Full wwPDB EM Validation Report ⓘ

May 8, 2025 – 01:50 PM EDT

PDB ID	:	8VM0 / pdb_00008vm0
EMDB ID	:	EMD-43350
Title	:	Composite structure of human FASN with NADPH in State 4
Authors	:	Schultz, K.; Marmorstein, R.
Deposited on	:	2024-01-12
Resolution	:	3.30 Å(reported)
Based on initial model	:	3HHD

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:

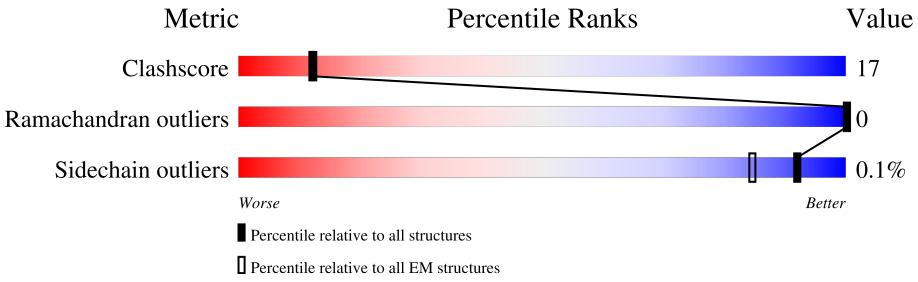
EMDB validation analysis	:	0.0.1.dev118
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0rc1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal 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 3.30 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	2553	59% 22% 19%
1	B	2553	58% 23% 19%

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 50709 atoms, of which 18827 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 Fatty acid synthase.

Mol	Chain	Residues	Atoms						AltConf	Trace
1	A	2068	Total	C	H	N	O	S	0	0
			25176	10041	9343	2785	2934	73		
1	B	2071	Total	C	H	N	O	S	0	0
			25237	10054	9380	2789	2941	73		

There are 88 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-31	MET	-	expression tag	UNP P49327
A	-30	SER	-	expression tag	UNP P49327
A	-29	TYR	-	expression tag	UNP P49327
A	-28	TYR	-	expression tag	UNP P49327
A	-27	ASP	-	expression tag	UNP P49327
A	-26	TYR	-	expression tag	UNP P49327
A	-25	LYS	-	expression tag	UNP P49327
A	-24	ASP	-	expression tag	UNP P49327
A	-23	ASP	-	expression tag	UNP P49327
A	-22	ASP	-	expression tag	UNP P49327
A	-21	ASP	-	expression tag	UNP P49327
A	-20	LYS	-	expression tag	UNP P49327
A	-19	ASP	-	expression tag	UNP P49327
A	-18	TYR	-	expression tag	UNP P49327
A	-17	ASP	-	expression tag	UNP P49327
A	-16	ILE	-	expression tag	UNP P49327
A	-15	PRO	-	expression tag	UNP P49327
A	-14	THR	-	expression tag	UNP P49327
A	-13	THR	-	expression tag	UNP P49327
A	-12	GLU	-	expression tag	UNP P49327
A	-11	ASN	-	expression tag	UNP P49327
A	-10	LEU	-	expression tag	UNP P49327
A	-9	TYR	-	expression tag	UNP P49327
A	-8	PHE	-	expression tag	UNP P49327
A	-7	GLN	-	expression tag	UNP P49327
A	-6	GLY	-	expression tag	UNP P49327

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-5	ALA	-	expression tag	UNP P49327
A	-4	MET	-	expression tag	UNP P49327
A	-3	GLY	-	expression tag	UNP P49327
A	-2	SER	-	expression tag	UNP P49327
A	-1	GLY	-	expression tag	UNP P49327
A	0	ILE	-	expression tag	UNP P49327
A	1	PRO	-	expression tag	UNP P49327
A	1151	THR	LYS	conflict	UNP P49327
A	2512	LEU	-	expression tag	UNP P49327
A	2513	GLU	-	expression tag	UNP P49327
A	2514	HIS	-	expression tag	UNP P49327
A	2515	HIS	-	expression tag	UNP P49327
A	2516	HIS	-	expression tag	UNP P49327
A	2517	HIS	-	expression tag	UNP P49327
A	2518	HIS	-	expression tag	UNP P49327
A	2519	HIS	-	expression tag	UNP P49327
A	2520	HIS	-	expression tag	UNP P49327
A	2521	HIS	-	expression tag	UNP P49327
B	-31	MET	-	expression tag	UNP P49327
B	-30	SER	-	expression tag	UNP P49327
B	-29	TYR	-	expression tag	UNP P49327
B	-28	TYR	-	expression tag	UNP P49327
B	-27	ASP	-	expression tag	UNP P49327
B	-26	TYR	-	expression tag	UNP P49327
B	-25	LYS	-	expression tag	UNP P49327
B	-24	ASP	-	expression tag	UNP P49327
B	-23	ASP	-	expression tag	UNP P49327
B	-22	ASP	-	expression tag	UNP P49327
B	-21	ASP	-	expression tag	UNP P49327
B	-20	LYS	-	expression tag	UNP P49327
B	-19	ASP	-	expression tag	UNP P49327
B	-18	TYR	-	expression tag	UNP P49327
B	-17	ASP	-	expression tag	UNP P49327
B	-16	ILE	-	expression tag	UNP P49327
B	-15	PRO	-	expression tag	UNP P49327
B	-14	THR	-	expression tag	UNP P49327
B	-13	THR	-	expression tag	UNP P49327
B	-12	GLU	-	expression tag	UNP P49327
B	-11	ASN	-	expression tag	UNP P49327
B	-10	LEU	-	expression tag	UNP P49327
B	-9	TYR	-	expression tag	UNP P49327
B	-8	PHE	-	expression tag	UNP P49327

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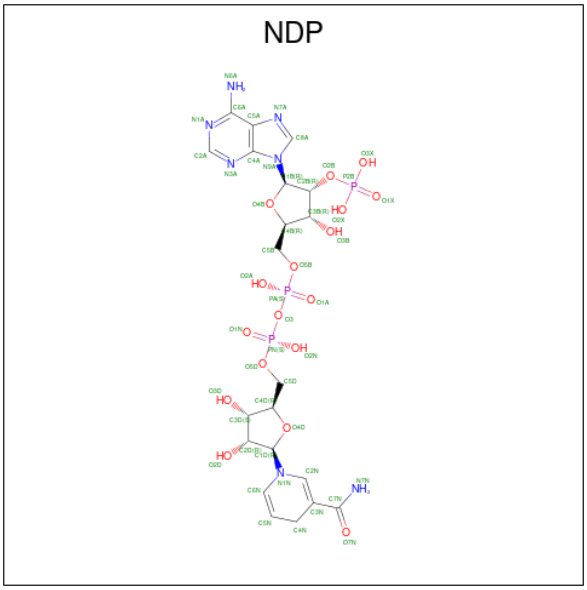
Chain	Residue	Modelled	Actual	Comment	Reference
B	-7	GLN	-	expression tag	UNP P49327
B	-6	GLY	-	expression tag	UNP P49327
B	-5	ALA	-	expression tag	UNP P49327
B	-4	MET	-	expression tag	UNP P49327
B	-3	GLY	-	expression tag	UNP P49327
B	-2	SER	-	expression tag	UNP P49327
B	-1	GLY	-	expression tag	UNP P49327
B	0	ILE	-	expression tag	UNP P49327
B	1	PRO	-	expression tag	UNP P49327
B	1151	THR	LYS	conflict	UNP P49327
B	2512	LEU	-	expression tag	UNP P49327
B	2513	GLU	-	expression tag	UNP P49327
B	2514	HIS	-	expression tag	UNP P49327
B	2515	HIS	-	expression tag	UNP P49327
B	2516	HIS	-	expression tag	UNP P49327
B	2517	HIS	-	expression tag	UNP P49327
B	2518	HIS	-	expression tag	UNP P49327
B	2519	HIS	-	expression tag	UNP P49327
B	2520	HIS	-	expression tag	UNP P49327
B	2521	HIS	-	expression tag	UNP P49327

- Molecule 2 is NADPH DIHYDRO-NICOTINAMIDE-ADENINE-DINUCLEOTIDE PHOSPHATE (CCD ID: NDP) (formula: $C_{21}H_{30}N_7O_{17}P_3$) (labeled as "Ligand of Interest" by depositor).



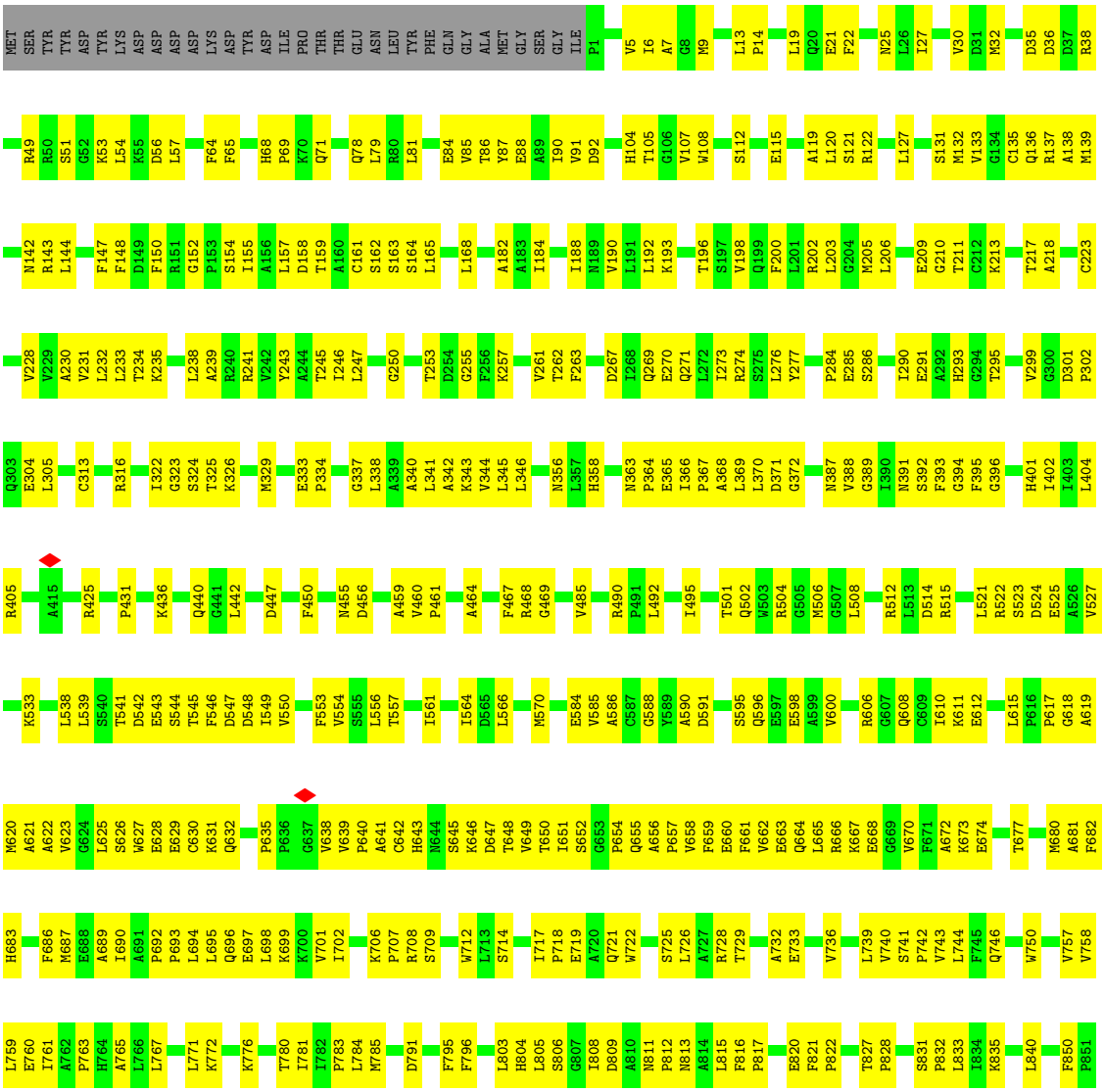
Mol	Chain	Residues	Atoms						AltConf
2	A	1	Total	C	H	N	O	P	0
			74	21	26	7	17	3	
2	A	1	Total	C	H	N	O	P	0
			74	21	26	7	17	3	
2	B	1	Total	C	H	N	O	P	0
			74	21	26	7	17	3	
2	B	1	Total	C	H	N	O	P	0
			74	21	26	7	17	3	

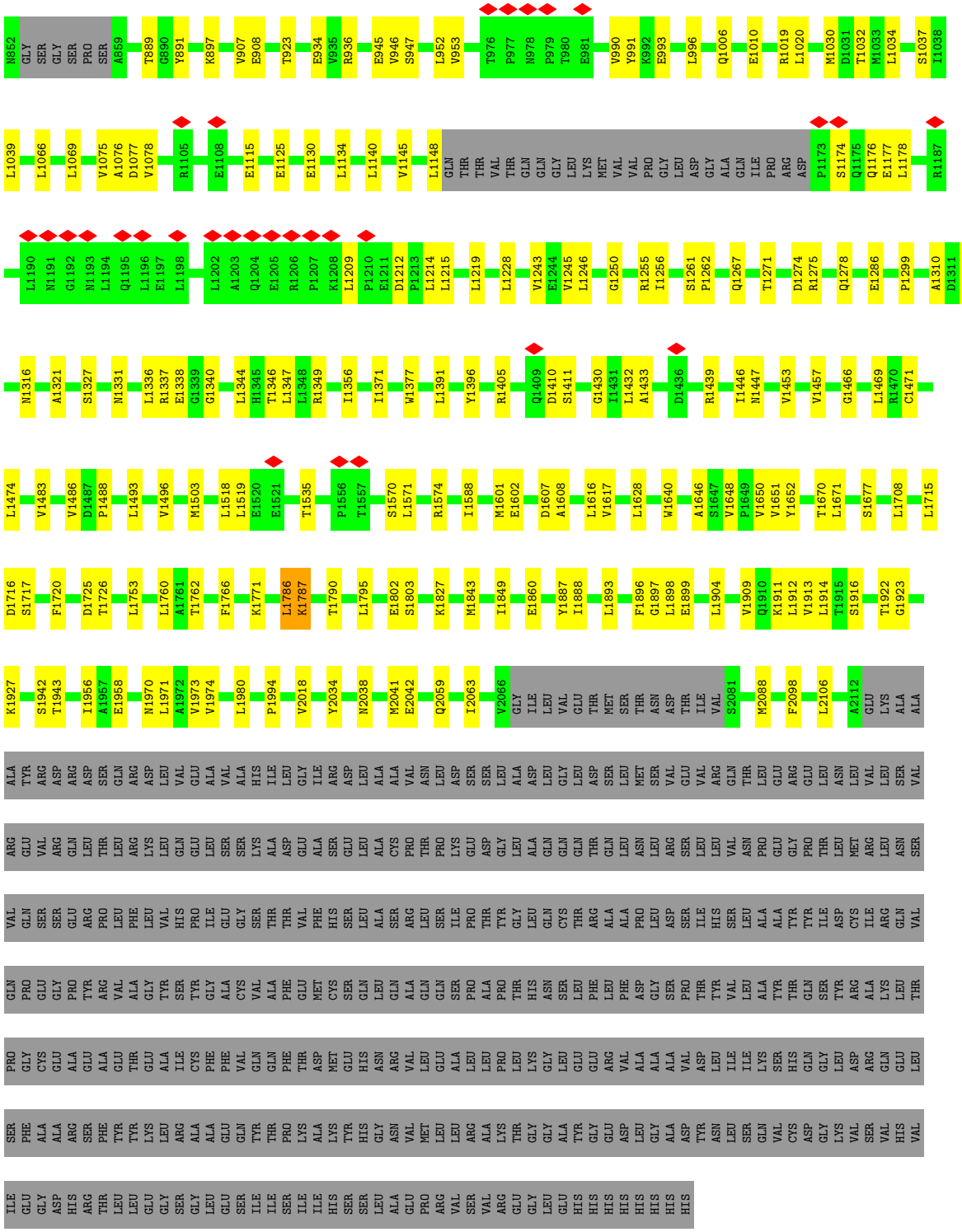
3 Residue-property plots (i)

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: Fatty acid synthase

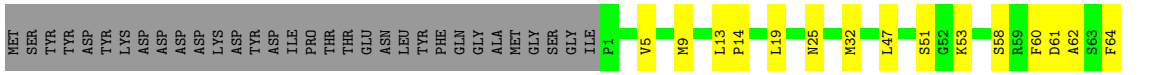
Chain A:

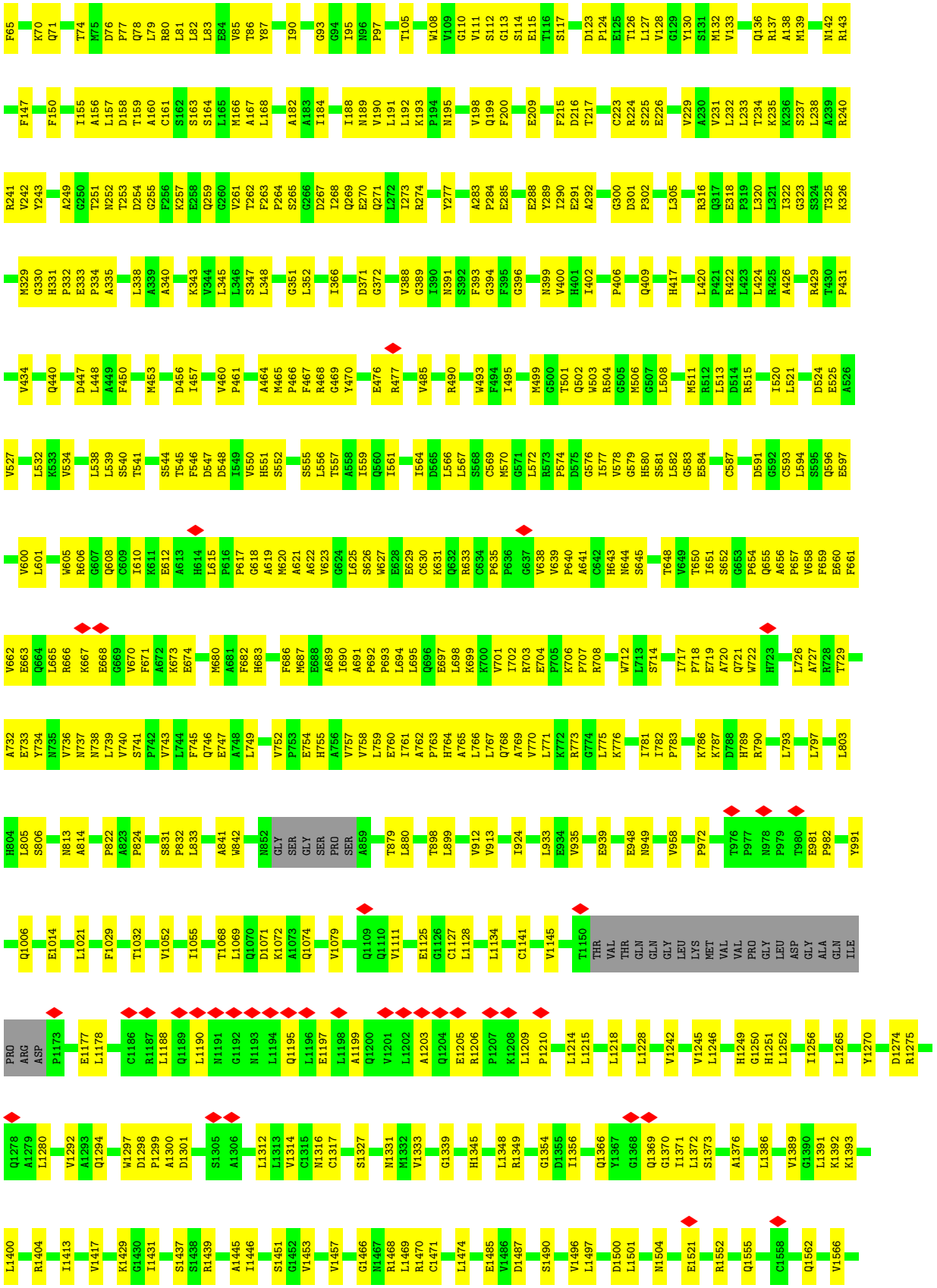


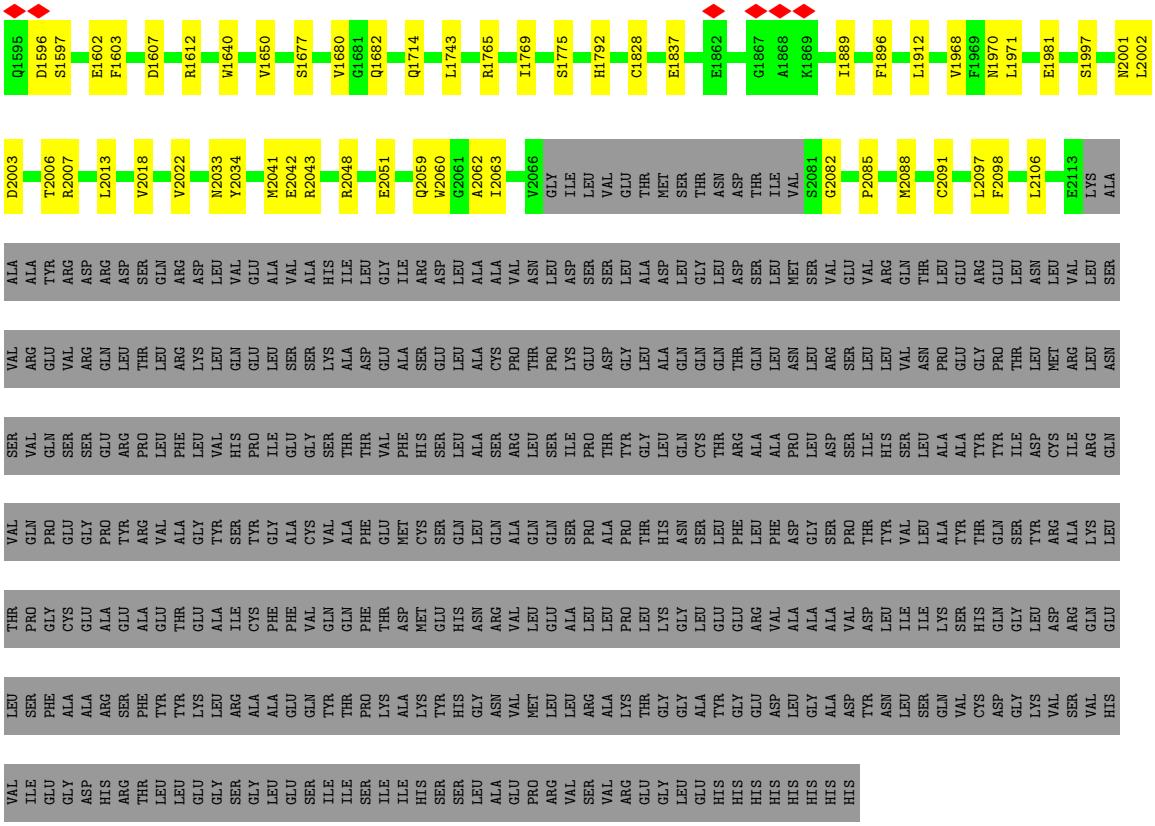


• Molecule 1: Fatty acid synthase

Chain B:




F65 K70 Q71 T74 M75 D76 P77 Q78 L79 R80 L81 L82 L83 E84 V85 T86 Y87 I90 G93 G94 I95 N96 P97 T105 W108 V109 G110 V111 S112 G113 S114 E115 T116 S117 D123 P124 E125 T126 L127 V128 G129 Y130 S131 M132 V133 Q136 R137 A138 M139 N142 R143
F147 F150 I155 A156 L157 D158 T159 A160 C161 S162 S163 S164 L165 M166 A167 L168 A182 A183 I184 I188 N189 V190 L191 L192 K193 P194 N195 V198 Q199 F200 E209 F215 D216 T217 C223 R224 S225 E226 V229 A230 V231 L232 L233 T234 K235 K236 S237 L238 A239 R240
R241 V242 Y243 A249 G250 T251 N252 T253 D254 G255 F256 K257 E258 Q259 G260 V261 T262 F263 P264 S265 G266 D267 I268 Q269 E270 Q271 L272 I273 R274 Y277 A283 P284 E285 E288 Y289 I290 E291 A292 G300 D301 P302 L305 R316 Q317 E318 P319 L320 L321 I322 G323 S324 T325 K326
M329 G330 H331 P332 E333 P334 A335 L338 A339 A340 K343 V344 L345 L346 S347 L348 G351 L352 I366 D371 G372 V388 G389 I390 N391 S392 F393 G394 F395 G396 N399 V400 H401 I402 P406 Q409 H417 L420 P421 R422 L423 L424 R425 A426 R429 T430 P431
V434 Q440 D447 L448 A449 F450 M453 D456 I457 V460 P461 A464 M465 P466 F467 R468 G469 Y470 E476 R477 V485 R490 W493 F494 I495 M499 G500 T501 Q502 W503 R504 G505 M506 G507 L508 M511 R512 L513 D514 R515 I520 L521 D524 E525 A526
V527 L532 K533 V534 L538 L539 S540 T541 S544 T545 F546 D547 D548 I549 V550 H551 S552 S555 L556 T557 A558 I559 Q560 I561 I564 D565 L566 L567 S568 C569 M570 G571 L572 R573 P574 D575 G576 I577 V578 G579 H580 S581 L582 G583 E584 C587 D591 G592 C593 L594 S595 Q596 E597
V600 L601 W605 R606 G607 Q608 C609 I610 K611 E612 A613 H614 L615 P616 P617 G618 A619 M620 A621 A622 V623 G624 L625 S626 W627 E628 E629 C630 K631 Q632 R633 C634 P635 P636 G637 V638 V639 P640 A641 C642 H643 N644 S645 T648 V649 T650 I651 S652 G653 P654 Q655 A656 P657 V658 F659 E660 F661
V662 E663 Q664 L665 R666 K667 E668 G669 V670 F671 A672 K673 E674 M680 A681 F682 H683 F686 M687 E688 A689 I690 A691 P692 P693 L694 L695 Q696 E697 L698 K699 K700 V701 I702 R703 E704 P705 K706 P707 R708 W712 L713 S714 I717 P718 E719 A720 Q721 W722 H723 L726 A727 R728 T729
A732 E733 Y734 N735 V736 N737 N738 L739 V740 S741 P742 V743 L744 F745 Q746 E747 A748 L749 V752 P753 E754 H755 A756 V757 V758 L759 E760 I761 A762 P763 H764 A765 L766 L767 Q768 A769 V770 L771 K772 R773 G774 L775 K776 I781 I782 P783 K786 K787 D788 H789 R790 L793 L797 L803
H804 L805 S806 N813 A814 P822 A823 P824 S831 P832 L833 A841 W842 N852 GLY SER GLY SER PRO SER A859 T879 L880 T898 L899 V912 V913 I924 L933 E934 V935 E939 E948 N949 V958 P972 T976 P977 N978 P979 T980 E981 P982 Y991
Q1006 E1014 L1021 F1029 T1032 V1052 I1055 T1068 L1069 Q1070 D1071 K1072 A1073 Q1074 V1079 Q1109 Q1110 V1111 E1125 G1126 C1127 L1128 L1134 C1141 V1145 T1150 THR VAL THR GLN GLN GLY LEU LYS MET VAL VAL PRO GLY LEU ASP GLY ALA GLN ILE
PRO ARG ASP P1173 E1177 L1178 C1186 R1187 L1188 Q1189 L1190 N1191 G1192 N1193 L1194 Q1195 L1196 E1197 L1198 A1199 Q1200 V1201 L1202 A1203 Q1204 E1205 R1206 P1207 K1208 L1209 P1210 L1214 L1215 L1218 L1228 V1242 V1245 L1246 H1249 G1250 H1251 L1252 I1256 L1265 Y1270 D1274 R1275
Q1278 A1279 L1280 V1292 A1293 Q1294 W1297 D1298 P1299 A1300 D1301 S1305 A1306 L1312 L1313 V1314 C1315 N1316 C1317 S1327 N1331 M1332 V1333 G1339 H1345 L1348 R1349 G1354 D1355 I1356 Q1366 Y1367 G1368 Q1369 G1370 I1371 L1372 S1373 A1376 L1386 V1389 G1390 L1391 K1392 K1393
L1400 R1404 I1413 V1417 K1429 G1430 I1431 S1437 S1438 R1439 A1445 I1446 S1451 G1452 V1453 V1457 G1466 N1467 R1468 L1469 R1470 C1471 L1474 E1485 V1486 D1487 S1490 V1496 L1497 D1500 L1501 N1504 E1521 R1552 Q1555 C1558 Q1562 V1566


Q1595 D1596 S1597 E1602 F1603 D1607 R1612 W1640 V1650 S1677 V1680 G1681 Q1682 Q1714 L1743 R1765 I1769 S1775 H1792 C1828 E1837 E1862 G1867 A1868 K1869 I1889 F1896 L1912 V1968 F1969 N1970 L1971 E1981 S1997 N2001 L2002
D2003 T2006 R2007 L2013 V2018 V2022 N2033 Y2034 M2041 E2042 R2043 R2048 E2051 Q2059 W2060 G2061 A2062 I2063 V2066 S2081 G2082 P2085 M2088 C2091 L2097 F2098 L2106 E2113
GLY ILE LEU VAL GLU THR MET SER THR ASN ASP SER THR ILE VAL LYS ALA

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	114182	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	52.4	Depositor
Minimum defocus (nm)	800	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.728	Depositor
Minimum map value	-0.169	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.027	Depositor
Recommended contour level	0.182	Depositor
Map size (Å)	384.84, 384.84, 384.84	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.069, 1.069, 1.069	Depositor

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: NDP

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	0.17	0/16198	0.30	2/22023 (0.0%)
1	B	0.19	0/16222	0.33	0/22055
All	All	0.18	0/32420	0.31	2/44078 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	1786	LEU	N-CA-C	-6.68	104.00	111.28
1	A	1787	LYS	N-CA-C	-5.11	102.72	110.28

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	15833	9343	15809	537	0
1	B	15857	9380	15826	556	0
2	A	96	52	52	1	0
2	B	96	52	52	3	0
All	All	31882	18827	31739	1077	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 17.

