3	1.97	0.47
10:F:104:PRO:O	10:F:107:VAL:HG22	2.15	0.47
7:C:524:ARG:NE	7:C:527:GLU:OE2	2.43	0.47
12:H:554:LEU:HD21	12:H:583:LEU:HD21	1.96	0.47
3:4:712:GLU:OE1	3:4:712:GLU:HA	2.15	0.47
12:I:633:SER:OG	12:I:682:GLU:OE2	2.29	0.47
2:3:12:LEU:HD12	2:3:12:LEU:C	2.40	0.46
2:3:416:ASP:O	2:3:420:THR:HG23	2.15	0.46
5:6:359:HIS:HB3	19:6:903:ANP:N1	2.30	0.46
5:6:444:ILE:HG13	5:6:489:VAL:HG21	1.97	0.46
7:C:26:ASP:OD1	7:C:26:ASP:N	2.48	0.46
1:2:510:LYS:HE3	4:5:556:LEU:HD13	1.97	0.46
3:4:399:ILE:CG2	3:4:409:LYS:HZ2	2.28	0.46
3:4:580:ASN:OD1	3:4:580:ASN:N	2.44	0.46
9:E:28:LEU:HB3	11:G:81:GLU:OE1	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:166:VAL:HG13	2:3:166:VAL:O	2.15	0.46
3:4:516:LYS:NZ	3:4:618:ASN:OD1	2.44	0.46
4:5:385:THR:O	4:5:385:THR:HG22	2.16	0.46
12:I:512:HIS:NE2	12:I:524:GLU:OE2	2.49	0.46
6:7:501:LEU:CD1	6:7:644:LEU:HD11	2.45	0.46
12:I:553:LEU:HD21	12:J:660:PRO:HG3	1.97	0.46
15:M:34:DT:H4'	15:M:35:DT:OP1	2.15	0.46
4:5:208:PRO:O	4:5:209:LEU:C	2.59	0.46
13:K:166:ILE:HG22	13:K:189:LEU:HD21	1.97	0.46
17:Q:552:ASN:HD22	17:Q:572:VAL:HG11	1.79	0.46
1:2:803:ILE:HG21	1:2:815:ARG:NH1	2.30	0.46
2:3:303:LEU:O	2:3:357:TYR:CZ	2.69	0.46
3:4:730:TYR:CE1	3:4:786:LEU:HD11	2.50	0.46
6:7:356:LEU:HD21	6:7:616:LEU:HD12	1.97	0.46
11:G:146:LEU:HD21	11:G:156:VAL:HG22	1.98	0.46
2:3:174:TYR:O	2:3:175:PRO:C	2.59	0.46
2:3:410:GLU:OE1	2:3:413:LYS:HG3	2.15	0.46
3:4:495:THR:HA	5:6:411:GLU:OE2	2.15	0.46
6:7:589:ARG:NH1	6:7:601:THR:O	2.48	0.46
7:C:230:GLN:NE2	7:C:381:MET:SD	2.89	0.46
11:G:104:PHE:CG	11:G:105:PRO:HD3	2.51	0.46
12:H:554:LEU:HD22	12:H:567:PHE:CZ	2.51	0.46
2:3:526:ILE:O	2:3:526:ILE:CG2	2.63	0.46
14:L:73:ILE:HG22	14:L:73:ILE:O	2.16	0.46
1:2:322:LEU:HD22	1:2:325:VAL:HB	1.98	0.46
3:4:309:CYS:O	3:4:310:ALA:HB3	2.16	0.46
3:4:541:VAL:HG13	3:4:541:VAL:O	2.16	0.46
4:5:86:ASP:OD1	4:5:90:LYS:HE2	2.16	0.46
4:5:184:MET:HE1	4:5:191:TYR:CB	2.44	0.46
5:6:47:LEU:O	5:6:47:LEU:HD23	2.17	0.46
13:K:422:MET:HE1	13:K:436:MET:HE2	1.98	0.46
3:4:161:ALA:HA	3:4:164:GLU:OE1	2.16	0.45
9:E:145:LEU:HB3	9:E:148:LEU:HD12	1.98	0.45
17:Q:610:PHE:CD1	17:Q:610:PHE:C	2.94	0.45
1:2:571:LEU:HD23	4:5:241:MET:HE1	1.98	0.45
6:7:331:ASP:HA	6:7:334:GLU:OE1	2.16	0.45
6:7:355:LEU:CD2	6:7:619:LEU:HD11	2.47	0.45
13:K:361:VAL:O	13:K:365:LEU:HD13	2.16	0.45
4:5:515:ASP:HB3	4:5:615:ALA:HB1	1.98	0.45
6:7:609:ILE:HG12	6:7:637:MET:HE1	1.98	0.45
6:7:632:GLU:OE1	6:7:636:LEU:HD12	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:C:208:MET:HE1	12:J:477:HIS:NE2	2.31	0.45
12:H:510:LYS:HG2	12:H:528:ASP:OD1	2.16	0.45
12:J:554:LEU:HD22	12:J:567:PHE:CZ	2.52	0.45
2:3:270:LYS:HZ1	2:3:363:PRO:HB3	1.81	0.45
4:5:340:ALA:CB	4:5:343:ILE:HD12	2.47	0.45
6:7:529:ASN:OD1	6:7:529:ASN:N	2.50	0.45
13:K:9:GLU:CD	13:K:9:GLU:H	2.24	0.45
1:2:752:LYS:HB2	4:5:526:GLU:OE1	2.17	0.45
3:4:167:GLN:HG3	3:4:240:ALA:HB1	1.97	0.45
3:4:724:ARG:HD2	3:4:726:MET:SD	2.56	0.45
5:6:82:GLU:O	5:6:86:VAL:HG22	2.17	0.45
7:C:463:PRO:HB3	7:C:546:VAL:HG11	1.98	0.45
1:2:426:LEU:HD13	1:2:434:VAL:HG12	1.99	0.45
5:6:603:GLN:OE1	5:6:604:ARG:N	2.50	0.45
6:7:371:ILE:HG22	6:7:372:ARG:H	1.80	0.45
8:D:60:PRO:HB2	10:F:40:MET:HG2	1.98	0.45
14:L:89:LYS:HD3	14:L:89:LYS:N	2.31	0.45
1:2:205:THR:O	1:2:205:THR:HG22	2.17	0.45
1:2:250:GLU:OE1	17:Q:594:LEU:HD21	2.17	0.45
3:4:495:THR:O	3:4:495:THR:CG2	2.65	0.45
3:4:290:ILE:HD13	3:4:290:ILE:N	2.31	0.45
12:H:566:VAL:O	12:I:659:THR:HG23	2.17	0.45
12:I:739:LEU:HD21	12:I:753:THR:HG21	1.99	0.45
3:4:194:MET:HE3	3:4:194:MET:HA	1.99	0.45
3:4:471:TYR:CE1	3:4:472:GLU:OE2	2.69	0.45
6:7:364:GLN:O	6:7:370:LYS:HA	2.17	0.45
7:C:338:GLU:OE1	7:C:339:ASN:N	2.48	0.45
9:E:40:LEU:HD13	12:J:708:ILE:HD11	1.98	0.45
3:4:251:ASP:O	3:4:252:SER:C	2.60	0.45
11:G:111:GLU:OE1	11:G:111:GLU:HA	2.16	0.45
4:5:102:ALA:O	4:5:106:VAL:HG23	2.17	0.44
4:5:425:ARG:O	4:5:425:ARG:HG3	2.17	0.44
4:5:559:LEU:O	4:5:563:ILE:HD12	2.17	0.44
4:5:646:VAL:O	4:5:646:VAL:CG2	2.65	0.44
5:6:23:ALA:HB1	5:6:89:TYR:CD2	2.51	0.44
12:J:513:CYS:HB3	12:J:525:TRP:CE2	2.53	0.44
3:4:701:ARG:NH2	5:6:560:GLU:OE1	2.50	0.44
3:4:711:ILE:HD13	5:6:550:ARG:HE	1.82	0.44
12:H:673:ASP:OD1	12:H:673:ASP:N	2.50	0.44
1:2:182:VAL:O	1:2:186:VAL:HG22	2.18	0.44
2:3:195:ASP:HB3	2:3:226:VAL:HG21	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:3:398:MET:HE1	2:3:422:ILE:HG23	1.98	0.44
3:4:495:THR:CB	5:6:565:ARG:HH22	2.30	0.44
3:4:823:LEU:HD21	3:4:840:PHE:HZ	1.82	0.44
4:5:495:TRP:O	4:5:503:ASN:OD1	2.36	0.44
6:7:15:LYS:O	6:7:19:GLU:HG3	2.18	0.44
7:C:340:LEU:O	7:C:344:ILE:HG12	2.17	0.44
11:G:140:TYR:CE1	11:G:144:VAL:HG21	2.52	0.44
13:K:86:MET:HE3	13:K:162:LEU:HD21	1.99	0.44
1:2:327:TYR:C	1:2:335:VAL:HG13	2.42	0.44
2:3:180:GLU:C	2:3:181:ASN:HD22	2.25	0.44
2:3:527:LEU:HD23	2:3:528:ALA:N	2.33	0.44
3:4:272:ARG:NH2	3:4:366:THR:O	2.51	0.44
5:6:492:THR:HG23	5:6:492:THR:O	2.16	0.44
13:K:324:ALA:HB1	13:K:491:GLU:OE2	2.16	0.44
1:2:821:TYR:N	1:2:823:SER:OG	2.41	0.44
2:3:106:PHE:HB3	2:3:109:LYS:HB2	1.98	0.44
2:3:410:GLU:OE1	2:3:413:LYS:NZ	2.48	0.44
3:4:155:THR:O	3:4:156:ASP:CG	2.61	0.44
3:4:807:LYS:HA	3:4:810:LEU:HG	1.99	0.44
5:6:660:GLU:O	5:6:661:THR:HB	2.17	0.44
6:7:407:ARG:NH2	6:7:446:GLU:OE2	2.50	0.44
12:J:673:ASP:OD1	12:J:673:ASP:C	2.60	0.44
2:3:111:VAL:HG23	2:3:127:VAL:HG22	1.99	0.44
3:4:810:LEU:HD12	3:4:811:SER:N	2.33	0.44
7:C:208:MET:HE1	12:J:477:HIS:CE1	2.52	0.44
7:C:287:HIS:HB2	7:C:325:VAL:HG12	1.99	0.44
13:K:321:ARG:HD3	16:N:18:DC:OP1	2.17	0.44
2:3:583:THR:OG1	2:3:637:VAL:O	2.35	0.44
3:4:192:LEU:O	3:4:192:LEU:HD23	2.18	0.44
4:5:420:ARG:NH2	15:M:52:DT:O2	2.48	0.44
6:7:43:ARG:CZ	6:7:43:ARG:HB3	2.48	0.44
6:7:371:ILE:HG22	6:7:372:ARG:N	2.32	0.44
14:L:68:ASP:OD1	14:L:68:ASP:N	2.50	0.44
3:4:787:THR:OG1	3:4:788:THR:N	2.49	0.44
8:D:161:VAL:O	8:D:181:LYS:NZ	2.26	0.44
4:5:541:VAL:O	4:5:541:VAL:HG12	2.18	0.44
5:6:571:ASP:OD1	5:6:571:ASP:C	2.61	0.44
6:7:382:ASP:O	6:7:385:VAL:HG23	2.17	0.44
7:C:533:THR:O	7:C:533:THR:HG22	2.18	0.44
2:3:178:ASP:CG	2:3:179:GLU:N	2.75	0.43
3:4:854:THR:HG23	3:4:863:LEU:HD11	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:6:220:ILE:HG22	5:6:221:PRO:HD2	1.99	0.43
7:C:56:GLN:OE1	7:C:60:THR:OG1	2.35	0.43
12:I:432:PRO:HA	12:I:574:VAL:O	2.17	0.43
3:4:823:LEU:HD23	3:4:824:PHE:N	2.33	0.43
9:E:49:ALA:HB1	9:E:60:LEU:HD21	2.00	0.43
12:H:722:LYS:O	12:H:726:GLU:HG3	2.18	0.43
12:J:613:ILE:HD13	12:J:613:ILE:N	2.32	0.43
13:K:525:VAL:O	13:K:526:GLN:HB3	2.18	0.43
1:2:571:LEU:HD21	1:2:620:LEU:HD11	2.00	0.43
1:2:608:SER:OG	1:2:619:SER:OG	2.36	0.43
1:2:738:MET:HG2	4:5:537:ILE:CG2	2.48	0.43
4:5:577:GLU:H	4:5:577:GLU:CD	2.24	0.43
10:F:34:VAL:HG21	10:F:68:LEU:HD12	2.00	0.43
12:H:584:PHE:HE1	12:H:601:VAL:HG13	1.83	0.43
2:3:78:ARG:O	2:3:82:ASP:OD2	2.36	0.43
2:3:221:LEU:HD13	2:3:225:LEU:O	2.18	0.43
2:3:285:LYS:CE	2:3:570:LYS:HG2	2.48	0.43
2:3:546:GLU:OE2	2:3:553:HIS:NE2	2.51	0.43
3:4:827:ILE:HG22	3:4:835:ILE:CD1	2.48	0.43
4:5:617:VAL:HG12	4:5:621:GLU:OE1	2.19	0.43
5:6:418:TYR:OH	5:6:460:ASP:OD2	2.34	0.43
6:7:362:VAL:HG23	6:7:570:GLN:HA	2.00	0.43
9:E:83:THR:HG22	9:E:84:PHE:N	2.33	0.43
12:J:432:PRO:HA	12:J:574:VAL:O	2.18	0.43
1:2:725:ILE:HG13	1:2:726:TYR:N	2.34	0.43
2:3:176:THR:HG23	2:3:177:LYS:HG2	2.00	0.43
3:4:803:GLU:O	3:4:807:LYS:HG3	2.18	0.43
4:5:519:ILE:HD13	4:5:650:ASP:HB3	2.00	0.43
5:6:343:ASP:OD2	5:6:567:TYR:OH	2.32	0.43
7:C:53:SER:H	7:C:57:GLU:HG3	1.82	0.43
12:H:447:MET:HB3	12:H:490:ALA:HB3	2.01	0.43
12:I:627:LEU:HD21	12:I:630:ILE:HG21	1.99	0.43
13:K:792:LEU:HG	14:L:127:VAL:HG11	2.00	0.43
1:2:206:HIS:NE2	1:2:236:ASP:OD1	2.52	0.43
1:2:658:ASP:OD1	1:2:658:ASP:N	2.52	0.43
1:2:764:VAL:CG1	4:5:536:VAL:HG21	2.49	0.43
2:3:37:ARG:HG3	2:3:37:ARG:NH1	2.34	0.43
3:4:399:ILE:HG23	3:4:409:LYS:HZ2	1.83	0.43
4:5:385:THR:O	4:5:386:ALA:HB3	2.18	0.43
7:C:18:ARG:HH21	8:D:167:VAL:HG12	1.82	0.43
7:C:93:THR:O	7:C:114:GLN:HG3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:5:173:ARG:NH1	4:5:173:ARG:HB3	2.34	0.43
5:6:489:VAL:O	5:6:489:VAL:HG13	2.18	0.43
1:2:222:MET:CE	1:2:281:ILE:HD12	2.49	0.43
1:2:405:SER:O	1:2:446:LYS:NZ	2.52	0.43
3:4:252:SER:O	3:4:253:ILE:C	2.61	0.43
3:4:805:LEU:CD1	3:4:827:ILE:HG23	2.48	0.43
4:5:380:LEU:O	4:5:519:ILE:HA	2.18	0.43
5:6:45:LYS:O	5:6:46:TYR:HB2	2.19	0.43
5:6:397:ASP:O	5:6:400:THR:OG1	2.30	0.43
5:6:539:GLU:OE1	5:6:544:THR:HG21	2.19	0.43
9:E:28:LEU:HD13	11:G:81:GLU:OE1	2.19	0.43
10:F:149:ILE:HD13	10:F:172:GLU:HG2	2.00	0.43
