Full wwPDB EM Validation Report

May 14, 2025 – 03:44 AM EDT

PDB ID	:	7RKZ / pdb_00007rkz
EMDB ID	:	EMD-24511
Title	:	Structure of ACLY D1026A-substrates-asym-int
Authors	:	Wei, X.; Marmorstein, R.
Deposited on	:	2021-07-22
Resolution	:	2.60 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:

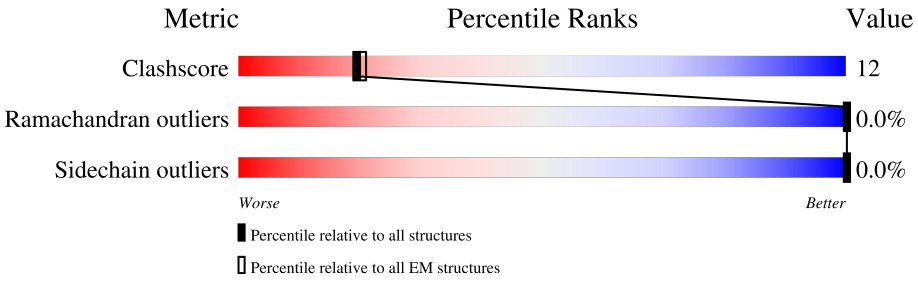
EMDB validation analysis	:	0.0.1.dev118
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0rc1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal 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 2.60 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	1101	65% 29% 6%
1	B	1101	67% 27% 6%
1	C	1101	46% 67% 27% 6%
1	D	1101	5% 67% 27% 6%

2 Entry composition

There are 7 unique types of molecules in this entry. The entry contains 32610 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.

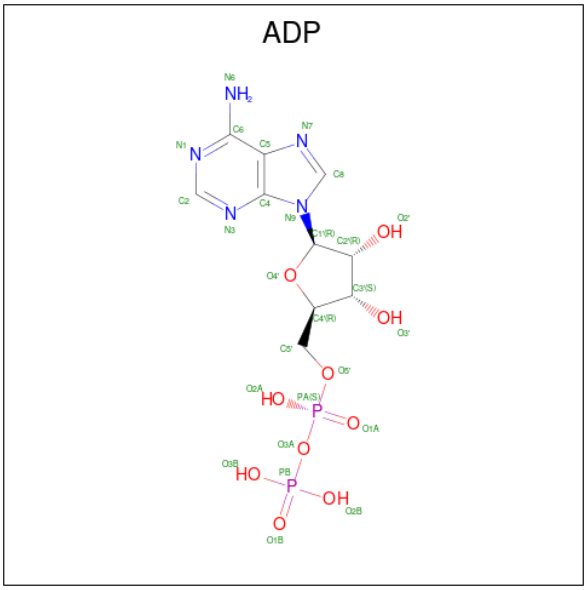
- Molecule 1 is a protein called ATP-citrate synthase.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1032	Total	C	N	O	S	2	0
			7989	5114	1354	1474	47		
1	B	1032	Total	C	N	O	S	2	0
			7989	5114	1354	1474	47		
1	C	1032	Total	C	N	O	S	2	0
			7989	5114	1354	1474	47		
1	D	1030	Total	C	N	O	S	2	0
			7974	5105	1350	1472	47		

There are 4 discrepancies between the modelled and reference sequences:

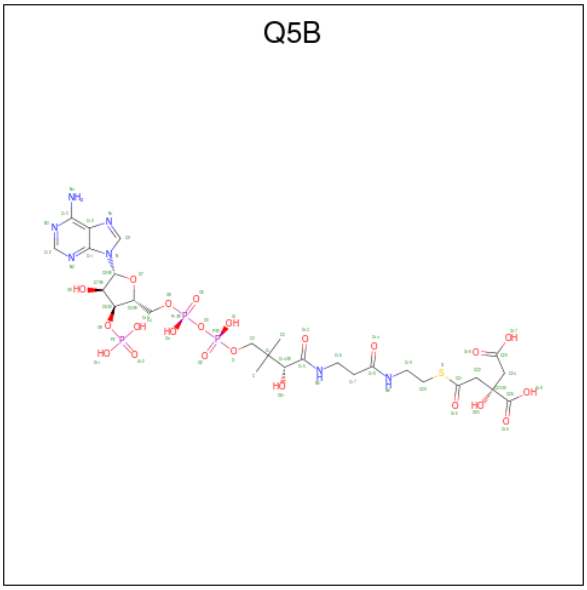
Chain	Residue	Modelled	Actual	Comment	Reference
A	1026	ALA	ASP	engineered mutation	UNP P53396
B	1026	ALA	ASP	engineered mutation	UNP P53396
C	1026	ALA	ASP	engineered mutation	UNP P53396
D	1026	ALA	ASP	engineered mutation	UNP P53396

- Molecule 2 is ADENOSINE-5'-DIPHOSPHATE (CCD ID: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$).



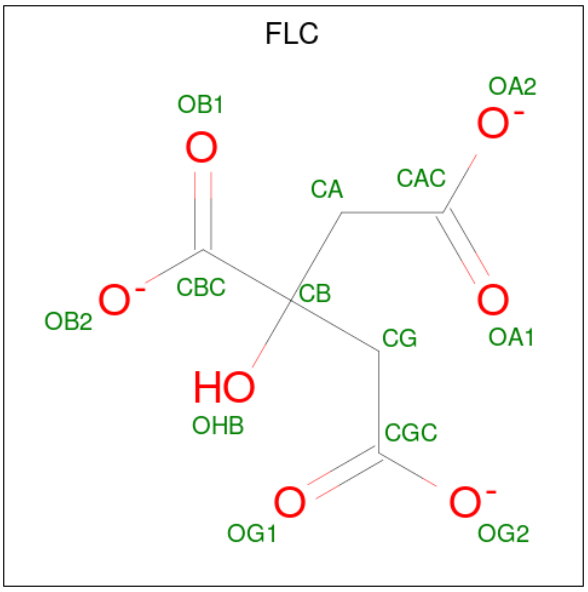
Mol	Chain	Residues	Atoms					AltConf
2	A	1	Total	C	N	O	P	0
			27	10	5	10	2	
2	B	1	Total	C	N	O	P	0
			27	10	5	10	2	
2	D	1	Total	C	N	O	P	0
			27	10	5	10	2	

- Molecule 3 is (3S)-citryl-Coenzyme A (CCD ID: Q5B) (formula: $C_{27}H_{42}N_7O_{22}P_3S$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms						AltConf
3	A	1	Total	C	N	O	P	S	0
			60	27	7	22	3	1	
3	B	1	Total	C	N	O	P	S	0
			60	27	7	22	3	1	
3	D	1	Total	C	N	O	P	S	0
			60	27	7	22	3	1	

- Molecule 4 is CITRATE ANION (CCD ID: FLC) (formula: $C_6H_5O_7$).

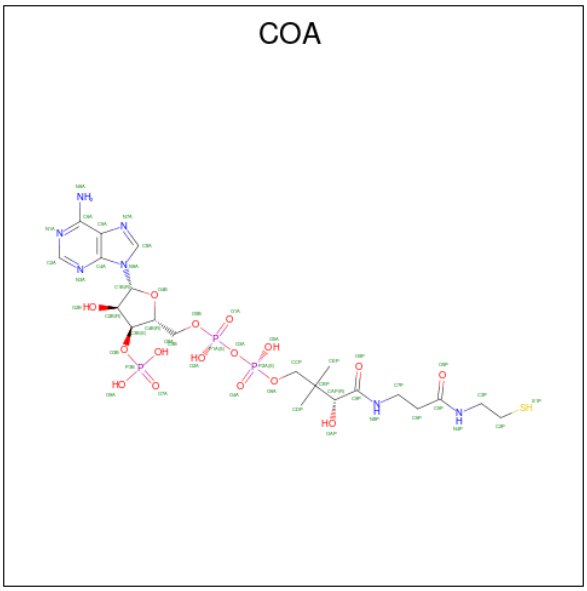


Mol	Chain	Residues	Atoms	AltConf
4	A	1	Total C O 13 6 7	0
4	B	1	Total C O 13 6 7	0
4	C	1	Total C O 13 6 7	0
4	D	1	Total C O 13 6 7	0

- Molecule 5 is UNKNOWN LIGAND (CCD ID: UNL) (formula:).

Mol	Chain	Residues	Atoms	AltConf
5	A	1	Total C 1 1	0
5	C	1	Total C 1 1	0

- Molecule 6 is COENZYME A (CCD ID: COA) (formula: $C_{21}H_{36}N_7O_{16}P_3S$).



Mol	Chain	Residues	Atoms						AltConf
6	A	1	Total	C	N	O	P	S	0
			48	21	7	16	3	1	
6	B	1	Total	C	N	O	P	S	0
			48	21	7	16	3	1	
6	C	1	Total	C	N	O	P	S	0
			48	21	7	16	3	1	
6	C	1	Total	C	N	O	P	S	0
			48	21	7	16	3	1	

- Molecule 7 is water.

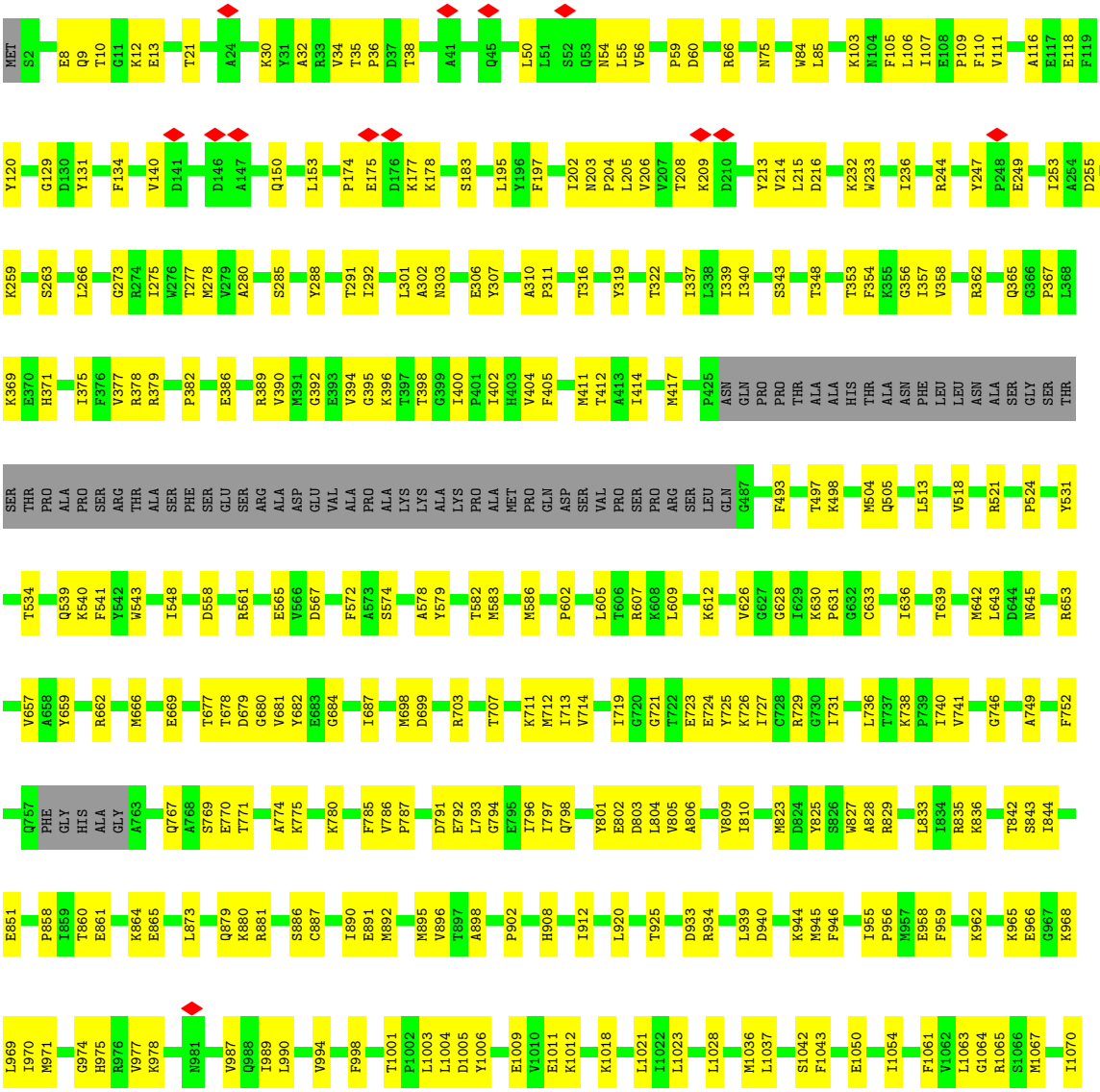
Mol	Chain	Residues	Atoms		AltConf
7	A	35	Total	O	0
			35	35	
7	B	47	Total	O	0
			47	47	
7	C	37	Total	O	0
			37	37	
7	D	43	Total	O	0
			43	43	

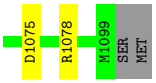
3 Residue-property plots (i)

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: ATP-citrate synthase

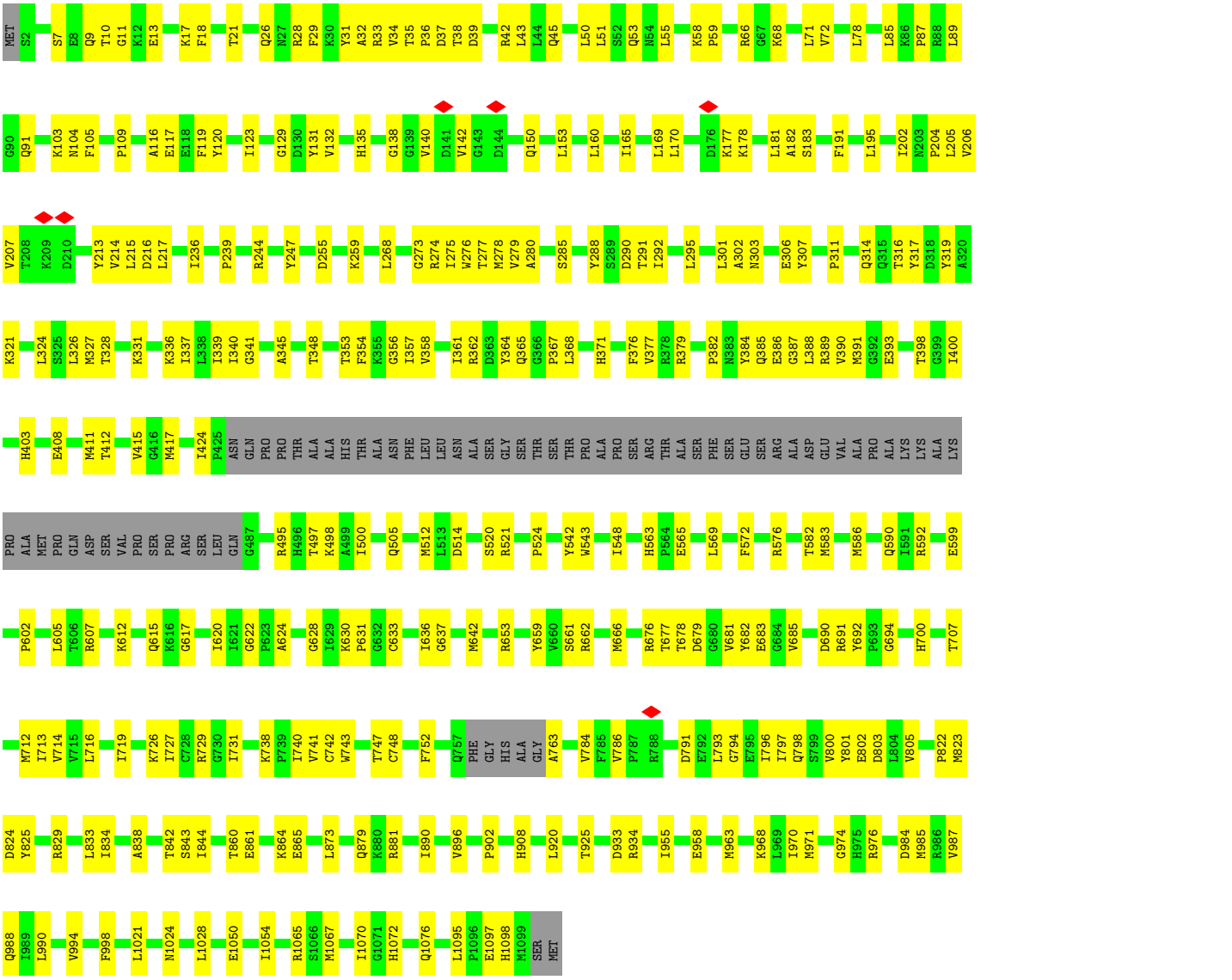
Chain A:





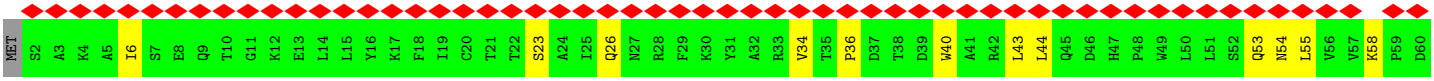
• Molecule 1: ATP-citrate synthase

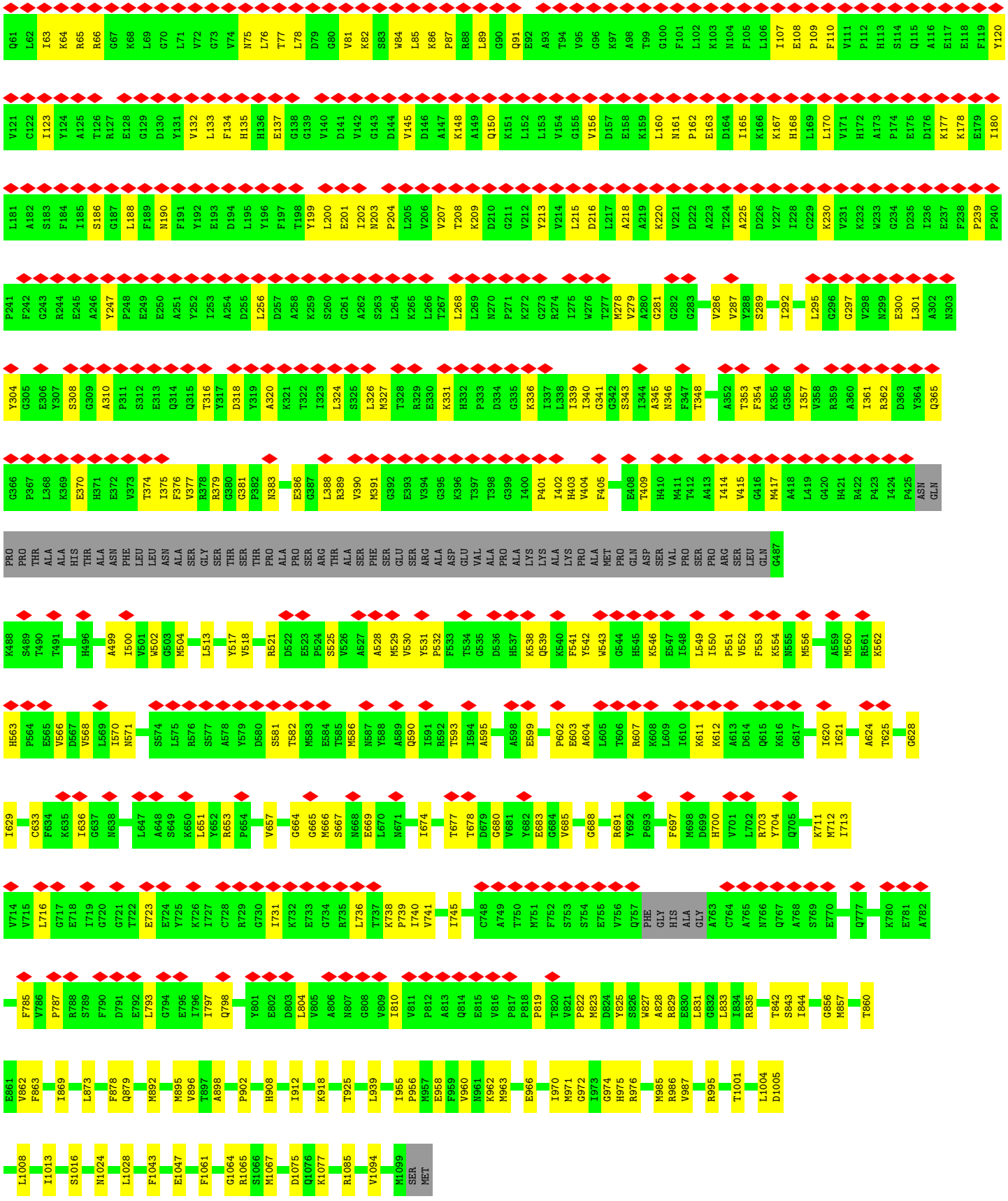
Chain B:



• Molecule 1: ATP-citrate synthase

Chain C:

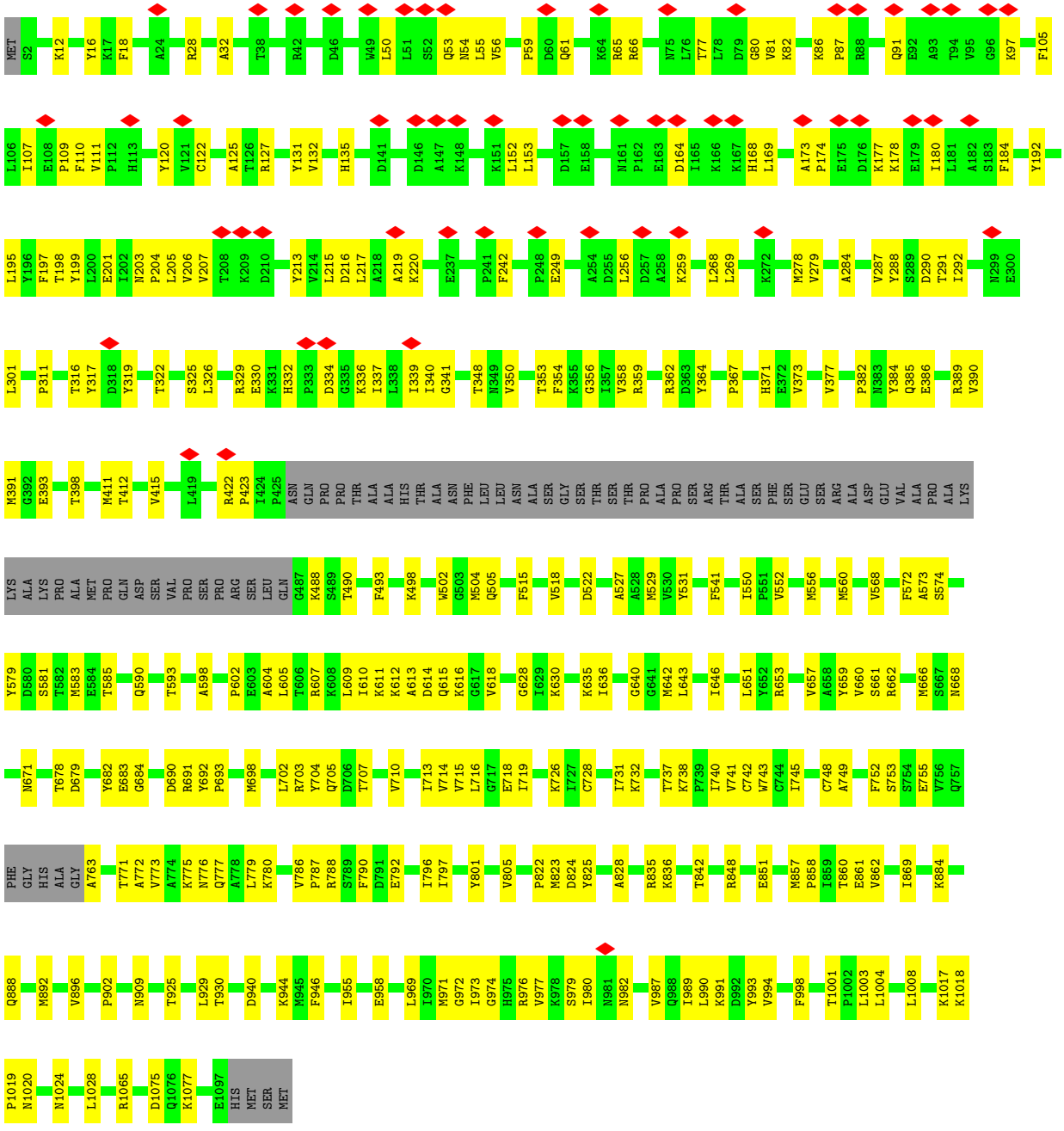




• Molecule 1: ATP-citrate synthase

Chain D:


5%
67%
27%
6%


MET S2 K12 Y16 K17 F18 A24 R28 A32 T38 R42 D46 W49 L50 L51 S52 Q53 N54 L55 V56 P59 D60 Q61 K64 R65 R66 M75 L76 T77 L78 D79 G80 V81 K82 K86 P87 R88 Q91 E92 A93 T94 V95 G96 K97 F105
L106 I107 E108 P109 F110 V111 P112 H113 Y120 V121 C122 A125 T126 R127 Y131 V132 H135 D141 D146 A147 K148 K151 L152 L153 D157 E158 N161 P162 E163 D164 I165 K166 K167 H168 L169 A173 P174 E175 D176 K177 K178 E179 I180 L181 A182 S183 F184 Y192
L195 Y196 F197 T198 Y199 L200 E201 I202 N203 P204 L205 V206 V207 T208 K209 D210 Y213 V214 L215 D216 L217 A218 A219 K220 E237 P241 F242 P248 E249 A254 D255 L256 D257 A258 K259 L268 L269 K272 M278 V279 A284 V287 Y288 S289 D290 T291 I292 N299 E300
L301 P311 T316 Y317 D318 Y319 T322 S325 L326 R329 E330 K331 H332 P333 D334 G335 K336 I337 L338 I339 I340 G341 T348 N349 V350 T353 F354 K355 G356 I357 V358 R359 R362 D363 Y364 P367 H371 E372 V373 V377 P382 N383 Y384 Q385 E386 R389 V390
M391 G392 E393 T398 M411 T412 V415 L419 R422 P423 I424 P425 ASN GLN PRO PRO THR ALA ALA HIS THR ALA ASN PHE LEU LEU ASN ALA SER GLY SER THR SER THR PRO ALA PRO SER ARG THR ALA SER PHE SER GLU SER ARG ALA ASP GLU VAL ALA PRO ALA LYS
LYS ALA LYS PRO ALA MET PRO GLN ASP SER VAL PRO SER PRO ARG SER LEU GLN G487 K488 S489 T490 F493 K498 W502 G503 M504 Q505 F515 V518 D522 A527 A528 M529 V530 Y531 F541 I550 P551 V552 M556 M560 V568 F572 A573 S574
Y579 D580 S581 T582 M583 E584 T585 Q590 T593 A598 P602 E603 A604 L605 T606 R607 K608 L609 I610 K611 K612 A613 D614 Q615 K616 G617 V618 G628 I629 K630 K635 I636 G640 G641 M642 L643 I646 L651 Y652 R653 V657 A658 Y659 V660 S661 R662 M666 S667 N668
N671 T678 D679 Y682 E683 G684 D690 R691 Y692 P693 M698 L702 R703 Y704 Q705 D706 T707 V710 I713 V714 V715 L716 G717 E718 I719 K726 I727 C728 I731 K732 T737 K738 P739 I740 V741 C742 W743 C744 I745 C748 A749 F752 S753 S754 E755 V756 Q757
PHE GLY HIS ALA GLY A763 T771 A772 V773 A774 K775 N776 Q777 A778 L779 K780 V786 P787 R788 S789 F790 D791 E792 I796 I797 Y801 V805 P822 M823 D824 Y825 A828 R835 K836 T842 R848 E851 M857 P858 I859 T860 E861 V862 I869 K884
Q888 M892 V896 P902 N909 T925 L929 T930 D940 K944 M945 F946 I965 E958 L969 I970 M971 G972 I973 G974 H975 R976 V977 K978 S979 I980 N981 N982 V987 Q988 I989 L990 K991 D992 Y993 V994 F998 T1001 P1002 L1003 L1004 L1008 K1017 K1018
P1019 N1020 N1024 L1028 R1065 D1075 Q1076 K1077 E1097 HIS MET SER MET

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	237362	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)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	3.024	Depositor
Minimum map value	-1.514	Depositor
Average map value	0.011	Depositor
Map value standard deviation	0.157	Depositor
Recommended contour level	0.2	Depositor
Map size (Å)	182.59999, 182.59999, 182.59999	wwPDB
Map dimensions	220, 220, 220	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.83, 0.83, 0.83	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: UNL, ADP, Q5B, COA, FLC

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	0/8167	0.34	0/11054
1	B	0.17	0/8167	0.35	0/11054
1	C	0.13	0/8167	0.31	0/11054
1	D	0.15	0/8151	0.33	0/11032
All	All	0.15	0/32652	0.33	0/44194

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

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	7989	0	8040	222	0
1	B	7989	0	8040	208	0
1	C	7989	0	8040	201	0
1	D	7974	0	8031	210	0
2	A	27	0	12	6	0
2	B	27	0	12	2	0
2	D	27	0	12	2	0
3	A	60	0	0	1	0
3	B	60	0	0	3	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	D	60	0	0	1	0
4	A	13	0	5	1	0
4	B	13	0	5	1	0
4	C	13	0	5	1	0
4	D	13	0	5	1	0
5	A	1	0	0	0	0
5	C	1	0	0	0	0
6	A	48	0	32	4	0
6	B	48	0	32	3	0
6	C	96	0	64	11	0
7	A	35	0	0	0	0
7	B	47	0	0	0	0
7	C	37	0	0	1	0
7	D	43	0	0	0	0
All	All	32610	0	32335	804	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 12.