All (1077) 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:A:165:LEU:HD12	1:A:392:SER:CB	1.74	1.17
1:A:165:LEU:HD12	1:A:392:SER:OG	1.52	1.07
1:A:803:LEU:HD11	1:A:808:ILE:HD12	1.41	1.00
1:A:628:GLU:HA	1:A:631:LYS:HE2	1.40	0.98
1:A:165:LEU:HG	1:A:337:GLY:HA3	1.45	0.97
1:B:1446:ILE:HG23	1:B:1474:LEU:HD12	1.46	0.97
1:A:165:LEU:HD12	1:A:392:SER:HB3	1.46	0.97
1:B:502:GLN:OE1	1:B:552:SER:HB2	1.65	0.96
1:B:620:MET:HG3	1:B:652:SER:HB3	1.45	0.96
1:B:511:MET:HE1	1:B:520:ILE:HG21	1.48	0.95
1:A:440:GLN:HG3	1:A:833:LEU:HD22	1.48	0.95
1:B:687:MET:HE2	1:B:739:LEU:HD11	1.50	0.92
1:B:290:ILE:HG23	1:B:322:ILE:HD12	1.52	0.91
1:A:640:PRO:HA	1:A:651:ILE:HG22	1.51	0.90
1:B:499:MET:HG2	1:B:582:LEU:HD22	1.54	0.90
1:B:782:ILE:HG22	1:B:782:ILE:O	1.71	0.89
1:B:333:GLU:HB2	1:B:334:PRO:HD3	1.55	0.89
1:B:749:LEU:HD22	1:B:775:LEU:HD21	1.53	0.88
1:A:620:MET:HB3	1:A:677:THR:HG21	1.55	0.88
1:B:654:PRO:HB2	1:B:657:PRO:HD2	1.56	0.87
1:B:581:SER:HA	1:B:738:ASN:HD21	1.38	0.86
1:A:164:SER:HB2	1:A:338:LEU:HD13	1.54	0.86
1:A:687:MET:HE2	1:A:739:LEU:HD11	1.57	0.86
1:B:78:GLN:HE21	1:B:188:ILE:HD12	1.38	0.86
1:B:499:MET:HE1	1:B:682:PHE:CD2	2.11	0.85
1:A:654:PRO:HB2	1:A:657:PRO:HD2	1.60	0.84
1:B:164:SER:HB3	1:B:338:LEU:HG	1.58	0.84
1:A:692:PRO:O	1:A:695:LEU:HG	1.78	0.84
1:B:325:THR:HB	1:B:343:LYS:HD3	1.59	0.83
1:A:396:GLY:HA3	1:B:142:ASN:HD22	1.43	0.83
1:A:1607:ASP:OD1	1:A:1608:ALA:N	2.13	0.82
1:B:78:GLN:NE2	1:B:188:ILE:HD12	1.95	0.82
1:B:717:ILE:HD12	1:B:727:ALA:HB2	1.62	0.82
1:A:1337:ARG:NH1	1:A:1338:GLU:O	2.13	0.82
1:A:54:LEU:HD12	1:A:57:LEU:HD21	1.63	0.81
1:B:1496:VAL:HG13	1:B:1504:ASN:ND2	1.96	0.81
1:B:1298:ASP:OD1	1:B:1299:PRO:HD2	1.79	0.81
1:A:51:SER:O	1:A:53:LYS:NZ	2.13	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:71:GLN:NE2	1:B:143:ARG:HH12	1.79	0.80
1:A:22:PHE:HD1	1:A:32:MET:HE1	1.46	0.80
1:B:477:ARG:HH12	1:B:790:ARG:HD2	1.46	0.79
1:B:752:VAL:O	1:B:776:LYS:NZ	2.14	0.79
1:B:581:SER:CB	1:B:683:HIS:HE2	1.95	0.79
1:B:1437:SER:OG	1:B:1468:ARG:NH1	2.16	0.79
1:B:695:LEU:HD11	1:B:699:LYS:HE2	1.65	0.79
1:B:1429:LYS:NZ	1:B:1981:GLU:O	2.16	0.79
1:B:556:LEU:HD23	1:B:582:LEU:HD23	1.64	0.79
1:A:165:LEU:CD1	1:A:392:SER:HB3	2.12	0.79
1:A:626:SER:HB3	1:A:629:GLU:HG2	1.63	0.79
1:A:217:THR:HG22	1:A:364:PRO:HD3	1.66	0.78
1:A:623:VAL:HG12	1:A:625:LEU:H	1.49	0.78
1:A:642:CYS:HA	1:A:743:VAL:HB	1.64	0.77
1:A:564:ILE:HD13	1:A:590:ALA:HB2	1.65	0.77
1:A:21:GLU:O	1:A:25:ASN:ND2	2.17	0.77
1:B:499:MET:CE	1:B:682:PHE:CD2	2.67	0.77
1:A:522:ARG:NH1	1:A:596:GLN:OE1	2.18	0.77
1:A:622:ALA:HA	1:A:650:THR:HA	1.67	0.77
1:A:656:ALA:HB3	1:A:657:PRO:HD3	1.66	0.77
1:B:654:PRO:HB2	1:B:657:PRO:CD	2.15	0.76
1:B:654:PRO:HG3	1:B:686:PHE:HZ	1.50	0.76
1:A:621:ALA:HB1	1:A:673:LYS:O	1.85	0.76
1:A:628:GLU:OE1	1:A:628:GLU:N	2.20	0.75
1:A:654:PRO:HG3	1:A:686:PHE:HZ	1.50	0.75
1:A:549:ILE:HD11	1:A:611:LYS:HG3	1.68	0.75
1:B:1145:VAL:HG21	1:B:1356:ILE:HG12	1.69	0.75
1:A:139:MET:HE2	1:A:142:ASN:HB2	1.67	0.75
1:B:621:ALA:HA	1:B:674:GLU:HA	1.69	0.75
1:A:139:MET:HE2	1:A:139:MET:HA	1.67	0.74
1:B:74:THR:HG21	1:B:128:VAL:HG21	1.70	0.74
1:A:694:LEU:HD23	1:A:698:LEU:HG	1.69	0.74
1:B:1242:VAL:HG22	1:B:1312:LEU:HB3	1.67	0.74
1:A:14:PRO:HD2	1:A:329:MET:HE3	1.69	0.74
1:A:293:HIS:N	1:A:304:GLU:OE2	2.18	0.74
1:A:783:PRO:HB2	1:A:795:PHE:HE2	1.53	0.73
1:B:136:GLN:HB3	1:B:139:MET:HG2	1.68	0.73
1:A:79:LEU:HD21	1:A:143:ARG:HG3	1.69	0.73
1:B:495:ILE:HD13	1:B:578:VAL:HB	1.69	0.73
1:B:548:ASP:OD1	1:B:550:VAL:N	2.22	0.73
1:B:1249:HIS:O	1:B:1251:HIS:ND1	2.22	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:429:ARG:NH1	1:B:464:ALA:O	2.22	0.72
1:B:633:ARG:NH2	1:B:668:GLU:OE2	2.18	0.72
1:A:759:LEU:HD22	1:A:784:LEU:HD11	1.70	0.72
1:B:499:MET:CE	1:B:682:PHE:HD2	2.03	0.72
1:A:623:VAL:HG13	1:A:665:LEU:HD13	1.71	0.72
1:A:718:PRO:HG3	1:A:744:LEU:HD11	1.72	0.72
1:B:1327:SER:O	1:B:1331:ASN:ND2	2.22	0.71
1:B:305:LEU:HD22	1:B:366:ILE:HD13	1.73	0.71
1:A:241:ARG:HD3	1:A:243:TYR:CZ	2.25	0.71
1:A:13:LEU:HD22	1:A:329:MET:HE1	1.72	0.71
1:A:660:GLU:O	1:A:663:GLU:HG2	1.90	0.71
1:A:1286:GLU:OE1	1:A:1286:GLU:N	2.23	0.71
1:B:468:ARG:HD2	1:B:485:VAL:HG21	1.73	0.71
1:A:570:MET:HE2	1:A:815:LEU:HD11	1.73	0.71
1:A:425:ARG:HH21	1:A:811:ASN:HD22	1.39	0.71
1:A:524:ASP:OD1	1:A:533:LYS:HA	1.91	0.71
1:A:741:SER:HB2	1:A:742:PRO:HD2	1.73	0.70
1:A:22:PHE:CD1	1:A:32:MET:HE1	2.27	0.70
1:A:78:GLN:HB3	1:A:188:ILE:HD12	1.73	0.70
1:B:329:MET:HE2	1:B:332:PRO:HD3	1.73	0.70
1:A:209:GLU:OE1	1:A:209:GLU:N	2.24	0.70
1:B:460:VAL:HG22	1:B:461:PRO:HD2	1.74	0.70
1:A:832:PRO:O	1:A:835:LYS:NZ	2.25	0.70
1:B:1274:ASP:OD1	1:B:1275:ARG:N	2.24	0.70
1:A:566:LEU:HD22	1:A:815:LEU:HD22	1.71	0.70
1:B:1552:ARG:O	1:B:1555:GLN:NE2	2.25	0.70
1:B:316:ARG:HH12	1:B:320:LEU:HD13	1.57	0.70
1:A:440:GLN:HG3	1:A:833:LEU:CD2	2.21	0.69
1:A:36:ASP:OD2	1:A:38:ARG:NE	2.26	0.69
1:B:569:CYS:SG	1:B:814:ALA:HB1	2.33	0.69
1:B:622:ALA:HA	1:B:650:THR:HA	1.74	0.69
1:B:1457:VAL:HG21	1:B:1471:CYS:HB3	1.75	0.69
1:B:654:PRO:HG3	1:B:686:PHE:CZ	2.27	0.69
1:A:1571:LEU:O	1:A:1843:MET:HE1	1.93	0.69
1:B:757:VAL:HG13	1:B:782:ILE:HD12	1.75	0.69
1:B:1349:ARG:NH2	1:B:1371:ILE:HG23	2.06	0.69
1:A:639:VAL:HB	1:A:640:PRO:HD2	1.75	0.69
1:A:1010:GLU:OE2	1:A:1019:ARG:NH2	2.26	0.69
1:B:79:LEU:HD21	1:B:143:ARG:HG3	1.75	0.69
1:B:2042:GLU:OE2	1:B:2059:GLN:NE2	2.25	0.69
1:A:538:LEU:HD23	1:A:546:PHE:HZ	1.59	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:776:LYS:H	1:A:776:LYS:HD2	1.56	0.68
1:B:524:ASP:OD1	1:B:534:VAL:HB	1.91	0.68
1:B:721:GLN:OE1	1:B:721:GLN:N	2.26	0.68
1:A:527:VAL:HG13	1:A:600:VAL:HG12	1.74	0.68
1:A:725:SER:HA	1:A:728:ARG:NH1	2.08	0.68
1:B:1300:ALA:O	1:B:1331:ASN:ND2	2.27	0.68
1:B:476:GLU:OE2	1:B:790:ARG:NH1	2.25	0.68
1:B:574:PRO:HG2	1:B:577:ILE:HD11	1.74	0.68
1:A:1827:LYS:NZ	1:A:1849:ILE:O	2.24	0.68
1:B:719:GLU:HA	1:B:722:TRP:CD1	2.28	0.68
1:A:697:GLU:O	1:A:701:VAL:HG23	1.93	0.68
1:B:261:VAL:HG13	1:B:262:THR:HG23	1.76	0.68
1:B:708:ARG:NH2	1:B:714:SER:HB2	2.09	0.68
1:B:2006:THR:CG2	1:B:2013:LEU:HD13	2.24	0.68
1:A:1457:VAL:HG11	1:A:1471:CYS:HB2	1.76	0.67
1:B:1177:GLU:N	1:B:1177:GLU:OE1	2.27	0.67
1:A:274:ARG:HA	1:A:277:TYR:CE2	2.30	0.67
1:B:274:ARG:HA	1:B:277:TYR:CE2	2.29	0.67
1:A:783:PRO:HB2	1:A:795:PHE:CE2	2.30	0.67
1:A:606:ARG:O	1:A:610:ILE:HG13	1.94	0.67
1:A:161:CYS:HB2	1:A:394:GLY:HA2	1.75	0.67
1:A:596:GLN:O	1:A:600:VAL:HG23	1.94	0.67
1:B:645:SER:HA	1:B:746:GLN:NE2	2.10	0.67
1:B:697:GLU:O	1:B:701:VAL:HG23	1.95	0.67
1:A:657:PRO:O	1:A:660:GLU:HG2	1.95	0.66
1:A:908:GLU:OE1	1:A:908:GLU:N	2.28	0.66
1:A:708:ARG:HG2	1:A:709:SER:N	2.11	0.66
1:A:831:SER:OG	1:A:832:PRO:HD3	1.95	0.66
1:A:165:LEU:CG	1:A:337:GLY:HA3	2.24	0.66
1:A:657:PRO:HA	1:A:660:GLU:HG2	1.75	0.66
1:B:47:LEU:HD21	1:B:198:VAL:CG2	2.25	0.66
1:A:138:ALA:CB	1:B:160:ALA:HB2	2.26	0.66
1:A:365:GLU:O	1:A:367:PRO:HD3	1.96	0.66
1:A:784:LEU:O	1:A:785:MET:HG3	1.96	0.66
1:A:763:PRO:HA	1:A:785:MET:HE2	1.77	0.66
1:A:635:PRO:HD3	1:A:661:PHE:CD1	2.30	0.66
1:A:285:GLU:OE1	1:A:285:GLU:N	2.27	0.66
1:A:619:ALA:HB3	1:A:655:GLN:HA	1.77	0.66
1:A:708:ARG:HG2	1:A:709:SER:H	1.60	0.66
1:A:706:LYS:O	1:A:729:THR:OG1	2.09	0.66
1:A:1942:SER:O	1:A:1943:THR:OG1	2.13	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:620:MET:CG	1:B:652:SER:HB3	2.21	0.66
1:B:655:GLN:O	1:B:658:VAL:HG12	1.96	0.66
1:A:460:VAL:HG13	1:A:461:PRO:HD2	1.78	0.66
1:A:542:ASP:OD2	1:A:544:SER:OG	2.13	0.65
1:A:64:PHE:HE1	1:A:464:ALA:HB1	1.61	0.65
1:A:665:LEU:HB3	1:A:670:VAL:CG2	2.27	0.65
1:B:1496:VAL:CG1	1:B:1504:ASN:HD22	2.09	0.65
1:B:625:LEU:CD2	1:B:670:VAL:HG11	2.26	0.65
1:A:14:PRO:O	1:A:32:MET:HE2	1.94	0.65
1:B:112:SER:C	1:B:137:ARG:HH12	2.04	0.65
1:B:635:PRO:HD2	1:B:638:VAL:HG11	1.78	0.65
1:A:165:LEU:CD1	1:A:392:SER:CB	2.64	0.65
1:A:1410:ASP:OD1	1:A:1411:SER:N	2.29	0.65
1:B:737:ASN:HA	1:B:740:VAL:HG22	1.77	0.65
1:A:621:ALA:HB2	1:A:674:GLU:HG2	1.78	0.65
1:B:639:VAL:HG13	1:B:640:PRO:HD2	1.78	0.65
1:B:65:PHE:HA	1:B:147:PHE:CE1	2.31	0.65
1:B:274:ARG:HA	1:B:277:TYR:CD2	2.31	0.65
1:B:737:ASN:HA	1:B:740:VAL:CG2	2.27	0.65
1:A:84:GLU:O	1:A:88:GLU:HG3	1.97	0.64
1:A:1176:GLN:N	1:A:1176:GLN:OE1	2.29	0.64
1:A:803:LEU:CD1	1:A:808:ILE:HD12	2.23	0.64
1:B:9:MET:HG2	1:B:19:LEU:HD11	1.79	0.64
1:B:581:SER:CA	1:B:738:ASN:HD21	2.07	0.64
1:B:591:ASP:OD2	1:B:712:TRP:HB2	1.97	0.64
1:B:440:GLN:HG3	1:B:833:LEU:HD22	1.79	0.64
1:B:548:ASP:OD1	1:B:550:VAL:HG12	1.96	0.64
1:B:1205:GLU:O	1:B:1209:LEU:N	2.30	0.64
1:A:523:SER:O	1:A:527:VAL:HG22	1.97	0.64
1:A:666:ARG:HH21	1:A:672:ALA:HB3	1.63	0.64
1:A:619:ALA:O	1:A:658:VAL:HG21	1.98	0.63
1:B:60:PHE:CD1	1:B:80:ARG:HB3	2.34	0.63
1:B:47:LEU:HD21	1:B:198:VAL:HG22	1.79	0.63
1:A:502:GLN:OE1	1:A:502:GLN:N	2.21	0.63
1:A:719:GLU:HA	1:A:722:TRP:CD1	2.33	0.63
1:B:782:ILE:O	1:B:782:ILE:CG2	2.44	0.63
1:A:267:ASP:O	1:A:271:GLN:HG3	1.99	0.63
1:B:113:GLY:N	1:B:137:ARG:HH12	1.97	0.63
1:B:597:GLU:O	1:B:601:LEU:HG	1.98	0.63
1:B:638:VAL:HG23	1:B:652:SER:O	1.99	0.63
1:A:645:SER:HA	1:A:746:GLN:HE21	1.64	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:112:SER:HB3	1:B:334:PRO:HG3	1.78	0.63
1:B:719:GLU:HA	1:B:722:TRP:CG	2.33	0.63
1:A:188:ILE:HG22	1:A:228:VAL:HG13	1.80	0.63
1:A:324:SER:H	1:A:356:ASN:HD21	1.47	0.63
1:A:468:ARG:HD3	1:A:804:HIS:CE1	2.33	0.63
1:A:664:GLN:NE2	1:A:668:GLU:OE2	2.32	0.63
1:B:625:LEU:HD21	1:B:670:VAL:HG11	1.80	0.63
1:B:1997:SER:O	1:B:2001:ASN:ND2	2.32	0.63
1:A:615:LEU:HB2	1:A:680:MET:HE1	1.80	0.63
1:B:622:ALA:N	1:B:673:LYS:O	2.29	0.63
1:B:25:ASN:HB2	1:B:32:MET:HE2	1.80	0.62
1:A:132:MET:HE2	1:B:200:PHE:CZ	2.34	0.62
1:A:161:CYS:HA	1:A:333:GLU:O	1.98	0.62
1:B:662:VAL:O	1:B:666:ARG:HG2	1.99	0.62
1:A:198:VAL:O	1:A:202:ARG:HG2	1.99	0.62
1:A:211:THR:HG22	1:A:213:LYS:HG3	1.81	0.62
1:A:305:LEU:HD12	1:A:366:ILE:HG12	1.80	0.62
1:B:768:GLN:OE1	1:B:781:ILE:HG21	1.99	0.62
1:A:290:ILE:HG23	1:A:322:ILE:HG13	1.80	0.62
1:B:168:LEU:CD2	1:B:233:LEU:HD21	2.29	0.62
1:A:431:PRO:HG3	1:A:467:PHE:CE2	2.34	0.62
1:B:241:ARG:HH21	1:B:453:MET:HE1	1.64	0.62
1:B:745:PHE:HE1	1:B:749:LEU:HD21	1.64	0.62
1:B:2088:MET:HE3	1:B:2091:CYS:HB2	1.81	0.62
1:A:217:THR:HG22	1:A:364:PRO:CD	2.29	0.62
1:A:276:LEU:HD12	1:A:401:HIS:HB3	1.80	0.62
1:B:581:SER:HB3	1:B:683:HIS:HE2	1.65	0.62
1:B:757:VAL:CG1	1:B:782:ILE:HD12	2.29	0.62
1:B:1496:VAL:HG13	1:B:1504:ASN:HD22	1.64	0.62
1:A:468:ARG:HD2	1:A:485:VAL:HG21	1.82	0.62
1:B:191:LEU:C	1:B:192:LEU:HD12	2.25	0.62
1:B:1250:GLY:O	1:B:1316:ASN:ND2	2.33	0.62
1:B:2006:THR:HG23	1:B:2013:LEU:HD13	1.81	0.62
1:B:1837:GLU:N	1:B:1837:GLU:OE1	2.29	0.62
1:B:704:GLU:OE1	1:B:704:GLU:N	2.33	0.61
1:B:25:ASN:CB	1:B:32:MET:HE2	2.31	0.61
1:B:114:SER:OG	1:B:117:SER:OG	2.18	0.61
1:B:639:VAL:CG1	1:B:640:PRO:HD2	2.30	0.61
1:A:1243:VAL:HG12	1:A:1271:THR:CG2	2.30	0.61
1:A:1616:LEU:HD13	1:A:1650:VAL:HG22	1.83	0.61
1:B:622:ALA:HB3	1:B:673:LYS:HG3	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:726:LEU:HD11	1:B:733:GLU:HB3	1.82	0.61
1:B:766:LEU:HD23	1:B:766:LEU:O	2.00	0.61
1:B:1373:SER:O	1:B:1376:ALA:N	2.34	0.61
1:A:549:ILE:HD12	1:A:550:VAL:N	2.16	0.61
1:A:767:LEU:O	1:A:771:LEU:HD13	2.00	0.61
1:A:138:ALA:HB3	1:B:160:ALA:HB2	1.81	0.61
1:A:733:GLU:OE1	1:A:733:GLU:N	2.25	0.61
1:A:155:ILE:HG22	1:A:157:LEU:HD12	1.82	0.61
1:A:759:LEU:HD22	1:A:784:LEU:CD1	2.31	0.61
1:B:608:GLN:O	1:B:612:GLU:HG3	2.00	0.60
1:B:1521:GLU:OE1	1:B:1521:GLU:N	2.32	0.60
1:A:203:LEU:HD12	1:B:132:MET:CE	2.30	0.60
1:A:945:GLU:OE2	1:A:947:SER:HB2	2.00	0.60
1:B:501:THR:OG1	1:B:763:PRO:HG2	2.00	0.60
1:A:325:THR:HB	1:A:343:LYS:HD3	1.82	0.60
1:B:460:VAL:CG2	1:B:461:PRO:HD2	2.31	0.60
1:B:641:ALA:HB3	1:B:650:THR:O	2.00	0.60
1:B:2033:ASN:OD1	1:B:2034:TYR:N	2.33	0.60
1:B:168:LEU:HD23	1:B:233:LEU:HD21	1.83	0.60
1:B:765:ALA:HB1	1:B:768:GLN:HE21	1.66	0.60
1:A:460:VAL:O	1:A:468:ARG:NH2	2.34	0.60
1:B:627:TRP:NE1	1:B:631:LYS:HE2	2.17	0.60
1:A:626:SER:H	1:A:629:GLU:CG	2.14	0.60
1:B:267:ASP:O	1:B:271:GLN:HG3	2.01	0.60
1:B:289:TYR:OH	1:B:323:GLY:HA3	2.02	0.60
1:B:1195:GLN:O	1:B:1199:ALA:N	2.32	0.60
1:A:606:ARG:HE	1:A:739:LEU:HD13	1.67	0.60
1:A:645:SER:OG	1:A:648:THR:OG1	2.17	0.60
1:A:2042:GLU:OE2	1:A:2059:GLN:NE2	2.35	0.60
1:B:764:HIS:CE1	1:B:787:LYS:HB2	2.37	0.60
1:A:673:LYS:HD2	1:A:674:GLU:H	1.67	0.60
1:A:706:LYS:HB3	1:A:707:PRO:HD2	1.84	0.60
1:A:1275:ARG:NH2	1:A:1321:ALA:O	2.34	0.60
1:B:499:MET:HE1	1:B:682:PHE:HD2	1.62	0.60
1:A:556:LEU:CD1	1:A:763:PRO:HG3	2.32	0.59
1:A:557:THR:O	1:A:561:ILE:HG13	2.02	0.59
1:A:159:THR:O	1:A:163:SER:HB3	2.01	0.59
1:A:736:VAL:O	1:A:740:VAL:HG22	2.02	0.59
1:A:1617:VAL:HG12	1:A:1628:LEU:HD13	1.84	0.59
1:B:305:LEU:HD22	1:B:366:ILE:CD1	2.32	0.59
1:B:762:ALA:HB1	1:B:763:PRO:HD2	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:159:THR:CG2	1:B:163:SER:HA	2.33	0.59
1:B:622:ALA:HB3	1:B:673:LYS:CG	2.33	0.59
1:A:539:LEU:HD23	1:A:539:LEU:O	2.02	0.59
1:B:506:MET:HE2	1:B:546:PHE:CZ	2.37	0.59
1:B:736:VAL:O	1:B:740:VAL:HG22	2.03	0.59
1:A:1909:VAL:HG12	1:A:1911:LYS:H	1.67	0.59
1:B:216:ASP:OD1	1:B:217:THR:N	2.36	0.59
1:A:687:MET:CE	1:A:690:ILE:HD12	2.33	0.59
1:A:695:LEU:HD12	1:A:696:GLN:N	2.17	0.59
1:B:495:ILE:CD1	1:B:578:VAL:HB	2.32	0.59
1:B:617:PRO:HB2	1:B:655:GLN:OE1	2.02	0.59
1:A:112:SER:C	1:A:137:ARG:HH12	2.11	0.59
1:A:305:LEU:CD1	1:A:366:ILE:HG12	2.33	0.59
1:B:689:ALA:O	1:B:692:PRO:HD2	2.03	0.59
1:A:291:GLU:HG2	1:A:340:ALA:HB1	1.83	0.59
1:A:1574:ARG:HD2	1:A:1588:ILE:HD12	1.84	0.59
1:A:87:TYR:O	1:A:91:VAL:HG22	2.03	0.58
1:B:264:PRO:HG3	1:B:300:GLY:HA2	1.85	0.58
1:B:440:GLN:HG3	1:B:833:LEU:CD2	2.33	0.58
1:B:674:GLU:N	1:B:674:GLU:OE1	2.36	0.58
1:B:767:LEU:O	1:B:771:LEU:HD13	2.03	0.58
1:A:646:LYS:HG3	1:A:647:ASP:OD1	2.02	0.58
1:B:703:ARG:HB2	1:B:704:GLU:OE1	2.03	0.58
1:A:276:LEU:CD1	1:A:401:HIS:HB3	2.32	0.58
1:A:1446:ILE:HG21	1:A:1486:VAL:HG21	1.85	0.58
1:B:290:ILE:HD12	1:B:389:GLY:O	2.03	0.58
1:B:717:ILE:CG2	1:B:721:GLN:HB2	2.33	0.58
1:B:1014:GLU:N	1:B:1014:GLU:OE1	2.36	0.58
1:A:64:PHE:CE1	1:A:464:ALA:HB1	2.38	0.58
1:A:506:MET:HG2	1:A:546:PHE:HE2	1.68	0.58
1:B:1680:VAL:HG23	2:B:2601:NDP:O1N	2.02	0.58
1:A:1411:SER:OG	1:A:1439:ARG:NH2	2.36	0.58
1:B:948:GLU:OE2	1:B:949:ASN:ND2	2.36	0.58
1:A:305:LEU:CD2	1:A:322:ILE:CD1	2.81	0.58
1:A:658:VAL:O	1:A:662:VAL:HG23	2.03	0.58
1:A:1125:GLU:N	1:A:1125:GLU:OE1	2.37	0.58
1:A:168:LEU:HD22	1:A:402:ILE:CD1	2.34	0.58
1:B:79:LEU:O	1:B:83:LEU:HD13	2.04	0.58
1:B:576:GLY:C	1:B:577:ILE:HD12	2.29	0.58
1:A:1970:ASN:C	1:A:1971:LEU:HD12	2.28	0.57
1:B:764:HIS:ND1	1:B:787:LYS:HB2	2.18	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:160:ALA:O	1:B:394:GLY:HA3	2.04	0.57
1:A:595:SER:HB3	1:A:598:GLU:HG3	1.86	0.57
1:A:1267:GLN:OE1	1:A:1267:GLN:N	2.36	0.57
1:B:290:ILE:HG23	1:B:322:ILE:CD1	2.32	0.57
1:B:351:GLY:C	1:B:352:LEU:HD12	2.29	0.57
1:B:1470:ARG:NE	1:B:1500:ASP:OD1	2.37	0.57
1:A:182:ALA:HB2	1:A:234:THR:HG22	1.87	0.57
1:A:184:ILE:HD11	1:A:232:LEU:HD13	1.86	0.57
1:A:492:LEU:HD22	1:A:808:ILE:HD13	1.87	0.57
1:B:347:SER:HB2	1:B:352:LEU:O	2.04	0.57
1:A:263:PHE:CE2	1:A:299:VAL:HG11	2.39	0.57
1:A:692:PRO:HD2	1:A:693:PRO:HD2	1.86	0.57
1:A:1488:PRO:HA	1:A:1493:LEU:HD23	1.86	0.57
1:B:456:ASP:OD1	1:B:813:ASN:ND2	2.37	0.57
1:B:534:VAL:O	1:B:538:LEU:HD13	2.05	0.57
1:B:615:LEU:HD12	1:B:615:LEU:O	2.04	0.57
1:B:1391:LEU:HD23	1:B:1392:LYS:N	2.20	0.57
1:A:1974:VAL:HG12	1:A:1994:PRO:HG3	1.86	0.57
1:B:1354:GLY:HA3	1:B:1371:ILE:HD11	1.85	0.57
1:A:6:ILE:HG23	1:A:231:VAL:CG1	2.35	0.57
1:A:654:PRO:HB2	1:A:657:PRO:CD	2.34	0.57
1:A:1860:GLU:N	1:A:1860:GLU:OE1	2.37	0.57
1:B:540:SER:OG	1:B:545:THR:HG21	2.05	0.57
1:A:527:VAL:CG1	1:A:600:VAL:HG12	2.35	0.57
1:B:460:VAL:HG11	1:B:465:MET:SD	2.45	0.57
1:B:972:PRO:HD2	1:B:1079:VAL:HG21	1.87	0.57
1:A:127:LEU:HD11	1:B:198:VAL:HG12	1.86	0.56
1:B:71:GLN:HE21	1:B:143:ARG:HH12	1.52	0.56
1:B:625:LEU:HB2	1:B:630:CYS:SG	2.45	0.56
1:B:793:LEU:O	1:B:797:LEU:HG	2.05	0.56
1:A:934:GLU:OE1	1:A:936:ARG:NH2	2.39	0.56
1:B:76:ASP:OD1	1:B:77:PRO:HD2	2.06	0.56
1:B:105:THR:O	1:B:150:PHE:HB3	2.06	0.56
1:B:596:GLN:O	1:B:600:VAL:HG23	2.06	0.56
1:B:627:TRP:HE1	1:B:631:LYS:HE2	1.70	0.56
1:B:704:GLU:HG2	1:B:704:GLU:O	2.04	0.56
1:B:732:ALA:O	1:B:736:VAL:HG23	2.05	0.56
