WORLDWIDE PDB
PROTEIN DATA BANK

Full wwPDB EM Validation Report (i)

Apr 28, 2024 – 09:02 am BST

PDB ID	:	4BX4
EMDB ID	:	EMD-1300
Title	:	Fitting of the bacteriophage Phi8 P1 capsid protein into cryo-EM density
Authors	:	El Omari, K.; Sutton, G.; Ravantti, J.J.; Zhang, H.; Walter, T.S.; Grimes, J.M.; Bamford, D.H.; Stuart, D.I.; Mancini, E.J.
Deposited on	:	2013-07-08
Resolution	:	8.70 Å(reported)
Based on initial model	:	4BTP

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 (i) 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 (i)) were used in the production of this report:

|		
EMDB validation analysis	:	0.0.1.dev92
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36.2

1 Overall quality at a glance ⓘ

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

The reported resolution of this entry is 8.70 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	Percentile Ranks	Value
Clashscore		42
Ramachandran outliers		2.1%
Sidechain outliers		17.1%

Worse   *Better*

▮ Percentile relative to all structures
▯ Percentile relative to all EM structures
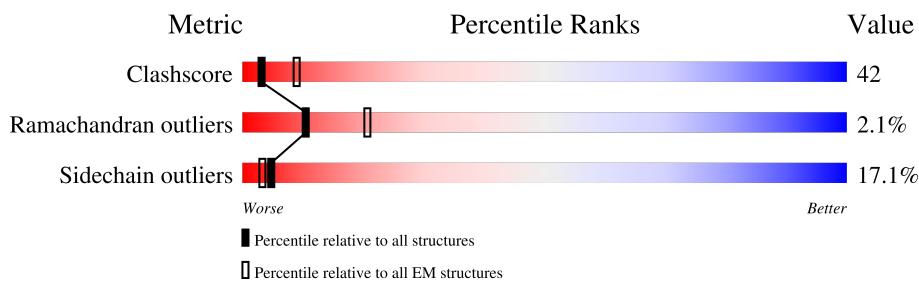
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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	792	7% 49% 35% 8% 7%
1	B	792	· 50% 34% 8% 7%
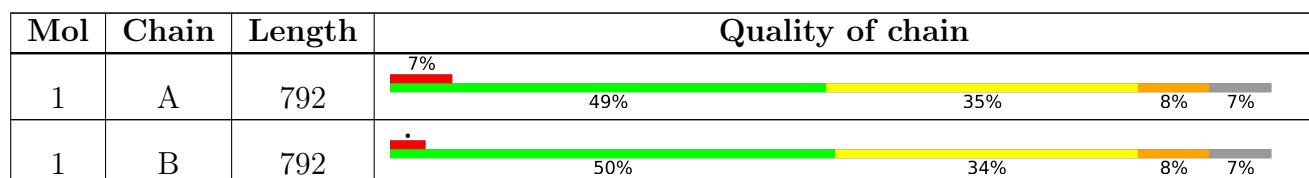
2 Entry composition ⓘ

There is only 1 type of molecule in this entry. The entry contains 11384 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 P1.

| Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	738	Total	C	N	O	S	0	0
			5692	3588	984	1096	24		
1	B	738	Total	C	N	O	S	0	0
			5692	3588	984	1096	24		

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	691	ASP	GLU	conflict	UNP Q9MC13
B	691	ASP	GLU	conflict	UNP Q9MC13

3 Residue-property plots ⓘ

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: P1

Chain A:

ARG ARG ARG D721 E722 I723 T724 G725 I726 Q729 P730 S731 D732 V733 A734 M735 Q736 L740 Q745 K748 T754 G755 I756 I762 E766 V769 D773 D774 N775 R776 F777 Y778 E779 I780 A781 V785 L786 R787 A788 L789 K790 GLY MET

● Molecule 1: P1

Chain B:

50%　　　　34%　　8%　7%

MET SER LYS ASP LEU GLY ARG VAL ASP LEU LEU MET LEU GLY ASN SER SER SER ALA GLY VAL D24 I30 P31 F32 S33 T34 S35 G36 A37 T38 W39 R43 L44 S45 E46 I49 T50 S51 R55 R56 R57 Q64 R68 V74 R75 K76 I77 L78 S79

D85 I94 E97 E98 S99 M100 R101 I102 T103 M104 A105 M108 G109 V110 K111 D112 R113 P114 N115 A116 R117 T118 N119 S120 W121 A122 E123 V124 S125 D126 S127 D128 I129 N130 R131 G132 I133 K138 E139 G140 N141 L142 T143 L144 D145 E146 N147 Q148 I163 L164 A165 Q166 S167 G168 H169

Y170 K171 P172 V173 T174 F179 S180 A181 P182 I183 E186 S187 D188 Y189 L190 S194 L202 S205 R211 Y212 R215 L220 E221 D222 R223 D224 V225 P226 I227 T228 R229 F230 S231 R232 V233 M234 M237 G238 M241 R254 R257 A260 V261 V262 G263 E264 I265

V266 H267 G268 R269 V270 R271 ALA PRO VAL ARG Y276 L277 N278 D279 S280 T284 L285 R286 S287 N288 I289 N290 F291 T295 R296 T297 T298 R301 W302 S305 W306 I307 G311 S312 L313 K314 G315 W316 I320 D325 ALA THR THR GLU GLU GLU LYS LYS LYS LEU ALA MET GLN

THR SER MET ASP LEU GLU LEU L346 S347 D348 L349 T350 P351 L352 I353 R354 V360 V364 T365 F366 A367 P368 L369 S370 F371 Y372 Q373 G374 L375 G376 T379 Q380 I381 R382 D385 S386 S387 T388 N389 L390 A391 A392 V393 I394 V395 R396 Y397 A398 A399 I402 N403 L404 Y408 Q409

S410 F411 Q412 V413 P414 T415 V416 D417 V418 G419 V420 K421 K422 I425 R429 L430 S431 L432 Q433 L434 P435 E436 F437 S438 E439 D440 Q441 F442 F443 L446 M450 M453 V458 L461 R464 K467 G468 E469 D474 V475 Q478 L479 P480 G481 T482 L485 N489

G490 Y491 Y492 M493 L496 L497 D501 K502 I503 I504 P505 G506 D507 A508 S509 V510 P511 A512 L513 L514 Y515 M516 Q517 A518 A519 S520 F521 A522 S523 S524 V525 R526 F527 P528 E531 V534 F535 H536 H537 E538 S539 S540 N541 S542 D543 V544 R545 L546 T547 D548 Q549 V550 Q555 L556 S557

H558 S559 A560 V561 E562 T563 A564 N565 P566 L567 N568 F569 A572 C573 H578 T579 P580 S581 I582 A583 I584 D585 I586 I587 L593 T594 R595 R596 V602 H603 K604 I612 K618 S619 A620 D621 S627 R628 E629 T630 A631 K632 F633 E634 R635 V636 L637 Y638 R641 K642 G643 G644

A645 Q646 V647 L656 F657 G658 V661 N662 L663 V668 V671 Y672 S673 P674 D675 S676 K677 L680 A681 E689 S690 D691 G692 D693 K694 A695 A696 L701 M702 T703 T709 G710 T711 Y712 S713 S714 L715 GLY LEU ARG ARG D721 E722 I723 T724 G725 I726 Q729 P730 S731

D732 V733 A734 M735 Q736 L740 Q745 K748 I756 I762 E766 V769 D773 D774 N775 R776 F777 Y778 E779 I780 A781 V785 L786 R787 A788 L789 K790 GLY MET

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, I	Depositor
Number of particles used	12867	Depositor
Resolution determination method	Not provided	
CTF correction method	Not provided	
Microscope	FEI TECNAI F20	Depositor
Voltage (kV)	200	Depositor
Electron dose $(e^-/\text{Å}^2)$	Not provided	
Minimum defocus (nm)	700	Depositor
Maximum defocus (nm)	3300	Depositor
Magnification	49300	Depositor
Image detector	KODAK SO-163 FILM	Depositor
Maximum map value	32443.000	Depositor
Minimum map value	-16403.000	Depositor
Average map value	289.648	Depositor
Map value standard deviation	4869.330	Depositor
Recommended contour level	10400.0	Depositor
Map size (Å)	760.2, 760.2, 760.2	wwPDB
Map dimensions	543, 543, 543	wwPDB
Map angles (°)	90, 90, 90	wwPDB
Pixel spacing (Å)	1.4, 1.4, 1.4	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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	3.90	1/5791 (0.0%)	0.94	4/7850 (0.1%)
1	B	0.58	0/5790	0.84	2/7847 (0.0%)
All	All	2.79	1/11581 (0.0%)	0.89	6/15697 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand.A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	1	3
1	B	0	3
All	All	1	6

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	370	SER	N-CA	293.68	7.33	1.46

All (6) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	370	SER	N-CA-CB	33.33	160.49	110.50
1	A	370	SER	N-CA-C	-17.18	64.62	111.00
1	A	567	LEU	CA-CB-CG	6.07	129.26	115.30
1	B	567	LEU	CA-CB-CG	6.06	129.24	115.30
1	A	485	LEU	CA-CB-CG	5.47	127.88	115.30
1	B	485	LEU	CA-CB-CG	5.45	127.82	115.30

All (1) chirality outliers are listed below:

W O R L D W I D E
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Mol	Chain	Res	Type	Atom
1	A	370	SER	CA

All (6) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	263	GLY	Peptide
1	A	595	ARG	Peptide
1	A	631	ALA	Peptide
1	B	263	GLY	Peptide
1	B	595	ARG	Peptide
1	B	631	ALA	Peptide

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	5692	0	5684	516	0
1	B	5692	0	5694	519	0
All	All	11384	0	11378	960	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 42.