12:J:586:VAL:HG23	12:J:630:ILE:HD12	2.01	0.43
15:M:46:DT:H2''	15:M:47:DT:O5'	2.19	0.43
1:2:647:VAL:O	1:2:648:ASP:HB3	2.19	0.43
3:4:777:ARG:N	3:4:777:ARG:CD	2.81	0.43
3:4:790:MET:SD	3:4:793:THR:OG1	2.56	0.43
4:5:519:ILE:O	4:5:519:ILE:HG22	2.18	0.43
5:6:586:ILE:HD11	5:6:625:ILE:HG23	2.01	0.43
7:C:282:GLN:OE1	7:C:372:LEU:HD23	2.18	0.43
7:C:436:THR:HG22	7:C:436:THR:O	2.17	0.43
11:G:173:LEU:HD22	11:G:211:ILE:HD13	2.01	0.43
12:J:584:PHE:HE1	12:J:601:VAL:HG13	1.83	0.43
13:K:688:GLU:OE1	17:Q:287:LYS:HE3	2.18	0.43
15:M:34:DT:H2''	15:M:35:DT:O5'	2.19	0.43
3:4:494:HIS:O	3:4:495:THR:HB	2.18	0.43
3:4:563:LEU:HD13	3:4:590:VAL:HG21	2.01	0.43
4:5:67:GLU:O	4:5:252:TYR:CZ	2.71	0.43
7:C:338:GLU:OE1	7:C:338:GLU:N	2.52	0.43
9:E:105:ASP:OD1	9:E:105:ASP:N	2.52	0.43
12:I:718:ILE:HD11	12:I:727:GLU:HG3	2.00	0.43
13:K:90:THR:HG21	13:K:166:ILE:HD11	1.99	0.43
1:2:174:LEU:HD21	1:2:195:ILE:HG13	2.01	0.42
3:4:503:GLU:HA	3:4:503:GLU:OE1	2.17	0.42
12:H:505:ASP:OD1	12:H:505:ASP:N	2.52	0.42
2:3:10:VAL:HG13	2:3:11:GLU:N	2.34	0.42
5:6:410:GLU:C	5:6:410:GLU:CD	2.87	0.42
5:6:457:CYS:HB2	5:6:497:THR:HG21	2.00	0.42
6:7:246:VAL:HG23	6:7:247:GLY:H	1.84	0.42
8:D:94:TYR:O	8:D:184:GLN:NE2	2.53	0.42
11:G:156:VAL:HG23	11:G:156:VAL:O	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:212:HIS:ND1	1:2:459:GLU:OE2	2.52	0.42
3:4:683:ASP:O	3:4:686:VAL:HG12	2.18	0.42
6:7:288:VAL:HG22	16:N:3:DA:O4'	2.19	0.42
1:2:457:THR:HG22	1:2:458:ASP:OD1	2.19	0.42
3:4:163:LYS:HG3	3:4:240:ALA:HB2	2.00	0.42
4:5:27:ARG:HA	4:5:30:GLN:HG2	2.01	0.42
6:7:319:LEU:HD13	6:7:558:LEU:HD13	1.99	0.42
12:H:527:ILE:C	12:H:527:ILE:HD12	2.43	0.42
13:K:716:GLN:OE1	13:K:716:GLN:N	2.50	0.42
6:7:24:ASP:OD1	6:7:25:GLU:N	2.52	0.42
6:7:286:ARG:HG2	15:M:47:DT:O2	2.19	0.42
6:7:414:LEU:HD23	6:7:458:ILE:HD11	2.01	0.42
6:7:462:MET:HE1	6:7:515:PHE:CZ	2.54	0.42
6:7:501:LEU:HD11	6:7:644:LEU:HD11	2.02	0.42
12:H:563:GLN:HB2	12:I:726:GLU:OE2	2.20	0.42
13:K:172:ASP:O	13:K:176:GLU:N	2.52	0.42
13:K:391:ALA:O	13:K:392:ALA:HB3	2.20	0.42
13:K:463:GLU:OE2	13:K:467:ILE:HD11	2.19	0.42
2:3:40:ILE:HD11	2:3:84:VAL:HG23	2.02	0.42
2:3:414:MET:O	2:3:419:ARG:NH1	2.53	0.42
2:3:492:GLU:O	2:3:496:GLU:HG2	2.19	0.42
5:6:9:PRO:O	5:6:11:ALA:N	2.50	0.42
5:6:133:LEU:O	5:6:247:THR:HG22	2.19	0.42
5:6:159:LEU:HD21	5:6:192:LEU:HB2	2.01	0.42
11:G:35:MET:HB2	11:G:221:GLN:HE22	1.84	0.42
1:2:200:LYS:HB3	1:2:200:LYS:HE3	1.87	0.42
1:2:468:SER:HB3	1:2:782:LEU:HD12	2.01	0.42
5:6:370:LEU:HD11	5:6:631:MET:HE1	2.02	0.42
8:D:112:GLU:OE1	8:D:112:GLU:HA	2.20	0.42
12:H:518:SER:HB3	12:H:521:SER:OG	2.20	0.42
12:H:520:ASP:OD1	12:H:520:ASP:C	2.63	0.42
4:5:385:THR:O	4:5:385:THR:CG2	2.67	0.42
12:J:438:THR:HG22	12:J:697:PHE:HB2	2.02	0.42
1:2:734:LYS:HG2	4:5:544:LEU:HD21	2.02	0.42
2:3:489:MET:HB2	4:5:594:ARG:HE	1.85	0.42
3:4:650:LEU:N	3:4:650:LEU:HD12	2.35	0.42
5:6:516:LEU:HB3	5:6:659:VAL:HG13	2.02	0.42
13:K:271:ARG:HA	13:K:302:HIS:CD2	2.55	0.42
15:M:56:DT:H2''	15:M:57:DT:O5'	2.19	0.42
16:N:23:DA:H2''	16:N:24:DT:C7	2.49	0.42
3:4:808:LEU:HD23	3:4:827:ILE:HG12	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:7:612:LEU:HD13	6:7:637:MET:HE2	2.02	0.42
17:Q:601:LEU:O	17:Q:605:MET:HG3	2.20	0.42
1:2:793:MET:O	1:2:797:VAL:HG23	2.20	0.41
3:4:175:ASP:N	3:4:176:PRO:CD	2.83	0.41
6:7:42:HIS:HA	6:7:93:VAL:HG22	2.02	0.41
7:C:314:PHE:CD2	7:C:318:MET:HE2	2.55	0.41
2:3:247:LYS:O	16:N:2:DC:N4	2.33	0.41
3:4:353:LYS:HE2	3:4:369:THR:HG21	2.02	0.41
3:4:472:GLU:O	3:4:473:HIS:HB2	2.20	0.41
12:I:797:ILE:HD11	12:I:813:SER:HA	2.02	0.41
13:K:428:GLU:N	13:K:428:GLU:CD	2.77	0.41
1:2:524:ASP:OD2	1:2:636:ARG:NH1	2.53	0.41
4:5:156:ILE:HD13	4:5:230:GLN:HB2	2.02	0.41
6:7:37:LEU:CD2	6:7:81:VAL:HG13	2.50	0.41
6:7:43:ARG:NH1	6:7:100:ASP:OD2	2.52	0.41
6:7:558:LEU:O	6:7:559:MET:C	2.64	0.41
10:F:40:MET:HE1	10:F:43:LEU:HD22	2.01	0.41
13:K:254:GLU:O	13:K:258:GLN:HG2	2.21	0.41
13:K:520:ARG:HH11	13:K:520:ARG:HG2	1.85	0.41
13:K:754:LEU:HD21	13:K:766:LEU:HB3	2.02	0.41
1:2:468:SER:CB	1:2:782:LEU:HD12	2.50	0.41
3:4:807:LYS:O	3:4:810:LEU:CD1	2.68	0.41
12:H:510:LYS:HD3	12:H:526:ILE:HD11	2.01	0.41
13:K:321:ARG:CD	13:K:321:ARG:H	2.30	0.41
7:C:3:VAL:HG13	7:C:9:GLU:HB3	2.02	0.41
7:C:26:ASP:OD2	7:C:76:ASN:ND2	2.52	0.41
9:E:83:THR:HG22	9:E:84:PHE:H	1.86	0.41
16:N:23:DA:H2'	16:N:24:DT:H72	2.02	0.41
2:3:25:ASP:OD2	2:3:31:ILE:N	2.46	0.41
5:6:477:MET:HG2	5:6:499:ILE:HD12	2.03	0.41
6:7:435:VAL:CG2	6:7:467:ILE:HD11	2.50	0.41
7:C:524:ARG:NH2	7:C:527:GLU:OE2	2.53	0.41
1:2:132:ARG:H	1:2:135:LEU:HD12	1.85	0.41
2:3:585:GLU:H	2:3:585:GLU:CD	2.25	0.41
3:4:200:ILE:HD11	3:4:207:PHE:O	2.20	0.41
3:4:596:LEU:CD2	3:4:598:ILE:HD11	2.51	0.41
3:4:662:LEU:O	3:4:662:LEU:HD23	2.21	0.41
4:5:472:ALA:N	15:M:54:DT:OP1	2.53	0.41
6:7:463:GLU:HB3	6:7:464:GLN:HG3	2.02	0.41
6:7:499:ARG:NH1	6:7:499:ARG:HG3	2.36	0.41
3:4:815:THR:HB	3:4:817:ALA:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:7:344:ILE:HG22	6:7:345:TYR:N	2.36	0.41
6:7:364:GLN:HB3	6:7:366:PRO:HD3	2.03	0.41
12:J:721:GLU:HG2	12:J:725:MET:HE2	2.02	0.41
13:K:180:ASP:N	13:K:180:ASP:OD1	2.53	0.41
1:2:818:PHE:O	1:2:819:ALA:C	2.62	0.41
3:4:808:LEU:HD22	3:4:830:GLN:OE1	2.21	0.41
4:5:525:ASN:OD1	4:5:527:GLU:OE2	2.38	0.41
7:C:528:LYS:HB3	7:C:528:LYS:NZ	2.36	0.41
12:I:758:THR:O	12:I:762:GLN:HG2	2.21	0.41
12:J:601:VAL:HG21	12:J:619:LEU:HD13	2.00	0.41
12:J:779:PHE:O	12:J:783:GLU:HG3	2.21	0.41
13:K:347:SER:O	13:K:351:GLU:HG3	2.21	0.41
1:2:308:THR:HG22	1:2:309:SER:N	2.35	0.41
5:6:535:ILE:HG12	5:6:658:ARG:HD2	2.03	0.41
6:7:593:TRP:CD1	6:7:598:ALA:HB2	2.56	0.41
9:E:117:VAL:HA	9:E:120:MET:HE3	2.03	0.41
1:2:294:LEU:CD2	1:2:308:THR:HG21	2.51	0.40
2:3:195:ASP:CB	2:3:226:VAL:HG21	2.51	0.40
2:3:580:PRO:HG2	2:3:626:THR:HG23	2.02	0.40
2:3:601:ASP:OD1	2:3:609:ARG:NE	2.52	0.40
3:4:176:PRO:O	3:4:177:LEU:HD13	2.22	0.40
3:4:727:VAL:O	3:4:727:VAL:HG23	2.21	0.40
3:4:743:ALA:O	3:4:747:VAL:HG23	2.21	0.40
4:5:330:ASN:OD1	4:5:330:ASN:N	2.54	0.40
6:7:599:THR:O	6:7:600:TYR:C	2.65	0.40
7:C:18:ARG:NH2	8:D:167:VAL:HG12	2.36	0.40
7:C:57:GLU:OE1	7:C:57:GLU:N	2.50	0.40
9:E:67:ASP:OD1	9:E:68:VAL:N	2.54	0.40
2:3:33:GLN:O	2:3:37:ARG:HG2	2.21	0.40
2:3:482:LEU:HD22	2:3:610:THR:HG21	2.03	0.40
3:4:592:GLU:OE2	5:6:407:LYS:HE3	2.22	0.40
6:7:3:LEU:HD23	6:7:3:LEU:C	2.45	0.40
6:7:372:ARG:O	6:7:611:ARG:HD3	2.21	0.40
7:C:3:VAL:HG13	7:C:9:GLU:CB	2.51	0.40
12:H:716:CYS:HB2	12:J:527:ILE:HD11	2.03	0.40
2:3:531:ASP:HB2	2:3:532:PRO:HD3	2.03	0.40
3:4:711:ILE:O	3:4:715:VAL:HG23	2.22	0.40
3:4:723:SER:O	3:4:724:ARG:HB2	2.21	0.40
4:5:131:ASP:O	7:C:328:LYS:NZ	2.41	0.40
13:K:705:ARG:HG2	13:K:794:TRP:CZ2	2.56	0.40
16:N:20:DC:H2'	16:N:21:DT:H71	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:2:571:LEU:O	4:5:241:MET:HE2	2.21	0.40
2:3:424:GLU:HG2	2:3:430:ARG:O	2.21	0.40
3:4:322:ILE:HD11	5:6:281:ILE:HD13	2.03	0.40
3:4:469:SER:O	3:4:469:SER:OG	2.36	0.40
3:4:790:MET:H	3:4:790:MET:CE	2.34	0.40
6:7:463:GLU:OE2	6:7:514:ARG:NH1	2.54	0.40
6:7:526:ASP:OD1	6:7:526:ASP:C	2.63	0.40
8:D:88:ARG:CD	11:G:101:GLU:OE2	2.70	0.40
12:J:518:SER:OG	12:J:520:ASP:OD1	2.33	0.40
13:K:447:LEU:HB3	13:K:508:LEU:CD2	2.51	0.40
3:4:780:ILE:HD12	3:4:780:ILE:N	2.36	0.40
6:7:372:ARG:CZ	6:7:463:GLU:O	2.70	0.40
9:E:94:GLU:H	9:E:94:GLU:CD	2.30	0.40
13:K:140:LEU:CB	13:K:156:ILE:HD11	2.51	0.40
13:K:456:SER:OG	13:K:461:VAL:CG2	2.69	0.40
17:Q:607:LEU:CD2	17:Q:611:GLU:OE2	2.70	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	2	648/904 (72%)	619 (96%)	26 (4%)	3 (0%)	24	22
2	3	626/808 (78%)	588 (94%)	36 (6%)	2 (0%)	36	36
3	4	685/863 (79%)	656 (96%)	26 (4%)	3 (0%)	30	28
4	5	597/734 (81%)	576 (96%)	19 (3%)	2 (0%)	36	36
5	6	630/821 (77%)	602 (96%)	27 (4%)	1 (0%)	43	44
6	7	611/719 (85%)	575 (94%)	33 (5%)	3 (0%)	24	22
7	C	530/569 (93%)	521 (98%)	9 (2%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
8	D	194/196 (99%)	189 (97%)	5 (3%)	0	100	100
9	E	174/185 (94%)	173 (99%)	1 (1%)	0	100	100
10	F	190/216 (88%)	185 (97%)	5 (3%)	0	100	100
11	G	201/264 (76%)	198 (98%)	3 (2%)	0	100	100
12	H	401/1132 (35%)	393 (98%)	8 (2%)	0	100	100
12	I	401/1132 (35%)	388 (97%)	12 (3%)	1 (0%)	43	44
12	J	400/1132 (35%)	395 (99%)	5 (1%)	0	100	100
13	K	641/1211 (53%)	620 (97%)	21 (3%)	0	100	100
14	L	85/301 (28%)	79 (93%)	5 (6%)	1 (1%)	10	7
17	Q	88/1345 (6%)	85 (97%)	1 (1%)	2 (2%)	5	2
All	All	7102/12532 (57%)	6842 (96%)	242 (3%)	18 (0%)	37	36