1:B:1246:LEU:HD11	1:B:1299:PRO:HG3	1.86	0.56
1:A:492:LEU:HD13	1:A:808:ILE:CD1	2.35	0.56
1:A:584:GLU:HG3	1:A:712:TRP:HZ2	1.69	0.56
1:A:708:ARG:CZ	1:A:714:SER:HB2	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:313:CYS:HA	1:A:316:ARG:HG2	1.87	0.56
1:B:159:THR:HG22	1:B:163:SER:HA	1.88	0.56
1:B:270:GLU:HG2	1:B:274:ARG:HH12	1.70	0.56
1:A:162:SER:OG	1:A:394:GLY:N	2.38	0.56
1:A:584:GLU:HG3	1:A:712:TRP:CZ2	2.41	0.56
1:A:1034:LEU:O	1:A:1037:SER:OG	2.16	0.56
1:B:112:SER:CB	1:B:334:PRO:HG3	2.35	0.56
1:B:555:SER:O	1:B:559:ILE:HG13	2.06	0.56
1:A:241:ARG:NH2	1:A:828:PRO:O	2.37	0.56
1:A:638:VAL:CG1	1:A:651:ILE:HD12	2.36	0.56
1:A:945:GLU:HG2	1:A:952:LEU:CD1	2.36	0.56
1:B:701:VAL:HG12	1:B:702:ILE:HD12	1.88	0.56
1:B:2018:VAL:HB	1:B:2041:MET:HE2	1.88	0.56
1:A:182:ALA:CB	1:A:234:THR:HG22	2.35	0.56
1:B:618:GLY:HA2	1:B:655:GLN:N	2.21	0.56
1:B:1141:CYS:O	1:B:1145:VAL:HG23	2.06	0.56
1:A:323:GLY:HA2	1:A:356:ASN:HD21	1.70	0.56
1:B:532:LEU:HD12	1:B:532:LEU:O	2.06	0.56
1:B:645:SER:HA	1:B:746:GLN:HE21	1.70	0.56
1:B:694:LEU:HD22	1:B:739:LEU:HD23	1.88	0.56
1:A:211:THR:CG2	1:A:213:LYS:HG3	2.36	0.55
1:B:277:TYR:CE1	1:B:284:PRO:HG3	2.41	0.55
1:B:502:GLN:OE1	1:B:552:SER:CB	2.48	0.55
1:B:557:THR:O	1:B:561:ILE:HG13	2.05	0.55
1:A:1278:GLN:OE1	1:A:1278:GLN:N	2.36	0.55
1:A:701:VAL:HG12	1:A:702:ILE:HD12	1.87	0.55
1:B:1242:VAL:HG13	1:B:1312:LEU:O	2.06	0.55
1:A:506:MET:HG3	1:A:506:MET:O	2.06	0.55
1:A:548:ASP:OD1	1:A:549:ILE:N	2.39	0.55
1:A:570:MET:HE3	1:A:815:LEU:HD21	1.88	0.55
1:A:620:MET:HB2	1:A:652:SER:OG	2.07	0.55
1:A:692:PRO:HA	1:A:695:LEU:CD2	2.36	0.55
1:B:690:ILE:HD12	1:B:690:ILE:H	1.71	0.55
1:A:253:THR:HG22	1:A:255:GLY:H	1.72	0.55
1:A:112:SER:CA	1:A:137:ARG:HH12	2.18	0.55
1:A:763:PRO:HA	1:A:785:MET:CE	2.37	0.55
1:B:508:LEU:CD2	1:B:539:LEU:HD23	2.36	0.55
1:B:621:ALA:C	1:B:650:THR:HG23	2.32	0.55
1:A:506:MET:HE2	1:A:546:PHE:CZ	2.41	0.55
1:A:542:ASP:O	1:A:545:THR:HG22	2.07	0.55
1:A:620:MET:HG3	1:A:651:ILE:O	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:663:GLU:O	1:B:667:LYS:HG3	2.06	0.55
1:A:654:PRO:HG3	1:A:686:PHE:CZ	2.38	0.55
1:B:659:PHE:O	1:B:663:GLU:HG3	2.07	0.55
1:B:164:SER:OG	1:B:335:ALA:HA	2.06	0.55
1:A:137:ARG:HD3	1:A:158:ASP:OD1	2.07	0.54
1:A:425:ARG:HG2	1:A:455:ASN:OD1	2.07	0.54
1:A:677:THR:HB	1:A:680:MET:O	2.07	0.54
1:A:1535:THR:HG23	1:A:1535:THR:O	2.07	0.54
1:B:252:ASN:ND2	1:B:268:ILE:HG22	2.22	0.54
1:B:504:ARG:NE	1:B:541:THR:O	2.28	0.54
1:B:527:VAL:HG12	1:B:527:VAL:O	2.07	0.54
1:B:1566:VAL:HG13	1:B:1603:PHE:HB2	1.88	0.54
1:B:1612:ARG:NH2	1:B:1640:TRP:O	2.40	0.54
1:A:305:LEU:CD2	1:A:322:ILE:HD13	2.37	0.54
1:A:1130:GLU:OE1	1:A:1130:GLU:N	2.38	0.54
1:A:25:ASN:O	1:A:30:VAL:HG12	2.07	0.54
1:A:661:PHE:O	1:A:665:LEU:HG	2.06	0.54
1:B:476:GLU:OE2	1:B:477:ARG:NH1	2.40	0.54
1:A:506:MET:HG2	1:A:546:PHE:CE2	2.42	0.54
1:B:477:ARG:NH1	1:B:790:ARG:HD2	2.20	0.54
1:B:493:TRP:CD2	1:B:576:GLY:HA3	2.42	0.54
1:A:570:MET:CE	1:A:815:LEU:HD11	2.37	0.54
1:B:606:ARG:O	1:B:610:ILE:HG13	2.07	0.54
1:A:36:ASP:OD1	1:A:53:LYS:HE3	2.06	0.54
1:A:889:THR:HB	1:A:1030:MET:HE3	1.89	0.54
1:B:717:ILE:HG23	1:B:718:PRO:HD2	1.90	0.54
1:B:749:LEU:HD22	1:B:775:LEU:CD2	2.32	0.54
1:A:620:MET:SD	1:A:652:SER:HB2	2.48	0.54
1:B:661:PHE:CE2	1:B:665:LEU:HD11	2.43	0.54
1:B:13:LEU:HD21	1:B:229:VAL:CG2	2.38	0.54
1:B:769:ALA:O	1:B:773:ARG:HG2	2.07	0.54
1:A:527:VAL:HG13	1:A:600:VAL:CG1	2.37	0.54
1:B:745:PHE:CE1	1:B:749:LEU:HD21	2.42	0.54
1:B:1071:ASP:OD1	1:B:1072:LYS:N	2.37	0.54
1:B:1889:ILE:HD11	1:B:1912:LEU:HD11	1.90	0.54
1:A:241:ARG:HD3	1:A:243:TYR:CE2	2.43	0.54
1:A:270:GLU:HG2	1:A:274:ARG:HH12	1.71	0.54
1:A:746:GLN:OE1	1:A:750:TRP:NE1	2.41	0.54
1:B:620:MET:HE1	1:B:682:PHE:HB2	1.90	0.54
1:B:1197:GLU:OE1	1:B:1197:GLU:N	2.39	0.54
1:A:781:ILE:N	1:A:781:ILE:HD12	2.24	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1457:VAL:HG23	1:A:1503:MET:HE1	1.90	0.53
1:A:1486:VAL:O	1:A:1493:LEU:HD22	2.08	0.53
1:B:1371:ILE:C	1:B:1372:LEU:HD12	2.33	0.53
1:A:469:GLY:HA2	1:A:805:LEU:HD21	1.91	0.53
1:A:544:SER:HA	1:A:547:ASP:HB2	1.91	0.53
1:A:621:ALA:CB	1:A:674:GLU:HA	2.38	0.53
1:A:627:TRP:CZ3	1:A:643:HIS:HB2	2.44	0.53
1:A:1274:ASP:OD1	1:A:1275:ARG:N	2.41	0.53
1:B:511:MET:HE1	1:B:520:ILE:CG2	2.30	0.53
1:A:68:HIS:CG	1:A:69:PRO:HD2	2.43	0.53
1:A:495:ILE:HD12	1:A:758:VAL:HG11	1.89	0.53
1:A:628:GLU:O	1:A:631:LYS:HG2	2.08	0.53
1:B:656:ALA:HB3	1:B:657:PRO:HD3	1.90	0.53
1:A:504:ARG:HD2	1:A:541:THR:O	2.08	0.53
1:B:224:ARG:NH1	1:B:333:GLU:OE2	2.42	0.53
1:B:629:GLU:O	1:B:633:ARG:HG2	2.08	0.53
1:B:1298:ASP:OD1	1:B:1299:PRO:CD	2.52	0.53
1:A:108:TRP:HD1	1:A:157:LEU:HD11	1.74	0.53
1:A:1349:ARG:HB2	1:A:1371:ILE:HG22	1.90	0.53
1:B:493:TRP:CE3	1:B:576:GLY:HA3	2.42	0.53
1:B:1214:LEU:HD12	1:B:1215:LEU:N	2.24	0.53
1:A:725:SER:HA	1:A:728:ARG:HH12	1.70	0.53
1:B:124:PRO:HA	1:B:127:LEU:HD23	1.90	0.53
1:B:2006:THR:HG21	1:B:2013:LEU:HD13	1.91	0.53
1:B:316:ARG:NH1	1:B:320:LEU:HD13	2.21	0.53
1:A:1725:ASP:OD1	1:A:1726:THR:N	2.39	0.52
1:A:641:ALA:HB3	1:A:650:THR:O	2.08	0.52
1:A:1020:LEU:HD22	1:A:1032:THR:HG22	1.91	0.52
1:B:9:MET:HG2	1:B:19:LEU:CD1	2.39	0.52
1:B:506:MET:HE2	1:B:546:PHE:CE2	2.44	0.52
1:A:68:HIS:HB3	1:A:71:GLN:OE1	2.10	0.52
1:A:261:VAL:HG23	1:A:262:THR:HG23	1.91	0.52
1:B:161:CYS:HB3	1:B:394:GLY:HA2	1.92	0.52
1:B:289:TYR:O	1:B:388:VAL:HG13	2.10	0.52
1:A:760:GLU:OE1	1:A:765:ALA:HB1	2.10	0.52
1:A:945:GLU:HG2	1:A:952:LEU:HD13	1.91	0.52
1:B:259:GLN:OE1	1:B:259:GLN:N	2.39	0.52
1:A:623:VAL:N	1:A:649:VAL:O	2.37	0.52
1:A:623:VAL:CG1	1:A:665:LEU:HD13	2.40	0.52
1:B:694:LEU:O	1:B:698:LEU:HG	2.10	0.52
1:B:1445:ALA:C	1:B:1446:ILE:HD13	2.34	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1445:ALA:O	1:B:1446:ILE:HD13	2.09	0.52
1:A:211:THR:HB	1:A:213:LYS:NZ	2.25	0.52
1:A:1344:LEU:HD21	1:A:1377:TRP:CH2	2.45	0.52
1:A:1570:SER:OG	1:A:1646:ALA:O	2.27	0.52
1:A:324:SER:H	1:A:356:ASN:ND2	2.06	0.52
1:A:717:ILE:HD11	1:A:726:LEU:HB3	1.91	0.52
1:A:1336:LEU:HD11	1:A:1340:GLY:HA3	1.91	0.52
1:A:1430:GLY:O	1:A:1433:ALA:N	2.42	0.52
1:A:290:ILE:CG2	1:A:322:ILE:HG13	2.40	0.52
1:A:617:PRO:HB2	1:A:655:GLN:CD	2.35	0.52
1:B:1190:LEU:O	1:B:1195:GLN:NE2	2.43	0.52
1:B:1366:GLN:O	1:B:1369:GLN:N	2.43	0.52
1:B:78:GLN:OE1	1:B:190:VAL:HG22	2.10	0.52
1:B:623:VAL:HG13	1:B:665:LEU:HD13	1.90	0.52
1:B:768:GLN:CD	1:B:781:ILE:HG21	2.35	0.52
1:B:768:GLN:NE2	1:B:783:PRO:HB3	2.25	0.52
1:A:368:ALA:HA	1:A:371:ASP:OD2	2.10	0.51
1:A:638:VAL:HG11	1:A:651:ILE:HD12	1.92	0.51
1:B:5:VAL:HB	1:B:242:VAL:HG13	1.92	0.51
1:B:692:PRO:HB2	1:B:693:PRO:CD	2.40	0.51
1:A:168:LEU:HD23	1:A:168:LEU:O	2.09	0.51
1:A:627:TRP:CZ3	1:A:640:PRO:HB2	2.45	0.51
1:B:269:GLN:O	1:B:273:ILE:HG13	2.10	0.51
1:A:120:LEU:HD12	1:A:135:CYS:SG	2.51	0.51
1:B:351:GLY:O	1:B:352:LEU:HD12	2.11	0.51
1:B:466:PRO:HG2	1:B:467:PHE:CD1	2.45	0.51
1:A:1212:ASP:OD1	1:A:1214:LEU:N	2.43	0.51
1:A:2034:TYR:O	1:A:2038:ASN:ND2	2.40	0.51
1:B:333:GLU:CB	1:B:334:PRO:HD3	2.35	0.51
1:B:627:TRP:CZ3	1:B:643:HIS:HB2	2.45	0.51
1:A:708:ARG:NH1	1:A:714:SER:HB2	2.26	0.51
1:A:1483:VAL:O	1:A:1483:VAL:HG13	2.11	0.51
1:B:301:ASP:HB2	1:B:302:PRO:HD3	1.93	0.51
1:A:205:MET:HE1	1:A:395:PHE:CD2	2.45	0.51
1:A:631:LYS:HG3	1:A:632:GLN:OE1	2.10	0.51
1:A:627:TRP:CE3	1:A:643:HIS:HB2	2.45	0.51
1:A:698:LEU:HB2	1:A:732:ALA:HB1	1.92	0.51
1:A:1145:VAL:HG21	1:A:1356:ILE:HG12	1.92	0.51
1:A:1913:VAL:C	1:A:1914:LEU:HD12	2.36	0.51
1:A:627:TRP:CH2	1:A:640:PRO:HB2	2.46	0.51
1:A:661:PHE:CE2	1:A:665:LEU:HD11	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:241:ARG:NH2	1:B:453:MET:HE1	2.26	0.51
1:B:521:LEU:O	1:B:525:GLU:HG2	2.11	0.51
1:A:168:LEU:HD22	1:A:402:ILE:HD11	1.91	0.51
1:A:772:LYS:NZ	1:A:781:ILE:HD13	2.26	0.51
1:A:772:LYS:NZ	1:A:781:ILE:HB	2.26	0.51
1:A:820:GLU:OE1	1:A:820:GLU:N	2.39	0.51
1:B:264:PRO:CG	1:B:300:GLY:HA2	2.41	0.51
1:B:265:SER:O	1:B:269:GLN:HG3	2.10	0.51
1:B:754:GLU:HG3	1:B:755:HIS:CD2	2.46	0.51
1:B:1206:ARG:NH1	1:B:1209:LEU:HD13	2.26	0.51
1:A:54:LEU:HD12	1:A:57:LEU:CD2	2.39	0.51
1:A:241:ARG:HH21	1:A:827:THR:HG22	1.76	0.51
1:A:620:MET:HE2	1:A:677:THR:HG22	1.93	0.51
1:A:692:PRO:CD	1:A:693:PRO:HD2	2.40	0.51
1:A:990:VAL:HG13	1:A:1039:LEU:HD12	1.93	0.51
1:A:1602:GLU:HB3	1:A:1650:VAL:HG23	1.92	0.51
1:B:60:PHE:CE2	1:B:62:ALA:HA	2.45	0.51
1:B:1487:ASP:O	1:B:1490:SER:OG	2.27	0.51
1:A:1453:VAL:CG2	1:A:1471:CYS:SG	2.99	0.50
1:B:108:TRP:HB3	1:B:167:ALA:HB1	1.92	0.50
1:A:1134:LEU:HD12	1:A:1214:LEU:HD23	1.92	0.50
1:A:1893:LEU:HD12	1:A:1916:SER:OG	2.10	0.50
1:B:1127:CYS:C	1:B:1128:LEU:HD12	2.35	0.50
1:A:241:ARG:NH2	1:A:827:THR:HG22	2.26	0.50
1:B:1349:ARG:NH2	1:B:1371:ILE:O	2.43	0.50
1:A:772:LYS:HZ2	1:A:781:ILE:HB	1.76	0.50
1:B:243:TYR:HB3	1:B:345:LEU:HD22	1.94	0.50
1:B:690:ILE:HD12	1:B:690:ILE:N	2.26	0.50
1:A:293:HIS:CD2	1:A:295:THR:HG23	2.47	0.50
1:A:693:PRO:O	1:A:697:GLU:HG2	2.11	0.50
1:A:14:PRO:CD	1:A:329:MET:HE3	2.38	0.50
1:A:512:ARG:HH22	1:A:791:ASP:CG	2.19	0.50
1:A:627:TRP:HA	1:A:630:CYS:SG	2.51	0.50
1:A:673:LYS:HE3	1:A:674:GLU:O	2.11	0.50
1:B:193:LYS:HG2	1:B:195:ASN:HD22	1.77	0.50
1:B:635:PRO:O	1:B:638:VAL:HG12	2.11	0.50
1:B:658:VAL:O	1:B:662:VAL:HG23	2.11	0.50
1:B:771:LEU:HB3	1:B:781:ILE:HD11	1.94	0.50
1:B:2003:ASP:OD1	1:B:2048:ARG:NH1	2.40	0.50
1:A:9:MET:HG2	1:A:19:LEU:HD11	1.93	0.50
1:A:200:PHE:HB3	1:A:206:LEU:HG	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:13:LEU:HB3	1:B:14:PRO:HD2	1.94	0.50
1:B:292:ALA:HB2	1:B:322:ILE:HD11	1.94	0.50
1:B:656:ALA:O	1:B:660:GLU:HG3	2.11	0.50
1:B:694:LEU:CD2	1:B:739:LEU:HD23	2.42	0.50
1:B:1896:PHE:CZ	1:B:2088:MET:HE1	2.47	0.50
1:A:776:LYS:HD2	1:A:776:LYS:N	2.24	0.50
1:A:184:ILE:CD1	1:A:232:LEU:HD13	2.42	0.50
1:A:269:GLN:O	1:A:273:ILE:HG13	2.11	0.50
1:A:1432:LEU:HD22	1:A:1980:LEU:HD23	1.94	0.50
1:A:1899:GLU:CB	1:A:2088:MET:HE2	2.42	0.50
1:B:431:PRO:HG3	1:B:467:PHE:CE2	2.46	0.50
1:A:56:ASP:OD1	1:A:57:LEU:N	2.45	0.49
1:A:521:LEU:O	1:A:525:GLU:HG2	2.11	0.49
1:A:654:PRO:O	1:A:658:VAL:HG23	2.12	0.49
1:A:1974:VAL:O	1:A:1974:VAL:HG13	2.11	0.49
1:B:426:ALA:HB3	1:B:434:VAL:HG13	1.94	0.49
1:B:431:PRO:HG3	1:B:467:PHE:CD2	2.46	0.49
1:A:9:MET:SD	1:A:345:LEU:HD12	2.52	0.49
1:A:1134:LEU:CD1	1:A:1214:LEU:HD23	2.42	0.49
1:A:1893:LEU:HD12	1:A:1916:SER:CB	2.42	0.49
1:B:115:GLU:OE1	1:B:192:LEU:HB2	2.13	0.49
1:B:692:PRO:HB2	1:B:693:PRO:HD3	1.95	0.49
1:B:740:VAL:HG23	1:B:741:SER:N	2.27	0.49
1:A:803:LEU:HD11	1:A:808:ILE:CD1	2.29	0.49
1:A:1327:SER:O	1:A:1331:ASN:ND2	2.40	0.49
1:A:1453:VAL:HG22	1:A:1471:CYS:SG	2.51	0.49
1:B:726:LEU:HD13	1:B:733:GLU:OE1	2.13	0.49
1:B:768:GLN:OE1	1:B:781:ILE:CG2	2.60	0.49
1:B:786:LYS:HZ2	1:B:789:HIS:HB2	1.76	0.49
1:B:1021:LEU:HD12	1:B:1074:GLN:O	2.12	0.49
1:A:550:VAL:O	1:A:554:VAL:HG23	2.12	0.49
1:A:702:ILE:HD12	1:A:702:ILE:N	2.28	0.49
1:A:1020:LEU:HD22	1:A:1032:THR:CG2	2.42	0.49
1:B:550:VAL:HG13	1:B:551:HIS:HD2	1.77	0.49
1:B:584:GLU:HA	1:B:587:CYS:HB2	1.94	0.49
1:B:670:VAL:HG12	1:B:671:PHE:N	2.27	0.49
1:B:694:LEU:HD11	1:B:698:LEU:HD11	1.94	0.49
1:B:1245:VAL:C	1:B:1246:LEU:HD12	2.38	0.49
1:B:1562:GLN:NE2	1:B:1607:ASP:OD1	2.45	0.49
1:B:469:GLY:HA2	1:B:805:LEU:HD21	1.93	0.49
1:B:547:ASP:OD1	1:B:548:ASP:N	2.46	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:687:MET:CE	1:A:739:LEU:HD11	2.36	0.49
1:A:689:ALA:O	1:A:692:PRO:HD2	2.13	0.49
1:B:105:THR:OG1	1:B:182:ALA:HB3	2.13	0.49
1:A:305:LEU:HD22	1:A:322:ILE:HD13	1.95	0.49
1:A:250:GLY:HA3	1:A:276:LEU:HD21	1.95	0.49
1:A:366:ILE:HD12	1:A:366:ILE:N	2.28	0.49
1:B:82:LEU:HD13	1:B:188:ILE:CG2	2.42	0.49
1:B:771:LEU:HB3	1:B:781:ILE:CD1	2.43	0.49
1:B:1596:ASP:O	1:B:1597:SER:OG	2.29	0.49
1:A:1312:LEU:C	1:A:1313:LEU:HD12	2.38	0.49
1:B:65:PHE:HA	1:B:147:PHE:HE1	1.75	0.49
1:B:564:ILE:HG12	1:B:761:ILE:HD13	1.95	0.49
1:B:635:PRO:HD3	1:B:661:PHE:CD1	2.48	0.49
1:B:706:LYS:O	1:B:729:THR:OG1	2.20	0.49
1:B:759:LEU:CD2	1:B:782:ILE:CG2	2.91	0.49
1:A:293:HIS:O	1:A:326:LYS:HD2	2.13	0.48
1:A:767:LEU:HB3	1:A:771:LEU:HD13	1.95	0.48
1:A:1670:THR:C	1:A:1671:LEU:HD12	2.38	0.48
1:A:340:ALA:O	1:A:344:VAL:HG23	2.13	0.48
1:B:166:MET:SD	1:B:251:THR:HG21	2.53	0.48
1:B:231:VAL:HG12	1:B:233:LEU:HD12	1.96	0.48
1:B:499:MET:SD	1:B:682:PHE:CD2	3.06	0.48
1:A:991:TYR:CZ	1:A:1006:GLN:HA	2.48	0.48
1:B:515:ARG:HB2	1:B:566:LEU:HD23	1.95	0.48
1:B:14:PRO:HG2	1:B:329:MET:HE3	1.95	0.48
1:B:391:ASN:HB2	1:B:393:PHE:CZ	2.47	0.48
1:B:508:LEU:HD21	1:B:539:LEU:HD23	1.95	0.48
1:B:754:GLU:HA	1:B:776:LYS:HE2	1.96	0.48
1:A:115:GLU:OE1	1:A:192:LEU:HB2	2.13	0.48
1:A:168:LEU:HD23	1:A:168:LEU:C	2.38	0.48
1:A:341:LEU:O	1:A:345:LEU:HG	2.13	0.48
1:B:64:PHE:HE1	1:B:464:ALA:HB1	1.79	0.48
1:B:515:ARG:HB2	1:B:566:LEU:CD2	2.43	0.48
1:B:1317:CYS:N	1:B:1345:HIS:O	2.47	0.48
1:A:1310:ALA:O	1:A:1336:LEU:HD12	2.13	0.48
1:A:1466:GLY:HA2	1:A:1469:LEU:HD23	1.96	0.48
1:B:619:ALA:O	1:B:658:VAL:HG21	2.13	0.48
1:A:235:LYS:CG	1:A:238:LEU:HD13	2.43	0.48
1:A:1790:THR:HG23	1:B:1792:HIS:CE1	2.49	0.48
1:B:158:ASP:O	1:B:159:THR:HG22	2.14	0.48
1:B:254:ASP:HB3	1:B:257:LYS:HD3	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:391:ASN:HA	1:B:400:VAL:O	2.14	0.48
1:B:644:ASN:HB2	1:B:648:THR:OG1	2.14	0.48
1:A:891:TYR:OH	1:A:923:THR:HG22	2.13	0.48
1:B:617:PRO:HB2	1:B:655:GLN:CD	2.39	0.48
1:B:621:ALA:O	1:B:651:ILE:N	2.46	0.48
1:A:290:ILE:HD12	1:A:389:GLY:HA3	1.96	0.48
1:A:549:ILE:CD1	1:A:611:LYS:HG3	2.40	0.48
1:B:74:THR:HG21	1:B:130:TYR:CE1	2.49	0.48
1:A:35:ASP:OD1	1:A:49:ARG:HB3	2.14	0.47
1:B:754:GLU:OE1	1:B:776:LYS:HE2	2.12	0.47
1:A:121:SER:HB3	1:B:199:GLN:NE2	2.29	0.47
1:A:1899:GLU:HB3	1:A:2088:MET:HE2	1.95	0.47
1:B:111:VAL:HG23	1:B:188:ILE:HG13	1.96	0.47
1:B:503:TRP:HB3	1:B:787:LYS:NZ	2.29	0.47
1:B:1677:SER:O	1:B:1682:GLN:NE2	2.44	0.47
1:A:57:LEU:CD2	1:A:81:LEU:HD11	2.44	0.47
1:A:119:ALA:O	1:A:122:ARG:NH1	2.47	0.47
1:B:51:SER:O	1:B:53:LYS:NZ	2.43	0.47
1:B:501:THR:OG1	1:B:764:HIS:HB3	2.14	0.47
1:B:764:HIS:CE1	1:B:787:LYS:CB	2.97	0.47
1:A:57:LEU:HD22	1:A:81:LEU:HD11	1.96	0.47
1:A:1246:LEU:HD11	1:A:1299:PRO:HG2	1.97	0.47
1:B:14:PRO:CD	1:B:329:MET:HE3	2.44	0.47
1:B:288:GLU:O	1:B:288:GLU:HG2	2.14	0.47
1:B:615:LEU:HD11	1:B:680:MET:CE	2.44	0.47
1:B:899:LEU:HD22	1:B:958:VAL:HG22	1.94	0.47
1:B:1125:GLU:N	1:B:1125:GLU:OE1	2.47	0.47
1:B:2042:GLU:OE1	1:B:2043:ARG:NH2	2.47	0.47
1:B:513:LEU:HD11	1:B:793:LEU:HD11	1.96	0.47
1:B:567:LEU:HA	1:B:570:MET:HE2	1.96	0.47
1:B:621:ALA:O	1:B:650:THR:HG23	2.14	0.47
1:A:131:SER:OG	1:B:199:GLN:NE2	2.47	0.47
1:A:213:LYS:HE2	1:A:218:ALA:O	2.14	0.47
1:A:277:TYR:CE1	1:A:284:PRO:HG3	2.50	0.47
1:A:442:LEU:HD23	1:A:442:LEU:C	2.39	0.47
1:A:1214:LEU:O	1:A:1396:TYR:OH	2.16	0.47
1:B:90:ILE:HA	1:B:232:LEU:HD22	1.97	0.47
1:B:235:LYS:HE3	1:B:238:LEU:CD1	2.45	0.47
1:B:880:LEU:HD12	1:B:880:LEU:N	2.30	0.47
1:A:717:ILE:CG2	1:A:721:GLN:HB2	2.44	0.47
1:B:113:GLY:HA2	1:B:137:ARG:HH22	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:158:ASP:O	1:B:163:SER:HB3	2.14	0.47
1:B:615:LEU:HD11	1:B:680:MET:HE1	1.96	0.47
1:B:1228:LEU:HD21	1:B:1256:ILE:HG23	1.97	0.47
1:A:1245:VAL:C	1:A:1246:LEU:HD12	2.39	0.47
1:B:333:GLU:OE1	1:B:333:GLU:N	2.44	0.47
1:B:759:LEU:HD21	1:B:803:LEU:HD13	1.97	0.47
1:A:155:ILE:N	1:A:155:ILE:HD12	2.30	0.47
1:A:508:LEU:HD11	1:A:538:LEU:O	2.15	0.47
1:A:1446:ILE:HD12	1:A:1447:ASN:N	2.29	0.47
1:B:291:GLU:HG2	1:B:340:ALA:HB1	1.97	0.47
1:B:577:ILE:HD12	1:B:577:ILE:N	2.30	0.47
1:A:642:CYS:SG	1:A:743:VAL:HG21	2.54	0.46
1:B:155:ILE:HG22	1:B:157:LEU:HD12	1.97	0.46
1:B:283:ALA:HB1	1:B:285:GLU:OE1	2.15	0.46
1:B:1205:GLU:OE1	1:B:1209:LEU:HD12	2.15	0.46
1:B:1497:LEU:HD12	1:B:1497:LEU:C	2.40	0.46
1:A:1346:THR:HG22	1:A:1347:LEU:N	2.30	0.46
1:A:1753:LEU:C	1:A:1753:LEU:HD23	2.39	0.46
1:B:5:VAL:HG22	1:B:234:THR:O	2.15	0.46
1:A:203:LEU:HD23	1:A:203:LEU:HA	1.79	0.46
1:A:570:MET:HE2	1:A:815:LEU:CD1	2.44	0.46
1:A:694:LEU:CD2	1:A:698:LEU:HG	2.44	0.46
1:A:1716:ASP:OD1	1:A:1717:SER:N	2.43	0.46
1:B:93:GLY:O	1:B:240:ARG:HB2	2.15	0.46
1:B:133:VAL:O	1:B:139:MET:HG3	2.16	0.46
1:B:453:MET:O	1:B:457:ILE:HG23	2.16	0.46
1:B:504:ARG:HH21	1:B:541:THR:HB	1.80	0.46
1:B:1111:VAL:O	1:B:1111:VAL:HG13	2.15	0.46
1:B:1333:VAL:HG12	1:B:1386:LEU:HD11	1.96	0.46
1:B:1366:GLN:O	1:B:1370:GLY:N	2.46	0.46
