Full wwPDB EM Validation Report ⓘ

Jun 24, 2026 – 09:53 PM EDT

PDB ID	:	12BM / pdb_000012bm
EMDB ID	:	EMD-76283
Title	:	Human 19S proteasome bound to TXNL1 PITH domain state 2
Authors	:	Chen, X.; Negi, H.; Walters, K.J.
Deposited on	:	2026-03-25
Resolution	:	3.89 Å(reported)
Based on initial models	:	1WWY, 7WSI, .

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:

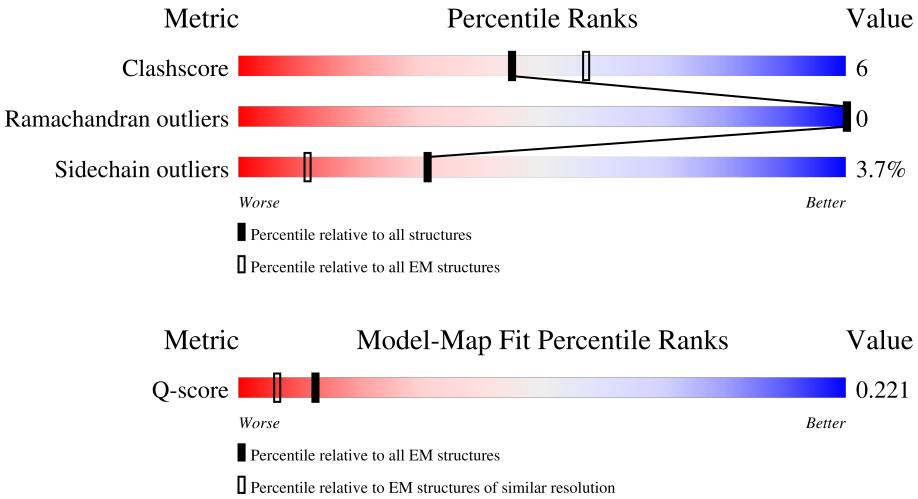
EMDB validation analysis	:	0.0.1.dev132
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0
Buster-report	:	wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics	:	20250101.v01 (using entries in the PDB archive January 1st 2025)
EM percentile statistics	:	202505.v01 (Using data 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)	:	2.49

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 3.89 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	8712 (3.39 - 4.39)

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	433	18% 65% 12% 23%
2	B	440	21% 52% 12% 36%
3	C	406	7% 75% 16% 9%
4	D	418	• 64% 23% • 12%

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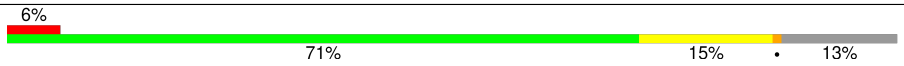
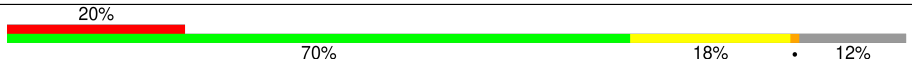
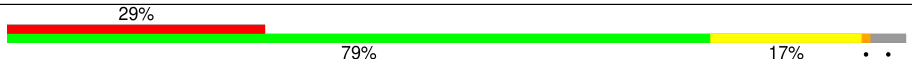
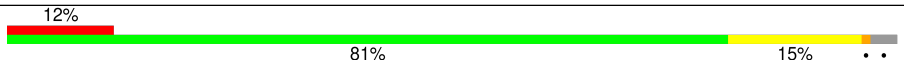
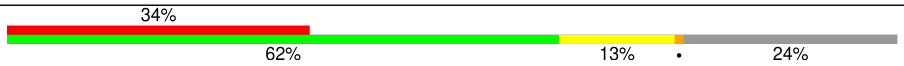
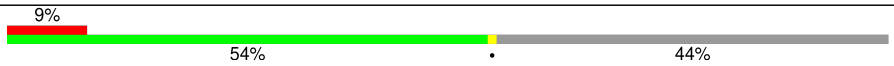
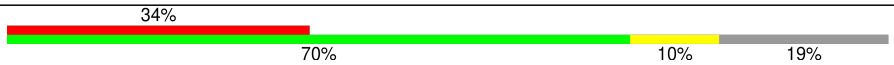
Mol	Chain	Length	Quality of chain
5	E	389	
6	F	439	
7	U	953	
8	V	534	
9	W	456	
10	X	422	
11	Y	389	
12	Z	324	
13	a	376	
14	b	377	
15	c	310	
16	d	350	
17	e	70	
18	f	908	
19	g	289	

2 Entry composition (i)

There are 23 unique types of molecules in this entry. The entry contains 53093 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 26S proteasome regulatory subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	333	2600	1636	464	483	17	0	0

- Molecule 2 is a protein called 26S proteasome regulatory subunit 4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	281	2196	1383	374	431	8	0	0

- Molecule 3 is a protein called 26S protease regulatory subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	370	2912	1831	523	541	17	0	0

- Molecule 4 is a protein called 26S proteasome regulatory subunit 6B.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	D	369	2935	1857	507	558	13	0	0

- Molecule 5 is a protein called 26S protease regulatory subunit 10B.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	E	380	3025	1900	542	567	16	0	0

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

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	F	376	2945	1854	508	565	18	0	0

- Molecule 7 is a protein called 26S proteasome non-ATPase regulatory subunit 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	U	831	Total	C	N	O	S	0	0
			6472	4108	1099	1221	44		

- Molecule 8 is a protein called 26S proteasome non-ATPase regulatory subunit 3.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	V	469	Total	C	N	O	S	0	0
			3779	2400	672	694	13		

- Molecule 9 is a protein called RPN5.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	W	437	Total	C	N	O	S	0	0
			3564	2258	609	674	23		

- Molecule 10 is a protein called 26S proteasome non-ATPase regulatory subunit 11.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	X	105	Total	C	N	O	S	0	0
			844	542	140	160	2		

- Molecule 11 is a protein called 26S proteasome non-ATPase regulatory subunit 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	Y	378	Total	C	N	O	S	0	0
			3115	1987	533	578	17		

- Molecule 12 is a protein called 26S proteasome non-ATPase regulatory subunit 7.

Mol	Chain	Residues	Atoms					AltConf	Trace
12	Z	287	Total	C	N	O	S	0	0
			2290	1462	394	429	5		

- Molecule 13 is a protein called 26S proteasome non-ATPase regulatory subunit 13.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	a	374	Total	C	N	O	S	0	0
			3003	1915	511	562	15		

- Molecule 14 is a protein called RPN10.

Mol	Chain	Residues	Atoms					AltConf	Trace
14	b	189	Total	C	N	O	S	0	0
			1449	905	259	277	8		

- Molecule 15 is a protein called 26S proteasome non-ATPase regulatory subunit 14.

Mol	Chain	Residues	Atoms					AltConf	Trace
15	c	289	Total	C	N	O	S	0	0
			2272	1438	391	424	19		

- Molecule 16 is a protein called 26S proteasome non-ATPase regulatory subunit 8.

Mol	Chain	Residues	Atoms					AltConf	Trace
16	d	265	Total	C	N	O	S	0	0
			2166	1402	355	400	9		

- Molecule 17 is a protein called 26S proteasome complex subunit SEM1.

Mol	Chain	Residues	Atoms					AltConf	Trace
17	e	39	Total	C	N	O	S	0	0
			326	195	54	76	1		

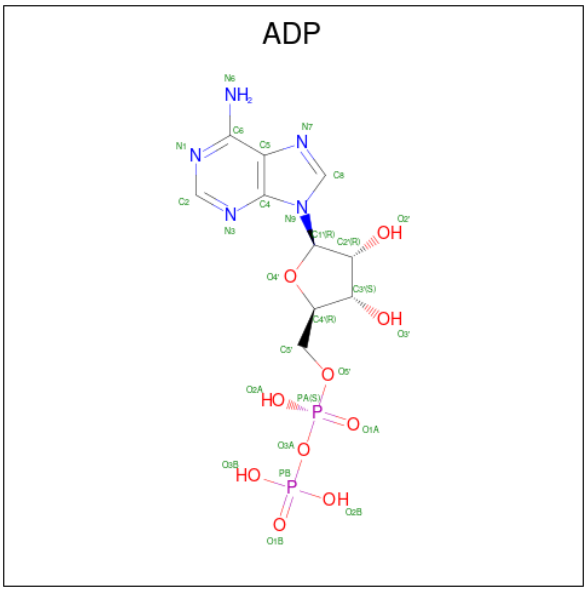
- Molecule 18 is a protein called 26S proteasome non-ATPase regulatory subunit 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
18	f	733	Total	C	N	O	S	0	0
			5667	3569	967	1091	40		

- Molecule 19 is a protein called Thioredoxin-like protein 1.

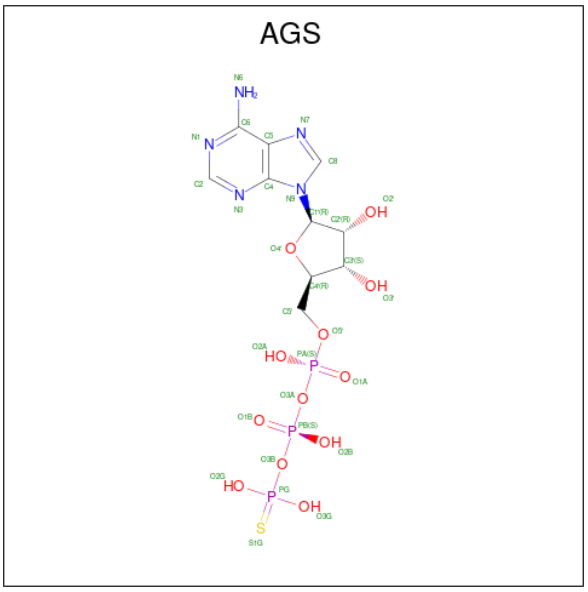
Mol	Chain	Residues	Atoms					AltConf	Trace
19	g	173	Total	C	N	O	S	0	0
			1383	869	227	278	9		

- Molecule 20 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
20	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
20	F	1	Total	C	N	O	P	0
			27	10	5	10	2	

- Molecule 21 is PHOSPHOTHIOPHOSPHORIC ACID-ADENYLATE ESTER (CCD ID: AGS) (formula: $C_{10}H_{16}N_5O_{12}P_3S$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms						AltConf
21	C	1	Total	C	N	O	P	S	0
			31	10	5	12	3	1	

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Mol	Chain	Residues	Atoms						AltConf
21	D	1	Total	C	N	O	P	S	0
			31	10	5	12	3	1	
21	E	1	Total	C	N	O	P	S	0
			31	10	5	12	3	1	

- Molecule 22 is MAGNESIUM ION (CCD ID: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
22	D	2	Total	Mg	0
			2	2	

- Molecule 23 is ZINC ION (CCD ID: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

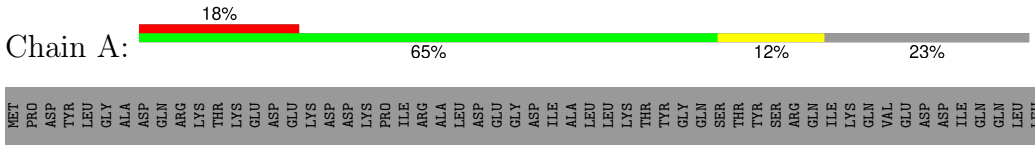
Mol	Chain	Residues	Atoms		AltConf
23	c	1	Total	Zn	0
			1	1	

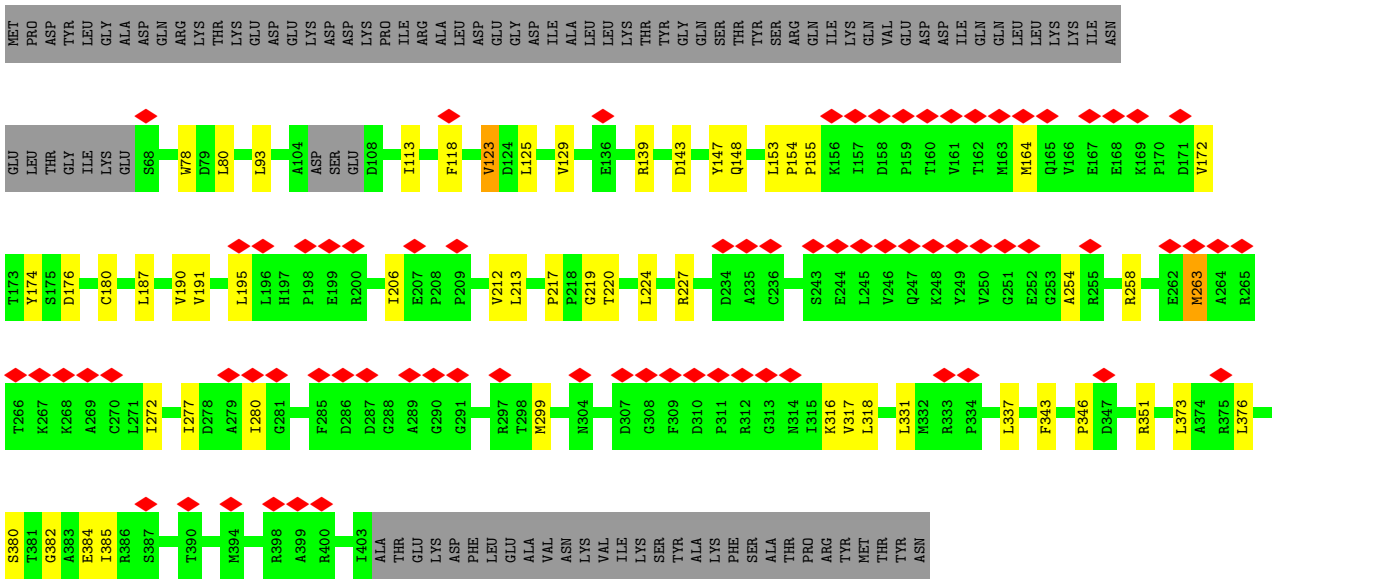
3 Residue-property plots (i)

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: 26S proteasome regulatory subunit 7

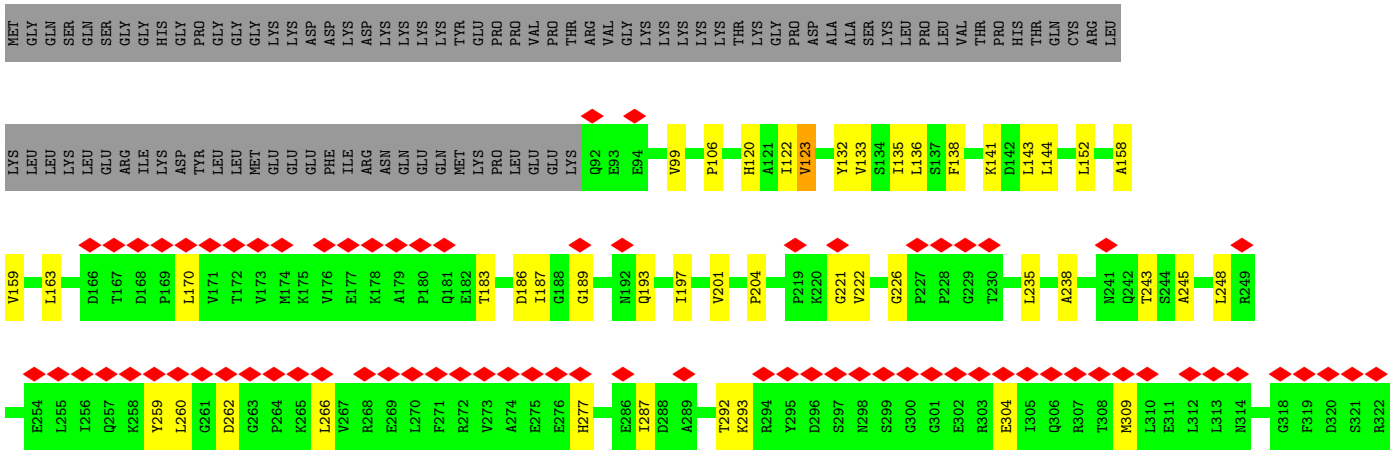
Chain A:

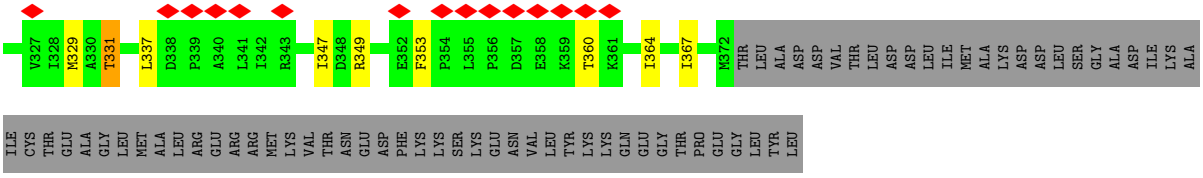


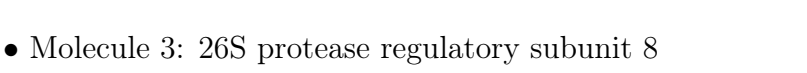


• Molecule 2: 26S proteasome regulatory subunit 4

Chain B:

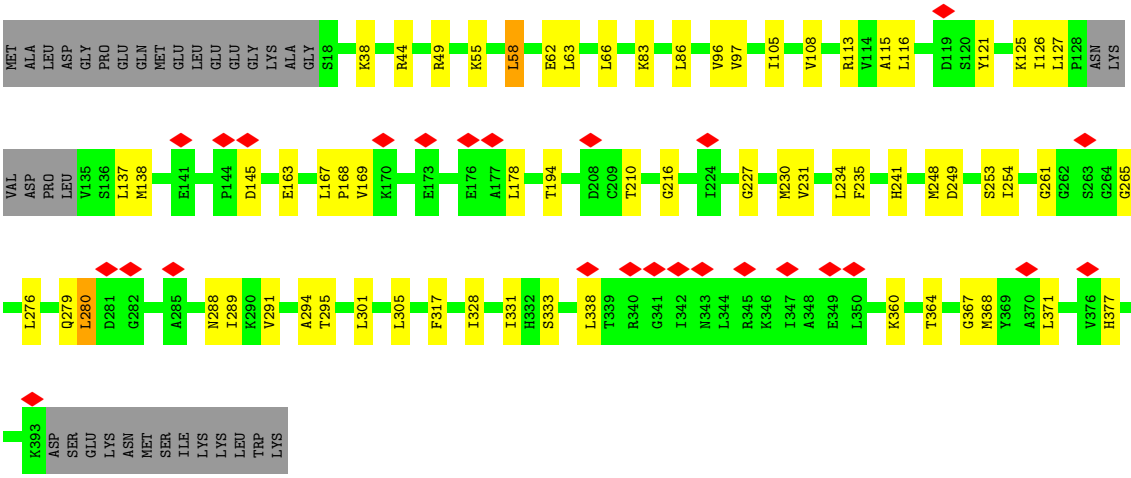






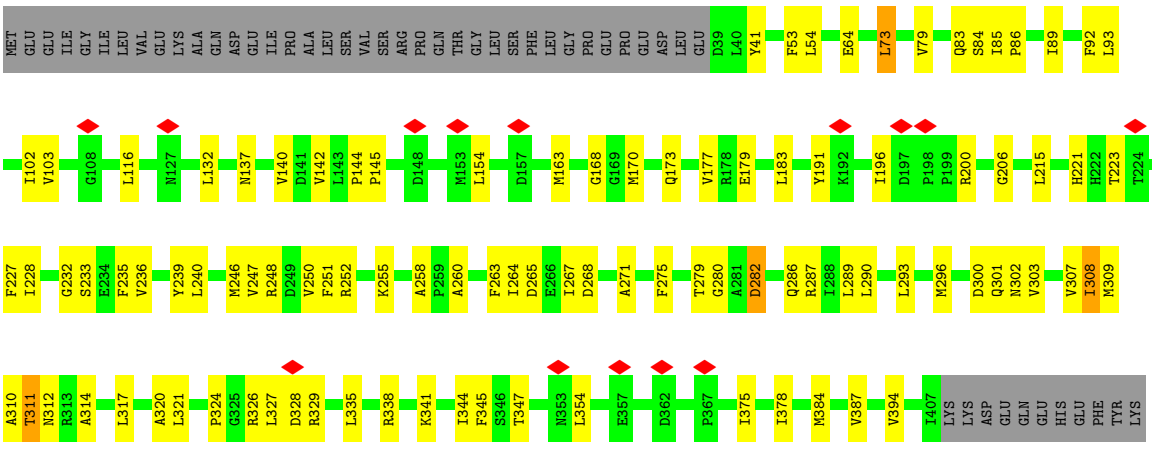
• Molecule 3: 26S protease regulatory subunit 8

Chain C:



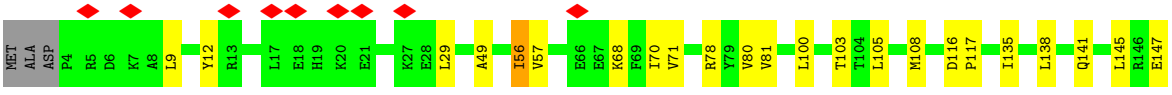
• Molecule 4: 26S proteasome regulatory subunit 6B

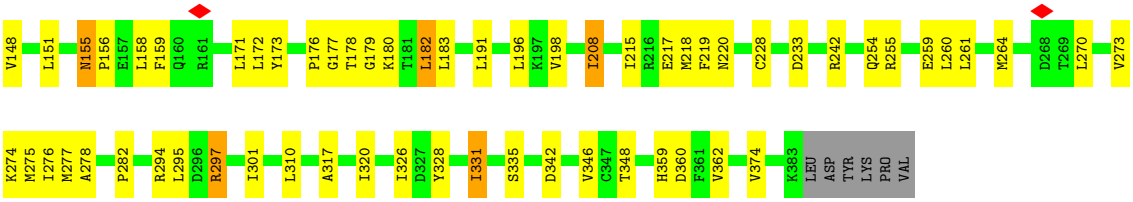
Chain D:



• Molecule 5: 26S protease regulatory subunit 10B

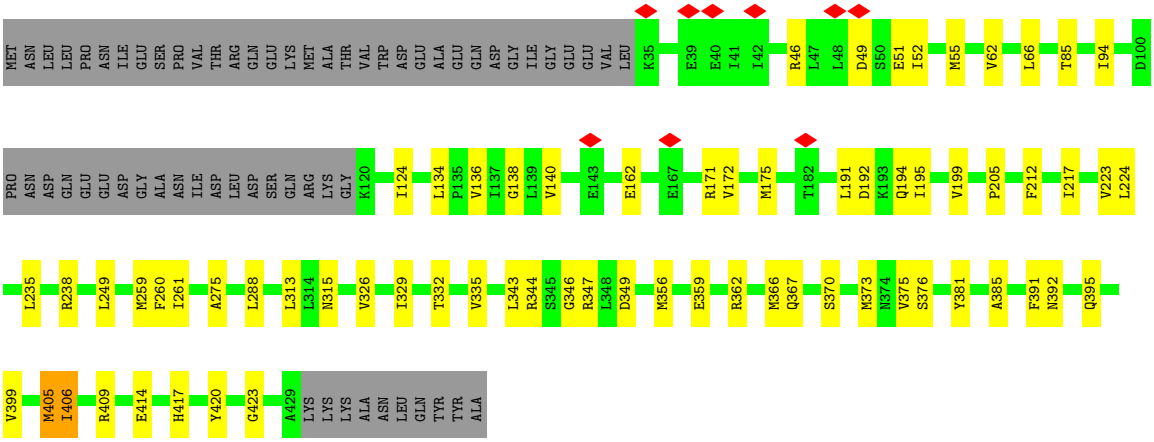
Chain E:





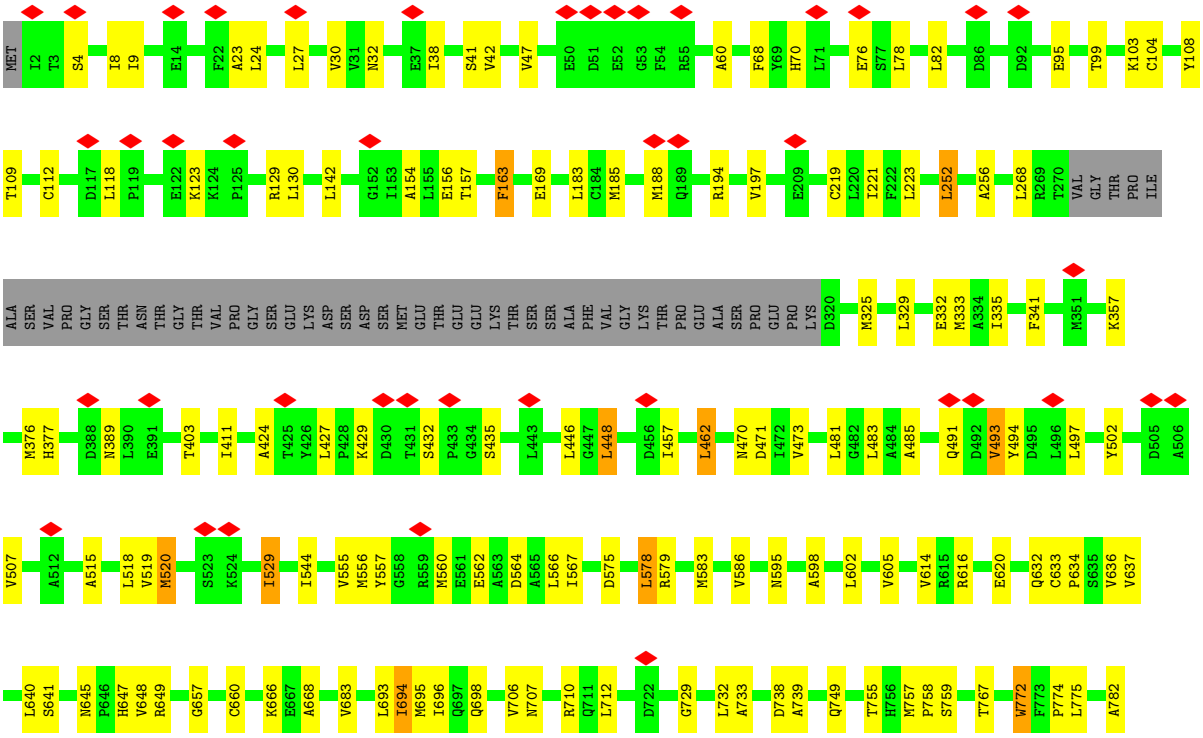
• Molecule 6: 26S proteasome regulatory subunit 6A

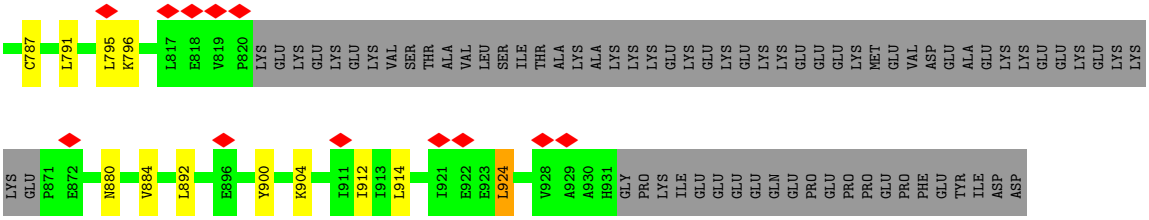
Chain F:



• Molecule 7: 26S proteasome non-ATPase regulatory subunit 1

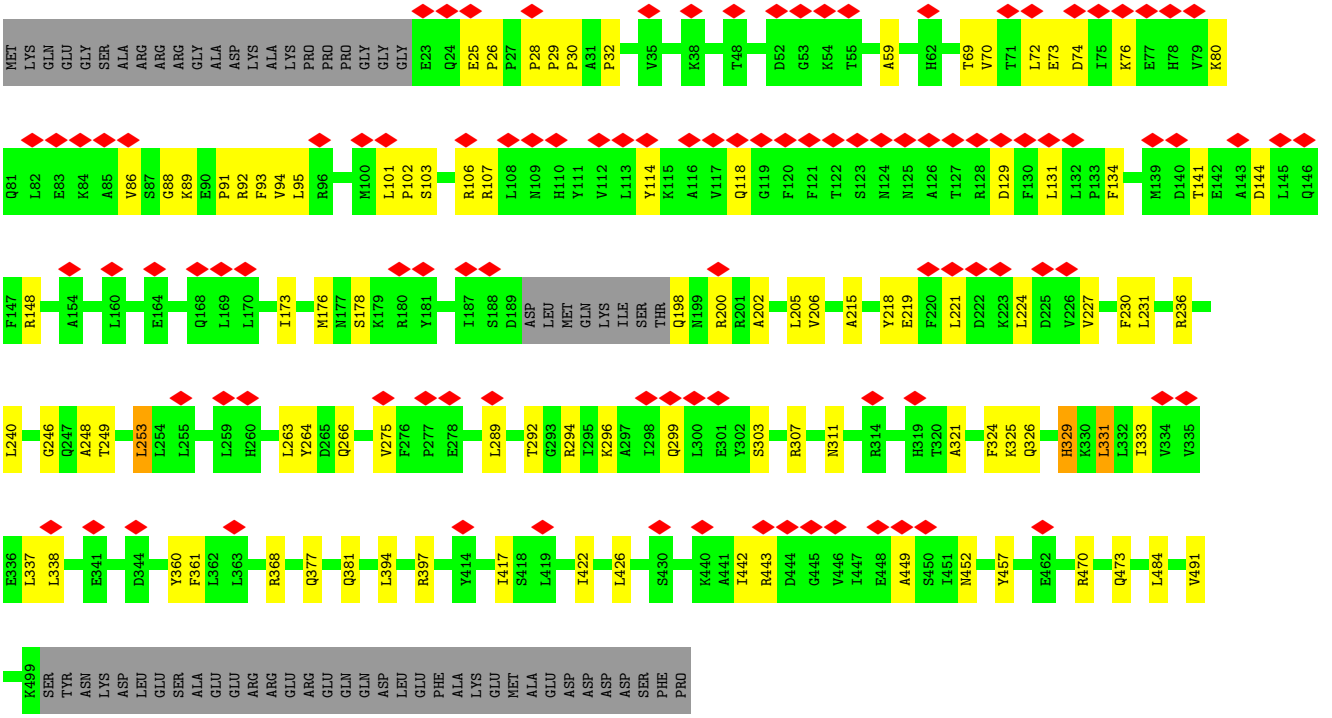
Chain U:





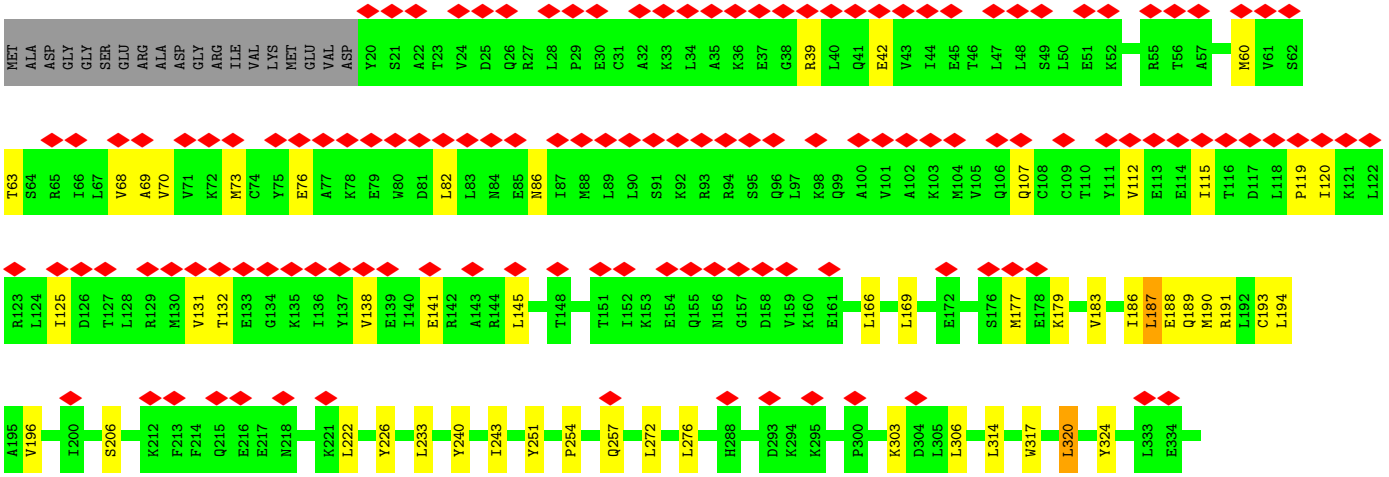
• Molecule 8: 26S proteasome non-ATPase regulatory subunit 3

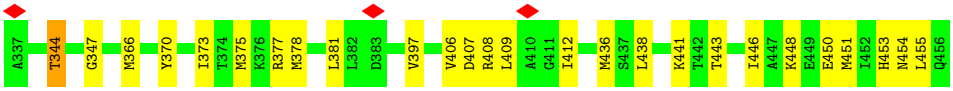
Chain V:



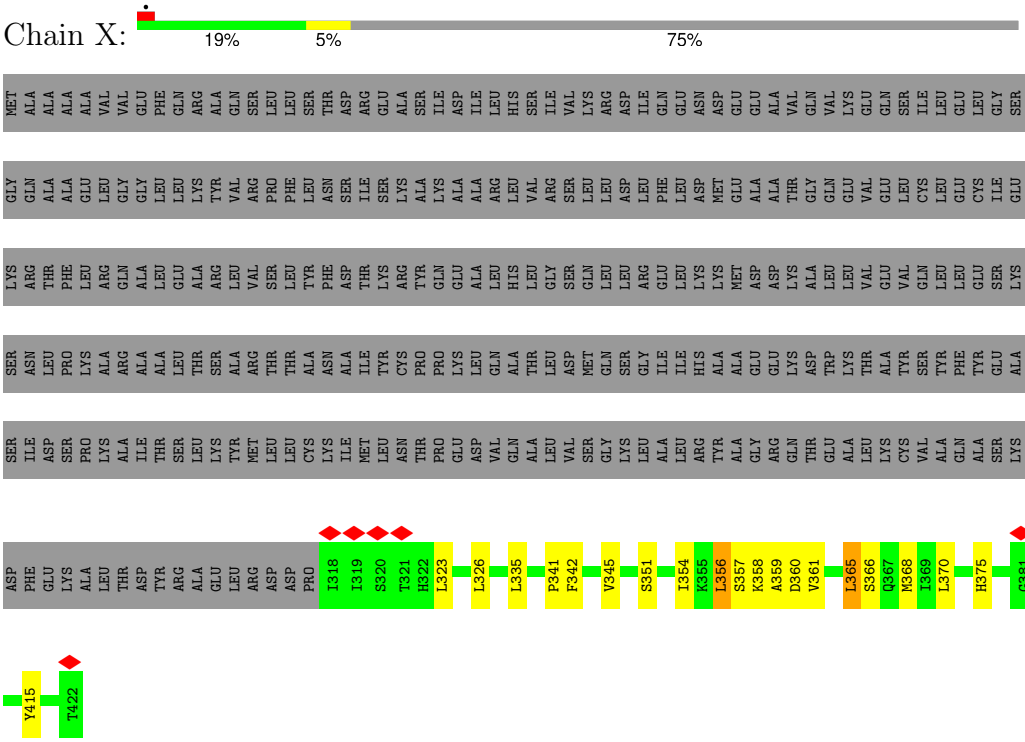
• Molecule 9: RPN5

Chain W:

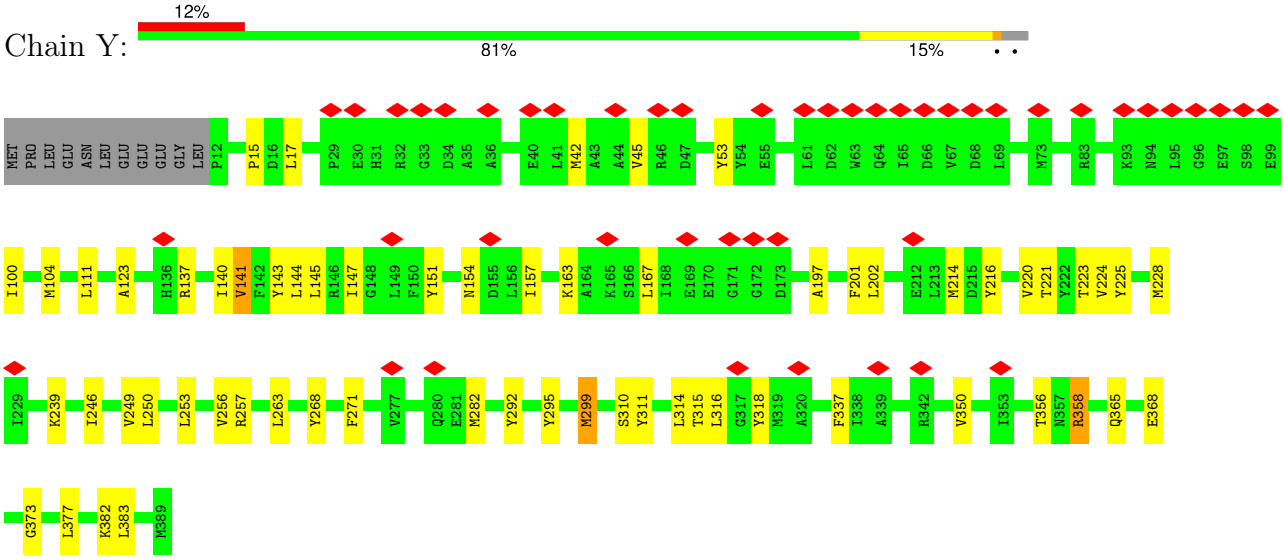




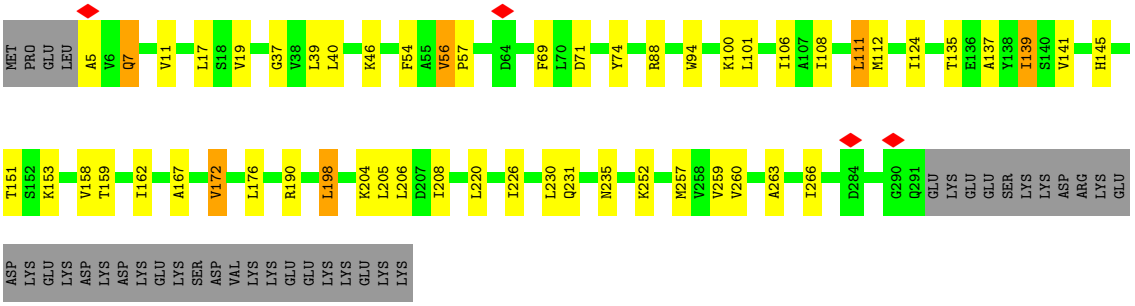
• Molecule 10: 26S proteasome non-ATPase regulatory subunit 11



• Molecule 11: 26S proteasome non-ATPase regulatory subunit 6

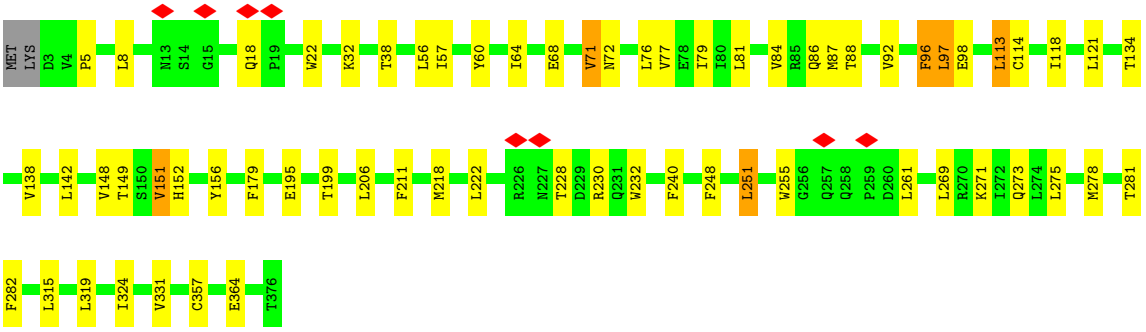


• Molecule 12: 26S proteasome non-ATPase regulatory subunit 7



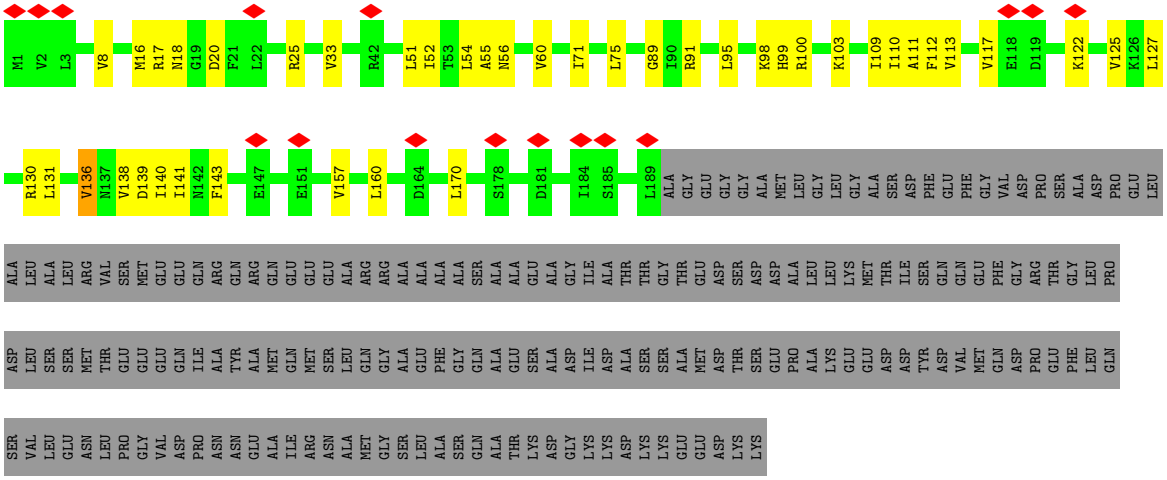
• Molecule 13: 26S proteasome non-ATPase regulatory subunit 13

Chain a:



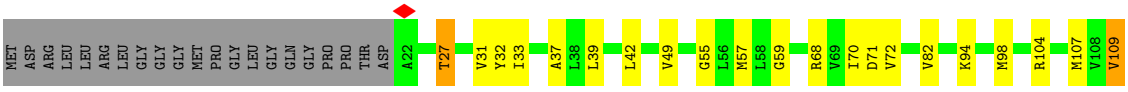
• Molecule 14: RPN10

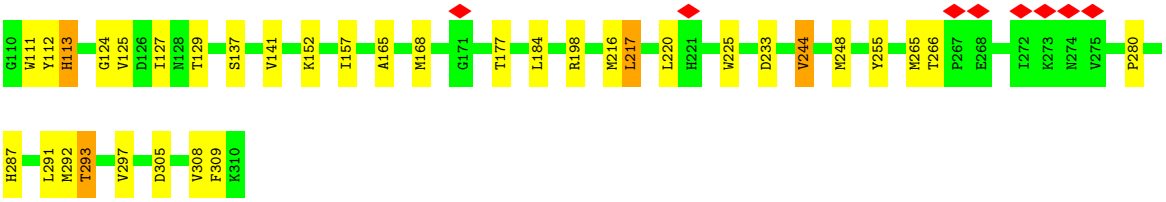
Chain b:



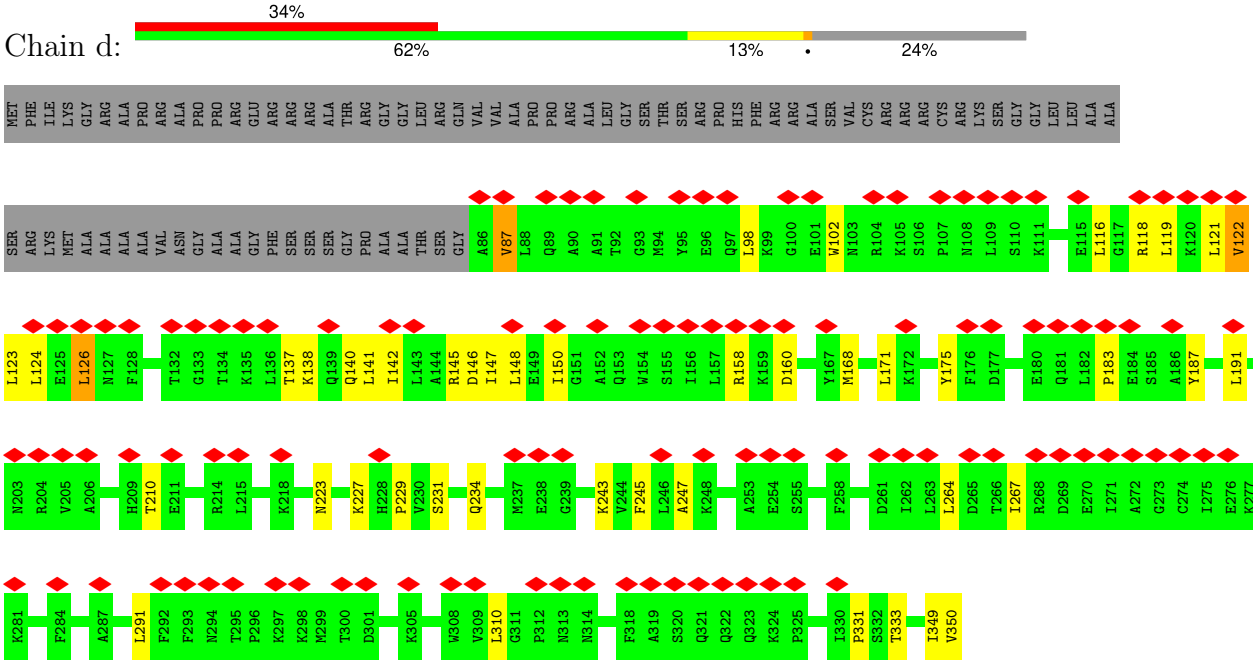
• Molecule 15: 26S proteasome non-ATPase regulatory subunit 14