All (804) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:279:VAL:HG12	1:D:341:GLY:H	1.36	0.89
1:C:1085:ARG:HE	6:C:2102:COA:H62A	1.21	0.86
1:A:719:ILE:HD11	1:A:746:GLY:HA3	1.59	0.83
1:D:316:THR:HG21	1:D:353:THR:HA	1.60	0.82
1:C:835:ARG:HG3	1:D:822:PRO:HB2	1.62	0.81
1:A:316:THR:HG21	1:A:353:THR:HA	1.61	0.81
1:C:541:PHE:HA	1:D:835:ARG:HH22	1.46	0.80
1:B:268:LEU:HD11	1:B:326:LEU:HD11	1.65	0.79
1:D:55:LEU:HD21	1:D:107:ILE:HD12	1.65	0.78
1:D:583:MET:HE2	1:D:609:LEU:HD23	1.67	0.76
1:C:538:LYS:HB3	1:C:549:LEU:HB3	1.68	0.76
1:C:316:THR:HG21	1:C:353:THR:HA	1.65	0.75
1:C:713:ILE:HB	1:C:740:ILE:HG12	1.69	0.75
1:D:1065:ARG:HH22	4:D:1203:FLC:HA2	1.52	0.74
1:B:275:ILE:HG23	1:B:337:ILE:HD11	1.67	0.74
1:D:125:ALA:HB1	1:D:607:ARG:HH22	1.53	0.73
1:C:54:ASN:HD21	1:C:75:ASN:HA	1.53	0.72
1:D:490:THR:HA	1:D:703:ARG:HG2	1.71	0.72
1:A:1078:ARG:HH22	1:C:1047:GLU:HG2	1.54	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:540:LYS:NZ	1:B:838:ALA:O	2.20	0.71
1:D:611:LYS:O	1:D:615:GLN:NE2	2.22	0.71
1:C:896:VAL:HG13	1:C:986:ARG:HD2	1.71	0.71
1:D:773:VAL:O	1:D:777:GLN:NE2	2.23	0.71
1:C:628:GLY:H	1:C:636:ILE:HB	1.54	0.71
1:D:698:MET:HG2	1:D:726:LYS:HE3	1.71	0.71
1:C:170:LEU:HD23	1:C:178:LYS:HG3	1.73	0.70
1:A:1054:ILE:HD12	1:C:1077:LYS:HB3	1.74	0.69
1:C:374:THR:HG23	1:C:401:PRO:HB2	1.74	0.69
1:A:825:TYR:OH	1:A:829:ARG:NH1	2.23	0.69
1:A:583:MET:HE2	1:A:609:LEU:HD23	1.74	0.69
1:B:712:MET:HE1	1:B:797:ILE:HG23	1.72	0.69
1:C:199:TYR:HB3	1:C:220:LYS:HB2	1.74	0.69
1:B:825:TYR:OH	1:B:829:ARG:NH1	2.25	0.69
1:A:497:THR:O	1:A:521:ARG:NH2	2.26	0.68
1:A:50:LEU:HD12	1:A:55:LEU:HD21	1.74	0.68
1:D:382:PRO:HB3	1:D:642:MET:HE3	1.74	0.68
1:A:823:MET:HE1	1:A:833:LEU:HD12	1.75	0.68
1:C:354:PHE:HD1	1:C:391:MET:HE3	1.57	0.68
1:A:835:ARG:HG2	1:B:542:TYR:CE2	2.28	0.67
1:B:87:PRO:O	1:B:91:GLN:NE2	2.26	0.67
1:B:202:ILE:HG23	1:B:214:VAL:HG23	1.76	0.67
1:C:343:SER:O	1:C:379:ARG:NH1	2.25	0.67
1:D:59:PRO:HD2	1:D:66:ARG:HD3	1.77	0.67
1:B:1065:ARG:HH22	4:B:1203:FLC:HA2	1.59	0.67
3:B:1202:Q5B:N4	1:D:973:ILE:O	2.28	0.67
1:C:739:PRO:HG2	1:C:804:LEU:HD21	1.76	0.67
1:D:53:GLN:HE21	1:D:109:PRO:HB3	1.59	0.67
1:D:780:LYS:HE3	1:D:786:VAL:HB	1.77	0.66
1:B:497:THR:O	1:B:521:ARG:NH2	2.29	0.66
1:C:177:LYS:HD2	1:C:207:VAL:HG13	1.76	0.66
1:D:787:PRO:HG3	1:D:796:ILE:HD11	1.78	0.66
1:C:571:ASN:ND2	1:C:581:SER:OG	2.29	0.66
1:C:500:ILE:HG13	1:C:566:VAL:HG11	1.78	0.65
1:C:340:ILE:HD11	1:C:377:VAL:HG12	1.76	0.65
1:D:979:SER:HB2	1:D:1019:PRO:HB2	1.77	0.65
1:C:84:TRP:HE3	1:C:85:LEU:HD22	1.61	0.65
1:D:354:PHE:HE1	1:D:391:MET:HB2	1.60	0.65
1:A:310:ALA:H	1:A:348:THR:HG22	1.61	0.65
1:A:626:VAL:HG13	1:A:639:THR:HG22	1.79	0.65
1:C:1001:THR:HB	1:C:1004:LEU:HB3	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:726:LYS:HA	1:A:729:ARG:HG2	1.80	0.64
1:C:331:LYS:NZ	1:C:370:GLU:O	2.30	0.64
1:A:602:PRO:HG2	1:A:605:LEU:HD12	1.77	0.64
1:B:974:GLY:O	1:B:1024:ASN:ND2	2.22	0.64
1:B:39:ASP:HB3	1:B:42:ARG:HD2	1.79	0.64
1:C:995:ARG:NH2	1:C:1005:ASP:OD1	2.27	0.64
1:A:582:THR:HG22	1:A:586:MET:HE2	1.79	0.64
1:C:741:VAL:HG22	1:C:785:PHE:HB2	1.79	0.64
1:C:985:MET:HE3	1:C:985:MET:HA	1.80	0.63
1:A:835:ARG:NH2	1:B:514:ASP:OD1	2.30	0.63
1:C:995:ARG:HH21	1:C:1008:LEU:HD12	1.62	0.63
1:B:13:GLU:O	1:B:17:LYS:HG3	1.98	0.63
1:D:560:MET:SD	1:D:590:GLN:NE2	2.70	0.63
1:B:512:MET:HE2	1:B:637:GLY:H	1.63	0.63
1:A:987:VAL:HG13	1:A:1028:LEU:HD22	1.81	0.63
1:B:58:LYS:NZ	1:B:215:LEU:O	2.32	0.62
1:D:493:PHE:O	1:D:630:LYS:NZ	2.27	0.62
1:A:653:ARG:NH2	1:A:679:ASP:O	2.31	0.62
1:B:833:LEU:HD12	1:B:834:ILE:HG12	1.81	0.62
1:A:367:PRO:O	1:A:371:HIS:ND1	2.32	0.62
1:B:521:ARG:NH1	1:B:633:CYS:O	2.32	0.62
1:B:971:MET:HA	6:B:1204:COA:H62	1.82	0.62
1:D:336:LYS:HD2	1:D:371:HIS:HB3	1.80	0.62
1:B:120:TYR:HB3	1:B:135:HIS:HB3	1.82	0.62
1:B:68:LYS:HZ2	1:B:140:VAL:HG12	1.64	0.62
1:B:204:PRO:HB2	1:B:215:LEU:HB2	1.82	0.62
1:C:26:GLN:HB2	1:C:213:TYR:HE1	1.64	0.62
1:A:358:VAL:HG13	1:A:394:VAL:HG11	1.81	0.62
1:B:277:THR:HG22	1:B:339:ILE:HB	1.82	0.62
1:A:724:GLU:HB2	1:A:775:LYS:HE2	1.83	0.61
1:C:653:ARG:HH12	1:C:680:GLY:HA3	1.65	0.61
1:A:253:ILE:HD11	1:A:322:THR:HG21	1.81	0.61
1:A:558:ASP:OD1	1:A:561:ARG:NH2	2.34	0.61
1:A:707:THR:O	1:A:738:LYS:NZ	2.33	0.61
1:D:772:ALA:O	1:D:776:ASN:ND2	2.33	0.61
1:B:150:GLN:HG2	1:B:169:LEU:HA	1.82	0.61
1:C:354:PHE:HA	1:C:357:ILE:HG12	1.82	0.61
1:A:940:ASP:OD2	1:A:944:LYS:NZ	2.33	0.61
1:D:177:LYS:HD2	1:D:207:VAL:HG13	1.83	0.60
1:D:350:VAL:HG23	1:D:382:PRO:HD2	1.83	0.60
1:A:116:ALA:O	1:A:177:LYS:NZ	2.33	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:521:ARG:NH1	1:C:633:CYS:O	2.31	0.60
1:A:896:VAL:HG21	1:A:990:LEU:HD11	1.83	0.60
1:B:7:SER:HB3	1:B:239:PRO:HG3	1.83	0.60
1:B:412:THR:HG21	1:B:791:ASP:HA	1.83	0.60
1:D:54:ASN:HB3	1:D:110:PHE:HB3	1.83	0.60
1:D:581:SER:O	1:D:585:THR:HG23	2.00	0.60
1:D:991:LYS:HB2	1:D:1028:LEU:HD11	1.83	0.60
1:C:987:VAL:HG13	1:C:1028:LEU:HD22	1.82	0.60
1:B:411:MET:HE1	1:B:666:MET:HE1	1.82	0.60
1:B:691:ARG:NH1	1:B:692:TYR:OH	2.35	0.60
1:A:721:GLY:N	1:A:770:GLU:OE1	2.34	0.60
1:D:851:GLU:HG2	1:D:858:PRO:HB3	1.84	0.60
1:B:563:HIS:O	1:B:590:GLN:NE2	2.34	0.59
1:A:802:GLU:HA	1:A:805:VAL:HG22	1.84	0.59
1:C:256:LEU:HD21	1:C:318:ASP:HB2	1.83	0.59
1:D:125:ALA:HB1	1:D:607:ARG:NH2	2.16	0.59
1:D:206:VAL:HB	1:D:213:TYR:HB2	1.84	0.59
1:D:502:TRP:CD1	1:D:573:ALA:HB2	2.37	0.59
1:D:713:ILE:HB	1:D:740:ILE:HG12	1.83	0.59
1:D:974:GLY:O	1:D:1024:ASN:ND2	2.27	0.59
1:A:278:MET:HB2	1:A:319:TYR:HE2	1.67	0.59
1:B:9:GLN:HE22	1:B:31:TYR:HE1	1.50	0.59
1:D:77:THR:HG23	1:D:80:GLY:H	1.65	0.59
1:A:369:LYS:NZ	1:A:398:THR:O	2.36	0.59
1:D:354:PHE:CE1	1:D:391:MET:HB2	2.37	0.59
1:A:275:ILE:HG23	1:A:337:ILE:HD11	1.83	0.59
1:B:53:GLN:HE21	1:B:109:PRO:HB3	1.68	0.59
1:B:66:ARG:NH2	1:B:216:ASP:OD1	2.30	0.59
1:B:985:MET:HE2	1:B:985:MET:HA	1.85	0.59
1:C:64:LYS:HG2	1:C:65:ARG:HG3	1.85	0.58
1:C:120:TYR:HB3	1:C:135:HIS:HB3	1.84	0.58
1:B:896:VAL:HG21	1:B:990:LEU:HD11	1.84	0.58
1:D:284:ALA:HA	1:D:666:MET:HE3	1.84	0.58
1:D:287:VAL:HG22	1:D:745:ILE:HG12	1.84	0.58
1:B:382:PRO:HB3	1:B:642:MET:HE3	1.84	0.58
1:C:1065:ARG:HH22	4:C:2103:FLC:HA2	1.69	0.58
1:A:412:THR:HG21	1:A:791:ASP:HA	1.84	0.58
1:A:498:LYS:HD2	1:A:565:GLU:HG3	1.84	0.58
1:B:354:PHE:HA	1:B:357:ILE:HG12	1.85	0.58
1:C:697:PHE:HB2	1:C:723:GLU:HG2	1.85	0.58
1:A:835:ARG:HG3	1:B:822:PRO:HB2	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:974:GLY:O	6:C:2101:COA:H133	2.04	0.58
1:C:568:VAL:HG12	1:C:593:THR:HB	1.86	0.58
1:D:987:VAL:HG13	1:D:1028:LEU:HD13	1.85	0.58
1:A:861:GLU:HA	1:A:864:LYS:HG2	1.85	0.57
1:B:285:SER:HB2	1:B:306:GLU:HB3	1.85	0.57
1:C:55:LEU:HD11	1:C:107:ILE:HD12	1.86	0.57
1:C:53:GLN:HE21	1:C:109:PRO:HB3	1.67	0.57
1:C:731:ILE:HD11	1:C:740:ILE:HD12	1.86	0.57
1:C:268:LEU:HD11	1:C:326:LEU:HD21	1.85	0.57
1:C:513:LEU:HG	1:C:517:TYR:CE2	2.38	0.57
1:C:586:MET:HE1	1:C:620:ILE:HD11	1.86	0.57
1:D:77:THR:O	1:D:81:VAL:N	2.35	0.57
1:B:324:LEU:HB3	1:B:364:TYR:CE2	2.40	0.57
1:C:295:LEU:HD21	1:C:415:VAL:HG12	1.87	0.57
1:D:602:PRO:HG2	1:D:605:LEU:HD12	1.86	0.57
1:B:50:LEU:HD12	1:B:55:LEU:HD21	1.86	0.57
1:C:603:GLU:OE1	1:C:691:ARG:NH2	2.38	0.57
1:A:340:ILE:O	1:A:377:VAL:HA	2.03	0.57
1:C:23:SER:HA	1:C:180:ILE:HD11	1.87	0.57
1:D:199:TYR:O	1:D:219:ALA:HA	2.03	0.57
1:D:604:ALA:HA	1:D:607:ARG:HD3	1.86	0.57
1:B:273:GLY:C	1:B:276:TRP:HE1	2.13	0.56
1:B:311:PRO:HD2	1:B:348:THR:HG23	1.87	0.56
1:A:32:ALA:HB3	1:A:107:ILE:HG13	1.87	0.56
1:A:724:GLU:OE1	1:A:775:LYS:NZ	2.36	0.56
1:B:630:LYS:HG2	1:B:633:CYS:HB2	1.86	0.56
1:D:204:PRO:HD2	1:D:215:LEU:HB2	1.87	0.56
1:B:288:TYR:O	1:B:292:ILE:HG12	2.04	0.56
1:B:273:GLY:HA3	1:B:302:ALA:HB2	1.87	0.56
1:D:278:MET:HG3	1:D:319:TYR:HE2	1.71	0.56
1:D:610:ILE:HD11	1:D:692:TYR:O	2.06	0.56
1:D:976:ARG:HG3	1:D:977:VAL:HG13	1.88	0.56
1:A:34:VAL:HG23	1:A:105:PHE:HB2	1.87	0.56
1:A:405:PHE:HE2	1:A:417:MET:HG3	1.71	0.56
1:B:28:ARG:HG2	1:B:29:PHE:CD2	2.41	0.56
1:D:164:ASP:HA	1:D:168:HIS:HB2	1.88	0.56
1:A:657:VAL:HG22	1:A:712:MET:HB3	1.87	0.56
1:D:823:MET:HE3	1:D:828:ALA:HB2	1.88	0.56
1:C:823:MET:HE3	1:C:827:TRP:CZ3	2.40	0.56
1:C:1085:ARG:NE	6:C:2102:COA:H62A	1.98	0.56
1:B:576:ARG:HD2	1:D:1017:LYS:HE2	1.86	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:860:THR:HG22	1:D:989:ILE:HD11	1.88	0.56
1:C:570:ILE:HD13	1:C:636:ILE:HG23	1.89	0.55
1:A:12:LYS:NZ	1:A:214:VAL:O	2.40	0.55
1:A:962:LYS:HA	1:A:965:LYS:HE2	1.87	0.55
1:B:21:THR:HG1	1:B:183:SER:HG	1.54	0.55
1:D:61:GLN:HE22	1:D:242:PHE:HA	1.71	0.55
1:D:574:SER:OG	3:D:1202:Q5B:O12	2.23	0.55
1:D:659:TYR:HA	1:D:714:VAL:O	2.06	0.55
1:D:1004:LEU:O	1:D:1008:LEU:HG	2.06	0.55
1:C:135:HIS:HE1	1:C:137:GLU:HB3	1.70	0.55
1:A:354:PHE:HA	1:A:357:ILE:HG12	1.88	0.55
1:B:823:MET:HE1	1:B:833:LEU:HD21	1.89	0.55
1:D:707:THR:O	1:D:738:LYS:NZ	2.38	0.55
1:D:660:VAL:HG12	1:D:715:VAL:HG22	1.89	0.55
6:C:2102:COA:H62	1:D:972:GLY:H	1.70	0.55
1:A:278:MET:SD	1:A:340:ILE:HG22	2.46	0.55
1:A:395:GLY:HA3	1:A:402:ILE:HG13	1.89	0.55
1:B:38:THR:OG1	1:B:42:ARG:NH2	2.40	0.55
1:A:851:GLU:HG2	1:A:858:PRO:HB3	1.87	0.55
1:B:742:CYS:SG	1:B:743:TRP:N	2.80	0.55
1:C:1024:ASN:HD22	6:C:2101:COA:HN4	1.55	0.55
1:D:127:ARG:O	1:D:611:LYS:NZ	2.36	0.55
1:D:177:LYS:HA	1:D:180:ILE:HG22	1.89	0.55
1:D:788:ARG:N	1:D:792:GLU:OE2	2.40	0.54
1:A:175:GLU:HA	1:A:178:LYS:HD3	1.89	0.54
1:A:375:ILE:HB	1:A:402:ILE:HD13	1.88	0.54
1:A:677:THR:HB	1:A:798:GLN:HG3	1.89	0.54
1:B:280:ALA:HB2	1:B:307:TYR:CZ	2.42	0.54
1:B:719:ILE:O	1:B:763:ALA:N	2.41	0.54
1:A:843:SER:OG	1:C:1075:ASP:OD1	2.21	0.54
1:D:568:VAL:HG22	1:D:593:THR:HB	1.89	0.54
1:B:36:PRO:HG2	1:B:103:LYS:HD3	1.89	0.54
1:B:291:THR:HB	1:B:415:VAL:HG11	1.88	0.54
1:B:843:SER:HB2	1:D:1075:ASP:OD2	2.07	0.54
1:A:36:PRO:HG2	1:A:103:LYS:HD3	1.90	0.54
1:A:925:THR:HG23	1:C:925:THR:HG23	1.90	0.54
1:B:244:ARG:NE	1:B:247:TYR:OH	2.40	0.54
1:D:311:PRO:HD2	1:D:348:THR:HG23	1.89	0.54
1:A:835:ARG:N	1:B:823:MET:O	2.37	0.54
1:D:718:GLU:O	1:D:775:LYS:NZ	2.35	0.54
1:A:977:VAL:HG23	1:A:978:LYS:HD3	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:165:ILE:HG21	1:B:182:ALA:HA	1.90	0.54
1:D:122:CYS:HA	1:D:201:GLU:HG3	1.89	0.54
1:A:9:GLN:NE2	1:A:60:ASP:OD2	2.41	0.54
1:A:543:TRP:HB2	1:A:548:ILE:HD13	1.90	0.54
1:A:804:LEU:HD12	1:A:809:VAL:HG11	1.90	0.53
1:B:206:VAL:HG23	1:B:213:TYR:HB2	1.89	0.53
1:B:592:ARG:NH2	1:B:617:GLY:O	2.42	0.53
1:B:1054:ILE:HD12	1:D:1077:LYS:HB3	1.90	0.53
1:D:728:CYS:O	1:D:732:LYS:HG2	2.08	0.53
1:A:630:LYS:HG2	1:A:633:CYS:HB2	1.90	0.53
1:A:793:LEU:O	1:A:796:ILE:HG22	2.08	0.53
1:C:517:TYR:OH	1:C:543:TRP:HA	2.08	0.53
1:C:562:LYS:HD2	1:C:563:HIS:ND1	2.24	0.53
1:A:574:SER:OG	3:A:1202:Q5B:O12	2.20	0.53
1:A:886:SER:OG	1:A:1036:MET:SD	2.67	0.53
1:A:975:HIS:NE2	1:A:978:LYS:HE2	2.23	0.53
1:B:307:TYR:HD2	1:B:311:PRO:HG3	1.73	0.53
3:B:1202:Q5B:C10	1:D:969:LEU:HD22	2.39	0.53
1:C:188:LEU:HD21	1:C:200:LEU:HD22	1.89	0.53
1:D:55:LEU:HD13	1:D:81:VAL:HG21	1.90	0.53
1:A:9:GLN:HG2	1:A:106:LEU:HD21	1.90	0.53
1:A:513:LEU:HD22	1:A:524:PRO:HB3	1.90	0.53
1:A:971:MET:HA	6:A:1205:COA:H61	1.89	0.53
1:D:612:LYS:HE2	1:D:616:LYS:HE2	1.90	0.53
1:A:713:ILE:HB	1:A:740:ILE:HG12	1.89	0.53
1:B:45:GLN:OE1	1:B:45:GLN:N	2.37	0.53
1:C:517:TYR:OH	1:C:542:TYR:O	2.26	0.53
1:D:888:GLN:O	1:D:892:MET:HG3	2.09	0.53
1:A:129:GLY:O	1:A:607:ARG:NH1	2.42	0.52
1:A:288:TYR:O	1:A:292:ILE:HG12	2.09	0.52
1:B:377:VAL:HG11	1:B:391:MET:HE1	1.91	0.52
1:C:375:ILE:HB	1:C:402:ILE:HD13	1.91	0.52
1:C:823:MET:HE1	1:C:833:LEU:HD12	1.91	0.52
1:B:861:GLU:HA	1:B:864:LYS:HG2	1.92	0.52
1:D:65:ARG:NH2	2:D:1201:ADP:O3B	2.43	0.52
1:D:657:VAL:HG21	1:D:678:THR:HG21	1.92	0.52
1:A:628:GLY:H	1:A:636:ILE:HB	1.75	0.52
1:B:963:MET:HE1	1:B:968:LYS:HE2	1.91	0.52
1:C:345:ALA:HB3	1:C:381:GLY:HA3	1.91	0.52
1:D:292:ILE:HA	1:D:415:VAL:HG21	1.92	0.52
1:A:378:ARG:HB2	1:A:414:ILE:HD11	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:835:ARG:HB2	1:B:824:ASP:HA	1.92	0.52
1:B:177:LYS:HD2	1:B:207:VAL:HG13	1.91	0.52
1:C:543:TRP:HB3	1:C:546:LYS:HE3	1.90	0.52
1:A:263:SER:O	1:A:307:TYR:HA	2.10	0.52
1:A:362:ARG:O	1:A:365:GLN:NE2	2.38	0.52
1:A:711:LYS:HG3	1:A:810:ILE:HG12	1.92	0.52
1:B:295:LEU:HD12	1:B:415:VAL:HG22	1.91	0.52
1:D:16:TYR:O	1:D:28:ARG:NH1	2.43	0.52
1:A:277:THR:O	1:A:303:ASN:ND2	2.42	0.52
1:A:316:THR:HG23	1:A:356:GLY:HA3	1.91	0.52
1:A:966:GLU:HG2	1:A:968:LYS:HE3	1.90	0.52
1:B:364:TYR:HE2	1:B:368:LEU:HD12	1.75	0.52
1:B:628:GLY:H	1:B:636:ILE:HB	1.74	0.52
1:C:40:TRP:O	1:C:44:LEU:HD12	2.10	0.52
1:D:268:LEU:HD21	1:D:326:LEU:HD21	1.91	0.52
1:D:412:THR:O	1:D:415:VAL:HG12	2.09	0.52
1:B:123:ILE:HG12	1:B:132:VAL:HG22	1.90	0.52
1:C:625:THR:HB	1:C:688:GLY:HA2	1.92	0.52
1:A:66:ARG:NE	2:A:1201:ADP:O1B	2.43	0.52
1:D:269:LEU:HD21	1:D:753:SER:H	1.73	0.51
1:D:386:GLU:HA	1:D:389:ARG:HG2	1.92	0.51
1:A:140:VAL:HG13	2:A:1201:ADP:H5'1	1.91	0.51
1:C:500:ILE:HG12	1:C:528:ALA:HB3	1.92	0.51
1:C:586:MET:HG3	1:C:612:LYS:HD3	1.92	0.51
1:B:602:PRO:HG2	1:B:605:LEU:HD12	1.93	0.51
1:B:987:VAL:HG13	1:B:1028:LEU:HD13	1.93	0.51
1:A:1018:LYS:NZ	6:A:1205:COA:O5B	2.43	0.51
1:C:87:PRO:O	1:C:91:GLN:NE2	2.44	0.51
1:D:884:LYS:O	1:D:888:GLN:HG2	2.10	0.51
1:A:631:PRO:HG2	1:A:681:VAL:O	2.10	0.51
1:A:892:MET:HG2	1:C:863:PHE:HE1	1.76	0.51
1:D:12:LYS:HD3	1:D:217:LEU:HD11	1.92	0.51
1:B:316:THR:HG23	1:B:356:GLY:HA3	1.93	0.51
1:D:288:TYR:HE1	1:D:412:THR:HA	1.75	0.51
1:A:698:MET:HE1	1:A:727:ILE:HG13	1.93	0.51
1:A:989:ILE:HD11	1:C:860:THR:HG22	1.93	0.51
1:B:116:ALA:O	1:B:177:LYS:NZ	2.34	0.51
1:C:343:SER:HB3	1:C:669:GLU:HB2	1.93	0.51
1:C:278:MET:HE3	1:C:340:ILE:HG21	1.91	0.51
1:B:58:LYS:HG2	1:B:72:VAL:HG23	1.92	0.51
1:B:277:THR:O	1:B:303:ASN:ND2	2.29	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:199:TYR:HB3	1:D:220:LYS:HB2	1.92	0.51
1:D:362:ARG:NH2	1:D:398:THR:HB	2.26	0.51
1:A:698:MET:HG2	1:A:723:GLU:OE2	2.11	0.50
1:C:962:LYS:O	1:C:966:GLU:HG3	2.11	0.50
1:D:518:VAL:HG11	1:D:643:LEU:HD11	1.93	0.50
1:A:120:TYR:HD2	1:A:203:ASN:HB2	1.76	0.50
1:A:975:HIS:HD2	1:A:978:LYS:H	1.60	0.50
1:A:1009:GLU:HA	1:A:1012:LYS:HG2	1.93	0.50
1:B:181:LEU:HD11	1:B:207:VAL:HG11	1.92	0.50
1:B:612:LYS:HA	1:B:615:GLN:HG2	1.93	0.50
1:B:902:PRO:HG3	1:D:842:THR:HG21	1.93	0.50
1:D:743:TRP:HE1	1:D:745:ILE:HD13	1.75	0.50
1:C:167:LYS:O	1:C:168:HIS:ND1	2.43	0.50
1:D:493:PHE:HB2	1:D:630:LYS:HE2	1.92	0.50
1:A:504:MET:HG2	1:A:531:TYR:CG	2.47	0.50
1:B:933:ASP:OD1	1:B:934:ARG:N	2.43	0.50
1:D:668:ASN:HA	1:D:671:ASN:HD22	1.75	0.50
1:B:408:GLU:HA	1:B:676:ARG:HH22	1.77	0.50
1:C:354:PHE:CE2	1:C:379:ARG:HG2	2.47	0.50
1:A:505:GLN:HG3	1:A:572:PHE:CG	2.47	0.50
1:A:908:HIS:CE1	1:A:912:ILE:HD11	2.47	0.50
1:B:1097:GLU:HG2	1:B:1098:HIS:N	2.27	0.50
1:C:386:GLU:O	1:C:390:VAL:HG23	2.11	0.50
1:D:32:ALA:HB3	1:D:107:ILE:HB	1.93	0.50
1:D:653:ARG:NH1	1:D:679:ASP:O	2.44	0.50
1:C:225:ALA:HB2	1:C:602:PRO:HB3	1.93	0.50
1:C:657:VAL:HG12	1:C:712:MET:HB3	1.94	0.50
1:D:66:ARG:NH1	1:D:216:ASP:OD1	2.45	0.50
1:A:288:TYR:HA	1:A:291:THR:HG22	1.93	0.49
1:A:1075:ASP:OD1	1:C:843:SER:OG	2.27	0.49
1:B:274:ARG:HG3	1:B:336:LYS:HA	1.94	0.49
1:B:865:GLU:OE1	1:B:881:ARG:NH2	2.46	0.49
1:B:690:ASP:OD1	1:B:691:ARG:N	2.44	0.49
1:D:857:MET:HE2	1:D:862:VAL:HA	1.94	0.49
1:B:317:TYR:CE1	1:B:321:LYS:HE2	2.47	0.49
1:D:909:ASN:OD1	1:D:930:THR:HG21	2.12	0.49
1:B:398:THR:HG23	1:B:400:ILE:HG12	1.94	0.49
1:C:362:ARG:O	1:C:365:GLN:NE2	2.39	0.49
1:A:66:ARG:HE	2:A:1201:ADP:PB	2.36	0.49
1:A:288:TYR:CZ	1:A:292:ILE:HD11	2.48	0.49
1:C:629:ILE:HD13	1:C:651:LEU:HD13	1.93	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:844:ILE:HG22	1:B:879:GLN:OE1	2.12	0.49
1:C:54:ASN:HB3	1:C:110:PHE:HB3	1.95	0.49
1:C:135:HIS:CE1	1:C:137:GLU:HB3	2.47	0.49
1:C:502:TRP:NE1	1:C:556:MET:SD	2.73	0.49
1:C:383:ASN:HB2	1:C:827:TRP:HE1	1.76	0.49
1:B:653:ARG:NH2	1:B:679:ASP:O	2.44	0.48
1:D:82:LYS:O	1:D:86:LYS:NZ	2.44	0.48
1:D:640:GLY:HA2	1:D:668:ASN:OD1	2.13	0.48
1:D:127:ARG:NH2	1:D:693:PRO:O	2.45	0.48
1:D:573:ALA:O	1:D:598:ALA:HB2	2.13	0.48
1:B:129:GLY:O	1:B:607:ARG:NH1	2.46	0.48
1:B:800:VAL:O	1:B:803:ASP:HB3	2.13	0.48
1:C:346:ASN:ND2	1:C:665:GLY:HA2	2.29	0.48
1:C:844:ILE:HG22	1:C:879:GLN:OE1	2.14	0.48
1:D:256:LEU:HA	1:D:259:LYS:HG2	1.95	0.48
1:A:405:PHE:CE2	1:A:417:MET:HG3	2.47	0.48
1:B:976:ARG:HD2	6:B:1204:COA:H2B	1.95	0.48
1:C:281:GLY:HA2	1:C:308:SER:HB3	1.95	0.48
1:D:630:LYS:HD3	1:D:683:GLU:OE1	2.13	0.48
1:D:741:VAL:HG11	1:D:797:ILE:HG12	1.95	0.48
1:A:202:ILE:HG22	1:A:205:LEU:HB2	1.94	0.48
1:A:208:THR:HG22	1:A:209:LYS:H	1.79	0.48
1:C:63:ILE:HB	1:C:66:ARG:HE	1.79	0.48
1:D:288:TYR:O	1:D:292:ILE:HG13	2.14	0.48
1:D:994:VAL:HG13	1:D:998:PHE:CD2	2.48	0.48
1:A:771:THR:O	1:A:775:LYS:HG2	2.14	0.48
1:C:986:ARG:NH1	7:C:2202:HOH:O	2.47	0.48
1:D:364:TYR:CZ	1:D:367:PRO:HG2	2.48	0.48
1:A:955:ILE:HG13	1:A:958:GLU:H	1.79	0.48
1:C:36:PRO:HG3	1:C:89:LEU:HD21	1.94	0.48
1:C:414:ILE:HA	1:C:417:MET:HE2	1.95	0.48
1:D:249:GLU:OE2	1:D:325:SER:OG	2.32	0.48
1:A:933:ASP:OD1	1:A:934:ARG:N	2.46	0.48
1:B:202:ILE:HG21	1:B:205:LEU:HD12	1.96	0.48
1:B:842:THR:HG21	1:D:902:PRO:HG3	1.96	0.48
1:C:76:LEU:HD23	1:C:81:VAL:HA	1.95	0.48
1:D:788:ARG:HG2	1:D:792:GLU:OE2	2.14	0.48
1:A:195:LEU:HD13	1:A:232:LYS:HG2	1.95	0.47
1:A:204:PRO:HB2	1:A:215:LEU:HD22	1.95	0.47
1:A:994:VAL:HG13	1:A:998:PHE:CD2	2.49	0.47
1:D:120:TYR:HB3	1:D:135:HIS:HB3	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:134:PHE:O	1:A:150:GLN:HB3	2.14	0.47
1:A:657:VAL:HG21	1:A:678:THR:HG21	1.96	0.47
1:B:599:GLU:HG3	1:B:624:ALA:HA	1.97	0.47
1:D:18:PHE:HD2	1:D:195:LEU:HD21	1.79	0.47
1:D:340:ILE:O	1:D:377:VAL:HA	2.14	0.47
1:A:244:ARG:HE	1:A:247:TYR:HE1	1.62	0.47
1:B:255:ASP:O	1:B:259:LYS:HG2	2.13	0.47
1:C:188:LEU:HD11	1:C:202:ILE:HD12	1.95	0.47
1:A:21:THR:HG1	1:A:183:SER:HG	1.62	0.47
1:A:120:TYR:CD2	1:A:203:ASN:HB2	2.49	0.47
1:A:803:ASP:O	1:A:806:ALA:HB3	2.13	0.47
1:B:793:LEU:O	1:B:796:ILE:HG22	2.15	0.47
1:C:504:MET:HE3	1:C:531:TYR:HE1	1.79	0.47
1:D:896:VAL:HG21	1:D:990:LEU:HD11	1.95	0.47
1:A:273:GLY:HA3	1:A:302:ALA:HB2	1.96	0.47
1:A:719:ILE:HG12	1:A:749:ALA:HB2	1.97	0.47