All (960) 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:39:TRP:CH2	1:A:515:TYR:CD2	1.78	1.69
1:A:39:TRP:CE3	1:A:515:TYR:CD2	1.87	1.63
1:A:289:ILE:HD13	1:A:515:TYR:CE2	1.22	1.63
1:A:39:TRP:HH2	1:A:515:TYR:CB	1.01	1.62
1:A:39:TRP:CZ3	1:A:515:TYR:CG	1.85	1.61
1:A:39:TRP:CH2	1:A:515:TYR:CB	1.83	1.61
1:A:54:LEU:CD2	1:A:496:LEU:HD23	1.20	1.58
1:B:35:SER:HA	1:B:535:PHE:CB	1.35	1.56
1:B:369:LEU:CD2	1:B:566:PRO:HG2	1.36	1.54
1:A:54:LEU:CD2	1:A:496:LEU:CD2	1.87	1.49
1:B:369:LEU:HG	1:B:515:TYR:CG	1.47	1.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:39:TRP:CH2	1:A:515:TYR:CG	1.94	1.47
1:B:32:PHE:CD2	1:B:525:VAL:O	1.66	1.47
1:A:370:SER:N	1:A:520:SER:N	1.63	1.47
1:A:41:VAL:CG1	1:A:372:TYR:OH	1.64	1.45
1:B:369:LEU:HD23	1:B:566:PRO:CG	1.44	1.45
1:A:31:PRO:HB2	1:A:526:ARG:NH2	1.20	1.45
1:A:39:TRP:CZ3	1:A:515:TYR:CE2	2.03	1.45
1:A:39:TRP:CE3	1:A:515:TYR:HD2	1.22	1.44
1:A:54:LEU:HD22	1:A:496:LEU:CD2	1.45	1.42
1:A:31:PRO:CB	1:A:526:ARG:NH2	1.77	1.42
1:B:369:LEU:HB3	1:B:519:ALA:CB	1.47	1.41
1:A:289:ILE:CD1	1:A:515:TYR:CE2	2.03	1.40
1:B:33:SER:CB	1:B:534:VAL:HB	1.47	1.40
1:A:367:ALA:CB	1:A:372:TYR:CE1	2.05	1.40
1:B:35:SER:C	1:B:522:ALA:CB	1.89	1.40
1:B:35:SER:C	1:B:535:PHE:HD2	1.25	1.40
1:B:32:PHE:CE1	1:B:527:PHE:HB2	1.56	1.38
1:B:35:SER:CA	1:B:535:PHE:HB3	1.52	1.37
1:A:39:TRP:CH2	1:A:515:TYR:HB3	1.49	1.37
1:B:36:GLY:N	1:B:522:ALA:HB3	1.37	1.37
1:A:445:MET:HA	1:B:121:TRP:CH2	1.58	1.36
1:A:35:SER:O	1:A:522:ALA:CA	1.72	1.35
1:B:33:SER:CB	1:B:534:VAL:O	1.75	1.34
1:B:33:SER:HB3	1:B:534:VAL:CB	1.55	1.34
1:A:35:SER:C	1:A:522:ALA:CB	1.94	1.33
1:B:35:SER:OG	1:B:522:ALA:CB	1.75	1.33
1:A:367:ALA:HB1	1:A:372:TYR:CE1	1.60	1.32
1:A:451:GLN:HE22	1:B:223:ARG:NH1	1.27	1.32
1:A:445:MET:HA	1:B:121:TRP:CZ3	1.63	1.31
1:A:35:SER:C	1:A:522:ALA:HB1	1.47	1.31
1:B:368:PRO:HB3	1:B:520:SER:CB	1.60	1.30
1:B:37:ALA:N	1:B:535:PHE:HE2	1.22	1.30
1:B:35:SER:N	1:B:524:SER:O	1.65	1.29
1:B:368:PRO:HG3	1:B:372:TYR:N	1.40	1.29
1:B:35:SER:OG	1:B:522:ALA:HB1	1.23	1.29
1:B:369:LEU:HD21	1:B:515:TYR:CE1	1.27	1.29
1:B:368:PRO:CB	1:B:520:SER:HB3	1.63	1.27
1:B:369:LEU:CG	1:B:515:TYR:CD2	1.94	1.27
1:A:32:PHE:CZ	1:A:527:PHE:HB2	1.69	1.26
1:A:367:ALA:HB1	1:A:372:TYR:CD1	1.69	1.26
1:B:35:SER:HA	1:B:535:PHE:CA	1.63	1.26

