Full wwPDB EM Validation Report ⓘ

Jun 9, 2025 – 10:19 AM EDT

PDB ID	:	9CAB / pdb_00009cab
EMDB ID	:	EMD-45385
Title	:	Cryo-EM structure of human SRCAP-nucleosome complex in the encounter state (composite structure)
Authors	:	Louder, R.K.; Park, G.
Deposited on	:	2024-06-17
Resolution	:	3.94 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:

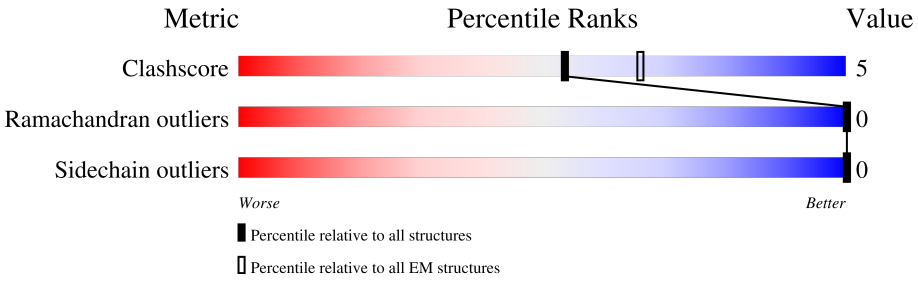
EMDB validation analysis	:	0.0.1.dev118
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0rc1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.43.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.94 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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	3230	19% 78%
2	B	364	17% 30% 5% 65%
3	C	396	8% 87% 13%
4	D	154	8% 64% 5% 32%
5	E	456	13% 85% 10% 5%
5	G	456	12% 88% 10%
5	I	456	10% 87% 8%
6	F	463	14% 84% 10% 5%

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Mol	Chain	Length	Quality of chain
6	H	463	11% 83% 10% 7%
6	J	463	14% 81% 10% 10%
7	Q	128	29% 66% 15% 20%
7	S	128	32% 70% 14% 16%
8	R	125	26% 67% 11% 22%
8	T	125	31% 69% 10% 22%
9	U	135	31% 63% 10% 27%
9	W	135	28% 63% 8% 29%
10	V	102	26% 73% 24%
10	X	102	24% 68% 8% 25%
11	Y	285	13% 28% 31% 41%
12	Z	285	11% 28% 32% 41%

2 Entry composition

There are 16 unique types of molecules in this entry. The entry contains 44206 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 Helicase SRCAP.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	703	Total	C	N	O	S	0	0
			5767	3689	1049	994	35		

- Molecule 2 is a protein called Vacuolar protein sorting-associated protein 72 homolog.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	B	129	Total	C	N	O	S	0	0
			1059	678	189	189	3		

- Molecule 3 is a protein called Actin-related protein 6.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	C	396	Total	C	N	O	S	0	0
			3226	2064	528	616	18		

- Molecule 4 is a protein called Zinc finger HIT domain-containing protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	D	105	Total	C	N	O	S	0	0
			831	508	164	151	8		

- Molecule 5 is a protein called RuvB-like 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	E	433	Total	C	N	O	S	0	0
			3344	2107	574	646	17		
5	G	445	Total	C	N	O	S	0	0
			3430	2159	588	665	18		
5	I	436	Total	C	N	O	S	0	0
			3365	2119	577	652	17		

- Molecule 6 is a protein called RuvB-like 2.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	F	438	Total	C	N	O	S	0	0
			3395	2121	596	662	16		
6	H	432	Total	C	N	O	S	0	0
			3361	2101	590	654	16		
6	J	418	Total	C	N	O	S	0	0
			3254	2039	568	632	15		

- Molecule 7 is a protein called Histone H2A type 1.

Mol	Chain	Residues	Atoms				AltConf	Trace
7	Q	103	Total	C	N	O	0	0
			795	501	155	139		
7	S	107	Total	C	N	O	0	0
			825	518	163	144		

There are 14 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
Q	99	ARG	GLY	conflict	UNP P06897
Q	123	SER	-	expression tag	UNP P06897
Q	124	LYS	-	expression tag	UNP P06897
Q	125	SER	-	expression tag	UNP P06897
Q	126	LYS	-	expression tag	UNP P06897
Q	127	SER	-	expression tag	UNP P06897
Q	128	LYS	-	expression tag	UNP P06897
S	99	ARG	GLY	conflict	UNP P06897
S	123	SER	-	expression tag	UNP P06897
S	124	LYS	-	expression tag	UNP P06897
S	125	SER	-	expression tag	UNP P06897
S	126	LYS	-	expression tag	UNP P06897
S	127	SER	-	expression tag	UNP P06897
S	128	LYS	-	expression tag	UNP P06897

- Molecule 8 is a protein called Histone H2B 1.1.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	R	98	Total	C	N	O	S	0	0
			776	487	144	143	2		
8	T	98	Total	C	N	O	S	0	0
			776	487	144	143	2		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
R	32	THR	SER	conflict	UNP P02281
T	32	THR	SER	conflict	UNP P02281

- Molecule 9 is a protein called Histone H3.2.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	U	98	Total	C	N	O	S	0	0
			811	512	157	139	3		
9	W	96	Total	C	N	O	S	0	0
			795	501	154	137	3		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
U	102	ALA	GLY	variant	UNP P84233
W	102	ALA	GLY	variant	UNP P84233

- Molecule 10 is a protein called Histone H4.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	V	78	Total	C	N	O	S	0	0
			622	393	120	108	1		
10	X	77	Total	C	N	O	S	0	0
			614	389	119	105	1		

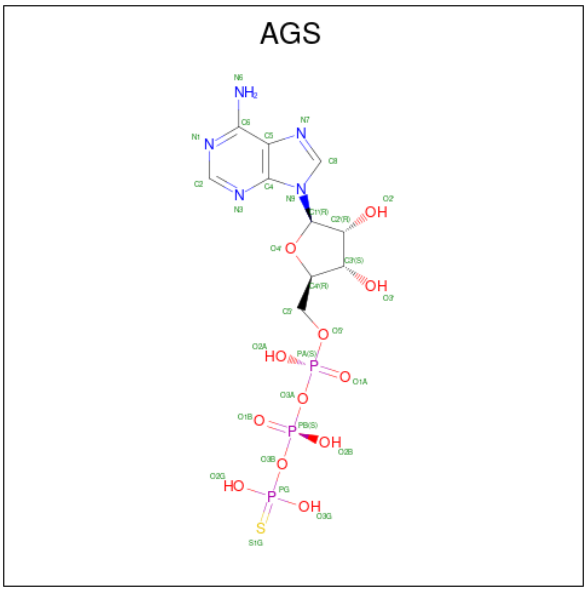
- Molecule 11 is a DNA chain called DNA (285-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
11	Y	169	Total	C	N	O	P	0	0
			3453	1637	631	1016	169		

- Molecule 12 is a DNA chain called DNA (285-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
12	Z	169	Total	C	N	O	P	0	0
			3476	1644	651	1012	169		

- Molecule 13 is PHOSPHOTHIOPHOSPHORIC ACID-ADENYLATE ESTER (CCD ID: AGS) (formula: $C_{10}H_{16}N_5O_{12}P_3S$).



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

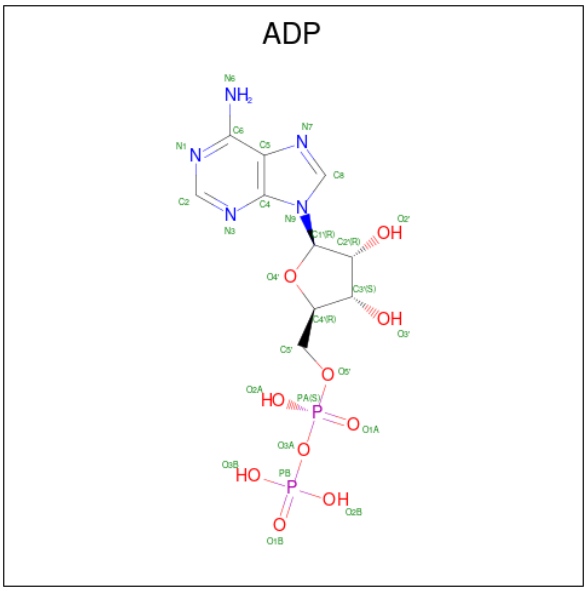
- Molecule 14 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
14	A	1	Total	Mg	0
			1	1	
14	C	1	Total	Mg	0
			1	1	
14	F	1	Total	Mg	0
			1	1	
14	H	1	Total	Mg	0
			1	1	
14	J	1	Total	Mg	0
			1	1	

- Molecule 15 is ZINC ION (CCD ID: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
15	D	2	Total	Zn	0
			2	2	

- Molecule 16 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$).



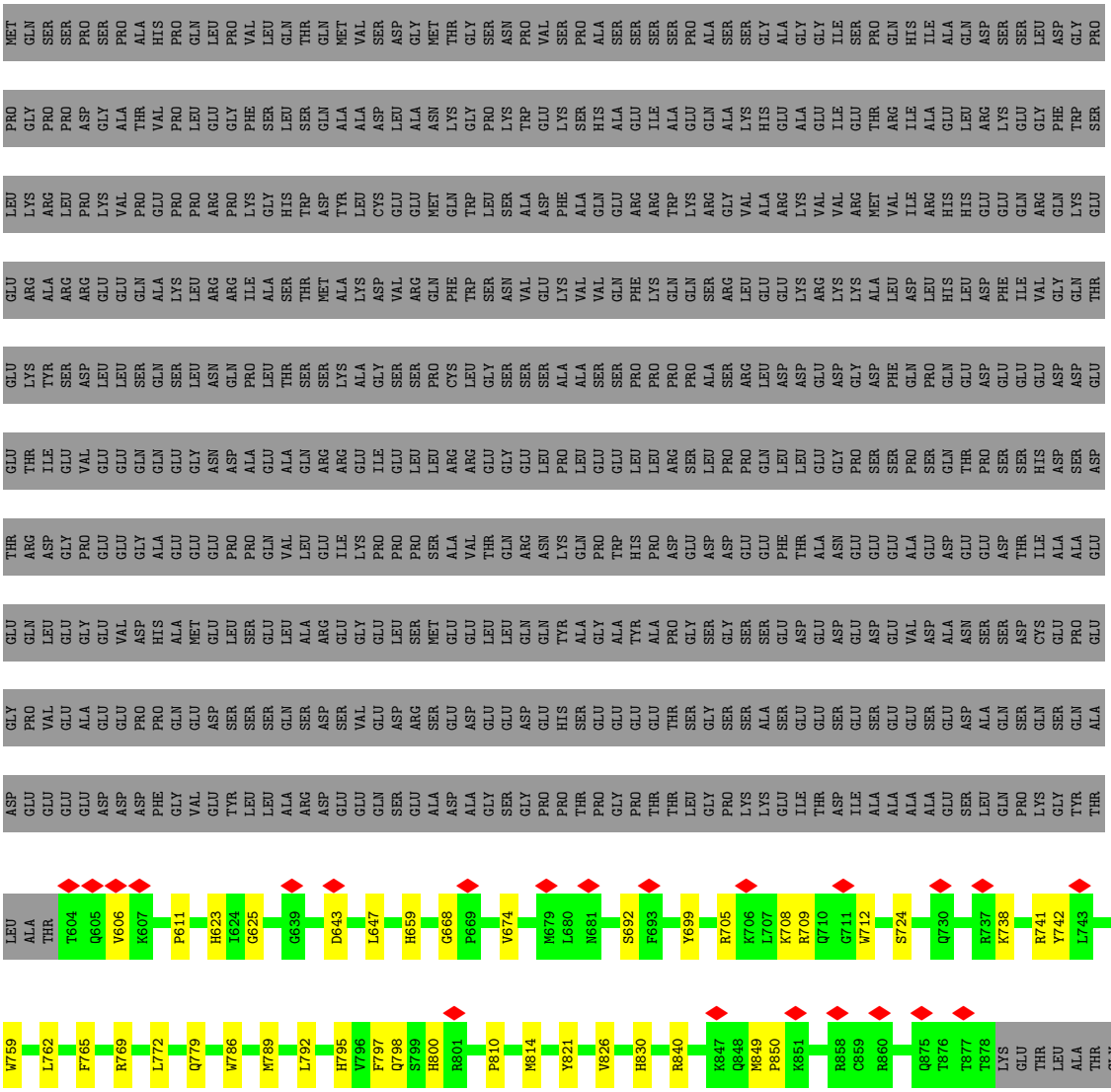
Mol	Chain	Residues	Atoms					AltConf
16	E	1	Total	C	N	O	P	0
			27	10	5	10	2	
16	F	1	Total	C	N	O	P	0
			27	10	5	10	2	
16	G	1	Total	C	N	O	P	0
			27	10	5	10	2	
16	H	1	Total	C	N	O	P	0
			27	10	5	10	2	
16	I	1	Total	C	N	O	P	0
			27	10	5	10	2	
16	J	1	Total	C	N	O	P	0
			27	10	5	10	2	

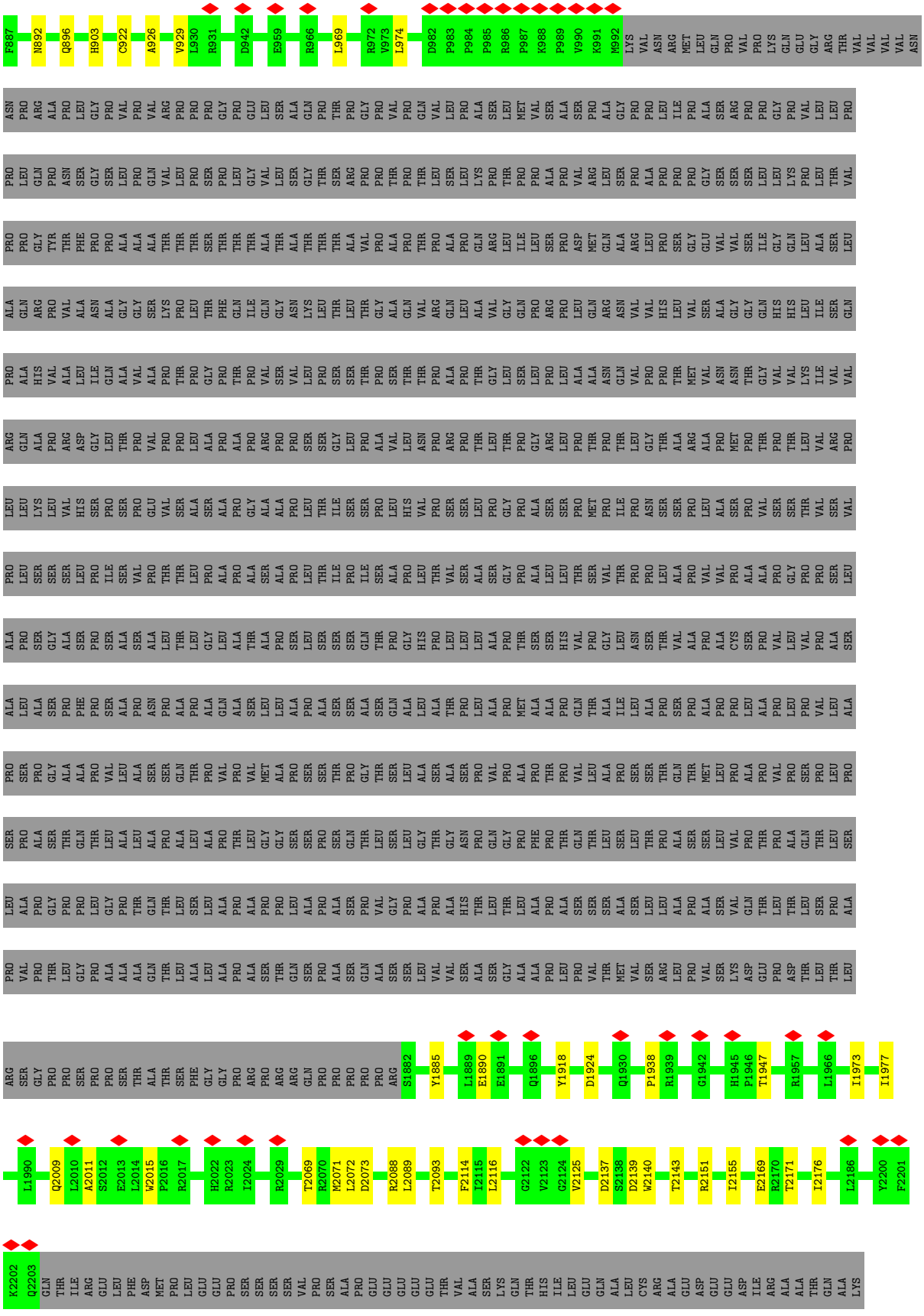
3 Residue-property plots (i)