1:A:873:LEU:HD22	1:A:890:ILE:HG21	1.96	0.47
1:B:191:PHE:CE1	1:B:195:LEU:HD12	2.49	0.47
1:B:1067:MET:HE1	1:D:869:ILE:HG23	1.96	0.47
1:C:704:TYR:O	1:C:738:LYS:NZ	2.47	0.47
1:C:963:MET:HG3	1:C:970:ILE:HG12	1.97	0.47
1:D:174:PRO:CG	1:D:177:LYS:HE3	2.44	0.47
1:D:504:MET:HG2	1:D:531:TYR:CG	2.50	0.47
1:B:345:ALA:HB3	1:B:382:PRO:HD2	1.96	0.47
1:D:173:ALA:O	1:D:178:LYS:HE3	2.15	0.47
1:A:377:VAL:HG13	1:A:404:VAL:HA	1.97	0.47
1:A:842:THR:HG21	1:C:902:PRO:HG3	1.95	0.47
1:B:59:PRO:HG3	1:B:71:LEU:HB3	1.96	0.47
1:B:630:LYS:HD2	1:B:683:GLU:HG3	1.97	0.47
1:C:354:PHE:CD1	1:C:391:MET:HE3	2.45	0.47
1:C:376:PHE:HD1	1:C:403:HIS:HB2	1.79	0.47
1:C:787:PRO:HG3	1:C:793:LEU:HA	1.97	0.47
1:B:631:PRO:HG2	1:B:681:VAL:O	2.15	0.47
1:A:307:TYR:HD2	1:A:311:PRO:HG3	1.79	0.47
1:A:771:THR:HG23	1:A:774:ALA:H	1.80	0.47
1:A:920:LEU:HD11	1:A:1070:ILE:HG23	1.97	0.47
1:B:387:GLY:HA2	1:B:390:VAL:HG12	1.96	0.47
1:C:156:VAL:HB	1:C:611:LYS:HD2	1.97	0.47
1:C:543:TRP:O	1:C:546:LYS:HG3	2.15	0.47
1:D:77:THR:O	1:D:81:VAL:HG23	2.15	0.47
1:D:111:VAL:HG11	1:D:213:TYR:CE1	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:698:MET:HE3	1:D:702:LEU:HD21	1.97	0.47
1:B:367:PRO:O	1:B:371:HIS:ND1	2.48	0.47
1:B:994:VAL:O	1:B:998:PHE:HB2	2.15	0.47
1:D:268:LEU:HD11	1:D:326:LEU:HD21	1.97	0.47
6:A:1205:COA:H71	6:A:1205:COA:N6A	2.30	0.46
1:B:33:ARG:HE	1:B:104:ASN:ND2	2.14	0.46
6:C:2102:COA:OAP	1:D:974:GLY:HA3	2.16	0.46
1:A:946:PHE:HB3	1:A:1003:LEU:HD11	1.97	0.46
1:D:1018:LYS:HE2	1:D:1020:ASN:OD1	2.16	0.46
1:A:767:GLN:HG2	1:A:769:SER:H	1.80	0.46
1:B:10:THR:HG21	1:B:236:ILE:HG13	1.98	0.46
1:B:32:ALA:HB1	1:B:43:LEU:HD21	1.97	0.46
1:B:659:TYR:HA	1:B:714:VAL:O	2.15	0.46
1:B:677:THR:HB	1:B:798:GLN:HG3	1.98	0.46
1:B:984:ASP:O	1:B:988:GLN:HG2	2.16	0.46
1:C:327:MET:HE3	1:C:336:LYS:HD3	1.97	0.46
1:D:125:ALA:HB3	1:D:198:THR:HG23	1.97	0.46
1:D:336:LYS:O	1:D:373:VAL:HA	2.15	0.46
1:D:719:ILE:HG13	1:D:763:ALA:HA	1.97	0.46
1:C:666:MET:SD	1:C:716:LEU:HD23	2.55	0.46
1:C:685:VAL:HG11	1:C:700:HIS:CE1	2.50	0.46
1:C:835:ARG:NH2	1:D:824:ASP:OD1	2.49	0.46
1:C:908:HIS:O	1:C:912:ILE:HG12	2.16	0.46
1:B:42:ARG:NH1	1:B:43:LEU:HB2	2.30	0.46
1:B:582:THR:HG22	1:B:586:MET:HE3	1.96	0.46
1:C:664:GLY:O	1:C:667:SER:OG	2.24	0.46
1:D:505:GLN:HG3	1:D:572:PHE:CG	2.50	0.46
1:D:749:ALA:HA	1:D:755:GLU:HG3	1.98	0.46
1:A:131:TYR:CE1	1:A:153:LEU:HD13	2.51	0.46
1:C:712:MET:HE1	1:C:797:ILE:HG23	1.96	0.46
1:A:1063:LEU:HD21	1:C:1067:MET:HG2	1.97	0.46
1:B:390:VAL:O	1:B:393:GLU:HG3	2.16	0.46
1:C:529:MET:HB3	1:C:552:VAL:HG22	1.97	0.46
1:C:731:ILE:HG13	1:C:736:LEU:HD12	1.97	0.46
1:D:152:LEU:HD23	1:D:169:LEU:HD12	1.98	0.46
1:A:659:TYR:CE1	1:A:684:GLY:HA3	2.51	0.46
1:B:389:ARG:NH1	1:B:390:VAL:HB	2.31	0.46
1:C:582:THR:O	1:C:586:MET:HG2	2.16	0.46
1:D:87:PRO:O	1:D:91:GLN:NE2	2.48	0.46
1:D:330:GLU:HG3	1:D:336:LYS:HZ1	1.80	0.46
1:B:955:ILE:HG13	1:B:958:GLU:H	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:677:THR:HB	1:C:798:GLN:HB2	1.98	0.46
1:A:10:THR:HG21	1:A:236:ILE:HG13	1.98	0.46
1:A:66:ARG:N	2:A:1201:ADP:O2B	2.49	0.46
1:A:865:GLU:OE1	1:A:881:ARG:NH1	2.50	0.46
1:B:10:THR:HA	1:B:13:GLU:HG2	1.98	0.46
1:D:337:ILE:HD12	1:D:339:ILE:HD11	1.97	0.46
1:A:780:LYS:HE3	1:A:786:VAL:HG13	1.98	0.45
1:B:42:ARG:HA	1:B:45:GLN:HE22	1.81	0.45
1:B:290:ASP:OD2	1:B:747:THR:N	2.40	0.45
1:B:543:TRP:HB2	1:B:548:ILE:HD13	1.98	0.45
1:B:925:THR:HG23	1:D:925:THR:HG23	1.99	0.45
1:B:17:LYS:HB2	1:B:18:PHE:CD1	2.51	0.45
1:B:368:LEU:HD23	1:B:371:HIS:HB2	1.96	0.45
1:B:500:ILE:O	1:B:569:LEU:HD12	2.16	0.45
1:C:711:LYS:HG3	1:C:810:ILE:HG12	1.98	0.45
1:D:646:ILE:HG23	1:D:651:LEU:HB2	1.97	0.45
1:D:715:VAL:HB	1:D:742:CYS:HB2	1.98	0.45
1:A:195:LEU:HD23	1:A:197:PHE:CZ	2.52	0.45
1:A:288:TYR:CZ	1:A:339:ILE:HG21	2.52	0.45
1:B:379:ARG:HG3	1:B:379:ARG:HH11	1.82	0.45
1:B:622:GLY:HA3	1:B:694:GLY:H	1.80	0.45
1:C:975:HIS:CD2	1:C:976:ARG:H	2.34	0.45
1:B:713:ILE:HB	1:B:740:ILE:HG12	1.98	0.45
1:C:825:TYR:OH	1:C:829:ARG:NH1	2.49	0.45
1:D:317:TYR:HE1	1:D:359:ARG:NH1	2.15	0.45
1:A:518:VAL:HG11	1:A:643:LEU:HD11	1.97	0.45
1:A:787:PRO:HB2	1:A:792:GLU:HG3	1.98	0.45
1:B:726:LYS:HG2	1:B:729:ARG:NH1	2.31	0.45
1:B:920:LEU:HD11	1:B:1070:ILE:HG23	1.97	0.45
1:C:82:LYS:O	1:C:86:LYS:HG2	2.17	0.45
1:C:414:ILE:HG22	1:C:417:MET:HE2	1.98	0.45
1:C:532:PRO:O	1:C:554:LYS:HG3	2.16	0.45
1:D:173:ALA:H	1:D:178:LYS:HE3	1.82	0.45
1:D:384:TYR:CE2	1:D:385:GLN:NE2	2.80	0.45
1:D:386:GLU:O	1:D:390:VAL:HG22	2.17	0.45
1:D:488:LYS:HZ1	1:D:614:ASP:HA	1.81	0.45
1:D:498:LYS:HB3	1:D:527:ALA:HB2	1.99	0.45
1:C:320:ALA:HB2	1:C:357:ILE:HG22	1.98	0.45
1:D:411:MET:HE1	1:D:666:MET:HE1	1.99	0.45
1:D:705:GLN:NE2	1:D:737:THR:OG1	2.41	0.45
1:B:802:GLU:HA	1:B:805:VAL:HG22	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:6:ILE:HA	1:C:239:PRO:HD2	1.99	0.45
1:C:279:VAL:HG22	1:C:341:GLY:H	1.82	0.45
1:C:324:LEU:HD11	1:C:361:ILE:HG22	1.98	0.45
1:D:661:SER:OG	1:D:662:ARG:N	2.50	0.45
1:D:718:GLU:N	1:D:718:GLU:OE1	2.50	0.45
1:A:844:ILE:HG22	1:A:879:GLN:OE1	2.17	0.45
1:B:314:GLN:O	1:B:317:TYR:HB3	2.17	0.45
1:B:666:MET:HB3	1:B:716:LEU:HD23	1.99	0.45
1:B:707:THR:O	1:B:738:LYS:NZ	2.48	0.45
1:C:186:SER:O	1:C:190:ASN:ND2	2.34	0.45
1:D:955:ILE:HG13	1:D:958:GLU:H	1.82	0.45
1:A:887:CYS:O	1:A:891:GLU:HG3	2.17	0.44
1:B:170:LEU:HB3	1:B:178:LYS:HE3	1.98	0.44
1:B:963:MET:HG3	1:B:970:ILE:HG12	1.99	0.44
1:C:54:ASN:OD1	1:C:55:LEU:N	2.46	0.44
1:C:297:GLY:HA2	1:C:300:GLU:HG2	1.99	0.44
1:C:405:PHE:CD2	1:C:409:THR:HG21	2.52	0.44
1:C:827:TRP:O	1:C:831:LEU:HG	2.16	0.44
1:D:278:MET:HB3	1:D:340:ILE:HG22	1.99	0.44
1:D:1001:THR:HB	1:D:1004:LEU:HB3	1.99	0.44
1:A:823:MET:HB3	1:B:834:ILE:HD13	1.99	0.44
1:B:26:GLN:HG2	1:B:213:TYR:HE1	1.81	0.44
1:C:163:GLU:O	1:C:167:LYS:HG2	2.17	0.44
1:C:513:LEU:HG	1:C:517:TYR:HE2	1.83	0.44
1:A:578:ALA:O	1:A:582:THR:OG1	2.27	0.44
1:A:851:GLU:OE2	1:A:860:THR:HG23	2.16	0.44
1:A:956:PRO:HD3	1:A:1006:TYR:CE1	2.52	0.44
1:B:727:ILE:O	1:B:731:ILE:HG13	2.17	0.44
1:D:301:LEU:HD23	1:D:752:PHE:HZ	1.82	0.44
1:D:704:TYR:HB3	1:D:710:VAL:HG11	1.98	0.44
1:A:8:GLU:O	1:A:12:LYS:HG2	2.17	0.44
1:B:339:ILE:HD13	1:B:376:PHE:HB2	2.00	0.44
1:B:524:PRO:HG3	1:B:543:TRP:CE3	2.53	0.44
1:D:731:ILE:HD12	1:D:740:ILE:HD12	1.99	0.44
1:D:787:PRO:HG3	1:D:796:ILE:CD1	2.46	0.44
1:A:30:LYS:HG3	1:A:109:PRO:HD3	2.00	0.44
1:B:631:PRO:HD2	1:B:682:TYR:O	2.17	0.44
1:D:326:LEU:HA	1:D:329:ARG:NH1	2.31	0.44
1:D:630:LYS:HG3	1:D:682:TYR:O	2.18	0.44
1:D:940:ASP:OD1	1:D:944:LYS:NZ	2.51	0.44
1:A:255:ASP:O	1:A:259:LYS:HG2	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:386:GLU:HA	1:A:389:ARG:HG2	1.99	0.44
1:A:725:TYR:CE1	1:A:775:LYS:HD2	2.52	0.44
1:A:741:VAL:HG23	1:A:785:PHE:O	2.18	0.44
1:B:11:GLY:HA3	1:B:217:LEU:HD11	1.99	0.44
1:B:385:GLN:HG2	1:B:386:GLU:N	2.33	0.44
1:B:586:MET:HE2	1:B:620:ILE:HD11	2.00	0.44
1:B:873:LEU:HD22	1:B:890:ILE:HG21	1.99	0.44
1:A:825:TYR:OH	1:A:836:LYS:HE2	2.18	0.44
1:A:939:LEU:HD22	1:A:1061:PHE:HB2	2.00	0.44
1:A:945:MET:HE1	1:A:970:ILE:HA	1.99	0.44
1:A:1005:ASP:O	1:A:1009:GLU:OE1	2.35	0.44
1:B:968:LYS:HE2	1:B:968:LYS:HB2	1.76	0.44
1:C:339:ILE:HD13	1:C:376:PHE:HB2	2.00	0.44
1:C:386:GLU:O	1:C:389:ARG:HG3	2.18	0.44
6:C:2102:COA:H62	1:D:971:MET:HA	2.00	0.44
1:D:184:PHE:CE2	1:D:205:LEU:HD11	2.53	0.44
1:A:84:TRP:HE3	1:A:85:LEU:HD22	1.82	0.44
1:B:742:CYS:HB3	1:B:784:VAL:HG11	2.00	0.44
1:C:162:PRO:HA	1:C:165:ILE:HD12	1.99	0.44
1:D:529:MET:O	1:D:552:VAL:HA	2.17	0.44
1:A:678:THR:HG23	1:A:801:TYR:CD1	2.52	0.44
1:B:36:PRO:HG2	1:B:103:LYS:HA	1.99	0.44
1:C:674:ILE:O	1:C:678:THR:N	2.50	0.44
1:B:255:ASP:OD1	1:B:259:LYS:HE3	2.18	0.43
1:B:362:ARG:O	1:B:365:GLN:NE2	2.49	0.43
1:C:66:ARG:NH1	1:C:216:ASP:OD2	2.51	0.43
1:C:135:HIS:NE2	1:C:148:LYS:HE3	2.33	0.43
1:C:289:SER:HA	1:C:292:ILE:HG12	2.00	0.43
1:C:892:MET:HA	1:C:895:MET:HE3	1.99	0.43
1:A:823:MET:HE3	1:A:827:TRP:CD1	2.52	0.43
1:A:902:PRO:HG3	1:C:842:THR:HG21	2.00	0.43
1:C:518:VAL:HA	1:C:819:PRO:HD2	1.99	0.43
1:D:203:ASN:HA	1:D:204:PRO:HA	1.75	0.43
1:A:659:TYR:HA	1:A:714:VAL:O	2.17	0.43
1:A:974:GLY:HA2	1:A:1021:LEU:HA	1.99	0.43
1:B:331:LYS:HZ2	1:B:371:HIS:HA	1.82	0.43
1:C:123:ILE:HG23	1:C:132:VAL:HG12	2.00	0.43
1:D:390:VAL:HA	1:D:393:GLU:HG3	2.00	0.43
1:D:980:ILE:C	1:D:982:ASN:H	2.25	0.43
1:A:111:VAL:HG21	1:A:213:TYR:CE2	2.53	0.43
1:B:35:THR:HG22	1:B:37:ASP:H	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:403:HIS:CD2	1:B:424:ILE:HG21	2.53	0.43
1:D:556:MET:O	1:D:560:MET:HG2	2.18	0.43
1:D:628:GLY:H	1:D:636:ILE:HB	1.84	0.43
1:A:858:PRO:HD2	1:A:861:GLU:OE1	2.18	0.43
1:B:131:TYR:CE1	1:B:153:LEU:HD13	2.53	0.43
1:C:208:THR:HG22	1:C:209:LYS:N	2.34	0.43
1:C:892:MET:O	1:C:896:VAL:HG23	2.18	0.43
1:D:358:VAL:O	1:D:362:ARG:HG2	2.19	0.43
1:B:119:PHE:CD2	1:B:181:LEU:HD21	2.53	0.43
1:B:678:THR:HG23	1:B:801:TYR:CD1	2.54	0.43
1:C:287:VAL:HG22	1:C:745:ILE:HG21	2.00	0.43
1:C:310:ALA:H	1:C:348:THR:HG22	1.83	0.43
1:C:539:GLN:HB3	1:C:550:ILE:CG2	2.48	0.43
1:C:971:MET:HA	6:C:2101:COA:H62	2.00	0.43
1:D:771:THR:O	1:D:775:LYS:HG2	2.18	0.43
1:A:925:THR:HG23	1:C:925:THR:CG2	2.47	0.43
1:A:1001:THR:HB	1:A:1004:LEU:HB3	1.99	0.43
1:B:215:LEU:HD22	2:B:1201:ADP:N6	2.32	0.43
1:B:685:VAL:HG11	1:B:700:HIS:CD2	2.54	0.43
1:B:1072:HIS:O	1:B:1076:GLN:HG2	2.18	0.43
1:C:34:VAL:HG12	1:C:43:LEU:HD11	1.99	0.43
1:C:376:PHE:CD1	1:C:403:HIS:HB2	2.53	0.43
1:C:499:ALA:N	1:C:525:SER:O	2.51	0.43
1:D:192:TYR:CD1	1:D:197:PHE:HB2	2.53	0.43
1:A:873:LEU:HD22	1:A:890:ILE:HD13	2.01	0.43
1:B:417:MET:HB3	1:B:424:ILE:HG13	2.01	0.43
1:C:120:TYR:CZ	1:C:145:VAL:HG11	2.54	0.43
1:C:163:GLU:HB2	1:C:167:LYS:NZ	2.33	0.43
1:B:165:ILE:HD13	1:B:169:LEU:HD12	2.01	0.43
1:B:278:MET:HG2	1:B:319:TYR:CE2	2.53	0.43
1:B:358:VAL:HA	1:B:361:ILE:HG12	2.01	0.43
1:D:122:CYS:O	1:D:132:VAL:HA	2.19	0.43
1:D:692:TYR:O	1:D:693:PRO:C	2.61	0.43
1:A:636:ILE:O	1:A:639:THR:HG23	2.18	0.43
1:B:794:GLY:HA2	1:B:797:ILE:HD12	2.00	0.43
1:C:58:LYS:NZ	1:C:108:GLU:OE2	2.51	0.43
1:A:56:VAL:HG21	2:A:1201:ADP:C6	2.54	0.42
1:C:595:ALA:HA	1:C:621:ILE:HB	2.00	0.42
1:D:55:LEU:HD23	1:D:56:VAL:N	2.33	0.42
1:D:659:TYR:CE1	1:D:684:GLY:HA3	2.54	0.42
1:A:398:THR:HG23	1:A:400:ILE:HG12	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:698:MET:CG	1:A:726:LYS:HD2	2.49	0.42
1:A:698:MET:HG3	1:A:726:LYS:HD2	2.02	0.42
1:A:969:LEU:HD22	6:A:1205:COA:C4A	2.48	0.42
1:B:117:GLU:O	1:B:206:VAL:HA	2.19	0.42
1:B:512:MET:HE2	1:B:637:GLY:N	2.32	0.42
1:B:714:VAL:HA	1:B:741:VAL:O	2.19	0.42
1:C:286:VAL:HG22	1:C:304:TYR:OH	2.19	0.42
1:D:50:LEU:HD23	1:D:50:LEU:H	1.84	0.42
1:D:97:LYS:NZ	1:D:753:SER:HA	2.34	0.42
1:A:206:VAL:HG23	1:A:213:TYR:HB2	2.02	0.42
1:A:912:ILE:HD13	1:B:908:HIS:HD2	1.84	0.42
1:B:742:CYS:O	1:B:786:VAL:HG23	2.19	0.42
1:C:160:LEU:HG	1:C:165:ILE:HD11	2.00	0.42
1:A:54:ASN:HD21	1:A:75:ASN:HA	1.85	0.42
1:A:310:ALA:N	1:A:348:THR:HG22	2.33	0.42
1:A:579:TYR:CD1	1:A:605:LEU:HB3	2.55	0.42
1:A:631:PRO:HD2	1:A:682:TYR:O	2.19	0.42
1:C:822:PRO:HB2	1:D:835:ARG:HG3	2.00	0.42
1:D:127:ARG:HH12	1:D:693:PRO:HD2	1.83	0.42
1:A:174:PRO:O	1:A:178:LYS:HG3	2.20	0.42
1:A:232:LYS:HB2	1:A:232:LYS:HE3	1.82	0.42
1:A:382:PRO:HB3	1:A:642:MET:HE3	2.01	0.42
1:A:699:ASP:O	1:A:703:ARG:HG3	2.19	0.42
1:B:384:TYR:O	1:B:388:LEU:N	2.46	0.42
1:C:857:MET:HG2	1:C:862:VAL:HG23	2.01	0.42
1:D:332:HIS:CE1	1:D:334:ASP:HB3	2.54	0.42
1:A:54:ASN:HB3	1:A:110:PHE:HB3	2.02	0.42
1:A:118:GLU:OE2	1:A:204:PRO:HB3	2.19	0.42
1:A:567:ASP:OD1	1:A:567:ASP:N	2.53	0.42
1:B:275:ILE:C	1:B:276:TRP:HD1	2.27	0.42
1:B:386:GLU:O	1:B:389:ARG:HD3	2.20	0.42
1:C:77:THR:O	1:C:81:VAL:N	2.43	0.42
1:C:1094:VAL:HG23	1:C:1094:VAL:O	2.19	0.42
1:D:174:PRO:HG2	1:D:177:LYS:HE3	2.00	0.42
1:D:290:ASP:HB2	1:D:745:ILE:HD11	2.01	0.42
1:A:30:LYS:HG2	1:A:109:PRO:HG3	2.01	0.42
1:A:35:THR:O	1:A:38:THR:HG22	2.19	0.42
1:A:280:ALA:HB3	1:A:379:ARG:NH1	2.35	0.42
1:A:493:PHE:CZ	1:A:636:ILE:HD11	2.55	0.42
1:B:66:ARG:HG2	2:B:1201:ADP:O2B	2.20	0.42
1:B:160:LEU:HD21	1:B:165:ILE:HD11	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:498:LYS:HG3	1:B:565:GLU:HG3	2.02	0.42
1:C:292:ILE:HD11	1:C:301:LEU:HD22	2.01	0.42
1:C:604:ALA:HA	1:C:607:ARG:HE	1.85	0.42
1:D:825:TYR:OH	1:D:836:LYS:HE3	2.19	0.42
1:B:34:VAL:HG23	1:B:105:PHE:HB2	2.01	0.42
1:B:340:ILE:O	1:B:377:VAL:HA	2.20	0.42
1:C:55:LEU:HD21	1:C:107:ILE:HB	2.01	0.42
1:D:354:PHE:CZ	1:D:390:VAL:HG23	2.54	0.42
1:D:728:CYS:SG	1:D:779:LEU:HD23	2.60	0.42
1:A:411:MET:HE1	1:A:666:MET:HE1	2.01	0.42
1:A:731:ILE:HG12	1:A:736:LEU:HB2	2.01	0.42
1:B:35:THR:O	1:B:38:THR:HG22	2.20	0.42
1:B:331:LYS:NZ	1:B:371:HIS:HA	2.35	0.42
1:C:972:GLY:H	6:C:2101:COA:H62	1.85	0.42
1:D:59:PRO:HA	1:D:105:PHE:CD1	2.54	0.42
1:D:278:MET:HG3	1:D:319:TYR:CE2	2.51	0.42
1:D:422:ARG:HG3	1:D:423:PRO:HD2	2.01	0.42
1:A:215:LEU:HD23	2:A:1201:ADP:C5	2.54	0.42
1:A:698:MET:CE	1:A:727:ILE:HG13	2.50	0.42
1:A:1037:LEU:HD12	1:A:1043:PHE:CE2	2.55	0.42
1:B:661:SER:OG	1:B:662:ARG:N	2.53	0.42
1:D:131:TYR:CE1	1:D:153:LEU:HB2	2.55	0.42
1:D:857:MET:HE3	1:D:861:GLU:HG2	2.01	0.42
1:B:495:ARG:NH2	1:B:520:SER:O	2.53	0.41
1:C:123:ILE:HG12	1:C:132:VAL:HG12	2.01	0.41
1:C:918:LYS:NZ	1:D:929:LEU:O	2.46	0.41
1:D:290:ASP:OD1	1:D:748:CYS:N	2.53	0.41
1:A:653:ARG:HH12	1:A:680:GLY:HA3	1.86	0.41
1:A:678:THR:HG22	1:A:679:ASP:N	2.35	0.41
1:A:891:GLU:O	1:A:895:MET:HG3	2.19	0.41
1:A:1065:ARG:HH22	4:A:1203:FLC:HA2	1.86	0.41
1:C:388:LEU:HD11	1:C:404:VAL:HG13	2.03	0.41
1:A:255:ASP:OD1	1:A:259:LYS:HE3	2.20	0.41
1:A:392:GLY:O	1:A:396:LYS:HE3	2.20	0.41
1:A:539:GLN:HG2	1:A:541:PHE:CE2	2.56	0.41
1:A:823:MET:HE2	1:A:828:ALA:HA	2.03	0.41
1:A:945:MET:HE2	1:A:959:PHE:HZ	1.85	0.41
1:B:583:MET:SD	1:B:612:LYS:HD3	2.60	0.41
1:C:63:ILE:O	1:C:66:ARG:NH2	2.53	0.41
1:C:203:ASN:HA	1:C:204:PRO:HA	1.75	0.41
6:C:2102:COA:H2B	1:D:976:ARG:HD2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:502:TRP:O	1:D:572:PHE:HB2	2.20	0.41
1:A:280:ALA:HB2	1:A:307:TYR:CZ	2.55	0.41
1:B:379:ARG:HG3	1:B:379:ARG:NH1	2.35	0.41
1:C:161:ASN:OD1	1:C:161:ASN:N	2.52	0.41
1:D:522:ASP:OD1	1:D:522:ASP:N	2.52	0.41
1:A:195:LEU:HD11	1:A:233:TRP:HD1	1.85	0.41
1:B:301:LEU:HD11	1:B:752:PHE:HZ	1.85	0.41
1:B:976:ARG:NH2	1:D:848:ARG:O	2.54	0.41
1:C:504:MET:HB3	1:C:531:TYR:CE1	2.55	0.41
1:D:215:LEU:HD22	2:D:1201:ADP:C6	2.56	0.41
1:D:801:TYR:O	1:D:805:VAL:HG23	2.20	0.41
1:D:888:GLN:HB2	1:D:993:TYR:OH	2.20	0.41
1:C:278:MET:HB3	1:C:340:ILE:HG22	2.03	0.41
1:D:541:PHE:CD2	1:D:550:ILE:HD12	2.55	0.41
1:D:851:GLU:OE2	1:D:860:THR:HG23	2.21	0.41
1:A:285:SER:HB3	1:A:306:GLU:HB3	2.03	0.41
1:A:880:LYS:HD2	1:A:1042:SER:O	2.20	0.41
1:A:1050:GLU:O	1:A:1054:ILE:HG12	2.21	0.41
1:B:138:GLY:HA2	1:B:142:VAL:HG12	2.03	0.41
1:B:974:GLY:HA2	1:B:1021:LEU:HA	2.03	0.41
1:C:560:MET:HB3	1:C:590:GLN:NE2	2.35	0.41
1:C:939:LEU:HD22	1:C:1061:PHE:HB2	2.03	0.41
1:C:1013:ILE:O	1:C:1016:SER:OG	2.26	0.41
6:C:2102:COA:H133	1:D:974:GLY:O	2.20	0.41
1:A:253:ILE:HG13	1:A:266:LEU:HB3	2.03	0.41
1:A:343:SER:HB2	1:A:669:GLU:HB2	2.03	0.41
1:B:328:THR:HB	1:B:364:TYR:OH	2.20	0.41
1:C:530:VAL:HG11	1:C:556:MET:SD	2.61	0.41
1:A:662:ARG:HD3	1:A:687:ILE:HD11	2.03	0.41
1:B:278:MET:HE3	1:B:340:ILE:HG21	2.02	0.41
1:B:290:ASP:HA	1:B:748:CYS:SG	2.61	0.41
1:B:505:GLN:HG3	1:B:572:PHE:CG	2.56	0.41
1:B:925:THR:CG2	1:D:925:THR:HG23	2.51	0.41
1:B:1050:GLU:O	1:B:1054:ILE:HG12	2.20	0.41
1:C:133:LEU:HA	1:C:150:GLN:O	2.21	0.41
1:C:134:PHE:CE2	1:C:170:LEU:HD12	2.55	0.41
1:C:204:PRO:HG2	1:C:215:LEU:HD12	2.03	0.41
1:C:823:MET:HE2	1:C:828:ALA:HA	2.02	0.41
1:D:249:GLU:HG2	1:D:322:THR:HG23	2.02	0.41
1:D:316:THR:HG23	1:D:356:GLY:HA3	2.02	0.41
1:D:613:ALA:HB1	1:D:618:VAL:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:661:SER:HB2	1:D:716:LEU:HB2	2.02	0.41
1:A:645:ASN:C	1:A:645:ASN:HD22	2.28	0.41
1:A:794:GLY:O	1:A:797:ILE:HB	2.21	0.41
1:B:279:VAL:HG11	1:B:285:SER:HA	2.02	0.41
1:B:316:THR:HG21	1:B:353:THR:HA	2.02	0.41
1:B:976:ARG:CD	6:B:1204:COA:H2B	2.51	0.41
1:D:288:TYR:CE2	1:D:292:ILE:HD11	2.56	0.41
1:B:276:TRP:CH2	1:B:327:MET:HA	2.56	0.40
1:B:1095:LEU:HD23	1:C:856:GLY:H	1.86	0.40
1:C:247:TYR:CD1	1:C:268:LEU:HD12	2.57	0.40
1:C:354:PHE:HE2	1:C:379:ARG:HG2	1.84	0.40
1:C:599:GLU:HB2	1:C:624:ALA:HA	2.03	0.40
1:C:878:PHE:HB3	1:C:1043:PHE:HE2	1.86	0.40
1:C:956:PRO:O	1:C:960:VAL:HG23	2.21	0.40
1:D:120:TYR:CE2	1:D:122:CYS:HB2	2.56	0.40
1:D:946:PHE:HB3	1:D:1003:LEU:HD11	2.03	0.40
1:A:925:THR:CG2	1:C:925:THR:HG23	2.51	0.40
1:B:85:LEU:HD12	1:B:89:LEU:HD12	2.03	0.40
1:B:354:PHE:O	1:B:358:VAL:HG22	2.21	0.40
1:C:201:GLU:HB3	1:C:218:ALA:HB3	2.02	0.40
1:C:551:PRO:HB2	1:C:553:PHE:CE1	2.56	0.40
1:C:898:ALA:HA	1:C:1064:GLY:O	2.20	0.40
1:D:291:THR:OG1	1:D:790:PHE:HB3	2.20	0.40
1:A:203:ASN:O	1:A:216:ASP:HB2	2.22	0.40
1:A:208:THR:HG22	1:A:209:LYS:N	2.35	0.40
1:A:386:GLU:O	1:A:390:VAL:HG22	2.21	0.40
1:A:1067:MET:HE1	1:C:869:ILE:HG23	2.04	0.40
1:B:51:LEU:HA	1:B:78:LEU:HD21	2.04	0.40
3:B:1202:Q5B:O11	1:D:1017:LYS:NZ	2.41	0.40
1:C:77:THR:HG22	1:C:78:LEU:N	2.36	0.40
1:C:683:GLU:CD	1:C:703:ARG:HH12	2.30	0.40
1:C:955:ILE:HG13	1:C:958:GLU:H	1.87	0.40
1:A:301:LEU:HD11	1:A:752:PHE:CZ	2.57	0.40
1:A:1067:MET:HE2	1:C:873:LEU:HD12	2.03	0.40
1:B:288:TYR:CE2	1:B:341:GLY:HA3	2.56	0.40
1:A:10:THR:HA	1:A:13:GLU:HG2	2.02	0.40
1:A:59:PRO:HG2	1:A:66:ARG:HG2	2.03	0.40
1:A:249:GLU:O	1:A:253:ILE:HG12	2.22	0.40
1:A:531:TYR:CE2	1:A:534:THR:HG23	2.56	0.40
1:A:583:MET:SD	1:A:612:LYS:HD3	2.62	0.40
1:A:898:ALA:HA	1:A:1064:GLY:O	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1011:GLU:HG3	1:A:1023:LEU:N	2.37	0.40
1:B:36:PRO:HB3	1:B:89:LEU:HD21	2.02	0.40
1:C:84:TRP:O	1:C:87:PRO:HD2	2.22	0.40
1:D:515:PHE:CD2	1:D:635:LYS:HB2	2.56	0.40
1:D:579:TYR:CD2	1:D:605:LEU:HB3	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	1028/1101 (93%)	994 (97%)	34 (3%)	0	100	100
1	B	1028/1101 (93%)	997 (97%)	31 (3%)	0	100	100
1	C	1028/1101 (93%)	1002 (98%)	26 (2%)	0	100	100
1	D	1026/1101 (93%)	991 (97%)	34 (3%)	1 (0%)	48	71
All	All	4110/4404 (93%)	3984 (97%)	125 (3%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	690	ASP