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:32:PHE:CZ	1:B:527:PHE:HB2	1.58	1.26
1:A:369:LEU:HD21	1:A:566:PRO:CG	1.65	1.26
1:B:35:SER:C	1:B:535:PHE:CD2	2.10	1.25
1:B:369:LEU:HG	1:B:515:TYR:CD2	1.31	1.25
1:A:445:MET:CA	1:B:121:TRP:CH2	2.18	1.24
1:B:31:PRO:HB2	1:B:526:ARG:NH2	1.52	1.24
1:A:32:PHE:CE2	1:A:527:PHE:CD1	2.26	1.23
1:B:35:SER:CB	1:B:522:ALA:HB1	1.68	1.22
1:B:35:SER:O	1:B:535:PHE:CD2	1.93	1.22
1:B:369:LEU:CD2	1:B:515:TYR:CE1	2.08	1.22
1:A:451:GLN:NE2	1:B:223:ARG:HH11	1.35	1.22
1:B:33:SER:CA	1:B:534:VAL:O	1.87	1.22
1:A:367:ALA:CB	1:A:372:TYR:CZ	2.22	1.21
1:A:32:PHE:CE1	1:A:527:PHE:HB2	1.73	1.21
1:B:369:LEU:CB	1:B:519:ALA:CB	2.18	1.21
1:A:179:PHE:HE1	1:A:602:VAL:O	1.21	1.21
1:A:367:ALA:HB2	1:A:372:TYR:CZ	1.76	1.20
1:A:384:LEU:CD2	1:B:117:ARG:CD	2.19	1.20
1:B:32:PHE:HD2	1:B:525:VAL:O	0.88	1.20
1:A:46:GLU:CA	1:A:587:ILE:HD11	1.72	1.20
1:B:35:SER:HB3	1:B:536:HIS:N	1.57	1.20
1:A:451:GLN:NE2	1:B:223:ARG:NH1	1.88	1.19
1:A:46:GLU:O	1:A:587:ILE:HD13	1.40	1.19
1:B:32:PHE:CG	1:B:526:ARG:HA	1.72	1.19
1:B:368:PRO:CG	1:B:372:TYR:H	1.57	1.18
1:A:384:LEU:HD23	1:B:117:ARG:CD	1.73	1.18
1:A:384:LEU:CD2	1:B:117:ARG:HD3	1.72	1.17
1:B:39:TRP:CZ3	1:B:503:ILE:HG12	1.80	1.16
1:B:35:SER:HB3	1:B:536:HIS:C	1.66	1.16
1:B:35:SER:OG	1:B:522:ALA:CA	1.92	1.15
1:B:36:GLY:N	1:B:522:ALA:CB	2.03	1.14
1:A:293:LEU:HD22	1:A:502:LYS:HD3	1.23	1.14
1:B:37:ALA:N	1:B:535:PHE:CE2	2.03	1.14
1:A:445:MET:CA	1:B:121:TRP:CZ3	2.29	1.14
1:A:39:TRP:CH2	1:A:515:TYR:HD2	1.35	1.13
1:B:32:PHE:CD2	1:B:526:ARG:HA	1.82	1.13
1:A:32:PHE:CD2	1:A:525:VAL:O	2.00	1.13
1:B:35:SER:CA	1:B:522:ALA:HB1	1.79	1.13
1:B:368:PRO:HG3	1:B:372:TYR:CA	1.79	1.12
1:A:35:SER:C	1:A:522:ALA:C	2.07	1.12
1:A:189:TYR:CD2	1:A:500:GLU:OE2	2.01	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:369:LEU:CD2	1:B:566:PRO:CG	2.11	1.12
1:B:33:SER:C	1:B:534:VAL:O	1.87	1.12
1:B:35:SER:HB3	1:B:536:HIS:O	1.49	1.12
1:B:369:LEU:CB	1:B:519:ALA:HB3	1.79	1.09
1:A:54:LEU:HD22	1:A:496:LEU:HD21	1.12	1.09
1:A:37:ALA:HB2	1:A:525:VAL:HG11	1.19	1.09
1:A:39:TRP:CE3	1:A:515:TYR:CE2	2.27	1.09
1:A:41:VAL:HG11	1:A:372:TYR:OH	1.50	1.09
1:A:369:LEU:HD21	1:A:566:PRO:HG3	1.29	1.08
1:A:41:VAL:HG13	1:A:372:TYR:OH	1.25	1.08
1:A:39:TRP:HH2	1:A:515:TYR:CA	1.55	1.08
1:A:448:GLN:N	1:B:121:TRP:HZ2	1.52	1.08
1:B:35:SER:CB	1:B:536:HIS:N	2.16	1.07
1:B:368:PRO:CG	1:B:372:TYR:O	2.03	1.06
1:A:32:PHE:CE2	1:A:527:PHE:HD1	1.64	1.06
1:B:34:THR:HG23	1:B:525:VAL:O	1.46	1.05
1:A:46:GLU:HA	1:A:587:ILE:CD1	1.85	1.05
1:B:33:SER:HB2	1:B:534:VAL:O	1.52	1.04
1:B:32:PHE:CZ	1:B:527:PHE:CB	2.21	1.04
1:A:179:PHE:CE1	1:A:602:VAL:O	2.11	1.04
1:A:35:SER:O	1:A:522:ALA:CB	0.74	1.03
1:B:35:SER:C	1:B:522:ALA:HB1	1.64	1.03
1:B:33:SER:HB3	1:B:534:VAL:CA	1.89	1.03
1:A:32:PHE:CZ	1:A:527:PHE:CB	2.42	1.02
1:A:46:GLU:HA	1:A:587:ILE:HD11	1.03	1.02
1:A:629:GLU:OE2	1:A:646:GLN:HG2	1.59	1.02
1:B:369:LEU:HB3	1:B:519:ALA:HB3	1.36	1.02
1:B:629:GLU:OE2	1:B:646:GLN:HG2	1.59	1.01
1:A:32:PHE:CZ	1:A:527:PHE:CD1	2.47	1.01
1:A:31:PRO:HB3	1:A:526:ARG:NH2	1.75	1.01
1:A:384:LEU:HD21	1:B:117:ARG:CD	1.89	1.01
1:B:33:SER:CB	1:B:534:VAL:C	2.28	1.01
1:A:36:GLY:CA	1:A:522:ALA:O	2.08	1.00
1:B:36:GLY:CA	1:B:519:ALA:O	2.08	1.00
1:B:36:GLY:HA3	1:B:519:ALA:O	1.61	1.00
1:A:448:GLN:HG3	1:B:121:TRP:CE2	1.95	1.00
1:B:369:LEU:HB3	1:B:519:ALA:HB2	1.05	1.00
1:B:34:THR:O	1:B:525:VAL:HG13	1.60	1.00
1:A:384:LEU:CD2	1:B:117:ARG:HD2	1.89	1.00
1:B:35:SER:CB	1:B:536:HIS:H	1.72	1.00
1:A:46:GLU:CA	1:A:587:ILE:CD1	2.38	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:34:THR:O	1:B:535:PHE:HA	1.62	0.99
1:A:369:LEU:HD22	1:A:535:PHE:CE2	1.97	0.99
1:A:448:GLN:HG3	1:B:121:TRP:CZ2	1.98	0.99
1:B:368:PRO:CG	1:B:372:TYR:N	2.20	0.99
1:A:33:SER:CB	1:A:526:ARG:HB2	1.89	0.99
1:B:36:GLY:CA	1:B:522:ALA:HB3	1.91	0.98
1:B:35:SER:CA	1:B:535:PHE:CB	2.22	0.98
1:B:35:SER:CB	1:B:536:HIS:O	2.10	0.98
1:B:368:PRO:CD	1:B:372:TYR:H	1.75	0.97
1:A:289:ILE:CD1	1:A:515:TYR:CZ	2.47	0.97
1:A:37:ALA:HB3	1:A:535:PHE:CE2	1.99	0.97
1:A:35:SER:HA	1:A:536:HIS:H	1.28	0.97
1:A:37:ALA:HB2	1:A:525:VAL:CG1	1.93	0.97
1:A:36:GLY:N	1:A:522:ALA:O	1.98	0.96
1:A:448:GLN:HA	1:B:119:ASN:ND2	1.74	0.96
1:B:31:PRO:CB	1:B:526:ARG:NH2	2.28	0.96
1:A:369:LEU:C	1:A:520:SER:N	2.18	0.96
1:B:32:PHE:HD2	1:B:525:VAL:C	1.69	0.95
1:A:35:SER:O	1:A:522:ALA:HB2	1.64	0.95
1:B:35:SER:HB3	1:B:536:HIS:CA	1.96	0.95
1:B:35:SER:HB3	1:B:536:HIS:H	1.19	0.95
1:A:732:ASP:CG	1:B:413:VAL:HG12	1.85	0.95
1:A:35:SER:O	1:A:522:ALA:HB3	1.14	0.95
1:A:31:PRO:HB2	1:A:526:ARG:CZ	1.97	0.94
1:A:32:PHE:HD2	1:A:525:VAL:O	1.43	0.94
1:A:39:TRP:HZ3	1:A:515:TYR:CG	1.47	0.94
1:A:445:MET:HA	1:B:121:TRP:HH2	1.27	0.94
1:B:369:LEU:HD21	1:B:515:TYR:CD1	2.02	0.94
1:A:369:LEU:N	1:A:520:SER:N	2.15	0.94
1:B:32:PHE:CD2	1:B:526:ARG:CA	2.52	0.93
1:B:369:LEU:CD2	1:B:515:TYR:CD1	2.52	0.93
1:A:32:PHE:CZ	1:A:527:PHE:CG	2.57	0.93
1:B:369:LEU:CB	1:B:519:ALA:HB2	1.88	0.93
1:A:54:LEU:HD21	1:A:496:LEU:CD2	1.72	0.93
1:A:369:LEU:HG	1:A:515:TYR:O	1.68	0.93
1:A:445:MET:SD	1:B:121:TRP:HZ3	1.92	0.93
1:B:367:ALA:HB3	1:B:516:MET:SD	2.09	0.93
1:A:445:MET:N	1:B:121:TRP:CZ3	2.28	0.92
1:A:368:PRO:HB3	1:A:370:SER:O	1.70	0.92
1:A:369:LEU:CA	1:A:520:SER:N	2.27	0.92
1:B:33:SER:HB2	1:B:534:VAL:C	1.86	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:31:PRO:CB	1:A:526:ARG:CZ	2.48	0.92