All (18) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	2	756	ALA
1	2	821	TYR
3	4	497	ARG
3	4	724	ARG
4	5	209	LEU
6	7	424	SER
12	I	518	SER
1	2	742	LYS
2	3	170	SER
3	4	252	SER
4	5	647	SER
17	Q	570	ALA
6	7	595	SER
14	L	62	ARG
6	7	550	GLN
17	Q	569	LYS
5	6	44	ILE
2	3	166	VAL

5.3.2 Protein sidechains ⓘ

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	2	569/781 (73%)	553 (97%)	16 (3%)	38	43
2	3	546/707 (77%)	536 (98%)	10 (2%)	51	60
3	4	609/753 (81%)	592 (97%)	17 (3%)	38	43
4	5	515/625 (82%)	511 (99%)	4 (1%)	73	81
5	6	560/724 (77%)	552 (99%)	8 (1%)	59	67
6	7	535/619 (86%)	531 (99%)	4 (1%)	76	83
7	C	487/520 (94%)	482 (99%)	5 (1%)	68	76
8	D	174/174 (100%)	173 (99%)	1 (1%)	78	86
9	E	160/169 (95%)	159 (99%)	1 (1%)	78	86
10	F	167/186 (90%)	164 (98%)	3 (2%)	51	60
11	G	188/234 (80%)	187 (100%)	1 (0%)	81	88
12	H	347/989 (35%)	341 (98%)	6 (2%)	53	62
12	I	347/989 (35%)	342 (99%)	5 (1%)	59	67
12	J	346/989 (35%)	345 (100%)	1 (0%)	86	91
13	K	569/1057 (54%)	563 (99%)	6 (1%)	65	74
14	L	78/274 (28%)	73 (94%)	5 (6%)	16	14
17	Q	90/1205 (8%)	81 (90%)	9 (10%)	7	5
All	All	6287/10995 (57%)	6185 (98%)	102 (2%)	54	64

All (102) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	2	142	GLU
1	2	209	SER
1	2	326	LYS
1	2	331	LYS
1	2	343	GLN
1	2	345	GLN
1	2	361	PHE
1	2	362	GLU
1	2	568	GLU
1	2	736	ASN
1	2	759	SER