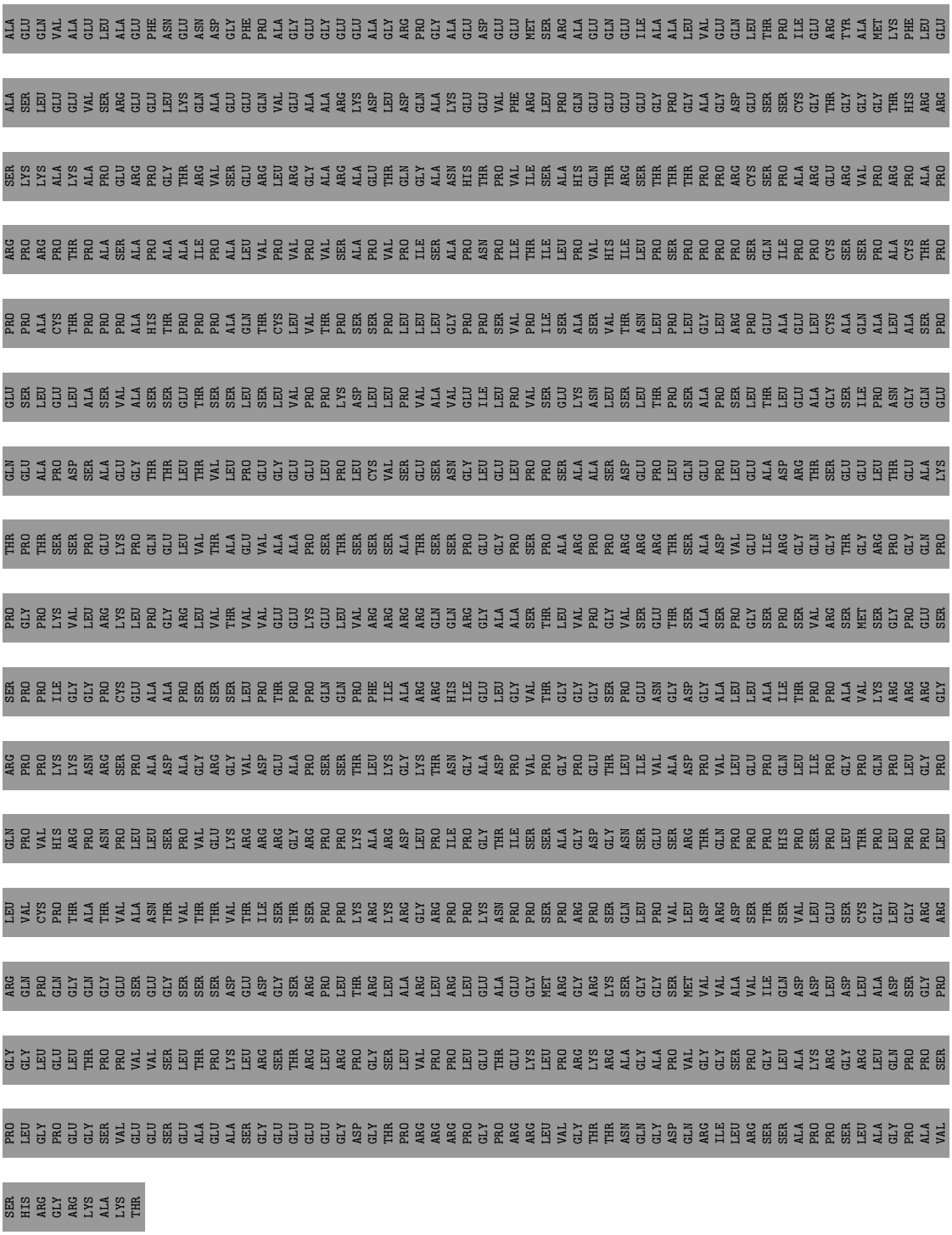
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion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

- Molecule 1: Helicase SRCAP

Chain A:

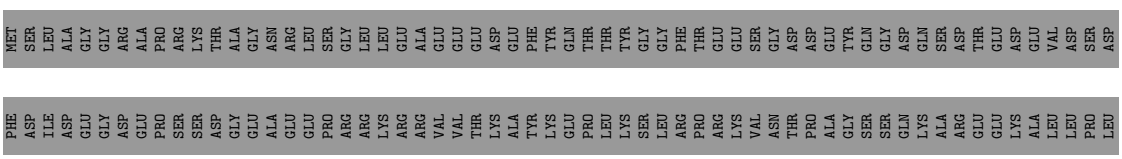


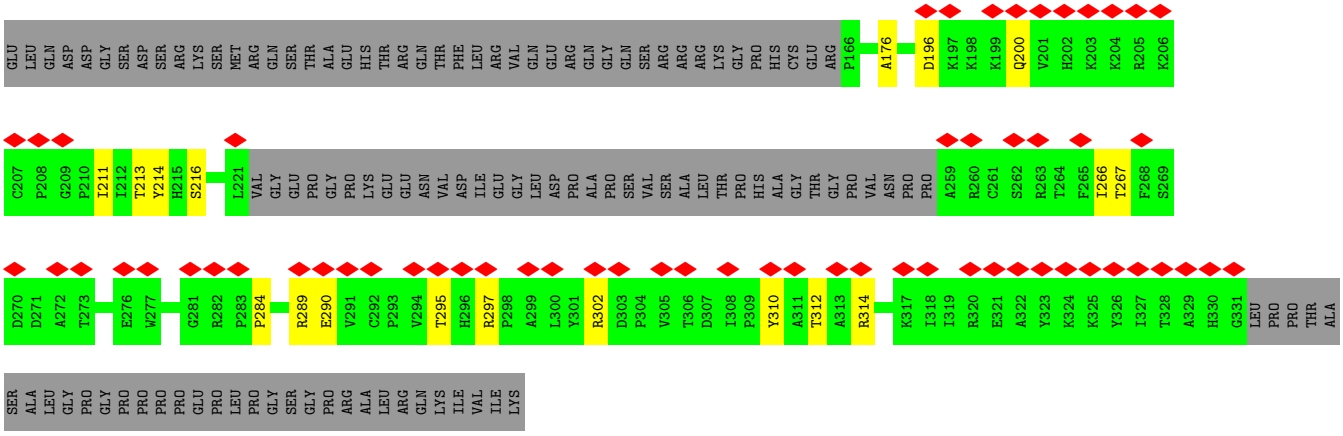

F887 N892 Q896 H903 C922 A926 V929 L930 R931 D942 E959 R966 L969 R972 V973 L974 D982 P983 P984 P985 R986 P987 K988 P989 V990 K991 M992
S1882 Y1885 L1889 E1890 E1891 Q1896 Y1918 D1924 Q1930 P1938 R1939 G1942 H1945 P1946 T1947 R1957 L1966 I1973 I1977
L1990 Q2009 L2010 A2011 S2012 E2013 L2014 W2015 P2016 R2017 H2022 R2023 I2024 R2029 T2069 R2070 M2071 L2072 D2073 R2088 L2089 T2093 F2114 I2115 L2116 G2122 V2123 G2124 V2125 D2137 S2138 D2139 W2140 T2143 R2151 I2155 E2169 R2170 T2171 I2176 L2186 Y2200 F2201
K2202 Q2203



• Molecule 2: Vacuolar protein sorting-associated protein 72 homolog

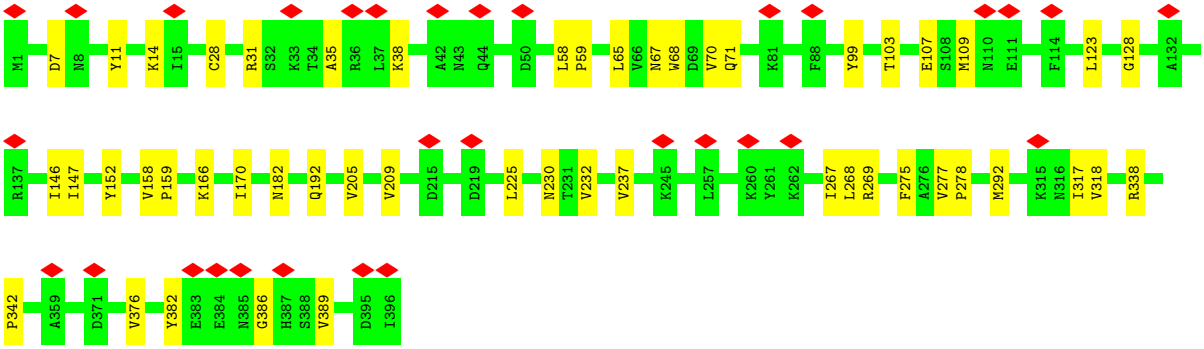
Chain B:





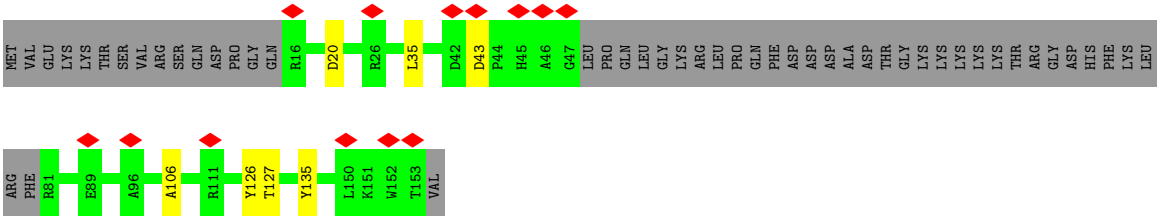
• Molecule 3: Actin-related protein 6

Chain C:



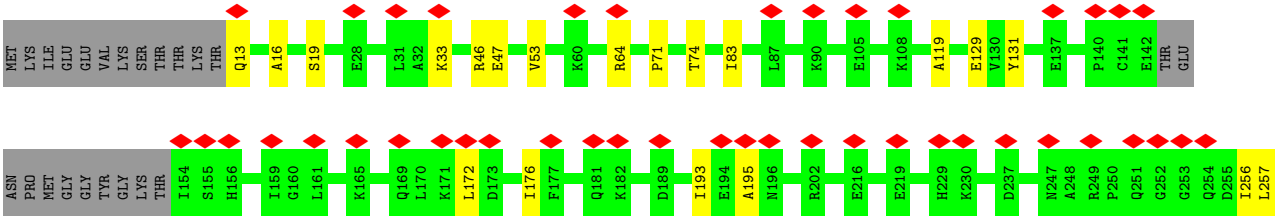
• Molecule 4: Zinc finger HIT domain-containing protein 1

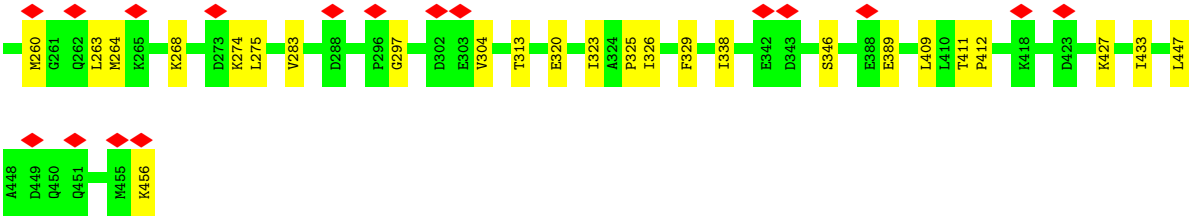
Chain D:



• Molecule 5: RuvB-like 1

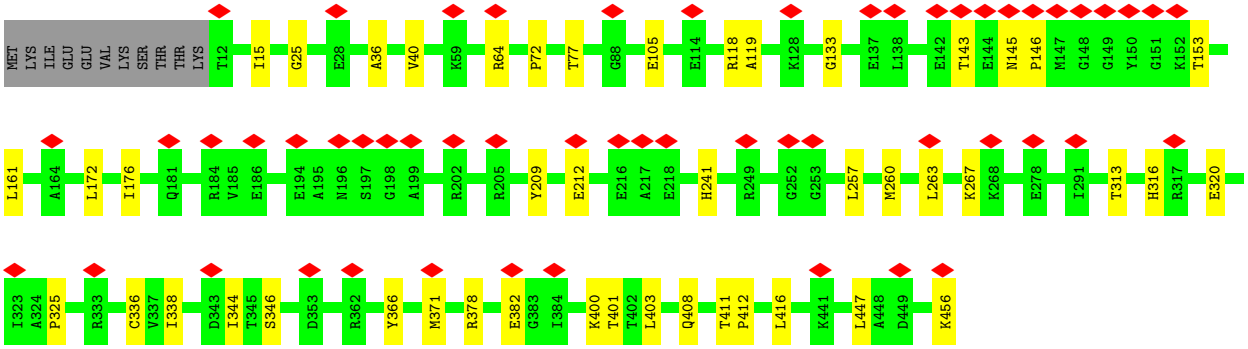
Chain E:





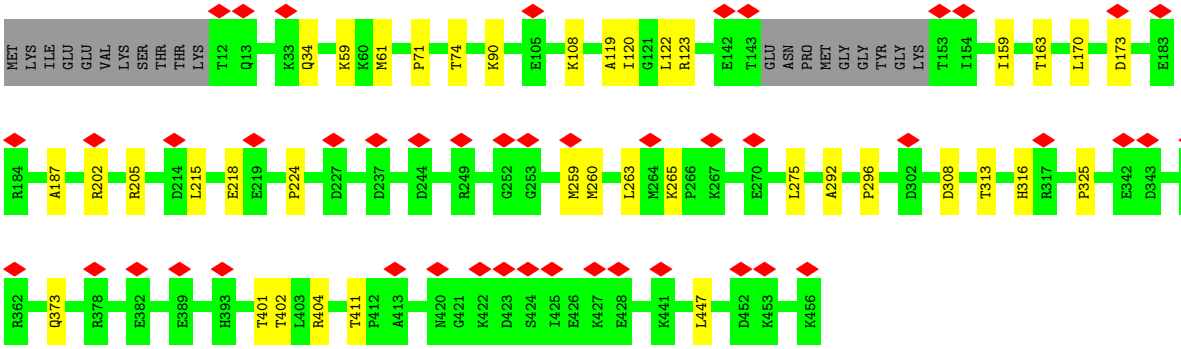
• Molecule 5: RuvB-like 1

Chain G:



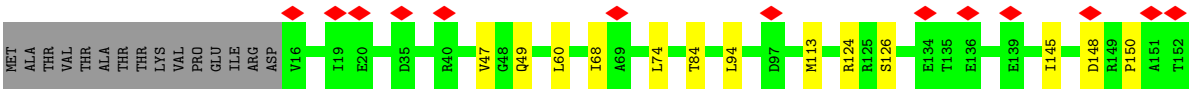
• Molecule 5: RuvB-like 1

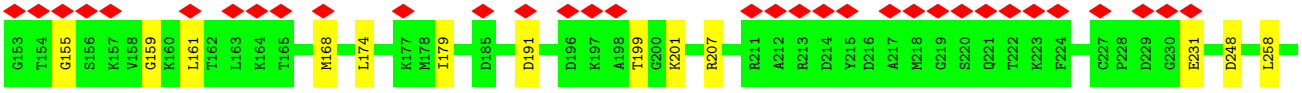
Chain I:

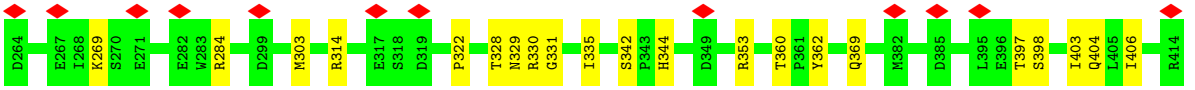


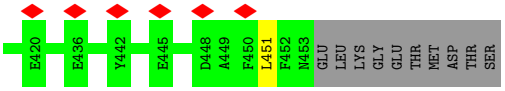
• Molecule 6: RuvB-like 2

Chain F:



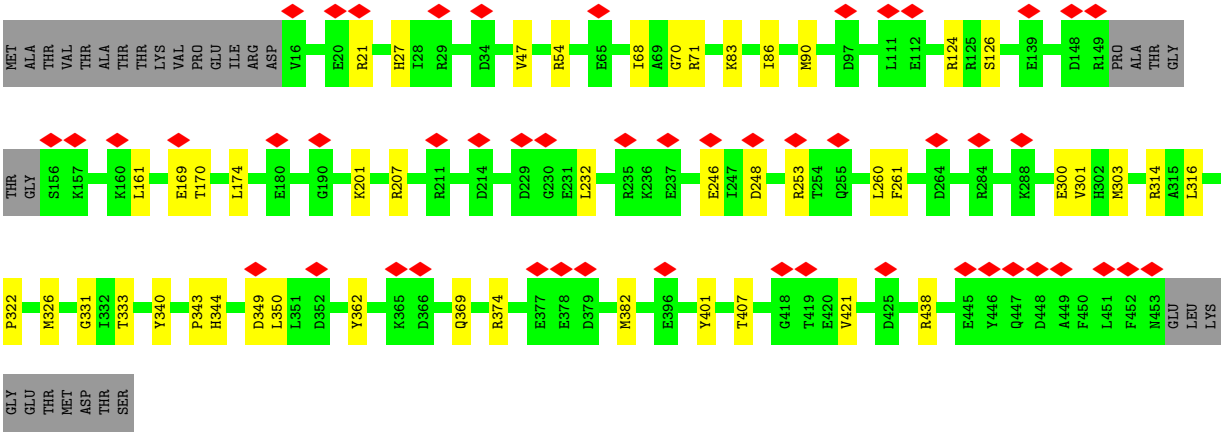






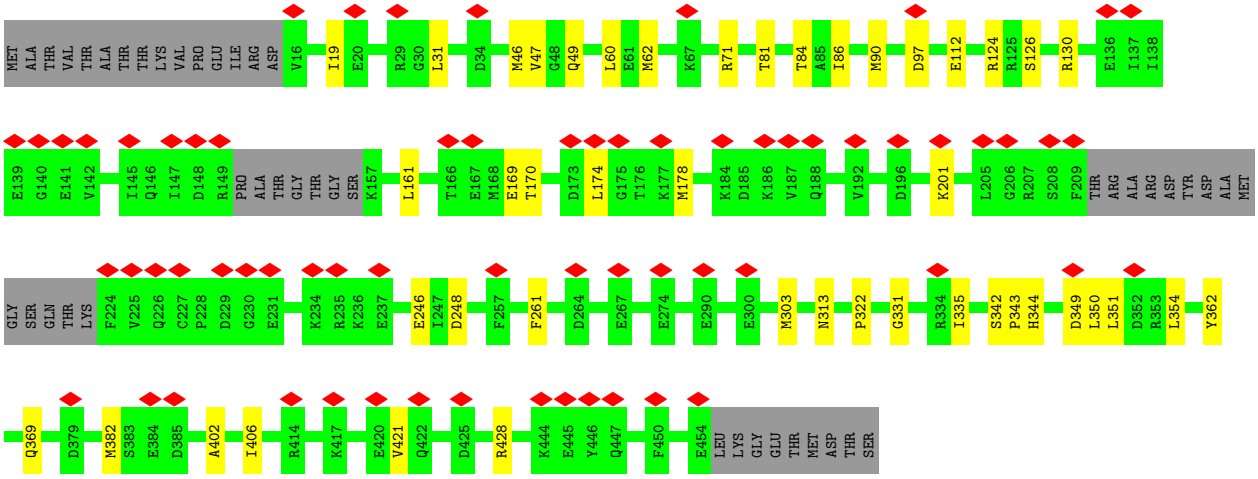
• Molecule 6: RuvB-like 2

Chain H:



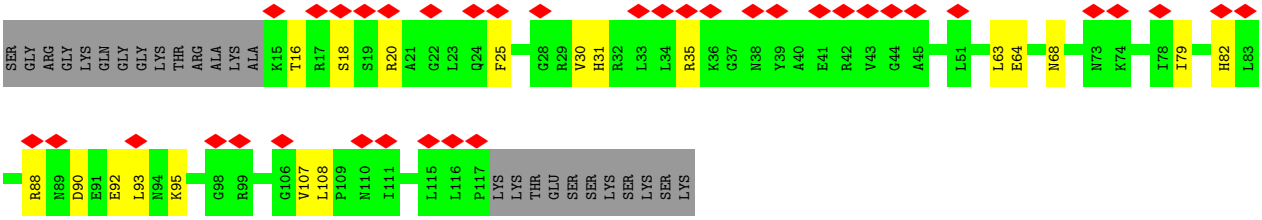
• Molecule 6: RuvB-like 2

Chain J:



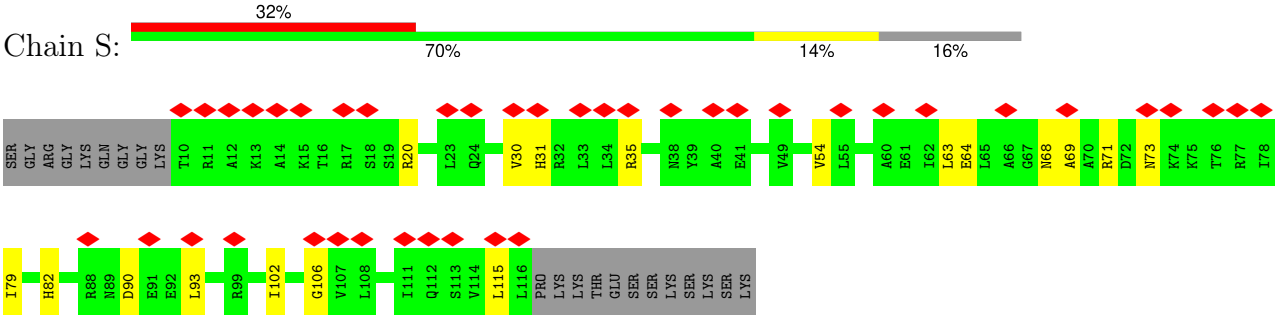
• Molecule 7: Histone H2A type 1

Chain Q:



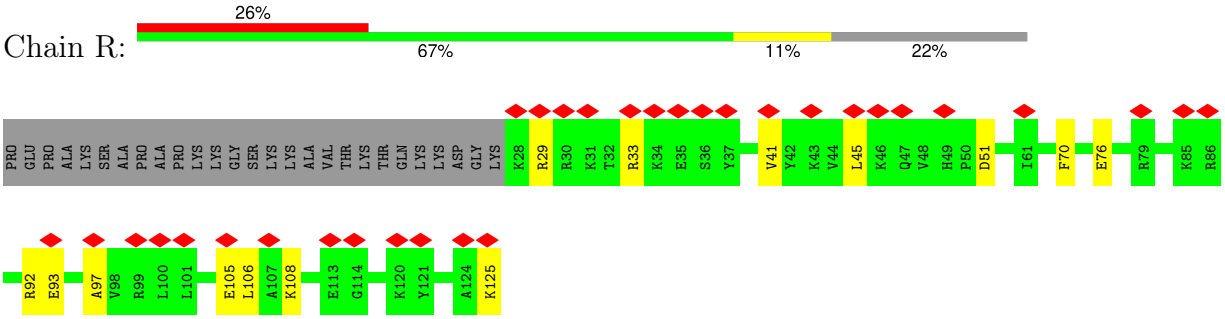
• Molecule 7: Histone H2A type 1

Chain S:



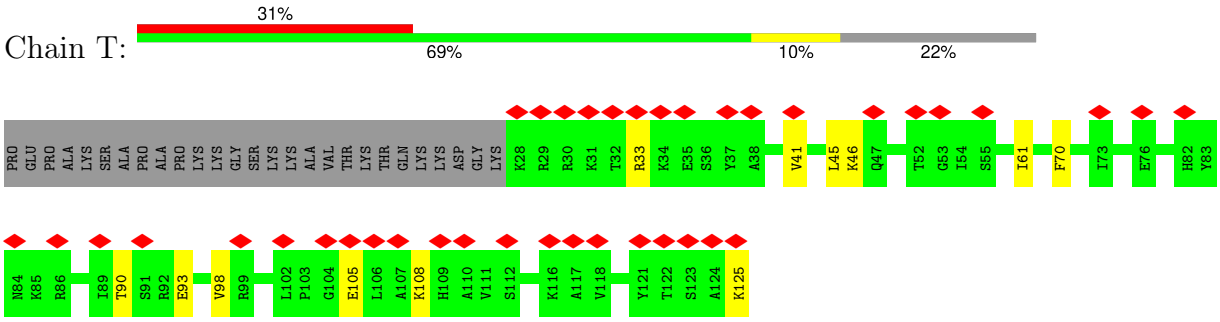
• Molecule 8: Histone H2B 1.1

Chain R:



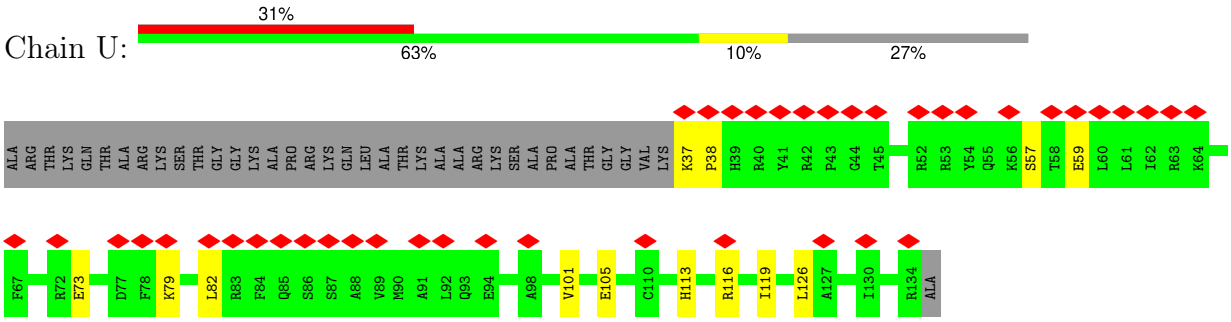
• Molecule 8: Histone H2B 1.1

Chain T:



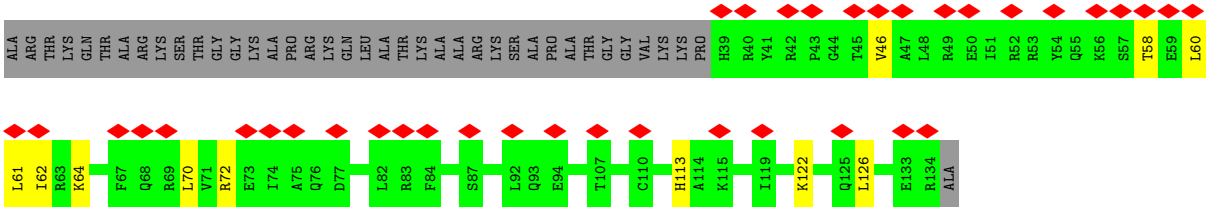
• Molecule 9: Histone H3.2

Chain U:



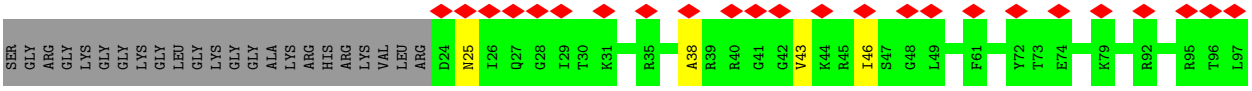
• Molecule 9: Histone H3.2

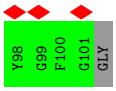
Chain W:



• Molecule 10: Histone H4

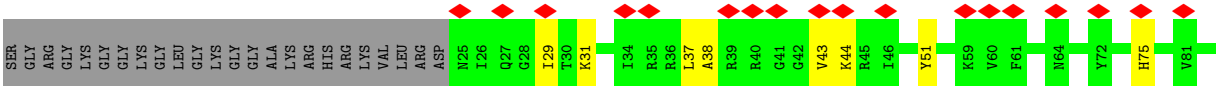
Chain V:

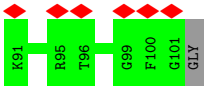




• Molecule 10: Histone H4

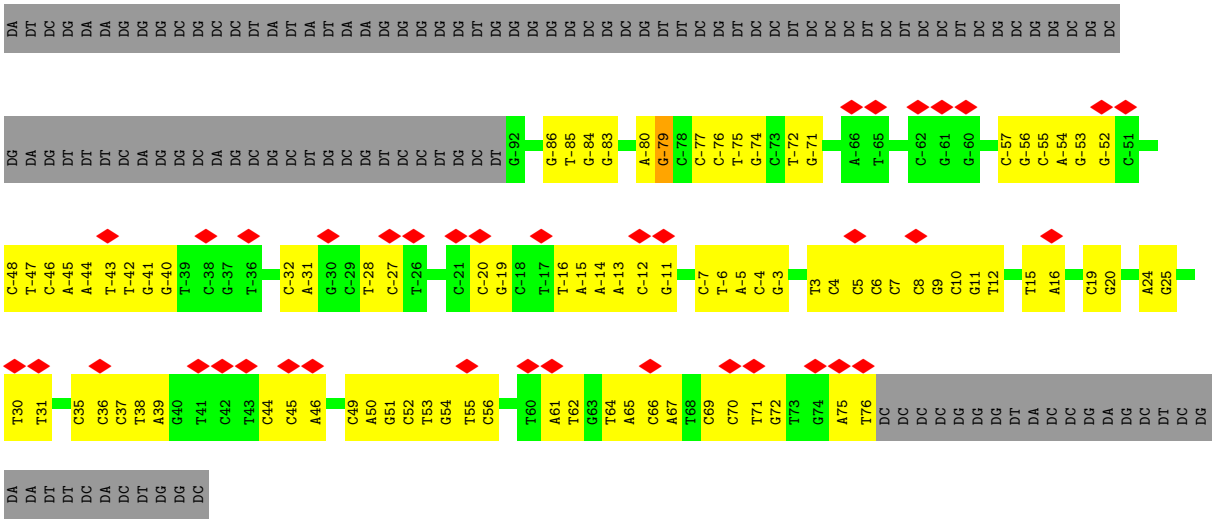
Chain X:





• Molecule 11: DNA (285-MER)

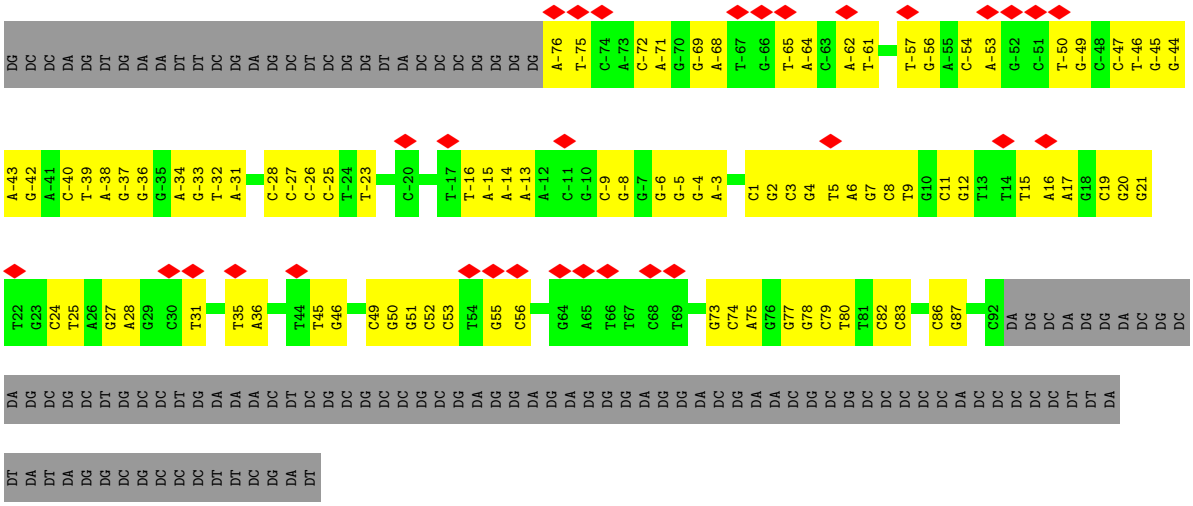
Chain Y:



• Molecule 12: DNA (285-MER)

Chain Z:


11%
28%
32%
41%


DG DC DC DA DG DT DG DA DA DT DT DC DG DA DG DC DT DC DG DG DT DA DC DC DC DG DG DG DG A-76 T-75 C-74 A-73 C-72 A-71 G-70 G-69 A-68 T-67 G-66 T-65 A-64 C-63 A-62 T-61 T-57 G-56 A-55 C-54 A-53 G-52 C-51 T-50 G-49 C-48 C-47 T-46 G-45 G-44
A-43 G-42 A-41 C-40 T-39 A-38 G-37 G-36 G-35 A-34 G-33 T-32 A-31 C-28 C-27 C-26 C-25 T-24 T-23 C-20 T-17 T-16 A-15 A-14 A-13 A-12 C-11 G-10 C-9 G-8 G-7 G-6 G-5 G-4 A-3 C1 G2 C3 G4 T5 A6 G7 C8 T9 G10 C11 G12 T13 T14 T15 A16 A17 G18 C19 G20 G21
T22 G23 C24 T25 A26 G27 A28 G29 C30 T31 T35 A36 T44 T45 G46 C49 G50 G51 C52 C53 T54 G55 C56 G64 A65 T66 T67 C68 T69 G73 C74 A75 G76 G77 G78 C79 T80 T81 C82 C83 C86 G87 C92 DA DG DC DA DG DG DA DC DG DC
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DT DA DT DA DG DG DC DG DC DC DC DT DT DC DG DA DT

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	12372	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	40	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	1600	Depositor
Magnification	Not provided	
Image detector	FEI FALCON IV (4k x 4k)	Depositor
Maximum map value	2.040	Depositor
Minimum map value	-0.029	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.028	Depositor
Recommended contour level	0.1	Depositor
Map size (Å)	348.48, 348.48, 348.48	wwPDB
Map dimensions	480, 480, 480	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.726, 0.726, 0.726	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	0.14	0/5914	0.38	0/8005
2	B	0.12	0/1086	0.26	0/1471
3	C	0.10	0/3300	0.26	0/4467
4	D	0.09	0/848	0.28	0/1147
5	E	0.09	0/3387	0.26	0/4561
5	G	0.09	0/3476	0.24	0/4683
5	I	0.09	0/3408	0.23	0/4591
6	F	0.09	0/3435	0.25	0/4625
6	H	0.09	0/3399	0.25	0/4573
6	J	0.09	0/3290	0.25	0/4426
7	Q	0.09	0/805	0.21	0/1088
7	S	0.08	0/834	0.19	0/1125
8	R	0.08	0/787	0.22	0/1054
8	T	0.08	0/787	0.22	0/1054
9	U	0.08	0/823	0.20	0/1104
9	W	0.08	0/806	0.20	0/1081
10	V	0.09	0/629	0.21	0/843
10	X	0.10	0/621	0.21	0/832
11	Y	0.21	0/3870	0.50	1/5968 (0.0%)
12	Z	0.21	0/3902	0.45	0/6023
All	All	0.13	0/45407	0.32	1/62721 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
11	Y	-79	DG	N9-C1'-C2'	5.03	121.04	113.50

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	5767	0	5844	46	0
2	B	1059	0	1078	12	0
3	C	3226	0	3147	31	0
4	D	831	0	798	8	0
5	E	3344	0	3449	34	0
5	G	3430	0	3530	39	0
5	I	3365	0	3470	31	0
6	F	3395	0	3467	33	0
6	H	3361	0	3434	36	0
6	J	3254	0	3329	37	0
7	Q	795	0	846	16	0
7	S	825	0	882	15	0
8	R	776	0	812	14	0
8	T	776	0	812	10	0
9	U	811	0	853	12	0
9	W	795	0	833	11	0
10	V	622	0	660	3	0
10	X	614	0	656	8	0
11	Y	3453	0	1896	65	0
12	Z	3476	0	1894	66	0
13	A	31	0	12	2	0
13	C	31	0	12	0	0
14	A	1	0	0	0	0
14	C	1	0	0	0	0
14	F	1	0	0	0	0
14	H	1	0	0	0	0
14	J	1	0	0	0	0
15	D	2	0	0	0	0
16	E	27	0	12	0	0
16	F	27	0	12	2	0
16	G	27	0	12	2	0
16	H	27	0	12	3	0
16	I	27	0	12	0	0
16	J	27	0	12	1	0
All	All	44206	0	41786	429	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 5.