1:B:368:PRO:CG	1:B:372:TYR:CA	2.47	0.92
1:B:35:SER:HA	1:B:535:PHE:HB3	0.91	0.91
1:B:46:GLU:OE1	1:B:587:ILE:CG1	1.97	0.91
1:B:32:PHE:CE1	1:B:527:PHE:CB	2.49	0.91
1:A:289:ILE:HD13	1:A:515:TYR:CZ	2.03	0.91
1:A:34:THR:O	1:A:525:VAL:HG22	1.72	0.90
1:A:448:GLN:HE22	1:B:122:ALA:N	1.69	0.90
1:B:31:PRO:HB2	1:B:526:ARG:HH21	1.36	0.90
1:B:35:SER:CA	1:B:536:HIS:H	1.85	0.90
1:A:504:ILE:HG13	1:A:510:VAL:HG21	1.53	0.90
1:B:34:THR:C	1:B:535:PHE:HA	1.91	0.89
1:A:367:ALA:HB3	1:A:372:TYR:CE1	2.05	0.89
1:B:33:SER:HB3	1:B:534:VAL:HB	0.91	0.89
1:A:445:MET:CA	1:B:121:TRP:HH2	1.72	0.89
1:B:368:PRO:HB2	1:B:516:MET:C	1.93	0.89
1:B:39:TRP:HZ3	1:B:503:ILE:HG12	1.35	0.89
1:A:448:GLN:CG	1:B:121:TRP:CZ2	2.56	0.89
1:B:35:SER:CB	1:B:536:HIS:C	2.40	0.89
1:B:369:LEU:HG	1:B:515:TYR:CD1	2.03	0.89
1:B:369:LEU:CG	1:B:515:TYR:CG	2.37	0.89
1:A:445:MET:HA	1:B:121:TRP:HZ3	1.37	0.89
1:A:46:GLU:O	1:A:587:ILE:CD1	2.21	0.88
1:A:36:GLY:HA3	1:A:522:ALA:O	1.73	0.88
1:B:504:ILE:HG13	1:B:510:VAL:HG21	1.54	0.88
1:A:41:VAL:HG21	1:A:372:TYR:HE2	1.39	0.88
1:B:368:PRO:HB2	1:B:516:MET:O	1.72	0.88
1:B:35:SER:OG	1:B:522:ALA:HA	1.72	0.88
1:B:39:TRP:CH2	1:B:515:TYR:CD2	2.62	0.88
1:B:35:SER:CA	1:B:535:PHE:CA	2.51	0.87
1:B:367:ALA:CA	1:B:372:TYR:CE1	2.37	0.87
1:A:33:SER:HB3	1:A:534:VAL:O	1.73	0.87
1:A:39:TRP:CZ3	1:A:515:TYR:CD2	0.87	0.87
1:A:448:GLN:NE2	1:B:119:ASN:HB2	1.57	0.87
1:A:120:SER:OG	1:A:223:ARG:HB2	1.75	0.86
1:A:36:GLY:N	1:A:522:ALA:C	2.28	0.86
1:B:36:GLY:N	1:B:535:PHE:HD2	1.73	0.86
1:A:32:PHE:CD2	1:A:526:ARG:HA	2.10	0.86
1:A:37:ALA:N	1:A:525:VAL:HG21	1.91	0.86
1:B:39:TRP:CH2	1:B:503:ILE:HG21	2.10	0.86
1:B:368:PRO:HG2	1:B:372:TYR:O	1.75	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:448:GLN:HE21	1:B:119:ASN:HB2	1.36	0.85
1:B:368:PRO:CB	1:B:516:MET:O	2.24	0.85
1:A:37:ALA:CB	1:A:525:VAL:HG11	2.06	0.85
1:B:120:SER:OG	1:B:223:ARG:HB2	1.75	0.85
1:A:448:GLN:NE2	1:B:122:ALA:H	1.73	0.85
1:A:46:GLU:C	1:A:587:ILE:CD1	2.45	0.85
1:A:448:GLN:NE2	1:B:122:ALA:HB2	1.92	0.85
1:A:369:LEU:C	1:A:519:ALA:N	2.29	0.84
1:A:36:GLY:HA2	1:A:522:ALA:HB3	1.60	0.84
1:A:31:PRO:CB	1:A:526:ARG:HH22	1.90	0.84
1:A:39:TRP:CZ3	1:A:515:TYR:HD2	0.37	0.84
1:B:32:PHE:CE2	1:B:525:VAL:O	2.31	0.84
1:A:732:ASP:OD2	1:B:422:LYS:HD2	1.78	0.83
1:B:368:PRO:HG3	1:B:372:TYR:H	1.04	0.83
1:B:368:PRO:C	1:B:516:MET:O	2.16	0.83
1:B:228:THR:O	1:B:232:ARG:HG2	1.78	0.83
1:A:228:THR:O	1:A:232:ARG:HG2	1.78	0.83
1:A:289:ILE:HD12	1:A:515:TYR:CZ	2.13	0.83
1:A:448:GLN:HE22	1:B:122:ALA:CB	1.92	0.83
1:B:33:SER:CB	1:B:534:VAL:CB	2.30	0.83
1:A:267:HIS:NE2	1:A:295:THR:HG23	1.95	0.82
1:A:642:LYS:HZ2	1:B:415:THR:C	1.83	0.82
1:B:35:SER:C	1:B:522:ALA:HB2	1.99	0.82
1:B:368:PRO:HG3	1:B:372:TYR:C	2.00	0.82
1:A:34:THR:C	1:A:525:VAL:CG2	2.46	0.82
1:B:33:SER:OG	1:B:534:VAL:HB	1.79	0.82
1:B:35:SER:C	1:B:535:PHE:HB3	1.99	0.82
1:B:39:TRP:CZ2	1:B:515:TYR:CD2	2.67	0.82
1:B:367:ALA:CB	1:B:516:MET:SD	2.68	0.82
1:A:369:LEU:HD23	1:A:566:PRO:HB3	1.62	0.81
1:A:35:SER:CB	1:A:524:SER:N	2.20	0.81
1:A:504:ILE:HG22	1:A:505:PRO:HD2	1.61	0.81
1:B:267:HIS:NE2	1:B:295:THR:HG23	1.95	0.81
1:A:445:MET:SD	1:B:121:TRP:CZ3	2.73	0.81
1:B:369:LEU:CG	1:B:515:TYR:CD1	2.57	0.81
1:A:31:PRO:HB2	1:A:526:ARG:HH21	0.99	0.81
1:A:34:THR:O	1:A:525:VAL:CG2	2.29	0.81
1:B:36:GLY:HA2	1:B:519:ALA:O	1.79	0.81
1:A:54:LEU:HD21	1:A:513:LEU:CD1	2.11	0.80
1:A:445:MET:C	1:B:121:TRP:HH2	1.85	0.80
1:B:504:ILE:HG22	1:B:505:PRO:HD2	1.61	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:32:PHE:CG	1:B:526:ARG:CA	2.61	0.80
1:B:39:TRP:CZ3	1:B:503:ILE:HG23	2.17	0.80
1:A:448:GLN:HE22	1:B:122:ALA:HB2	1.43	0.80
1:A:37:ALA:CA	1:A:525:VAL:HG21	2.11	0.80
1:A:32:PHE:HE2	1:A:527:PHE:CD1	1.96	0.80
1:B:35:SER:CA	1:B:536:HIS:N	2.44	0.80
1:A:367:ALA:HB2	1:A:372:TYR:CE2	2.17	0.79
1:B:369:LEU:HD22	1:B:535:PHE:CZ	2.17	0.79
1:A:448:GLN:HE22	1:B:122:ALA:CA	1.94	0.79
1:A:735:MET:HB2	1:B:414:PRO:HG3	1.65	0.79
1:B:35:SER:O	1:B:535:PHE:HD2	1.42	0.79
1:A:32:PHE:CG	1:A:526:ARG:HA	2.16	0.79
1:A:384:LEU:HD21	1:B:117:ARG:HD3	1.55	0.79
1:B:368:PRO:HD3	1:B:372:TYR:H	1.46	0.79
1:A:369:LEU:CD2	1:A:566:PRO:CG	2.57	0.79
1:B:37:ALA:HB3	1:B:535:PHE:CZ	2.19	0.78
1:B:39:TRP:CZ3	1:B:503:ILE:CG2	2.66	0.78
1:A:32:PHE:CE2	1:A:525:VAL:O	2.36	0.78
1:A:448:GLN:NE2	1:B:122:ALA:N	2.31	0.78
1:A:46:GLU:C	1:A:587:ILE:HD13	2.03	0.78
1:A:41:VAL:HG21	1:A:372:TYR:CE2	2.19	0.77
1:A:448:GLN:CB	1:B:121:TRP:CZ2	2.67	0.77
1:B:261:VAL:O	1:B:265:ILE:HG22	1.85	0.77
1:A:370:SER:H	1:A:517:GLN:C	1.88	0.77
1:A:384:LEU:HD23	1:B:117:ARG:HD3	1.38	0.77
1:A:293:LEU:CD2	1:A:502:LYS:HD3	2.10	0.77
1:A:46:GLU:OE2	1:A:587:ILE:CG1	2.33	0.77
1:B:39:TRP:CH2	1:B:503:ILE:HG12	2.20	0.77
1:A:261:VAL:O	1:A:265:ILE:HG22	1.85	0.77
1:A:369:LEU:CD2	1:A:566:PRO:HG3	2.14	0.77
1:B:35:SER:O	1:B:522:ALA:CB	2.33	0.77
1:A:445:MET:CA	1:B:121:TRP:HZ3	1.95	0.76
1:A:390:LEU:O	1:A:549:GLN:NE2	2.19	0.76
1:B:33:SER:OG	1:B:526:ARG:HB2	1.68	0.76
1:B:46:GLU:OE1	1:B:587:ILE:HG13	1.25	0.76
1:B:369:LEU:CD2	1:B:566:PRO:HG3	2.16	0.76
1:A:37:ALA:HB3	1:A:535:PHE:HE2	1.45	0.76
1:A:369:LEU:CD2	1:A:566:PRO:HB3	2.16	0.76
1:A:54:LEU:HD21	1:A:496:LEU:HD23	0.76	0.76
1:B:369:LEU:O	1:B:515:TYR:CB	2.07	0.75
1:B:32:PHE:CG	1:B:527:PHE:N	2.53	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:54:LEU:HD21	1:A:513:LEU:HD11	1.69	0.75
1:A:369:LEU:N	1:A:520:SER:CA	2.50	0.75