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Mol	Chain	Res	Type
1	2	760	ILE
1	2	770	MET
1	2	820	ARG
1	2	822	LEU
1	2	825	ARG
2	3	12	LEU
2	3	118	SER
2	3	165	LEU
2	3	527	LEU
2	3	543	GLN
2	3	557	LYS
2	3	558	LYS
2	3	559	LYS
2	3	650	GLN
2	3	656	LYS
3	4	175	ASP
3	4	177	LEU
3	4	195	GLN
3	4	247	ASP
3	4	251	ASP
3	4	255	GLU
3	4	266	LEU
3	4	270	ASN
3	4	334	THR
3	4	497	ARG
3	4	553	THR
3	4	629	THR
3	4	751	ASN
3	4	823	LEU
3	4	824	PHE
3	4	832	ASP
3	4	836	THR
4	5	175	CYS
4	5	210	ASP
4	5	287	VAL
4	5	436	LEU
5	6	99	LYS
5	6	247	THR
5	6	250	VAL
5	6	299	LEU
5	6	321	THR
5	6	328	GLN

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Mol	Chain	Res	Type
5	6	337	VAL
5	6	565	ARG
6	7	439	GLN
6	7	478	LEU
6	7	544	SER
6	7	566	CYS
7	C	43	ASP
7	C	210	SER
7	C	468	LEU
7	C	509	ILE
7	C	538	LEU
8	D	5	LYS
9	E	104	SER
10	F	46	PHE
10	F	159	GLU
10	F	190	GLU
11	G	22	THR
12	H	482	SER
12	H	522	SER
12	H	612	GLN
12	H	630	ILE
12	H	669	LYS
12	H	771	LEU
12	I	489	ILE
12	I	518	SER
12	I	521	SER
12	I	526	ILE
12	I	554	LEU
12	J	672	SER
13	K	287	LEU
13	K	321	ARG
13	K	376	THR
13	K	476	MET
13	K	513	LEU
13	K	804	THR
14	L	62	ARG
14	L	71	ARG
14	L	72	LEU
14	L	78	LEU
14	L	121	GLU
17	Q	289	LEU
17	Q	300	SER

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Mol	Chain	Res	Type
17	Q	531	LEU
17	Q	549	GLN
17	Q	552	ASN
17	Q	555	VAL
17	Q	556	ILE
17	Q	568	LEU
17	Q	612	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (63) such sidechains are listed below:

Mol	Chain	Res	Type
1	2	280	HIS
1	2	282	HIS
1	2	344	ASN
1	2	511	HIS
1	2	593	ASN
1	2	601	HIS
1	2	621	GLN
1	2	740	GLN
2	3	16	GLN
2	3	50	ASN
2	3	67	ASN
2	3	181	ASN
2	3	196	HIS
2	3	428	GLN
3	4	355	GLN
3	4	407	ASN
3	4	638	HIS
3	4	695	HIS
3	4	733	GLN
4	5	25	GLN
4	5	41	GLN
4	5	238	HIS
5	6	121	HIS
5	6	148	HIS
5	6	162	GLN
5	6	359	HIS
5	6	404	GLN
5	6	470	GLN
6	7	30	GLN
6	7	439	GLN
7	C	44	HIS

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Mol	Chain	Res	Type
7	C	114	GLN
7	C	214	ASN
7	C	246	GLN
7	C	252	HIS
7	C	283	HIS
7	C	308	GLN
10	F	29	HIS
10	F	122	GLN
12	H	515	HIS
12	H	667	HIS
12	I	515	HIS
12	I	724	GLN
12	I	745	ASN
12	I	756	GLN
12	J	434	GLN
12	J	494	HIS
12	J	531	GLN
12	J	542	GLN
13	K	4	HIS
13	K	26	HIS
13	K	53	GLN
13	K	142	GLN
13	K	244	GLN
13	K	302	HIS
13	K	373	HIS
13	K	409	HIS
13	K	413	GLN
13	K	451	ASN
13	K	507	HIS
13	K	720	HIS
13	K	752	ASN
17	Q	552	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 [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 12 ligands modelled in this entry, 8 are monoatomic - leaving 4 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# $ Z > 2$	Counts	RMSZ	# $ Z > 2$
19	ANP	2	1002	18	33,33,33	1.93	13 (39%)	45,52,52	2.07	13 (28%)
19	ANP	5	801	18	33,33,33	1.85	11 (33%)	45,52,52	2.04	13 (28%)
19	ANP	3	1500	18	33,33,33	1.86	11 (33%)	45,52,52	2.07	13 (28%)
19	ANP	6	903	18	33,33,33	1.95	12 (36%)	45,52,52	2.10	13 (28%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
19	ANP	2	1002	18	-	3/18/38/38	0/3/3/3
19	ANP	5	801	18	-	4/18/38/38	0/3/3/3
19	ANP	3	1500	18	-	1/18/38/38	0/3/3/3
19	ANP	6	903	18	-	4/18/38/38	0/3/3/3

All (47) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	3	1500	ANP	PB-N3B	4.62	1.75	1.63
19	6	903	ANP	PG-N3B	4.54	1.75	1.63
19	6	903	ANP	PB-N3B	4.45	1.75	1.63
19	5	801	ANP	PG-N3B	4.43	1.74	1.63
19	2	1002	ANP	PG-N3B	4.40	1.74	1.63
19	6	903	ANP	C5-C4	4.33	1.46	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
19	3	1500	ANP	PG-N3B	4.30	1.74	1.63
19	5	801	ANP	PB-N3B	4.21	1.74	1.63
19	2	1002	ANP	PB-N3B	4.18	1.74	1.63
19	2	1002	ANP	C5-C4	4.06	1.46	1.39
19	3	1500	ANP	C5-C4	4.01	1.46	1.39
19	5	801	ANP	C5-C4	3.99	1.46	1.39
19	6	903	ANP	PB-O1B	3.14	1.50	1.46
19	6	903	ANP	PG-O1G	3.13	1.50	1.46
19	2	1002	ANP	PG-O1G	3.01	1.50	1.46
19	3	1500	ANP	C5-N7	-2.85	1.33	1.39
19	2	1002	ANP	C5-N7	-2.76	1.34	1.39
19	5	801	ANP	C5-N7	-2.67	1.34	1.39
19	2	1002	ANP	PG-O2G	-2.57	1.50	1.56
19	3	1500	ANP	PB-O2B	-2.53	1.50	1.56
19	5	801	ANP	PB-O2B	-2.52	1.50	1.56
19	6	903	ANP	C4-N9	-2.50	1.32	1.37
19	3	1500	ANP	PG-O3G	-2.49	1.50	1.56
19	2	1002	ANP	PB-O2B	-2.46	1.50	1.56
19	2	1002	ANP	PG-O3G	-2.44	1.50	1.56
19	6	903	ANP	C5-C6	2.44	1.47	1.41
19	3	1500	ANP	C4-N9	-2.41	1.32	1.37
19	2	1002	ANP	C5-C6	2.41	1.47	1.41
19	5	801	ANP	PG-O2G	-2.38	1.50	1.56
19	6	903	ANP	PB-O2B	-2.35	1.50	1.56
19	5	801	ANP	PG-O3G	-2.35	1.50	1.56
19	5	801	ANP	C5-C6	2.34	1.47	1.41
19	6	903	ANP	C5-N7	-2.29	1.34	1.39
19	6	903	ANP	C8-N7	2.28	1.36	1.31
19	5	801	ANP	PB-O1B	2.26	1.49	1.46
19	2	1002	ANP	C4-N9	-2.26	1.33	1.37
19	3	1500	ANP	C5-C6	2.25	1.47	1.41
19	5	801	ANP	PG-O1G	2.24	1.49	1.46
19	3	1500	ANP	PG-O2G	-2.24	1.50	1.56
19	5	801	ANP	C4-N9	-2.21	1.33	1.37
19	3	1500	ANP	PB-O1B	2.13	1.49	1.46
19	2	1002	ANP	C8-N7	2.13	1.35	1.31
19	2	1002	ANP	PA-O3A	2.12	1.61	1.59
19	3	1500	ANP	PG-O1G	2.06	1.49	1.46
19	6	903	ANP	PG-O3G	-2.04	1.51	1.56
19	6	903	ANP	PG-O2G	-2.03	1.51	1.56
19	2	1002	ANP	PB-O1B	2.02	1.49	1.46

All (52) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	2	1002	ANP	C5-C4-N3	-5.94	118.54	126.72
19	5	801	ANP	C5-C4-N3	-5.71	118.86	126.72
19	3	1500	ANP	C5-C4-N3	-5.66	118.92	126.72
19	3	1500	ANP	O1G-PG-N3B	-5.53	103.63	111.77
19	2	1002	ANP	O1G-PG-N3B	-5.41	103.80	111.77
19	6	903	ANP	O2B-PB-O1B	5.30	121.24	109.87
19	6	903	ANP	O1G-PG-N3B	-4.97	104.46	111.77
19	5	801	ANP	N3-C4-N9	4.73	135.21	127.17
19	6	903	ANP	C5-C4-N3	-4.67	120.29	126.72
19	3	1500	ANP	N3-C4-N9	4.60	134.99	127.17
19	2	1002	ANP	N3-C4-N9	4.58	134.95	127.17
19	6	903	ANP	N3-C2-N1	-4.02	122.50	128.58
19	5	801	ANP	N3-C2-N1	-3.99	122.54	128.58
19	5	801	ANP	C2-N3-C4	3.91	121.37	111.83
19	2	1002	ANP	C2-N3-C4	3.90	121.35	111.83
19	6	903	ANP	N3-C4-N9	3.86	133.73	127.17
19	2	1002	ANP	N3-C2-N1	-3.78	122.86	128.58
19	3	1500	ANP	C2-N3-C4	3.73	120.94	111.83
19	6	903	ANP	C4-N9-C8	3.66	109.58	105.74
19	3	1500	ANP	N3-C2-N1	-3.65	123.06	128.58
19	2	1002	ANP	C4-C5-N7	-3.62	106.44	110.58
19	5	801	ANP	O2B-PB-O1B	3.52	117.42	109.87
19	6	903	ANP	C2-N3-C4	3.49	120.35	111.83
19	3	1500	ANP	C4-C5-N7	-3.42	106.68	110.58
19	6	903	ANP	C4-C5-N7	-3.38	106.72	110.58
19	5	801	ANP	C4-C5-N7	-3.38	106.72	110.58
19	5	801	ANP	C4-N9-C8	3.32	109.23	105.74
19	3	1500	ANP	O2B-PB-O1B	3.22	116.77	109.87
19	5	801	ANP	O1G-PG-N3B	-3.21	107.04	111.77
19	3	1500	ANP	C4-N9-C8	3.17	109.06	105.74
19	2	1002	ANP	O2B-PB-O1B	3.05	116.40	109.87
19	5	801	ANP	O1B-PB-N3B	-3.01	107.34	111.77
19	6	903	ANP	C2-N1-C6	2.87	123.44	118.73
19	2	1002	ANP	C4-N9-C8	2.80	108.67	105.74
19	5	801	ANP	C5-N7-C8	2.78	107.82	103.45
19	2	1002	ANP	C5-N7-C8	2.75	107.78	103.45
19	3	1500	ANP	C5-N7-C8	2.71	107.70	103.45
19	6	903	ANP	N9-C8-N7	-2.65	110.18	113.94
19	6	903	ANP	C5-N7-C8	2.60	107.53	103.45
19	5	801	ANP	N9-C8-N7	-2.56	110.30	113.94
19	6	903	ANP	C6-C5-N7	2.51	136.94	132.09
19	3	1500	ANP	N9-C8-N7	-2.44	110.47	113.94
19	2	1002	ANP	N9-C8-N7	-2.35	110.60	113.94

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
19	3	1500	ANP	O2G-PG-O3G	2.32	113.82	107.59
19	6	903	ANP	O2G-PG-O3G	2.28	113.72	107.59
19	5	801	ANP	C6-C5-N7	2.25	136.42	132.09
19	2	1002	ANP	O2G-PG-O3G	2.21	113.53	107.59
19	5	801	ANP	C2-N1-C6	2.20	122.35	118.73
19	2	1002	ANP	C6-C5-N7	2.17	136.28	132.09
19	3	1500	ANP	C6-C5-N7	2.15	136.23	132.09
19	3	1500	ANP	C2-N1-C6	2.14	122.25	118.73
19	2	1002	ANP	C2-N1-C6	2.11	122.19	118.73

There are no chirality outliers.