Chain c:

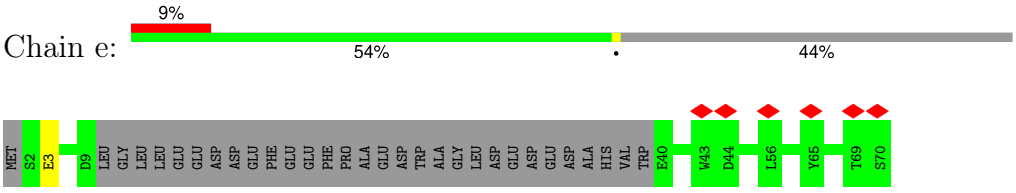




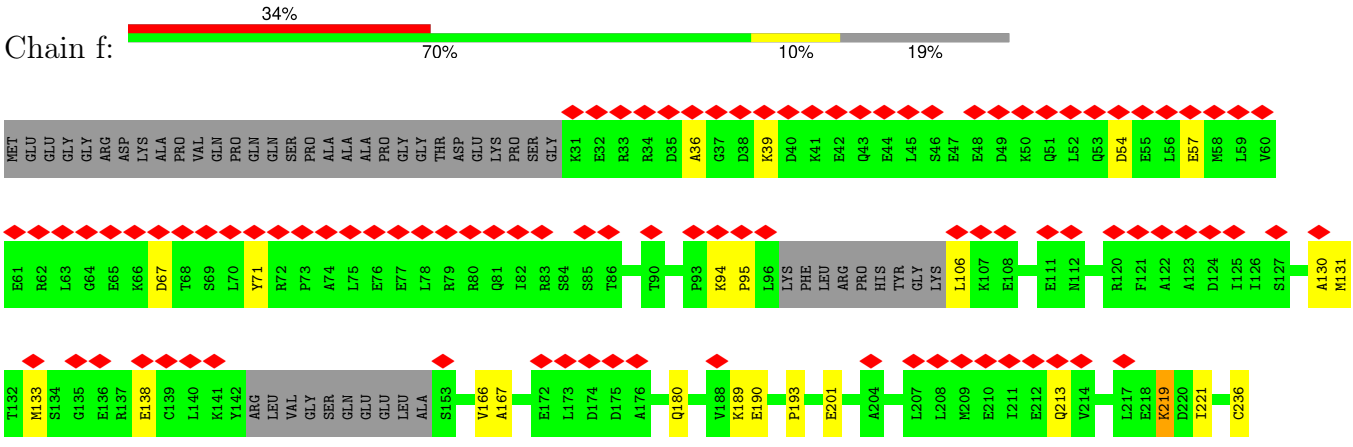
• Molecule 16: 26S proteasome non-ATPase regulatory subunit 8

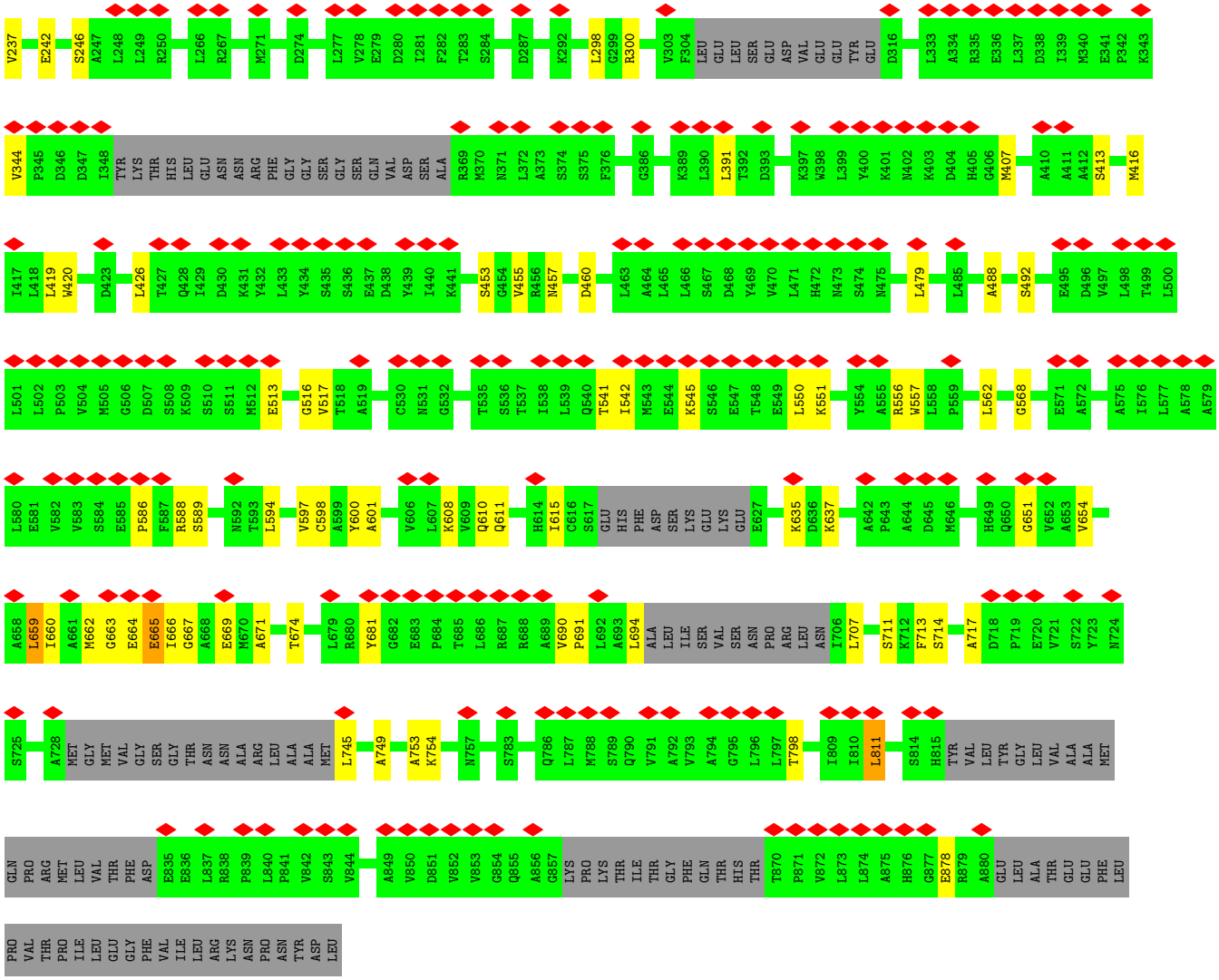


• Molecule 17: 26S proteasome complex subunit SEM1



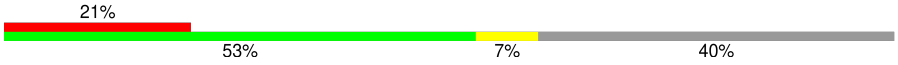
• Molecule 18: 26S proteasome non-ATPase regulatory subunit 2

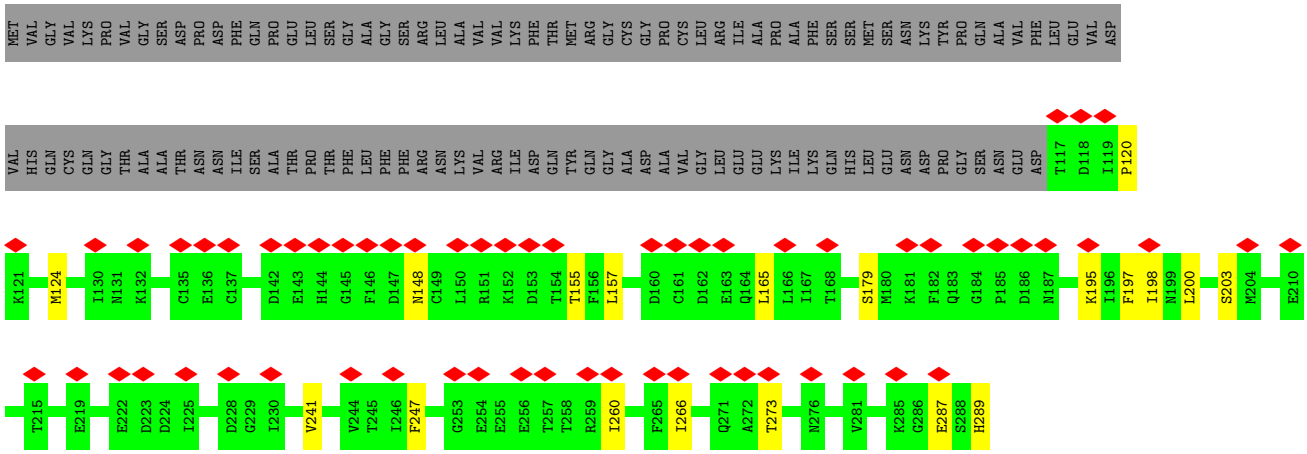




• Molecule 19: Thioredoxin-like protein 1

Chain g:





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	21325	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TALOS ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/Å^2$)	55.6	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	2000	Depositor
Magnification	100000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.261	Depositor
Minimum map value	-0.124	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.012	Depositor
Recommended contour level	0.04	Depositor
Map size (Å)	349.92, 349.92, 349.92	wwPDB
Map dimensions	432, 432, 432	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.81, 0.81, 0.81	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, AGS, ADP, 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	0.41	0/2644	0.77	0/3571
2	B	0.32	0/2232	0.68	0/3020
3	C	0.32	0/2949	0.79	0/3964
4	D	0.50	0/2982	0.86	0/4027
5	E	0.39	0/3071	0.86	0/4131
6	F	0.39	0/2982	0.84	0/4018
7	U	0.40	0/6589	0.74	0/8922
8	V	0.42	0/3854	0.77	0/5207
9	W	0.37	0/3612	0.75	0/4858
10	X	0.51	0/855	0.89	0/1150
11	Y	0.31	0/3173	0.74	0/4273
12	Z	0.41	0/2333	0.74	0/3162
13	a	0.33	0/3061	0.78	0/4144
14	b	0.42	0/1469	0.76	0/1989
15	c	0.37	0/2315	0.81	0/3129
16	d	0.41	0/2212	0.76	0/2988
17	e	0.31	0/330	0.79	0/440
18	f	0.32	0/5747	0.60	0/7753
19	g	0.21	0/1410	0.50	0/1902
All	All	0.38	0/53820	0.76	0/72648