All (429) 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)
5:E:411:THR:HG21	6:F:68:ILE:HG13	1.70	0.73
5:G:411:THR:HG21	6:H:68:ILE:HG13	1.70	0.72
6:F:124:ARG:NE	6:F:248:ASP:OD2	2.24	0.70
6:J:49:GLN:NE2	6:J:81:THR:O	2.25	0.68
5:G:447:LEU:HD22	6:H:331:GLY:HA2	1.77	0.65
12:Z:79:DC:H2'	12:Z:80:DT:H71	1.80	0.64
11:Y:61:DA:H2"	11:Y:62:DT:H5'	1.80	0.63
5:E:283:VAL:HB	6:J:19:ILE:HD11	1.81	0.63
8:R:92:ARG:NH1	10:X:75:HIS:O	2.26	0.63
6:H:124:ARG:NE	6:H:248:ASP:OD2	2.31	0.62
1:A:1924:ASP:OD2	6:H:201:LYS:NZ	2.33	0.62
4:D:127:THR:H	6:J:170:THR:HG23	1.64	0.61
7:S:20:ARG:NH2	11:Y:-42:DT:OP1	2.33	0.61
1:A:611:PRO:HG3	1:A:659:HIS:HB2	1.82	0.61
7:S:68:ASN:OD1	7:S:71:ARG:NH2	2.33	0.60
3:C:182:ASN:ND2	4:D:35:LEU:O	2.34	0.60
12:Z:15:DT:H2"	12:Z:16:DA:C8	2.37	0.59
7:Q:63:LEU:HD13	8:R:45:LEU:HB2	1.84	0.59
6:F:159:GLY:HA3	6:F:179:ILE:HD11	1.83	0.59
6:F:199:THR:HG23	6:F:201:LYS:H	1.67	0.59
11:Y:55:DT:H2"	11:Y:56:DC:C5	2.37	0.59
6:J:124:ARG:NE	6:J:248:ASP:OD2	2.32	0.59
12:Z:49:DC:H2"	12:Z:50:DG:C8	2.38	0.59
12:Z:-65:DT:H2"	12:Z:-64:DA:C8	2.38	0.58
5:E:304:VAL:HG21	5:E:329:PHE:HB3	1.84	0.58
3:C:65:LEU:HD11	3:C:71:GLN:HG2	1.85	0.58
5:E:275:LEU:HD13	6:J:261:PHE:HB3	1.84	0.58
7:Q:20:ARG:NH2	12:Z:-42:DG:OP1	2.35	0.58
12:Z:-54:DC:H2"	12:Z:-53:DA:C8	2.38	0.58
12:Z:3:DC:H2"	12:Z:4:DG:C8	2.38	0.58
11:Y:35:DC:H2"	11:Y:36:DC:C5	2.39	0.57
5:I:90:LYS:HB2	5:I:123:ARG:HH22	1.70	0.57
6:J:46:MET:HE1	6:J:86:ILE:HA	1.86	0.57
5:E:260:MET:HE1	5:I:260:MET:HE3	1.87	0.57
9:W:60:LEU:HD12	9:W:64:LYS:HE2	1.86	0.57
7:Q:20:ARG:HH12	8:R:125:LYS:HD2	1.69	0.57
5:E:268:LYS:HG2	6:F:269:LYS:HE2	1.86	0.57
6:H:27:HIS:HD2	6:H:374:ARG:HH11	1.51	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:207:ARG:NH1	5:I:173:ASP:OD1	2.38	0.57
11:Y:51:DG:H2"	11:Y:52:DC:H5"	1.86	0.57
6:F:161:LEU:HB2	6:F:174:LEU:HD11	1.86	0.56
5:I:119:ALA:HB3	5:I:325:PRO:HG3	1.87	0.56
12:Z:-72:DC:H2"	12:Z:-71:DA:C8	2.40	0.56
5:E:47:GLU:OE1	6:J:428:ARG:NH2	2.32	0.56
7:S:63:LEU:HD13	8:T:45:LEU:HB2	1.86	0.56
5:G:119:ALA:HB3	5:G:325:PRO:HG3	1.87	0.56
5:I:122:LEU:HD11	5:I:292:ALA:HB1	1.88	0.56
9:U:73:GLU:OE1	10:V:25:ASN:ND2	2.37	0.56
6:H:401:TYR:OH	6:H:438:ARG:NH2	2.39	0.56
5:I:447:LEU:HD11	6:J:344:HIS:CE1	2.40	0.56
11:Y:-72:DT:H2'	11:Y:-71:DG:C8	2.41	0.56
3:C:192:GLN:NE2	3:C:269:ARG:O	2.38	0.56
3:C:123:LEU:HB2	3:C:376:VAL:HG12	1.87	0.55
5:G:15:ILE:HD13	5:G:382:GLU:HA	1.88	0.55
5:E:447:LEU:HD22	6:F:331:GLY:HA2	1.89	0.55
5:G:172:LEU:HB3	5:G:176:ILE:HD12	1.87	0.55
7:S:30:VAL:HG13	8:T:70:PHE:HE2	1.71	0.55
11:Y:-47:DT:H2"	11:Y:-46:DC:C5	2.41	0.55
6:J:335:ILE:HD11	6:J:342:SER:HB2	1.88	0.54
7:Q:90:ASP:HB3	7:Q:93:LEU:HB2	1.89	0.54
12:Z:-46:DT:H2"	12:Z:-45:DG:C8	2.42	0.54
1:A:2125:VAL:HB	1:A:2151:ARG:HD2	1.89	0.54
11:Y:-57:DC:H2"	11:Y:-56:DG:C8	2.43	0.54
11:Y:-57:DC:H2"	11:Y:-56:DG:N7	2.23	0.54
9:U:37:LYS:HD2	9:U:38:PRO:HD2	1.89	0.54
7:Q:16:THR:HA	12:Z:-43:DA:H5"	1.89	0.54
1:A:2009:GLN:HB3	5:I:259:MET:HE1	1.90	0.54
5:G:313:THR:HA	5:G:316:HIS:CD2	2.43	0.54
6:J:351:LEU:HD23	6:J:354:LEU:HD12	1.90	0.54
6:F:451:LEU:HD21	5:G:72:PRO:HG3	1.90	0.54
6:H:27:HIS:CD2	6:H:374:ARG:HH11	2.26	0.54
11:Y:66:DC:H2"	11:Y:67:DA:C8	2.42	0.54
3:C:382:TYR:HA	3:C:386:GLY:HA3	1.90	0.53
5:G:263:LEU:HD22	5:I:260:MET:HE2	1.88	0.53
7:Q:30:VAL:HG13	8:R:70:PHE:HE2	1.73	0.53
12:Z:-71:DA:C8	12:Z:-71:DA:H5'	2.43	0.53
11:Y:-86:DG:H2"	11:Y:-85:DT:C6	2.43	0.53
11:Y:49:DC:H2"	11:Y:50:DA:C8	2.43	0.53
12:Z:11:DC:H2"	12:Z:12:DG:C8	2.43	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2114:PHE:CE2	1:A:2116:LEU:HD21	2.43	0.52
12:Z:8:DC:H2'	12:Z:9:DT:H71	1.90	0.52
6:F:191:ASP:OD1	6:F:207:ARG:NH1	2.42	0.52
5:G:263:LEU:O	6:H:253:ARG:NH2	2.42	0.52
11:Y:-14:DA:H2"	11:Y:-13:DA:C8	2.44	0.52
12:Z:-4:DG:H2"	12:Z:-3:DA:C8	2.45	0.52
6:H:382:MET:HG2	6:H:421:VAL:HB	1.92	0.52
11:Y:75:DA:H2"	11:Y:76:DT:C5	2.43	0.52
7:Q:92:GLU:OE2	8:R:105:GLU:N	2.39	0.52
12:Z:-9:DC:H2"	12:Z:-8:DG:C8	2.44	0.52
6:H:362:TYR:OH	16:H:501:ADP:N7	2.37	0.52
5:I:108:LYS:NZ	5:I:308:ASP:OD2	2.38	0.52
11:Y:6:DC:H2"	11:Y:7:DC:C5	2.45	0.52
12:Z:16:DA:H2"	12:Z:17:DA:C8	2.45	0.52
3:C:159:PRO:HG2	3:C:166:LYS:HB2	1.92	0.52
11:Y:45:DC:H2"	11:Y:46:DA:N7	2.25	0.52
6:J:382:MET:HE2	6:J:421:VAL:HG11	1.92	0.51
1:A:625:GLY:HA2	1:A:840:ARG:HH22	1.75	0.51
1:A:2011:ALA:HB1	1:A:2015:TRP:HD1	1.75	0.51
7:S:79:ILE:HG12	7:S:82:HIS:CE1	2.44	0.51
6:H:349:ASP:OD1	6:H:350:LEU:N	2.44	0.51
12:Z:-76:DA:H2"	12:Z:-75:DT:C5	2.44	0.51
12:Z:-40:DC:H2'	12:Z:-39:DT:H72	1.92	0.51
5:G:408:GLN:O	6:H:71:ARG:NH2	2.41	0.51
6:H:161:LEU:HB3	6:H:174:LEU:HD21	1.91	0.51
5:E:13:GLN:OE1	6:F:284:ARG:NH2	2.44	0.51
5:I:202:ARG:NH2	5:I:218:GLU:OE2	2.43	0.51
5:E:411:THR:OG1	5:E:412:PRO:HD3	2.10	0.51
8:T:105:GLU:HA	8:T:108:LYS:HG2	1.92	0.51
12:Z:-47:DC:H2"	12:Z:-46:DT:C5	2.46	0.51
5:E:119:ALA:HB3	5:E:325:PRO:HG3	1.92	0.51
6:J:31:LEU:HD23	6:J:46:MET:HE3	1.93	0.50
7:S:64:GLU:OE2	7:S:68:ASN:ND2	2.41	0.50
11:Y:-41:DG:H2"	11:Y:-40:DG:H5"	1.93	0.50
5:I:265:LYS:NZ	6:J:112:GLU:OE2	2.43	0.50
7:Q:31:HIS:CD2	7:Q:35:ARG:HE	2.29	0.50
11:Y:3:DT:H2"	11:Y:4:DC:C6	2.47	0.50
11:Y:-32:DC:H2"	11:Y:-31:DA:C8	2.46	0.50
12:Z:-62:DA:H2'	12:Z:-61:DT:H71	1.93	0.50
1:A:903:HIS:HB2	1:A:2071:MET:HE1	1.93	0.50
5:G:143:THR:HG22	5:G:145:ASN:H	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:83:LYS:N	16:H:501:ADP:O3B	2.42	0.50
11:Y:15:DT:H2"	11:Y:16:DA:C8	2.46	0.50
3:C:158:VAL:HG22	3:C:170:ILE:HG23	1.94	0.50
5:E:64:ARG:HB2	5:E:326:ILE:HD12	1.93	0.50
1:A:762:LEU:HA	1:A:765:PHE:CD2	2.46	0.50
5:E:323:ILE:HG12	6:J:19:ILE:HG22	1.94	0.50
6:J:47:VAL:HG11	6:J:369:GLN:HB3	1.92	0.50
3:C:11:TYR:HB2	3:C:152:TYR:CG	2.47	0.50
9:U:113:HIS:CG	9:W:126:LEU:HD22	2.47	0.49
1:A:699:TYR:O	1:A:708:LYS:NZ	2.44	0.49
1:A:786:TRP:CH2	1:A:800:HIS:HB3	2.47	0.49
12:Z:-37:DG:H2"	12:Z:-36:DG:C8	2.46	0.49
12:Z:20:DG:H4'	12:Z:21:DG:OP1	2.12	0.49
11:Y:-55:DC:H2"	11:Y:-54:DA:N7	2.27	0.49
11:Y:5:DC:H2"	11:Y:6:DC:C5	2.47	0.49
4:D:135:TYR:OH	6:J:169:GLU:O	2.27	0.49
6:F:314:ARG:NH1	6:F:353:ARG:HH22	2.10	0.49
5:I:447:LEU:HD22	6:J:331:GLY:HA2	1.94	0.49
7:S:31:HIS:CD2	7:S:35:ARG:HE	2.31	0.49
9:U:113:HIS:HE1	9:W:122:LYS:HG3	1.78	0.49
12:Z:-28:DC:H2"	12:Z:-27:DC:C6	2.47	0.49
8:T:33:ARG:HG3	12:Z:49:DC:H4'	1.95	0.49
11:Y:8:DC:H2"	11:Y:9:DG:C8	2.48	0.49
13:A:3301:AGS:O2A	13:A:3301:AGS:O2B	2.30	0.49
6:H:301:VAL:HG21	6:H:326:MET:HB3	1.94	0.49
11:Y:53:DT:H2"	11:Y:54:DG:C8	2.48	0.49
1:A:712:TRP:CZ2	1:A:738:LYS:HD2	2.48	0.49
1:A:742:TYR:CD1	1:A:769:ARG:HB2	2.48	0.49
6:F:126:SER:HB2	6:F:322:PRO:HG3	1.93	0.49
5:G:366:TYR:OH	16:G:501:ADP:N7	2.41	0.49
7:Q:64:GLU:OE2	7:Q:68:ASN:ND2	2.40	0.48
12:Z:-57:DT:H2"	12:Z:-56:DG:C8	2.47	0.48
3:C:103:THR:O	3:C:107:GLU:HG3	2.12	0.48
5:E:129:GLU:HB2	5:E:195:ALA:HB3	1.95	0.48
5:I:187:ALA:O	5:I:205:ARG:NH1	2.45	0.48
9:U:126:LEU:HD22	9:W:113:HIS:CG	2.48	0.48
11:Y:-84:DG:H1'	11:Y:-83:DG:C8	2.48	0.48
12:Z:1:DC:H2"	12:Z:2:DG:C8	2.48	0.48
5:G:411:THR:OG1	5:G:412:PRO:HD3	2.14	0.48
5:I:215:LEU:HG	6:J:178:MET:HE3	1.96	0.48
11:Y:-80:DA:H2"	11:Y:-79:DG:H8	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Z:27:DG:H2"	12:Z:28:DA:C8	2.48	0.48
11:Y:30:DT:H2'	11:Y:31:DT:H71	1.94	0.48
6:H:170:THR:HG22	6:H:232:LEU:HD13	1.94	0.47
6:J:161:LEU:HB2	6:J:174:LEU:HD11	1.94	0.47
1:A:826:VAL:HG12	1:A:830:HIS:CE1	2.49	0.47
5:G:118:ARG:HE	5:G:241:HIS:CE1	2.32	0.47
12:Z:55:DG:H2"	12:Z:56:DC:C5	2.49	0.47
6:F:258:LEU:HD12	5:G:257:LEU:HD13	1.95	0.47
7:S:69:ALA:O	7:S:73:ASN:ND2	2.40	0.47
11:Y:-48:DC:H2"	11:Y:-47:DT:H71	1.95	0.47
1:A:668:GLY:HA3	1:A:741:ARG:HD2	1.97	0.47
10:X:38:ALA:HB1	10:X:43:VAL:HB	1.96	0.47
1:A:772:LEU:HG	1:A:792:LEU:HD21	1.96	0.47
7:Q:79:ILE:HG12	7:Q:82:HIS:CE1	2.49	0.47
3:C:28:CYS:HB3	3:C:58:LEU:HD13	1.97	0.47
6:J:362:TYR:OH	16:J:501:ADP:N7	2.39	0.47
5:E:263:LEU:HB2	5:G:260:MET:HE3	1.97	0.47
5:E:456:LYS:HE3	5:G:344:ILE:HG13	1.95	0.47
1:A:742:TYR:CE1	1:A:769:ARG:HB2	2.50	0.47
2:B:295:THR:HG23	2:B:297:ARG:H	1.80	0.47
12:Z:19:DC:H2"	12:Z:20:DG:H8	1.79	0.47
3:C:205:VAL:O	3:C:209:VAL:HG22	2.14	0.46
9:W:70:LEU:HD22	10:X:29:ILE:HD11	1.97	0.46
11:Y:-6:DT:H2"	11:Y:-5:DA:N7	2.29	0.46
12:Z:20:DG:H2"	12:Z:21:DG:O5'	2.15	0.46
6:F:74:LEU:HD11	6:F:328:THR:HG22	1.97	0.46
8:R:29:ARG:HH12	12:Z:31:DT:H5"	1.80	0.46
5:E:33:LYS:O	5:E:46:ARG:NH2	2.48	0.46
6:F:328:THR:HG21	6:F:344:HIS:HB3	1.97	0.46
5:G:371:MET:HG2	5:G:403:LEU:HD13	1.96	0.46
12:Z:-38:DA:H5'	12:Z:-38:DA:C8	2.50	0.46
1:A:692:SER:HB2	2:B:176:ALA:HB1	1.96	0.46
1:A:705:ARG:O	1:A:709:ARG:HG3	2.16	0.46
1:A:751:ILE:HG22	1:A:759:TRP:HD1	1.79	0.46
6:F:47:VAL:HG11	6:F:369:GLN:HB3	1.96	0.46
7:S:90:ASP:HB3	7:S:93:LEU:HB2	1.98	0.46
9:U:79:LYS:HD3	9:U:82:LEU:HD21	1.97	0.46
12:Z:45:DT:H2"	12:Z:46:DG:N7	2.30	0.46
5:I:163:THR:HG22	5:I:224:PRO:HB2	1.97	0.46
11:Y:38:DT:H2"	11:Y:39:DA:C8	2.51	0.46
5:G:105:GLU:HG2	5:G:267:LYS:HZ2	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:47:VAL:HG11	6:H:369:GLN:HB3	1.97	0.46
11:Y:-72:DT:C2	12:Z:73:DG:N2	2.84	0.46
11:Y:64:DT:H2"	11:Y:65:DA:C8	2.50	0.46
3:C:35:ALA:HB1	3:C:38:LYS:HB3	1.97	0.46
5:E:172:LEU:HD13	5:E:176:ILE:HG21	1.97	0.46
7:Q:18:SER:OG	7:Q:25:PHE:O	2.25	0.46
8:T:90:THR:OG1	8:T:93:GLU:OE1	2.23	0.46
9:W:61:LEU:HD12	10:X:37:LEU:HD23	1.97	0.46
12:Z:-44:DG:H2"	12:Z:-43:DA:H8	1.81	0.46
11:Y:19:DC:H2"	11:Y:20:DG:H8	1.81	0.46
12:Z:-50:DT:H2"	12:Z:-49:DG:C8	2.51	0.46
3:C:232:VAL:HG11	3:C:275:PHE:HE2	1.79	0.46
9:U:116:ARG:HD3	11:Y:-3:DG:H3'	1.97	0.46
5:E:338:ILE:HD11	5:E:346:SER:OG	2.16	0.45
11:Y:15:DT:H2"	11:Y:16:DA:N7	2.31	0.45
12:Z:6:DA:H2"	12:Z:7:DG:C8	2.51	0.45
5:E:264:MET:HE1	5:I:263:LEU:HB3	1.98	0.45
5:G:313:THR:HA	5:G:316:HIS:HD2	1.82	0.45
9:W:46:VAL:HG21	11:Y:9:DG:H3'	1.99	0.45
11:Y:-16:DT:H2"	11:Y:-15:DA:N7	2.32	0.45
11:Y:11:DG:H2'	11:Y:12:DT:H71	1.98	0.45
11:Y:19:DC:H2"	11:Y:20:DG:C8	2.51	0.45
11:Y:71:DT:H2"	11:Y:72:DG:C8	2.51	0.45
1:A:1973:ILE:HG23	1:A:1977:ILE:HD12	1.98	0.45
5:E:71:PRO:HD2	5:E:74:THR:HG21	1.98	0.45
6:F:329:ASN:OD1	6:F:330:ARG:NH1	2.49	0.45
11:Y:-5:DA:H2"	11:Y:-4:DC:C5	2.52	0.45
1:A:810:PRO:O	1:A:814:MET:HG3	2.17	0.45
12:Z:-16:DT:H2"	12:Z:-15:DA:N7	2.31	0.45
12:Z:5:DT:H2"	12:Z:6:DA:C8	2.52	0.45
12:Z:82:DC:H2'	12:Z:83:DC:C6	2.51	0.45
6:F:49:GLN:NE2	6:F:360:THR:O	2.49	0.45
11:Y:-6:DT:H2"	11:Y:-5:DA:C8	2.51	0.45
11:Y:67:DA:C8	11:Y:67:DA:H5'	2.51	0.45
12:Z:-45:DG:H2"	12:Z:-44:DG:C8	2.51	0.45
12:Z:-40:DC:H2'	12:Z:-39:DT:C7	2.47	0.45
12:Z:-14:DA:H2"	12:Z:-13:DA:C8	2.52	0.45
1:A:849:MET:HE1	1:A:2155:ILE:HG12	1.99	0.45
5:G:25:GLY:HA3	5:G:36:ALA:HB3	1.98	0.45
5:G:447:LEU:HD13	6:H:343:PRO:O	2.17	0.45
5:I:71:PRO:HD2	5:I:74:THR:HG21	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:J:313:ASN:HD21	6:J:350:LEU:HB2	1.82	0.45
11:Y:-76:DC:H5'	11:Y:-76:DC:C6	2.51	0.45
1:A:892:ASN:O	1:A:896:GLN:HG2	2.17	0.45
6:H:27:HIS:HE1	16:H:501:ADP:N3	2.15	0.45
6:H:86:ILE:HG22	6:H:90:MET:HE2	1.99	0.45
6:H:300:GLU:OE2	5:I:316:HIS:ND1	2.40	0.45
7:Q:63:LEU:HD11	8:R:41:VAL:HG13	1.99	0.45
7:S:54:VAL:HG21	8:T:98:VAL:HG21	1.98	0.45
1:A:969:LEU:HD13	1:A:974:LEU:HD13	1.99	0.45
13:A:3301:AGS:O2B	13:A:3301:AGS:O2G	2.35	0.45
5:E:389:GLU:HG2	5:E:427:LYS:HD3	1.99	0.45
6:H:126:SER:HB2	6:H:322:PRO:HG3	1.99	0.45
11:Y:-84:DG:H1'	11:Y:-83:DG:N7	2.32	0.45
12:Z:74:DC:H2"	12:Z:75:DA:C8	2.52	0.45
5:G:40:VAL:O	16:G:501:ADP:N6	2.49	0.44
10:V:38:ALA:HB1	10:V:43:VAL:HB	1.99	0.44
5:G:146:PRO:HA	5:G:153:THR:HG22	1.99	0.44
5:G:416:LEU:HD11	6:H:54:ARG:NH2	2.32	0.44
11:Y:45:DC:H2"	11:Y:46:DA:C8	2.52	0.44
12:Z:45:DT:H2"	12:Z:46:DG:C8	2.52	0.44
1:A:2089:LEU:HD12	1:A:2093:THR:HG21	1.99	0.44
3:C:147:ILE:HD13	3:C:318:VAL:HB	2.00	0.44
5:E:119:ALA:O	5:E:297:GLY:HA3	2.17	0.44
5:E:274:LYS:NZ	6:J:246:GLU:OE2	2.46	0.44
7:S:115:LEU:HD13	10:X:44:LYS:HB2	1.99	0.44
1:A:606:VAL:HG11	1:A:623:HIS:CE1	2.53	0.44
2:B:310:TYR:OH	6:H:169:GLU:O	2.28	0.44
3:C:59:PRO:HA	3:C:67:ASN:HB3	2.00	0.44
6:J:126:SER:HB2	6:J:322:PRO:HG3	2.00	0.44
6:J:382:MET:HG2	6:J:421:VAL:HB	2.00	0.44
7:Q:107:VAL:HG11	9:U:101:VAL:HG11	2.00	0.44
9:U:113:HIS:CE1	9:W:122:LYS:HG3	2.53	0.44
9:W:62:ILE:HD11	10:X:37:LEU:HD11	2.00	0.44
12:Z:-6:DG:H2"	12:Z:-5:DG:C8	2.52	0.44
1:A:1938:PRO:HG2	1:A:1947:THR:HG21	2.00	0.44
5:G:447:LEU:HD11	6:H:344:HIS:CE1	2.52	0.44
10:X:31:LYS:HG3	10:X:51:TYR:CZ	2.53	0.44
12:Z:49:DC:H2"	12:Z:50:DG:H8	1.83	0.44
2:B:196:ASP:O	2:B:200:GLN:HG2	2.18	0.43
6:F:150:PRO:HG3	6:F:155:GLY:HA3	1.99	0.43
7:S:20:ARG:NH1	8:T:125:LYS:HD2	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:Z:24:DC:H2"	12:Z:25:DT:C6	2.53	0.43
12:Z:-14:DA:H2"	12:Z:-13:DA:H8	1.83	0.43
7:S:102:ILE:HG23	8:T:61:ILE:HD13	1.99	0.43
1:A:795:HIS:O	1:A:798:GLN:NE2	2.52	0.43
2:B:289:ARG:NH2	5:G:212:GLU:OE2	2.50	0.43
3:C:146:ILE:HG23	3:C:317:ILE:HA	2.00	0.43
3:C:382:TYR:HA	3:C:386:GLY:CA	2.47	0.43
3:C:386:GLY:HA2	3:C:389:VAL:HG22	2.00	0.43
11:Y:-12:DC:H2"	11:Y:-11:DG:C8	2.54	0.43
9:W:72:ARG:HH22	12:Z:-23:DT:P	2.42	0.43
1:A:2011:ALA:HB1	1:A:2015:TRP:CD1	2.53	0.43
3:C:59:PRO:HB3	3:C:70:VAL:HG13	1.99	0.43
5:I:401:THR:O	5:I:402:THR:OG1	2.28	0.43
6:J:86:ILE:HG22	6:J:90:MET:HE2	2.01	0.43
6:J:97:ASP:HB3	6:J:130:ARG:NH2	2.34	0.43
8:R:51:ASP:OD1	8:R:51:ASP:N	2.50	0.43
11:Y:-14:DA:H2"	11:Y:-13:DA:H8	1.83	0.43
1:A:922:CYS:SG	6:J:201:LYS:NZ	2.82	0.43
5:I:447:LEU:HD13	6:J:343:PRO:O	2.18	0.43
11:Y:-20:DC:H2"	11:Y:-19:DG:C8	2.54	0.43
1:A:2140:TRP:CZ2	1:A:2176:ILE:HG12	2.53	0.43
1:A:2169:GLU:O	1:A:2171:THR:HG23	2.19	0.43
5:E:16:ALA:H	5:E:19:SER:HG	1.65	0.43
5:I:120:ILE:HD13	5:I:296:PRO:O	2.19	0.43
3:C:292:MET:HG2	4:D:106:ALA:HB1	2.01	0.43
6:F:303:MET:HG3	5:G:313:THR:HG21	2.00	0.43
8:R:105:GLU:HA	8:R:108:LYS:HG2	2.01	0.43
12:Z:-32:DT:H2"	12:Z:-31:DA:H8	1.84	0.43
12:Z:35:DT:H2"	12:Z:36:DA:C8	2.54	0.43
3:C:7:ASP:HB3	3:C:14:LYS:HB2	2.01	0.43
3:C:225:LEU:O	3:C:230:ASN:ND2	2.50	0.43
5:E:131:TYR:HB2	5:E:193:ILE:HB	2.01	0.43
11:Y:-44:DA:C2'	11:Y:-43:DT:H71	2.49	0.43
11:Y:10:DC:H2"	11:Y:11:DG:C8	2.54	0.43
2:B:216:SER:HB3	6:F:145:ILE:HG22	2.01	0.42
4:D:126:TYR:HB3	6:J:170:THR:OG1	2.19	0.42
5:G:378:ARG:HD2	5:G:378:ARG:HA	1.84	0.42
11:Y:24:DA:H2"	11:Y:25:DG:C8	2.53	0.42
1:A:2139:ASP:OD1	1:A:2140:TRP:N	2.52	0.42
8:R:93:GLU:HG3	10:X:75:HIS:CE1	2.54	0.42
3:C:192:GLN:OE1	3:C:268:LEU:HD12	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:G:456:LYS:HB3	6:H:333:THR:HG21	2.00	0.42
6:H:261:PHE:HD2	5:I:275:LEU:HD13	1.84	0.42
11:Y:44:DC:H2"	11:Y:45:DC:C6	2.55	0.42
12:Z:-34:DA:H2"	12:Z:-33:DG:C8	2.54	0.42
12:Z:82:DC:H2'	12:Z:83:DC:C5	2.54	0.42
3:C:158:VAL:HG13	3:C:170:ILE:HG12	2.02	0.42
5:E:313:THR:HG21	6:J:303:MET:HG3	2.00	0.42
6:J:351:LEU:HA	6:J:354:LEU:HG	2.01	0.42
2:B:312:THR:HG22	2:B:314:ARG:H	1.84	0.42
3:C:338:ARG:NH2	3:C:342:PRO:O	2.52	0.42
11:Y:-3:DG:C2	12:Z:4:DG:N2	2.88	0.42
1:A:926:ALA:HB3	1:A:929:VAL:HG23	2.01	0.42
1:A:2069:THR:O	1:A:2072:LEU:HB2	2.19	0.42
7:Q:95:LYS:HB2	7:Q:95:LYS:HE3	1.74	0.42
12:Z:-69:DG:H2"	12:Z:-68:DA:C8	2.54	0.42
12:Z:52:DC:H2"	12:Z:53:DC:O5'	2.20	0.42
5:G:77:THR:OG1	6:H:314:ARG:NH1	2.52	0.42
8:R:33:ARG:HB2	11:Y:49:DC:H4'	2.01	0.42
7:Q:88:ARG:HB2	7:Q:108:LEU:HD21	2.01	0.42
2:B:214:TYR:HA	2:B:266:ILE:HD13	2.01	0.42
11:Y:-53:DG:H2"	11:Y:-52:DG:C8	2.55	0.42
1:A:1885:TYR:CE2	1:A:1890:GLU:HG3	2.55	0.41
6:F:84:THR:HG21	5:G:320:GLU:OE1	2.20	0.41
6:H:21:ARG:HD2	5:I:59:LYS:O	2.20	0.41
8:R:76:GLU:HB3	8:R:97:ALA:HB1	2.02	0.41
12:Z:77:DG:C6	12:Z:78:DG:C6	3.08	0.41
1:A:789:MET:HB3	1:A:797:PHE:CE2	2.55	0.41
3:C:182:ASN:HD22	4:D:35:LEU:C	2.25	0.41
5:E:257:LEU:HD22	5:I:263:LEU:HD21	2.02	0.41
6:H:303:MET:HG3	5:I:313:THR:HG21	2.03	0.41
5:I:402:THR:HG22	5:I:404:ARG:H	1.85	0.41
9:U:119:ILE:HD11	10:V:46:ILE:HG23	2.01	0.41
11:Y:-7:DC:H2"	11:Y:-6:DT:C5	2.55	0.41
11:Y:36:DC:H2"	11:Y:37:DC:C5	2.56	0.41
12:Z:16:DA:H2"	12:Z:17:DA:N7	2.35	0.41
12:Z:86:DC:H2"	12:Z:87:DG:C8	2.55	0.41
2:B:211:ILE:HD12	6:F:148:ASP:HB3	2.03	0.41
3:C:68:TRP:HH2	3:C:109:MET:SD	2.43	0.41
5:E:256:ILE:O	5:E:260:MET:HG2	2.20	0.41
6:F:397:THR:OG1	6:F:398:SER:N	2.52	0.41
5:G:133:GLY:HA3	5:G:161:LEU:HB3	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:J:402:ALA:O	6:J:406:ILE:HG13	2.20	0.41
7:Q:20:ARG:NH1	8:R:125:LYS:HD2	2.33	0.41
11:Y:-28:DT:H2"	11:Y:-27:DC:C6	2.56	0.41
1:A:849:MET:SD	1:A:850:PRO:HD2	2.60	0.41
2:B:284:PRO:HG2	5:G:209:TYR:CZ	2.55	0.41
5:E:53:VAL:HG22	5:E:83:ILE:HG23	2.03	0.41
6:F:47:VAL:O	16:F:501:ADP:N6	2.53	0.41
5:E:320:GLU:OE1	6:J:84:THR:HG21	2.21	0.41
6:F:60:LEU:HD11	6:F:94:LEU:HG	2.02	0.41
7:S:63:LEU:HD11	8:T:41:VAL:HG13	2.02	0.41
9:U:101:VAL:O	9:U:105:GLU:HG3	2.20	0.41
11:Y:-20:DC:H2"	11:Y:-19:DG:H8	1.84	0.41
11:Y:69:DC:H2"	11:Y:70:DC:C6	2.55	0.41
6:H:246:GLU:HA	6:H:260:LEU:HD21	2.02	0.41
6:J:31:LEU:HD12	6:J:60:LEU:HD12	2.02	0.41
1:A:2073:ASP:OD1	1:A:2088:ARG:NH1	2.49	0.41
5:E:260:MET:HB3	5:E:264:MET:HE2	2.02	0.41
5:E:447:LEU:HD11	6:F:344:HIS:CE1	2.56	0.41
5:G:400:LYS:HG3	5:G:401:THR:HG23	2.02	0.41
12:Z:-42:DG:C8	12:Z:-42:DG:H5'	2.55	0.41
12:Z:19:DC:H2"	12:Z:20:DG:C8	2.55	0.41
2:B:290:GLU:OE2	2:B:302:ARG:NH1	2.42	0.41
3:C:277:VAL:HB	3:C:278:PRO:HD3	2.02	0.41
6:F:362:TYR:OH	16:F:501:ADP:N7	2.46	0.41
1:A:674:VAL:O	1:A:724:SER:HA	2.20	0.41
1:A:814:MET:SD	1:A:821:TYR:HA	2.60	0.41
3:C:237:VAL:HG22	3:C:267:ILE:HG12	2.02	0.41
4:D:20:ASP:N	4:D:20:ASP:OD1	2.53	0.41
6:F:335:ILE:HD11	6:F:342:SER:HB2	2.02	0.41
6:F:403:ILE:HA	6:F:406:ILE:HD12	2.02	0.41
5:G:338:ILE:HD11	5:G:346:SER:OG	2.21	0.41
5:I:159:ILE:HG22	5:I:170:LEU:HB2	2.03	0.41
5:I:411:THR:HG21	6:J:62:MET:HE3	2.03	0.41
8:R:106:LEU:HD23	8:R:106:LEU:HA	1.97	0.41
7:S:106:GLY:HA3	9:W:58:THR:HG22	2.02	0.41
12:Z:-26:DC:H2"	12:Z:-25:DC:C6	2.55	0.41
11:Y:-75:DT:H2"	11:Y:-74:DG:C8	2.56	0.41
12:Z:-32:DT:H2"	12:Z:-31:DA:C8	2.54	0.41
12:Z:4:DG:H2"	12:Z:5:DT:C5	2.56	0.41
3:C:31:ARG:NH1	4:D:43:ASP:OD2	2.54	0.40
5:G:336:CYS:SG	6:H:340:TYR:OH	2.75	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:J:62:MET:HE1	6:J:71:ARG:CZ	2.51	0.40
9:U:57:SER:HB2	9:U:59:GLU:OE1	2.21	0.40
11:Y:-77:DC:H2'	11:Y:-76:DC:C5	2.56	0.40
1:A:643:ASP:HB3	1:A:647:LEU:HD12	2.02	0.40
1:A:1918:TYR:CZ	6:H:260:LEU:HD13	2.56	0.40
5:G:263:LEU:HD22	5:I:260:MET:HB3	2.03	0.40
11:Y:-46:DC:H2"	11:Y:-45:DA:N7	2.36	0.40
1:A:779:GLN:NE2	1:A:2143:THR:HG21	2.36	0.40
2:B:213:THR:HB	2:B:267:THR:HB	2.03	0.40
5:E:409:LEU:HD22	5:E:433:ILE:HG22	2.04	0.40
6:F:168:MET:SD	6:F:231:GLU:HG3	2.61	0.40
6:H:70:GLY:HA3	6:H:316:LEU:O	2.20	0.40
6:J:349:ASP:OD1	6:J:350:LEU:N	2.54	0.40
8:T:46:LYS:HD3	8:T:46:LYS:HA	1.77	0.40
3:C:99:TYR:OH	3:C:128:GLY:HA3	2.21	0.40
6:F:113:MET:HE2	6:F:113:MET:HB3	1.95	0.40
6:H:407:THR:HG21	5:I:61:MET:HG3	2.03	0.40
5:I:34:GLN:HE22	5:I:373:GLN:HE22	1.68	0.40
12:Z:50:DG:H2"	12:Z:51:DG:H8	1.86	0.40
1:A:2137:ASP:N	1:A:2137:ASP:OD1	2.54	0.40
6:F:404:GLN:HA	5:G:64:ARG:HH12	1.86	0.40
11:Y:-56:DG:H2"	11:Y:-55:DC:C5	2.56	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	697/3230 (22%)	686 (98%)	11 (2%)	0	100	100
2	B	125/364 (34%)	122 (98%)	3 (2%)	0	100	100
3	C	394/396 (100%)	381 (97%)	13 (3%)	0	100	100