All (12) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
19	2	1002	ANP	PB-N3B-PG-O1G
19	2	1002	ANP	PG-N3B-PB-O1B
19	3	1500	ANP	PG-N3B-PB-O1B
19	5	801	ANP	PG-N3B-PB-O1B
19	5	801	ANP	C5'-O5'-PA-O1A
19	5	801	ANP	C5'-O5'-PA-O2A
19	5	801	ANP	C5'-O5'-PA-O3A
19	6	903	ANP	PB-N3B-PG-O1G
19	6	903	ANP	C5'-O5'-PA-O1A
19	6	903	ANP	C5'-O5'-PA-O2A
19	6	903	ANP	C5'-O5'-PA-O3A
19	2	1002	ANP	PG-N3B-PB-O3A

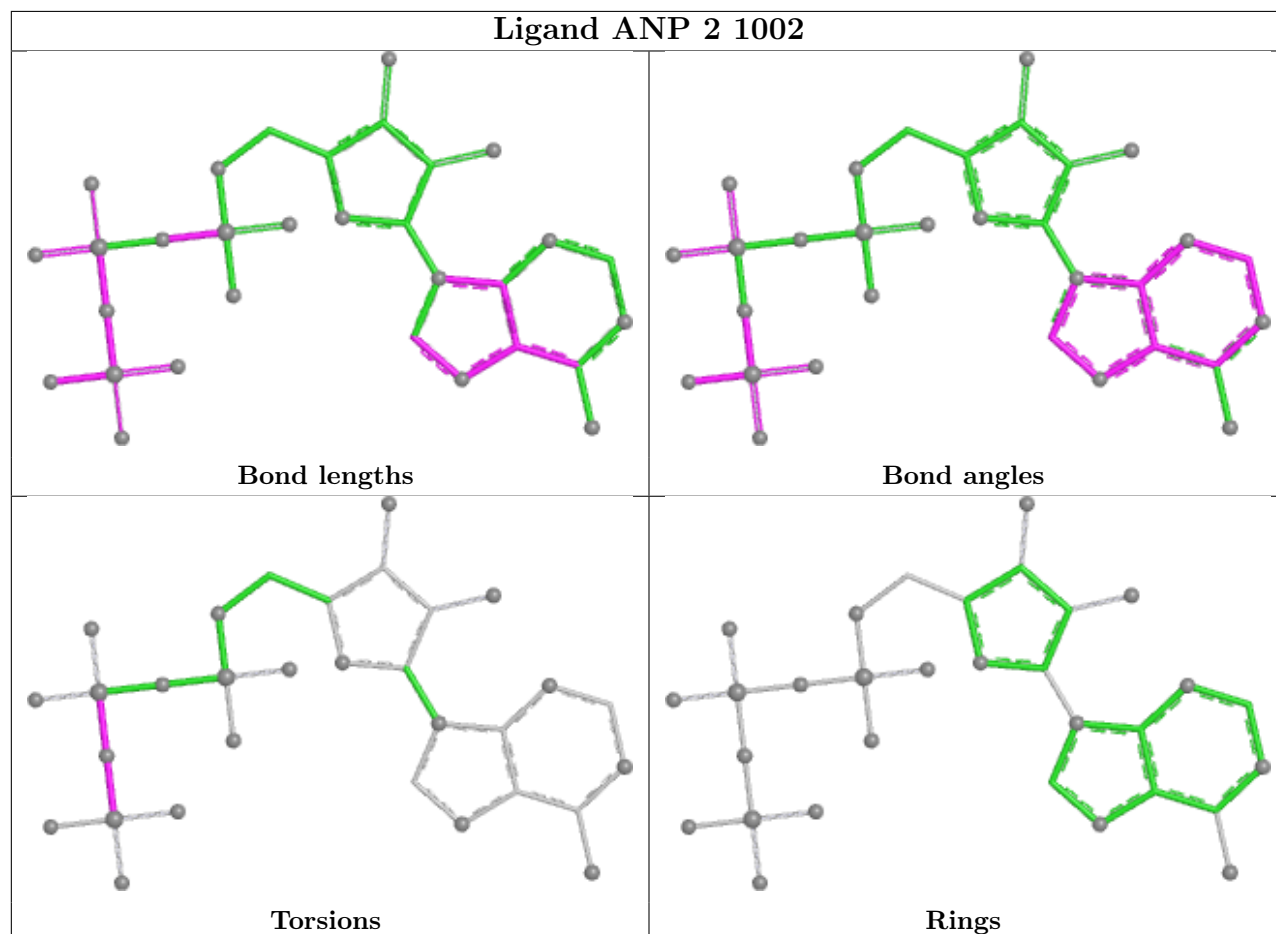
There are no ring outliers.

1 monomer is involved in 1 short contact:

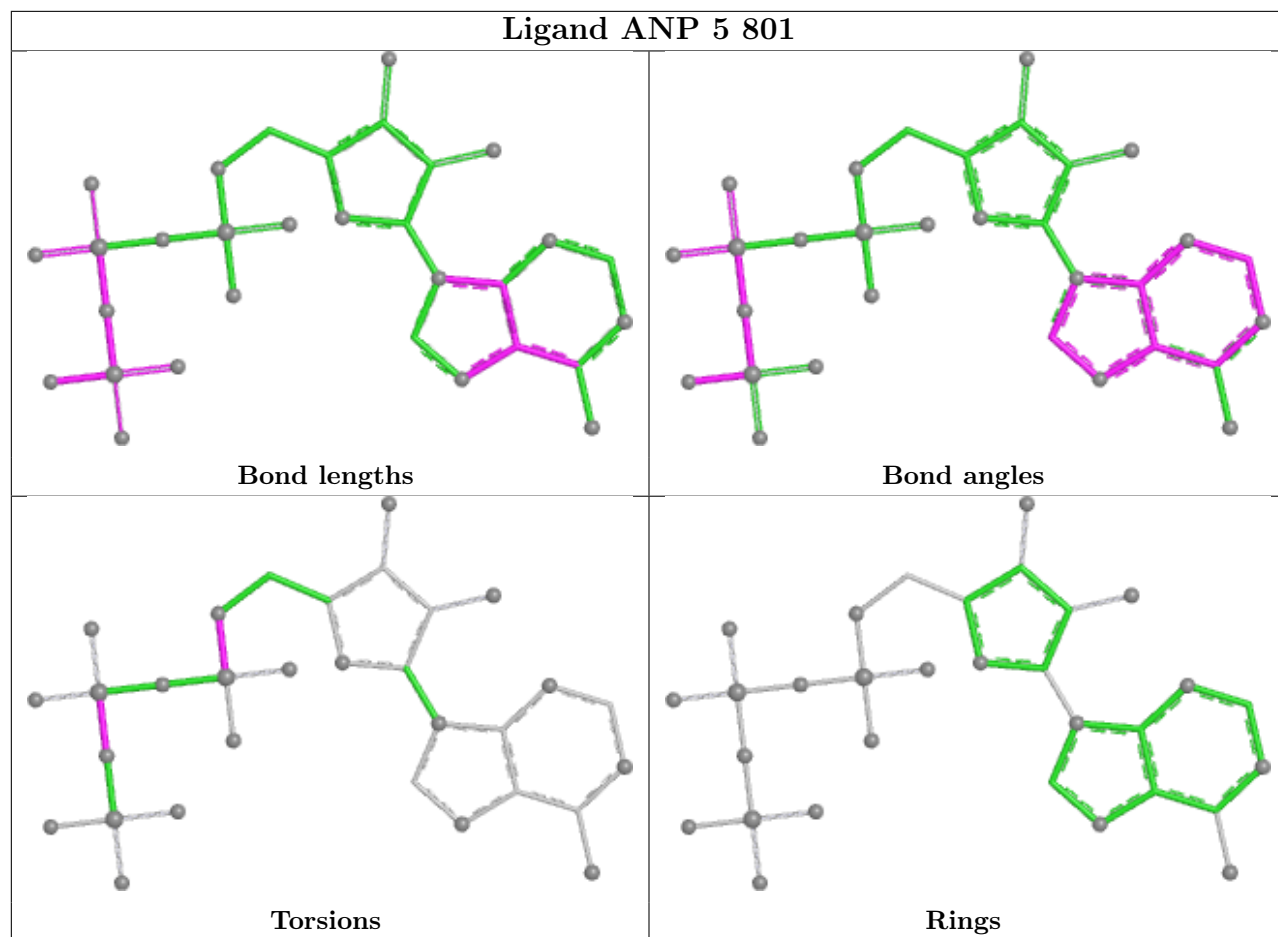
Mol	Chain	Res	Type	Clashes	Symm-Clashes
19	6	903	ANP	1	0