1:A:127:LEU:C	1:A:127:LEU:HD12	2.41	0.46
1:A:459:ALA:HB1	1:A:809:ASP:OD2	2.15	0.46
1:A:543:GLU:OE1	1:A:543:GLU:N	2.43	0.46
1:B:242:VAL:HG23	1:B:822:PRO:HB3	1.97	0.46
1:B:1485:GLU:OE1	1:B:1485:GLU:N	2.42	0.46
1:A:626:SER:CB	1:A:629:GLU:HG2	2.40	0.46
1:A:692:PRO:N	1:A:693:PRO:HD2	2.31	0.46
1:A:620:MET:HB2	1:A:652:SER:CB	2.45	0.46
1:A:663:GLU:O	1:A:667:LYS:HG2	2.16	0.46
1:B:627:TRP:CH2	1:B:640:PRO:HB2	2.51	0.46
1:B:717:ILE:HG22	1:B:721:GLN:HB2	1.98	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:591:ASP:OD2	1:A:709:SER:HB3	2.16	0.46
1:B:51:SER:HA	1:B:223:CYS:SG	2.56	0.46
1:B:87:TYR:CE1	1:B:97:PRO:HG2	2.50	0.46
1:B:249:ALA:CB	1:B:402:ILE:HG22	2.46	0.46
1:B:1970:ASN:C	1:B:1971:LEU:HD12	2.41	0.46
1:A:235:LYS:HG3	1:A:238:LEU:HD13	1.98	0.46
1:A:325:THR:CB	1:A:343:LYS:HD3	2.46	0.46
1:A:396:GLY:HA3	1:B:142:ASN:ND2	2.22	0.46
1:B:189:ASN:HB2	1:B:334:PRO:HD2	1.97	0.46
1:B:409:GLN:HB3	1:B:824:PRO:HA	1.97	0.46
1:B:620:MET:CB	1:B:652:SER:HB3	2.46	0.46
1:B:879:THR:C	1:B:880:LEU:HD12	2.40	0.46
1:B:1297:TRP:NE1	1:B:1301:ASP:O	2.35	0.46
1:A:301:ASP:HB2	1:A:302:PRO:HD3	1.98	0.46
1:A:506:MET:O	1:A:538:LEU:HD22	2.16	0.46
1:A:761:ILE:HD13	1:A:784:LEU:CD1	2.46	0.46
1:B:70:LYS:HE3	1:B:130:TYR:OH	2.16	0.46
1:B:110:GLY:HA3	1:B:163:SER:HB2	1.98	0.46
1:B:737:ASN:CA	1:B:740:VAL:HG22	2.44	0.46
1:B:747:GLU:OE1	1:B:747:GLU:N	2.36	0.46
1:B:1417:VAL:HG12	1:B:1417:VAL:O	2.15	0.46
1:A:139:MET:HE1	1:B:396:GLY:CA	2.46	0.45
1:A:370:LEU:HD12	1:A:370:LEU:N	2.31	0.45
1:A:620:MET:CG	1:A:652:SER:HB2	2.46	0.45
1:B:348:LEU:HD13	1:B:406:PRO:HB3	1.97	0.45
1:B:1413:ILE:HG21	1:B:1431:ILE:HD12	1.98	0.45
1:A:245:THR:O	1:A:404:LEU:HA	2.17	0.45
1:A:247:LEU:HD11	1:A:405:ARG:HB2	1.98	0.45
1:B:209:GLU:OE1	1:B:209:GLU:N	2.47	0.45
1:B:683:HIS:CD2	1:B:743:VAL:HG23	2.51	0.45
1:A:7:ALA:N	1:A:232:LEU:O	2.48	0.45
1:A:133:VAL:HG11	1:B:261:VAL:HG11	1.97	0.45
1:A:154:SER:C	1:A:155:ILE:HD12	2.42	0.45
1:A:761:ILE:HD13	1:A:784:LEU:HD13	1.98	0.45
1:A:1019:ARG:HD2	1:A:1075:VAL:HG21	1.96	0.45
1:B:155:ILE:HG22	1:B:156:ALA:N	2.32	0.45
1:B:579:GLY:HA3	1:B:587:CYS:SG	2.56	0.45
1:B:924:ILE:HD12	1:B:924:ILE:N	2.31	0.45
1:B:1265:LEU:HD21	1:B:2082:GLY:HA3	1.98	0.45
1:B:1354:GLY:CA	1:B:1371:ILE:CD1	2.93	0.45
1:B:105:THR:HG1	1:B:182:ALA:HB3	1.81	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:301:ASP:O	1:B:305:LEU:HD13	2.17	0.45
1:B:511:MET:CE	1:B:520:ILE:HG13	2.46	0.45
1:A:993:GLU:OE2	1:A:1927:LYS:NZ	2.49	0.45
1:A:1519:LEU:HD12	1:A:1519:LEU:C	2.42	0.45
1:B:1214:LEU:HD12	1:B:1214:LEU:C	2.41	0.45
1:B:2097:LEU:O	1:B:2097:LEU:HD23	2.16	0.45
1:A:1337:ARG:O	1:A:1405:ARG:NE	2.43	0.45
1:B:513:LEU:HD11	1:B:793:LEU:CD1	2.47	0.45
1:B:1188:LEU:HD13	1:B:1197:GLU:HG2	1.97	0.45
1:B:661:PHE:O	1:B:665:LEU:HG	2.17	0.45
1:B:766:LEU:HD23	1:B:766:LEU:C	2.41	0.45
1:A:107:VAL:HG11	1:A:144:LEU:HD12	1.99	0.45
1:B:253:THR:HG22	1:B:255:GLY:H	1.82	0.45
1:B:316:ARG:HH21	1:B:318:GLU:HG3	1.81	0.45
1:B:447:ASP:OD2	1:B:450:PHE:HB2	2.17	0.45
1:B:620:MET:HA	1:B:652:SER:HA	1.99	0.45
1:B:1348:LEU:O	1:B:1371:ILE:HD11	2.17	0.45
1:B:1602:GLU:HB3	1:B:1650:VAL:HG23	1.98	0.45
1:A:1453:VAL:CG1	1:A:1471:CYS:SG	3.05	0.45
1:A:1897:GLY:HA2	1:A:1971:LEU:HD22	1.99	0.45
1:B:123:ASP:OD2	1:B:126:THR:OG1	2.35	0.45
1:B:422:ARG:NH1	1:B:448:LEU:HG	2.32	0.45
1:B:2088:MET:HE3	1:B:2088:MET:HA	1.99	0.45
1:A:468:ARG:CD	1:A:485:VAL:HG21	2.47	0.45
1:A:784:LEU:HD22	1:A:796:PHE:CE1	2.52	0.45
1:A:1909:VAL:HG11	1:A:1912:LEU:HD13	1.99	0.45
1:B:60:PHE:HB3	1:B:842:TRP:CD1	2.52	0.45
1:B:90:ILE:HG22	1:B:95:ILE:O	2.17	0.45
1:B:691:ALA:O	1:B:694:LEU:HB3	2.17	0.45
1:B:1896:PHE:CE2	1:B:2088:MET:HE1	2.52	0.45
1:A:213:LYS:HG2	1:A:358:HIS:HB3	1.98	0.44
1:A:371:ASP:OD1	1:A:372:GLY:N	2.50	0.44
1:A:1762:THR:HA	1:A:1787:LYS:HG3	1.99	0.44
1:A:6:ILE:HG12	1:A:233:LEU:CD2	2.47	0.44
1:A:92:ASP:O	1:A:241:ARG:NH1	2.49	0.44
1:A:211:THR:HG23	1:A:358:HIS:CD2	2.52	0.44
1:A:757:VAL:HG11	1:A:803:LEU:CD1	2.48	0.44
1:A:1453:VAL:HG13	1:A:1471:CYS:SG	2.58	0.44
1:A:85:VAL:HG12	1:A:230:ALA:HB3	2.00	0.44
1:A:211:THR:HB	1:A:213:LYS:HZ2	1.81	0.44
1:A:545:THR:HG23	1:A:546:PHE:N	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:95:ILE:HD12	1:B:95:ILE:N	2.32	0.44
1:B:574:PRO:CG	1:B:577:ILE:HD11	2.46	0.44
1:B:1451:SER:OG	1:B:1453:VAL:HG13	2.16	0.44
1:B:1769:ILE:HB	2:B:2601:NDP:H71N	1.82	0.44
1:A:655:GLN:O	1:A:659:PHE:HD2	2.00	0.44
1:A:694:LEU:HD23	1:A:694:LEU:O	2.17	0.44
1:A:1250:GLY:O	1:A:1316:ASN:ND2	2.50	0.44
1:A:1760:LEU:HD11	1:A:1766:PHE:HB2	1.98	0.44
1:A:1893:LEU:HD23	1:A:1898:LEU:HD21	1.98	0.44
1:B:64:PHE:CE1	1:B:464:ALA:HB1	2.52	0.44
1:B:708:ARG:HD2	1:B:734:TYR:CE2	2.53	0.44
1:A:79:LEU:HD11	1:A:143:ARG:HB2	1.98	0.44
1:A:584:GLU:O	1:A:588:GLY:N	2.43	0.44
1:A:619:ALA:CB	1:A:655:GLN:HA	2.46	0.44
1:B:1128:LEU:HD12	1:B:1128:LEU:N	2.32	0.44
1:B:2007:ARG:NH2	1:B:2051:GLU:OE1	2.51	0.44
1:A:553:PHE:CE2	1:A:610:ILE:HD12	2.53	0.44
1:A:666:ARG:NH2	1:A:672:ALA:O	2.50	0.44
1:A:1177:GLU:OE1	1:A:1178:LEU:N	2.50	0.44
1:A:1802:GLU:O	1:A:1803:SER:OG	2.29	0.44
1:A:2098:PHE:CD1	1:A:2106:LEU:HD13	2.53	0.44
1:B:593:CYS:O	1:B:594:LEU:HD23	2.17	0.44
1:B:605:TRP:CE3	1:B:605:TRP:HA	2.52	0.44
1:A:425:ARG:HD3	1:A:812:PRO:HD3	1.99	0.44
1:A:657:PRO:C	1:A:660:GLU:HG2	2.43	0.44
1:A:1887:TYR:HD1	1:A:1909:VAL:HG13	1.83	0.44
1:B:719:GLU:HA	1:B:722:TRP:CD2	2.53	0.44
1:A:158:ASP:O	1:B:138:ALA:HB2	2.17	0.44
1:A:217:THR:HG22	1:A:363:ASN:HA	2.00	0.44
1:A:344:VAL:CG1	1:A:388:VAL:HG11	2.48	0.44
1:A:344:VAL:HG11	1:A:388:VAL:HG11	2.00	0.44
1:B:190:VAL:HA	1:B:226:GLU:HG2	1.98	0.44
1:B:1391:LEU:HD23	1:B:1391:LEU:C	2.42	0.44
1:B:1391:LEU:HD21	1:B:1393:LYS:HB2	2.00	0.44
1:B:2063:ILE:HG12	2:B:2602:NDP:C7N	2.48	0.44
1:A:649:VAL:HG12	1:A:650:THR:N	2.32	0.43
1:B:371:ASP:OD1	1:B:372:GLY:N	2.45	0.43
1:B:393:PHE:CE1	1:B:399:ASN:HB3	2.53	0.43
1:B:661:PHE:CE2	1:B:665:LEU:HD21	2.53	0.43
1:B:1068:THR:HG22	1:B:1069:LEU:O	2.18	0.43
1:A:196:THR:HG22	1:A:200:PHE:CE2	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:620:MET:O	1:A:674:GLU:HG2	2.18	0.43
1:A:1228:LEU:HD11	1:A:1256:ILE:HD12	2.00	0.43
1:A:1446:ILE:HG22	1:A:1474:LEU:CD1	2.47	0.43
1:B:159:THR:HG22	1:B:163:SER:CA	2.48	0.43
1:B:506:MET:HE3	1:B:559:ILE:CD1	2.48	0.43
1:B:597:GLU:H	1:B:597:GLU:CD	2.24	0.43
1:B:1178:LEU:CD1	1:B:1214:LEU:HD11	2.48	0.43
1:A:556:LEU:HD11	1:A:763:PRO:HG3	1.98	0.43
1:A:620:MET:HG3	1:A:651:ILE:C	2.44	0.43
1:A:695:LEU:HD13	1:A:699:LYS:HZ1	1.83	0.43
1:A:1715:LEU:HD22	1:A:1720:PHE:CZ	2.53	0.43
1:A:1771:LYS:HE3	1:A:1795:LEU:HD22	2.00	0.43
1:B:326:LYS:HE3	1:B:331:HIS:CD2	2.54	0.43
1:B:583:GLY:O	1:B:584:GLU:C	2.61	0.43
1:B:1439:ARG:O	1:B:1468:ARG:NH1	2.51	0.43
1:A:217:THR:CG2	1:A:364:PRO:HD3	2.43	0.43
1:A:514:ASP:OD1	1:A:515:ARG:N	2.49	0.43
1:A:741:SER:HB2	1:A:742:PRO:CD	2.45	0.43
1:A:1446:ILE:HD12	1:A:1446:ILE:C	2.43	0.43
1:B:58:SER:O	1:B:841:ALA:HA	2.18	0.43
1:B:127:LEU:C	1:B:127:LEU:HD12	2.43	0.43
1:B:615:LEU:HD21	1:B:680:MET:HE1	2.00	0.43
1:A:105:THR:O	1:A:150:PHE:HB3	2.18	0.43
1:A:1651:VAL:HG23	1:A:1652:TYR:N	2.33	0.43
1:B:417:HIS:HA	1:B:420:LEU:HD13	1.99	0.43
1:B:527:VAL:HG11	1:B:532:LEU:HD11	2.00	0.43
1:B:582:LEU:HD12	1:B:582:LEU:HA	1.85	0.43
1:B:737:ASN:OD1	1:B:741:SER:HB3	2.18	0.43
1:A:6:ILE:HA	1:A:233:LEU:HD23	2.01	0.43
1:A:460:VAL:CG1	1:A:461:PRO:HD2	2.48	0.43
1:A:570:MET:CE	1:A:815:LEU:HD21	2.48	0.43
1:A:695:LEU:HD13	1:A:699:LYS:NZ	2.33	0.43
1:A:772:LYS:CE	1:A:781:ILE:HD13	2.49	0.43
1:B:490:ARG:HD3	1:B:806:SER:O	2.19	0.43
1:B:499:MET:HE2	1:B:683:HIS:HE1	1.84	0.43
1:B:760:GLU:OE1	1:B:760:GLU:HA	2.19	0.43
1:B:898:THR:OG1	1:B:935:VAL:HG11	2.19	0.43
1:A:257:LYS:HD2	1:A:263:PHE:O	2.19	0.43
1:A:525:GLU:OE1	1:A:525:GLU:HA	2.19	0.43
1:A:654:PRO:HD3	1:A:686:PHE:CE2	2.54	0.43
1:B:136:GLN:HG3	1:B:138:ALA:H	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:257:LYS:HE3	1:B:263:PHE:O	2.18	0.43
1:B:388:VAL:HG12	1:B:389:GLY:N	2.33	0.43
1:B:477:ARG:HH22	1:B:790:ARG:HD2	1.83	0.43
1:B:495:ILE:HA	1:B:578:VAL:O	2.18	0.43
1:A:168:LEU:HD22	1:A:402:ILE:HD13	1.99	0.43
1:A:549:ILE:CD1	1:A:550:VAL:HG23	2.49	0.43
1:A:618:GLY:HA3	1:A:681:ALA:N	2.33	0.43
1:A:615:LEU:HD12	1:A:680:MET:HE1	2.00	0.43
1:A:635:PRO:HD3	1:A:661:PHE:CE1	2.54	0.43
1:A:639:VAL:O	1:A:651:ILE:HB	2.19	0.43
1:A:1601:MET:O	1:A:1616:LEU:HD12	2.19	0.43
1:A:1973:VAL:HB	2:A:2602:NDP:H3D	2.01	0.43
1:B:291:GLU:OE2	1:B:325:THR:N	2.50	0.43
1:B:305:LEU:CD2	1:B:366:ILE:HD13	2.47	0.43
1:B:511:MET:HE1	1:B:520:ILE:HG13	2.01	0.43
1:B:768:GLN:HE22	1:B:781:ILE:HG22	1.83	0.43
1:A:366:ILE:HG22	1:A:369:LEU:H	1.84	0.42
1:B:235:LYS:HE3	1:B:237:SER:OG	2.18	0.42
1:B:654:PRO:C	1:B:657:PRO:HD2	2.44	0.42
1:B:159:THR:O	1:B:159:THR:HG23	2.19	0.42
1:B:702:ILE:HD12	1:B:702:ILE:N	2.34	0.42
1:A:9:MET:SD	1:A:342:ALA:HA	2.58	0.42
1:B:61:ASP:O	1:B:65:PHE:HD2	2.02	0.42
1:B:225:SER:OG	1:B:330:GLY:HA3	2.20	0.42
1:B:758:VAL:HG12	1:B:759:LEU:N	2.34	0.42
1:B:981:GLU:N	1:B:982:PRO:HD3	2.34	0.42
1:A:333:GLU:HB2	1:A:334:PRO:HD3	2.01	0.42
1:B:501:THR:HG23	1:B:501:THR:O	2.19	0.42
1:B:544:SER:OG	1:B:547:ASP:OD2	2.32	0.42
1:B:648:THR:HG23	1:B:773:ARG:HH11	1.84	0.42
1:B:720:ALA:HB3	1:B:721:GLN:OE1	2.20	0.42
1:B:1218:LEU:HD21	1:B:1400:LEU:HB2	2.01	0.42
1:B:1354:GLY:HA3	1:B:1371:ILE:CD1	2.48	0.42
1:A:136:GLN:OE1	1:A:136:GLN:HA	2.19	0.42
1:A:148:PHE:HB3	1:A:150:PHE:CZ	2.55	0.42
1:A:447:ASP:OD2	1:A:450:PHE:HB2	2.19	0.42
1:A:456:ASP:OD1	1:A:813:ASN:ND2	2.53	0.42
1:B:25:ASN:HB3	1:B:32:MET:HE2	2.01	0.42
1:B:86:THR:HG23	1:B:184:ILE:HG21	2.02	0.42
1:B:620:MET:HG2	1:B:650:THR:CG2	2.50	0.42
1:B:682:PHE:HB3	1:B:683:HIS:ND1	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:695:LEU:O	1:B:699:LYS:HG2	2.20	0.42
1:B:758:VAL:O	1:B:759:LEU:HD23	2.19	0.42
1:B:1466:GLY:HA2	1:B:1469:LEU:HD23	2.02	0.42
1:A:139:MET:HE1	1:B:396:GLY:HA2	2.02	0.42
1:A:391:ASN:HB2	1:A:393:PHE:CE1	2.55	0.42
1:A:840:LEU:HD23	1:A:840:LEU:HA	1.90	0.42
1:A:1446:ILE:HG22	1:A:1474:LEU:HD12	2.02	0.42
1:B:717:ILE:CD1	1:B:727:ALA:HB2	2.40	0.42
1:B:1339:GLY:O	1:B:1404:ARG:NH1	2.53	0.42
1:B:1371:ILE:HG23	1:B:1371:ILE:O	2.19	0.42
1:B:1389:VAL:CG2	1:B:1501:LEU:HD11	2.49	0.42
1:B:1714:GLN:OE1	1:B:1714:GLN:N	2.48	0.42
1:A:719:GLU:HA	1:A:722:TRP:NE1	2.34	0.42
1:A:1640:TRP:CZ3	1:A:1648:VAL:HG21	2.55	0.42
1:B:78:GLN:HB3	1:B:188:ILE:HD12	2.02	0.42
1:B:115:GLU:OE1	1:B:193:LYS:N	2.52	0.42
1:B:991:TYR:CZ	1:B:1006:GLN:HA	2.54	0.42
1:A:501:THR:OG1	1:A:763:PRO:HG2	2.20	0.42
1:A:996:LEU:HD13	1:A:1899:GLU:OE2	2.20	0.42
1:A:235:LYS:HD2	1:A:238:LEU:HD13	2.01	0.42
1:A:780:THR:C	1:A:781:ILE:HD12	2.45	0.42
1:B:13:LEU:HB3	1:B:14:PRO:CD	2.49	0.42
1:B:159:THR:HG21	1:B:163:SER:HA	2.01	0.42
1:B:1199:ALA:O	1:B:1203:ALA:N	2.39	0.42
1:A:286:SER:OG	1:A:387:ASN:ND2	2.53	0.41
1:A:425:ARG:HH22	1:A:459:ALA:HB2	1.85	0.41
1:A:436:LYS:HE3	1:A:440:GLN:HE21	1.84	0.41
1:A:1069:LEU:HD11	1:A:1075:VAL:HG11	2.02	0.41
1:B:160:ALA:O	1:B:161:CYS:HB3	2.20	0.41
1:B:2062:ALA:HB3	1:B:2085:PRO:HA	2.02	0.41
1:A:112:SER:HA	1:A:137:ARG:NH1	2.35	0.41
1:A:210:GLY:O	1:A:223:CYS:HB3	2.20	0.41
1:A:1209:LEU:O	1:A:1215:LEU:HD12	2.19	0.41
1:A:1493:LEU:HA	1:A:1496:VAL:HG22	2.02	0.41
1:B:249:ALA:HB1	1:B:402:ILE:HG22	2.01	0.41
1:B:939:GLU:OE1	1:B:939:GLU:N	2.46	0.41
1:A:5:VAL:HG21	1:A:239:ALA:CB	2.51	0.41
1:A:654:PRO:HD3	1:A:686:PHE:HE2	1.85	0.41
1:A:946:VAL:O	1:A:953:VAL:HG12	2.19	0.41
1:A:1391:LEU:HD23	1:A:1391:LEU:C	2.45	0.41
1:A:1888:ILE:CD1	1:A:1956:ILE:HD13	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:706:LYS:HB3	1:B:707:PRO:HD2	2.01	0.41
1:B:1270:TYR:HB3	1:B:1292:VAL:HG12	2.01	0.41
1:A:627:TRP:O	1:A:631:LYS:HG2	2.20	0.41
1:A:783:PRO:O	1:A:784:LEU:HB2	2.21	0.41
1:B:572:LEU:HD11	1:B:803:LEU:CD2	2.49	0.41
1:B:626:SER:HB2	1:B:629:GLU:CD	2.45	0.41
1:B:635:PRO:HD2	1:B:638:VAL:CG1	2.48	0.41
1:B:831:SER:HB3	1:B:832:PRO:HD3	2.02	0.41
1:B:1280:LEU:HD13	1:B:1294:GLN:HG2	2.01	0.41
1:A:27:ILE:HD12	1:A:27:ILE:HA	1.91	0.41
1:A:78:GLN:HG2	1:A:190:VAL:HG13	2.02	0.41
1:A:706:LYS:HB3	1:A:707:PRO:CD	2.48	0.41
1:B:420:LEU:N	1:B:420:LEU:HD12	2.36	0.41
1:B:424:LEU:O	1:B:470:TYR:HA	2.20	0.41
1:B:740:VAL:HG23	1:B:741:SER:H	1.85	0.41
1:B:1052:VAL:HG11	1:B:1055:ILE:HD11	2.02	0.41
1:B:2022:VAL:HG13	1:B:2060:TRP:O	2.21	0.41
1:A:6:ILE:HG23	1:A:231:VAL:HG13	2.02	0.41
1:A:86:THR:O	1:A:90:ILE:HG13	2.20	0.41
1:A:157:LEU:HD12	1:A:157:LEU:N	2.36	0.41
1:A:274:ARG:HA	1:A:277:TYR:CD2	2.54	0.41
1:A:816:PHE:HB3	1:A:817:PRO:HD2	2.03	0.41
1:A:1066:LEU:HD23	1:A:1076:ALA:HB2	2.02	0.41
1:A:1115:GLU:HG2	1:A:1518:LEU:HD23	2.02	0.41
1:B:508:LEU:HD22	1:B:539:LEU:HD23	2.02	0.41
1:B:620:MET:HG2	1:B:650:THR:HG22	2.01	0.41
1:A:65:PHE:HA	1:A:147:PHE:CE1	2.56	0.41
1:A:104:HIS:O	1:A:152:GLY:HA3	2.20	0.41
1:A:196:THR:HG22	1:A:200:PHE:HE2	1.85	0.41
1:A:585:VAL:HG23	1:A:586:ALA:N	2.35	0.41
1:A:608:GLN:HG2	1:A:612:GLU:OE2	2.21	0.41
1:A:1148:LEU:HD12	1:A:1148:LEU:N	2.36	0.41
1:A:897:LYS:HG2	1:A:907:VAL:HG21	2.03	0.41
1:A:1677:SER:HA	1:A:1708:LEU:HD11	2.03	0.41
1:A:1942:SER:OG	1:A:1958:GLU:OE2	2.34	0.41
1:B:81:LEU:O	1:B:85:VAL:HG23	2.20	0.41
1:B:333:GLU:HB2	1:B:334:PRO:CD	2.38	0.41
1:B:391:ASN:HB2	1:B:393:PHE:CE1	2.56	0.41
1:B:1029:PHE:O	1:B:1032:THR:OG1	2.33	0.41
1:B:2098:PHE:CD1	1:B:2106:LEU:HD13	2.55	0.41
1:A:68:HIS:ND1	1:A:69:PRO:HD2	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:157:LEU:HD12	1:A:157:LEU:H	1.86	0.41
1:A:193:LYS:HD3	1:A:850:PHE:CD2	2.55	0.41
1:A:549:ILE:CG1	1:A:611:LYS:HG3	2.51	0.41
1:A:1140:LEU:HD13	1:A:1174:SER:OG	2.21	0.41
1:A:1904:LEU:HB3	1:A:1909:VAL:HG21	2.03	0.41
1:A:1922:THR:HG22	1:A:1923:GLY:N	2.36	0.41
1:B:9:MET:HE2	1:B:9:MET:HB3	1.86	0.41
1:B:191:LEU:HD22	1:B:224:ARG:NH2	2.35	0.41
1:B:215:PHE:CE1	1:B:305:LEU:HD11	2.56	0.41
1:B:252:ASN:HD21	1:B:268:ILE:HG22	1.86	0.41
1:B:623:VAL:CG1	1:B:665:LEU:HD13	2.51	0.41
1:B:687:MET:HA	1:B:690:ILE:HD13	2.02	0.41
1:B:692:PRO:N	1:B:693:PRO:HD2	2.35	0.41
1:B:726:LEU:HD11	1:B:733:GLU:CB	2.51	0.41
1:B:912:VAL:HG22	1:B:913:VAL:N	2.36	0.41
1:B:1968:VAL:HG11	1:B:2002:LEU:HD22	2.03	0.41
1:A:538:LEU:HD23	1:A:546:PHE:CZ	2.48	0.41
1:A:2018:VAL:HG11	1:A:2041:MET:HB3	2.03	0.41
1:B:191:LEU:HD22	1:B:224:ARG:HH21	1.86	0.41
1:B:485:VAL:HG22	1:B:805:LEU:O	2.21	0.41
1:B:615:LEU:HD12	1:B:615:LEU:C	2.46	0.41
1:A:92:ASP:OD1	1:A:241:ARG:NH1	2.54	0.40
1:A:342:ALA:O	1:A:346:LEU:HG	2.21	0.40
1:A:821:PHE:HB3	1:A:822:PRO:HA	2.03	0.40
1:B:78:GLN:NE2	1:B:188:ILE:CD1	2.77	0.40
1:B:114:SER:HG	1:B:117:SER:HG	1.51	0.40
1:B:242:VAL:CG2	1:B:822:PRO:HB3	2.50	0.40
1:A:127:LEU:HD12	1:A:127:LEU:O	2.20	0.40
1:A:490:ARG:HD3	1:A:806:SER:O	2.22	0.40
1:A:1971:LEU:HD12	1:A:1971:LEU:N	2.35	0.40
1:B:159:THR:OG1	1:B:166:MET:HE3	2.20	0.40
1:B:645:SER:OG	1:B:770:VAL:HG13	2.22	0.40
1:B:933:LEU:HD12	1:B:933:LEU:N	2.35	0.40
1:A:302:PRO:HG2	1:A:365:GLU:OE1	2.21	0.40
1:A:666:ARG:HE	1:A:672:ALA:HB3	1.85	0.40
1:A:682:PHE:HB3	1:A:683:HIS:HD2	1.86	0.40
1:A:698:LEU:CB	1:A:732:ALA:HB1	2.50	0.40
1:A:1077:ASP:OD1	1:A:1078:VAL:N	2.54	0.40
1:B:1372:LEU:HB3	1:B:1376:ALA:HB3	2.03	0.40
1:A:5:VAL:HG21	1:A:239:ALA:HB2	2.04	0.40
1:A:138:ALA:HB1	1:B:160:ALA:HB2	2.00	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:325:THR:HG21	1:A:340:ALA:HA	2.03	0.40
1:A:1219:LEU:HD13	1:A:1255:ARG:HH21	1.85	0.40
1:A:1261:SER:N	1:A:1262:PRO:CD	2.85	0.40
1:B:548:ASP:CG	1:B:550:VAL:HG12	2.46	0.40
1:B:1209:LEU:N	1:B:1210:PRO:HD2	2.36	0.40
1:A:168:LEU:HD21	1:A:246:ILE:HD13	2.04	0.40
1:A:247:LEU:CD1	1:A:405:ARG:HB2	2.52	0.40
1:A:1786:LEU:HD11	1:B:1775:SER:HA	2.03	0.40
1:A:1896:PHE:CD1	1:A:2063:ILE:HG13	2.56	0.40
1:B:110:GLY:CA	1:B:163:SER:HB2	2.52	0.40
1:B:759:LEU:CD2	1:B:782:ILE:HG22	2.51	0.40
1:B:1128:LEU:HD23	1:B:1134:LEU:HD22	2.03	0.40
1:B:1252:LEU:HD23	1:B:1314:VAL:HB	2.02	0.40
1:B:1743:LEU:HD23	1:B:1765:ARG:HB2	2.03	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	2060/2553 (81%)	2006 (97%)	54 (3%)	0	100	100
1	B	2063/2553 (81%)	2009 (97%)	54 (3%)	0	100	100
All	All	4123/5106 (81%)	4015 (97%)	108 (3%)	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	1705/2117 (80%)	1705 (100%)	0	100 100
1	B	1708/2117 (81%)	1706 (100%)	2 (0%)	92 96
All	All	3413/4234 (81%)	3411 (100%)	2 (0%)	92 96