1:A:369:LEU:HD21	1:A:566:PRO:HG2	1.67	0.75
1:B:390:LEU:O	1:B:549:GLN:NE2	2.19	0.75
1:A:384:LEU:HD21	1:B:117:ARG:HD2	1.55	0.75
1:A:54:LEU:CD2	1:A:496:LEU:CG	2.65	0.74
1:A:369:LEU:HD22	1:A:535:PHE:CD2	2.22	0.74
1:A:368:PRO:HG3	1:A:370:SER:C	1.86	0.74
1:A:565:ASN:OD1	1:A:567:LEU:HD22	1.87	0.74
1:B:565:ASN:OD1	1:B:567:LEU:HD22	1.87	0.74
1:A:369:LEU:HD21	1:A:566:PRO:CB	2.17	0.73
1:B:480:PRO:HB2	1:B:510:VAL:HG22	1.70	0.73
1:A:368:PRO:HG3	1:A:370:SER:O	1.88	0.73
1:B:230:PHE:O	1:B:234:MET:HG3	1.88	0.73
1:A:370:SER:N	1:A:520:SER:CA	2.52	0.73
1:B:35:SER:HA	1:B:535:PHE:HA	1.68	0.73
1:B:368:PRO:CG	1:B:372:TYR:C	2.55	0.73
1:B:35:SER:O	1:B:522:ALA:HB2	1.88	0.73
1:A:368:PRO:CB	1:A:370:SER:O	2.36	0.73
1:B:367:ALA:HA	1:B:372:TYR:CE1	2.19	0.72
1:B:369:LEU:HB2	1:B:519:ALA:CB	2.15	0.72
1:B:492:TYR:CE2	1:B:680:LEU:HA	2.25	0.72
1:A:230:PHE:O	1:A:234:MET:HG3	1.88	0.72
1:A:480:PRO:HB2	1:A:510:VAL:HG22	1.70	0.72
1:B:39:TRP:HH2	1:B:503:ILE:HG21	1.53	0.71
1:A:544:VAL:HG21	1:A:559:SER:HA	1.73	0.71
1:A:492:TYR:CE2	1:A:680:LEU:HA	2.24	0.71
1:B:544:VAL:HG21	1:B:559:SER:HA	1.73	0.71
1:B:389:ASN:HB3	1:B:547:THR:CG2	2.21	0.70
1:B:369:LEU:N	1:B:519:ALA:HB3	2.06	0.70
1:B:35:SER:O	1:B:535:PHE:CG	2.45	0.70
1:B:33:SER:HB3	1:B:534:VAL:C	2.01	0.70
1:A:389:ASN:HB3	1:A:547:THR:CG2	2.21	0.70
1:A:293:LEU:HD22	1:A:502:LYS:CD	2.13	0.70
1:B:33:SER:HB3	1:B:534:VAL:O	1.87	0.70
1:B:39:TRP:CZ2	1:B:515:TYR:HD2	2.10	0.70
1:A:31:PRO:HB3	1:A:526:ARG:CZ	2.16	0.69
1:B:35:SER:N	1:B:536:HIS:H	1.89	0.69
1:A:732:ASP:OD2	1:B:422:LYS:HB2	1.92	0.69
1:B:35:SER:OG	1:B:536:HIS:O	2.10	0.69
1:A:39:TRP:CE3	1:A:515:TYR:HE2	2.07	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:376:GLY:HA3	1:A:517:GLN:HE22	1.58	0.69
1:A:545:ARG:HD2	1:A:572:ALA:HB1	1.75	0.69
1:A:76:LYS:O	1:A:79:SER:HB3	1.93	0.69
1:B:76:LYS:O	1:B:79:SER:HB3	1.93	0.68
1:B:316:TRP:CD2	1:B:320:ILE:HD11	2.28	0.68
1:A:436:GLU:O	1:A:436:GLU:HG2	1.93	0.68
1:A:316:TRP:CD2	1:A:320:ILE:HD11	2.28	0.68
1:B:39:TRP:CZ2	1:B:515:TYR:HB3	2.29	0.68
1:A:37:ALA:N	1:A:525:VAL:CG2	2.56	0.68
1:A:39:TRP:HZ3	1:A:515:TYR:CD2	0.84	0.68
1:A:368:PRO:CG	1:A:370:SER:O	2.41	0.68
1:B:167:SER:OG	1:B:169:HIS:CD2	2.46	0.68
1:A:30:ILE:N	1:A:30:ILE:HD12	2.09	0.68
1:A:370:SER:N	1:A:517:GLN:C	2.47	0.68
1:A:33:SER:OG	1:A:526:ARG:HB2	1.94	0.68
1:B:39:TRP:HZ3	1:B:503:ILE:CG1	2.03	0.68
1:B:39:TRP:HZ3	1:B:503:ILE:HG23	1.57	0.68
1:B:368:PRO:CG	1:B:372:TYR:CB	2.69	0.68
1:A:167:SER:OG	1:A:169:HIS:CD2	2.46	0.67
1:A:316:TRP:CE2	1:A:320:ILE:HD11	2.29	0.67
1:B:30:ILE:HD12	1:B:30:ILE:N	2.09	0.67
1:A:33:SER:CB	1:A:534:VAL:O	2.43	0.67
1:A:369:LEU:CD2	1:A:566:PRO:CB	2.72	0.67
1:B:545:ARG:HD2	1:B:572:ALA:HB1	1.75	0.67
1:B:37:ALA:HB3	1:B:535:PHE:HZ	1.58	0.67
1:A:35:SER:C	1:A:523:SER:N	2.47	0.67
1:B:316:TRP:CE2	1:B:320:ILE:HD11	2.29	0.67
1:B:35:SER:HG	1:B:522:ALA:HA	1.60	0.67
1:B:369:LEU:CA	1:B:519:ALA:HB3	2.24	0.67
1:A:34:THR:HG23	1:A:525:VAL:O	1.95	0.67
1:B:368:PRO:CB	1:B:372:TYR:O	2.42	0.67
1:B:375:LEU:CD1	1:B:580:PRO:HB2	2.25	0.67
1:B:389:ASN:CB	1:B:547:THR:CG2	2.73	0.67
1:A:375:LEU:CD1	1:A:580:PRO:HB2	2.25	0.67
1:B:436:GLU:HG2	1:B:436:GLU:O	1.93	0.67
1:A:497:LEU:HD12	1:A:511:PRO:HB2	1.77	0.66
1:B:376:GLY:HA3	1:B:517:GLN:HE22	1.58	0.66
1:B:382:ARG:HA	1:B:390:LEU:HA	1.78	0.66
1:B:420:VAL:HG11	1:B:602:VAL:HG13	1.77	0.66
1:A:420:VAL:HG11	1:A:602:VAL:HG13	1.77	0.66
1:A:448:GLN:HB2	1:B:121:TRP:CH2	2.30	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:732:ASP:OD2	1:B:413:VAL:HG12	1.96	0.66
1:A:41:VAL:HG11	1:A:372:TYR:CZ	2.30	0.66
1:A:448:GLN:HB2	1:B:121:TRP:CZ2	2.31	0.66
1:A:35:SER:CA	1:A:522:ALA:HB1	2.26	0.66
1:A:38:THR:O	1:A:288:ASN:HA	1.96	0.66
1:A:389:ASN:CB	1:A:547:THR:CG2	2.73	0.66
1:B:38:THR:O	1:B:288:ASN:HA	1.96	0.65
1:B:612:ILE:HD11	1:B:657:PHE:CD2	2.31	0.65
1:A:39:TRP:CG	1:A:516:MET:SD	2.61	0.65
1:B:368:PRO:HG2	1:B:372:TYR:CB	2.25	0.65
1:B:35:SER:HA	1:B:535:PHE:C	2.16	0.65
1:A:612:ILE:HD11	1:A:657:PHE:CD2	2.31	0.65
1:B:368:PRO:HD3	1:B:372:TYR:N	2.12	0.65
1:B:389:ASN:HB3	1:B:547:THR:HG23	1.79	0.65
1:B:306:TRP:CD1	1:B:313:LEU:CD2	2.79	0.65
1:A:382:ARG:HA	1:A:390:LEU:HA	1.78	0.65
1:B:39:TRP:CE3	1:B:289:ILE:HD13	2.31	0.65
1:A:39:TRP:CE3	1:A:289:ILE:HD13	2.31	0.65
1:B:34:THR:O	1:B:535:PHE:CA	2.43	0.65
1:B:497:LEU:HD12	1:B:511:PRO:HB2	1.77	0.64
1:A:306:TRP:CD1	1:A:313:LEU:CD2	2.79	0.64
1:B:369:LEU:O	1:B:515:TYR:CG	2.51	0.64
1:A:367:ALA:HB1	1:A:372:TYR:CG	2.31	0.64
1:A:375:LEU:HD13	1:A:582:ILE:C	2.18	0.64
1:B:39:TRP:CH2	1:B:503:ILE:CG2	2.81	0.64
1:A:46:GLU:CB	1:A:587:ILE:HD11	2.27	0.64
1:B:368:PRO:HG3	1:B:372:TYR:O	1.88	0.64
1:B:33:SER:O	1:B:534:VAL:O	2.17	0.63
1:B:35:SER:HB2	1:B:569:PHE:CZ	2.33	0.63
1:B:375:LEU:HD13	1:B:582:ILE:C	2.18	0.63
1:A:370:SER:N	1:A:520:SER:CB	2.61	0.63
1:A:389:ASN:HB3	1:A:547:THR:HG23	1.79	0.63
1:B:369:LEU:H	1:B:519:ALA:HB3	1.64	0.63
1:A:629:GLU:O	1:A:630:THR:HG23	1.97	0.63
1:B:629:GLU:O	1:B:630:THR:HG23	1.97	0.63
1:A:35:SER:HB3	1:A:524:SER:N	2.11	0.63
1:A:448:GLN:H	1:B:121:TRP:HZ2	0.73	0.63
1:A:32:PHE:CE1	1:A:527:PHE:CB	2.66	0.63
1:A:289:ILE:CD1	1:A:515:TYR:HE2	1.74	0.63
1:B:479:LEU:HB3	1:B:482:THR:OG1	1.99	0.63
1:A:375:LEU:HD21	1:A:398:ALA:O	1.99	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:479:LEU:HB3	1:A:482:THR:OG1	1.99	0.63
1:A:451:GLN:CD	1:B:224:ASP:OD2	2.38	0.62