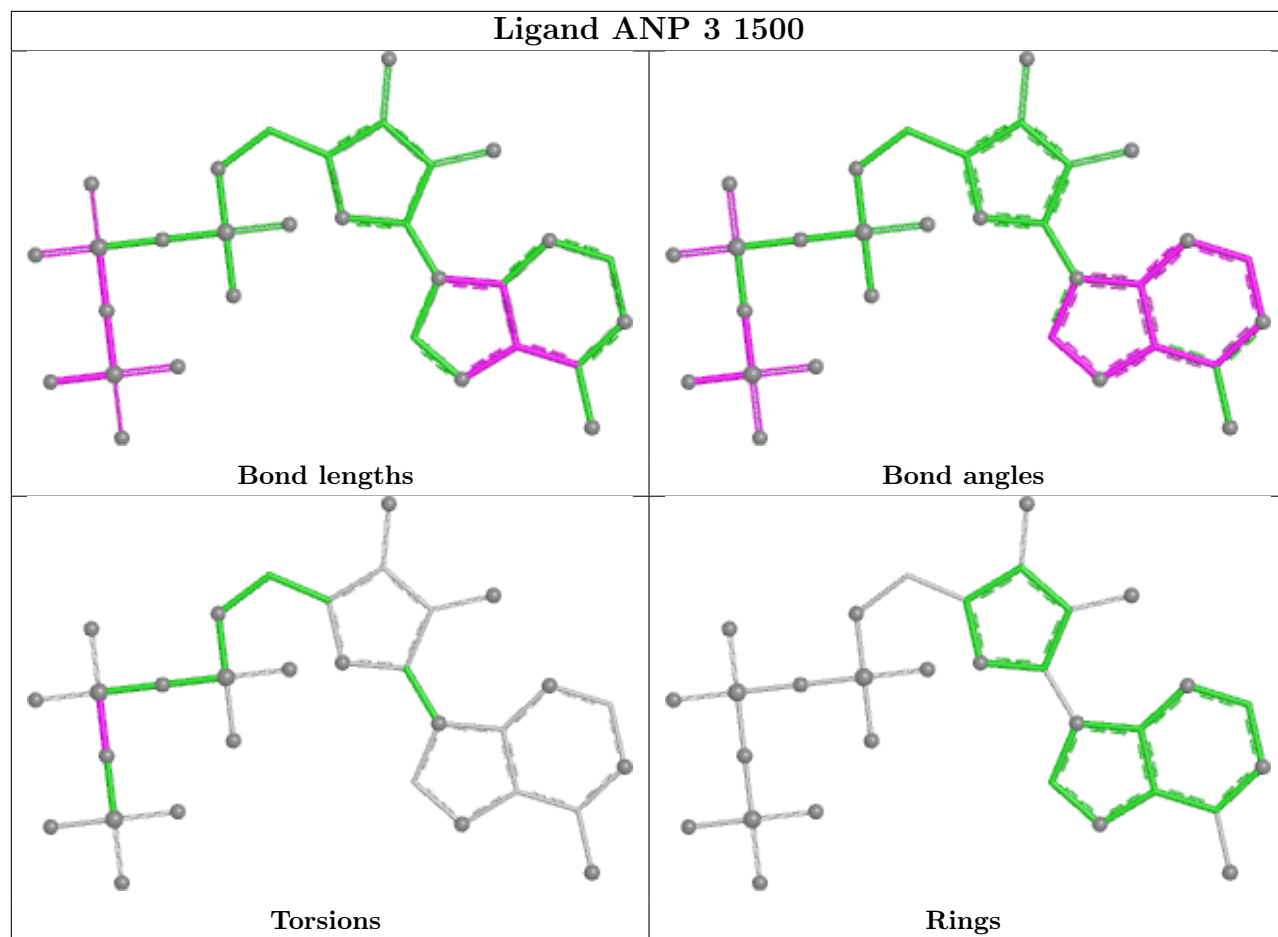
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and

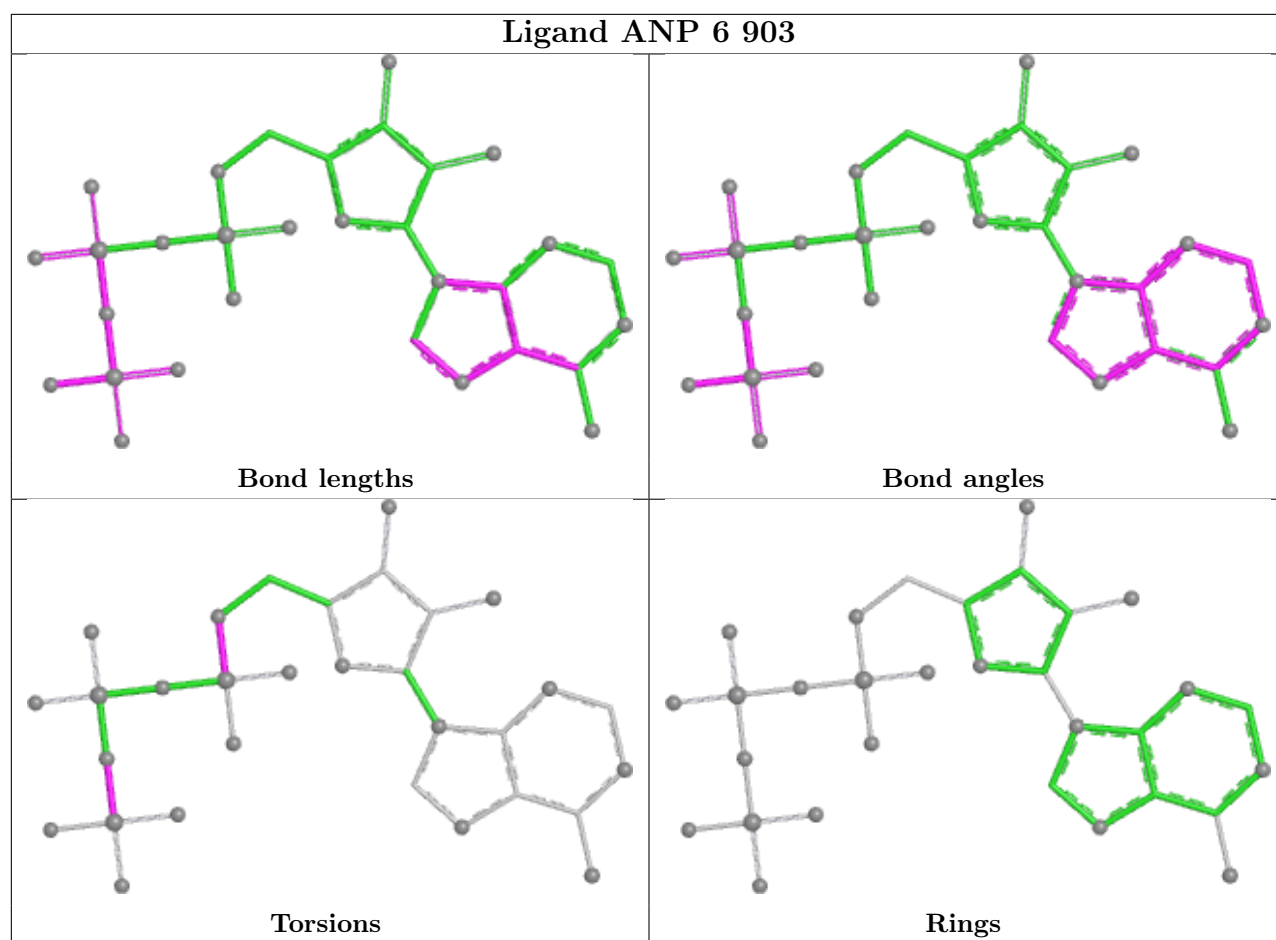
any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



Ligand ANP 5 801







5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

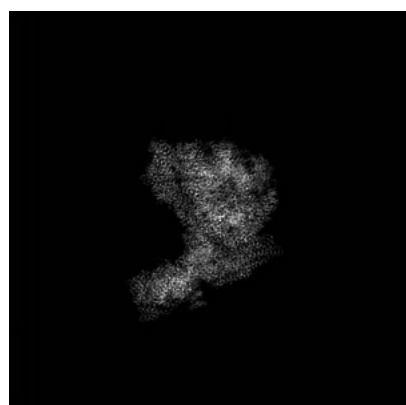
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-70068. These allow visual inspection of the internal detail of the map and identification of artifacts.

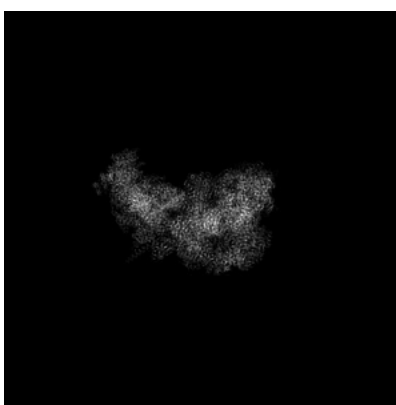
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections [i](#)

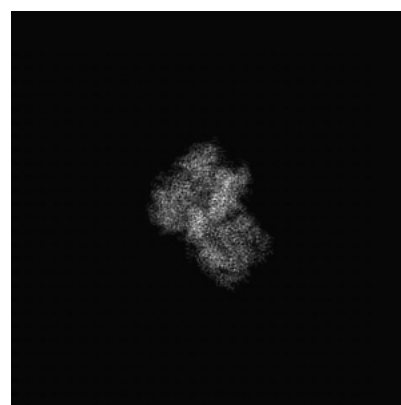
6.1.1 Primary map



X



Y

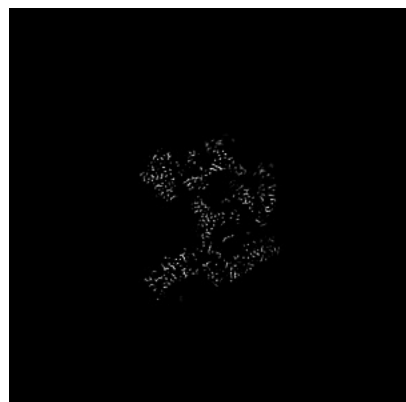


Z

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

6.2 Central slices [i](#)

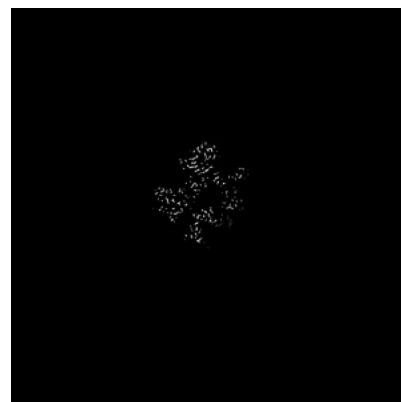
6.2.1 Primary map



X Index: 250



Y Index: 250



Z Index: 250

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: 263



Y Index: 264

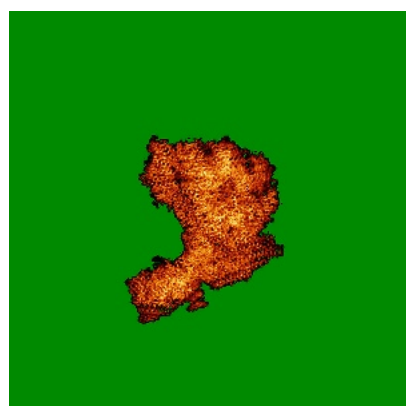


Z Index: 297

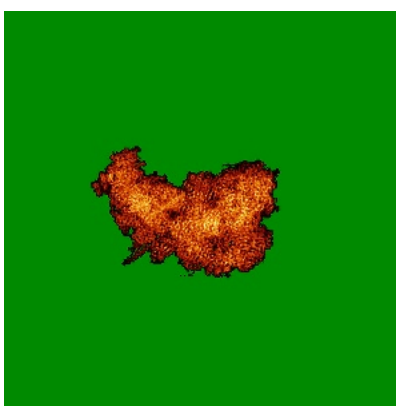
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

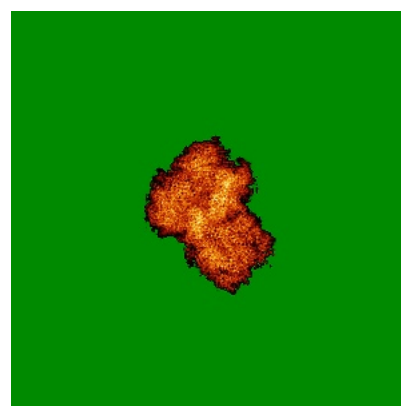
6.4.1 Primary map



X



Y

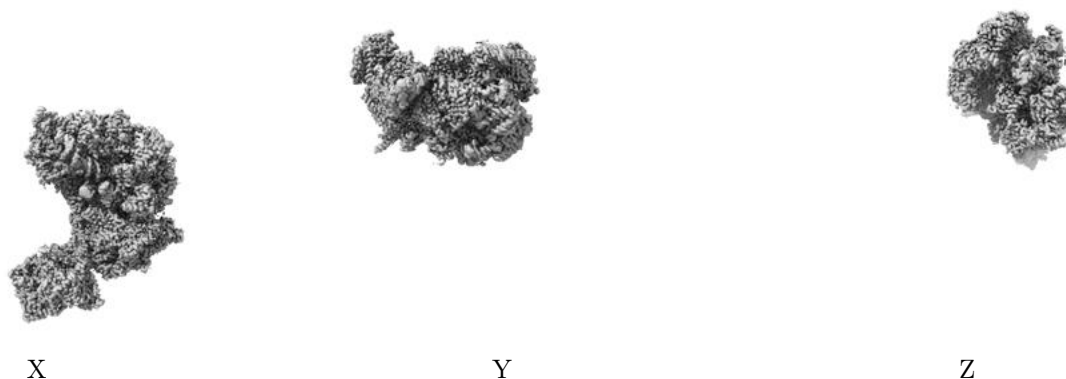


Z

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



The images above show the 3D surface view of the map at the recommended contour level 0.00859. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