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
4	D	101/154 (66%)	99 (98%)	2 (2%)	0	100	100
5	E	429/456 (94%)	423 (99%)	6 (1%)	0	100	100
5	G	443/456 (97%)	441 (100%)	2 (0%)	0	100	100
5	I	432/456 (95%)	424 (98%)	8 (2%)	0	100	100
6	F	436/463 (94%)	428 (98%)	8 (2%)	0	100	100
6	H	428/463 (92%)	419 (98%)	9 (2%)	0	100	100
6	J	412/463 (89%)	404 (98%)	8 (2%)	0	100	100
7	Q	101/128 (79%)	99 (98%)	2 (2%)	0	100	100
7	S	105/128 (82%)	105 (100%)	0	0	100	100
8	R	96/125 (77%)	95 (99%)	1 (1%)	0	100	100
8	T	96/125 (77%)	93 (97%)	3 (3%)	0	100	100
9	U	96/135 (71%)	94 (98%)	2 (2%)	0	100	100
9	W	94/135 (70%)	92 (98%)	2 (2%)	0	100	100
10	V	76/102 (74%)	75 (99%)	1 (1%)	0	100	100
10	X	75/102 (74%)	75 (100%)	0	0	100	100
All	All	4636/7881 (59%)	4555 (98%)	81 (2%)	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	633/2721 (23%)	633 (100%)	0	100	100
2	B	116/312 (37%)	116 (100%)	0	100	100
3	C	361/361 (100%)	361 (100%)	0	100	100
4	D	89/133 (67%)	89 (100%)	0	100	100
5	E	367/387 (95%)	367 (100%)	0	100	100
5	G	376/387 (97%)	376 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
5	I	370/387 (96%)	370 (100%)	0	100	100
6	F	368/390 (94%)	368 (100%)	0	100	100
6	H	365/390 (94%)	365 (100%)	0	100	100
6	J	354/390 (91%)	354 (100%)	0	100	100
7	Q	82/101 (81%)	82 (100%)	0	100	100
7	S	84/101 (83%)	84 (100%)	0	100	100
8	R	84/105 (80%)	84 (100%)	0	100	100
8	T	84/105 (80%)	84 (100%)	0	100	100
9	U	86/110 (78%)	86 (100%)	0	100	100
9	W	84/110 (76%)	84 (100%)	0	100	100
10	V	64/78 (82%)	64 (100%)	0	100	100
10	X	63/78 (81%)	63 (100%)	0	100	100
All	All	4030/6646 (61%)	4030 (100%)	0	100	100

There are no protein residues with a non-rotameric sidechain to report.