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

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	2600	0	2648	32	0
2	B	2196	0	2221	29	0
3	C	2912	0	3023	41	0
4	D	2935	0	2982	74	0
5	E	3025	0	3101	54	0
6	F	2945	0	3036	37	0
7	U	6472	0	6494	87	0
8	V	3779	0	3820	57	0
9	W	3564	0	3685	43	0
10	X	844	0	886	16	0
11	Y	3115	0	3120	32	0
12	Z	2290	0	2320	42	0
13	a	3003	0	3016	37	0
14	b	1449	0	1497	31	0
15	c	2272	0	2288	40	0
16	d	2166	0	2196	30	0
17	e	326	0	282	1	0
18	f	5667	0	5692	53	0
19	g	1383	0	1331	10	0
20	A	27	0	12	4	0
20	F	27	0	12	0	0
21	C	31	0	12	1	0
21	D	31	0	12	0	0
21	E	31	0	12	2	0
22	D	2	0	0	0	0
23	c	1	0	0	0	0
All	All	53093	0	53698	671	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 (671) 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)
15:c:82:VAL:HG11	15:c:113:HIS:HD2	1.37	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:f:660:ILE:HG12	18:f:671:ALA:HB1	1.63	0.80
6:F:191:LEU:HB3	6:F:194:GLN:HB2	1.63	0.79
7:U:660:CYS:HB2	7:U:694:ILE:HG12	1.65	0.79
6:F:51:GLU:O	6:F:55:MET:HB3	1.84	0.77
2:B:186:ASP:HB3	2:B:367:ILE:HD11	1.68	0.76
4:D:267:ILE:HB	4:D:311:THR:HB	1.68	0.76
4:D:268:ASP:HA	4:D:271:ALA:HB3	1.68	0.74
4:D:320:ALA:O	4:D:326:ARG:HD2	1.86	0.74
1:A:224:LEU:HD21	20:A:501:ADP:H2'	1.68	0.73
9:W:187:LEU:HD21	9:W:222:LEU:HG	1.69	0.73
4:D:271:ALA:HB1	4:D:317:LEU:HB2	1.69	0.72
4:D:84:SER:HB2	15:c:152:LYS:HE2	1.72	0.72
11:Y:246:ILE:O	11:Y:250:LEU:HB2	1.88	0.72
11:Y:221:THR:O	11:Y:225:TYR:HB2	1.89	0.72
4:D:375:ILE:HA	4:D:378:ILE:HG12	1.69	0.71
18:f:659:LEU:HD13	18:f:659:LEU:H	1.56	0.71
7:U:759:SER:HA	7:U:782:ALA:HA	1.73	0.71
10:X:354:ILE:HG23	10:X:356:LEU:HB2	1.73	0.71
18:f:667:GLY:HA2	18:f:671:ALA:HB3	1.72	0.70
7:U:252:LEU:O	7:U:256:ALA:HB2	1.92	0.69
11:Y:197:ALA:O	11:Y:201:PHE:HB3	1.92	0.69
5:E:179:GLY:HA2	21:E:501:AGS:H3'	1.75	0.69
8:V:70:VAL:O	8:V:74:ASP:HB2	1.93	0.68
4:D:293:LEU:HB2	4:D:326:ARG:NH1	2.08	0.68
13:a:251:LEU:O	13:a:255:TRP:HB3	1.93	0.68
9:W:451:MET:HE2	12:Z:101:LEU:HG	1.74	0.67
3:C:58:LEU:O	3:C:62:GLU:HG2	1.95	0.67
11:Y:220:VAL:HG21	11:Y:249:VAL:HG11	1.77	0.67
14:b:52:ILE:HG22	14:b:60:VAL:HG13	1.77	0.67
3:C:253:SER:HB3	4:D:290:LEU:HD12	1.75	0.66
1:A:224:LEU:HD23	20:A:501:ADP:H5'1	1.78	0.66
1:A:220:THR:HA	20:A:501:ADP:H5'2	1.78	0.66
14:b:18:ASN:HB2	14:b:25:ARG:HE	1.60	0.66
1:A:93:LEU:HB3	2:B:132:TYR:HB3	1.77	0.65
8:V:231:LEU:HD21	8:V:253:LEU:HB3	1.78	0.65
1:A:219:GLY:HA3	1:A:382:GLY:HA2	1.77	0.65
4:D:344:ILE:HG13	4:D:375:ILE:HD11	1.77	0.65
10:X:366:SER:HB2	11:Y:310:SER:HB2	1.78	0.65
9:W:455:LEU:HD11	12:Z:101:LEU:HB2	1.79	0.64
3:C:227:GLY:HA2	3:C:230:MET:HE2	1.78	0.64
5:E:326:ILE:HB	5:E:328:TYR:HD1	1.60	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:U:696:ILE:HD11	7:U:739:ALA:HB3	1.78	0.64
4:D:200:ARG:NE	4:D:303:VAL:HA	2.12	0.64
4:D:267:ILE:HG13	4:D:309:MET:HG3	1.79	0.64
4:D:324:PRO:HA	4:D:328:ASP:HA	1.80	0.64
16:d:223:ASN:O	16:d:227:LYS:HB2	1.97	0.64
18:f:516:GLY:HA3	18:f:557:TRP:HE3	1.63	0.63
8:V:324:PHE:HB2	17:e:3:GLU:HG2	1.80	0.63
4:D:267:ILE:HG22	4:D:271:ALA:HB2	1.81	0.63
6:F:346:GLY:H	6:F:349:ASP:HB3	1.62	0.63
1:A:212:VAL:HG12	1:A:318:LEU:HD22	1.81	0.62
2:B:259:TYR:HB2	2:B:262:ASP:HB2	1.80	0.62
14:b:111:ALA:HB3	14:b:140:ILE:HG12	1.80	0.62
4:D:179:GLU:HG3	4:D:329:ARG:HH22	1.64	0.62
7:U:657:GLY:HA2	7:U:694:ILE:HG13	1.80	0.62
14:b:91:ARG:NH1	14:b:127:LEU:HD11	2.14	0.62
18:f:453:SER:HA	18:f:488:ALA:HA	1.82	0.62
5:E:242:ARG:HA	5:E:254:GLN:HE21	1.64	0.62
15:c:107:MET:HE1	15:c:109:VAL:HG13	1.82	0.61
4:D:235:PHE:HA	4:D:246:MET:HE1	1.81	0.61
15:c:82:VAL:HG11	15:c:113:HIS:CD2	2.29	0.61
16:d:168:MET:HA	16:d:171:LEU:HB3	1.81	0.61
4:D:83:GLN:HB3	4:D:140:VAL:HB	1.81	0.61
9:W:451:MET:HE3	12:Z:100:LYS:HA	1.82	0.61
14:b:122:LYS:HA	14:b:125:VAL:HG22	1.83	0.61
8:V:206:VAL:HB	8:V:249:THR:HG21	1.81	0.61
7:U:481:LEU:O	7:U:485:ALA:HB3	2.00	0.60
13:a:72:ASN:HA	14:b:17:ARG:CZ	2.31	0.60
12:Z:39:LEU:H	12:Z:94:TRP:HA	1.66	0.60
14:b:95:LEU:HA	14:b:98:LYS:HE3	1.84	0.60
2:B:187:ILE:HD11	2:B:364:ILE:HG12	1.82	0.60
12:Z:190:ARG:HE	15:c:297:VAL:HG11	1.65	0.60
8:V:173:ILE:HA	8:V:176:MET:HE3	1.83	0.60
12:Z:176:LEU:HD23	15:c:217:LEU:HB3	1.82	0.60
7:U:791:LEU:HD21	7:U:795:LEU:HA	1.83	0.59
7:U:429:LYS:HA	7:U:435:SER:HB2	1.83	0.59
6:F:62:VAL:O	6:F:66:LEU:HB2	2.02	0.59
1:A:351:ARG:HD3	1:A:385:ILE:HD11	1.84	0.59
3:C:44:ARG:HH21	8:V:491:VAL:HG12	1.67	0.59
6:F:399:VAL:HG23	6:F:423:GLY:HA3	1.84	0.59
9:W:60:MET:HA	9:W:63:THR:HG22	1.83	0.59
12:Z:37:GLY:HA2	12:Z:56:VAL:HG22	1.85	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:c:27:THR:HG21	15:c:177:THR:HG23	1.84	0.59
3:C:265:GLY:HA2	4:D:280:GLY:H	1.68	0.59
9:W:344:THR:HG23	9:W:347:GLY:H	1.67	0.59
15:c:165:ALA:HA	15:c:168:MET:HE3	1.84	0.59
8:V:263:LEU:HD11	8:V:266:GLN:HB3	1.85	0.58
8:V:394:LEU:HG	8:V:397:ARG:HH21	1.67	0.58
9:W:443:THR:HG21	12:Z:204:LYS:HD3	1.83	0.58
1:A:187:LEU:HA	1:A:190:VAL:HG22	1.85	0.58
9:W:254:PRO:HA	9:W:257:GLN:HB2	1.84	0.58
10:X:407:MET:HE3	12:Z:266:ILE:HD12	1.86	0.58
7:U:649:ARG:HB3	7:U:683:VAL:HG21	1.85	0.58
15:c:265:MET:HE3	15:c:266:THR:H	1.69	0.58
1:A:299:MET:HE1	1:A:331:LEU:HG	1.85	0.58
2:B:226:GLY:HA3	2:B:353:PHE:HB2	1.86	0.58
11:Y:147:ILE:O	11:Y:151:TYR:HB2	2.04	0.58
4:D:170:MET:HB3	4:D:173:GLN:HB2	1.85	0.57
6:F:275:ALA:HB1	6:F:326:VAL:HG21	1.85	0.57
4:D:92:PHE:HA	4:D:103:VAL:HG12	1.84	0.57
4:D:132:LEU:HD23	4:D:137:ASN:HB3	1.85	0.57
12:Z:167:ALA:HB1	15:c:42:LEU:HG	1.85	0.57
1:A:213:LEU:HD22	1:A:337:LEU:HD13	1.86	0.57
7:U:154:ALA:HB1	7:U:163:PHE:HB2	1.85	0.57
8:V:103:SER:O	8:V:107:ARG:HG2	2.04	0.57
8:V:452:ASN:HB3	8:V:457:TYR:HB2	1.87	0.57
5:E:233:ASP:HA	5:E:278:ALA:HB3	1.86	0.57
7:U:666:LYS:C	7:U:668:ALA:H	2.13	0.57
8:V:394:LEU:HA	8:V:397:ARG:HE	1.68	0.57
5:E:148:VAL:HG12	5:E:297:ARG:CZ	2.35	0.57
4:D:233:SER:HB2	5:E:259:GLU:HB3	1.87	0.57
10:X:357:SER:C	10:X:359:ALA:H	2.11	0.57
7:U:252:LEU:O	7:U:256:ALA:CB	2.53	0.56
9:W:193:CYS:O	9:W:196:VAL:HG12	2.04	0.56
13:a:76:LEU:HA	13:a:79:ILE:HD12	1.86	0.56
15:c:71:ASP:HB2	15:c:104:ARG:HH12	1.70	0.56
7:U:446:LEU:HB3	7:U:457:ILE:HD11	1.88	0.56
12:Z:260:VAL:HA	15:c:292:MET:HE1	1.87	0.56
13:a:324:ILE:HG23	13:a:331:VAL:HA	1.86	0.56
14:b:54:LEU:HD23	14:b:89:GLY:HA3	1.87	0.56
7:U:529:ILE:HD11	7:U:566:LEU:HD22	1.88	0.56
9:W:186:ILE:HG22	9:W:190:MET:HE3	1.88	0.56
16:d:231:SER:HA	16:d:234:GLN:HG2	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:Y:220:VAL:HA	11:Y:223:THR:HG22	1.87	0.56
18:f:659:LEU:HG	18:f:666:ILE:HB	1.86	0.55
5:E:331:ILE:O	5:E:335:SER:HB3	2.07	0.55
10:X:361:VAL:O	10:X:365:LEU:HB2	2.07	0.55
16:d:118:ARG:HA	16:d:121:LEU:HD12	1.87	0.55
18:f:180:GLN:NE2	18:f:219:LYS:HG3	2.21	0.55
8:V:86:VAL:HG22	8:V:92:ARG:HH21	1.72	0.55
7:U:772:TRP:HB3	7:U:775:LEU:HB2	1.89	0.55
19:g:120:PRO:HD2	19:g:266:ILE:HG21	1.88	0.55
7:U:647:HIS:HE1	15:c:184:LEU:HD11	1.72	0.55
13:a:5:PRO:HA	13:a:8:LEU:HD12	1.88	0.55
2:B:293:LYS:HE2	3:C:261:GLY:H	1.71	0.55
6:F:51:GLU:O	6:F:55:MET:CB	2.54	0.55
8:V:28:PRO:O	8:V:32:PRO:HD2	2.07	0.55
12:Z:263:ALA:HB3	15:c:292:MET:HE3	1.88	0.55
13:a:72:ASN:HB2	14:b:17:ARG:NE	2.21	0.55
1:A:125:LEU:HD12	1:A:129:VAL:HG23	1.89	0.55
7:U:616:ARG:O	7:U:620:GLU:HB2	2.07	0.55
16:d:123:LEU:HA	16:d:126:LEU:HB2	1.89	0.55
4:D:179:GLU:HA	4:D:183:LEU:HB2	1.88	0.54
5:E:70:ILE:HG22	5:E:80:VAL:HG22	1.89	0.54
7:U:633:CYS:HB2	7:U:634:PRO:HD3	1.88	0.54
7:U:637:VAL:HA	7:U:640:LEU:HB3	1.88	0.54
3:C:163:GLU:O	3:C:167:LEU:HB3	2.07	0.54
8:V:321:ALA:HA	8:V:326:GLN:HE22	1.72	0.54
18:f:637:LYS:HD3	18:f:674:THR:HA	1.89	0.54
2:B:221:GLY:HA3	2:B:347:ILE:HG12	1.90	0.54
4:D:232:GLY:HA2	4:D:264:ILE:HD11	1.90	0.54
11:Y:221:THR:HG22	11:Y:256:VAL:HG21	1.89	0.54
18:f:690:VAL:HG11	18:f:713:PHE:HB2	1.89	0.54
14:b:100:ARG:HE	14:b:103:LYS:HA	1.72	0.54
1:A:346:PRO:HG2	1:A:351:ARG:HH21	1.72	0.54
18:f:541:THR:HB	18:f:588:ARG:NH2	2.22	0.54
7:U:376:MET:HE1	7:U:738:ASP:HB2	1.88	0.54
4:D:85:ILE:HD11	5:E:68:LYS:HA	1.91	0.54
4:D:338:ARG:HA	4:D:341:LYS:HG3	1.90	0.54
7:U:377:HIS:HB2	7:U:411:ILE:HG12	1.90	0.54
9:W:39:ARG:HB3	9:W:42:GLU:HB2	1.90	0.54
3:C:253:SER:HB2	4:D:287:ARG:HG3	1.90	0.53
11:Y:163:LYS:O	11:Y:167:LEU:HB2	2.08	0.53
5:E:348:THR:HA	6:F:217:ILE:HD11	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:U:9:ILE:HD12	7:U:41:SER:HB2	1.89	0.53
9:W:240:TYR:HA	9:W:243:ILE:HD12	1.90	0.53
3:C:113:ARG:HB3	3:C:127:LEU:HD12	1.90	0.53
7:U:221:ILE:HD11	7:U:252:LEU:HD13	1.90	0.53
8:V:80:LYS:HG2	8:V:89:LYS:HD2	1.89	0.53
5:E:273:VAL:C	5:E:274:LYS:HD3	2.34	0.53
7:U:341:PHE:CZ	7:U:787:CYS:HB3	2.44	0.53
18:f:300:ARG:HA	18:f:492:SER:HA	1.91	0.53
14:b:131:LEU:HB3	14:b:136:VAL:HG13	1.91	0.53
9:W:397:VAL:HG11	10:X:341:PRO:HB3	1.91	0.52
18:f:597:VAL:HG11	18:f:635:LYS:HB3	1.90	0.52
3:C:280:LEU:HD12	3:C:280:LEU:O	2.10	0.52
4:D:236:VAL:HB	5:E:208:ILE:HD12	1.91	0.52
7:U:668:ALA:HB1	7:U:694:ILE:HD13	1.92	0.52
12:Z:231:GLN:HG2	13:a:282:PHE:HE1	1.74	0.52
13:a:32:LYS:HB2	14:b:20:ASP:HA	1.91	0.52
6:F:367:GLN:HB2	6:F:381:TYR:HE1	1.75	0.52
9:W:373:ILE:HD13	9:W:378:MET:HE3	1.92	0.52
12:Z:172:VAL:HG11	15:c:220:LEU:HD23	1.90	0.52
7:U:557:TYR:HE2	7:U:757:MET:HG3	1.74	0.52
7:U:579:ARG:HG3	7:U:614:VAL:HG21	1.92	0.52
12:Z:11:VAL:HG21	12:Z:135:THR:HG21	1.92	0.52
4:D:168:GLY:HA3	4:D:344:ILE:HG22	1.91	0.52
8:V:473:GLN:HE21	12:Z:257:MET:HE3	1.75	0.52
15:c:125:VAL:HG12	19:g:287:GLU:HB3	1.92	0.52
3:C:55:LYS:HA	3:C:58:LEU:HD23	1.90	0.52
3:C:108:VAL:HG12	3:C:126:ILE:HD11	1.92	0.52
15:c:32:TYR:HB2	15:c:68:ARG:HA	1.90	0.52
13:a:81:LEU:HD11	13:a:113:LEU:HG	1.91	0.52
2:B:133:VAL:HB	2:B:158:ALA:HA	1.91	0.52
3:C:66:LEU:CD1	4:D:116:LEU:HD13	2.40	0.52
7:U:695:MET:HB2	7:U:698:GLN:HG3	1.92	0.52
1:A:206:ILE:HB	6:F:373:MET:HE1	1.92	0.51
1:A:373:LEU:HD23	1:A:376:LEU:HD12	1.92	0.51
7:U:507:VAL:HA	7:U:544:ILE:HD11	1.93	0.51
3:C:137:LEU:H	3:C:138:MET:HE2	1.76	0.51
6:F:175:MET:HE1	6:F:249:LEU:HG	1.90	0.51
6:F:362:ARG:HH12	6:F:391:PHE:H	1.57	0.51
7:U:729:GLY:O	7:U:733:ALA:HB2	2.10	0.51
3:C:194:THR:HG21	3:C:317:PHE:HB3	1.92	0.51
4:D:263:PHE:HA	4:D:308:ILE:HG23	1.91	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:U:156:GLU:O	7:U:156:GLU:HG3	2.10	0.51
11:Y:228:MET:HG2	11:Y:263:LEU:HD22	1.93	0.51
3:C:66:LEU:HD11	4:D:116:LEU:HD13	1.91	0.51
6:F:406:ILE:HA	6:F:409:ARG:HG3	1.93	0.51
7:U:9:ILE:HD11	7:U:38:ILE:HA	1.92	0.51
8:V:296:LYS:HA	8:V:299:GLN:HG2	1.92	0.51
10:X:351:SER:HA	10:X:354:ILE:HG22	1.93	0.51
14:b:18:ASN:HB2	14:b:25:ARG:NE	2.25	0.51
1:A:113:ILE:HD11	1:A:123:VAL:HG21	1.93	0.51
2:B:183:THR:HG22	2:B:238:ALA:HB1	1.92	0.51
6:F:235:LEU:HD12	6:F:238:ARG:HD3	1.93	0.51
8:V:101:LEU:N	8:V:102:PRO:HD2	2.25	0.51
8:V:28:PRO:HB2	8:V:29:PRO:HD3	1.91	0.51
13:a:228:THR:HG23	13:a:230:ARG:H	1.76	0.51
18:f:138:GLU:HB3	18:f:189:LYS:HG3	1.93	0.51
8:V:264:TYR:HB2	16:d:210:THR:HG23	1.93	0.51
9:W:406:VAL:HG22	10:X:342:PHE:HA	1.92	0.51
10:X:323:LEU:HD13	10:X:326:LEU:HD11	1.93	0.51
11:Y:137:ARG:HA	11:Y:140:ILE:HD12	1.91	0.51
16:d:138:LYS:HA	16:d:141:LEU:HG	1.93	0.51
7:U:268:LEU:HD21	7:U:325:MET:HG3	1.92	0.50
9:W:73:MET:HA	9:W:76:GLU:HB2	1.93	0.50
4:D:168:GLY:HA2	4:D:347:THR:HG21	1.92	0.50
6:F:259:MET:HG2	6:F:260:PHE:N	2.26	0.50
14:b:98:LYS:HG2	19:g:203:SER:HB3	1.93	0.50
1:A:123:VAL:HG22	1:A:147:TYR:HB3	1.93	0.50
7:U:586:VAL:HG11	7:U:602:LEU:HD21	1.92	0.50
9:W:375:MET:HE3	9:W:408:ARG:HA	1.92	0.50
2:B:189:GLY:HA3	2:B:360:THR:HG22	1.94	0.50
5:E:172:LEU:HB3	5:E:180:LYS:HD3	1.93	0.50
12:Z:106:ILE:HG12	12:Z:153:LYS:HB3	1.93	0.50
18:f:542:ILE:HA	18:f:588:ARG:HE	1.76	0.50
7:U:357:LYS:HE2	7:U:389:ASN:CG	2.35	0.50
18:f:94:LYS:HG3	18:f:95:PRO:HD3	1.94	0.50
5:E:331:ILE:O	5:E:335:SER:CB	2.59	0.50
10:X:357:SER:C	10:X:359:ALA:N	2.69	0.50
14:b:16:MET:HA	14:b:25:ARG:HD2	1.94	0.50
15:c:293:THR:O	15:c:297:VAL:HB	2.11	0.50
5:E:317:ALA:HA	5:E:320:ILE:HD11	1.94	0.50
15:c:305:ASP:HA	15:c:308:VAL:HG12	1.93	0.50
18:f:242:GLU:O	18:f:246:SER:HB3	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:233:SER:HB3	5:E:255:ARG:HG3	1.94	0.50
7:U:109:THR:HA	7:U:157:THR:HG23	1.94	0.50
8:V:218:TYR:HA	8:V:221:LEU:HB2	1.93	0.50
12:Z:17:LEU:HD12	15:c:39:LEU:HD22	1.94	0.50
7:U:332:GLU:HA	7:U:335:ILE:HD12	1.94	0.49
12:Z:88:ARG:O	12:Z:88:ARG:HG2	2.12	0.49
6:F:223:VAL:HB	6:F:329:ILE:HG22	1.94	0.49
9:W:407:ASP:HB3	9:W:412:ILE:HB	1.94	0.49
18:f:67:ASP:O	18:f:71:TYR:HB2	2.11	0.49
3:C:86:LEU:HB2	3:C:96:VAL:HG22	1.94	0.49
7:U:462:LEU:HD21	7:U:493:VAL:HG12	1.93	0.49
9:W:377:ARG:HE	9:W:381:LEU:HG	1.77	0.49
18:f:610:GLN:HG3	18:f:611:GLN:HG3	1.94	0.49
15:c:94:LYS:O	15:c:98:MET:HB3	2.12	0.49
5:E:81:VAL:HG11	5:E:100:LEU:HD23	1.94	0.49
19:g:157:LEU:HB2	19:g:260:ILE:HB	1.93	0.49
1:A:277:ILE:HA	1:A:280:ILE:HB	1.93	0.49
12:Z:7:GLN:NE2	12:Z:46:LYS:HB3	2.27	0.49
11:Y:282:MET:HE2	11:Y:292:TYR:HA	1.95	0.49
18:f:213:GLN:HG3	18:f:246:SER:HB2	1.94	0.49
2:B:260:LEU:HD12	2:B:304:GLU:HB2	1.94	0.49
3:C:168:PRO:HB2	3:C:288:ASN:HD21	1.78	0.49
7:U:583:MET:HE2	7:U:605:VAL:HG11	1.95	0.49
13:a:77:VAL:HG11	13:a:113:LEU:HB3	1.94	0.49
16:d:142:ILE:HD11	16:d:183:PRO:HD2	1.95	0.49
2:B:135:ILE:HA	2:B:159:VAL:HG23	1.95	0.49
4:D:89:ILE:HD12	5:E:78:ARG:HB3	1.95	0.49
1:A:139:ARG:HG3	1:A:153:LEU:HG	1.95	0.49
4:D:321:LEU:O	4:D:327:LEU:HD23	2.13	0.49
8:V:69:THR:O	8:V:73:GLU:HB2	2.13	0.49
12:Z:40:LEU:HD12	12:Z:54:PHE:HE2	1.78	0.49
7:U:8:ILE:HD11	7:U:23:ALA:HA	1.94	0.48
9:W:409:LEU:HD22	10:X:384:VAL:HG21	1.95	0.48
5:E:217:GLU:HA	5:E:220:ASN:HB2	1.93	0.48
18:f:714:SER:HB2	18:f:749:ALA:HB1	1.94	0.48
5:E:156:PRO:HA	5:E:159:PHE:CD1	2.49	0.48
5:E:277:MET:HG3	5:E:295:LEU:HD21	1.96	0.48
12:Z:57:PRO:HB2	14:b:99:HIS:CE1	2.48	0.48
13:a:113:LEU:HD22	13:a:151:VAL:HG23	1.96	0.48
2:B:170:LEU:HD13	2:B:266:LEU:HD11	1.96	0.48
9:W:70:VAL:HG22	9:W:86:ASN:HD21	1.78	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:a:269:LEU:O	13:a:273:GLN:HB2	2.14	0.48
16:d:148:LEU:HD12	16:d:171:LEU:HB2	1.94	0.48
6:F:224:LEU:HD11	6:F:332:THR:HG22	1.96	0.48
18:f:190:GLU:HB2	18:f:193:PRO:HD2	1.95	0.48
7:U:108:TYR:O	7:U:112:CYS:HB2	2.14	0.48
12:Z:57:PRO:HG2	12:Z:71:ASP:HB2	1.95	0.48
1:A:174:TYR:C	1:A:176:ASP:N	2.70	0.48
15:c:31:VAL:HG21	15:c:141:VAL:HG11	1.94	0.48
8:V:25:GLU:O	8:V:28:PRO:HD2	2.13	0.48
8:V:289:LEU:HD13	8:V:311:ASN:HB3	1.94	0.48
18:f:651:GLY:HA2	18:f:654:VAL:HG22	1.95	0.48
3:C:295:THR:HG21	3:C:301:LEU:HD21	1.94	0.48
4:D:263:PHE:CZ	4:D:265:ASP:HB3	2.49	0.48
5:E:138:LEU:HD22	5:E:141:GLN:HG2	1.95	0.48
7:U:519:VAL:HG23	7:U:520:MET:HE3	1.95	0.48
1:A:217:PRO:HD2	1:A:343:PHE:CE1	2.49	0.48
8:V:94:VAL:HG13	8:V:141:THR:HG21	1.95	0.48
11:Y:42:MET:HA	11:Y:45:VAL:HG12	1.95	0.48
12:Z:108:ILE:HA	12:Z:111:LEU:HD23	1.94	0.48
1:A:174:TYR:C	1:A:176:ASP:H	2.22	0.47
1:A:272:ILE:HG23	1:A:317:VAL:HA	1.96	0.47
5:E:71:VAL:HG21	5:E:100:LEU:HD21	1.95	0.47
7:U:595:ASN:HB3	7:U:598:ALA:HB3	1.95	0.47
7:U:884:VAL:HG21	7:U:892:LEU:HD22	1.95	0.47
11:Y:268:TYR:HA	11:Y:271:PHE:HB3	1.96	0.47
16:d:223:ASN:O	16:d:227:LYS:CB	2.62	0.47
16:d:245:PHE:HE1	16:d:264:LEU:HB3	1.77	0.47
14:b:91:ARG:NH2	14:b:130:ARG:NH2	2.62	0.47
9:W:366:MET:O	9:W:370:TYR:HB2	2.15	0.47
15:c:111:TRP:CZ3	15:c:113:HIS:HB3	2.49	0.47
16:d:146:ASP:O	16:d:150:ILE:HB	2.15	0.47
11:Y:224:VAL:HG11	11:Y:256:VAL:HG13	1.97	0.47
13:a:156:TYR:HB3	13:a:179:PHE:HB2	1.96	0.47
3:C:49:ARG:HD3	4:D:64:GLU:HG2	1.97	0.47
7:U:24:LEU:HD11	7:U:60:ALA:HA	1.96	0.47
10:X:351:SER:CB	10:X:358:LYS:HG2	2.45	0.47
13:a:60:TYR:HD2	13:a:64:ILE:HB	1.80	0.47
14:b:51:LEU:HD21	14:b:75:LEU:HD13	1.95	0.47
5:E:275:MET:HE1	5:E:295:LEU:HD12	1.96	0.47
6:F:315:ASN:HA	6:F:347:ARG:HH21	1.80	0.47
7:U:9:ILE:HD11	7:U:38:ILE:HG22	1.97	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:a:248:PHE:HA	13:a:251:LEU:HB2	1.96	0.47
16:d:291:LEU:HA	16:d:291:LEU:HD23	1.75	0.47
18:f:691:PRO:HA	18:f:694:LEU:HB2	1.95	0.47
3:C:216:GLY:HA2	3:C:248:MET:HE1	1.96	0.47
4:D:183:LEU:HB3	4:D:191:TYR:HE2	1.80	0.47
5:E:56:ILE:HG23	5:E:100:LEU:HB2	1.97	0.47
5:E:328:TYR:HA	5:E:331:ILE:HB	1.96	0.47
6:F:205:PRO:HG3	6:F:212:PHE:HE2	1.79	0.47
12:Z:7:GLN:HE21	12:Z:46:LYS:HB3	1.79	0.47