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	852/908 (94%)	852 (100%)	0	100 100
1	B	852/908 (94%)	852 (100%)	0	100 100
1	C	852/908 (94%)	852 (100%)	0	100 100
1	D	851/908 (94%)	850 (100%)	1 (0%)	92 98
All	All	3407/3632 (94%)	3406 (100%)	1 (0%)	100 100

All (1) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	D	691	ARG

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

Mol	Chain	Res	Type
1	A	9	GLN
1	A	314	GLN
1	A	315	GLN
1	A	385	GLN
1	A	539	GLN
1	A	807	ASN
1	A	908	HIS
1	A	1024	ASN
1	A	1039	ASN
1	B	9	GLN
1	B	203	ASN
1	B	555	ASN
1	B	908	HIS
1	B	1039	ASN
1	C	115	GLN
1	C	410	HIS
1	C	645	ASN
1	C	668	ASN
1	C	988	GLN
1	C	1039	ASN
1	D	365	GLN
1	D	615	GLN
1	D	777	GLN
1	D	909	ASN
1	D	988	GLN
1	D	1039	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no oligosaccharides in this entry.

5.6 Ligand geometry

Of 16 ligands modelled in this entry, 2 are unknown - leaving 14 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	$\#\|Z\| > 2$
4	FLC	B	1203	-	12,12,12	1.11	0	17,17,17	1.38	1 (5%)
3	Q5B	A	1202	-	56,62,62	3.05	18 (32%)	74,93,93	1.50	10 (13%)
6	COA	C	2101	-	43,50,50	0.84	1 (2%)	56,75,75	1.02	2 (3%)
2	ADP	B	1201	-	24,29,29	0.91	0	29,45,45	1.28	3 (10%)
2	ADP	D	1201	-	24,29,29	0.88	0	29,45,45	1.19	2 (6%)
4	FLC	C	2103	-	12,12,12	1.10	0	17,17,17	1.32	1 (5%)
6	COA	B	1204	-	43,50,50	0.81	0	56,75,75	1.08	2 (3%)
4	FLC	A	1203	-	12,12,12	1.10	0	17,17,17	1.37	1 (5%)
6	COA	C	2102	-	43,50,50	0.82	0	56,75,75	1.12	3 (5%)
3	Q5B	B	1202	-	56,62,62	2.93	19 (33%)	74,93,93	1.67	13 (17%)
4	FLC	D	1203	-	12,12,12	1.10	0	17,17,17	1.34	1 (5%)
6	COA	A	1205	-	43,50,50	0.82	0	56,75,75	1.03	3 (5%)
2	ADP	A	1201	-	24,29,29	0.92	1 (4%)	29,45,45	1.16	2 (6%)
3	Q5B	D	1202	-	56,62,62	3.05	18 (32%)	74,93,93	1.51	10 (13%)

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
4	FLC	B	1203	-	-	2/16/16/16	-
3	Q5B	A	1202	-	-	20/62/83/83	0/3/3/3
6	COA	C	2101	-	-	8/44/64/64	0/3/3/3
2	ADP	B	1201	-	-	6/12/32/32	0/3/3/3
2	ADP	D	1201	-	-	3/12/32/32	0/3/3/3
4	FLC	C	2103	-	-	12/16/16/16	-
6	COA	B	1204	-	-	15/44/64/64	0/3/3/3
4	FLC	A	1203	-	-	7/16/16/16	-
6	COA	C	2102	-	-	14/44/64/64	0/3/3/3
3	Q5B	B	1202	-	-	21/62/83/83	0/3/3/3
4	FLC	D	1203	-	-	7/16/16/16	-
6	COA	A	1205	-	-	19/44/64/64	0/3/3/3
2	ADP	A	1201	-	-	3/12/32/32	0/3/3/3
3	Q5B	D	1202	-	-	22/62/83/83	0/3/3/3

All (57) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	D	1202	Q5B	P1-O3	9.46	1.69	1.59
3	A	1202	Q5B	P1-O3	9.38	1.69	1.59
3	B	1202	Q5B	P1-O3	8.40	1.68	1.59
3	A	1202	Q5B	P-O3	8.26	1.68	1.59
3	D	1202	Q5B	P-O3	8.20	1.68	1.59
3	B	1202	Q5B	C6-C5	-7.91	1.32	1.52
3	D	1202	Q5B	C6-C5	-7.91	1.32	1.52
3	A	1202	Q5B	C6-C5	-7.90	1.32	1.52
3	D	1202	Q5B	C18-N6	7.33	1.50	1.33
3	A	1202	Q5B	C7-C6	7.33	1.69	1.53
3	A	1202	Q5B	C18-N6	7.33	1.50	1.33
3	B	1202	Q5B	C7-C6	7.26	1.68	1.53
3	B	1202	Q5B	P-O3	7.26	1.67	1.59
3	D	1202	Q5B	C7-C6	7.24	1.68	1.53
3	B	1202	Q5B	C18-N6	7.17	1.50	1.33
3	D	1202	Q5B	C15-N5	6.69	1.49	1.33
3	A	1202	Q5B	C15-N5	6.65	1.49	1.33
3	B	1202	Q5B	C15-N5	6.52	1.48	1.33

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	D	1202	Q5B	O7-C5	4.19	1.54	1.45
3	A	1202	Q5B	O7-C5	4.16	1.54	1.45
3	B	1202	Q5B	O7-C5	3.87	1.53	1.45
3	D	1202	Q5B	C21-S	3.73	1.85	1.76
3	B	1202	Q5B	C21-S	3.68	1.84	1.76
3	A	1202	Q5B	C21-S	3.67	1.84	1.76
3	B	1202	Q5B	O20-C23	-3.34	1.36	1.43
3	A	1202	Q5B	P2-O9	3.29	1.65	1.59
3	D	1202	Q5B	P2-O9	3.28	1.65	1.59
3	A	1202	Q5B	O20-C23	-3.23	1.37	1.43
3	D	1202	Q5B	C22-C23	3.14	1.57	1.54
3	D	1202	Q5B	O20-C23	-3.14	1.37	1.43
3	A	1202	Q5B	C22-C23	3.08	1.57	1.54
3	B	1202	Q5B	O13-C15	-2.94	1.17	1.23
3	B	1202	Q5B	P2-O9	2.82	1.64	1.59
3	B	1202	Q5B	C23-C26	-2.75	1.50	1.53
3	B	1202	Q5B	C22-C23	2.71	1.57	1.54
3	D	1202	Q5B	O14-C18	-2.62	1.18	1.23
3	B	1202	Q5B	O14-C18	-2.61	1.18	1.23
3	A	1202	Q5B	O14-C18	-2.60	1.18	1.23
3	A	1202	Q5B	O13-C15	-2.57	1.18	1.23
3	D	1202	Q5B	C22-C21	2.55	1.56	1.51
3	D	1202	Q5B	O13-C15	-2.55	1.18	1.23
3	A	1202	Q5B	C22-C21	2.55	1.56	1.51
3	A	1202	Q5B	C2-C1	2.47	1.58	1.53
3	B	1202	Q5B	C-C1	-2.47	1.48	1.53
3	D	1202	Q5B	C2-C1	2.45	1.58	1.53
3	B	1202	Q5B	C2-C1	2.37	1.58	1.53
3	A	1202	Q5B	C23-C26	-2.36	1.51	1.53
3	D	1202	Q5B	C23-C26	-2.36	1.51	1.53
3	B	1202	Q5B	C22-C21	2.31	1.55	1.51
3	D	1202	Q5B	P1-O6	2.24	1.68	1.59
3	A	1202	Q5B	P1-O6	2.18	1.67	1.59
3	D	1202	Q5B	C8-N	-2.12	1.44	1.49
3	A	1202	Q5B	C8-N	-2.08	1.44	1.49
3	B	1202	Q5B	O-C3	-2.07	1.37	1.43
2	A	1201	ADP	PA-O3A	2.05	1.61	1.59
6	C	2101	COA	O4B-C1B	2.05	1.43	1.40
3	B	1202	Q5B	P1-O6	2.01	1.67	1.59

All (54) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	B	1202	Q5B	N2-C12-N3	-6.49	119.86	128.67
3	A	1202	Q5B	N2-C12-N3	-5.83	120.76	128.67
3	D	1202	Q5B	N2-C12-N3	-5.73	120.90	128.67
3	A	1202	Q5B	C22-C21-S	5.13	120.03	113.56
3	D	1202	Q5B	C22-C21-S	5.01	119.88	113.56
3	B	1202	Q5B	C22-C21-S	4.74	119.54	113.56
3	B	1202	Q5B	O7-C8-N	4.11	114.19	108.75
6	C	2102	COA	N3A-C2A-N1A	-4.10	123.11	128.67
6	C	2101	COA	N3A-C2A-N1A	-3.92	123.34	128.67
6	B	1204	COA	N3A-C2A-N1A	-3.74	123.59	128.67
3	A	1202	Q5B	C16-C17-C18	3.67	118.51	112.39
4	B	1203	FLC	OB2-CBC-CB	3.66	120.16	113.14
4	A	1203	FLC	OB2-CBC-CB	3.63	120.10	113.14
3	D	1202	Q5B	O19-C26-C23	3.59	120.03	113.14
3	D	1202	Q5B	C16-C17-C18	3.59	118.37	112.39
4	D	1203	FLC	OB2-CBC-CB	3.58	120.02	113.14
4	C	2103	FLC	OB2-CBC-CB	3.58	120.01	113.14
3	A	1202	Q5B	O19-C26-C23	3.58	120.01	113.14
2	B	1201	ADP	N3-C2-N1	-3.56	123.84	128.67
6	A	1205	COA	N3A-C2A-N1A	-3.56	123.84	128.67
2	A	1201	ADP	N3-C2-N1	-3.50	123.92	128.67
3	B	1202	Q5B	C16-C17-C18	3.45	118.13	112.39
2	D	1201	ADP	N3-C2-N1	-3.42	124.03	128.67
3	B	1202	Q5B	O19-C26-C23	3.05	119.00	113.14
6	C	2102	COA	C4A-C5A-N7A	-2.98	106.18	109.34
3	B	1202	Q5B	C-C1-C14	2.84	113.61	108.77
3	B	1202	Q5B	C8-N-C11	-2.83	121.67	126.64
3	B	1202	Q5B	C20-S-C21	2.75	109.98	101.84
3	D	1202	Q5B	O7-C8-N	2.72	112.35	108.75
2	B	1201	ADP	C4-C5-N7	-2.68	106.51	109.34
2	D	1201	ADP	C4-C5-N7	-2.68	106.51	109.34
6	C	2101	COA	C4A-C5A-N7A	-2.66	106.53	109.34
6	B	1204	COA	C4A-C5A-N7A	-2.62	106.57	109.34
2	A	1201	ADP	C4-C5-N7	-2.62	106.57	109.34
3	B	1202	Q5B	O15-C21-C22	-2.54	119.77	123.66
6	C	2102	COA	C7P-C6P-C5P	-2.51	108.22	112.39
6	A	1205	COA	C4A-C5A-N7A	-2.49	106.71	109.34
3	D	1202	Q5B	C20-S-C21	2.44	109.04	101.84
3	A	1202	Q5B	C20-S-C21	2.43	109.03	101.84
3	B	1202	Q5B	C14-C15-N5	2.37	120.98	116.48
3	A	1202	Q5B	O15-C21-C22	-2.34	120.07	123.66
3	D	1202	Q5B	O15-C21-C22	-2.32	120.11	123.66
3	A	1202	Q5B	C-C1-C14	2.31	112.70	108.77

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
6	A	1205	COA	C7P-C6P-C5P	-2.27	108.62	112.39
3	D	1202	Q5B	C-C1-C14	2.23	112.57	108.77
3	A	1202	Q5B	O15-C21-S	-2.19	119.90	122.68
3	D	1202	Q5B	C17-C18-N6	2.11	120.19	116.34
3	D	1202	Q5B	O15-C21-S	-2.10	120.01	122.68
3	B	1202	Q5B	C17-C18-N6	2.06	120.11	116.34
3	B	1202	Q5B	O13-C15-N5	-2.06	118.62	122.98
3	A	1202	Q5B	C14-C15-N5	2.04	120.35	116.48
3	B	1202	Q5B	C19-N6-C18	-2.03	119.04	122.82
3	A	1202	Q5B	C17-C18-N6	2.02	120.03	116.34
2	B	1201	ADP	O4'-C1'-N9	2.01	111.41	108.75

There are no chirality outliers.