1:A:103:THR:HG22	1:A:133:ILE:HA	1.81	0.62
1:B:32:PHE:CD2	1:B:527:PHE:N	2.68	0.62
1:A:32:PHE:HZ	1:A:527:PHE:CG	2.15	0.62
1:A:46:GLU:OE2	1:A:587:ILE:HD11	1.98	0.62
1:B:375:LEU:HD21	1:B:398:ALA:O	1.98	0.62
1:B:565:ASN:OD1	1:B:567:LEU:CD2	2.48	0.62
1:A:448:GLN:HE22	1:B:122:ALA:H	1.34	0.62
1:B:579:THR:HG22	1:B:580:PRO:HD3	1.82	0.62
1:A:492:TYR:HE2	1:A:680:LEU:HA	1.63	0.62
1:B:368:PRO:CD	1:B:372:TYR:N	2.55	0.62
1:A:445:MET:C	1:B:121:TRP:CH2	2.65	0.61
1:B:103:THR:HG22	1:B:133:ILE:HA	1.81	0.61
1:B:430:LEU:HD11	1:B:656:LEU:HD23	1.82	0.61
1:A:565:ASN:OD1	1:A:567:LEU:CD2	2.48	0.61
1:B:492:TYR:HE2	1:B:680:LEU:HA	1.64	0.61
1:B:545:ARG:HB2	1:B:572:ALA:HB3	1.82	0.61
1:A:579:THR:HG22	1:A:580:PRO:HD3	1.82	0.61
1:B:35:SER:CA	1:B:535:PHE:HA	2.28	0.61
1:B:35:SER:O	1:B:535:PHE:HB3	2.00	0.61
1:B:37:ALA:CB	1:B:535:PHE:CZ	2.84	0.61
1:A:368:PRO:O	1:A:520:SER:HB3	1.67	0.61
1:A:430:LEU:HD11	1:A:656:LEU:HD23	1.82	0.61
1:A:545:ARG:HB2	1:A:572:ALA:HB3	1.81	0.61
1:B:120:SER:OG	1:B:223:ARG:CB	2.48	0.61
1:B:32:PHE:CD2	1:B:525:VAL:C	2.56	0.60
1:A:733:VAL:HG12	1:A:736:GLN:OE1	2.01	0.60
1:A:189:TYR:CE2	1:A:500:GLU:OE2	2.54	0.60
1:A:448:GLN:HE21	1:B:119:ASN:CB	2.12	0.60
1:B:39:TRP:CZ3	1:B:503:ILE:CG1	2.70	0.60
1:B:733:VAL:HG12	1:B:736:GLN:OE1	2.01	0.60
1:B:368:PRO:HB3	1:B:520:SER:HB3	0.72	0.60
1:A:733:VAL:N	1:B:414:PRO:O	2.23	0.60
1:A:120:SER:OG	1:A:223:ARG:CB	2.48	0.59
1:A:39:TRP:HZ3	1:A:515:TYR:CE2	1.78	0.59
1:B:39:TRP:CH2	1:B:515:TYR:CG	2.90	0.59
1:B:46:GLU:OE1	1:B:587:ILE:HG12	1.99	0.59
1:B:35:SER:CB	1:B:535:PHE:HB3	2.30	0.59
1:A:369:LEU:HD13	1:A:535:PHE:CE2	2.37	0.59
1:B:51:SER:HB2	1:B:56:ARG:HA	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:368:PRO:HD2	1:A:372:TYR:CG	2.37	0.58
1:A:695:ALA:HB2	1:B:131:ARG:HH22	1.67	0.58
1:B:369:LEU:HD21	1:B:515:TYR:HE1	1.46	0.58
1:A:369:LEU:HD13	1:A:535:PHE:CZ	2.38	0.58
1:A:369:LEU:O	1:A:518:ALA:N	2.36	0.58
1:A:51:SER:HB2	1:A:56:ARG:HA	1.84	0.58
1:B:392:ALA:HB2	1:B:450:MET:HE2	1.85	0.58
1:B:223:ARG:HG2	1:B:224:ASP:HA	1.85	0.58
1:B:368:PRO:CA	1:B:516:MET:O	2.51	0.58
1:A:736:GLN:O	1:A:781:ALA:HB1	2.04	0.58
1:B:368:PRO:HB2	1:B:517:GLN:HA	1.85	0.58
1:B:375:LEU:HD12	1:B:580:PRO:HB2	1.85	0.58
1:A:37:ALA:HA	1:A:525:VAL:HG21	1.86	0.57
1:A:369:LEU:CD2	1:A:535:PHE:CE2	2.82	0.57
1:A:448:GLN:CD	1:B:122:ALA:HB2	2.23	0.57
1:B:35:SER:C	1:B:535:PHE:CG	2.73	0.57
1:B:736:GLN:O	1:B:781:ALA:HB1	2.04	0.57
1:A:375:LEU:HD12	1:A:580:PRO:HB2	1.86	0.57
1:B:374:GLY:HA3	1:B:581:SER:OG	2.05	0.57
1:A:289:ILE:HD13	1:A:515:TYR:HE2	0.77	0.57
1:A:513:LEU:HD23	1:A:516:MET:HE3	1.87	0.57
1:B:35:SER:N	1:B:535:PHE:HA	2.18	0.57
1:B:547:THR:CG2	1:B:549:GLN:OE1	2.52	0.57
1:B:579:THR:HG22	1:B:580:PRO:CD	2.35	0.57
1:A:547:THR:CG2	1:A:549:GLN:OE1	2.52	0.57
1:A:36:GLY:CA	1:A:522:ALA:HB3	2.32	0.57
1:B:35:SER:OG	1:B:522:ALA:C	2.43	0.56
1:A:475:VAL:HG22	1:A:680:LEU:HD12	1.87	0.56
1:A:293:LEU:HD13	1:A:502:LYS:HE3	1.85	0.56
1:A:392:ALA:HB2	1:A:450:MET:HE2	1.86	0.56
1:A:434:LEU:HD21	1:A:756:ILE:CG2	2.35	0.56
1:A:448:GLN:NE2	1:B:122:ALA:CB	2.61	0.56
1:B:502:LYS:O	1:B:503:ILE:HG13	2.05	0.56
1:A:31:PRO:CG	1:A:526:ARG:NH2	2.62	0.56
1:B:369:LEU:HD22	1:B:566:PRO:HG3	1.87	0.56
1:A:223:ARG:HG2	1:A:224:ASP:HA	1.86	0.56
1:B:434:LEU:HD21	1:B:756:ILE:CG2	2.35	0.56
1:B:629:GLU:HA	1:B:635:ARG:NH1	2.20	0.56
1:B:547:THR:HG21	1:B:549:GLN:OE1	2.06	0.56
1:B:612:ILE:HD11	1:B:657:PHE:HD2	1.71	0.56
1:A:493:MET:SD	1:A:496:LEU:HD12	2.46	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:547:THR:HG21	1:A:549:GLN:OE1	2.06	0.56
1:A:561:VAL:HG21	1:A:573:CYS:SG	2.45	0.56
1:A:579:THR:HG22	1:A:580:PRO:CD	2.35	0.56
1:B:179:PHE:HZ	1:B:602:VAL:O	1.89	0.56
1:B:561:VAL:HG21	1:B:573:CYS:SG	2.46	0.56
1:A:36:GLY:C	1:A:525:VAL:HG21	2.26	0.56
1:A:384:LEU:HD23	1:B:117:ARG:NE	2.21	0.56
1:B:32:PHE:CD1	1:B:527:PHE:N	2.67	0.56
1:A:629:GLU:HA	1:A:635:ARG:NH1	2.21	0.56
1:A:33:SER:O	1:A:524:SER:C	2.40	0.56
1:A:374:GLY:HA3	1:A:581:SER:OG	2.05	0.56
1:B:39:TRP:HZ2	1:B:515:TYR:HB3	1.71	0.56
1:B:369:LEU:HD22	1:B:566:PRO:CG	2.27	0.56
1:A:368:PRO:CG	1:A:370:SER:C	2.68	0.55
1:A:612:ILE:HD11	1:A:657:PHE:HD2	1.71	0.55
1:A:289:ILE:HG21	1:A:515:TYR:CE2	2.40	0.55
1:B:39:TRP:HE3	1:B:289:ILE:CD1	2.20	0.55
1:A:442:PHE:CE2	1:A:681:ALA:HB1	2.41	0.55
1:A:369:LEU:HD11	1:A:515:TYR:CE2	2.41	0.55
1:B:30:ILE:HD12	1:B:30:ILE:H	1.70	0.55
1:B:475:VAL:HG22	1:B:680:LEU:HD12	1.87	0.55
1:A:502:LYS:O	1:A:503:ILE:HG13	2.06	0.55
1:A:30:ILE:HD12	1:A:30:ILE:H	1.69	0.55
1:B:442:PHE:CE2	1:B:681:ALA:HB1	2.41	0.55
1:B:513:LEU:HD23	1:B:516:MET:HE3	1.89	0.55
1:A:434:LEU:HD21	1:A:756:ILE:HG22	1.89	0.55
1:B:97:GLU:OE2	1:B:101:ARG:NH1	2.40	0.55
1:B:493:MET:SD	1:B:496:LEU:HD12	2.46	0.55
1:A:36:GLY:C	1:A:525:VAL:CG2	2.75	0.55
1:A:68:ARG:HH12	1:A:166:GLN:HG2	1.72	0.55
1:A:171:LYS:O	1:A:171:LYS:HD3	2.07	0.55
1:A:384:LEU:HD13	1:B:115:ASN:HB2	1.89	0.55
1:A:39:TRP:HE3	1:A:289:ILE:CD1	2.20	0.54
1:A:46:GLU:OE2	1:A:587:ILE:CD1	2.54	0.54
1:A:97:GLU:OE2	1:A:101:ARG:NH1	2.40	0.54
1:B:34:THR:C	1:B:524:SER:O	2.17	0.54
1:B:691:ASP:OD1	1:B:691:ASP:N	2.40	0.54
1:A:448:GLN:CG	1:B:121:TRP:CE2	2.80	0.54
1:A:691:ASP:OD1	1:A:691:ASP:N	2.40	0.54
1:B:68:ARG:HH12	1:B:166:GLN:HG2	1.72	0.54
1:A:448:GLN:N	1:B:121:TRP:CZ2	2.44	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:732:ASP:C	1:B:732:ASP:OD1	2.45	0.54
1:A:642:LYS:HZ2	1:B:416:VAL:N	1.71	0.54