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (36) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	623	HIS
1	A	659	HIS
1	A	730	GLN
1	A	1906	GLN
1	A	1968	GLN
2	B	215	HIS
2	B	296	HIS
2	B	330	HIS
3	C	203	ASN
3	C	387	HIS
5	E	85	GLN
6	F	275	GLN
5	G	348	HIS
5	G	380	GLN
6	H	25	HIS
6	H	27	HIS
6	H	146	GLN
6	H	453	ASN
5	I	34	GLN

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Mol	Chain	Res	Type
5	I	115	ASN
5	I	169	GLN
5	I	241	HIS
5	I	393	HIS
6	J	78	GLN
6	J	255	GLN
7	Q	31	HIS
7	Q	110	ASN
8	R	84	ASN
8	R	95	GLN
7	S	31	HIS
7	S	84	GLN
7	S	110	ASN
7	S	112	GLN
9	U	85	GLN
9	W	93	GLN
10	X	75	HIS

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 15 ligands modelled in this entry, 7 are monoatomic - leaving 8 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	$\#\|Z\|>2$
13	AGS	C	401	14	28,33,33	0.82	1 (3%)	31,52,52	1.02	2 (6%)
16	ADP	G	501	-	24,29,29	0.91	1 (4%)	29,45,45	1.14	2 (6%)
16	ADP	H	501	14	24,29,29	0.90	1 (4%)	29,45,45	1.14	2 (6%)
16	ADP	F	501	14	24,29,29	0.90	1 (4%)	29,45,45	1.11	2 (6%)
16	ADP	I	501	-	24,29,29	0.88	1 (4%)	29,45,45	1.11	2 (6%)
16	ADP	E	501	-	24,29,29	0.90	1 (4%)	29,45,45	1.13	2 (6%)
16	ADP	J	501	14	24,29,29	0.88	1 (4%)	29,45,45	1.12	2 (6%)
13	AGS	A	3301	14	28,33,33	0.78	1 (3%)	31,52,52	1.00	2 (6%)

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
13	AGS	C	401	14	-	4/17/38/38	0/3/3/3
16	ADP	G	501	-	-	5/12/32/32	0/3/3/3
16	ADP	H	501	14	-	0/12/32/32	0/3/3/3
16	ADP	F	501	14	-	4/12/32/32	0/3/3/3
16	ADP	I	501	-	-	3/12/32/32	0/3/3/3
16	ADP	E	501	-	-	3/12/32/32	0/3/3/3
16	ADP	J	501	14	-	7/12/32/32	0/3/3/3
13	AGS	A	3301	14	-	2/17/38/38	0/3/3/3

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
16	G	501	ADP	O4'-C1'	2.21	1.43	1.40
13	A	3301	AGS	PG-S1G	2.19	1.95	1.90
13	C	401	AGS	PG-S1G	2.16	1.95	1.90
16	I	501	ADP	O4'-C1'	2.13	1.43	1.40
16	E	501	ADP	O4'-C1'	2.12	1.43	1.40
16	F	501	ADP	O4'-C1'	2.09	1.43	1.40
16	J	501	ADP	O4'-C1'	2.06	1.43	1.40
16	H	501	ADP	O4'-C1'	2.04	1.43	1.40

All (16) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
13	C	401	AGS	PB-O3B-PG	-3.69	119.65	133.17
16	H	501	ADP	N3-C2-N1	-3.64	123.73	128.67
16	G	501	ADP	N3-C2-N1	-3.64	123.73	128.67
13	A	3301	AGS	PB-O3B-PG	-3.59	120.03	133.17
16	E	501	ADP	N3-C2-N1	-3.56	123.84	128.67
16	I	501	ADP	N3-C2-N1	-3.53	123.88	128.67
16	F	501	ADP	N3-C2-N1	-3.49	123.94	128.67
16	J	501	ADP	N3-C2-N1	-3.47	123.97	128.67
16	J	501	ADP	C4-C5-N7	-2.64	106.54	109.34
16	H	501	ADP	C4-C5-N7	-2.63	106.56	109.34
16	F	501	ADP	C4-C5-N7	-2.57	106.62	109.34
16	E	501	ADP	C4-C5-N7	-2.56	106.63	109.34
16	G	501	ADP	C4-C5-N7	-2.55	106.64	109.34
16	I	501	ADP	C4-C5-N7	-2.44	106.75	109.34
13	C	401	AGS	C5-C6-N6	2.27	123.77	120.31
13	A	3301	AGS	C5-C6-N6	2.19	123.65	120.31

There are no chirality outliers.

All (28) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
13	A	3301	AGS	C5'-O5'-PA-O3A
13	C	401	AGS	C5'-O5'-PA-O1A
16	F	501	ADP	PA-O3A-PB-O2B
16	G	501	ADP	C5'-O5'-PA-O1A
16	G	501	ADP	O4'-C4'-C5'-O5'
16	J	501	ADP	C5'-O5'-PA-O1A
16	J	501	ADP	C3'-C4'-C5'-O5'
16	G	501	ADP	C3'-C4'-C5'-O5'
16	J	501	ADP	O4'-C4'-C5'-O5'
16	E	501	ADP	PA-O3A-PB-O1B
16	I	501	ADP	PA-O3A-PB-O1B
16	F	501	ADP	PA-O3A-PB-O3B
16	J	501	ADP	PA-O3A-PB-O2B
16	J	501	ADP	PA-O3A-PB-O3B
13	A	3301	AGS	PA-O3A-PB-O2B
13	C	401	AGS	C5'-O5'-PA-O2A
13	C	401	AGS	C5'-O5'-PA-O3A
16	G	501	ADP	C5'-O5'-PA-O2A
16	G	501	ADP	C5'-O5'-PA-O3A
16	J	501	ADP	C5'-O5'-PA-O2A
16	J	501	ADP	C5'-O5'-PA-O3A
13	C	401	AGS	PG-O3B-PB-O2B

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Mol	Chain	Res	Type	Atoms
16	F	501	ADP	PA-O3A-PB-O1B
16	E	501	ADP	PA-O3A-PB-O2B
16	E	501	ADP	PA-O3A-PB-O3B
16	I	501	ADP	PA-O3A-PB-O2B
16	I	501	ADP	PA-O3A-PB-O3B
16	F	501	ADP	C4'-C5'-O5'-PA

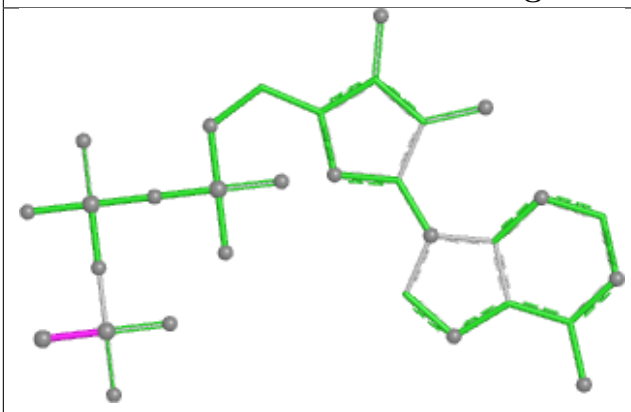
There are no ring outliers.

5 monomers are involved in 10 short contacts:

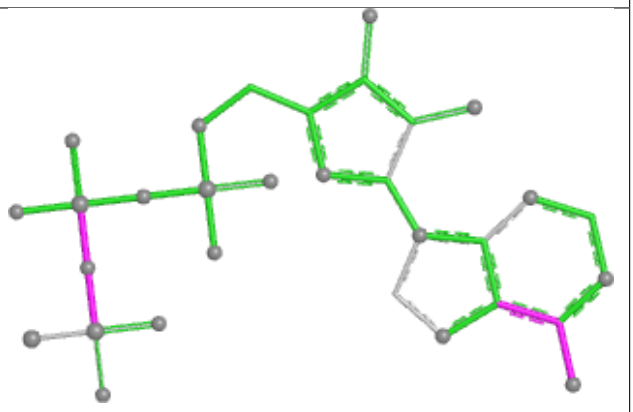
Mol	Chain	Res	Type	Clashes	Symm-Clashes
16	G	501	ADP	2	0
16	H	501	ADP	3	0
16	F	501	ADP	2	0
16	J	501	ADP	1	0
13	A	3301	AGS	2	0

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.

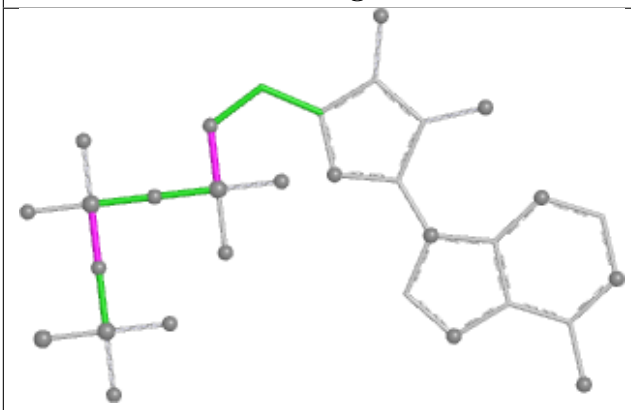
Ligand AGS C 401



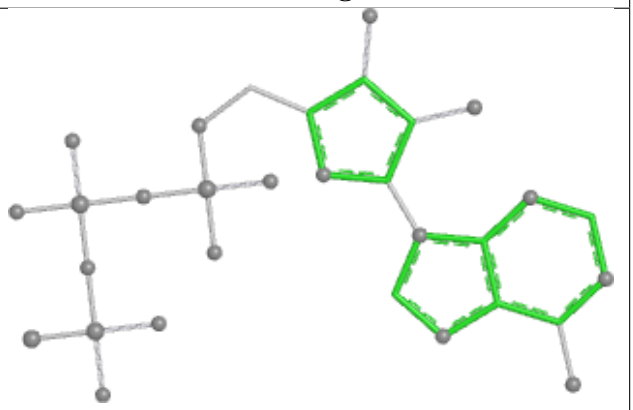
Bond lengths



Bond angles

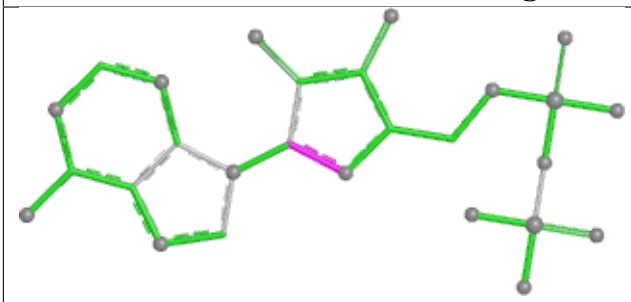


Torsions



Rings

Ligand ADP G 501



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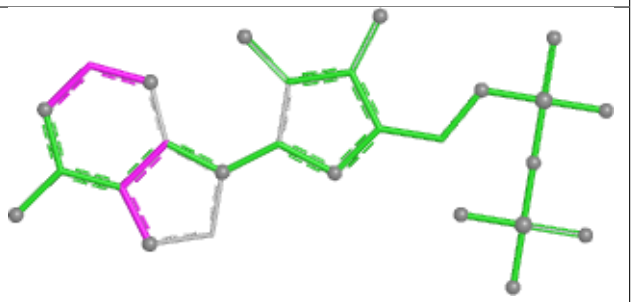

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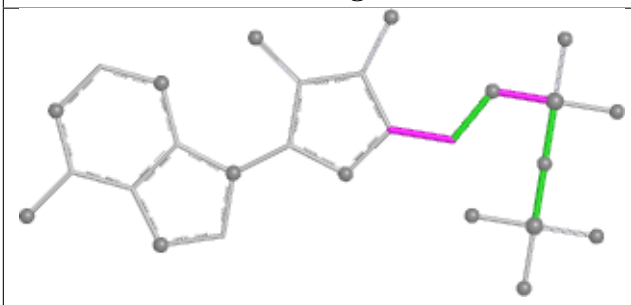

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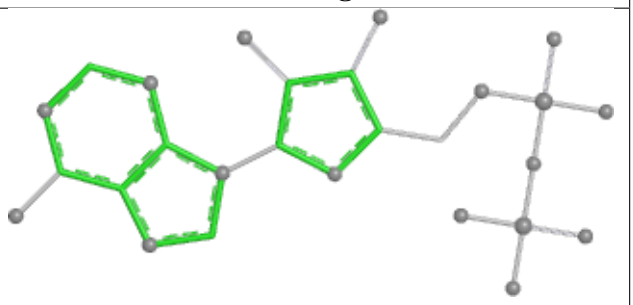
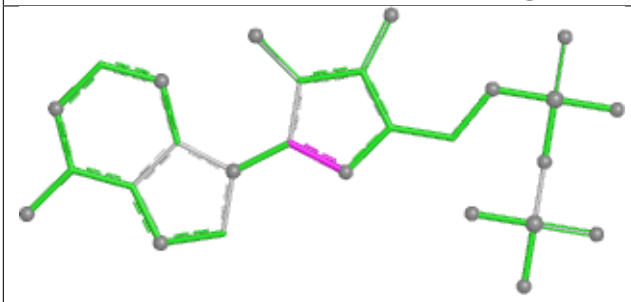


Rings

Ligand ADP H 501



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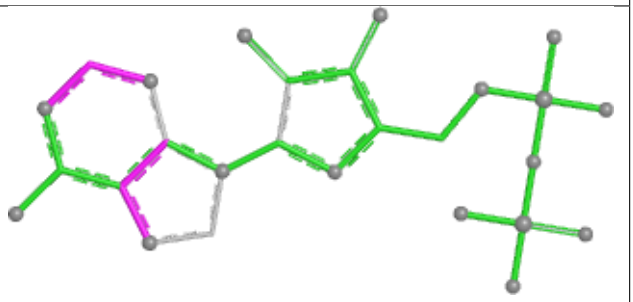

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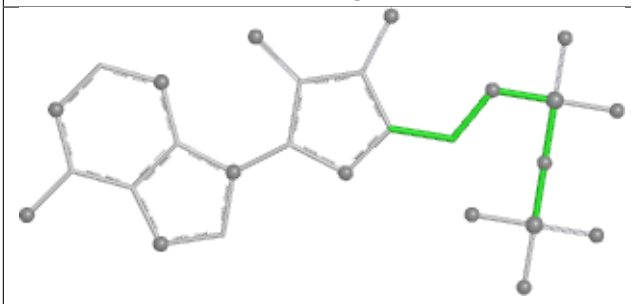

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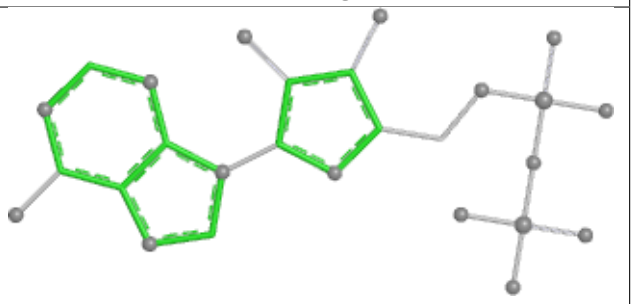
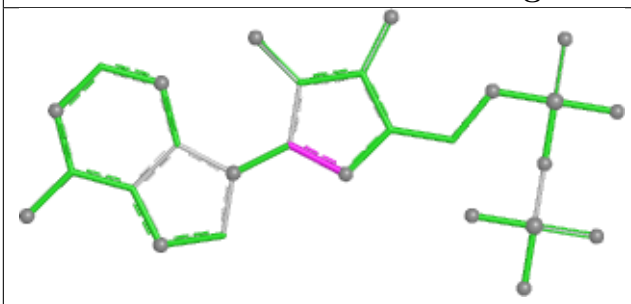


Rings

Ligand ADP F 501



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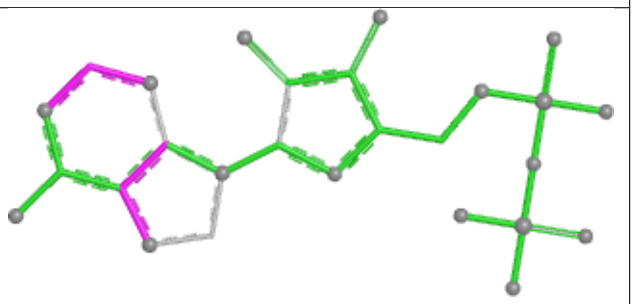

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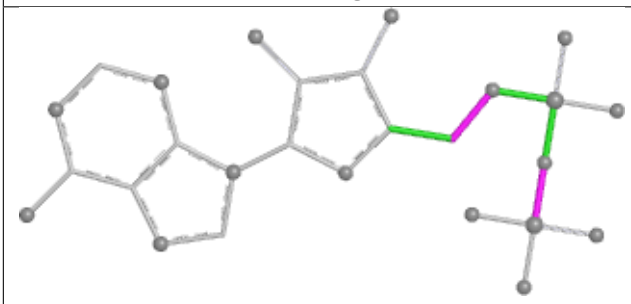