All (159) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	1201	ADP	O4'-C4'-C5'-O5'
2	B	1201	ADP	C5'-O5'-PA-O1A
2	B	1201	ADP	C5'-O5'-PA-O3A
2	B	1201	ADP	O4'-C4'-C5'-O5'
2	B	1201	ADP	C3'-C4'-C5'-O5'
2	D	1201	ADP	C5'-O5'-PA-O3A
3	A	1202	Q5B	C3-O-P-O1
3	A	1202	Q5B	C3-O-P-O3
3	A	1202	Q5B	C-C1-C14-C15
3	A	1202	Q5B	C-C1-C14-O21
3	A	1202	Q5B	C2-C1-C14-C15
3	A	1202	Q5B	C2-C1-C14-O21
3	A	1202	Q5B	C3-C1-C14-C15
3	A	1202	Q5B	C3-C1-C14-O21
3	A	1202	Q5B	C14-C15-N5-C16
3	B	1202	Q5B	C3-O-P-O3
3	B	1202	Q5B	C-C1-C14-C15
3	B	1202	Q5B	C-C1-C14-O21
3	B	1202	Q5B	C2-C1-C14-C15
3	B	1202	Q5B	C2-C1-C14-O21
3	B	1202	Q5B	C3-C1-C14-C15
3	B	1202	Q5B	C3-C1-C14-O21
3	B	1202	Q5B	C-C1-C3-O
3	B	1202	Q5B	C14-C1-C3-O
3	B	1202	Q5B	C2-C1-C3-O
3	B	1202	Q5B	C14-C15-N5-C16

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Mol	Chain	Res	Type	Atoms
3	B	1202	Q5B	N6-C19-C20-S
3	B	1202	Q5B	O6-C4-C5-O7
3	D	1202	Q5B	C3-O-P-O1
3	D	1202	Q5B	C3-O-P-O2
3	D	1202	Q5B	C3-O-P-O3
3	D	1202	Q5B	C-C1-C14-C15
3	D	1202	Q5B	C-C1-C14-O21
3	D	1202	Q5B	C2-C1-C14-C15
3	D	1202	Q5B	C2-C1-C14-O21
3	D	1202	Q5B	C3-C1-C14-C15
3	D	1202	Q5B	C3-C1-C14-O21
3	D	1202	Q5B	C14-C15-N5-C16
3	D	1202	Q5B	C19-C20-S-C21
3	D	1202	Q5B	C22-C21-S-C20
3	D	1202	Q5B	O15-C21-S-C20
4	A	1203	FLC	CG-CB-CBC-OB1
4	A	1203	FLC	CG-CB-CBC-OB2
4	A	1203	FLC	OHB-CB-CBC-OB1
4	A	1203	FLC	OHB-CB-CBC-OB2
4	C	2103	FLC	CAC-CA-CB-OHB
4	C	2103	FLC	CA-CB-CBC-OB1
4	C	2103	FLC	CA-CB-CBC-OB2
4	C	2103	FLC	OHB-CB-CBC-OB1
4	C	2103	FLC	OHB-CB-CBC-OB2
4	C	2103	FLC	CA-CB-CG-CGC
4	C	2103	FLC	OHB-CB-CG-CGC
6	A	1205	COA	C5B-O5B-P1A-O1A
6	A	1205	COA	C5B-O5B-P1A-O2A
6	A	1205	COA	C5B-O5B-P1A-O3A
6	A	1205	COA	CCP-O6A-P2A-O3A
6	A	1205	COA	OAP-CAP-CBP-CCP
6	A	1205	COA	C9P-CAP-CBP-CCP
6	A	1205	COA	OAP-CAP-CBP-CDP
6	A	1205	COA	C9P-CAP-CBP-CDP
6	A	1205	COA	OAP-CAP-CBP-CEP
6	A	1205	COA	C9P-CAP-CBP-CEP
6	A	1205	COA	CAP-C9P-N8P-C7P
6	A	1205	COA	C5P-C6P-C7P-N8P
6	A	1205	COA	C6P-C5P-N4P-C3P
6	B	1204	COA	C5B-O5B-P1A-O1A
6	B	1204	COA	C5B-O5B-P1A-O2A
6	B	1204	COA	P1A-O3A-P2A-O6A

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Mol	Chain	Res	Type	Atoms
6	B	1204	COA	CCP-O6A-P2A-O3A
6	B	1204	COA	CCP-O6A-P2A-O4A
6	B	1204	COA	CCP-O6A-P2A-O5A
6	B	1204	COA	CDP-CBP-CCP-O6A
6	B	1204	COA	CEP-CBP-CCP-O6A
6	B	1204	COA	CAP-CBP-CCP-O6A
6	B	1204	COA	S1P-C2P-C3P-N4P
6	C	2101	COA	O4B-C4B-C5B-O5B
6	C	2101	COA	C5B-O5B-P1A-O3A
6	C	2101	COA	CCP-O6A-P2A-O3A
6	C	2101	COA	CCP-O6A-P2A-O4A
6	C	2101	COA	CCP-O6A-P2A-O5A
6	C	2101	COA	S1P-C2P-C3P-N4P
6	C	2102	COA	C5B-O5B-P1A-O1A
6	C	2102	COA	C5B-O5B-P1A-O2A
6	C	2102	COA	C5B-O5B-P1A-O3A
6	C	2102	COA	CCP-O6A-P2A-O3A
6	C	2102	COA	CCP-O6A-P2A-O4A
6	C	2102	COA	CCP-O6A-P2A-O5A
6	C	2102	COA	CDP-CBP-CCP-O6A
6	C	2102	COA	CEP-CBP-CCP-O6A
6	C	2102	COA	CAP-CBP-CCP-O6A
6	C	2102	COA	S1P-C2P-C3P-N4P
6	A	1205	COA	O5P-C5P-N4P-C3P
3	A	1202	Q5B	O13-C15-N5-C16
3	B	1202	Q5B	O13-C15-N5-C16
3	D	1202	Q5B	O13-C15-N5-C16
2	A	1201	ADP	C3'-C4'-C5'-O5'
4	C	2103	FLC	CAC-CA-CB-CG
4	C	2103	FLC	CBC-CB-CG-CGC
3	A	1202	Q5B	O6-C4-C5-O7
3	B	1202	Q5B	O6-C4-C5-C6
6	C	2101	COA	C3B-C4B-C5B-O5B
6	C	2102	COA	O4B-C4B-C5B-O5B
3	B	1202	Q5B	C16-C17-C18-O14
3	D	1202	Q5B	O6-C4-C5-O7
4	C	2103	FLC	CAC-CA-CB-CBC
3	A	1202	Q5B	O6-C4-C5-C6
3	B	1202	Q5B	C16-C17-C18-N6
2	A	1201	ADP	PA-O3A-PB-O1B
6	A	1205	COA	O9P-C9P-N8P-C7P
6	C	2102	COA	C3B-C4B-C5B-O5B

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Mol	Chain	Res	Type	Atoms
4	A	1203	FLC	CB-CG-CGC-OG1
3	A	1202	Q5B	O15-C21-S-C20
4	A	1203	FLC	CB-CG-CGC-OG2
3	A	1202	Q5B	P-O3-P1-O6
3	B	1202	Q5B	P1-O3-P-O
3	D	1202	Q5B	P-O3-P1-O6
6	C	2102	COA	P1A-O3A-P2A-O6A
3	A	1202	Q5B	C22-C21-S-C20
4	D	1203	FLC	CA-CB-CBC-OB1
4	D	1203	FLC	CG-CB-CBC-OB1
3	D	1202	Q5B	C-C1-C3-O
3	D	1202	Q5B	C2-C1-C3-O
3	B	1202	Q5B	C20-C19-N6-C18
4	D	1203	FLC	CAC-CA-CB-CG
4	D	1203	FLC	CAC-CA-CB-OHB
2	B	1201	ADP	C5'-O5'-PA-O2A
2	D	1201	ADP	C5'-O5'-PA-O1A
3	A	1202	Q5B	C3-O-P-O2
3	B	1202	Q5B	C3-O-P-O2
6	A	1205	COA	CCP-O6A-P2A-O4A
6	B	1204	COA	C5B-O5B-P1A-O3A
6	C	2101	COA	C5B-O5B-P1A-O1A
3	D	1202	Q5B	C16-C17-C18-O14
6	B	1204	COA	O4B-C4B-C5B-O5B
4	A	1203	FLC	CAC-CA-CB-OHB
4	C	2103	FLC	CG-CB-CBC-OB2
4	D	1203	FLC	CA-CB-CBC-OB2
4	D	1203	FLC	CG-CB-CBC-OB2
3	D	1202	Q5B	C16-C17-C18-N6
3	A	1202	Q5B	C6-O9-P2-O10
6	A	1205	COA	P1A-O3A-P2A-O4A
6	C	2102	COA	P2A-O3A-P1A-O2A
4	B	1203	FLC	CA-CB-CBC-OB2
4	C	2103	FLC	CG-CB-CBC-OB1
4	B	1203	FLC	CAC-CA-CB-OHB
2	D	1201	ADP	PA-O3A-PB-O1B
3	A	1202	Q5B	C16-C17-C18-O14
6	B	1204	COA	O5P-C5P-N4P-C3P
4	D	1203	FLC	OHB-CB-CBC-OB1
3	A	1202	Q5B	C16-C17-C18-N6
3	D	1202	Q5B	O6-C4-C5-C6
3	A	1202	Q5B	O21-C14-C15-N5

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Mol	Chain	Res	Type	Atoms
3	B	1202	Q5B	O21-C14-C15-N5
3	D	1202	Q5B	O21-C14-C15-N5
2	B	1201	ADP	PB-O3A-PA-O2A
6	A	1205	COA	P2A-O3A-P1A-O2A
6	A	1205	COA	P1A-O3A-P2A-O5A
6	B	1204	COA	P2A-O3A-P1A-O1A
6	B	1204	COA	P2A-O3A-P1A-O2A

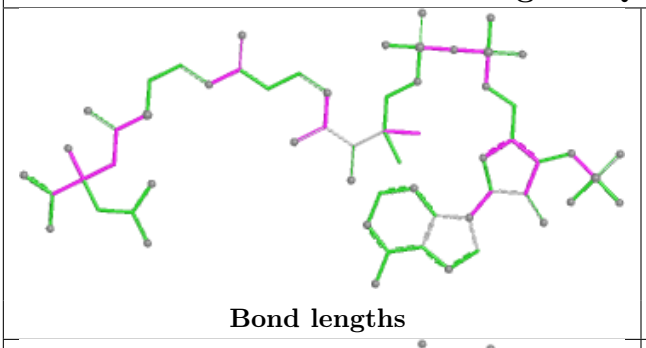
There are no ring outliers.

14 monomers are involved in 37 short contacts:

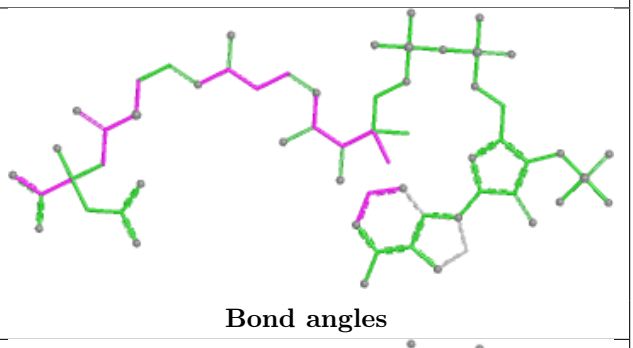
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	B	1203	FLC	1	0
3	A	1202	Q5B	1	0
6	C	2101	COA	4	0
2	B	1201	ADP	2	0
2	D	1201	ADP	2	0
4	C	2103	FLC	1	0
6	B	1204	COA	3	0
4	A	1203	FLC	1	0
6	C	2102	COA	7	0
3	B	1202	Q5B	3	0
4	D	1203	FLC	1	0
6	A	1205	COA	4	0
2	A	1201	ADP	6	0
3	D	1202	Q5B	1	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less 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.

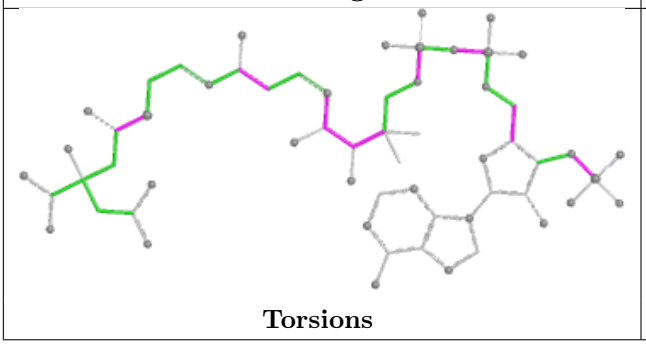
Ligand Q5B A 1202



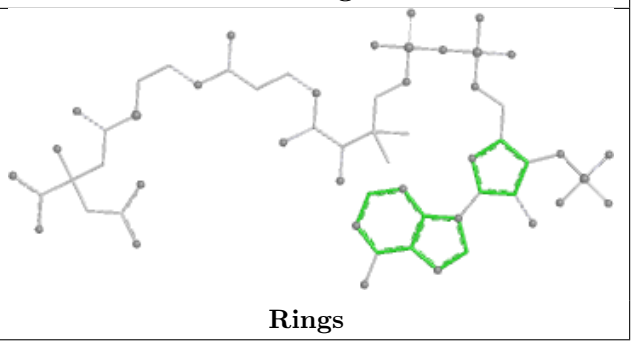
Bond lengths



Bond angles

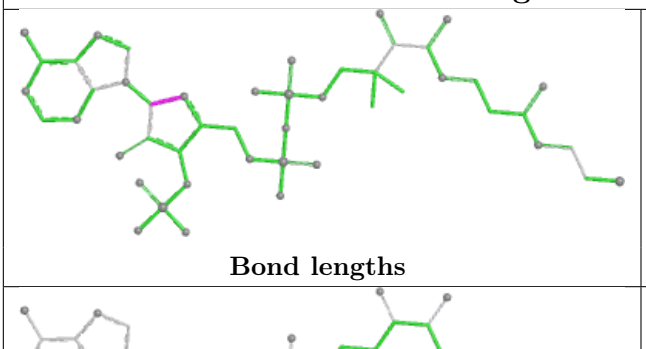


Torsions

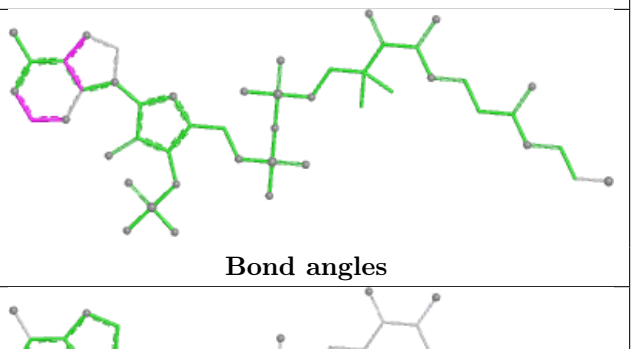


Rings

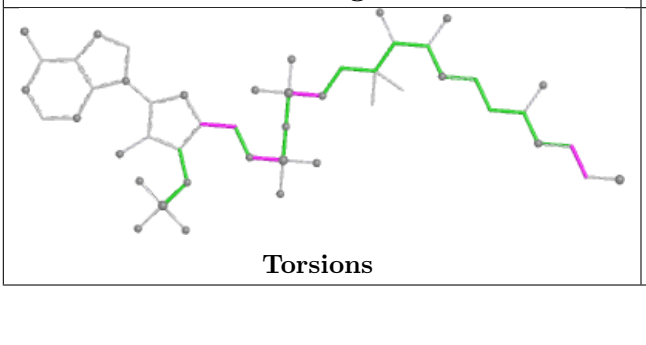
Ligand COA C 2101



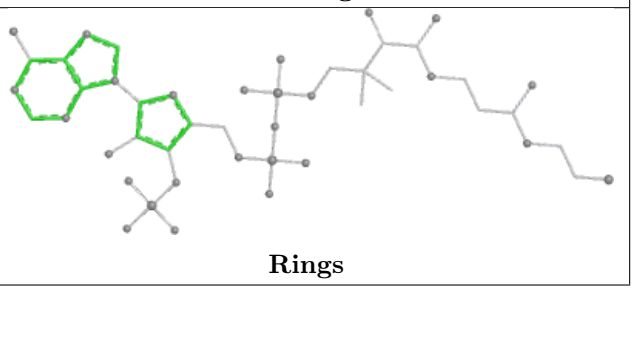
Bond lengths



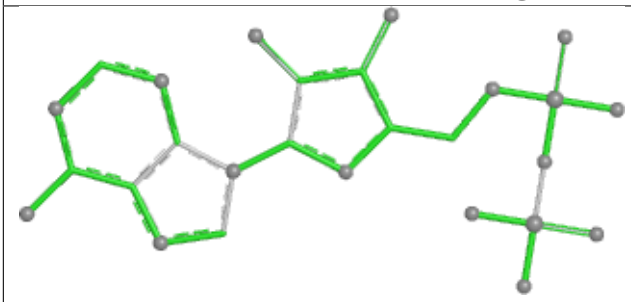
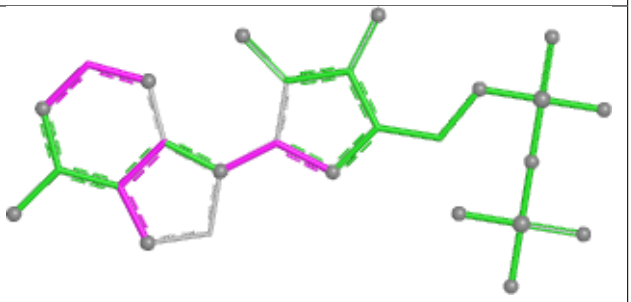
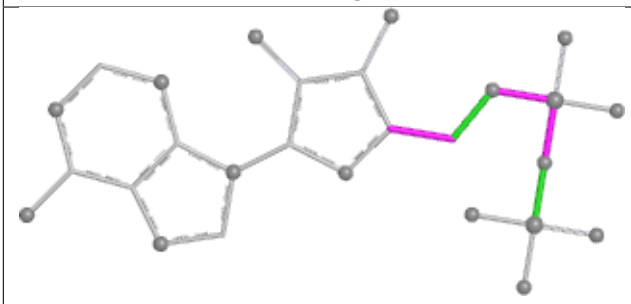
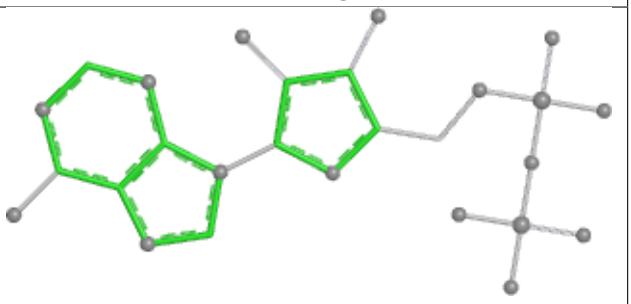
Bond angles

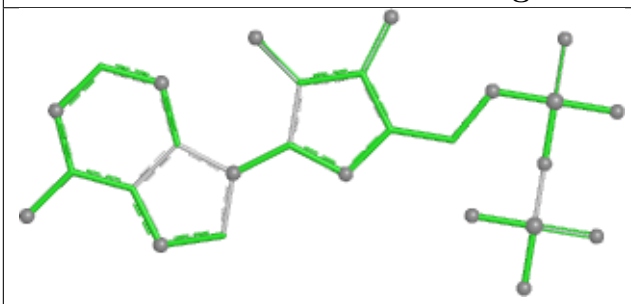
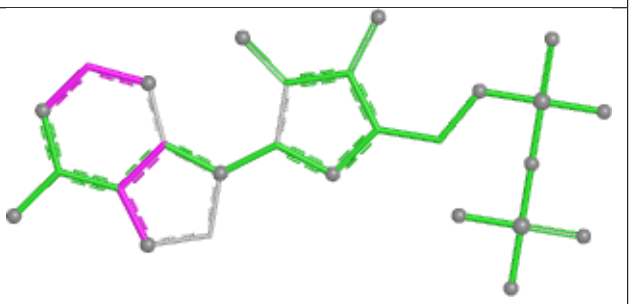
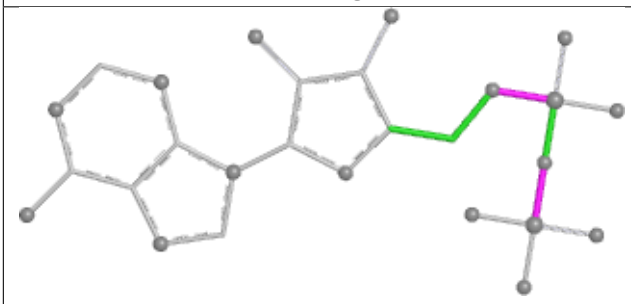
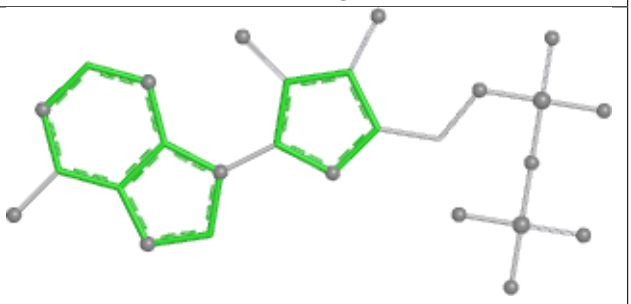