1:A:729:GLN:O	1:A:731:SER:N	2.39	0.54
1:A:291:PHE:O	1:A:295:THR:HG22	2.07	0.54
1:B:291:PHE:O	1:B:295:THR:HG22	2.07	0.54
1:A:46:GLU:OE2	1:A:587:ILE:HG12	2.06	0.54
1:B:39:TRP:HZ3	1:B:503:ILE:CG2	2.10	0.54
1:B:50:THR:HG22	1:B:183:ILE:HB	1.89	0.54
1:A:163:ILE:HD13	1:A:212:TYR:HE1	1.73	0.53
1:B:33:SER:HA	1:B:534:VAL:O	2.01	0.53
1:B:434:LEU:HD21	1:B:756:ILE:HG22	1.89	0.53
1:A:41:VAL:CG2	1:A:372:TYR:OH	2.56	0.53
1:A:50:THR:HG22	1:A:183:ILE:HB	1.89	0.53
1:B:418:VAL:N	1:B:419:GLY:HA3	2.24	0.53
1:A:55:ARG:HH21	1:A:586:ILE:CA	2.22	0.53
1:A:289:ILE:HG21	1:A:515:TYR:HE2	1.73	0.53
1:B:171:LYS:O	1:B:171:LYS:HD3	2.07	0.53
1:B:544:VAL:HG21	1:B:559:SER:CA	2.39	0.53
1:B:544:VAL:HG21	1:B:559:SER:N	2.24	0.53
1:A:418:VAL:N	1:A:419:GLY:HA3	2.24	0.53
1:A:368:PRO:O	1:A:516:MET:O	2.26	0.53
1:B:34:THR:CG2	1:B:525:VAL:O	2.38	0.53
1:B:367:ALA:HB1	1:B:516:MET:SD	2.49	0.53
1:B:375:LEU:CD2	1:B:398:ALA:O	2.57	0.53
1:A:544:VAL:HG21	1:A:559:SER:N	2.24	0.53
1:B:35:SER:CB	1:B:522:ALA:CB	2.52	0.53
1:B:420:VAL:HG12	1:B:421:LYS:N	2.24	0.53
1:A:105:ALA:O	1:A:108:MET:O	2.27	0.53
1:B:145:ASP:OD1	1:B:146:GLU:N	2.42	0.53
1:A:145:ASP:OD1	1:A:146:GLU:N	2.42	0.53
1:A:642:LYS:NZ	1:B:415:THR:O	2.43	0.52
1:A:731:SER:HB3	1:B:414:PRO:HB3	1.91	0.52
1:B:163:ILE:HD13	1:B:212:TYR:HE1	1.73	0.52
1:B:105:ALA:O	1:B:108:MET:O	2.26	0.52
1:B:389:ASN:HB2	1:B:549:GLN:OE1	2.10	0.52
1:B:729:GLN:O	1:B:731:SER:N	2.39	0.52
1:A:39:TRP:CE3	1:A:289:ILE:CD1	2.92	0.52
1:B:550:VAL:HG13	1:B:568:ASN:CG	2.30	0.52
1:A:389:ASN:HB2	1:A:549:GLN:OE1	2.10	0.52
1:A:420:VAL:HG12	1:A:421:LYS:N	2.24	0.52
1:A:550:VAL:HG13	1:A:568:ASN:CG	2.30	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:593:LEU:O	1:A:596:ARG:HD3	2.10	0.52
1:B:35:SER:C	1:B:535:PHE:CB	2.69	0.52
1:B:519:ALA:HB1	1:B:535:PHE:CE2	2.45	0.52
1:A:37:ALA:CB	1:A:535:PHE:CE2	2.82	0.52
1:A:267:HIS:NE2	1:A:296:ARG:HA	2.25	0.52
1:A:375:LEU:CD2	1:A:398:ALA:O	2.57	0.52
1:B:39:TRP:CE3	1:B:289:ILE:CD1	2.92	0.52
1:A:165:ALA:O	1:A:168:GLY:HA3	2.10	0.52
1:A:266:VAL:HG13	1:A:286:ARG:HG2	1.91	0.52
1:A:370:SER:N	1:A:518:ALA:C	2.63	0.52
1:A:434:LEU:O	1:A:711:THR:HG21	2.10	0.52
1:B:165:ALA:O	1:B:168:GLY:HA3	2.10	0.52
1:A:673:SER:HG	1:A:676:SER:HG	1.57	0.51
1:B:34:THR:O	1:B:535:PHE:CG	2.63	0.51
1:A:519:ALA:HB1	1:A:535:PHE:CE2	2.45	0.51
1:B:39:TRP:HA	1:B:288:ASN:ND2	2.24	0.51
1:B:593:LEU:O	1:B:596:ARG:HD3	2.10	0.51
1:B:729:GLN:HG3	1:B:730:PRO:HD2	1.93	0.51
1:A:389:ASN:CB	1:A:547:THR:HG21	2.40	0.51
1:B:36:GLY:HA3	1:B:522:ALA:HB3	1.88	0.51
1:B:434:LEU:O	1:B:711:THR:HG21	2.10	0.51
1:B:740:LEU:HD21	1:B:780:ILE:HG22	1.93	0.51
1:A:39:TRP:HA	1:A:288:ASN:ND2	2.24	0.51
1:A:748:LYS:HA	1:A:762:ILE:HD13	1.93	0.51
1:B:32:PHE:CD2	1:B:526:ARG:C	2.84	0.51
1:B:36:GLY:HA2	1:B:519:ALA:HB1	1.93	0.51
1:B:436:GLU:O	1:B:436:GLU:CG	2.58	0.51
1:B:673:SER:HG	1:B:676:SER:HG	1.57	0.51
1:B:267:HIS:NE2	1:B:296:ARG:HA	2.25	0.51
1:A:257:ARG:O	1:A:261:VAL:HG23	2.11	0.51
1:A:474:ASP:HB2	1:A:492:TYR:HE1	1.74	0.51
1:B:733:VAL:O	1:B:734:ALA:C	2.50	0.51
1:A:49:ILE:O	1:A:49:ILE:HG12	2.11	0.51
1:B:36:GLY:N	1:B:522:ALA:HB1	2.03	0.51
1:B:266:VAL:HG13	1:B:286:ARG:HG2	1.91	0.51
1:A:367:ALA:CB	1:A:372:TYR:CE2	2.85	0.50
1:B:257:ARG:O	1:B:261:VAL:HG23	2.11	0.50
1:B:368:PRO:HB2	1:B:517:GLN:N	2.27	0.50
1:B:474:ASP:HB2	1:B:492:TYR:HE1	1.75	0.50
1:A:733:VAL:O	1:A:734:ALA:C	2.50	0.50
1:B:389:ASN:CB	1:B:547:THR:HG21	2.40	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:748:LYS:HA	1:B:762:ILE:HD13	1.93	0.50
1:A:490:GLY:HA2	1:A:493:MET:HG3	1.94	0.50
1:A:732:ASP:CG	1:B:413:VAL:CG1	2.71	0.50
1:B:35:SER:O	1:B:535:PHE:CB	2.59	0.50
1:A:544:VAL:HG21	1:A:559:SER:CA	2.38	0.50
1:B:389:ASN:HB2	1:B:547:THR:HG21	1.93	0.50
1:A:38:THR:HA	1:A:367:ALA:O	2.12	0.50
1:A:306:TRP:CD1	1:A:313:LEU:HD23	2.47	0.50
1:A:369:LEU:HA	1:A:516:MET:HA	1.93	0.50
1:B:49:ILE:HG12	1:B:49:ILE:O	2.11	0.50
1:A:420:VAL:HG12	1:A:421:LYS:H	1.77	0.50
1:B:36:GLY:N	1:B:535:PHE:CD2	2.63	0.50
1:A:35:SER:HA	1:A:536:HIS:N	2.11	0.50
1:A:370:SER:N	1:A:519:ALA:N	2.59	0.50
1:A:389:ASN:HB2	1:A:547:THR:HG21	1.94	0.50
1:B:369:LEU:HD23	1:B:566:PRO:HG2	0.56	0.50
1:A:740:LEU:HD21	1:A:780:ILE:HG22	1.93	0.50
1:B:513:LEU:HD23	1:B:516:MET:CE	2.42	0.50
1:A:729:GLN:HG3	1:A:730:PRO:HD2	1.93	0.49
1:A:513:LEU:HD23	1:A:516:MET:CE	2.42	0.49
1:A:732:ASP:OD2	1:B:422:LYS:CB	2.61	0.49
1:B:420:VAL:HG12	1:B:421:LYS:H	1.77	0.49
1:B:503:ILE:HG22	1:B:515:TYR:CE1	2.47	0.49
1:A:35:SER:C	1:A:522:ALA:CA	2.42	0.49
1:A:503:ILE:HG22	1:A:515:TYR:CE1	2.47	0.49
1:A:450:MET:HE2	1:A:485:LEU:HD21	1.94	0.49
1:B:450:MET:CE	1:B:485:LEU:HD21	2.43	0.49
1:A:97:GLU:HG3	1:A:98:GLU:N	2.28	0.49
1:A:436:GLU:O	1:A:436:GLU:CG	2.58	0.49
1:A:448:GLN:OE1	1:B:122:ALA:HB2	2.13	0.49
1:A:450:MET:CE	1:A:485:LEU:HD21	2.43	0.49
1:B:504:ILE:CG1	1:B:510:VAL:HG21	2.35	0.49
1:A:33:SER:O	1:A:524:SER:O	2.31	0.49
1:A:55:ARG:HH21	1:A:586:ILE:N	1.95	0.49
1:A:369:LEU:O	1:A:519:ALA:N	2.44	0.49
1:B:306:TRP:CD1	1:B:313:LEU:HD23	2.47	0.49
1:B:350:THR:N	1:B:351:PRO:CD	2.76	0.49
1:B:36:GLY:CA	1:B:535:PHE:CD2	2.96	0.49
1:B:490:GLY:HA2	1:B:493:MET:HG3	1.94	0.49
1:A:34:THR:C	1:A:525:VAL:HG23	2.25	0.48
1:A:41:VAL:CG2	1:A:372:TYR:CE2	2.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:350:THR:N	1:A:351:PRO:CD	2.76	0.48
1:B:368:PRO:HG2	1:B:372:TYR:C	2.31	0.48