All (2) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	580	HIS
1	B	1828	CYS

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

Mol	Chain	Res	Type
1	A	96	ASN
1	A	104	HIS
1	A	142	ASN
1	A	173	GLN
1	A	293	HIS
1	A	356	ASN
1	A	358	HIS
1	A	379	GLN
1	A	387	ASN
1	A	399	ASN
1	A	444	HIS
1	A	446	GLN
1	A	551	HIS
1	A	614	HIS
1	A	751	HIS
1	A	804	HIS
1	A	987	GLN
1	A	1044	HIS
1	A	1139	GLN
1	A	1191	ASN
1	A	1290	HIS
1	A	1296	GLN
1	A	1504	ASN
1	A	1562	GLN
1	A	1572	ASN

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Mol	Chain	Res	Type
1	A	1595	GLN
1	A	1731	HIS
1	A	1763	HIS
1	A	1815	GLN
1	A	1835	GLN
1	B	71	GLN
1	B	142	ASN
1	B	170	ASN
1	B	173	GLN
1	B	195	ASN
1	B	199	GLN
1	B	306	ASN
1	B	331	HIS
1	B	358	HIS
1	B	375	GLN
1	B	440	GLN
1	B	446	GLN
1	B	551	HIS
1	B	644	ASN
1	B	737	ASN
1	B	738	ASN
1	B	746	GLN
1	B	755	HIS
1	B	768	GLN
1	B	789	HIS
1	B	804	HIS
1	B	813	ASN
1	B	949	ASN
1	B	1006	GLN
1	B	1195	GLN
1	B	1278	GLN
1	B	1288	GLN
1	B	1516	HIS
1	B	1731	HIS
1	B	1845	GLN
1	B	1848	HIS
1	B	1855	GLN
1	B	1884	HIS

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

4 ligands are modelled in this entry.

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	$\#\|Z\| > 2$
2	NDP	A	2602	-	47,52,52	0.65	0	61,80,80	0.77	2 (3%)
2	NDP	A	2601	-	47,52,52	0.63	0	61,80,80	0.83	2 (3%)
2	NDP	B	2601	-	47,52,52	0.65	0	61,80,80	0.80	2 (3%)
2	NDP	B	2602	-	47,52,52	0.64	0	61,80,80	0.86	2 (3%)

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
2	NDP	A	2602	-	-	10/30/77/77	0/5/5/5
2	NDP	A	2601	-	-	11/30/77/77	0/5/5/5
2	NDP	B	2601	-	-	11/30/77/77	0/5/5/5
2	NDP	B	2602	-	-	6/30/77/77	0/5/5/5

There are no bond length outliers.

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	2602	NDP	P2B-O2B-C2B	-3.77	113.37	123.43
2	B	2601	NDP	P2B-O2B-C2B	-3.74	113.44	123.43
2	A	2602	NDP	P2B-O2B-C2B	-3.23	114.81	123.43
2	A	2601	NDP	C4B-O4B-C1B	-2.99	107.19	109.92
2	A	2601	NDP	C5A-C6A-N6A	2.29	123.80	120.31
2	B	2601	NDP	C5A-C6A-N6A	2.22	123.69	120.31
2	B	2602	NDP	C5A-C6A-N6A	2.22	123.69	120.31
2	A	2602	NDP	C5A-C6A-N6A	2.19	123.64	120.31

There are no chirality outliers.

All (38) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	A	2601	NDP	C5D-O5D-PN-O3
2	A	2601	NDP	C5D-O5D-PN-O1N
2	A	2601	NDP	C2N-C3N-C7N-O7N
2	A	2602	NDP	C5B-O5B-PA-O2A
2	A	2602	NDP	C5B-O5B-PA-O3
2	A	2602	NDP	PN-O3-PA-O5B
2	A	2602	NDP	O4D-C4D-C5D-O5D
2	A	2602	NDP	C3D-C4D-C5D-O5D
2	A	2602	NDP	O4D-C1D-N1N-C6N
2	B	2601	NDP	C5B-O5B-PA-O2A
2	B	2601	NDP	C5B-O5B-PA-O3
2	B	2601	NDP	C5D-O5D-PN-O1N
2	B	2601	NDP	O4D-C1D-N1N-C2N
2	B	2601	NDP	C2N-C3N-C7N-N7N
2	B	2602	NDP	C2N-C3N-C7N-N7N
2	A	2602	NDP	O4B-C4B-C5B-O5B
2	A	2602	NDP	C3B-C4B-C5B-O5B
2	A	2601	NDP	C3B-C2B-O2B-P2B
2	A	2601	NDP	C1B-C2B-O2B-P2B
2	B	2601	NDP	C3B-C4B-C5B-O5B
2	B	2601	NDP	O4B-C4B-C5B-O5B
2	B	2602	NDP	O4D-C4D-C5D-O5D
2	B	2602	NDP	O4B-C4B-C5B-O5B
2	A	2601	NDP	C3B-C4B-C5B-O5B
2	B	2601	NDP	PA-O3-PN-O1N
2	A	2601	NDP	O4D-C1D-N1N-C2N
2	A	2601	NDP	C2N-C3N-C7N-N7N
2	A	2601	NDP	O4B-C4B-C5B-O5B
2	B	2602	NDP	C3D-C4D-C5D-O5D
2	A	2601	NDP	C5D-O5D-PN-O2N

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Mol	Chain	Res	Type	Atoms
2	B	2601	NDP	C5D-O5D-PN-O3
2	B	2601	NDP	C5D-O5D-PN-O2N
2	B	2602	NDP	O4D-C1D-N1N-C6N
2	A	2601	NDP	C2B-O2B-P2B-O1X
2	B	2602	NDP	C2D-C1D-N1N-C6N
2	B	2601	NDP	PA-O3-PN-O2N
2	A	2602	NDP	C2B-O2B-P2B-O3X
2	A	2602	NDP	PA-O3-PN-O2N

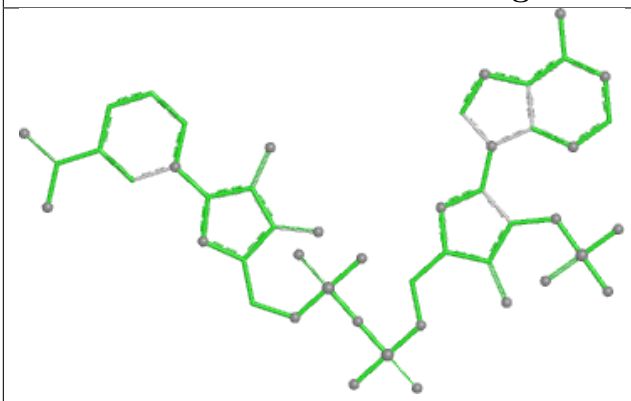
There are no ring outliers.

3 monomers are involved in 4 short contacts:

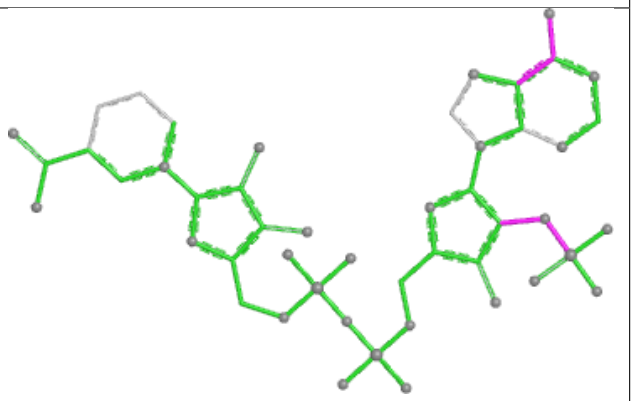
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	A	2602	NDP	1	0
2	B	2601	NDP	2	0
2	B	2602	NDP	1	0

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.