Torsions

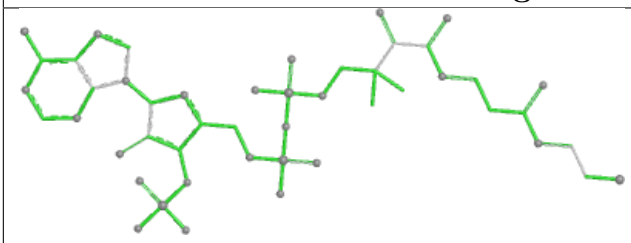


Rings

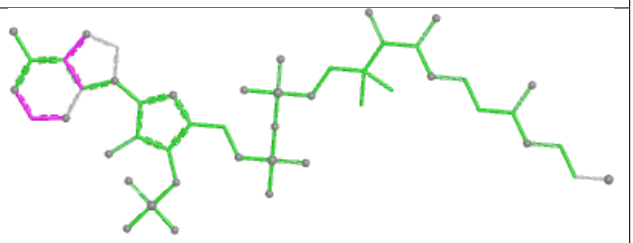
Ligand ADP B 1201	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand ADP D 1201	
 Bond lengths	 Bond angles
 Torsions	 Rings

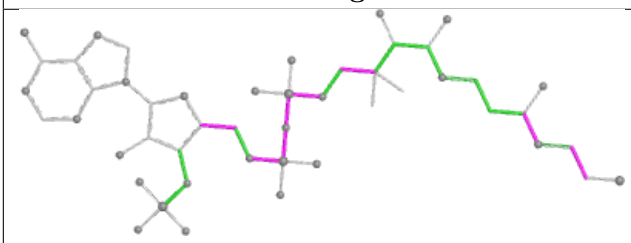
Ligand COA B 1204



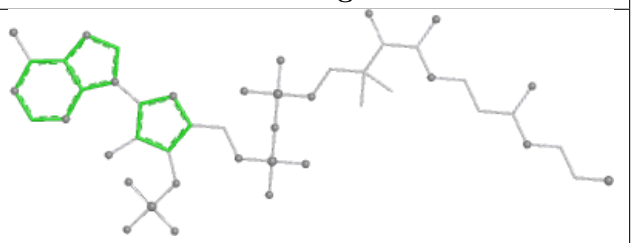
Bond lengths



Bond angles

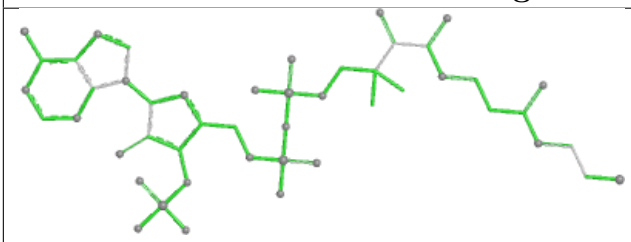


Torsions

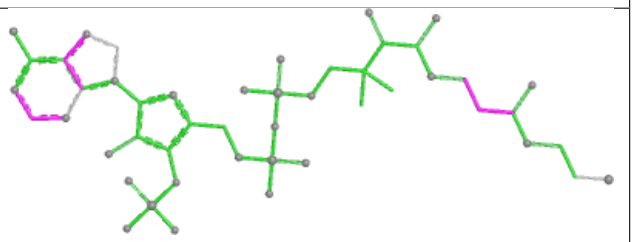


Rings

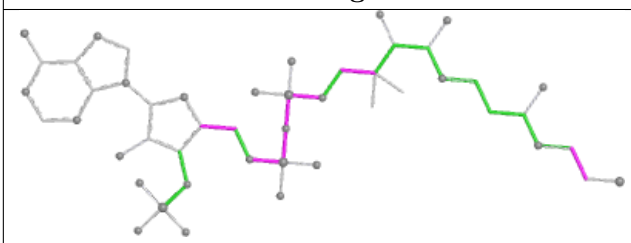
Ligand COA C 2102



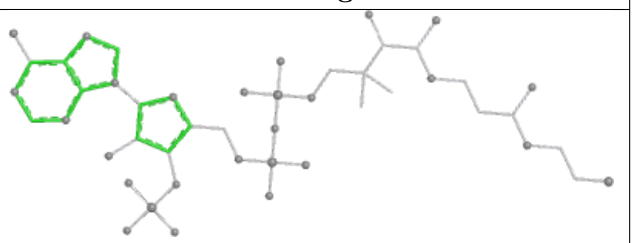
Bond lengths



Bond angles

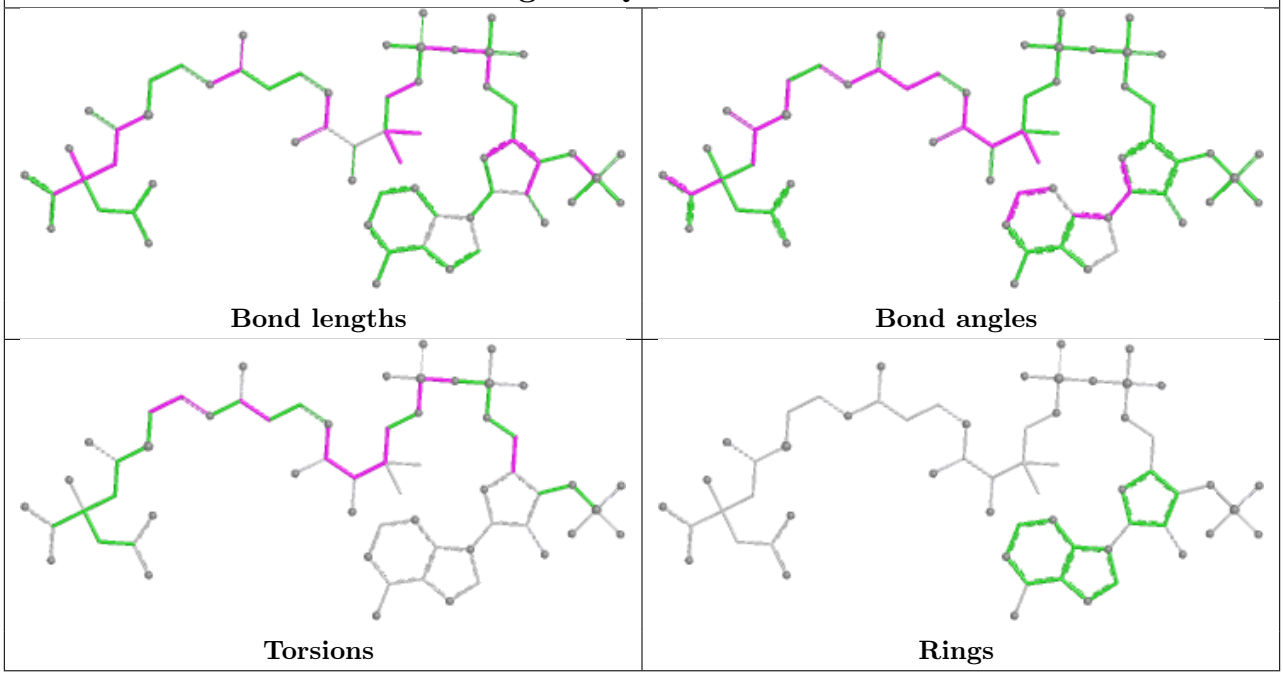


Torsions

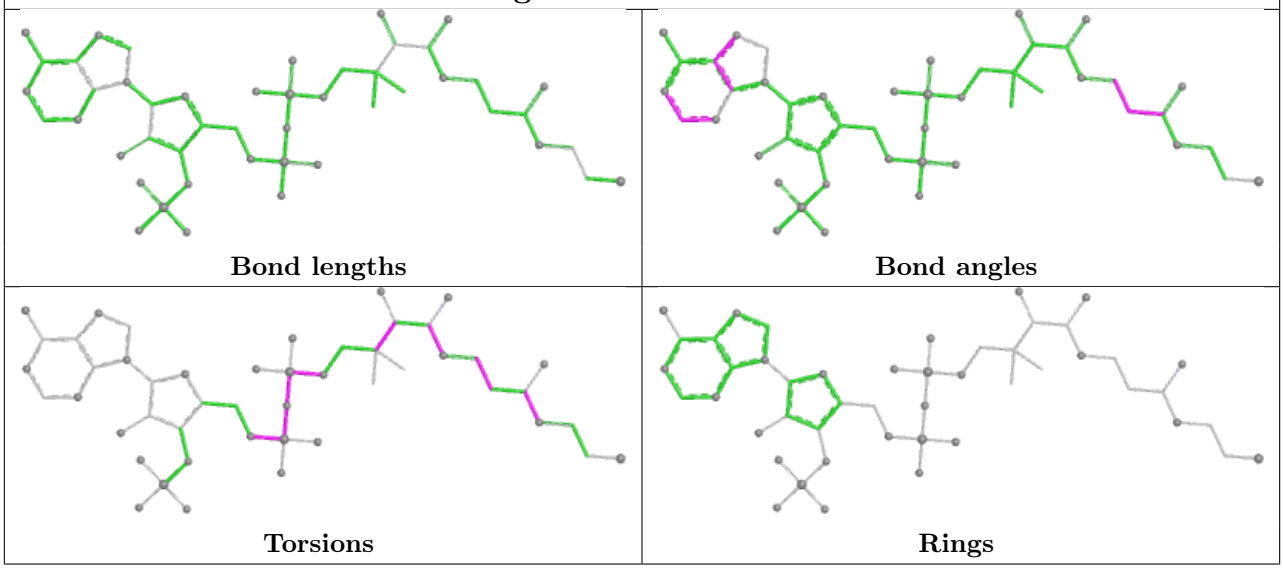


Rings

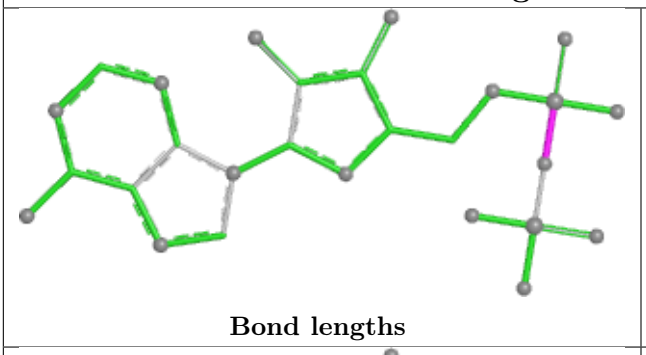
Ligand Q5B B 1202



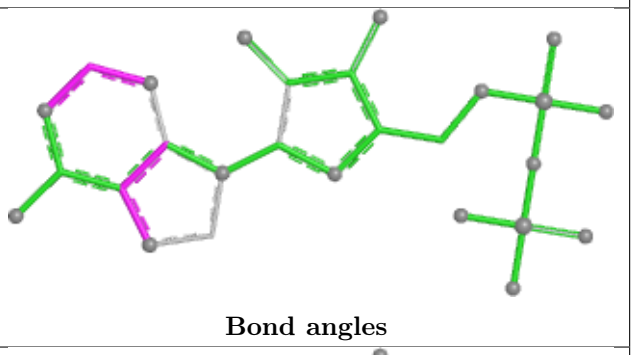
Ligand COA A 1205



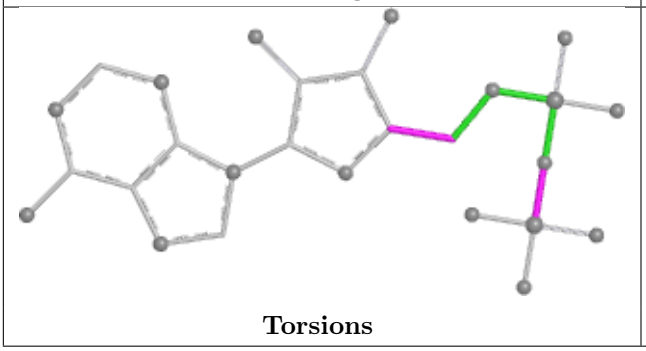
Ligand ADP A 1201



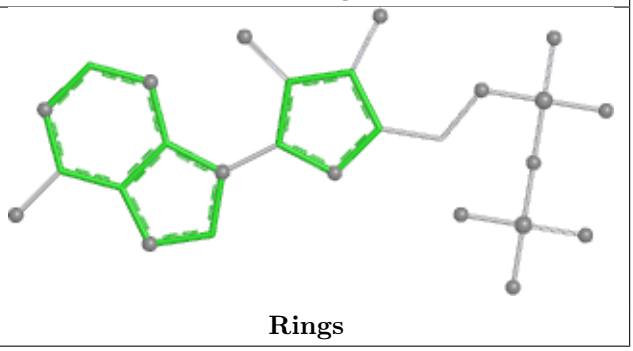
Bond lengths



Bond angles

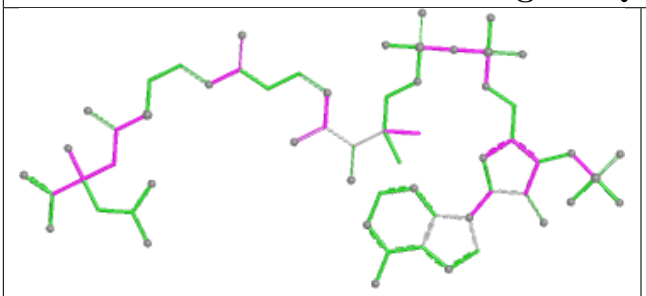


Torsions

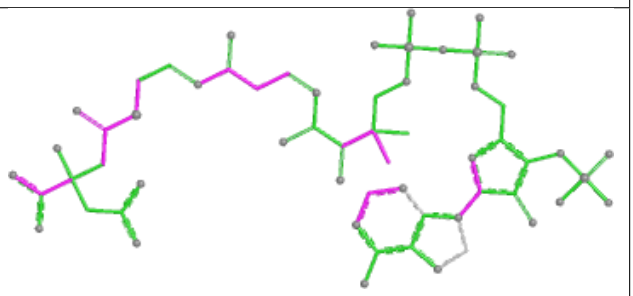


Rings

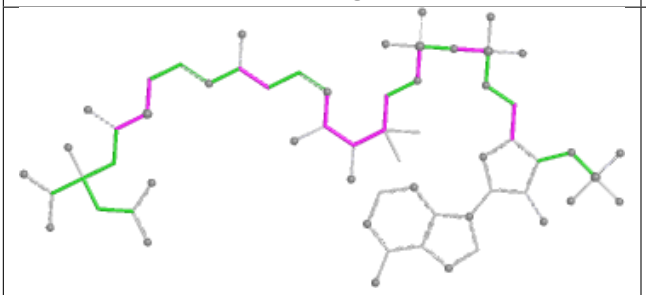
Ligand Q5B D 1202



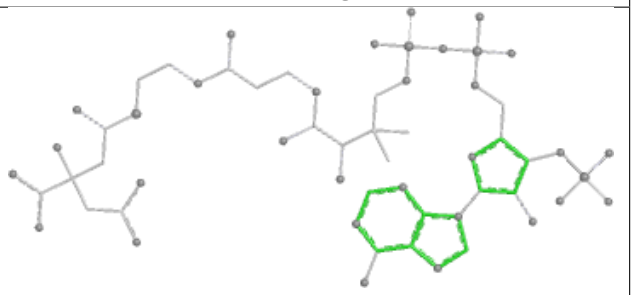
Bond lengths



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.

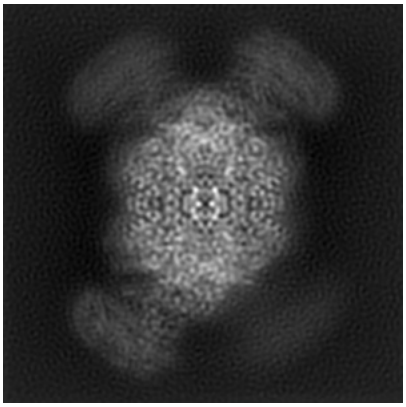
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-24511. These allow visual inspection of the internal detail of the map and identification of artifacts.

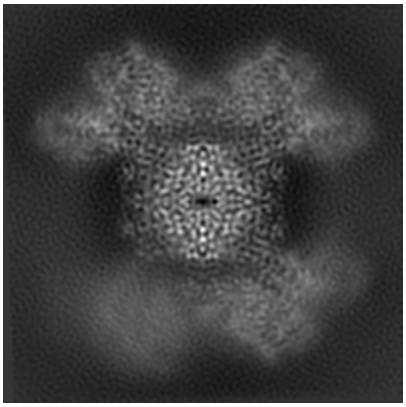
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

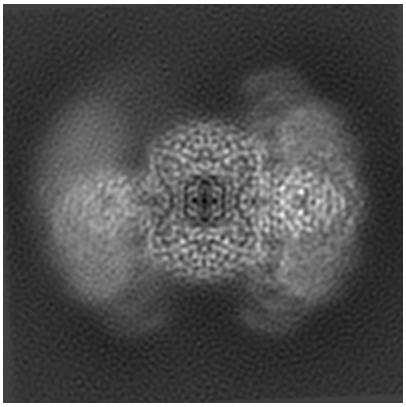
6.1.1 Primary map



X



Y

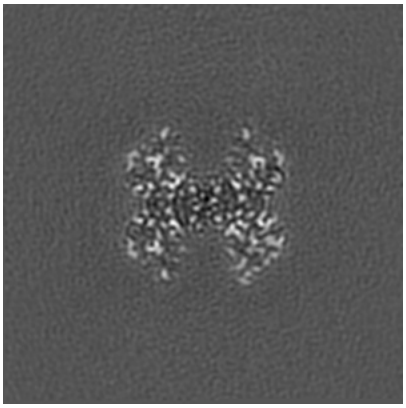


Z

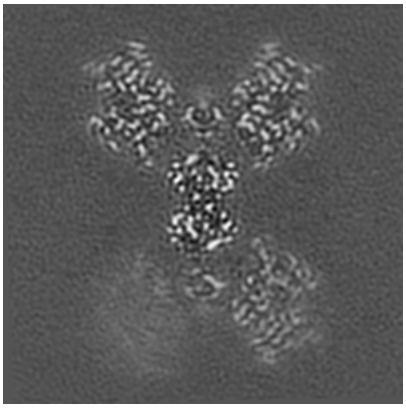
The images above show the map projected in three orthogonal directions.

6.2 Central slices

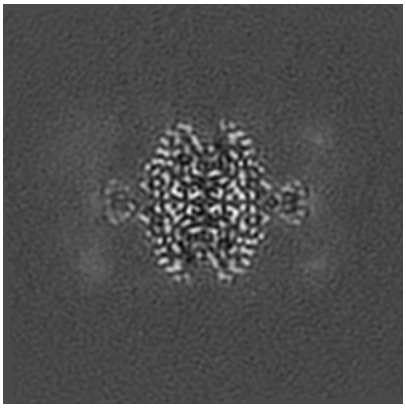
6.2.1 Primary map



X Index: 110



Y Index: 110

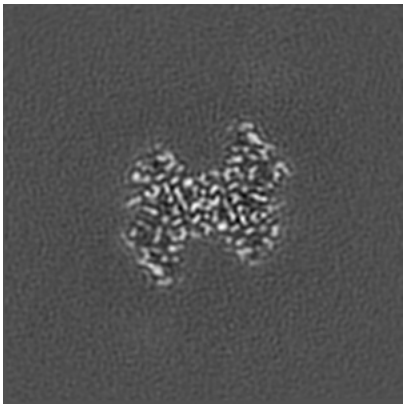


Z Index: 110

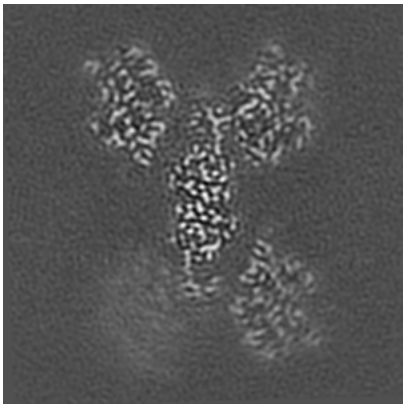
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

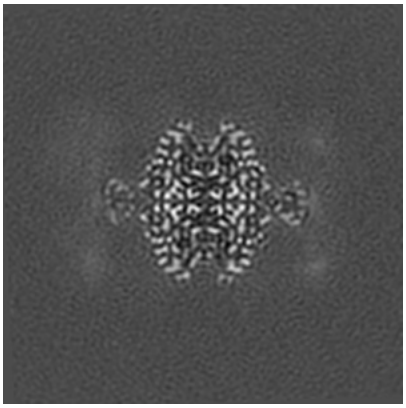
6.3.1 Primary map



X Index: 119



Y Index: 106

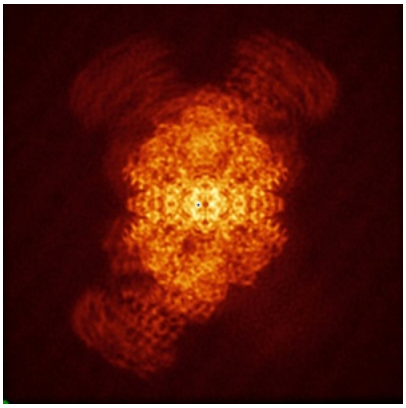


Z Index: 109

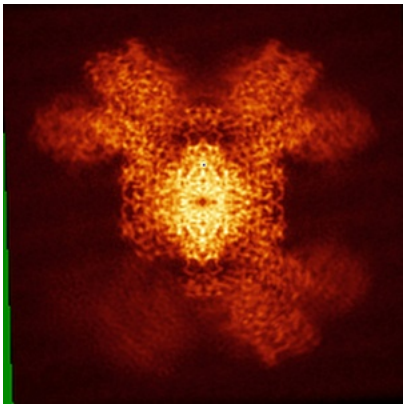
The images above show the largest variance slices of the map in three orthogonal directions.