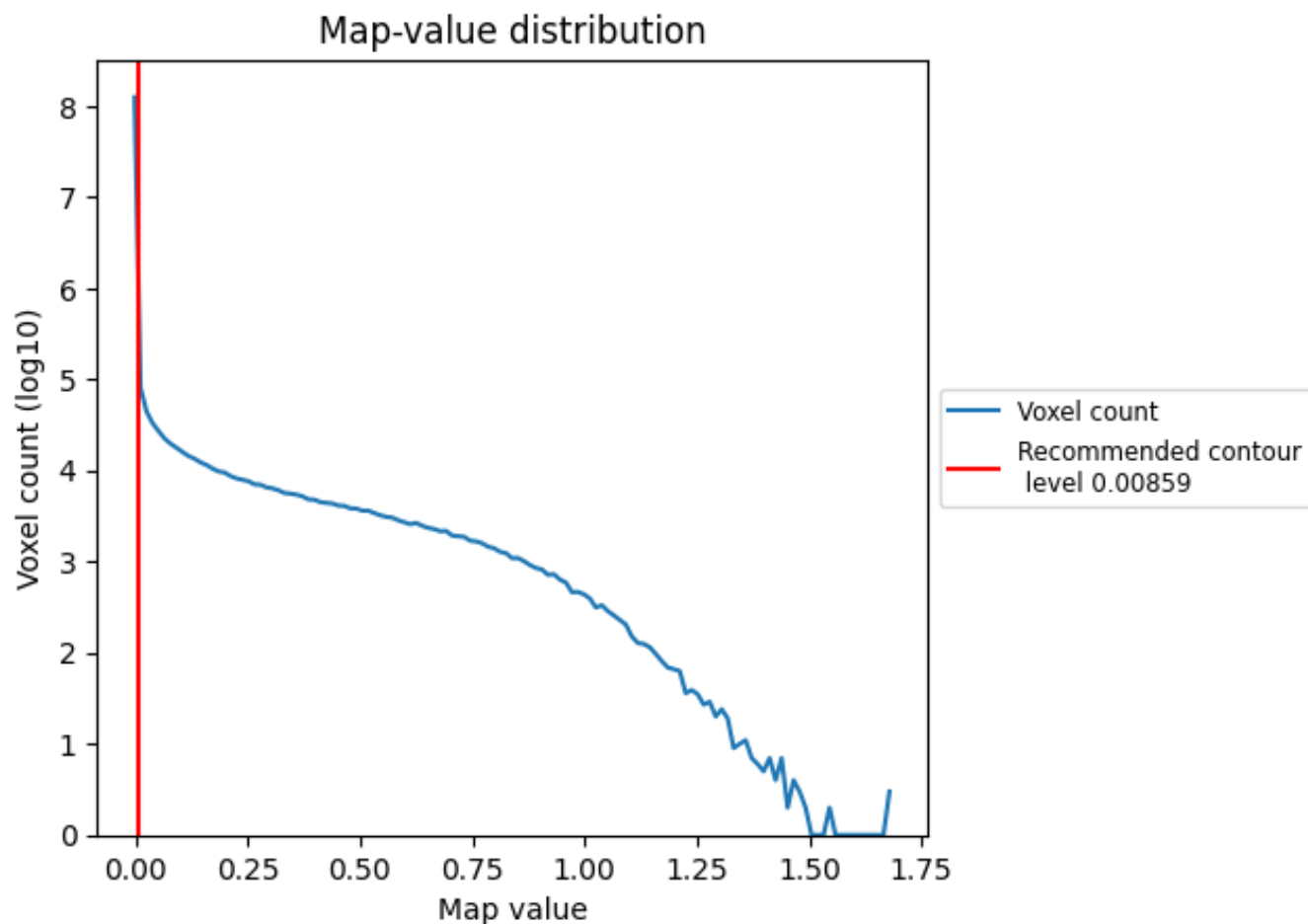
6.6 Mask visualisation [i](#)

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

7 Map analysis [i](#)

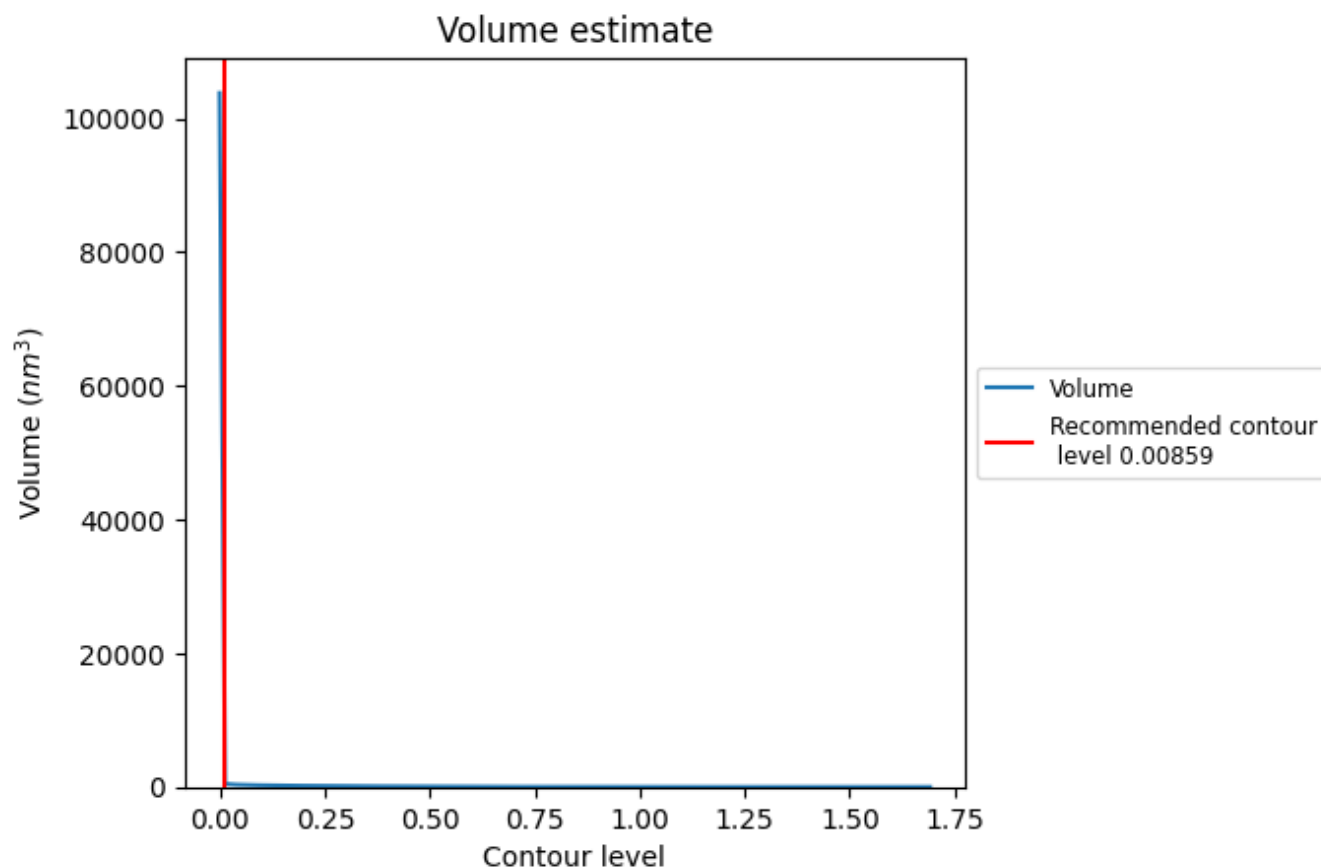
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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

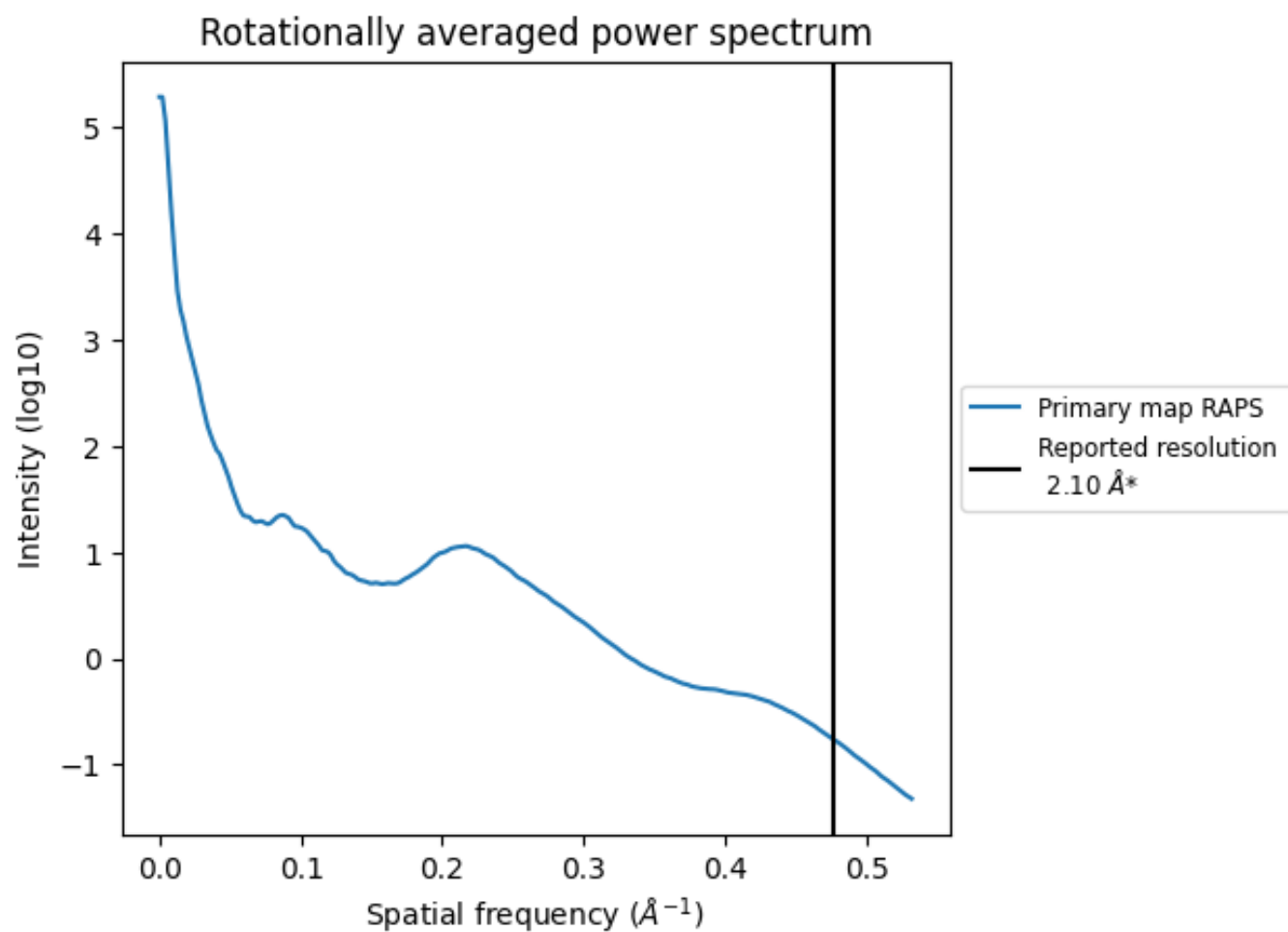
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 22140 nm³; this corresponds to an approximate mass of 20000 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 ⓘ