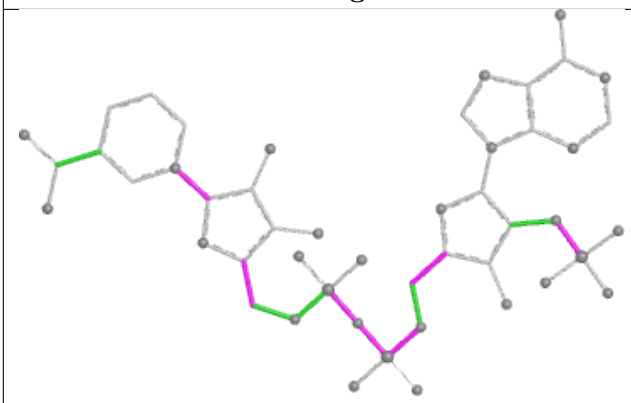
Ligand NDP A 2602



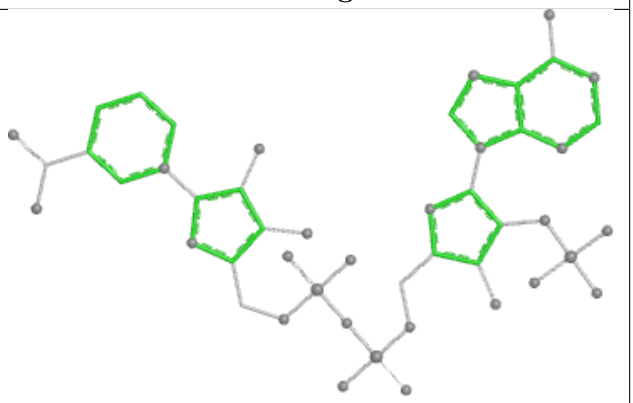
Bond lengths



Bond angles

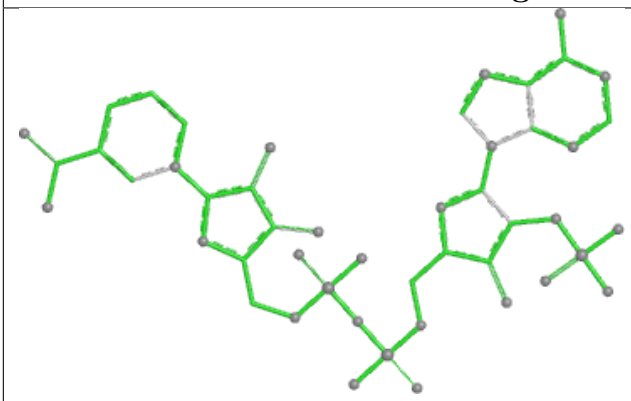


Torsions

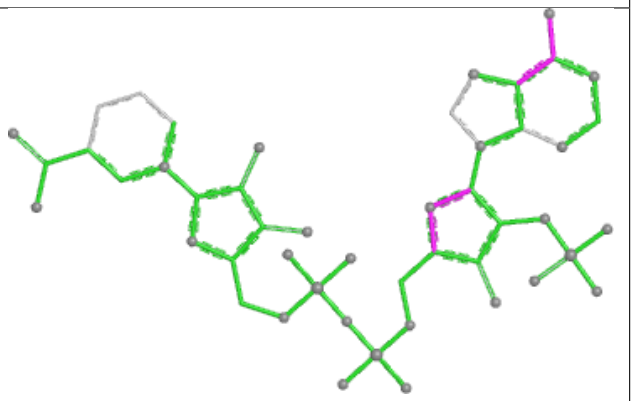


Rings

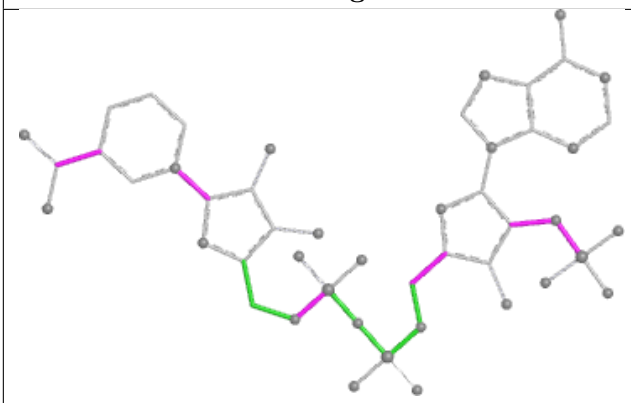
Ligand NDP A 2601



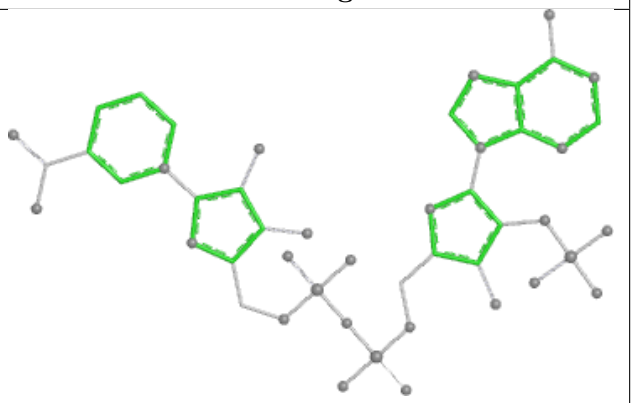
Bond lengths



Bond angles

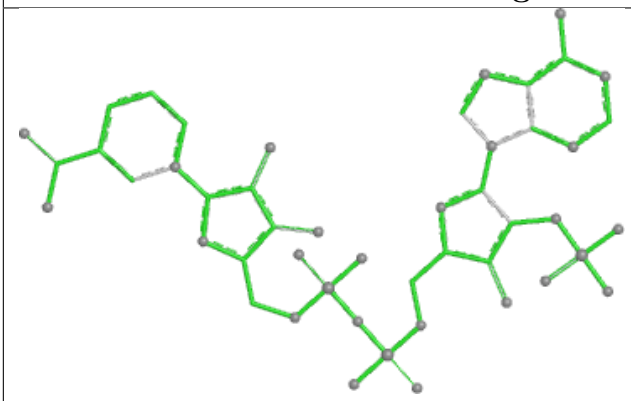


Torsions

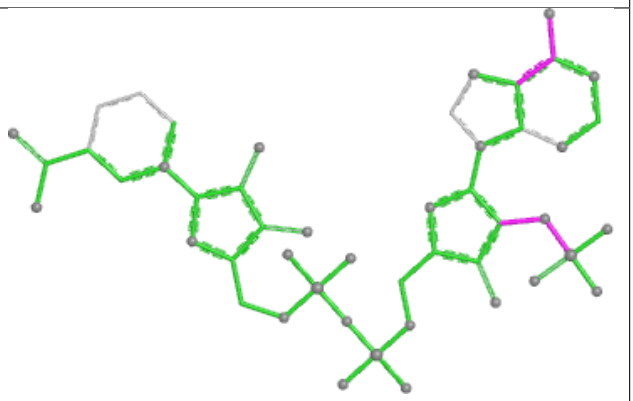


Rings

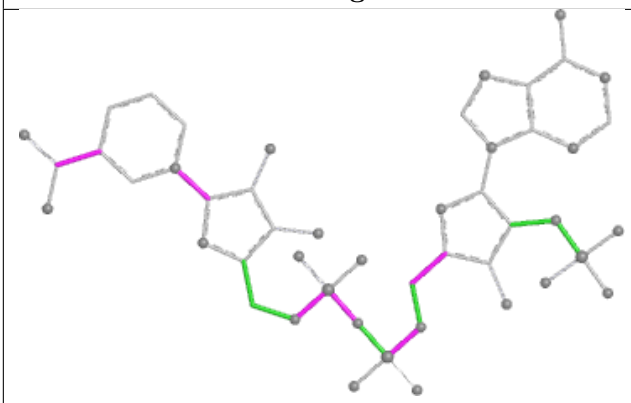
Ligand NDP B 2601



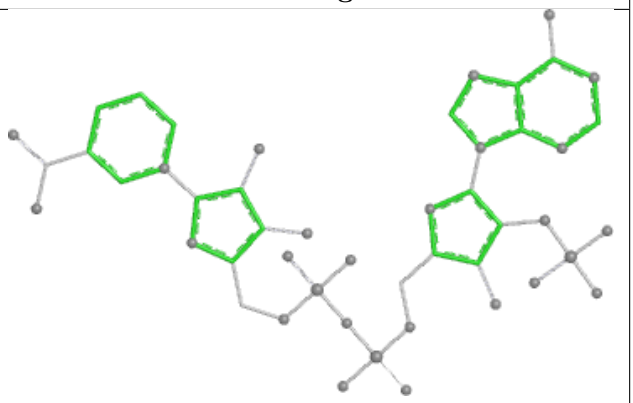
Bond lengths



Bond angles

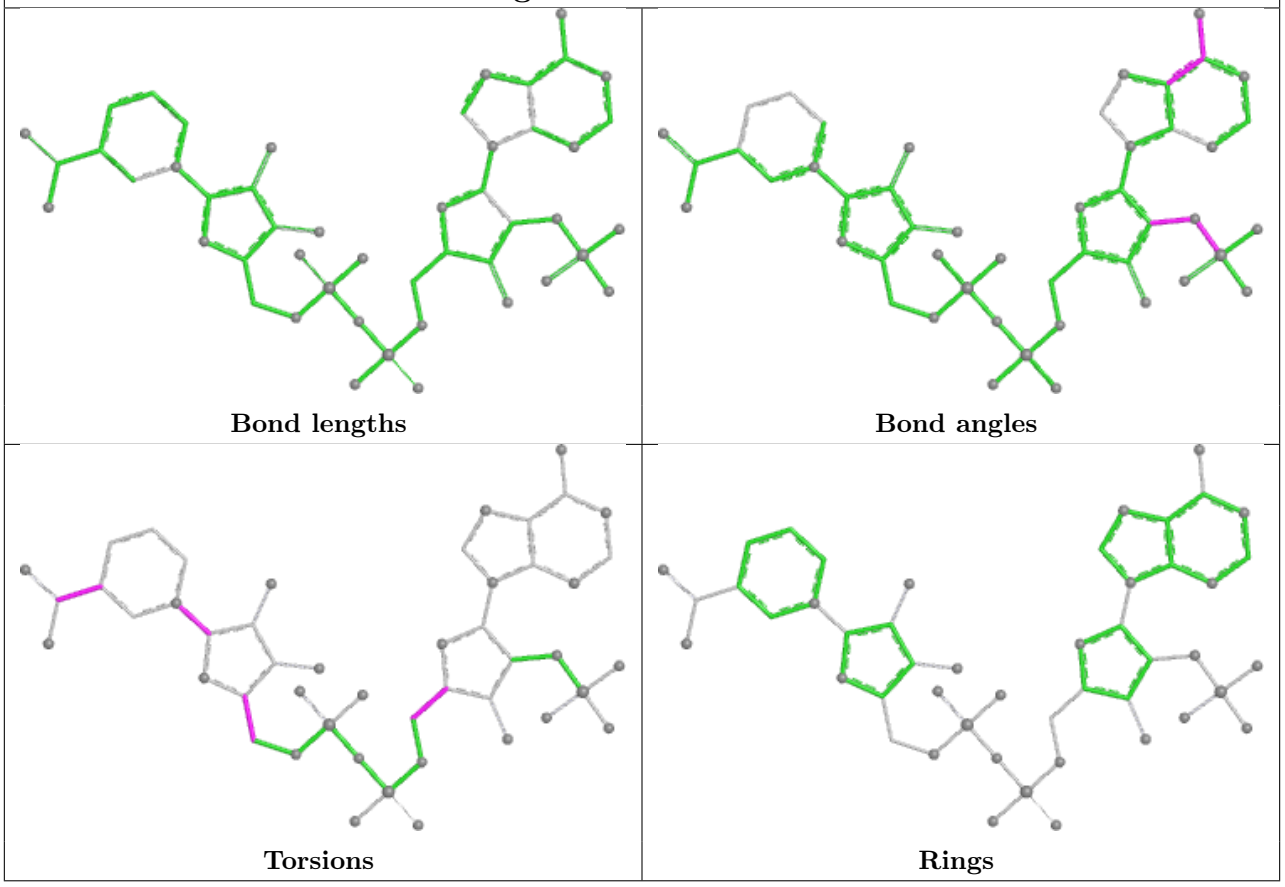


Torsions



Rings

Ligand NDP B 2602



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.

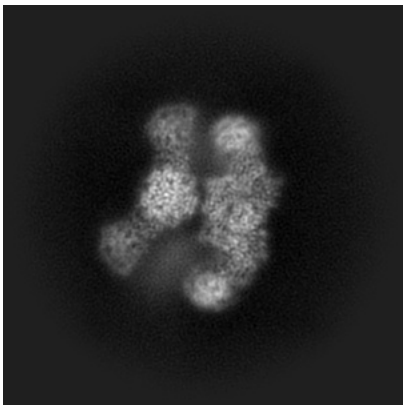
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-43350. These allow visual inspection of the internal detail of the map and identification of artifacts.

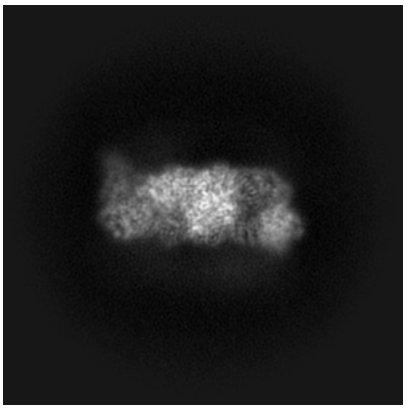
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

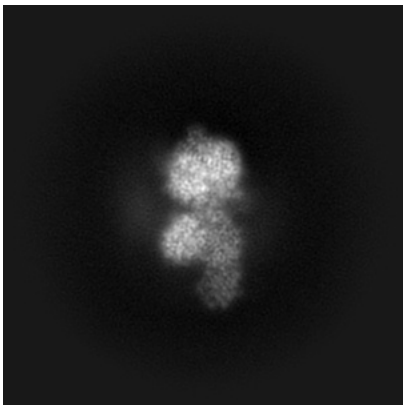
6.1.1 Primary map



X



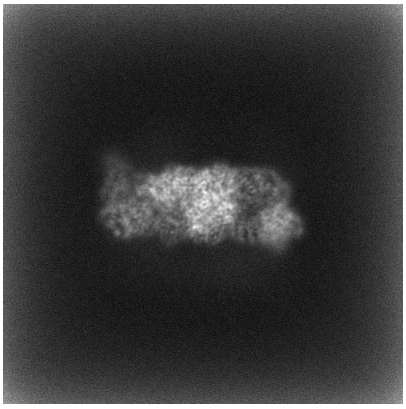
Y



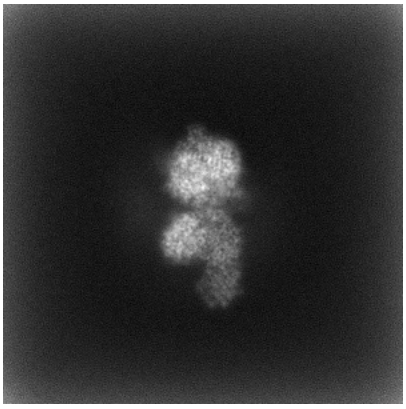
Z

6.1.2 Raw map

X



Y

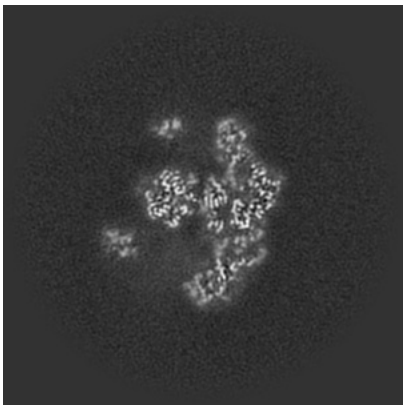


Z

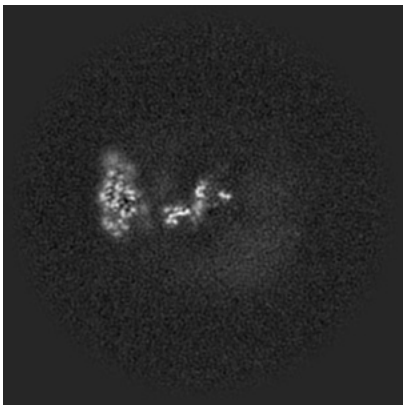
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

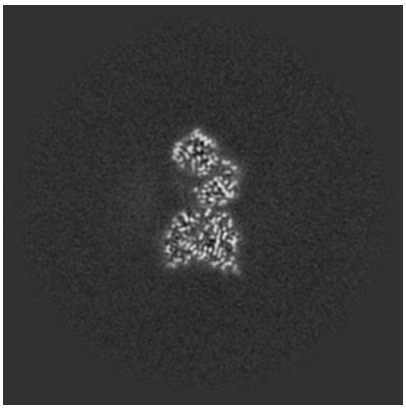
6.2.1 Primary map



X Index: 180

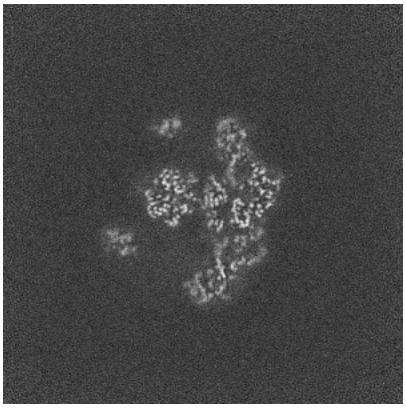


Y Index: 180



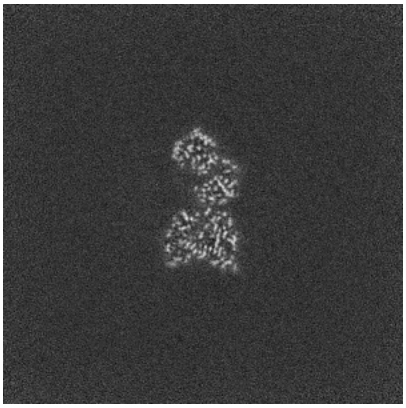
Z Index: 180

6.2.2 Raw map



X Index: 180

Y Index: 180

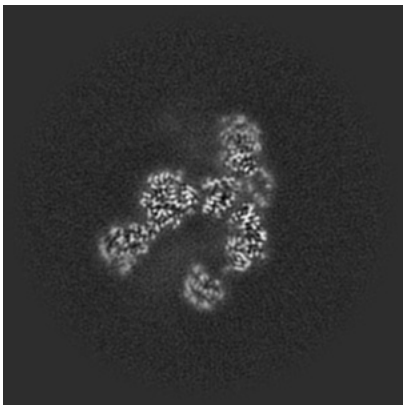


Z Index: 180

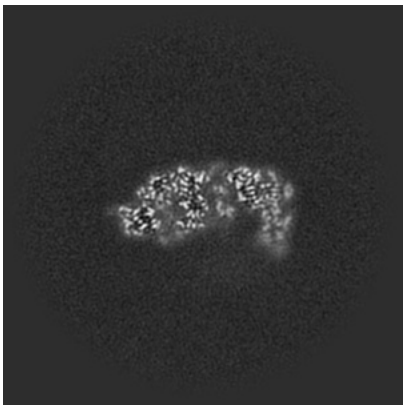
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

6.3.1 Primary map



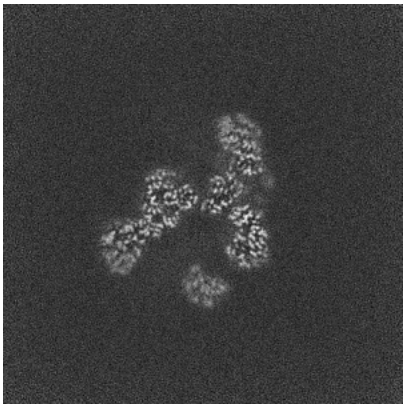
X Index: 190



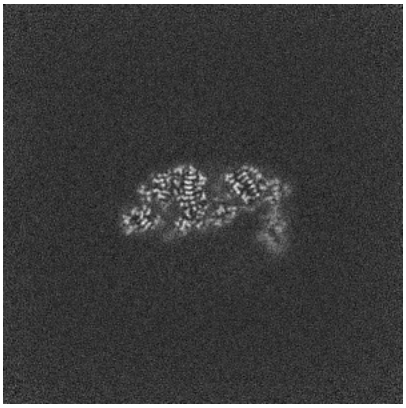
Y Index: 214

Z Index: 182

6.3.2 Raw map



X Index: 194



Y Index: 218

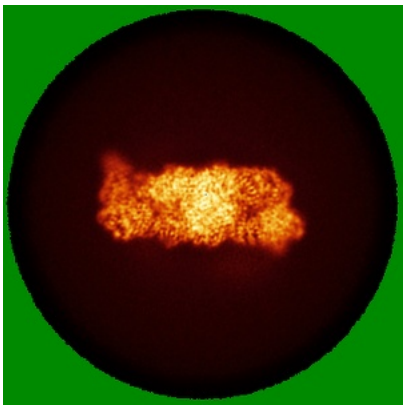
Z Index: 182

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

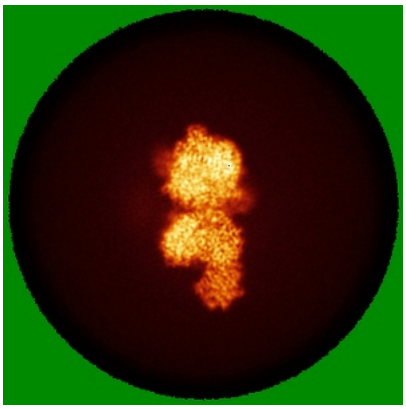
6.4 Orthogonal standard-deviation projections (False-color) (i)

6.4.1 Primary map

X

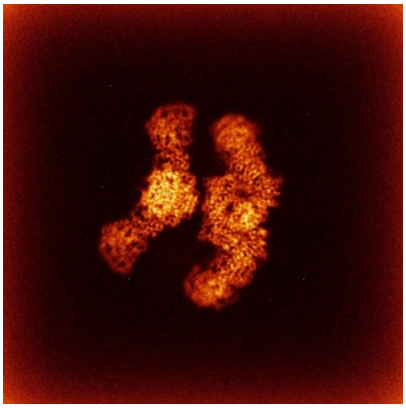


Y

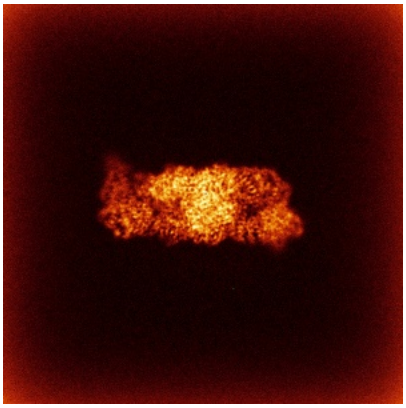


Z

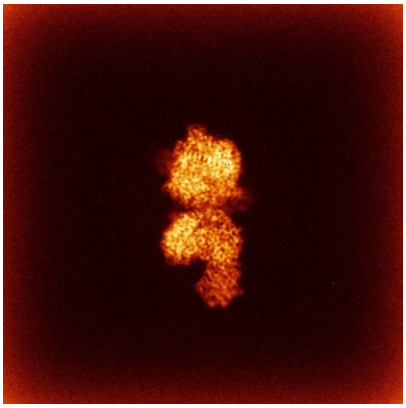
6.4.2 Raw map



X



Y

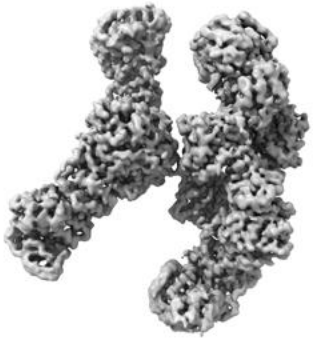


Z

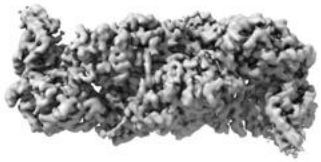
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map



X



Y

Z

The images above show the 3D surface view of the map at the recommended contour level 0.182. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

X

Y

Z

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

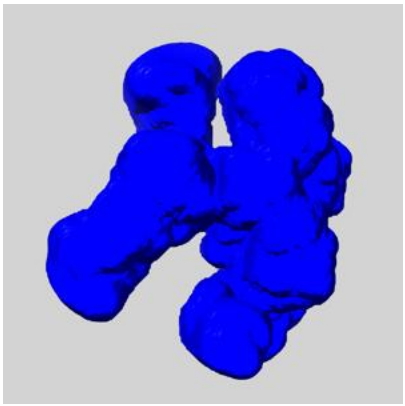
6.6 Mask visualisation

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

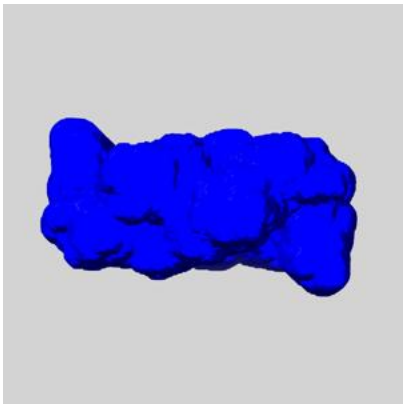
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