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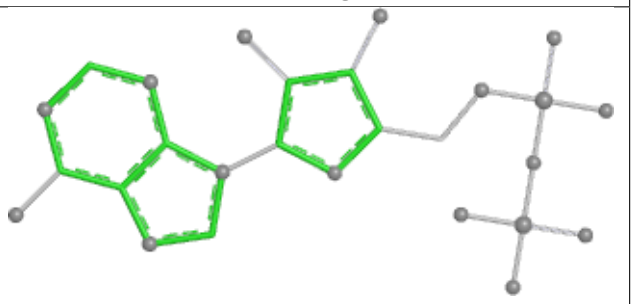
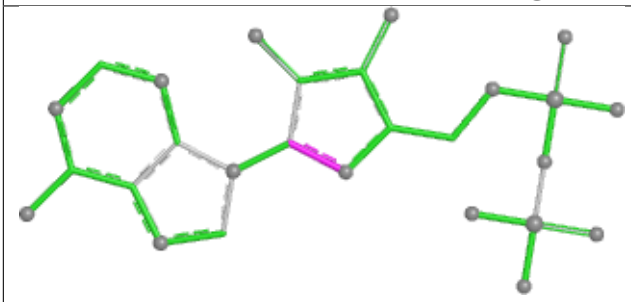


Rings

Ligand ADP I 501



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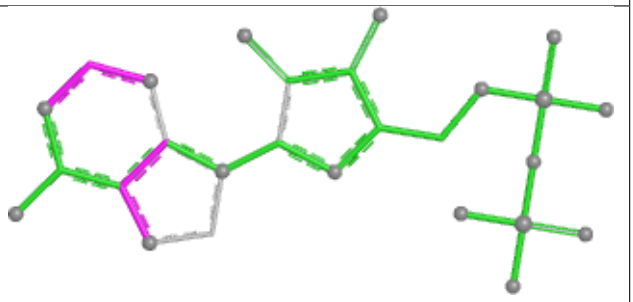

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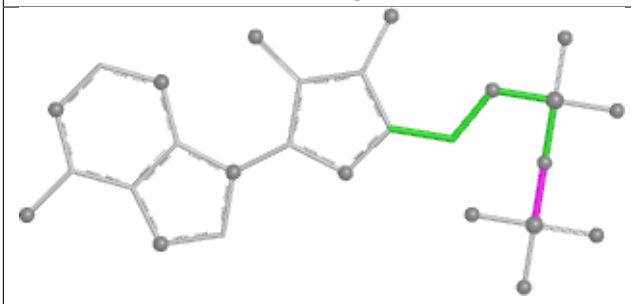

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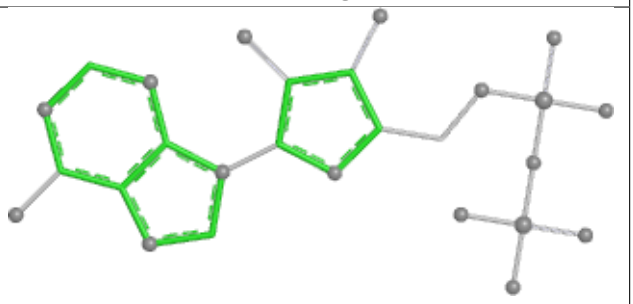
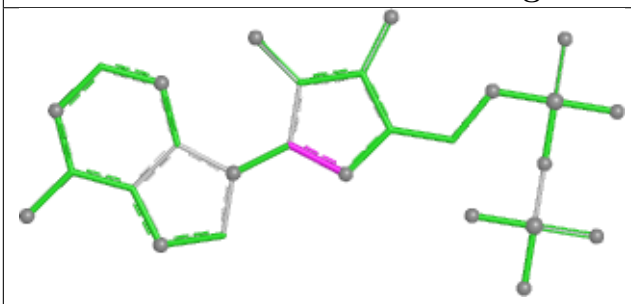


Rings

Ligand ADP E 501



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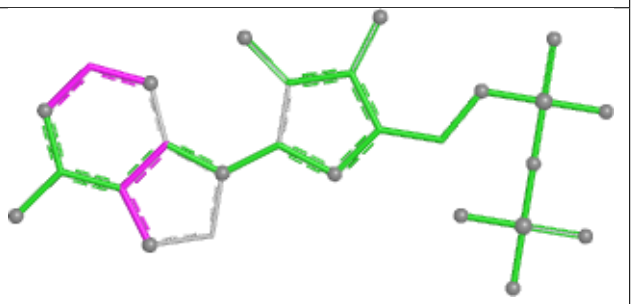
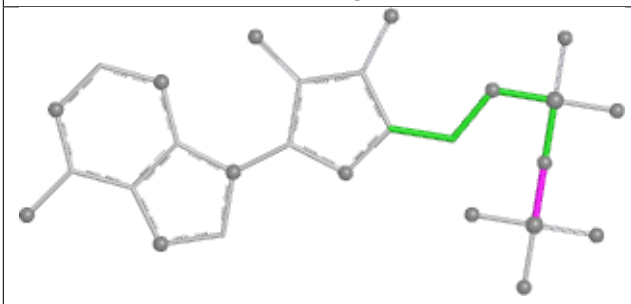
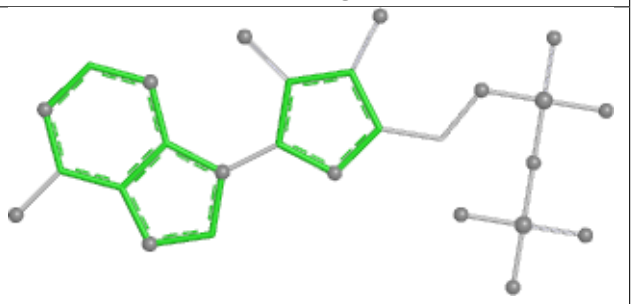


Bond angles

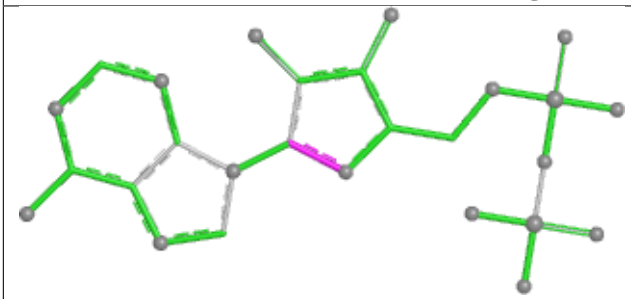


Torsions

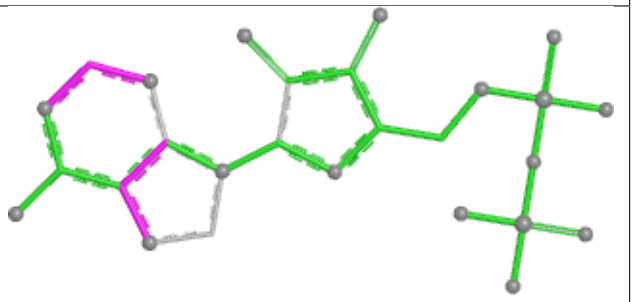


Rings

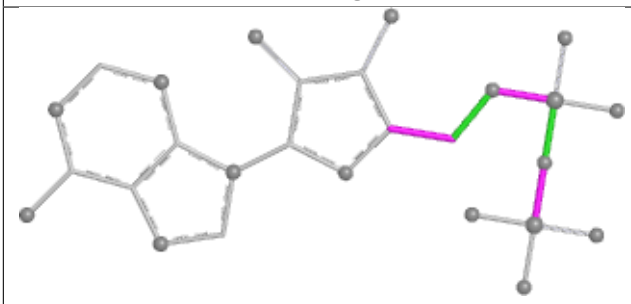
Ligand ADP J 501



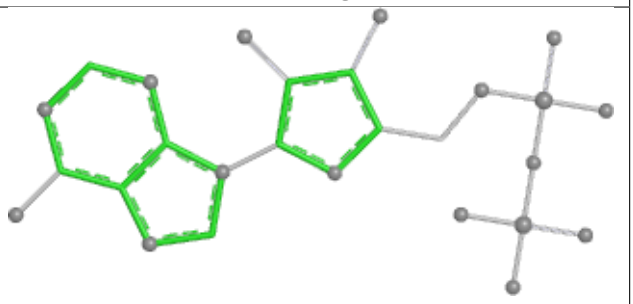
Bond lengths



Bond angles

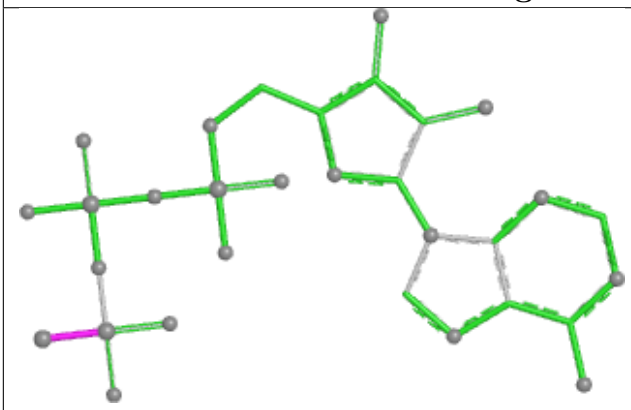


Torsions

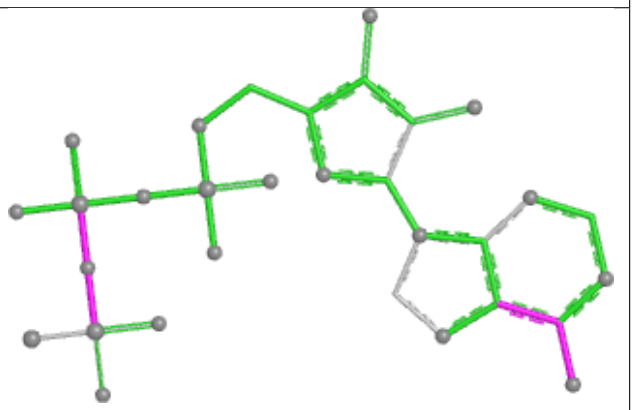


Rings

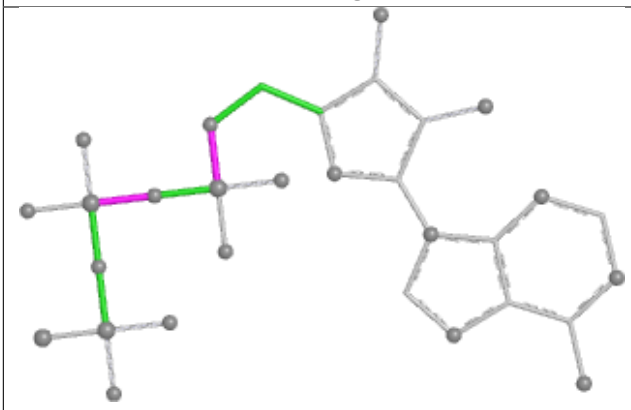
Ligand AGS A 3301



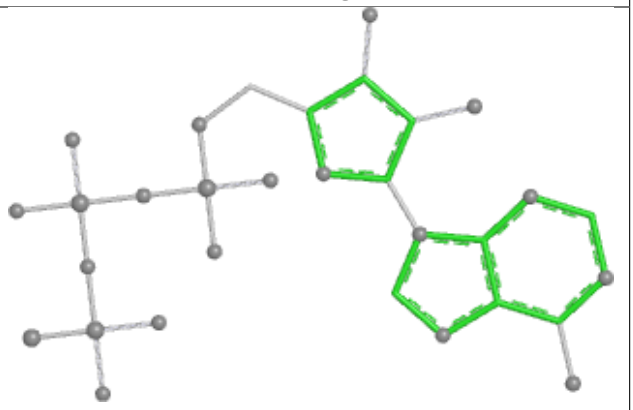
Bond lengths



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

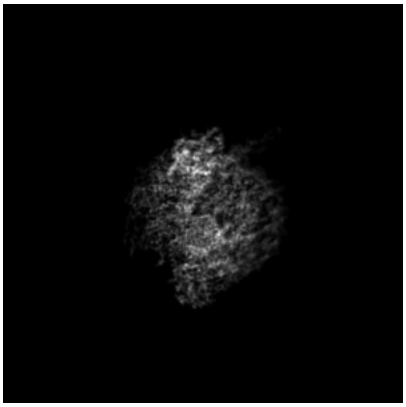
This section contains visualisations of the EMDB entry EMD-45385. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

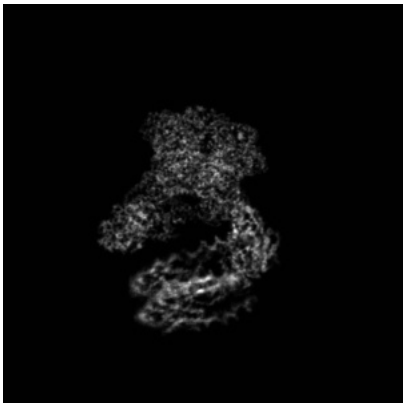
6.1 Orthogonal projections

6.1.1 Primary map

X



Y



Z

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

6.2 Central slices

6.2.1 Primary map

X Index: 240

Y Index: 240

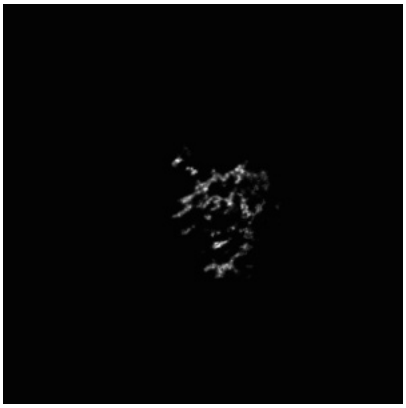
Z Index: 240

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: 276



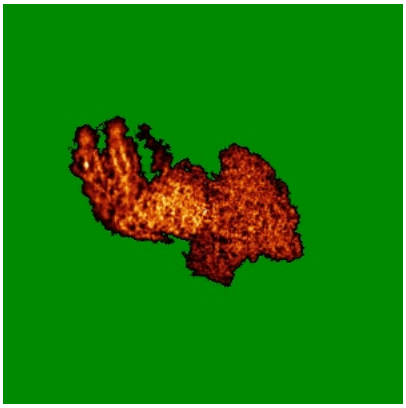
Y Index: 148

Z Index: 229

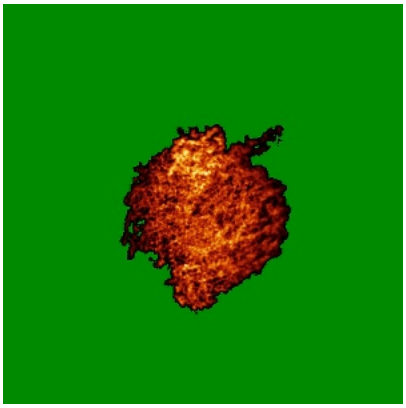
The images above show the largest variance slices of the map in three orthogonal directions.

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

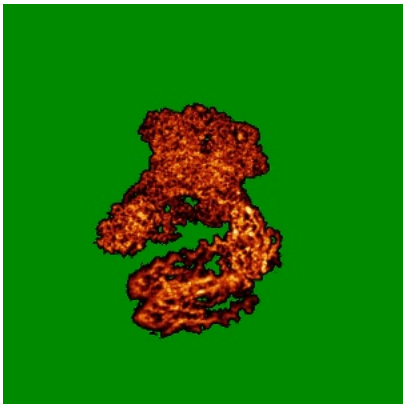
6.4.1 Primary map



X



Y

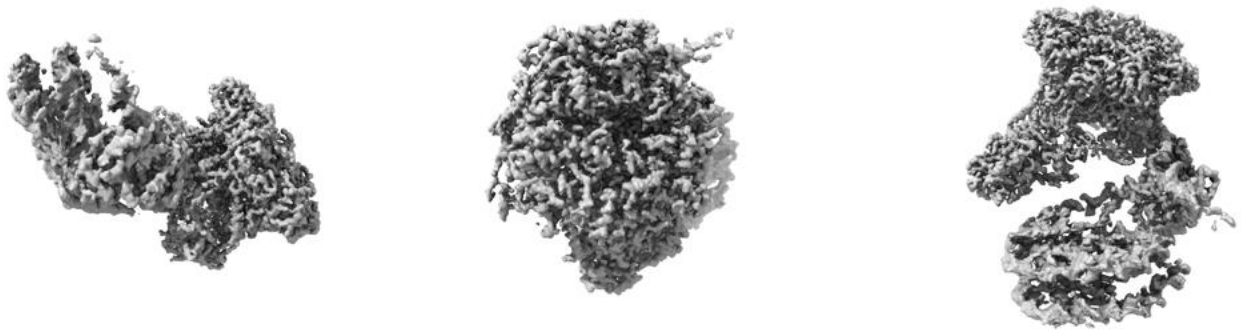


Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.1. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