16:d:264:LEU:HA	16:d:267:ILE:HG12	1.97	0.47
6:F:366:MET:O	6:F:370:SER:HB3	2.15	0.47
7:U:491:GLN:HA	7:U:494:TYR:HB3	1.96	0.47
11:Y:315:THR:HG23	11:Y:318:TYR:HB2	1.97	0.47
19:g:197:PHE:HB3	19:g:200:LEU:HD11	1.95	0.47
9:W:119:PRO:HB2	9:W:120:ILE:HD12	1.97	0.47
9:W:188:GLU:CG	9:W:191:ARG:HH21	2.28	0.47
18:f:586:PRO:HA	18:f:589:SER:HB2	1.96	0.47
4:D:93:LEU:HD13	4:D:102:ILE:HG22	1.97	0.47
7:U:796:LYS:HB3	7:U:924:LEU:HD11	1.96	0.47
3:C:333:SER:HB3	3:C:338:LEU:HD11	1.96	0.46
13:a:240:PHE:HZ	13:a:271:LYS:HB3	1.81	0.46
14:b:109:ILE:HG22	14:b:138:VAL:HA	1.97	0.46
9:W:132:THR:HB	9:W:138:VAL:HG21	1.97	0.46
11:Y:154:ASN:HA	11:Y:157:ILE:HD12	1.96	0.46
1:A:164:MET:HE2	1:A:263:MET:HB3	1.97	0.46
8:V:337:LEU:HD23	8:V:368:ARG:NH2	2.31	0.46
21:C:501:AGS:PG	4:D:326:ARG:HH21	2.38	0.46
7:U:142:LEU:HD12	7:U:169:GLU:OE2	2.15	0.46
9:W:446:ILE:HG13	12:Z:226:ILE:HG21	1.97	0.46
18:f:663:GLY:O	18:f:664:GLU:C	2.59	0.46
3:C:328:ILE:HA	3:C:331:ILE:HD12	1.96	0.46
12:Z:208:ILE:HD11	12:Z:230:LEU:HD11	1.97	0.46
16:d:142:ILE:HA	16:d:145:ARG:HG2	1.96	0.46
18:f:550:LEU:HD12	18:f:550:LEU:H	1.81	0.46
10:X:351:SER:HB2	10:X:358:LYS:HG2	1.98	0.46
4:D:387:VAL:HG21	5:E:158:LEU:HD13	1.98	0.46
5:E:156:PRO:HA	5:E:159:PHE:HD1	1.81	0.46
8:V:29:PRO:HB2	8:V:30:PRO:HD3	1.97	0.46
12:Z:69:PHE:HB3	14:b:95:LEU:HD22	1.98	0.46
18:f:419:LEU:HG	18:f:420:TRP:HD1	1.81	0.46
2:B:186:ASP:CB	2:B:367:ILE:HD11	2.43	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Z:208:ILE:HD13	12:Z:208:ILE:HG21	1.79	0.46
14:b:91:ARG:HH12	14:b:127:LEU:HD11	1.81	0.46
18:f:594:LEU:O	18:f:598:CYS:HB2	2.16	0.46
13:a:148:VAL:HA	13:a:152:HIS:CE1	2.50	0.46
2:B:193:GLN:HB3	2:B:235:LEU:HD13	1.97	0.46
5:E:208:ILE:H	5:E:208:ILE:HG12	1.53	0.46
18:f:513:GLU:HA	18:f:557:TRP:HZ3	1.81	0.46
5:E:178:THR:HB	5:E:301:ILE:HG12	1.98	0.45
7:U:188:MET:HA	7:U:194:ARG:HH12	1.82	0.45
7:U:481:LEU:O	7:U:485:ALA:CB	2.63	0.45
7:U:749:GLN:HA	7:U:755:THR:HA	1.98	0.45
14:b:55:ALA:O	14:b:56:ASN:C	2.60	0.45
4:D:354:LEU:HD13	4:D:394:VAL:HB	1.97	0.45
8:V:95:LEU:HA	8:V:141:THR:HG22	1.97	0.45
12:Z:57:PRO:HB2	14:b:99:HIS:HE1	1.81	0.45
15:c:55:GLY:HA3	15:c:112:TYR:CE1	2.50	0.45
16:d:87:VAL:HB	16:d:126:LEU:HD21	1.97	0.45
18:f:665:GLU:O	18:f:669:GLU:N	2.46	0.45
18:f:811:LEU:HB3	18:f:878:GLU:HA	1.97	0.45
4:D:206:GLY:O	4:D:312:ASN:ND2	2.50	0.45
4:D:265:ASP:HA	4:D:310:ALA:HB3	1.98	0.45
6:F:359:GLU:HB3	6:F:385:ALA:HB1	1.97	0.45
7:U:194:ARG:HA	7:U:197:VAL:HG22	1.97	0.45
11:Y:311:TYR:HD1	11:Y:314:LEU:HD13	1.81	0.45
19:g:198:ILE:HD11	19:g:241:VAL:HG13	1.98	0.45
9:W:303:LYS:HA	9:W:306:LEU:HG	1.98	0.45
3:C:44:ARG:NH2	16:d:350:VAL:C	2.75	0.45
8:V:325:LYS:O	8:V:329:HIS:HB2	2.16	0.45
2:B:201:VAL:HB	2:B:204:PRO:HD3	1.99	0.45
3:C:38:LYS:HB3	4:D:54:LEU:HD23	1.98	0.45
3:C:368:MET:HA	3:C:371:LEU:HD12	1.98	0.45
4:D:73:LEU:HD13	4:D:73:LEU:HA	1.85	0.45
6:F:370:SER:HB2	6:F:375:VAL:HG21	1.99	0.45
7:U:194:ARG:H	7:U:194:ARG:HG2	1.56	0.45
7:U:772:TRP:CD1	7:U:774:PRO:HG2	2.52	0.45
8:V:289:LEU:HA	8:V:292:THR:HG22	1.99	0.45
11:Y:299:MET:HB3	11:Y:299:MET:HE2	1.65	0.45
1:A:191:VAL:HG21	1:A:318:LEU:HD11	1.99	0.45
5:E:275:MET:SD	5:E:277:MET:HE3	2.56	0.45
13:a:56:LEU:HB2	13:a:86:GLN:HG3	1.99	0.45
14:b:157:VAL:HG21	14:b:170:LEU:HB2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:c:124:GLY:HA2	15:c:127:ILE:HG12	1.98	0.45
3:C:83:LYS:HA	3:C:105:ILE:HD11	1.99	0.45
9:W:190:MET:HE2	9:W:206:SER:HA	1.98	0.45
18:f:711:SER:HA	18:f:749:ALA:HB2	1.99	0.45
6:F:192:ASP:O	6:F:195:ILE:HG22	2.17	0.45
7:U:104:CYS:HB2	7:U:130:LEU:HD11	1.99	0.45
8:V:417:ILE:HD12	8:V:417:ILE:HA	1.85	0.45
8:V:102:PRO:O	8:V:106:ARG:HG3	2.17	0.44
13:a:232:TRP:HB2	13:a:255:TRP:HA	1.99	0.44
18:f:131:MET:HG3	18:f:166:VAL:HG22	1.99	0.44
4:D:296:MET:HB2	4:D:296:MET:HE2	1.73	0.44
7:U:432:SER:HB3	7:U:435:SER:HB3	1.99	0.44
16:d:191:LEU:HD23	16:d:191:LEU:HA	1.84	0.44
4:D:154:LEU:HD13	4:D:227:PHE:HB3	1.98	0.44
6:F:195:ILE:O	6:F:199:VAL:HG13	2.16	0.44
7:U:4:SER:HB3	8:V:263:LEU:HD22	1.98	0.44
12:Z:5:ALA:HB3	12:Z:139:ILE:HD13	1.98	0.44
12:Z:259:VAL:HG12	15:c:291:LEU:HD21	1.99	0.44
18:f:130:ALA:HA	18:f:133:MET:HE3	1.99	0.44
5:E:9:LEU:HD12	5:E:12:TYR:OH	2.17	0.44
11:Y:253:LEU:HB3	11:Y:256:VAL:HB	1.99	0.44
16:d:119:LEU:O	16:d:122:VAL:HG12	2.16	0.44
18:f:455:VAL:HG12	18:f:457:ASN:H	1.82	0.44
1:A:78:TRP:CD1	2:B:138:PHE:HB3	2.53	0.44
2:B:197:ILE:HD12	2:B:197:ILE:HA	1.91	0.44
6:F:405:MET:HE2	6:F:405:MET:HB2	1.83	0.44
14:b:91:ARG:NH2	14:b:130:ARG:HH22	2.15	0.44
2:B:106:PRO:HB3	3:C:121:TYR:HB2	1.99	0.44
6:F:376:SER:HB2	6:F:414:GLU:HB3	2.00	0.44
13:a:142:LEU:HD21	13:a:152:HIS:CD2	2.53	0.44
7:U:103:LYS:HD3	7:U:103:LYS:HA	1.77	0.44
9:W:68:VAL:HG13	9:W:107:GLN:HB2	2.00	0.44
12:Z:198:LEU:HD23	13:a:364:GLU:HA	1.99	0.44
13:a:278:MET:HA	13:a:281:THR:HG22	2.00	0.44
4:D:41:TYR:HD2	7:U:183:LEU:HD11	1.82	0.44
4:D:317:LEU:HD21	4:D:321:LEU:HB2	1.99	0.44
7:U:695:MET:HE3	7:U:695:MET:HB3	1.86	0.44
2:B:222:VAL:HG22	2:B:349:ARG:HD3	1.99	0.44
5:E:172:LEU:CB	5:E:180:LYS:HD3	2.48	0.44
8:V:294:ARG:HD3	8:V:331:LEU:HD11	1.99	0.44
15:c:57:MET:HA	15:c:72:VAL:HA	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
18:f:681:TYR:HA	18:f:717:ALA:HB3	2.00	0.44
3:C:235:PHE:CD2	3:C:279:GLN:HB3	2.53	0.43
4:D:255:LYS:HE3	4:D:302:ASN:HB3	2.00	0.43
5:E:219:PHE:CZ	5:E:264:MET:HB3	2.53	0.43
7:U:82:LEU:HG	7:U:129:ARG:HG2	1.99	0.43
16:d:196:LEU:HD22	16:d:229:PRO:HB2	2.00	0.43
2:B:120:HIS:HB3	2:B:132:TYR:HE1	1.83	0.43
4:D:314:ALA:O	4:D:317:LEU:HB3	2.19	0.43
13:a:18:GLN:HA	13:a:22:TRP:CD1	2.53	0.43
13:a:97:LEU:HD11	13:a:118:ILE:HG12	2.00	0.43
15:c:248:MET:HB2	15:c:287:HIS:CE1	2.52	0.43
4:D:302:ASN:OD1	4:D:302:ASN:N	2.51	0.43
7:U:78:LEU:HD11	7:U:104:CYS:HB3	1.99	0.43
7:U:357:LYS:HE2	7:U:389:ASN:OD1	2.18	0.43
3:C:364:THR:HA	4:D:196:ILE:HD12	2.00	0.43
4:D:384:MET:HE3	5:E:147:GLU:HG2	2.00	0.43
11:Y:15:PRO:HB2	11:Y:17:LEU:HB2	2.00	0.43
3:C:97:VAL:HG11	3:C:116:LEU:HD11	2.01	0.43
3:C:254:ILE:HG13	3:C:269:VAL:HB	2.00	0.43
8:V:422:ILE:O	8:V:426:LEU:HB2	2.19	0.43
9:W:450:GLU:O	9:W:454:ASN:HB2	2.19	0.43
18:f:551:LYS:HG2	18:f:556:ARG:HH22	1.84	0.43
2:B:123:VAL:HG21	2:B:152:LEU:HD11	1.99	0.43
3:C:44:ARG:HH22	16:d:350:VAL:HG12	1.84	0.43
7:U:564:ASP:HA	7:U:567:ILE:HD12	2.00	0.43
8:V:215:ALA:HA	8:V:218:TYR:HD2	1.84	0.43
9:W:179:LYS:O	9:W:183:VAL:HG23	2.18	0.43
9:W:320:LEU:HD13	9:W:324:TYR:HD2	1.84	0.43
18:f:545:LYS:CG	18:f:588:ARG:HA	2.49	0.43
18:f:568:GLY:HA2	18:f:601:ALA:HB2	2.00	0.43
2:B:287:ILE:HG22	2:B:331:THR:HG21	2.01	0.43
5:E:176:PRO:HB3	6:F:344:ARG:HH11	1.83	0.43
5:E:270:LEU:HB3	5:E:273:VAL:HB	2.01	0.43
6:F:124:ILE:HD13	6:F:134:LEU:HD23	1.99	0.43
8:V:28:PRO:O	8:V:29:PRO:C	2.60	0.43
12:Z:172:VAL:HG23	15:c:39:LEU:HD21	1.99	0.43
13:a:71:VAL:HG21	13:a:76:LEU:HD13	2.01	0.43
3:C:210:THR:HG21	3:C:241:HIS:NE2	2.34	0.43
5:E:145:LEU:HA	5:E:148:VAL:HG22	2.00	0.43
11:Y:365:GLN:HA	11:Y:368:GLU:HB2	2.00	0.43
11:Y:373:GLY:O	11:Y:377:LEU:HB2	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:U:515:ALA:HA	7:U:518:LEU:HB2	2.01	0.43
7:U:900:TYR:HB3	7:U:914:LEU:HB3	2.01	0.43
12:Z:112:MET:HE2	12:Z:112:MET:HB3	1.64	0.43
14:b:8:VAL:HB	14:b:51:LEU:HD13	2.01	0.43
16:d:171:LEU:HD21	16:d:191:LEU:HD13	1.99	0.43
18:f:479:LEU:HG	18:f:517:VAL:HG21	2.01	0.43
7:U:645:ASN:HB3	7:U:648:VAL:HG22	2.01	0.43
8:V:333:ILE:HD13	8:V:360:TYR:HB3	2.00	0.43
8:V:377:GLN:O	8:V:381:GLN:HB2	2.19	0.43
10:X:415:TYR:OH	11:Y:382:LYS:HB3	2.19	0.43
11:Y:282:MET:HE1	11:Y:295:TYR:HB3	2.01	0.43
13:a:134:THR:O	13:a:138:VAL:HG23	2.18	0.43
15:c:107:MET:HE3	19:g:273:THR:H	1.84	0.43
15:c:109:VAL:HG12	15:c:137:SER:HB3	2.01	0.43
18:f:659:LEU:HA	18:f:662:MET:HB3	2.00	0.43
7:U:27:LEU:HD23	7:U:27:LEU:HA	1.88	0.42
7:U:575:ASP:HB2	7:U:578:LEU:HB2	2.01	0.42
8:V:202:ALA:HA	8:V:205:LEU:HB3	2.01	0.42
9:W:436:MET:HE2	15:c:309:PHE:HZ	1.83	0.42
18:f:714:SER:HB3	18:f:753:ALA:HB2	2.00	0.42
5:E:359:HIS:NE2	5:E:362:VAL:HG23	2.34	0.42
7:U:637:VAL:O	7:U:641:SER:N	2.51	0.42
4:D:235:PHE:CE1	4:D:247:VAL:HG22	2.55	0.42
12:Z:205:LEU:HD23	12:Z:205:LEU:HA	1.85	0.42
13:a:149:THR:HG23	13:a:151:VAL:H	1.83	0.42
7:U:118:LEU:HD11	7:U:123:LYS:HA	2.00	0.42
7:U:448:LEU:HD12	7:U:483:LEU:HD11	1.99	0.42
9:W:188:GLU:HG2	9:W:191:ARG:HH21	1.85	0.42
11:Y:141:VAL:HG21	11:Y:167:LEU:HD22	2.01	0.42
15:c:37:ALA:HA	15:c:72:VAL:HG22	2.01	0.42
15:c:59:GLY:HA2	15:c:70:ILE:HG22	2.01	0.42
16:d:121:LEU:O	16:d:124:LEU:HB3	2.20	0.42
4:D:144:PRO:HA	4:D:145:PRO:HD3	1.93	0.42
14:b:110:ILE:HG22	14:b:139:ASP:HB2	2.02	0.42
1:A:380:SER:HB3	1:A:384:GLU:HB3	2.02	0.42
8:V:114:TYR:O	8:V:118:GLN:HB2	2.19	0.42
8:V:129:ASP:HB3	8:V:134:PHE:HE1	1.85	0.42
12:Z:56:VAL:HA	12:Z:74:TYR:CE1	2.55	0.42
12:Z:145:HIS:CE1	12:Z:151:THR:HA	2.55	0.42
13:a:92:VAL:O	13:a:96:PHE:HB3	2.20	0.42
13:a:211:PHE:HB3	13:a:275:LEU:HD21	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
15:c:255:TYR:HB2	15:c:280:PRO:HB2	2.01	0.42
18:f:666:ILE:HA	18:f:669:GLU:HB2	2.02	0.42
19:g:148:ASN:HB3	19:g:155:THR:HG21	2.00	0.42
1:A:254:ALA:O	1:A:258:ARG:HG3	2.19	0.42
2:B:141:LYS:HA	2:B:144:LEU:HG	2.02	0.42
3:C:115:ALA:HB3	3:C:125:LYS:HB3	2.00	0.42
4:D:177:VAL:HG21	4:D:215:LEU:HD11	2.00	0.42
5:E:173:TYR:CD2	5:E:282:PRO:HG3	2.55	0.42
5:E:177:GLY:H	21:E:501:AGS:PB	2.42	0.42
9:W:453:HIS:CD2	12:Z:220:LEU:HD23	2.54	0.42
15:c:125:VAL:O	15:c:129:THR:HG22	2.19	0.42
16:d:98:LEU:HD12	16:d:102:TRP:CZ2	2.54	0.42
19:g:195:LYS:HD3	19:g:247:PHE:HD2	1.85	0.42
1:A:154:PRO:HA	1:A:155:PRO:HD3	1.86	0.42
2:B:187:ILE:HD12	2:B:187:ILE:HA	1.93	0.42
2:B:248:LEU:HD21	2:B:277:HIS:HE1	1.84	0.42
6:F:288:LEU:HD12	6:F:332:THR:HB	2.02	0.42
7:U:42:VAL:HG11	7:U:68:PHE:CE2	2.55	0.42
8:V:26:PRO:O	8:V:29:PRO:HD2	2.20	0.42
18:f:413:SER:HA	18:f:416:MET:HE3	2.01	0.42
3:C:126:ILE:HD13	3:C:126:ILE:HA	1.84	0.42
5:E:276:ILE:HD13	5:E:276:ILE:HA	1.93	0.42
11:Y:356:THR:HG22	11:Y:358:ARG:HG3	2.01	0.42
4:D:85:ILE:CD1	5:E:68:LYS:HA	2.49	0.42
5:E:215:ILE:HA	5:E:218:MET:HB3	2.02	0.42
7:U:757:MET:HB3	7:U:758:PRO:HD3	2.02	0.42
8:V:338:LEU:HD21	8:V:397:ARG:HG3	2.02	0.42
9:W:314:LEU:HD13	9:W:381:LEU:HD22	2.02	0.42
13:a:195:GLU:O	13:a:199:THR:HG23	2.20	0.42
13:a:206:LEU:HD21	13:a:261:LEU:HD22	2.02	0.42
14:b:8:VAL:HG11	14:b:33:VAL:HG13	2.02	0.42
16:d:243:LYS:O	16:d:247:ALA:HB2	2.20	0.42
1:A:172:VAL:HG21	1:A:227:ARG:HB2	2.01	0.41
1:A:195:LEU:HG	1:A:316:LYS:HE3	2.01	0.41
1:A:224:LEU:CD2	20:A:501:ADP:H2'	2.45	0.41
9:W:125:ILE:HG22	9:W:145:LEU:HD13	2.02	0.41
9:W:317:TRP:HA	9:W:320:LEU:HB2	2.01	0.41
14:b:112:PHE:HE1	14:b:141:ILE:HD12	1.85	0.41
15:c:157:ILE:HD13	15:c:157:ILE:HA	1.88	0.41
16:d:158:ARG:HB3	16:d:160:ASP:HB2	2.02	0.41
5:E:103:THR:HG21	15:c:49:VAL:HB	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:U:32:ASN:HA	7:U:70:HIS:CE1	2.55	0.41
9:W:438:LEU:HA	9:W:441:LYS:HB2	2.02	0.41
3:C:367:GLY:HA3	4:D:196:ILE:HG13	2.03	0.41
4:D:248:ARG:O	4:D:252:ARG:HB2	2.19	0.41
6:F:46:ARG:HD2	13:a:68:GLU:OE2	2.19	0.41
13:a:98:GLU:HG2	13:a:118:ILE:HD11	2.02	0.41
18:f:426:LEU:HD11	18:f:460:ASP:HB2	2.01	0.41
3:C:63:LEU:HD12	3:C:63:LEU:HA	1.89	0.41
4:D:228:ILE:HG21	4:D:250:VAL:HG23	2.03	0.41
6:F:392:ASN:OD1	6:F:395:GLN:HG3	2.20	0.41
7:U:95:GLU:O	7:U:99:THR:HG23	2.21	0.41
7:U:470:ASN:HB2	7:U:473:VAL:HG23	2.02	0.41
8:V:148:ARG:NH2	8:V:198:GLN:HB3	2.35	0.41
8:V:307:ARG:O	8:V:311:ASN:HB2	2.21	0.41
8:V:338:LEU:HD12	8:V:338:LEU:HA	1.92	0.41
8:V:442:ILE:HD13	8:V:449:ALA:H	1.84	0.41
9:W:166:LEU:HD23	9:W:169:LEU:HD12	2.01	0.41
5:E:117:PRO:HD3	6:F:94:ILE:HG23	2.02	0.41
5:E:151:LEU:HA	5:E:155:ASN:HD21	1.84	0.41
7:U:424:ALA:HA	7:U:427:LEU:HD12	2.02	0.41
8:V:72:LEU:O	8:V:76:LYS:HB3	2.21	0.41
8:V:131:LEU:HD13	8:V:178:SER:HB3	2.02	0.41
12:Z:19:VAL:HG11	12:Z:124:ILE:HD13	2.02	0.41
18:f:221:ILE:HD12	18:f:221:ILE:HA	1.97	0.41
2:B:243:THR:HG23	2:B:245:ALA:H	1.86	0.41
5:E:264:MET:HE2	5:E:294:ARG:HD3	2.01	0.41
7:U:666:LYS:C	7:U:668:ALA:N	2.77	0.41
4:D:200:ARG:CZ	4:D:303:VAL:HA	2.49	0.41
4:D:258:ALA:HB3	4:D:260:ALA:HB2	2.02	0.41
8:V:246:GLY:C	8:V:248:ALA:H	2.27	0.41
9:W:69:ALA:HB1	9:W:73:MET:HE2	2.02	0.41
18:f:600:TYR:HE2	18:f:608:LYS:HE2	1.84	0.41
2:B:329:MET:HE1	2:B:337:LEU:HD11	2.03	0.41
4:D:300:ASP:O	4:D:301:GLN:C	2.64	0.41
5:E:49:ALA:HB1	6:F:138:GLY:HA2	2.03	0.41
6:F:260:PHE:HB3	6:F:261:ILE:H	1.68	0.41
8:V:470:ARG:HD2	16:d:331:PRO:HB3	2.03	0.41
8:V:484:LEU:HA	8:V:484:LEU:HD23	1.85	0.41
11:Y:111:LEU:HD23	11:Y:123:ALA:HB2	2.02	0.41
13:a:57:ILE:HG23	13:a:87:MET:HE1	2.03	0.41
14:b:109:ILE:HD12	14:b:109:ILE:HA	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
16:d:123:LEU:HD11	16:d:147:ILE:HD13	2.02	0.41
18:f:707:LEU:HB3	18:f:745:LEU:HD22	2.03	0.41
18:f:754:LYS:HD2	18:f:754:LYS:HA	1.86	0.41
2:B:163:LEU:HD13	2:B:163:LEU:HA	1.87	0.41
4:D:200:ARG:HE	4:D:303:VAL:HA	1.84	0.41
5:E:135:ILE:HG12	5:E:182:LEU:HD21	2.03	0.41
5:E:172:LEU:HD23	5:E:276:ILE:HG23	2.02	0.41
6:F:171:ARG:O	6:F:175:MET:HB3	2.21	0.41
7:U:219:CYS:O	7:U:223:LEU:HB2	2.21	0.41
7:U:579:ARG:O	7:U:583:MET:HG2	2.21	0.41
7:U:904:LYS:HE2	7:U:912:ILE:HG12	2.03	0.41
15:c:244:VAL:HG22	15:c:287:HIS:NE2	2.36	0.41
16:d:137:THR:O	16:d:140:GLN:HG3	2.21	0.41
18:f:666:ILE:H	18:f:666:ILE:HG13	1.66	0.41
3:C:66:LEU:HD11	4:D:116:LEU:CD1	2.51	0.41
5:E:81:VAL:HG12	5:E:105:LEU:HB3	2.03	0.41
9:W:193:CYS:O	9:W:194:LEU:C	2.64	0.41
11:Y:250:LEU:HG	11:Y:257:ARG:HB2	2.02	0.41
3:C:249:ASP:HA	3:C:294:ALA:HB3	2.04	0.40
4:D:239:TYR:HB3	4:D:240:LEU:H	1.58	0.40
5:E:171:LEU:HA	5:E:277:MET:HB2	2.03	0.40
7:U:68:PHE:HD1	7:U:76:GLU:HB3	1.86	0.40
10:X:368:MET:HE3	10:X:368:MET:HB3	1.92	0.40
18:f:54:ASP:HB2	18:f:57:GLU:HB2	2.03	0.40
4:D:53:PHE:HE2	7:U:632:GLN:HG3	1.86	0.40
8:V:236:ARG:NH1	8:V:236:ARG:HA	2.37	0.40
11:Y:100:ILE:O	11:Y:104:MET:HB2	2.21	0.40
12:Z:11:VAL:HB	12:Z:162:ILE:HD13	2.03	0.40
5:E:342:ASP:O	5:E:346:VAL:HG23	2.22	0.40
6:F:417:HIS:HA	6:F:420:TYR:CD1	2.56	0.40
7:U:560:MET:HB3	7:U:562:GLU:HG3	2.03	0.40
7:U:707:ASN:HA	7:U:710:ARG:HG2	2.04	0.40
9:W:276:LEU:HD23	9:W:276:LEU:HA	1.95	0.40
11:Y:202:LEU:HD13	11:Y:239:LYS:HB3	2.03	0.40
13:a:84:VAL:HB	13:a:96:PHE:HE2	1.86	0.40
16:d:187:TYR:CZ	16:d:191:LEU:HG	2.56	0.40
18:f:36:ALA:HA	18:f:39:LYS:HB3	2.03	0.40
4:D:282:ASP:O	4:D:286:GLN:HG2	2.22	0.40
6:F:49:ASP:HA	6:F:52:ILE:HD12	2.03	0.40
8:V:88:GLY:HA2	8:V:91:PRO:HG2	2.03	0.40
10:X:415:TYR:CE2	11:Y:383:LEU:HB2	2.57	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:a:240:PHE:CD1	13:a:275:LEU:HD12	2.56	0.40
14:b:17:ARG:O	14:b:18:ASN:C	2.64	0.40
19:g:179:SER:HB2	19:g:266:ILE:HB	2.03	0.40
1:A:143:ASP:HB3	1:A:148:GLN:H	1.86	0.40
3:C:276:LEU:HA	3:C:279:GLN:HB2	2.04	0.40
4:D:85:ILE:HG22	4:D:86:PRO:HD3	2.04	0.40
4:D:163:MET:HE1	4:D:221:HIS:CE1	2.56	0.40
4:D:293:LEU:HA	4:D:296:MET:HG3	2.04	0.40
4:D:341:LYS:O	4:D:345:PHE:HB3	2.21	0.40
8:V:25:GLU:HB2	8:V:26:PRO:HD3	2.03	0.40
8:V:59:ALA:HB2	8:V:200:ARG:HD2	2.04	0.40
12:Z:137:ALA:HB3	12:Z:158:VAL:HB	2.02	0.40
15:c:57:MET:HB3	15:c:72:VAL:HG12	2.03	0.40
18:f:167:ALA:HB3	18:f:201:GLU:HG3	2.04	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	329/433 (76%)	295 (90%)	34 (10%)	0	100	100
2	B	279/440 (63%)	248 (89%)	31 (11%)	0	100	100
3	C	366/406 (90%)	341 (93%)	25 (7%)	0	100	100
4	D	367/418 (88%)	335 (91%)	32 (9%)	0	100	100
5	E	378/389 (97%)	361 (96%)	17 (4%)	0	100	100
6	F	372/439 (85%)	349 (94%)	23 (6%)	0	100	100
7	U	825/953 (87%)	778 (94%)	47 (6%)	0	100	100
8	V	465/534 (87%)	433 (93%)	32 (7%)	0	100	100
9	W	435/456 (95%)	405 (93%)	30 (7%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
10	X	103/422 (24%)	98 (95%)	5 (5%)	0	100	100
11	Y	376/389 (97%)	354 (94%)	22 (6%)	0	100	100
12	Z	285/324 (88%)	275 (96%)	10 (4%)	0	100	100
13	a	372/376 (99%)	360 (97%)	12 (3%)	0	100	100
14	b	187/377 (50%)	177 (95%)	10 (5%)	0	100	100
15	c	287/310 (93%)	268 (93%)	19 (7%)	0	100	100
16	d	263/350 (75%)	248 (94%)	15 (6%)	0	100	100
17	e	35/70 (50%)	30 (86%)	5 (14%)	0	100	100
18	f	713/908 (78%)	655 (92%)	58 (8%)	0	100	100
19	g	171/289 (59%)	166 (97%)	5 (3%)	0	100	100
All	All	6608/8283 (80%)	6176 (94%)	432 (6%)	0	100	100