*Reported resolution corresponds to spatial frequency of 0.476 Å⁻¹

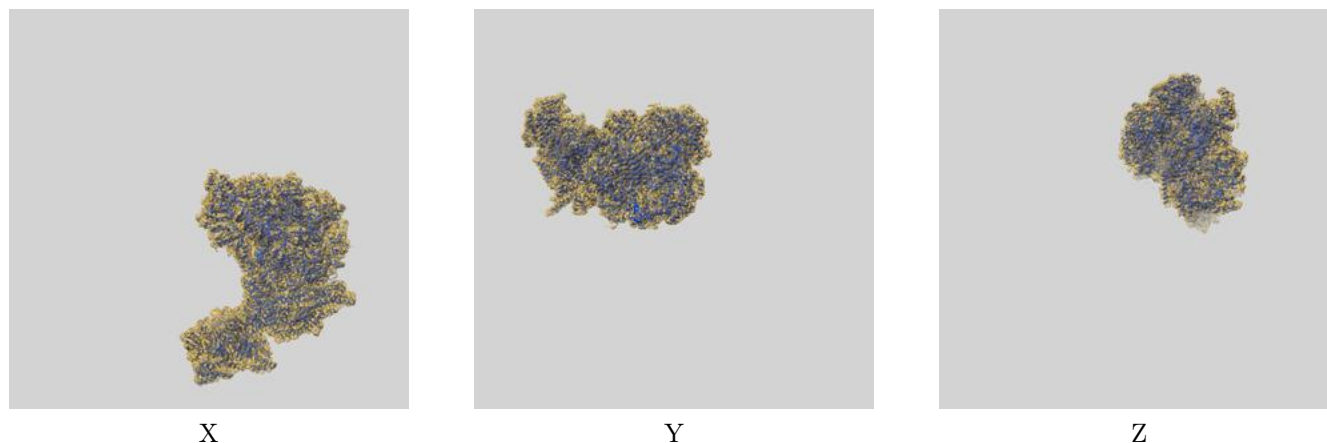
8 Fourier-Shell correlation ⓘ

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

9 Map-model fit [i](#)

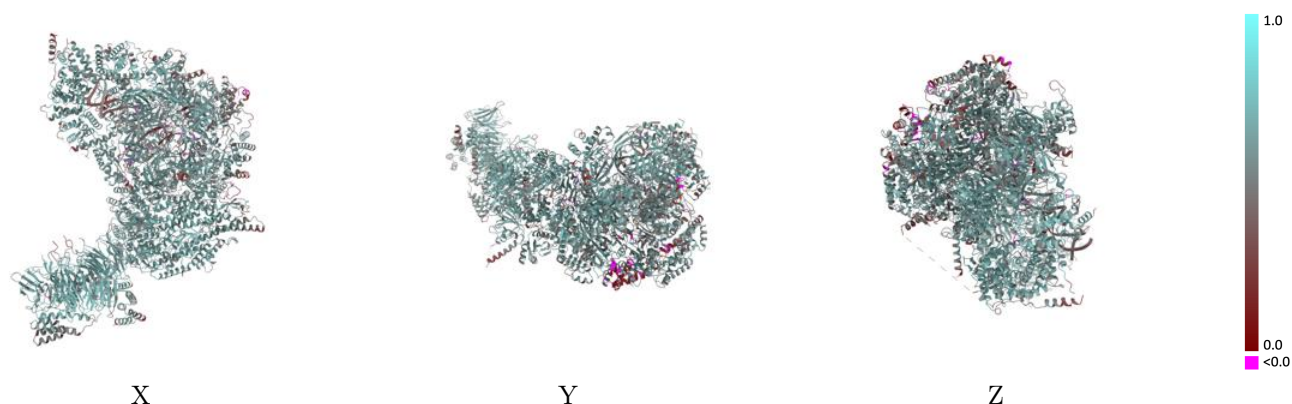
This section contains information regarding the fit between EMDB map EMD-70068 and PDB model 9O34. Per-residue inclusion information can be found in [section 3](#) on [page 10](#).

9.1 Map-model overlay [i](#)



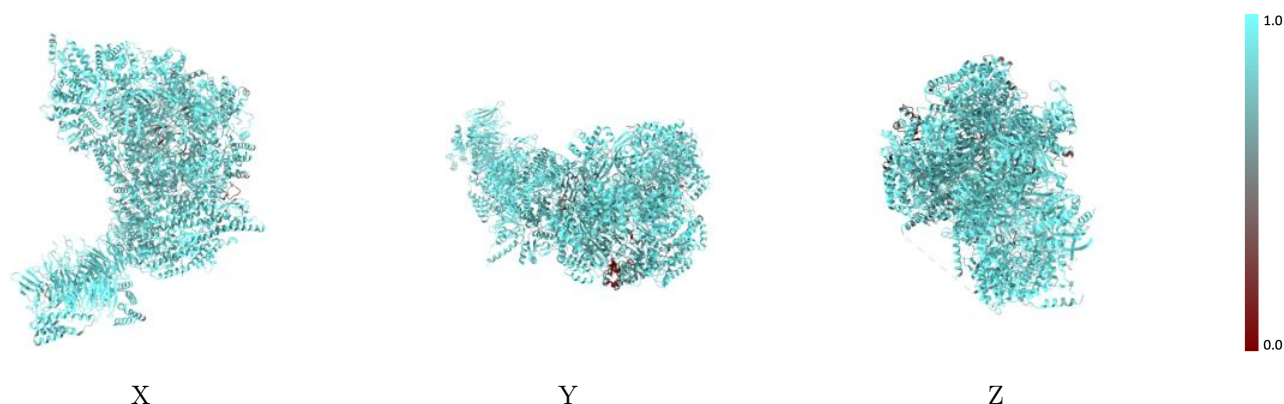
The images above show the 3D surface view of the map at the recommended contour level 0.00859 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



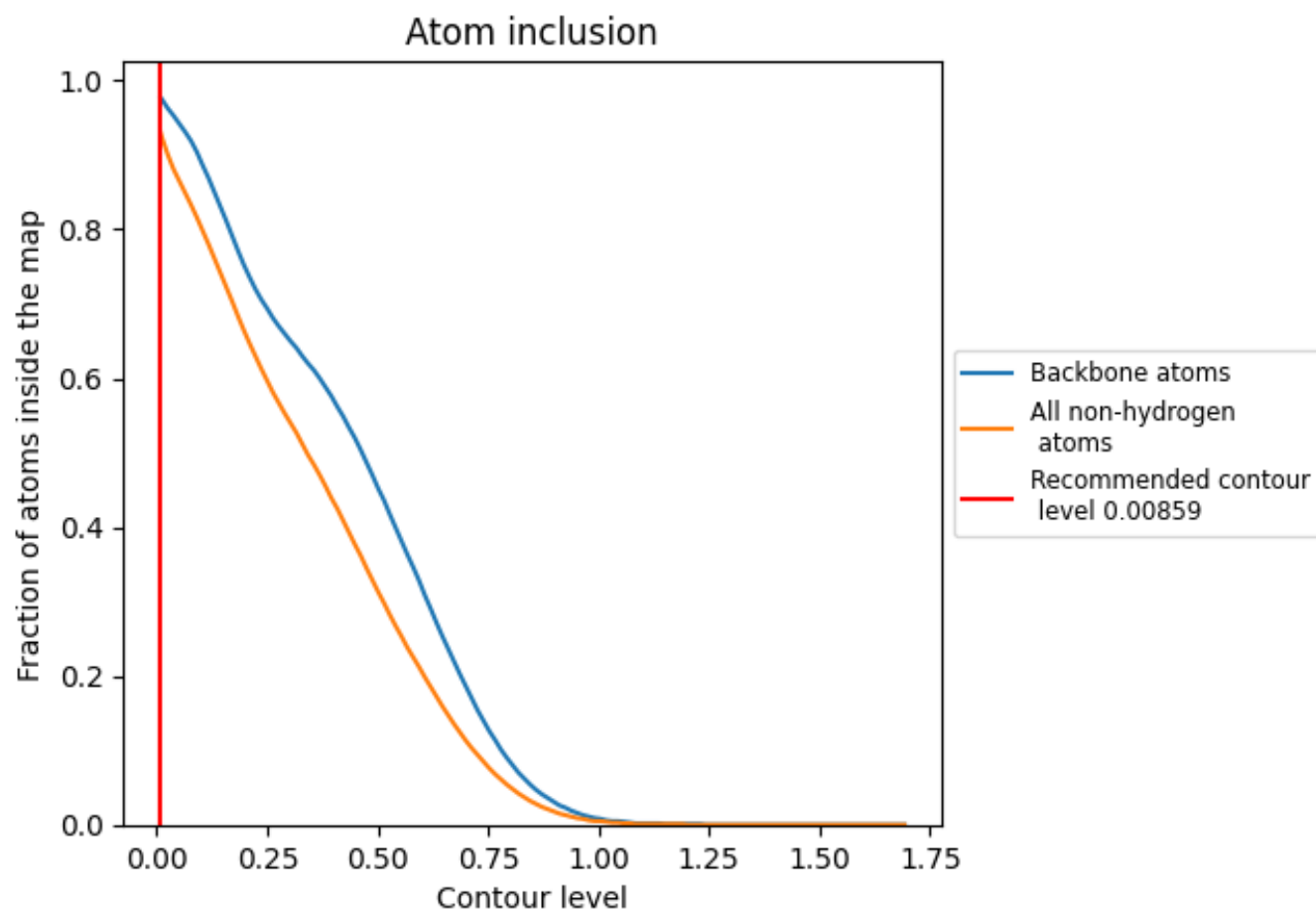
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

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



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.00859).

9.4 Atom inclusion [i](#)



At the recommended contour level, 98% of all backbone atoms, 93% 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 (0.00859) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.9300	 0.5730
2	 0.9520	 0.5960
3	 0.9100	 0.5590
4	 0.8740	 0.5070
5	 0.9450	 0.5980
6	 0.9250	 0.5670
7	 0.9110	 0.5120
C	 0.9530	 0.5920
D	 0.9430	 0.5710
E	 0.9670	 0.6490
F	 0.9400	 0.6010
G	 0.9530	 0.6100
H	 0.9530	 0.6110
I	 0.9380	 0.5910
J	 0.9390	 0.6100
K	 0.9590	 0.6100
L	 0.9130	 0.5580
M	 0.8690	 0.4550
N	 0.8840	 0.4110
Q	 0.8300	 0.4430