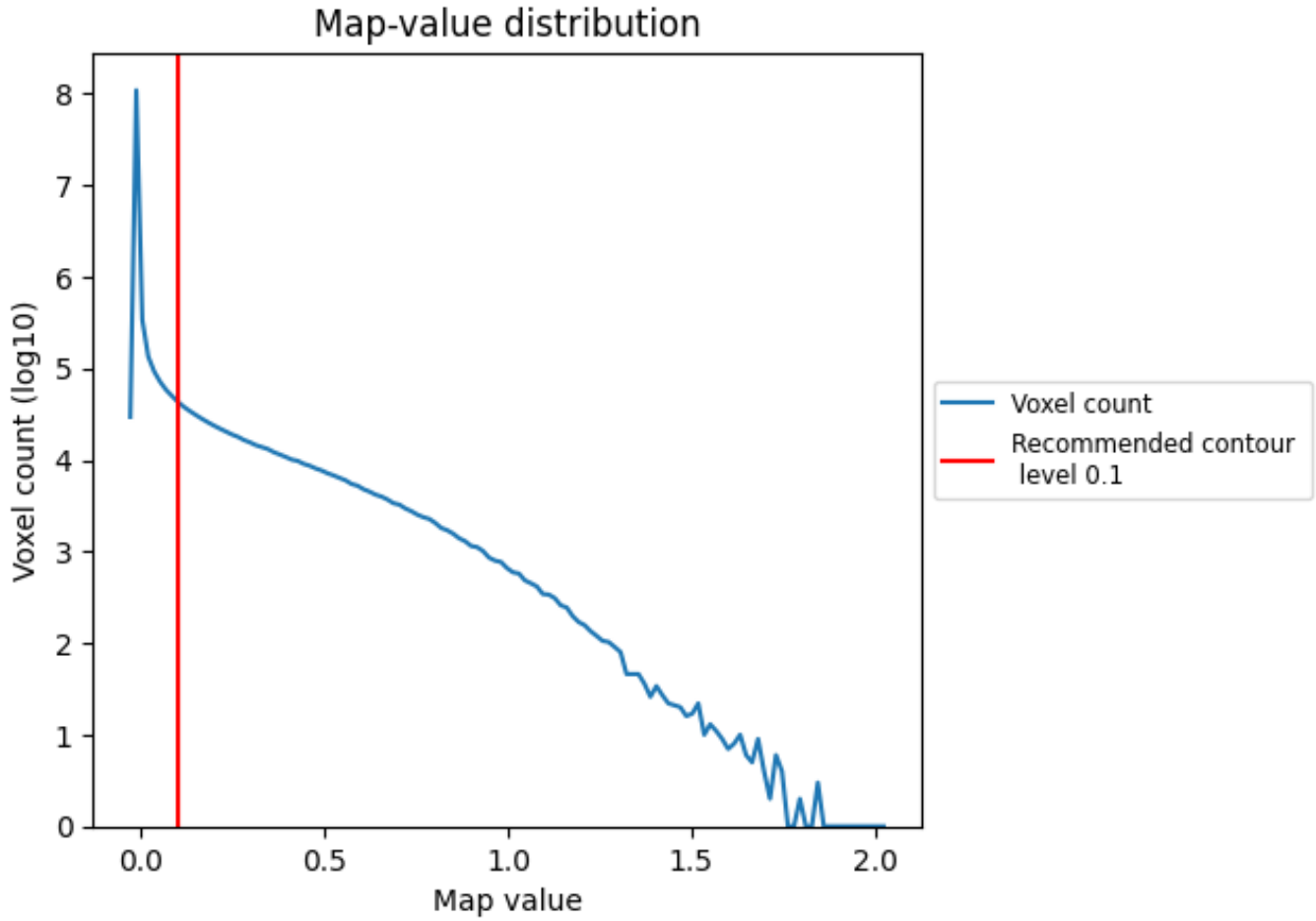
6.6 Mask visualisation (i)

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

7 Map analysis

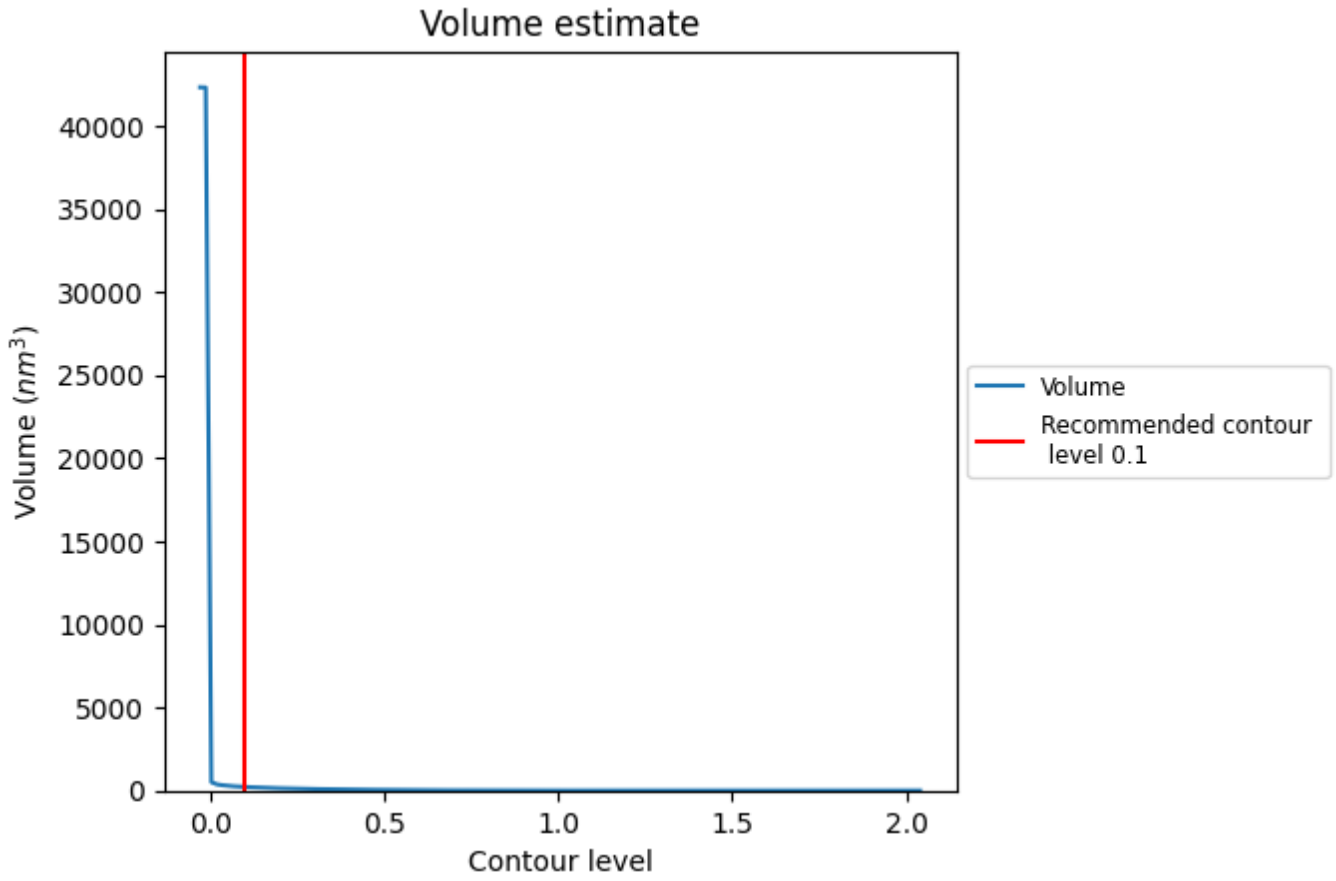
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

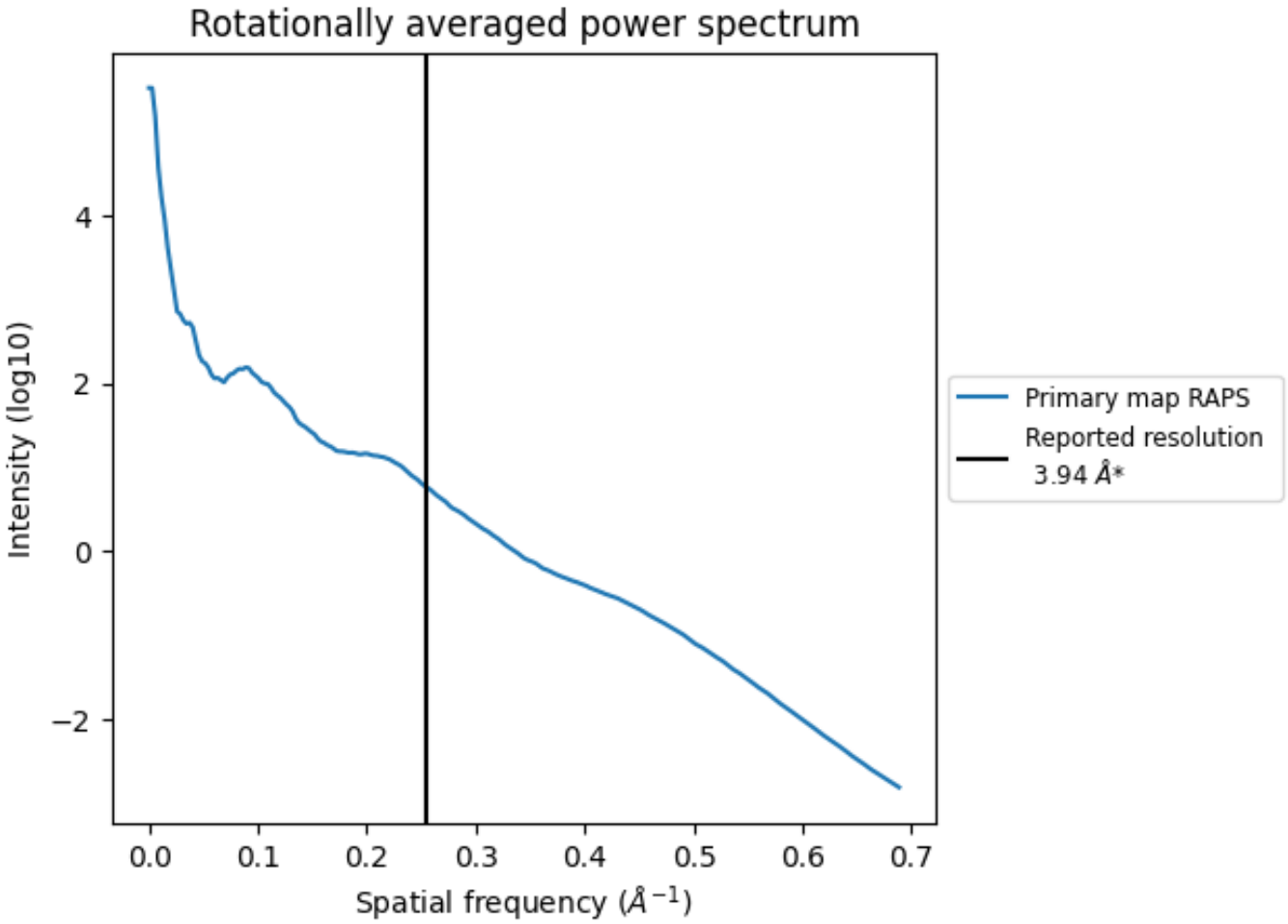
7.2 Volume estimate



The volume at the recommended contour level is 217 nm^3; this corresponds to an approximate mass of 196 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 0.254 Å^{-1}

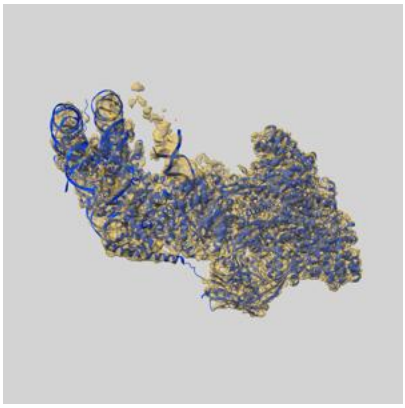
8 Fourier-Shell correlation

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

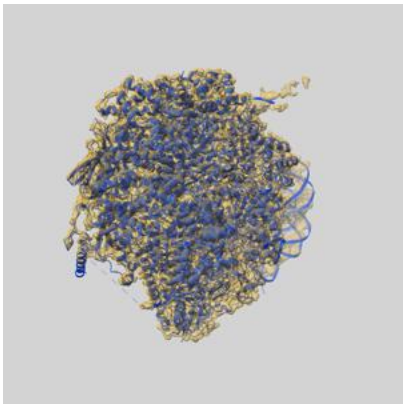
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-45385 and PDB model 9CAB. Per-residue inclusion information can be found in section 3 on page 9.

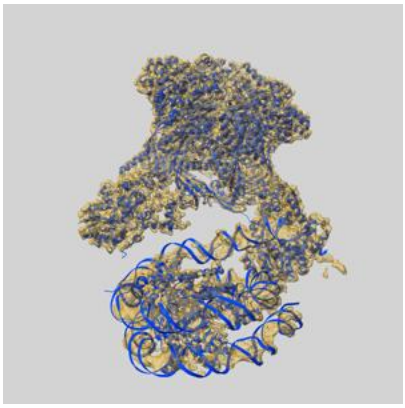
9.1 Map-model overlay



X



Y



Z

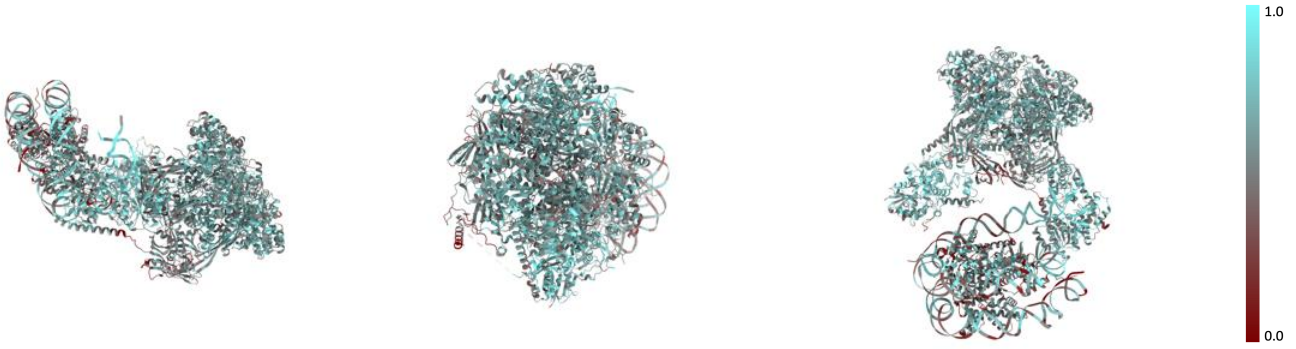
The images above show the 3D surface view of the map at the recommended contour level 0.1 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model

X Y Z

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

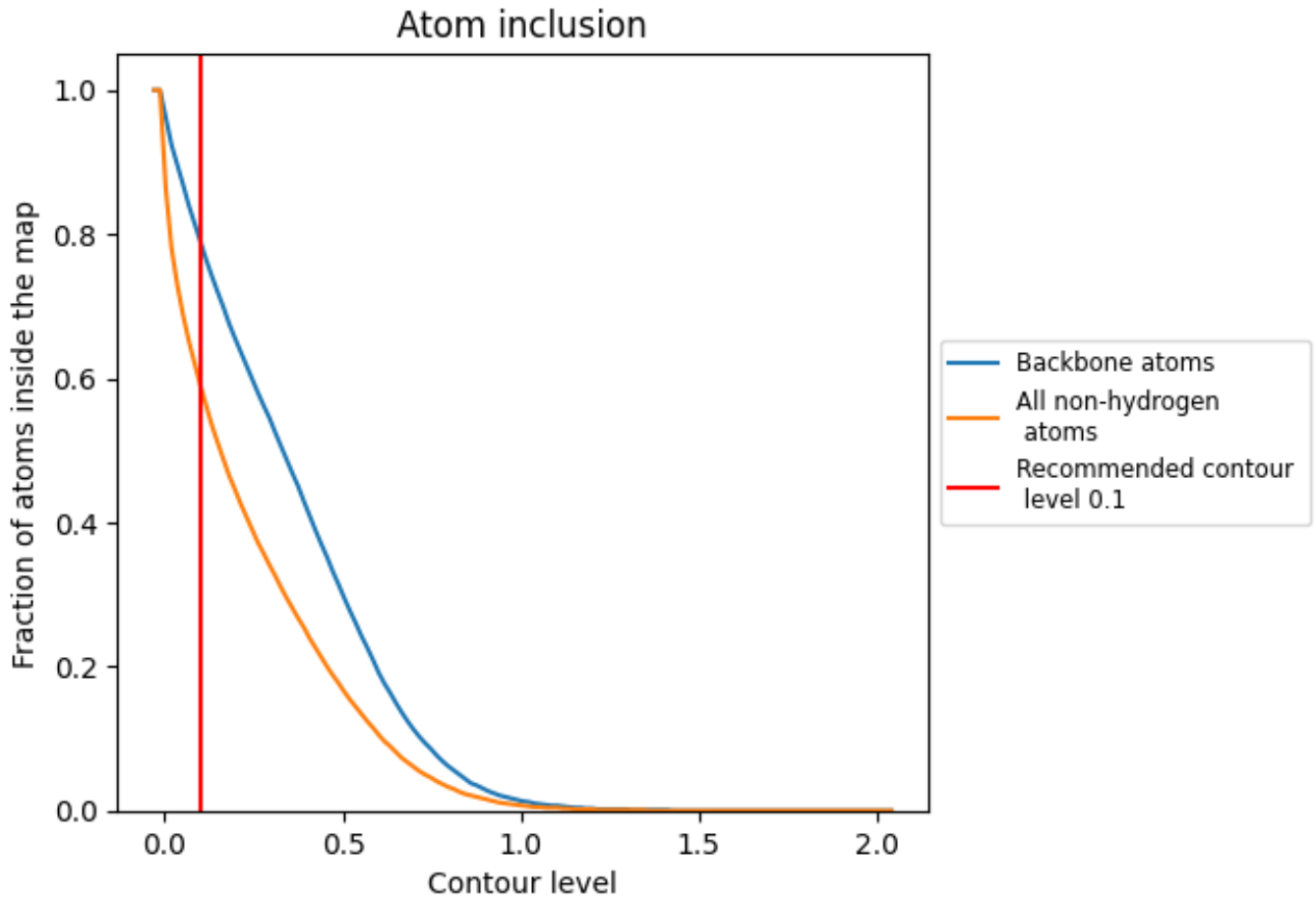
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.1).

9.4 Atom inclusion (i)



At the recommended contour level, 79% of all backbone atoms, 59% 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 (0.1) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5900	0.2660
A	0.6460	0.2850
B	0.3910	0.1490
C	0.7010	0.3050
D	0.6570	0.2900
E	0.5920	0.3440
F	0.5940	0.3480
G	0.5930	0.3480
H	0.6070	0.3540
I	0.6060	0.3610
J	0.5850	0.3420
Q	0.4800	0.1100
R	0.4560	0.0860
S	0.4850	0.1250
T	0.4420	0.0980
U	0.4600	0.1000
V	0.5400	0.1210
W	0.4630	0.0960
X	0.5360	0.1320
Y	0.5810	0.1360
Z	0.6000	0.1420