There are no Ramachandran outliers to report.

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	283/372 (76%)	278 (98%)	5 (2%)	51	67
2	B	247/385 (64%)	239 (97%)	8 (3%)	34	56
3	C	321/352 (91%)	309 (96%)	12 (4%)	30	53
4	D	322/366 (88%)	309 (96%)	13 (4%)	28	51
5	E	333/341 (98%)	313 (94%)	20 (6%)	17	44
6	F	325/379 (86%)	314 (97%)	11 (3%)	32	55
7	U	707/816 (87%)	678 (96%)	29 (4%)	27	51
8	V	406/460 (88%)	392 (97%)	14 (3%)	32	55
9	W	402/416 (97%)	387 (96%)	15 (4%)	30	53
10	X	97/362 (27%)	89 (92%)	8 (8%)	10	34
11	Y	334/344 (97%)	322 (96%)	12 (4%)	31	54

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
12	Z	258/295 (88%)	247 (96%)	11 (4%)	26 49
13	a	334/336 (99%)	319 (96%)	15 (4%)	24 49
14	b	167/312 (54%)	161 (96%)	6 (4%)	31 54
15	c	253/268 (94%)	242 (96%)	11 (4%)	26 49
16	d	235/294 (80%)	227 (97%)	8 (3%)	32 55
17	e	37/63 (59%)	37 (100%)	0	100 100
18	f	617/763 (81%)	603 (98%)	14 (2%)	44 63
19	g	157/253 (62%)	154 (98%)	3 (2%)	50 66
All	All	5835/7177 (81%)	5620 (96%)	215 (4%)	31 53

All (215) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	80	LEU
1	A	118	PHE
1	A	123	VAL
1	A	180	CYS
1	A	263	MET
2	B	99	VAL
2	B	122	ILE
2	B	123	VAL
2	B	136	LEU
2	B	143	LEU
2	B	292	THR
2	B	309	MET
2	B	331	THR
3	C	58	LEU
3	C	145	ASP
3	C	169	VAL
3	C	178	LEU
3	C	231	VAL
3	C	234	LEU
3	C	280	LEU
3	C	289	ILE
3	C	291	VAL
3	C	305	LEU
3	C	360	LYS
3	C	377	HIS
4	D	73	LEU

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Mol	Chain	Res	Type
4	D	79	VAL
4	D	142	VAL
4	D	223	THR
4	D	251	PHE
4	D	275	PHE
4	D	279	THR
4	D	282	ASP
4	D	289	LEU
4	D	307	VAL
4	D	308	ILE
4	D	311	THR
4	D	335	LEU
5	E	29	LEU
5	E	56	ILE
5	E	57	VAL
5	E	108	MET
5	E	116	ASP
5	E	155	ASN
5	E	182	LEU
5	E	183	LEU
5	E	191	LEU
5	E	196	LEU
5	E	198	VAL
5	E	208	ILE
5	E	228	CYS
5	E	260	LEU
5	E	261	LEU
5	E	297	ARG
5	E	310	LEU
5	E	331	ILE
5	E	360	ASP
5	E	374	VAL
6	F	85	THR
6	F	136	VAL
6	F	140	VAL
6	F	162	GLU
6	F	172	VAL
6	F	313	LEU
6	F	335	VAL
6	F	343	LEU
6	F	356	MET
6	F	405	MET

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Mol	Chain	Res	Type
6	F	406	ILE
7	U	30	VAL
7	U	47	VAL
7	U	163	PHE
7	U	185	MET
7	U	252	LEU
7	U	329	LEU
7	U	333	MET
7	U	403	THR
7	U	448	LEU
7	U	462	LEU
7	U	471	ASP
7	U	493	VAL
7	U	497	LEU
7	U	502	TYR
7	U	520	MET
7	U	529	ILE
7	U	555	VAL
7	U	556	MET
7	U	578	LEU
7	U	636	VAL
7	U	693	LEU
7	U	694	ILE
7	U	706	VAL
7	U	712	LEU
7	U	732	LEU
7	U	767	THR
7	U	772	TRP
7	U	880	ASN
7	U	924	LEU
8	V	93	PHE
8	V	144	ASP
8	V	219	GLU
8	V	224	LEU
8	V	227	VAL
8	V	230	PHE
8	V	240	LEU
8	V	253	LEU
8	V	275	VAL
8	V	303	SER
8	V	329	HIS
8	V	331	LEU

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Mol	Chain	Res	Type
8	V	361	PHE
8	V	443	ARG
9	W	82	LEU
9	W	112	VAL
9	W	115	ILE
9	W	131	VAL
9	W	141	GLU
9	W	177	MET
9	W	187	LEU
9	W	189	GLN
9	W	226	TYR
9	W	233	LEU
9	W	251	TYR
9	W	272	LEU
9	W	320	LEU
9	W	344	THR
9	W	448	LYS
10	X	335	LEU
10	X	345	VAL
10	X	356	LEU
10	X	360	ASP
10	X	365	LEU
10	X	370	LEU
10	X	375	HIS
10	X	406	ASN
11	Y	53	TYR
11	Y	141	VAL
11	Y	143	TYR
11	Y	144	LEU
11	Y	145	LEU
11	Y	214	MET
11	Y	216	TYR
11	Y	299	MET
11	Y	316	LEU
11	Y	337	PHE
11	Y	350	VAL
11	Y	358	ARG
12	Z	7	GLN
12	Z	56	VAL
12	Z	111	LEU
12	Z	139	ILE
12	Z	141	VAL

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Mol	Chain	Res	Type
12	Z	159	THR
12	Z	172	VAL
12	Z	198	LEU
12	Z	206	LEU
12	Z	235	ASN
12	Z	252	LYS
13	a	38	THR
13	a	71	VAL
13	a	88	THR
13	a	96	PHE
13	a	97	LEU
13	a	113	LEU
13	a	114	CYS
13	a	121	LEU
13	a	151	VAL
13	a	218	MET
13	a	222	LEU
13	a	251	LEU
13	a	315	LEU
13	a	319	LEU
13	a	357	CYS
14	b	71	ILE
14	b	113	VAL
14	b	117	VAL
14	b	136	VAL
14	b	143	PHE
14	b	160	LEU
15	c	27	THR
15	c	33	ILE
15	c	109	VAL
15	c	113	HIS
15	c	198	ARG
15	c	216	MET
15	c	217	LEU
15	c	225	TRP
15	c	233	ASP
15	c	244	VAL
15	c	293	THR
16	d	87	VAL
16	d	116	LEU
16	d	122	VAL
16	d	126	LEU

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Mol	Chain	Res	Type
16	d	175	TYR
16	d	310	LEU
16	d	333	THR
16	d	349	ILE
18	f	106	LEU
18	f	219	LYS
18	f	236	CYS
18	f	237	VAL
18	f	298	LEU
18	f	344	VAL
18	f	391	LEU
18	f	407	MET
18	f	562	LEU
18	f	615	ILE
18	f	659	LEU
18	f	665	GLU
18	f	798	THR
18	f	811	LEU
19	g	124	MET
19	g	165	LEU
19	g	289	HIS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (68) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	88	GLN
2	B	181	GLN
2	B	195	GLN
3	C	53	ASN
4	D	76	GLN
4	D	158	GLN
4	D	278	GLN
4	D	295	GLN
4	D	380	GLN
4	D	390	ASN
5	E	155	ASN
5	E	226	GLN
6	F	43	GLN
6	F	83	ASN
6	F	184	GLN
7	U	115	ASN
7	U	128	GLN

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Mol	Chain	Res	Type
7	U	149	GLN
7	U	340	GLN
7	U	345	ASN
7	U	347	ASN
7	U	384	GLN
7	U	438	GLN
7	U	596	ASN
7	U	611	ASN
7	U	647	HIS
7	U	665	ASN
7	U	697	GLN
7	U	876	GLN
7	U	880	ASN
8	V	177	ASN
8	V	242	HIS
8	V	252	ASN
8	V	257	ASN
8	V	282	ASN
8	V	319	HIS
8	V	387	GLN
9	W	86	ASN
9	W	189	GLN
9	W	283	GLN
9	W	356	ASN
9	W	422	ASN
9	W	426	ASN
9	W	453	HIS
10	X	349	HIS
11	Y	94	ASN
11	Y	357	ASN
12	Z	235	ASN
13	a	69	HIS
13	a	91	ASN
13	a	143	ASN
13	a	258	GLN
15	c	30	GLN
15	c	214	GLN
15	c	237	HIS
15	c	295	ASN
16	d	103	ASN
18	f	51	GLN
18	f	112	ASN

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Mol	Chain	Res	Type
18	f	180	GLN
18	f	293	GLN
18	f	301	HIS
18	f	371	ASN
18	f	378	ASN
18	f	452	ASN
18	f	758	ASN
19	g	187	ASN
19	g	240	ASN

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 8 ligands modelled in this entry, 3 are monoatomic - leaving 5 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
20	ADP	F	501	-	28,29,29	1.39	4 (14%)	43,45,45	1.98	8 (18%)
20	ADP	A	501	-	28,29,29	0.45	0	43,45,45	0.51	0
21	AGS	C	501	22	32,33,33	0.67	1 (3%)	45,52,52	0.53	0
21	AGS	D	502	22	32,33,33	0.67	1 (3%)	45,52,52	0.51	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
21	AGS	E	501	-	32,33,33	0.67	1 (3%)	45,52,52	0.50	0

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
20	ADP	F	501	-	-	5/16/32/32	0/3/3/3
20	ADP	A	501	-	-	3/16/32/32	0/3/3/3
21	AGS	C	501	22	-	0/21/38/38	0/3/3/3
21	AGS	D	502	22	-	1/21/38/38	0/3/3/3
21	AGS	E	501	-	-	6/21/38/38	0/3/3/3

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
20	F	501	ADP	C5-C4	4.51	1.47	1.39
20	F	501	ADP	C5-N7	-2.77	1.34	1.39
20	F	501	ADP	C5-C6	2.42	1.47	1.41
21	E	501	AGS	PG-S1G	2.21	1.95	1.90
21	C	501	AGS	PG-S1G	2.11	1.95	1.90
20	F	501	ADP	C8-N7	2.07	1.35	1.31
21	D	502	AGS	PG-S1G	2.05	1.95	1.90

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
20	F	501	ADP	C5-C4-N3	-6.49	117.78	126.72
20	F	501	ADP	N3-C4-N9	5.28	136.15	127.17
20	F	501	ADP	C2-N3-C4	3.83	121.19	111.83
20	F	501	ADP	C4-C5-N7	-3.20	106.92	110.58
20	F	501	ADP	C3'-C2'-C1'	3.18	107.48	101.46
20	F	501	ADP	N3-C2-N1	-3.03	123.99	128.58
20	F	501	ADP	C5-N7-C8	2.43	107.27	103.45
20	F	501	ADP	C4-N9-C8	2.30	108.15	105.74

There are no chirality outliers.

All (15) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
20	A	501	ADP	C5'-O5'-PA-O2A
20	F	501	ADP	C5'-O5'-PA-O1A
20	F	501	ADP	C5'-O5'-PA-O2A
20	F	501	ADP	C5'-O5'-PA-O3A
21	D	502	AGS	C5'-O5'-PA-O2A
21	E	501	AGS	C5'-O5'-PA-O1A
21	E	501	AGS	O4'-C4'-C5'-O5'
21	E	501	AGS	C3'-C4'-C5'-O5'
20	F	501	ADP	PB-O3A-PA-O5'
21	E	501	AGS	C5'-O5'-PA-O2A
21	E	501	AGS	C5'-O5'-PA-O3A
21	E	501	AGS	C4'-C5'-O5'-PA
20	A	501	ADP	O4'-C4'-C5'-O5'
20	F	501	ADP	PB-O3A-PA-O1A
20	A	501	ADP	C3'-C4'-C5'-O5'

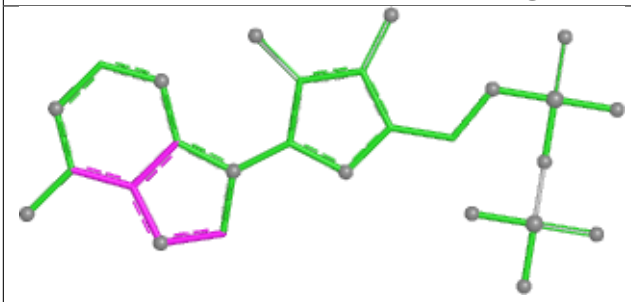
There are no ring outliers.

3 monomers are involved in 7 short contacts:

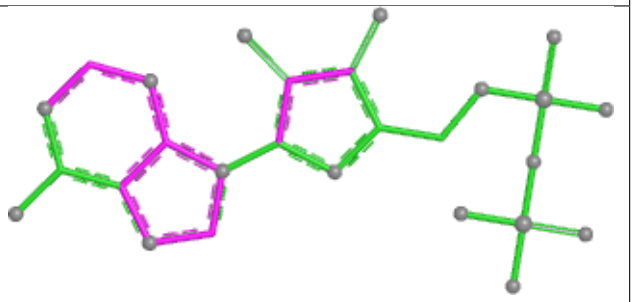
Mol	Chain	Res	Type	Clashes	Symm-Clashes
20	A	501	ADP	4	0
21	C	501	AGS	1	0
21	E	501	AGS	2	0

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 then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