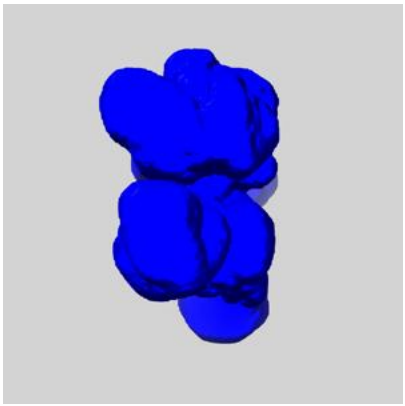
6.6.1 emd_43350_msk_1.map



X



Y

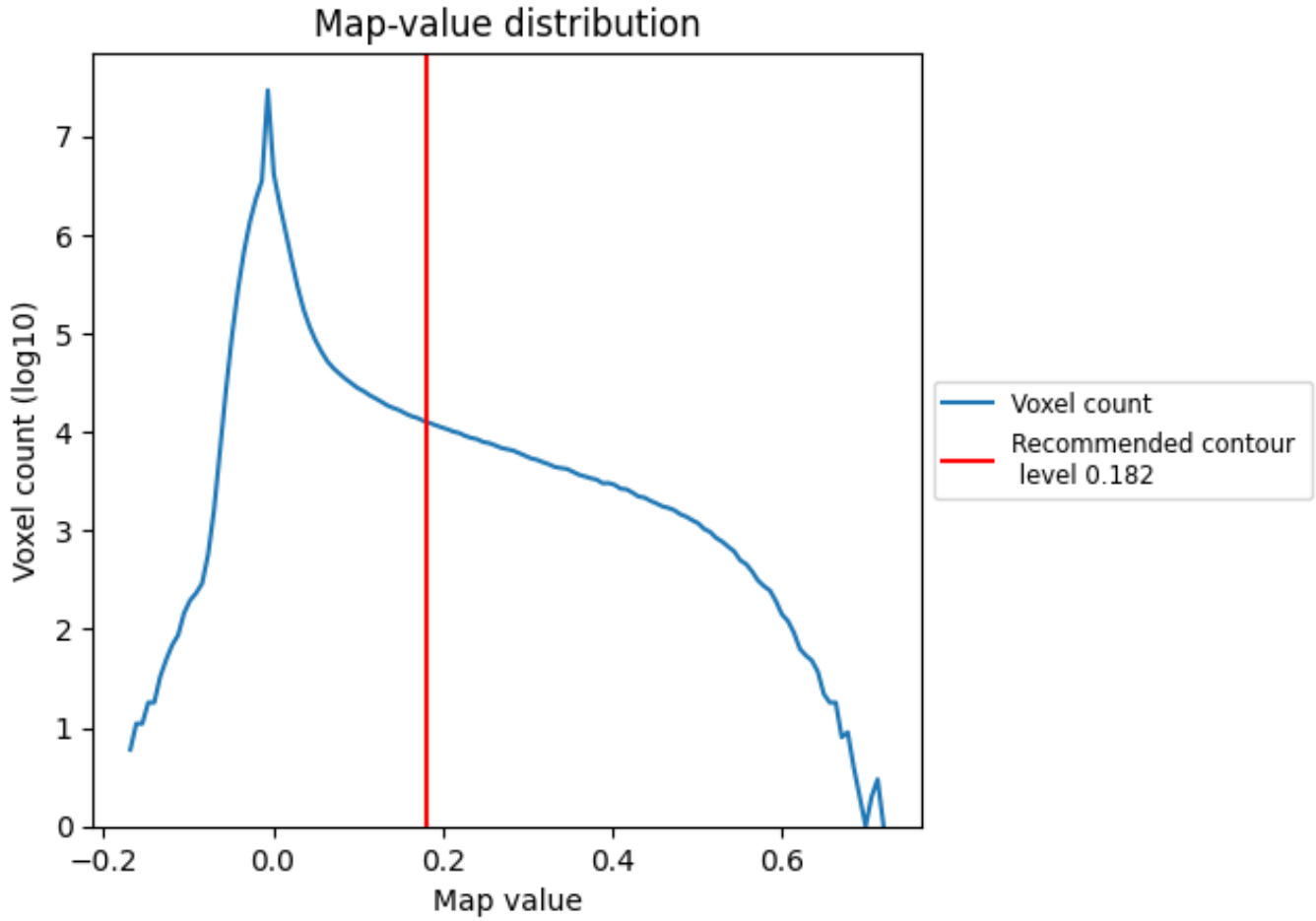


Z

7 Map analysis

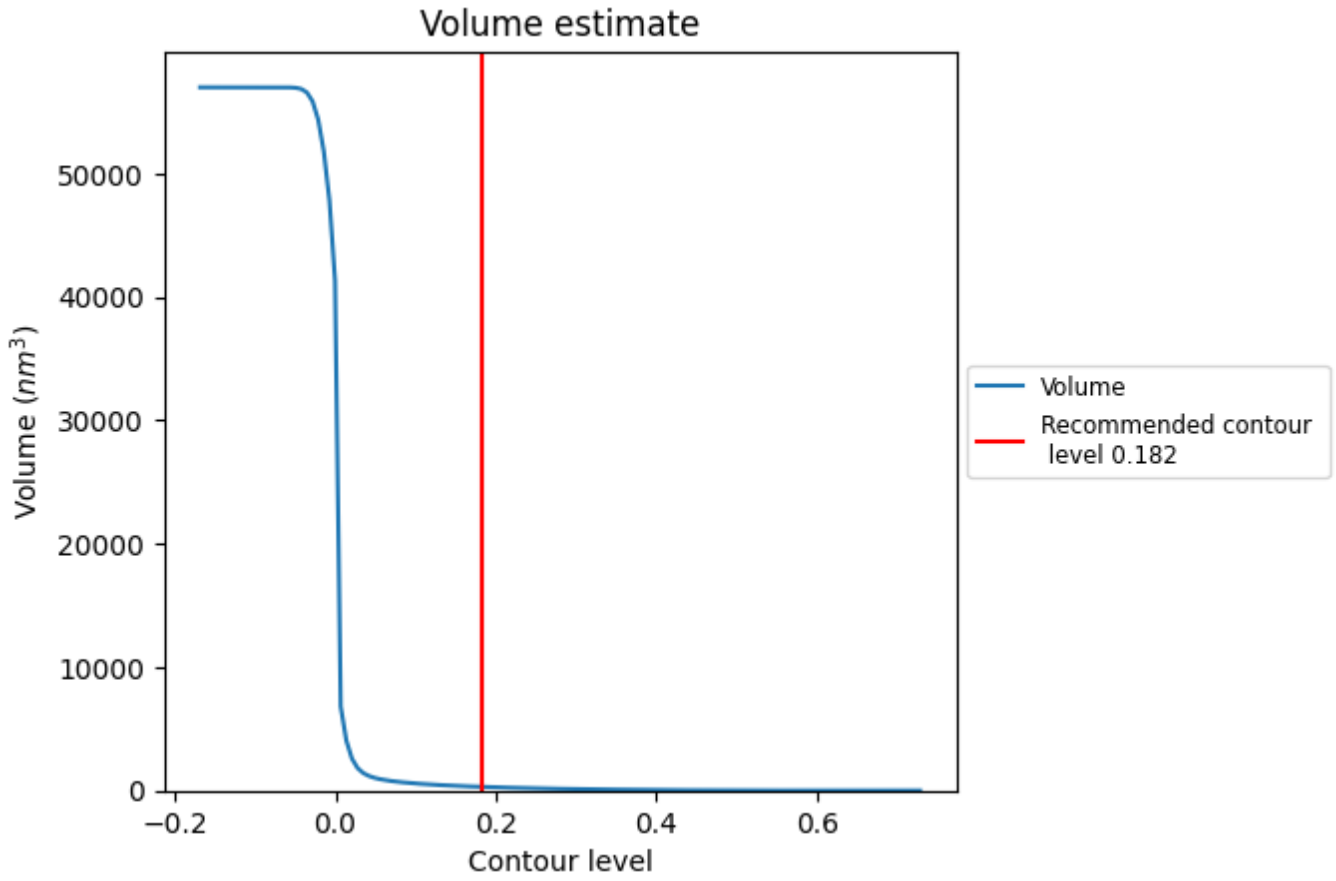
This section contains the results of statistical analysis of the map.

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.

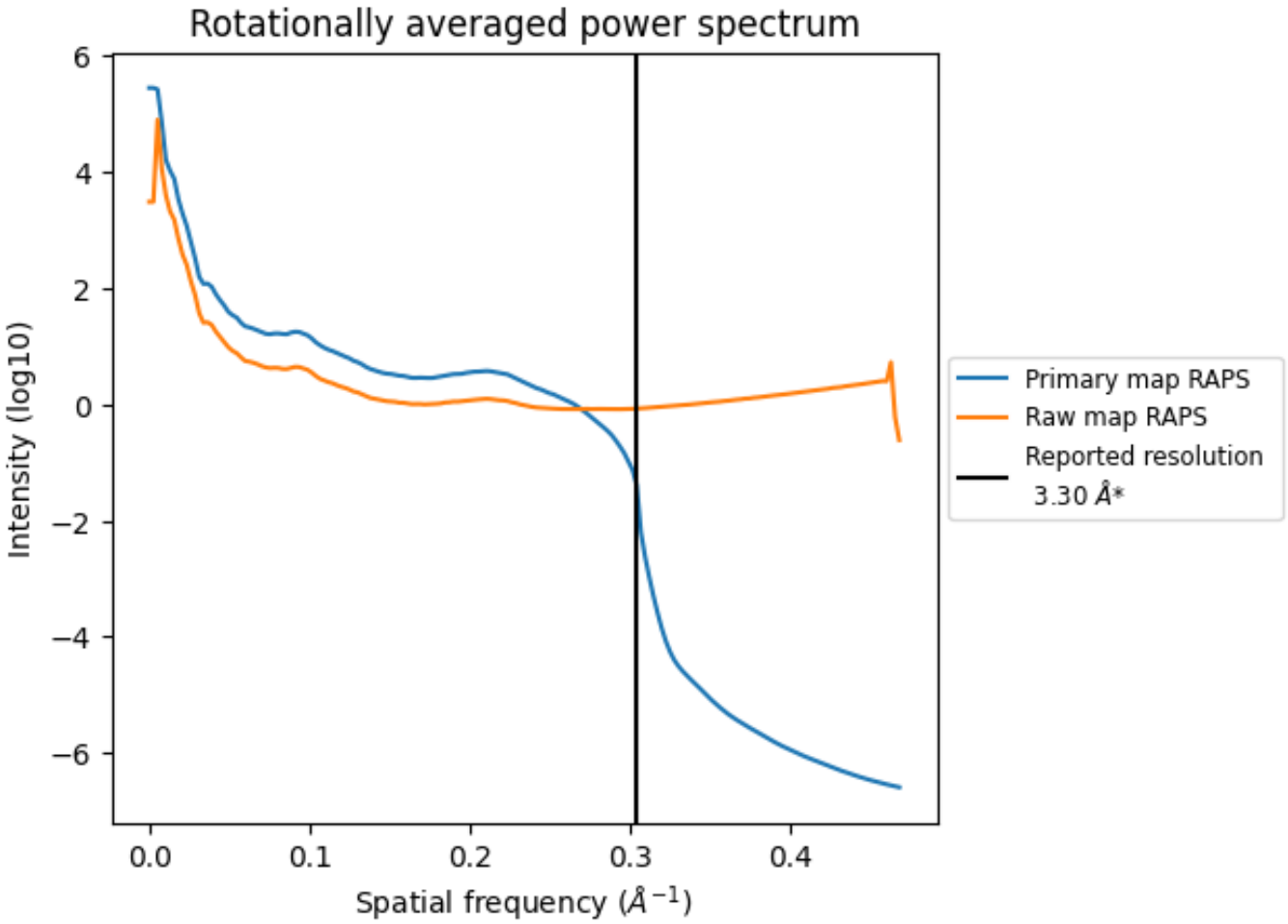
7.2 Volume estimate



The volume at the recommended contour level is 301 nm^3; this corresponds to an approximate mass of 272 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)

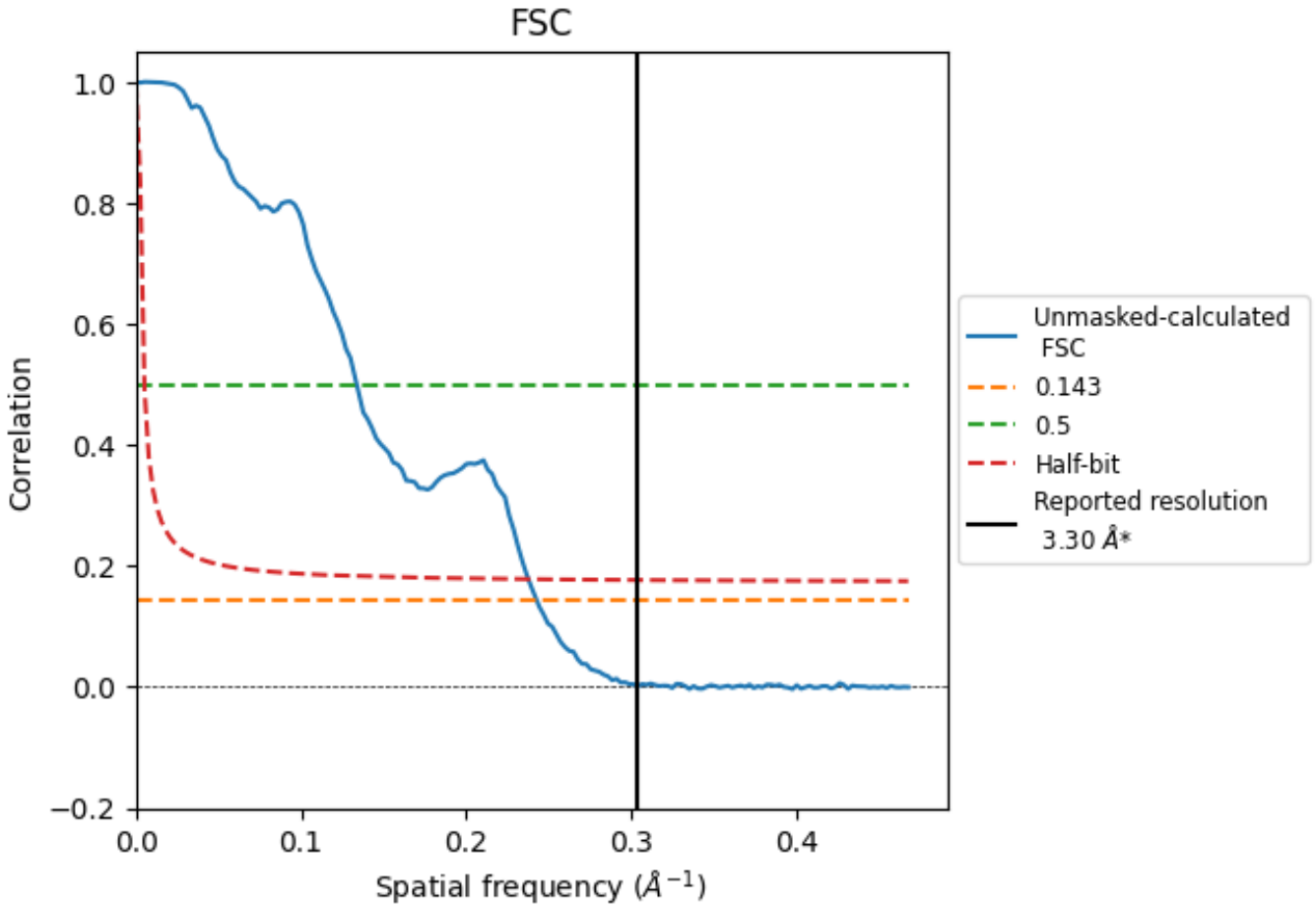


*Reported resolution corresponds to spatial frequency of 0.303 Å^{-1}

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.303 Å^{-1}

8.2 Resolution estimates (i)

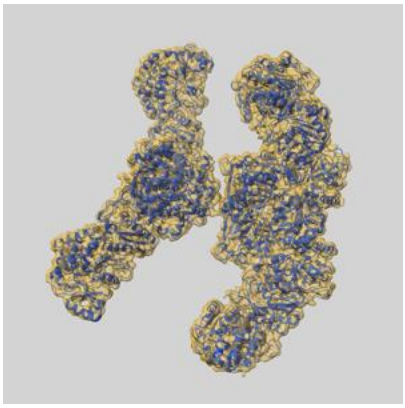
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.30	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.12	7.48	4.21

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 4.12 differs from the reported value 3.3 by more than 10 %

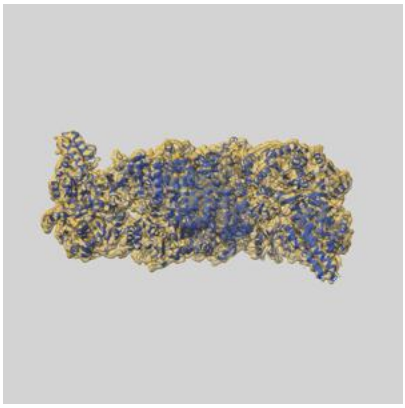
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-43350 and PDB model 8VM0. Per-residue inclusion information can be found in section 3 on page 7.

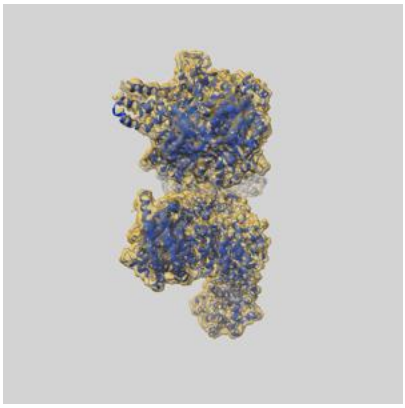
9.1 Map-model overlay



X



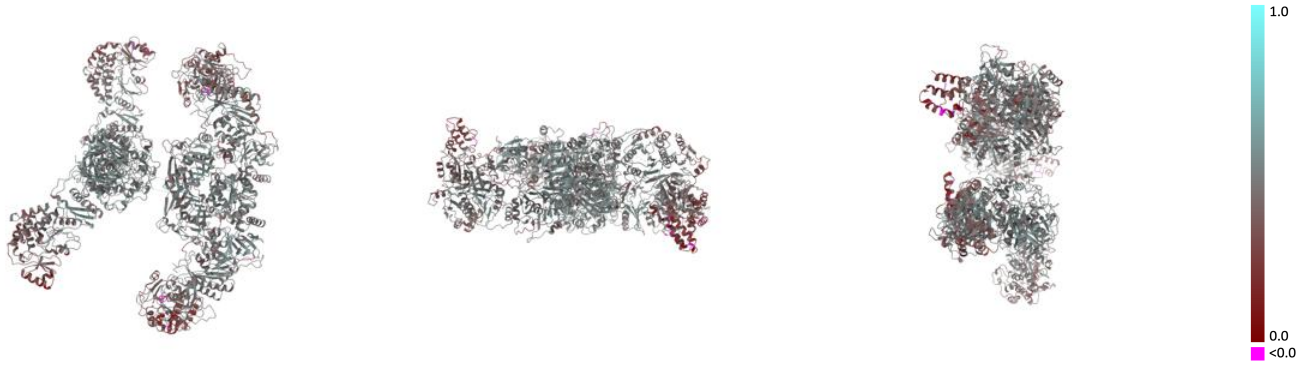
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.182 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.

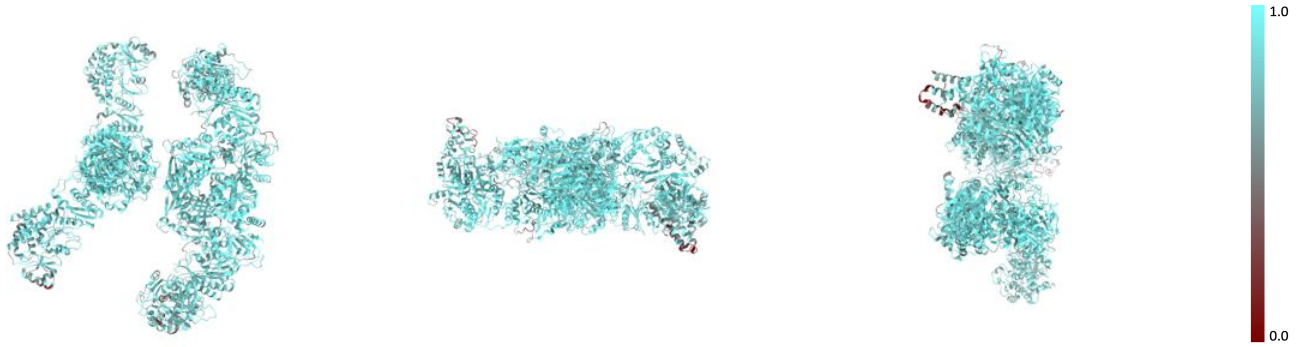
9.2 Q-score mapped to coordinate model (i)



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.

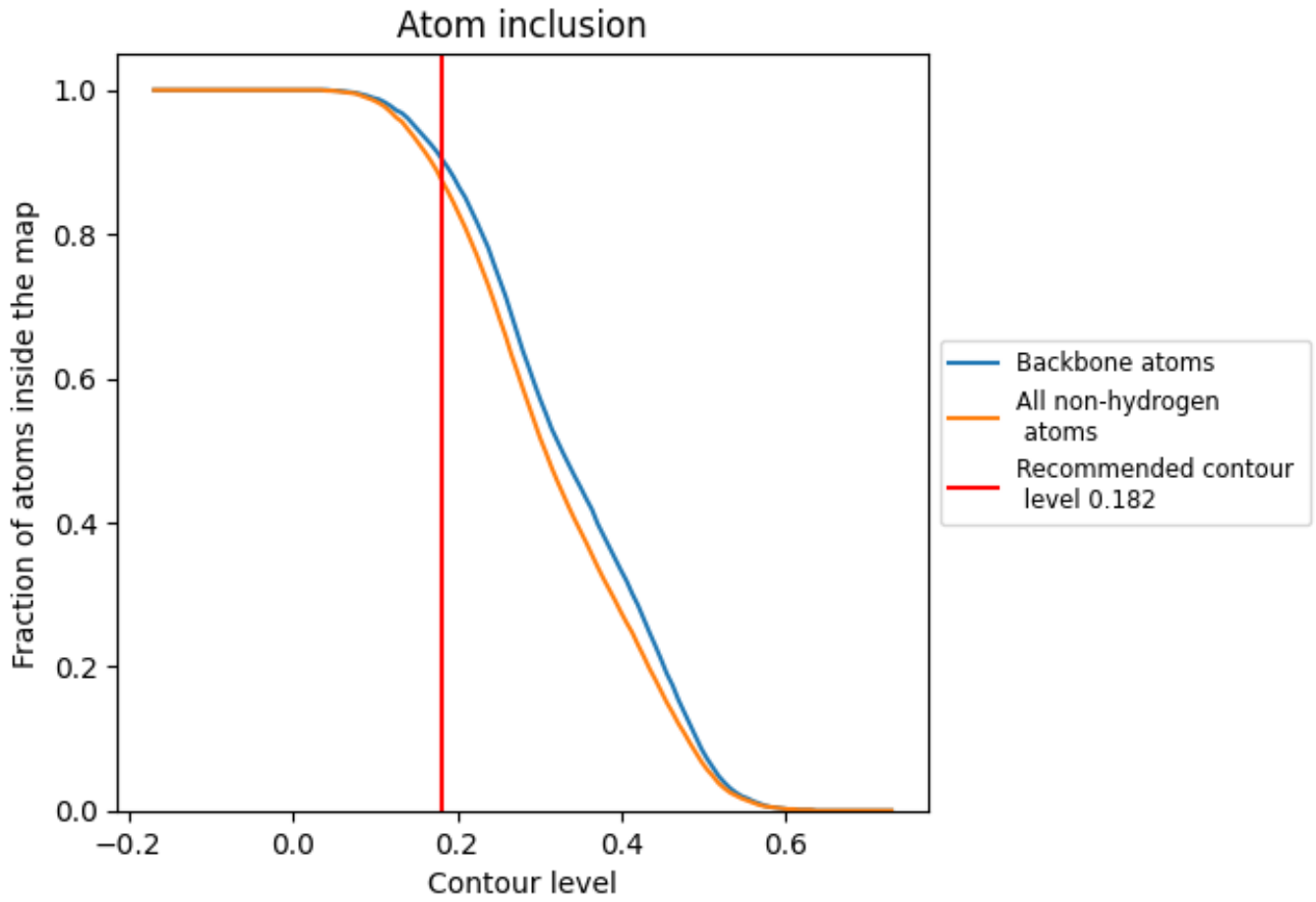
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.182).

9.4 Atom inclusion (i)



At the recommended contour level, 90% of all backbone atoms, 87% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (0.182) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8730	0.4530
A	0.8790	0.4560
B	0.8660	0.4510