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

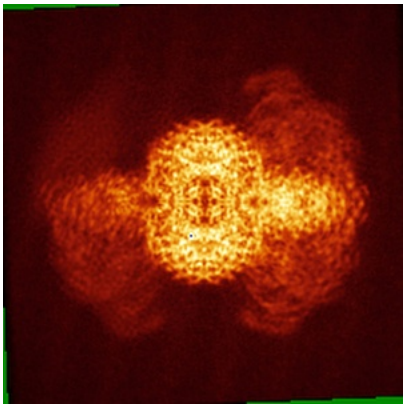
6.4.1 Primary map



X



Y

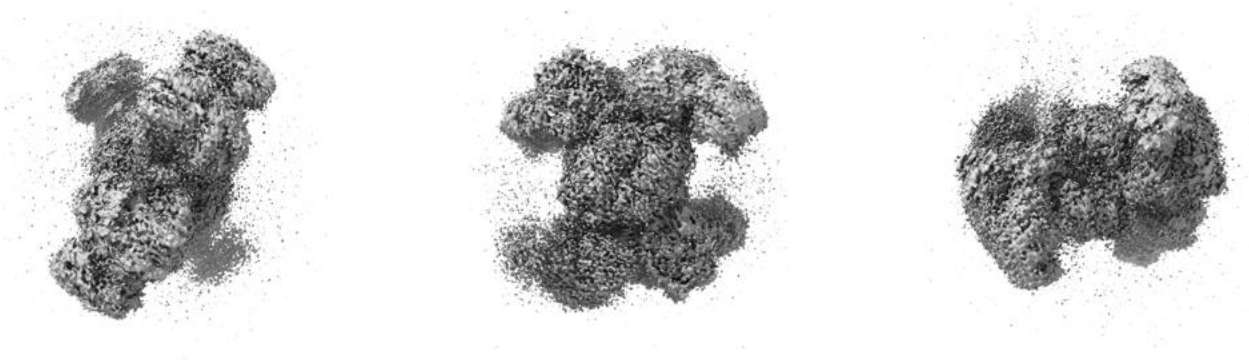


Z

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 0.2. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

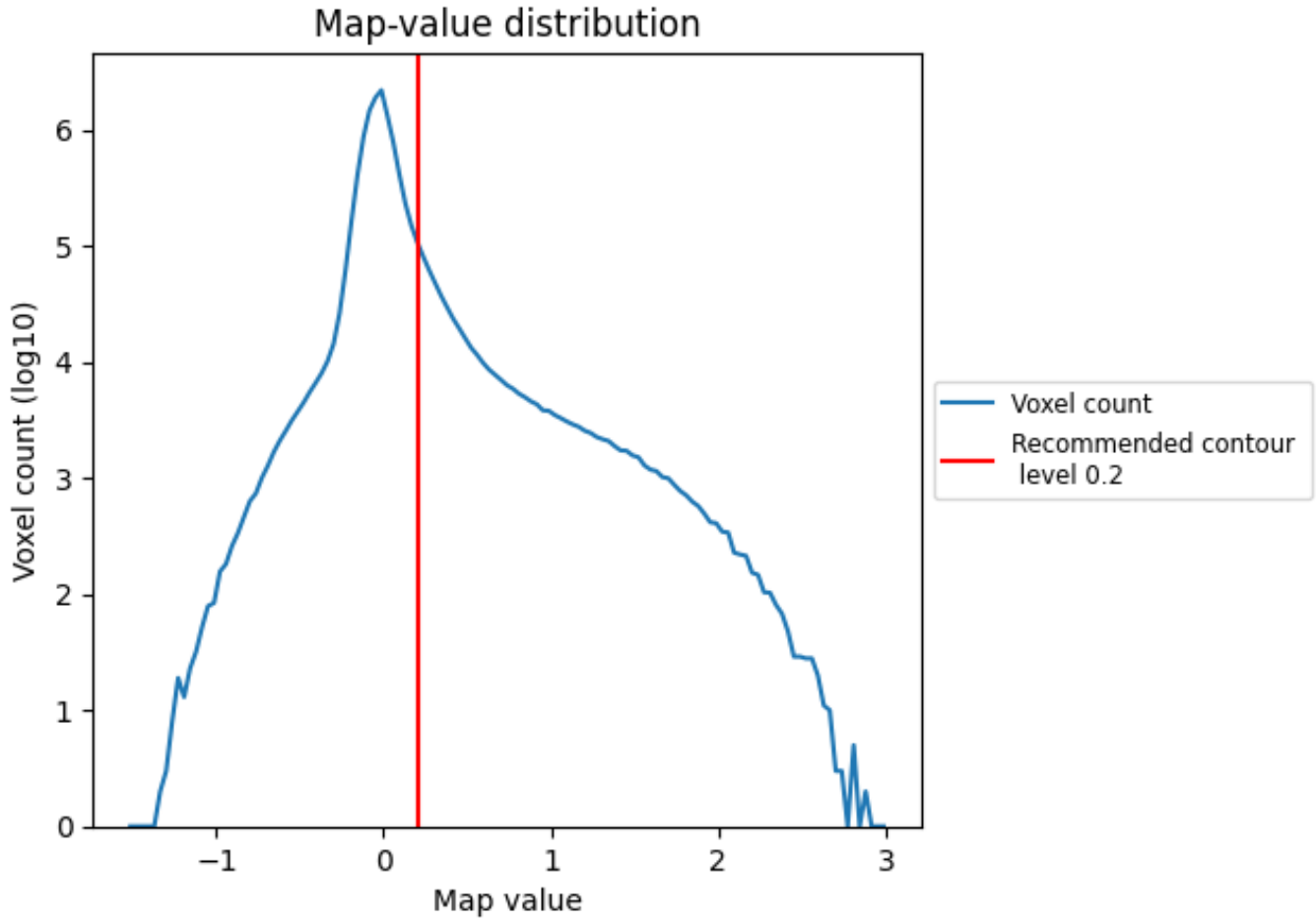
6.6 Mask visualisation (i)

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

7 Map analysis

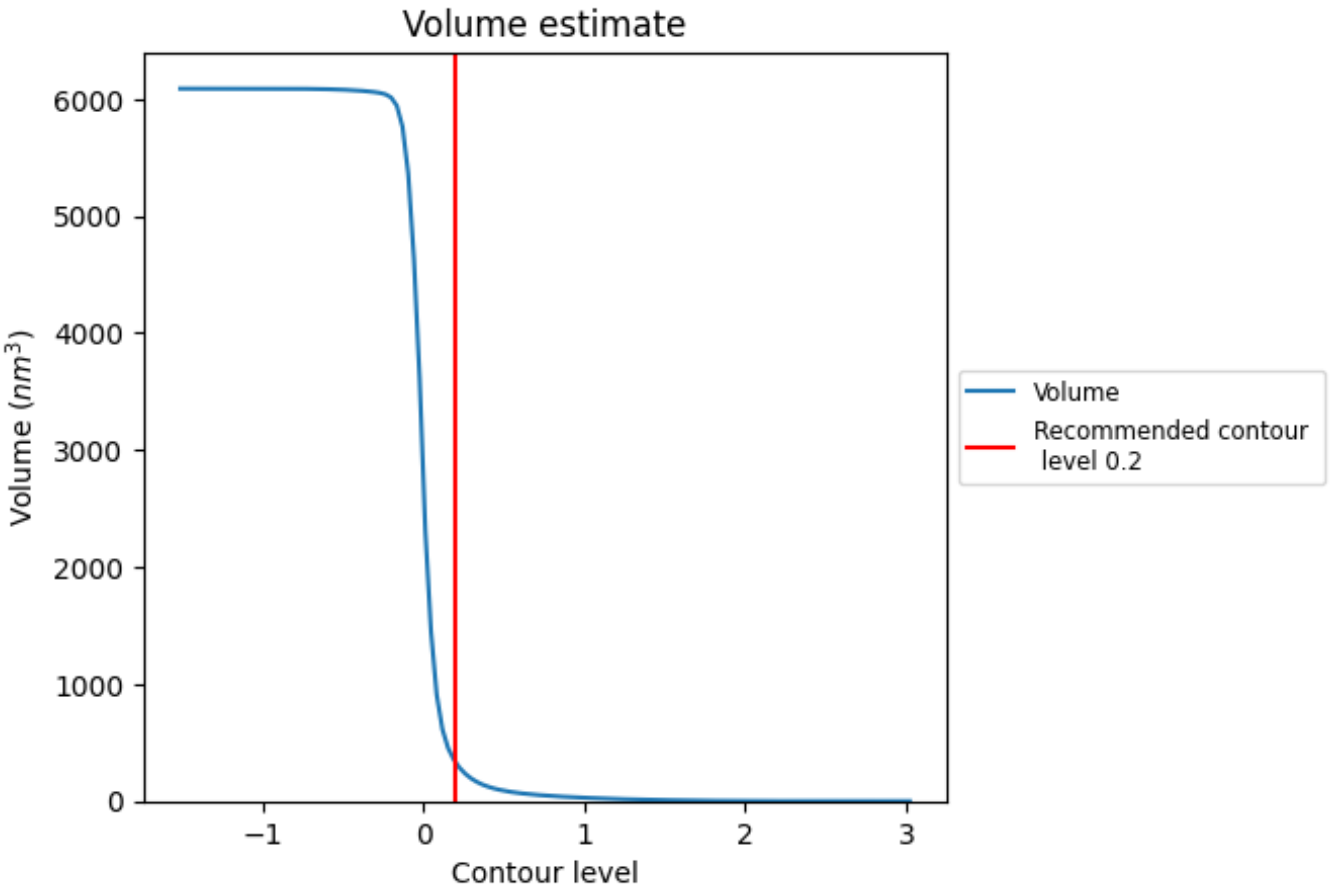
This section contains the results of statistical analysis of the map.

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.

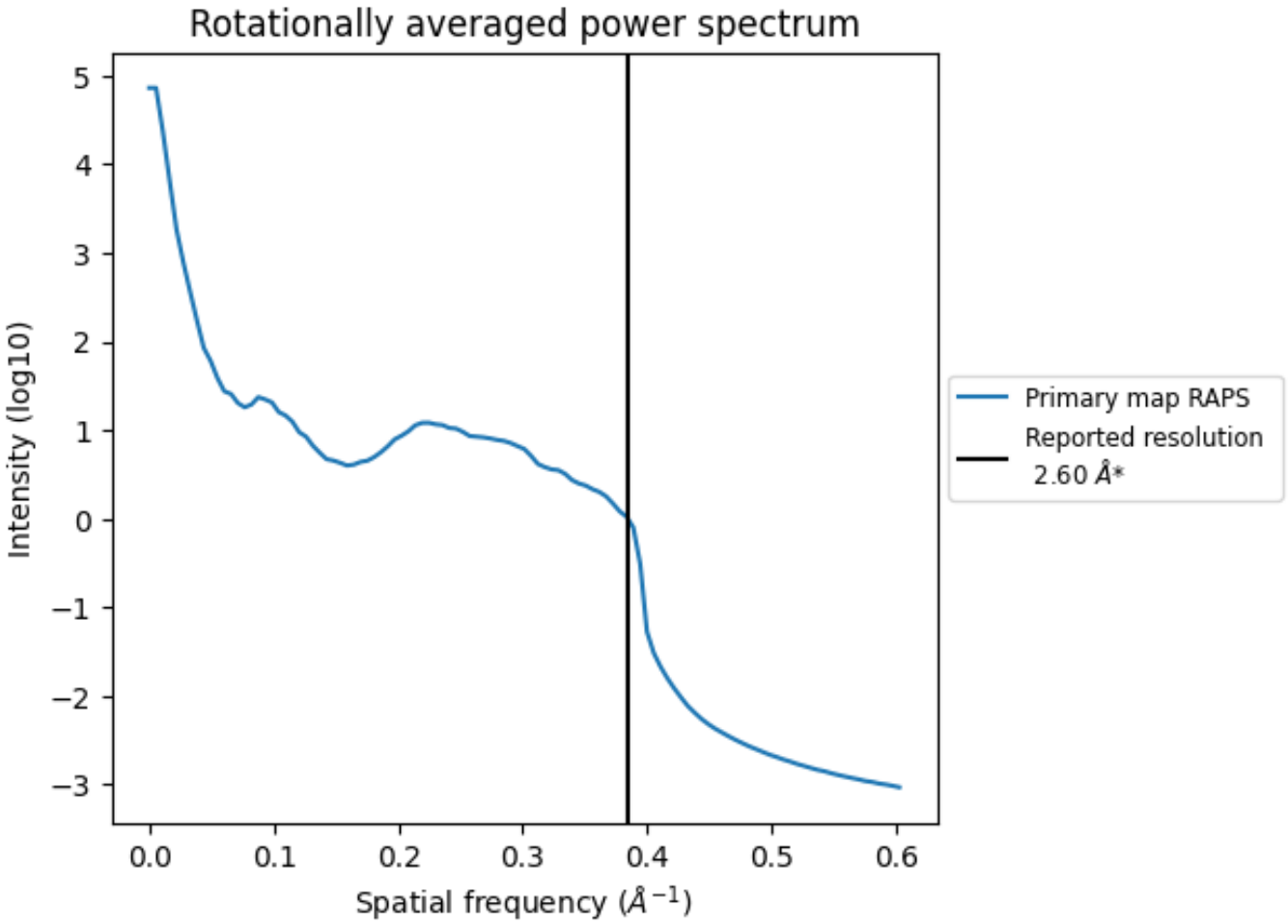
7.2 Volume estimate



The volume at the recommended contour level is 331 nm^3; this corresponds to an approximate mass of 299 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 0.385 $Å^{-1}$

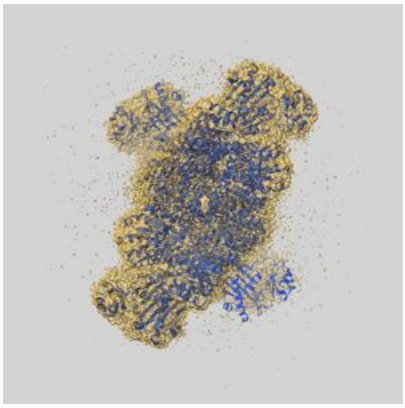
8 Fourier-Shell correlation (i)

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

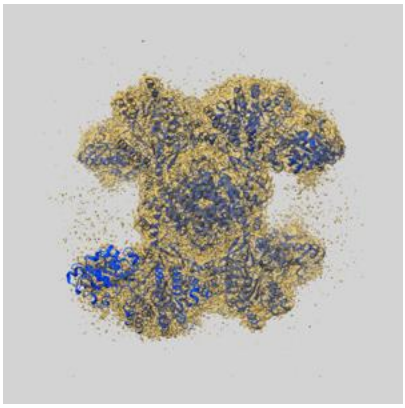
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-24511 and PDB model 7RKZ. Per-residue inclusion information can be found in section 3 on page 7.

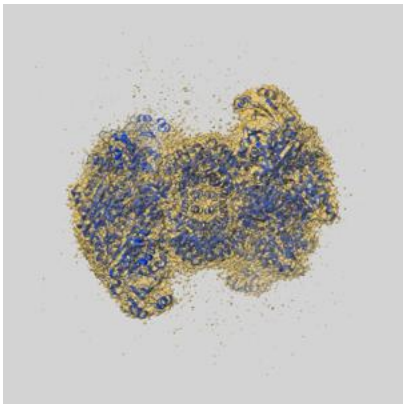
9.1 Map-model overlay



X



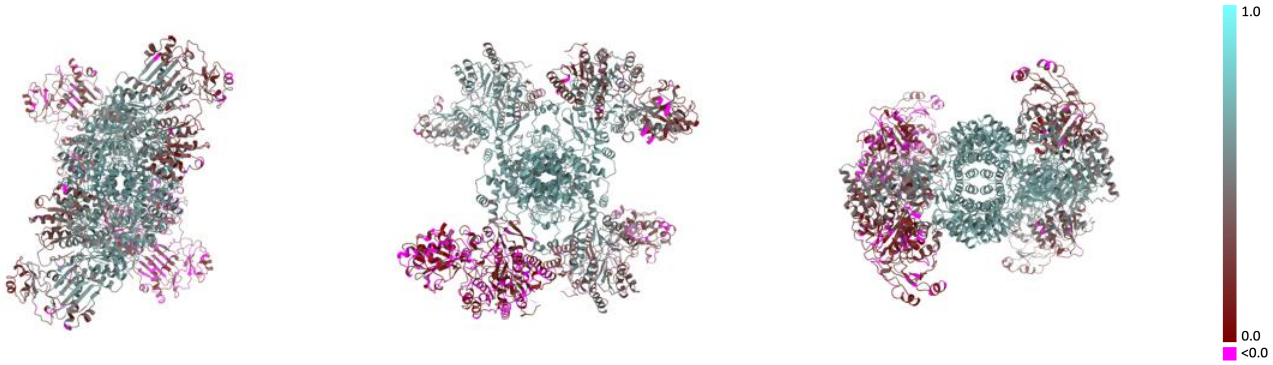
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.2 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.

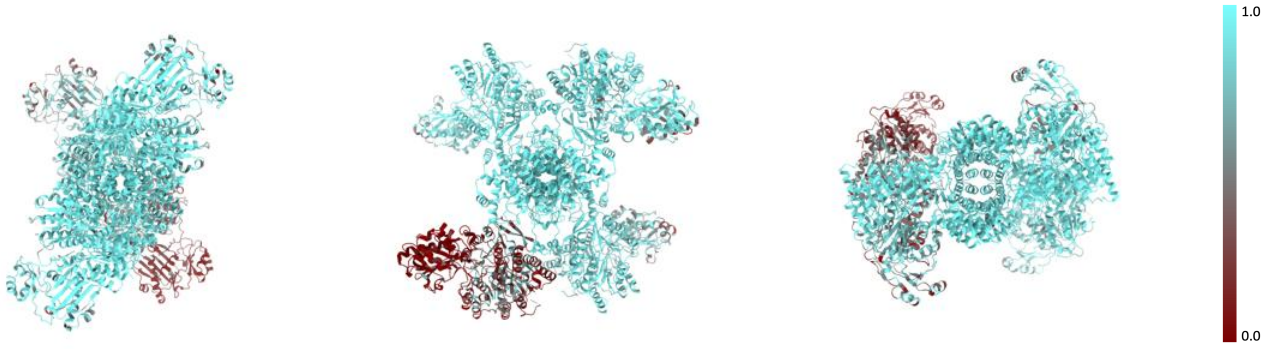
9.2 Q-score mapped to coordinate model (i)



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.

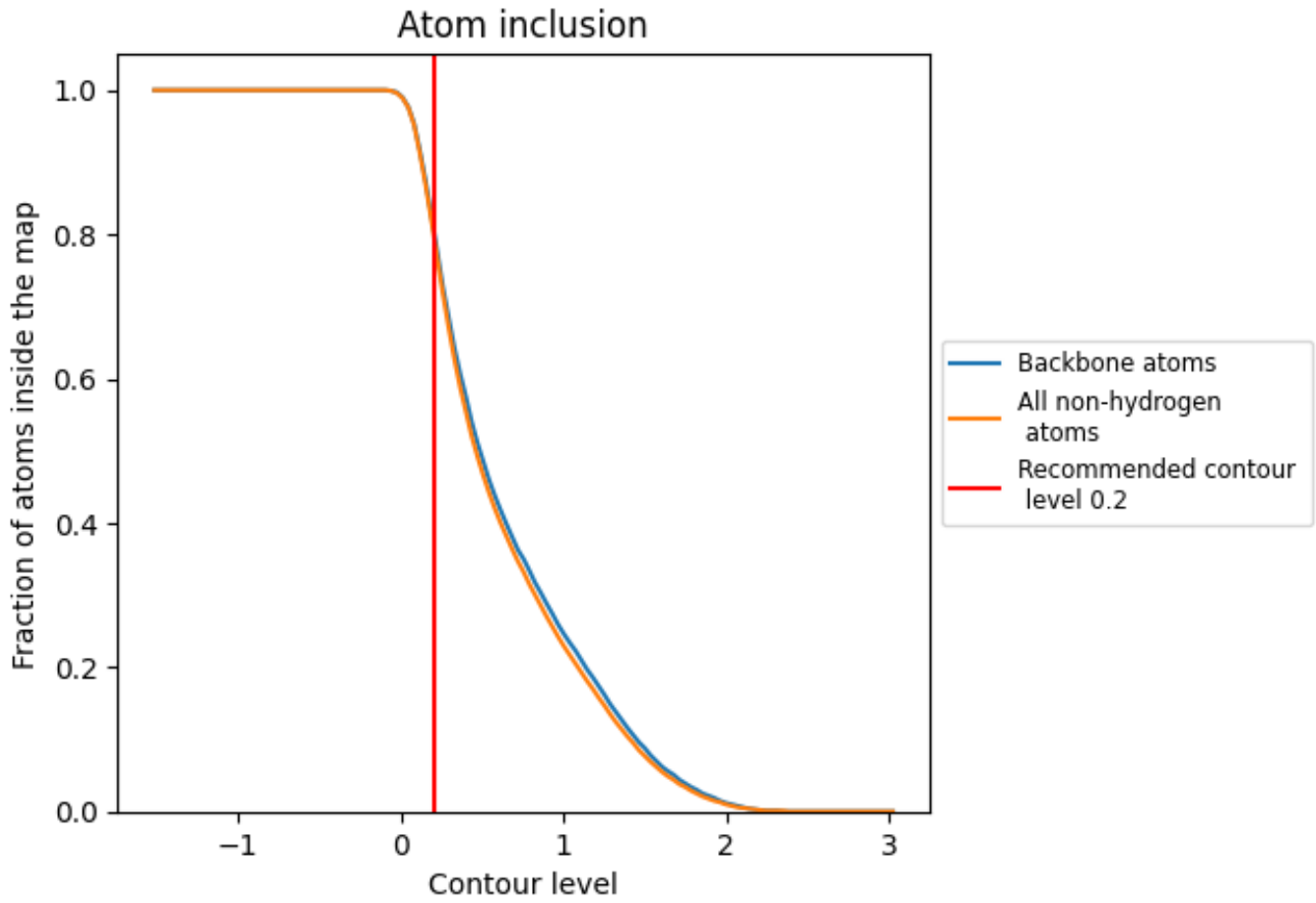
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.2).

9.4 Atom inclusion (i)



At the recommended contour level, 81% of all backbone atoms, 80% 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 (0.2) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8030	0.4120
A	0.9280	0.4910
B	0.9450	0.5230
C	0.4900	0.2380
D	0.8530	0.3970