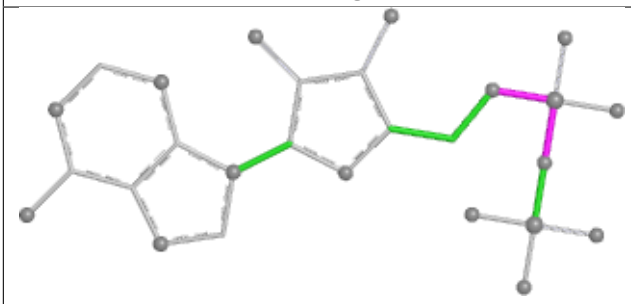
Ligand ADP F 501



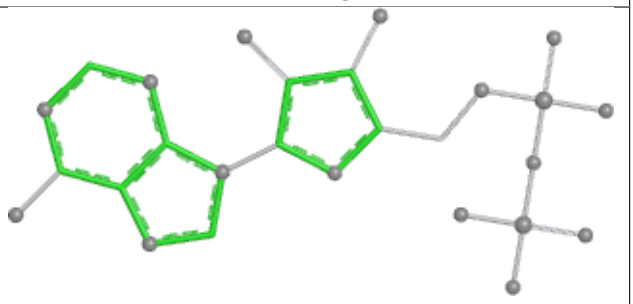
Bond lengths



Bond angles

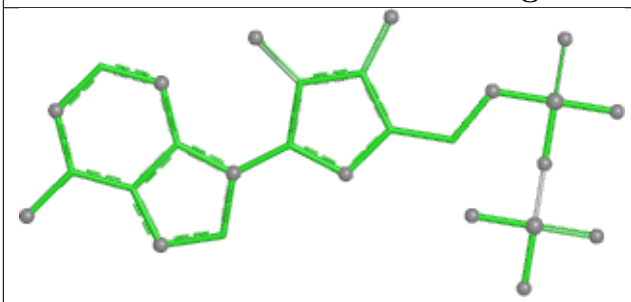


Torsions

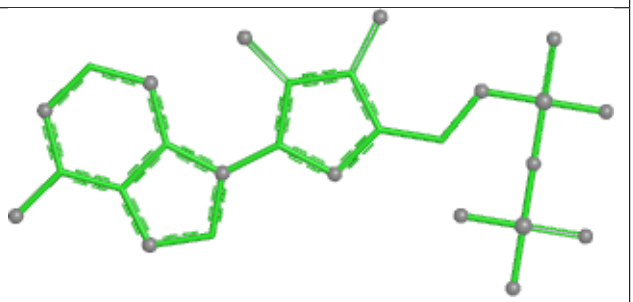


Rings

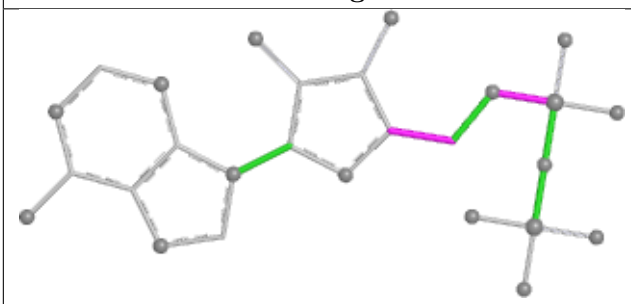
Ligand ADP A 501



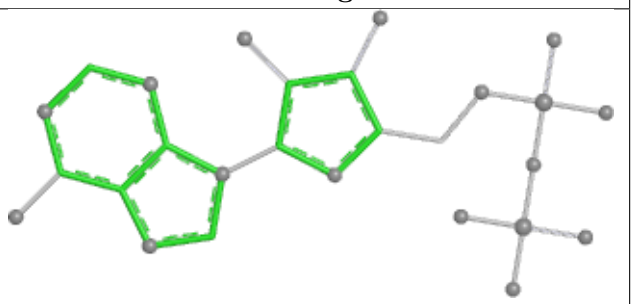
Bond lengths



Bond angles

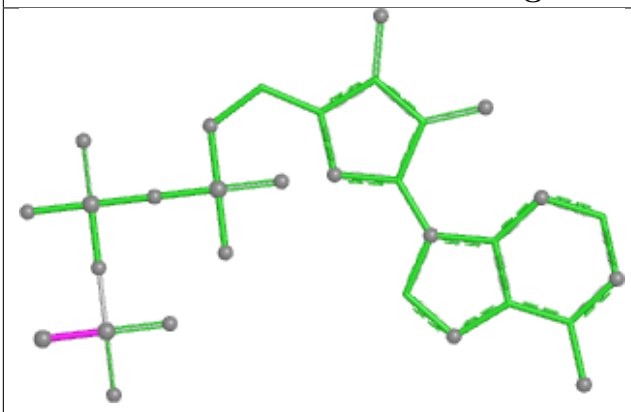


Torsions

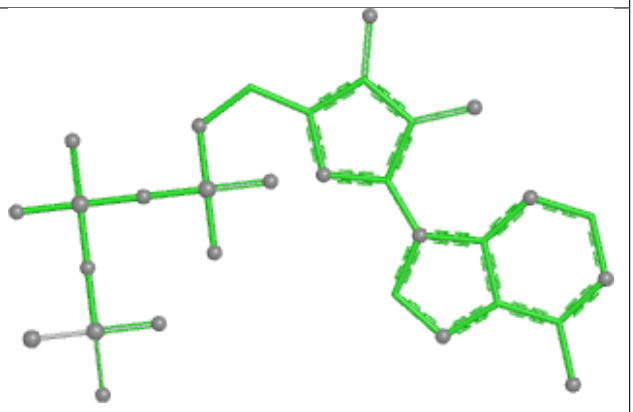


Rings

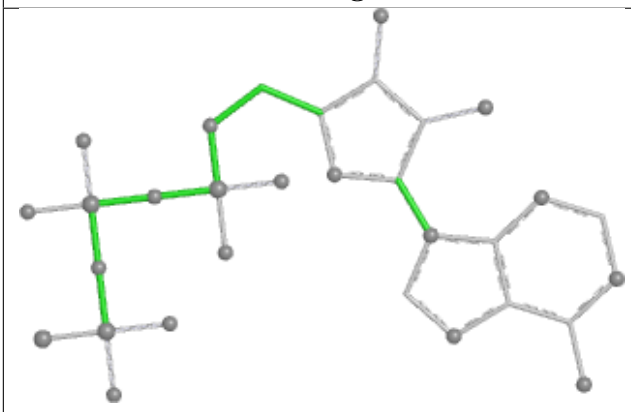
Ligand AGS C 501



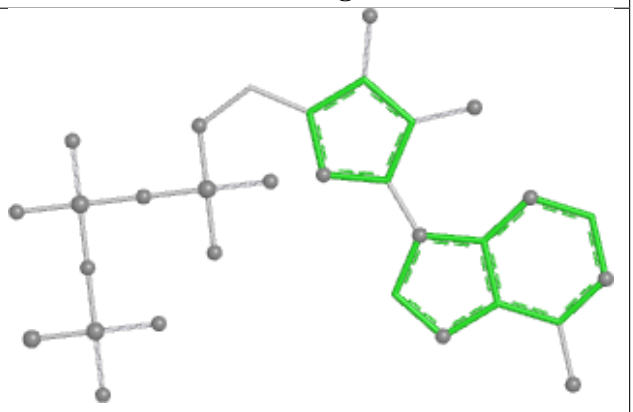
Bond lengths



Bond angles

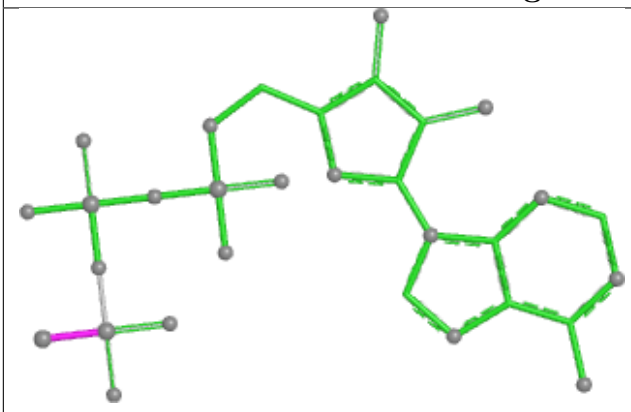


Torsions

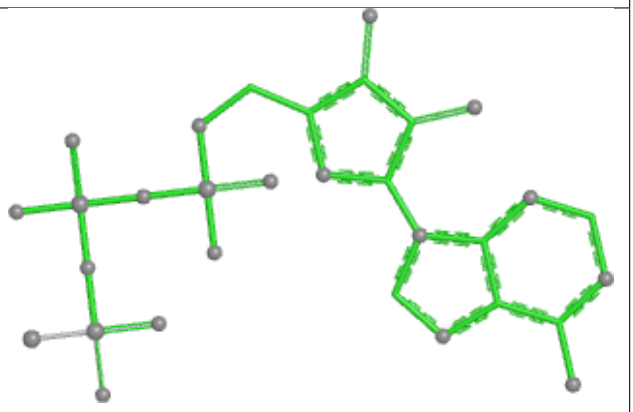


Rings

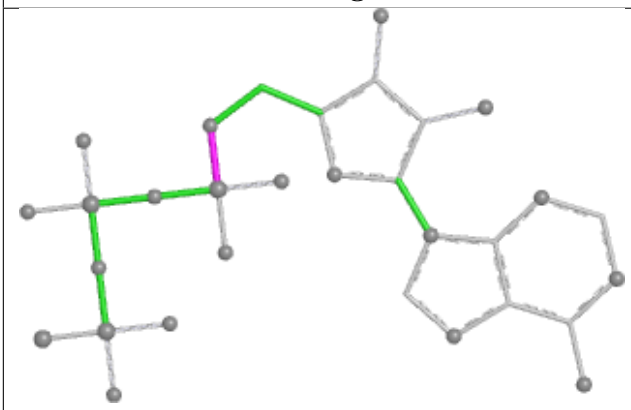
Ligand AGS D 502



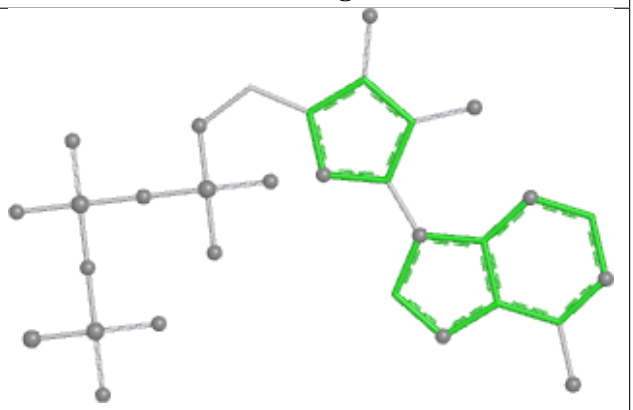
Bond lengths



Bond angles

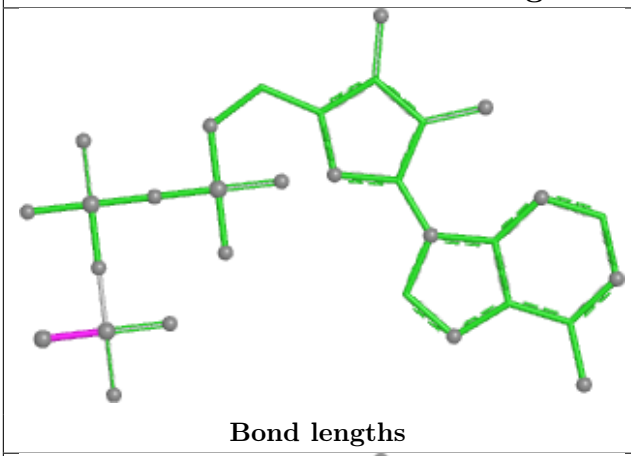


Torsions

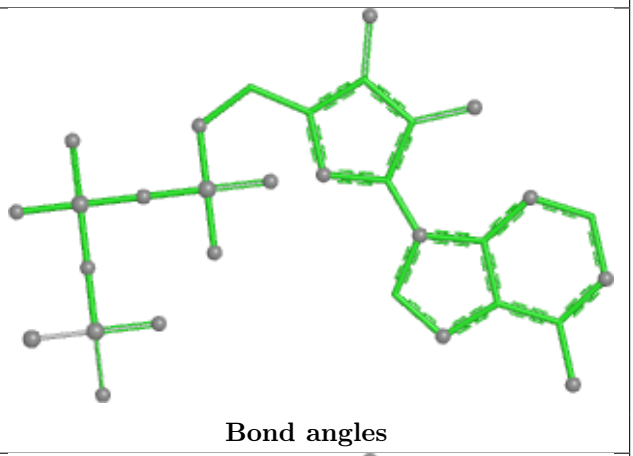


Rings

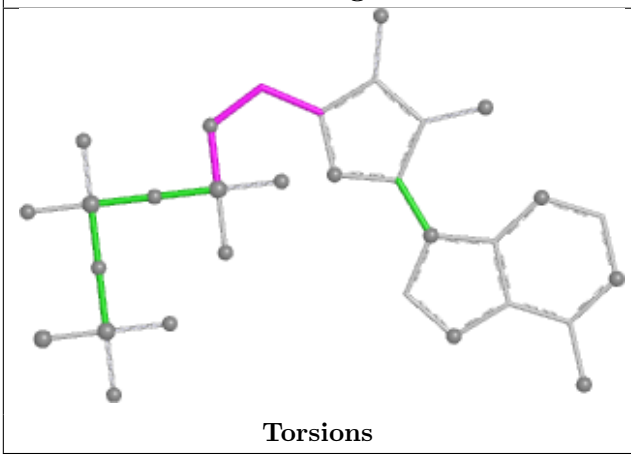
Ligand AGS E 501



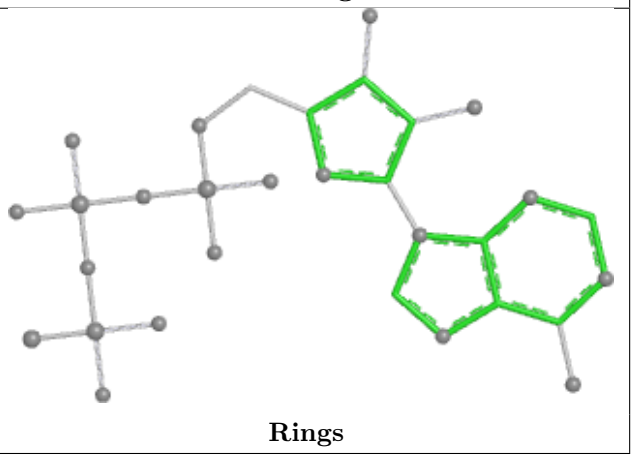
Bond lengths



Bond angles



Torsions



Rings

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.

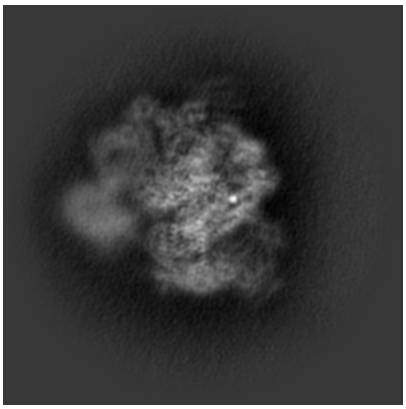
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-76283. These allow visual inspection of the internal detail of the map and identification of artifacts.

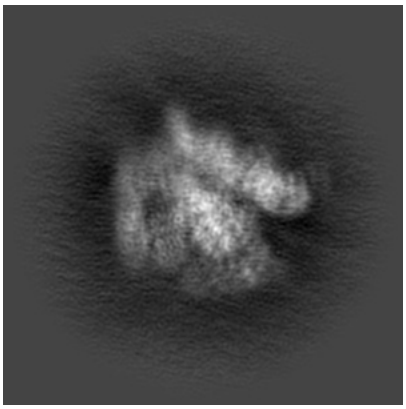
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

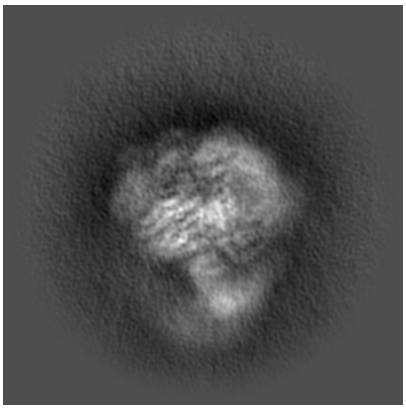
6.1.1 Primary map



X

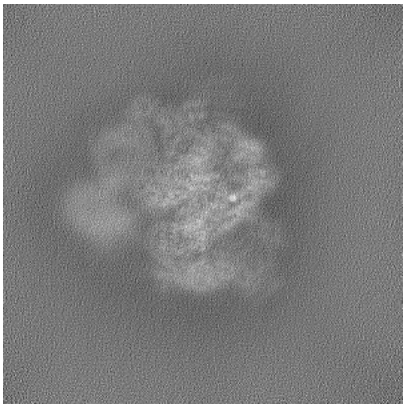


Y

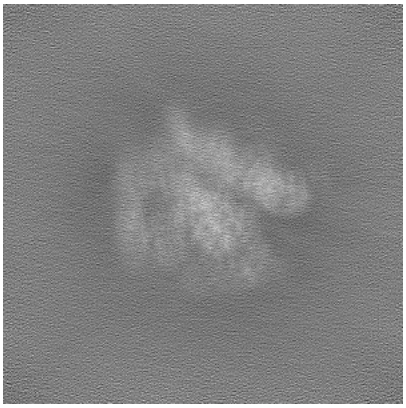


Z

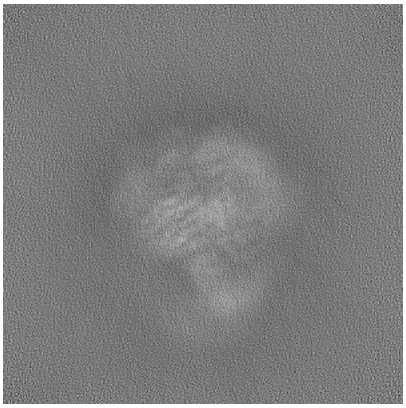
6.1.2 Raw map



X



Y

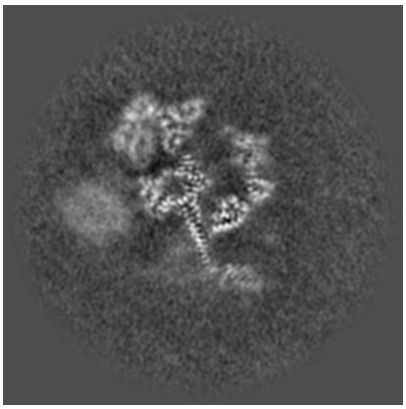


Z

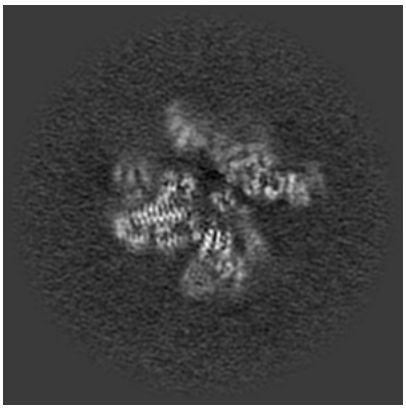
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

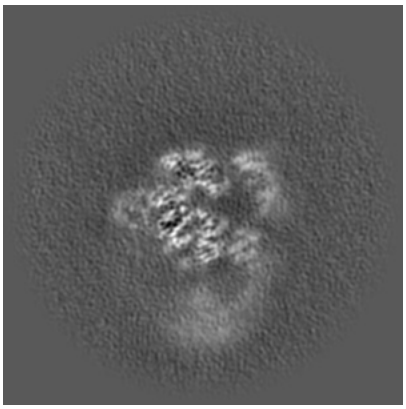
6.2.1 Primary map



X Index: 216

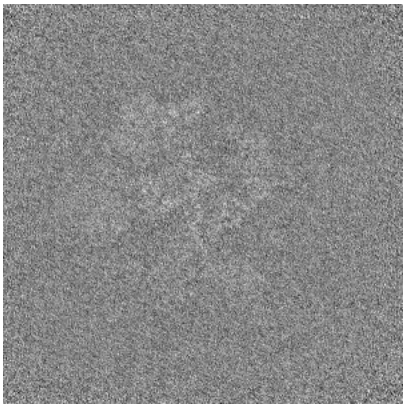


Y Index: 216

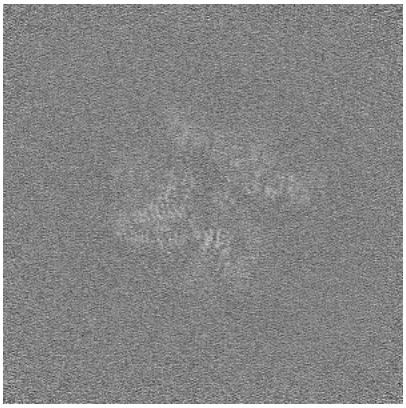


Z Index: 216

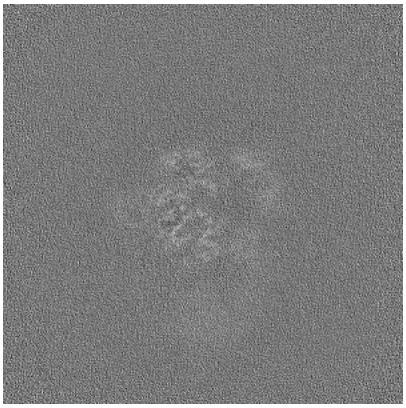
6.2.2 Raw map



X Index: 216



Y Index: 216

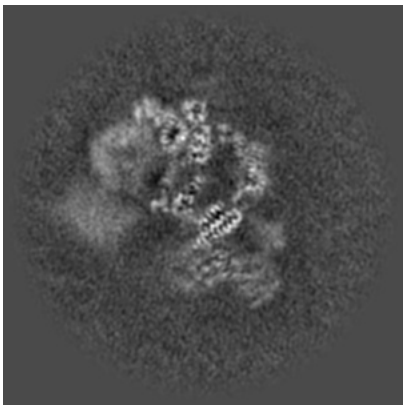


Z Index: 216

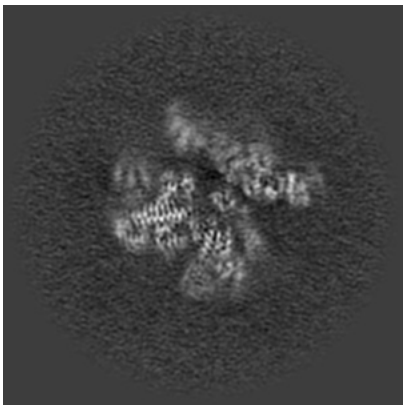
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

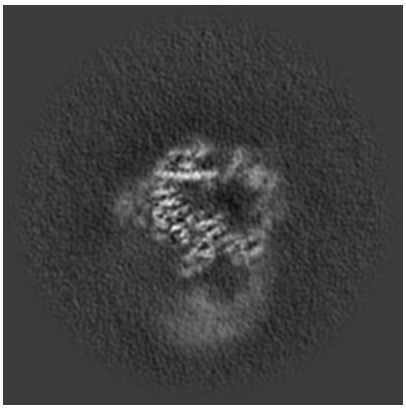
6.3.1 Primary map



X Index: 231

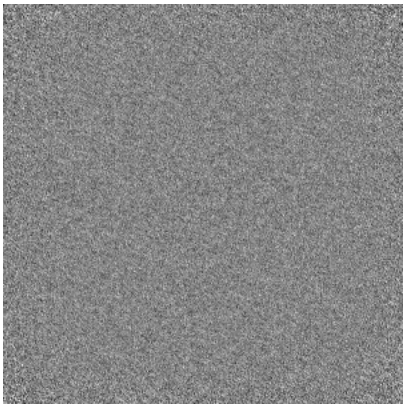


Y Index: 215

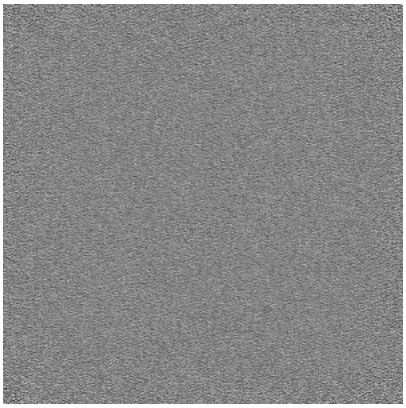


Z Index: 222

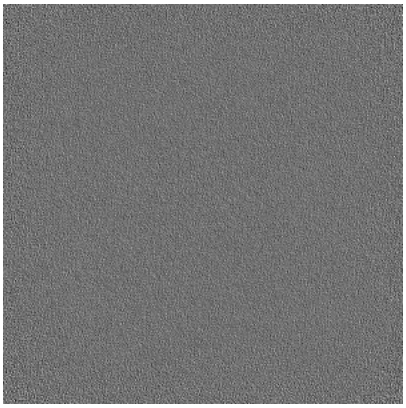
6.3.2 Raw map



X Index: 0



Y Index: 0

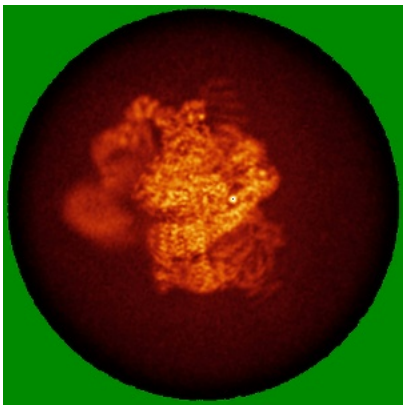


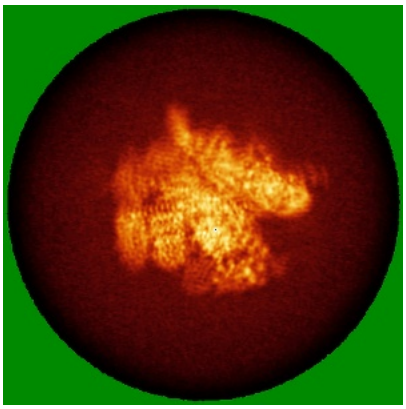
Z Index: 0

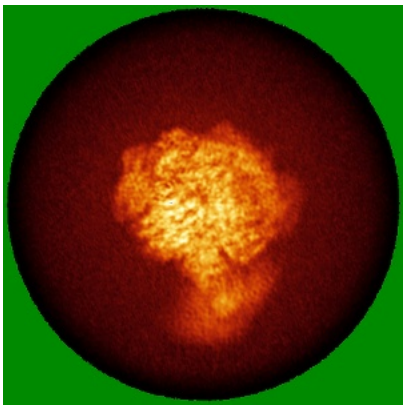
The images above show the largest variance slices of the map in three orthogonal directions.

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

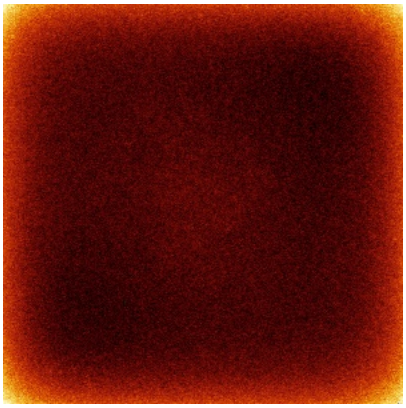
6.4.1 Primary map

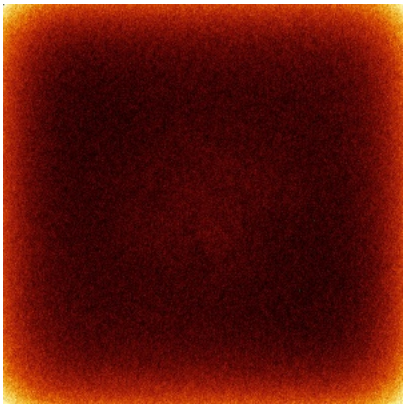

X

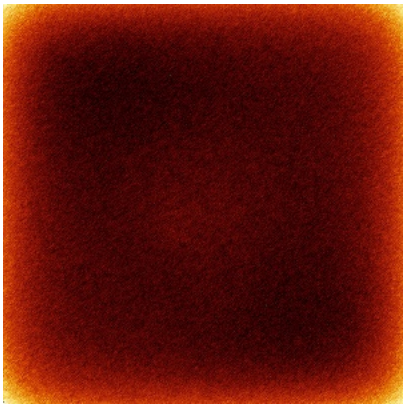

Y


Z

6.4.2 Raw 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

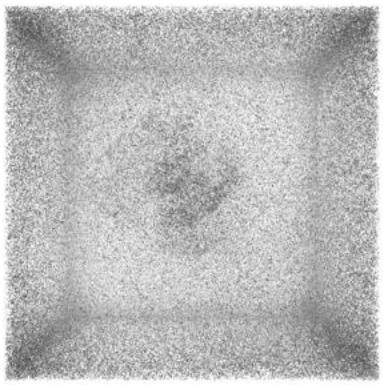
X

Y

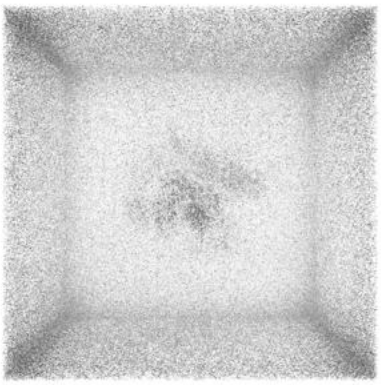
Z

The images above show the 3D surface view of the map at the recommended contour level 0.04. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

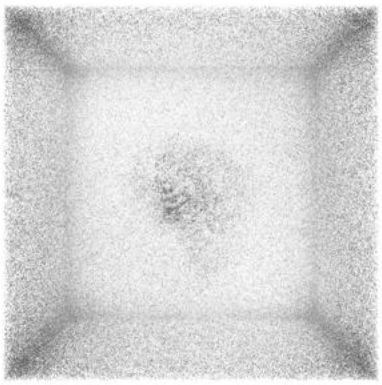
6.5.2 Raw map



X



Y



Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

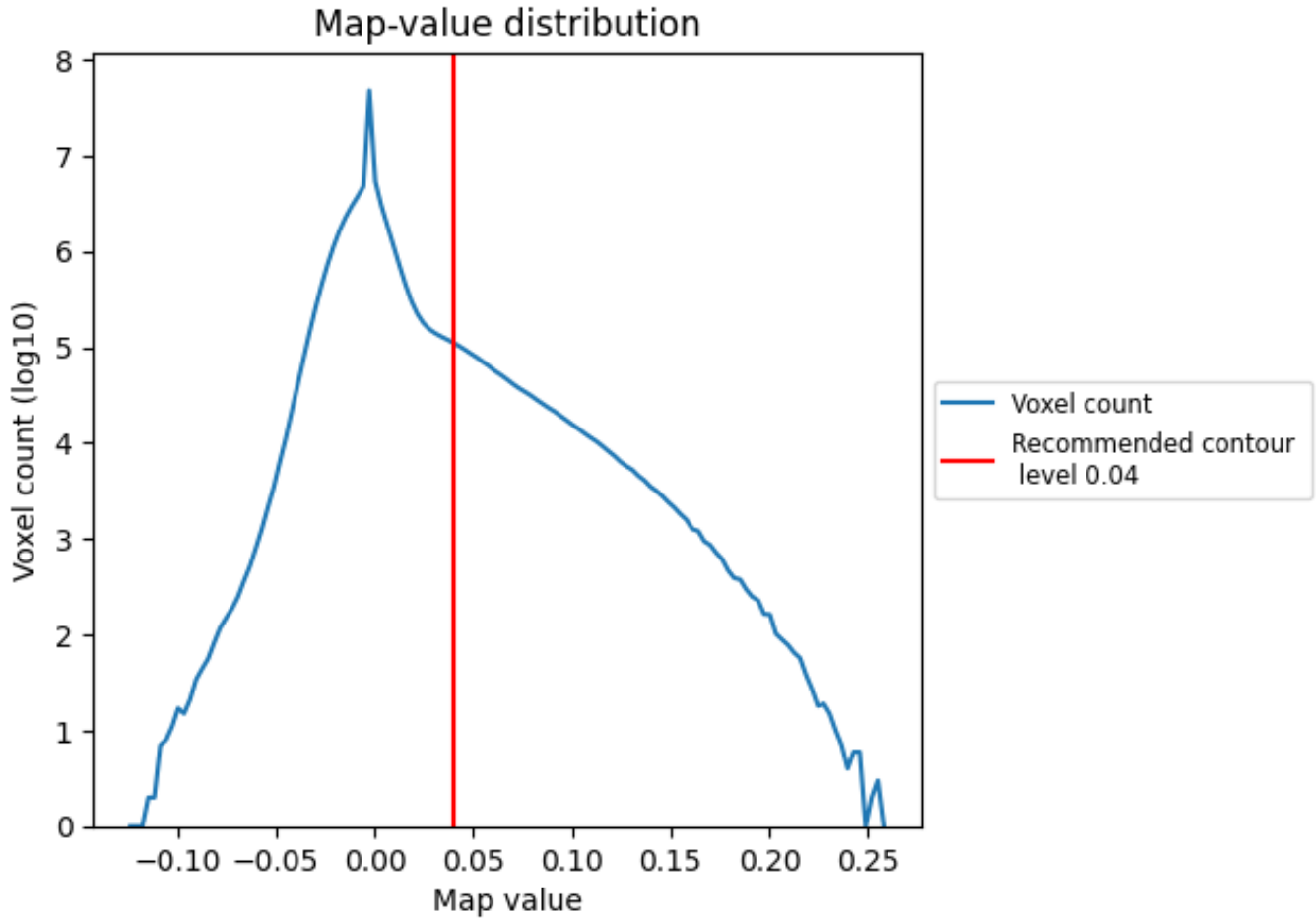
6.6 Mask visualisation (i)

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

7 Map analysis

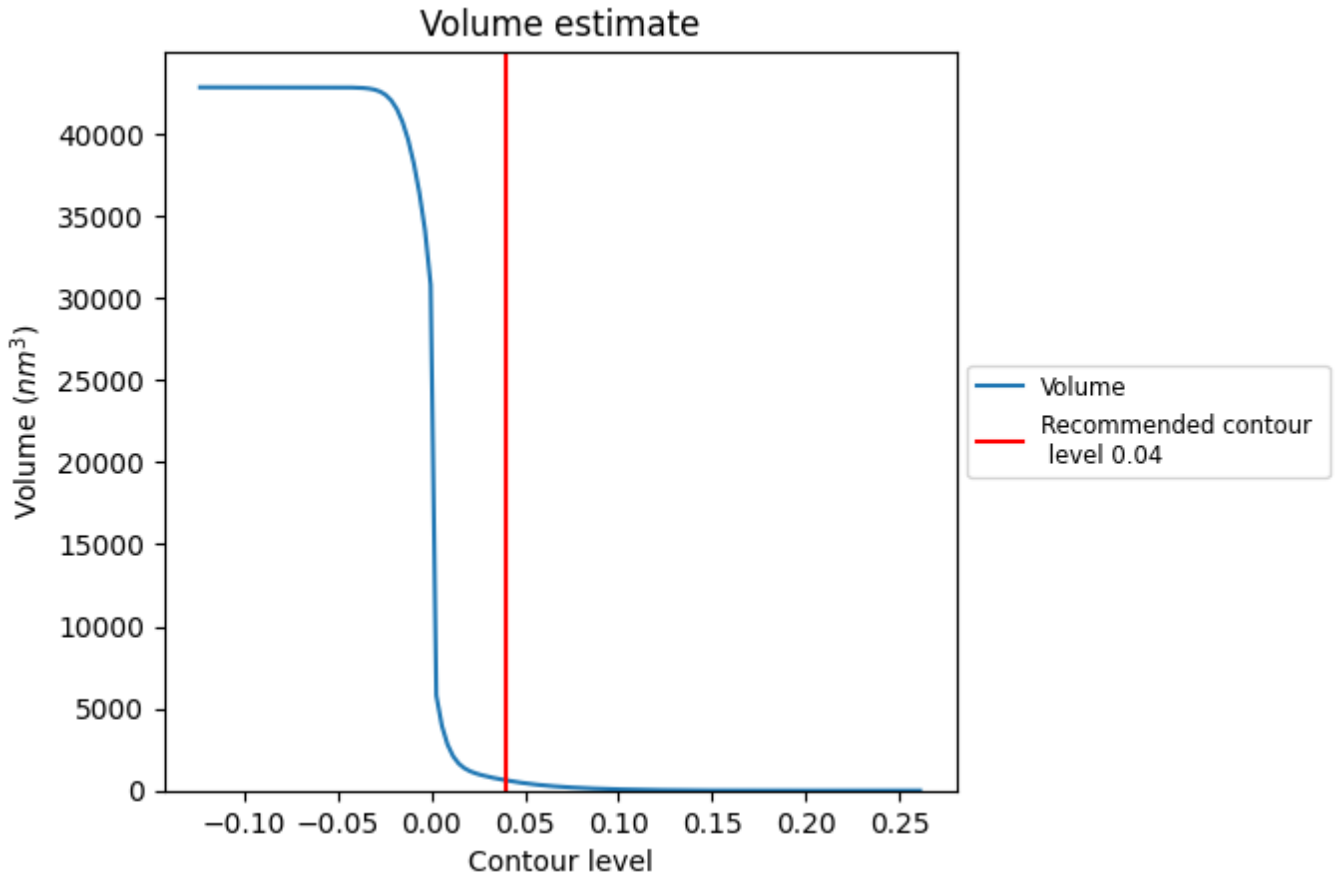
This section contains the results of statistical analysis of the map.

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.

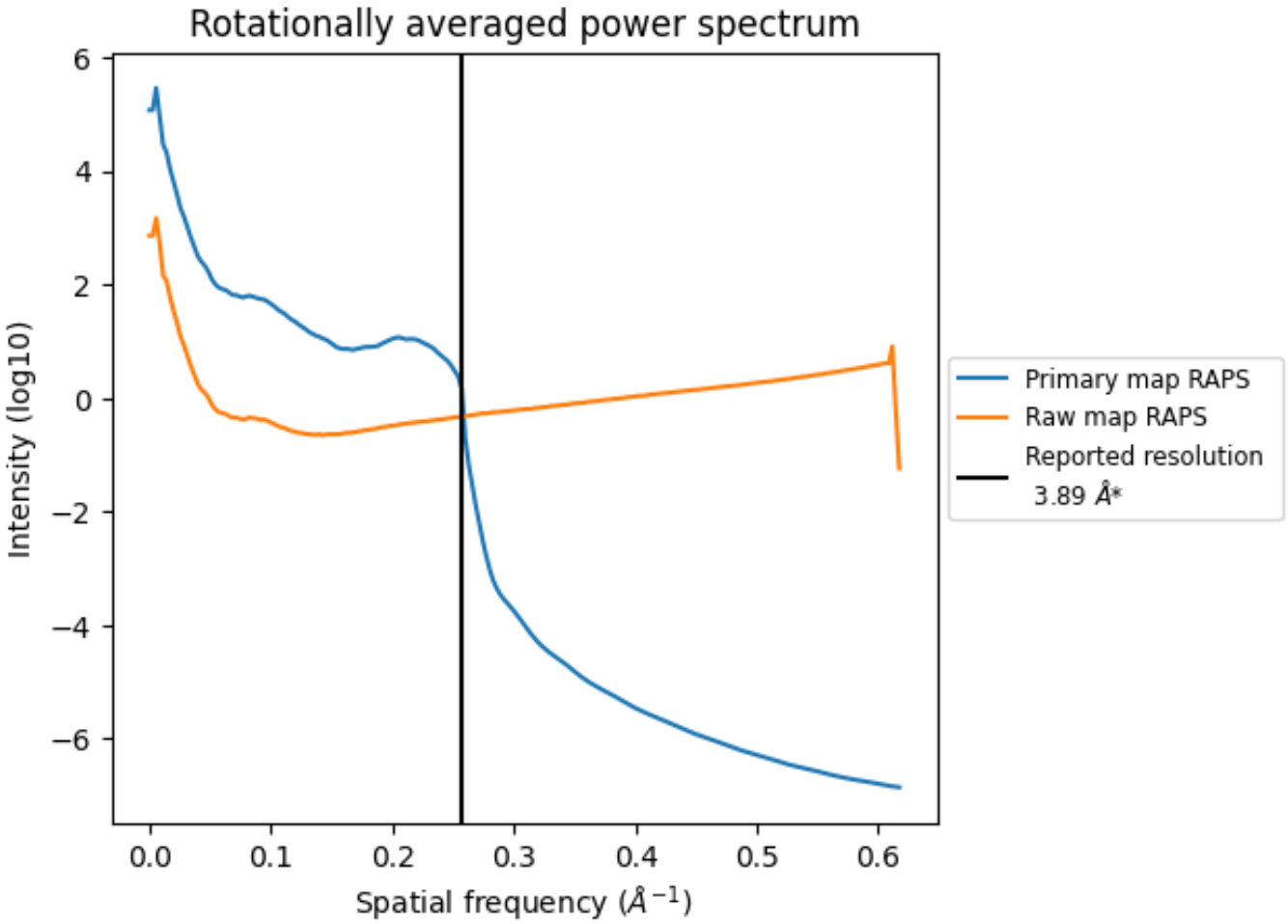
7.2 Volume estimate



The volume at the recommended contour level is 623 nm^3; this corresponds to an approximate mass of 562 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)

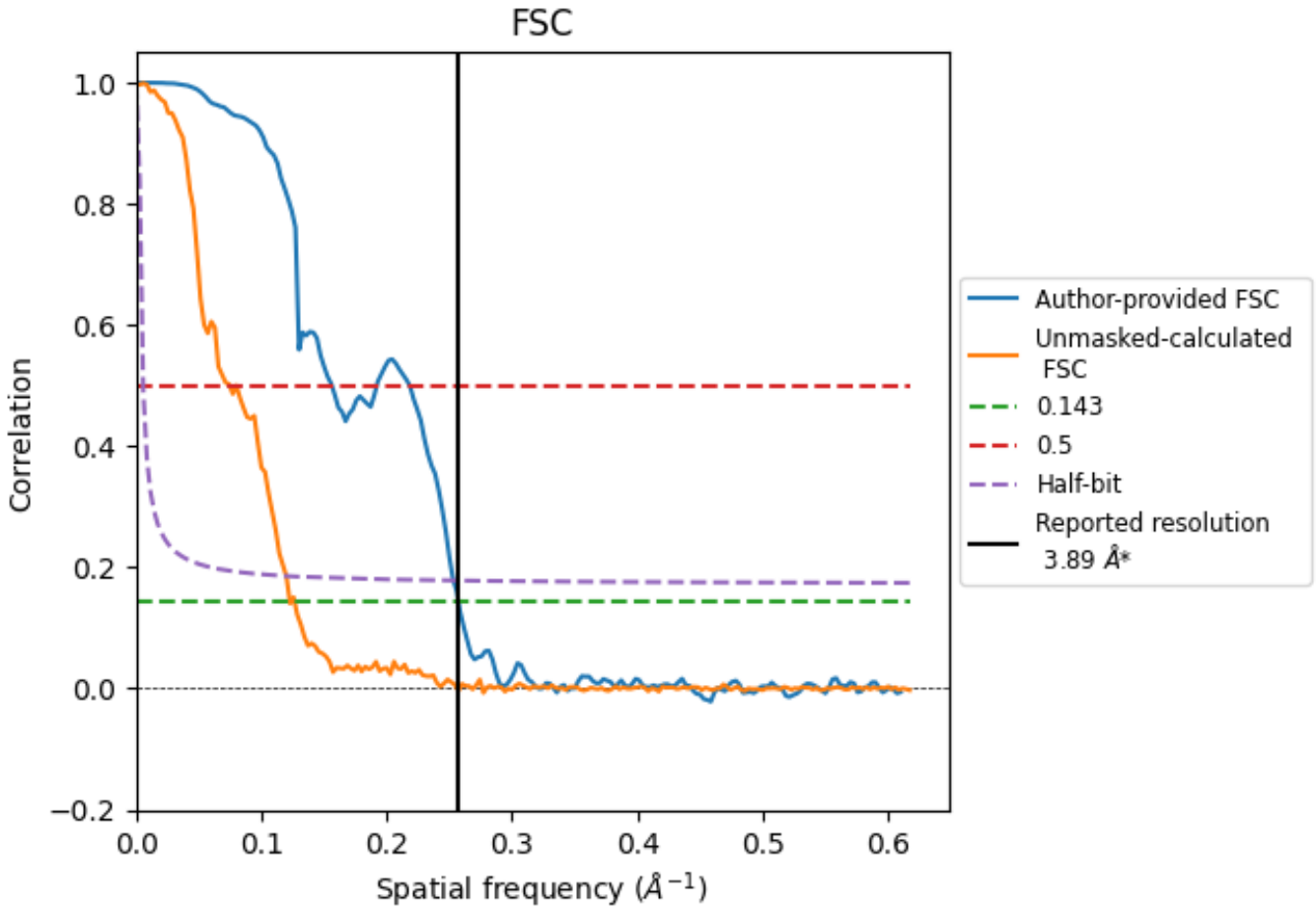


*Reported resolution corresponds to spatial frequency of 0.257 Å^{-1}

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.257 Å^{-1}

8.2 Resolution estimates (i)

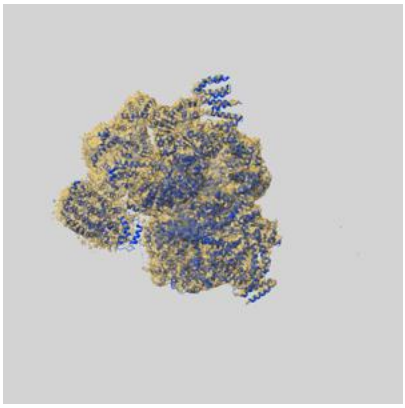
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.89	-	-
Author-provided FSC curve	3.89	6.40	3.95
Unmasked-calculated*	8.15	13.40	8.34

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 8.15 differs from the reported value 3.89 by more than 10 %

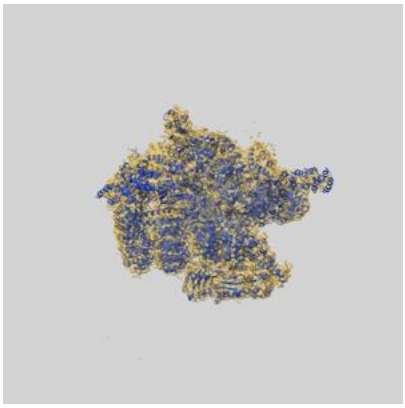
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-76283 and PDB model 12BM. Per-residue inclusion information can be found in section 3 on page 9.

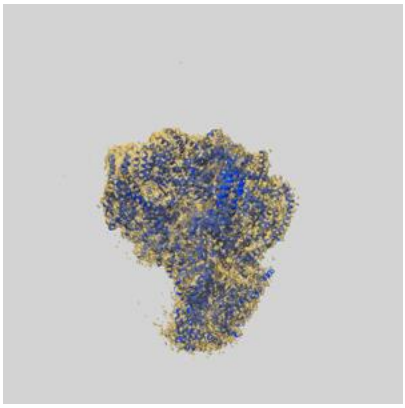
9.1 Map-model overlay



X



Y



Z

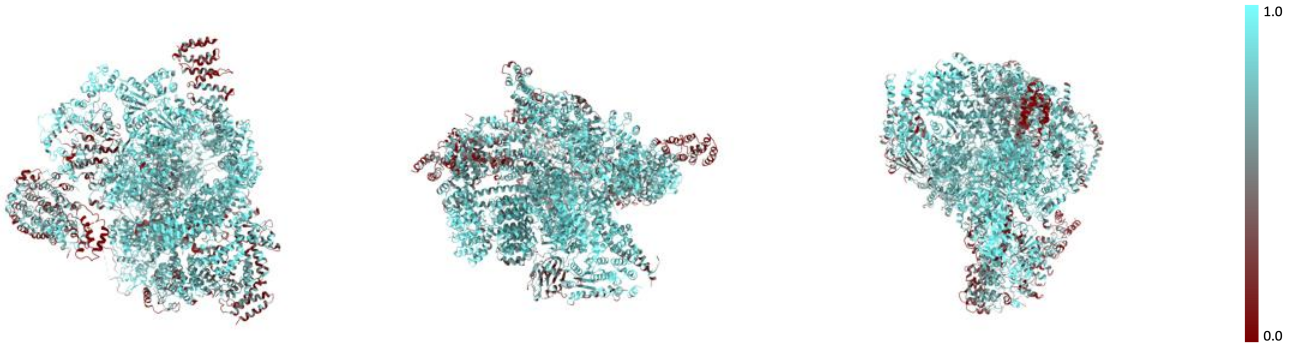
The images above show the 3D surface view of the map at the recommended contour level 0.04 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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.

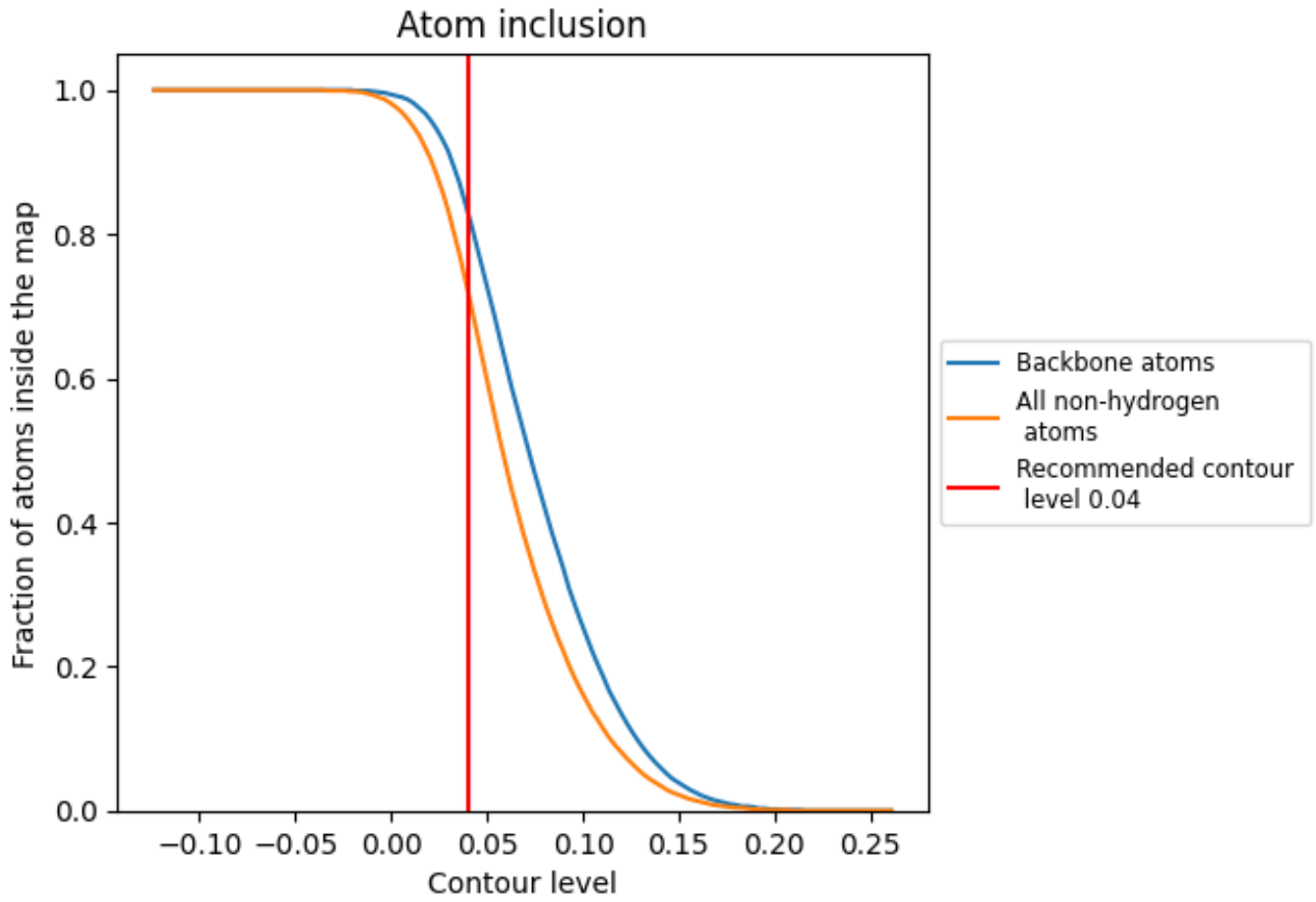
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.04).

9.4 Atom inclusion (i)



At the recommended contour level, 83% of all backbone atoms, 72% 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 (0.04) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7220	0.2210
A	0.7030	0.1430
B	0.6030	0.1350
C	0.8070	0.2700
D	0.8230	0.2850
E	0.8450	0.2980
F	0.8310	0.2790
U	0.8110	0.2630
V	0.6490	0.1990
W	0.5820	0.2170
X	0.8110	0.2700
Y	0.7680	0.1710
Z	0.8980	0.3670
a	0.8640	0.2830
b	0.7970	0.2510
c	0.8170	0.3320
d	0.4730	0.1750
e	0.6990	0.1700
f	0.4950	0.0310
g	0.5080	0.1970