1:B:453:MET:HB3	1:B:458:VAL:HG23	1.95	0.48
1:A:729:GLN:HE21	1:A:730:PRO:CD	2.27	0.48
1:B:368:PRO:HB2	1:B:517:GLN:CA	2.43	0.48
1:B:450:MET:HE2	1:B:485:LEU:HD21	1.95	0.48
1:A:453:MET:HB3	1:A:458:VAL:HG23	1.96	0.48
1:B:545:ARG:HD2	1:B:572:ALA:CB	2.43	0.48
1:A:31:PRO:HB3	1:A:526:ARG:HH22	1.66	0.48
1:A:732:ASP:OD2	1:B:413:VAL:CG1	2.60	0.48
1:B:38:THR:HA	1:B:367:ALA:O	2.12	0.48
1:A:365:THR:HB	1:A:371:PHE:HZ	1.77	0.48
1:A:370:SER:N	1:A:520:SER:HB3	2.28	0.48
1:B:550:VAL:HG13	1:B:568:ASN:OD1	2.14	0.48
1:B:97:GLU:HG3	1:B:98:GLU:N	2.28	0.48
1:A:289:ILE:HD12	1:A:515:TYR:OH	2.12	0.48
1:A:567:LEU:HD22	1:A:567:LEU:H	1.79	0.48
1:A:695:ALA:HB2	1:B:131:ARG:NH2	2.28	0.48
1:B:567:LEU:HD22	1:B:567:LEU:H	1.79	0.48
1:A:39:TRP:HE3	1:A:289:ILE:HD13	1.77	0.47
1:A:550:VAL:HG13	1:A:568:ASN:OD1	2.14	0.47
1:B:34:THR:O	1:B:535:PHE:CD2	2.67	0.47
1:A:446:LEU:O	1:A:450:MET:HG2	2.14	0.47
1:B:618:LYS:O	1:B:619:SER:C	2.53	0.47
1:B:35:SER:OG	1:B:523:SER:N	2.47	0.47
1:B:729:GLN:HE21	1:B:730:PRO:CD	2.27	0.47
1:A:54:LEU:HD11	1:A:513:LEU:HD11	1.96	0.47
1:A:262:VAL:O	1:A:266:VAL:HG23	2.14	0.47
1:A:39:TRP:CZ3	1:A:515:TYR:HB3	2.26	0.47
1:A:202:LEU:O	1:A:205:SER:HB3	2.15	0.47
1:A:368:PRO:HB2	1:A:372:TYR:O	2.14	0.47
1:A:496:LEU:HD23	1:A:513:LEU:CD1	2.44	0.47
1:A:545:ARG:HD2	1:A:572:ALA:CB	2.43	0.47
1:B:496:LEU:HD23	1:B:513:LEU:CD1	2.44	0.47
1:A:387:SER:HB2	1:A:388:THR:HG22	1.97	0.47
1:B:387:SER:HB2	1:B:388:THR:HG22	1.97	0.47
1:B:641:ARG:HH11	1:B:774:ASP:HB2	1.79	0.47
1:A:434:LEU:HB3	1:A:435:PRO:HD2	1.97	0.47
1:B:35:SER:CA	1:B:535:PHE:CG	2.97	0.47
1:B:262:VAL:O	1:B:266:VAL:HG23	2.14	0.47
1:A:108:MET:O	1:A:110:VAL:N	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:126:ASP:OD1	1:A:126:ASP:N	2.43	0.47
1:A:538:GLU:HA	1:A:559:SER:O	2.15	0.47
1:B:179:PHE:CZ	1:B:602:VAL:O	2.67	0.47
1:B:202:LEU:O	1:B:205:SER:HB3	2.15	0.47
1:B:446:LEU:O	1:B:450:MET:HG2	2.14	0.47
1:A:289:ILE:CD1	1:A:503:ILE:HG23	2.45	0.46
1:A:369:LEU:O	1:A:515:TYR:O	2.33	0.46
1:A:46:GLU:CB	1:A:587:ILE:CD1	2.91	0.46
1:A:59:TYR:CZ	1:A:606:GLU:OE2	2.69	0.46
1:A:389:ASN:HB2	1:A:547:THR:CG2	2.45	0.46
1:B:709:THR:HG21	1:B:740:LEU:HD22	1.97	0.46
1:B:745:GLN:HG2	1:B:766:GLU:OE2	2.16	0.46
1:A:408:TYR:CE2	1:A:593:LEU:HD12	2.50	0.46
1:A:448:GLN:HG3	1:B:121:TRP:NE1	2.30	0.46
1:B:108:MET:O	1:B:110:VAL:N	2.49	0.46
1:B:538:GLU:HA	1:B:559:SER:O	2.15	0.46
1:A:54:LEU:HD22	1:A:496:LEU:CG	2.33	0.46
1:A:120:SER:CB	1:A:223:ARG:HB2	2.45	0.46
1:A:402:ILE:HD12	1:A:668:VAL:CG1	2.45	0.46
1:A:432:LEU:HD13	1:A:756:ILE:HD11	1.97	0.46
1:A:540:SER:HA	1:A:541:ASN:HA	1.68	0.46
1:A:641:ARG:HH11	1:A:774:ASP:HB2	1.79	0.46
1:B:369:LEU:O	1:B:515:TYR:HB3	2.05	0.46
1:A:731:SER:O	1:B:414:PRO:HD3	2.15	0.46
1:B:713:SER:HA	1:B:714:SER:HA	1.57	0.46
1:A:709:THR:HG21	1:A:740:LEU:HD22	1.97	0.46
1:B:120:SER:CB	1:B:223:ARG:HB2	2.45	0.46
1:B:434:LEU:HB3	1:B:435:PRO:HD2	1.97	0.46
1:A:618:LYS:O	1:A:619:SER:C	2.53	0.46
1:A:381:ILE:HD11	1:A:394:ILE:HD11	1.98	0.46
1:B:432:LEU:HD13	1:B:756:ILE:HD11	1.98	0.46
1:A:565:ASN:OD1	1:A:565:ASN:C	2.54	0.46
1:A:673:SER:O	1:A:674:PRO:C	2.54	0.46
1:A:504:ILE:CG1	1:A:510:VAL:HG21	2.35	0.45
1:A:745:GLN:HG2	1:A:766:GLU:OE2	2.16	0.45
1:B:402:ILE:HD12	1:B:668:VAL:CG1	2.45	0.45
1:B:464:ARG:HD3	1:B:469:GLU:OE1	2.16	0.45
1:A:397:TYR:CE1	1:A:497:LEU:HD21	2.51	0.45
1:B:368:PRO:HG2	1:B:372:TYR:CA	2.40	0.45
1:B:369:LEU:HA	1:B:516:MET:HG2	1.97	0.45
1:B:397:TYR:CE1	1:B:497:LEU:HD21	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:370:SER:H	1:A:518:ALA:N	2.15	0.45
1:A:464:ARG:HD3	1:A:469:GLU:CD	2.37	0.45
1:A:464:ARG:HD3	1:A:469:GLU:OE1	2.16	0.45
1:B:389:ASN:HB2	1:B:547:THR:CG2	2.45	0.45
1:A:33:SER:HB3	1:A:526:ARG:HB2	1.88	0.45
1:A:34:THR:C	1:A:525:VAL:HG22	2.20	0.45
1:A:263:GLY:HA3	1:A:295:THR:OG1	2.16	0.45
1:B:36:GLY:CA	1:B:535:PHE:HD2	2.29	0.45
1:B:408:TYR:CE2	1:B:593:LEU:HD12	2.50	0.45
1:B:409:GLN:HG2	1:B:410:SER:N	2.31	0.45
1:B:642:LYS:HB2	1:B:778:TYR:OH	2.16	0.45
1:B:94:ILE:HA	1:B:100:MET:SD	2.57	0.45
1:B:369:LEU:HD22	1:B:535:PHE:CE1	2.51	0.45
1:A:39:TRP:CZ3	1:A:515:TYR:CB	2.53	0.45
1:A:94:ILE:HA	1:A:100:MET:SD	2.57	0.45
1:A:451:GLN:NE2	1:B:223:ARG:HH12	2.01	0.45
1:A:479:LEU:HD22	1:A:480:PRO:HD2	1.99	0.45
1:B:263:GLY:HA3	1:B:295:THR:OG1	2.16	0.45
1:B:368:PRO:CA	1:B:520:SER:HB3	2.39	0.45
1:B:381:ILE:HD11	1:B:394:ILE:HD11	1.98	0.45
1:B:464:ARG:HD3	1:B:469:GLU:CD	2.37	0.45
1:A:254:ARG:HA	1:A:257:ARG:HE	1.82	0.45
1:A:544:VAL:HG21	1:A:559:SER:H	1.82	0.45
1:B:254:ARG:HA	1:B:257:ARG:HE	1.82	0.45
1:B:544:VAL:HG21	1:B:559:SER:H	1.82	0.45
1:B:557:SER:OG	1:B:560:ALA:HB3	2.17	0.45
1:B:565:ASN:OD1	1:B:565:ASN:C	2.54	0.45
1:A:39:TRP:CH2	1:A:515:TYR:CA	2.41	0.45
1:A:57:ARG:HH22	1:A:588:GLU:HB3	1.82	0.45
1:A:409:GLN:HG2	1:A:410:SER:N	2.31	0.45
1:B:724:THR:O	1:B:726:ILE:HG23	2.17	0.45
1:B:267:HIS:CE1	1:B:295:THR:HG23	2.52	0.44
1:B:233:VAL:O	1:B:237:MET:HG3	2.18	0.44
1:B:399:ALA:HB2	1:B:584:ILE:HB	1.98	0.44
1:B:434:LEU:HB3	1:B:435:PRO:CD	2.47	0.44
1:A:434:LEU:HB3	1:A:435:PRO:CD	2.47	0.44
1:A:369:LEU:CD1	1:A:535:PHE:CZ	3.01	0.44
1:B:479:LEU:HD22	1:B:480:PRO:HD2	1.99	0.44
1:A:642:LYS:HB2	1:A:778:TYR:OH	2.16	0.44
1:B:260:ALA:HB2	1:B:302:TRP:HB3	2.00	0.44
1:B:381:ILE:HD11	1:B:394:ILE:CD1	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:233:VAL:O	1:A:237:MET:HG3	2.18	0.44
1:B:37:ALA:CB	1:B:535:PHE:CE2	3.01	0.44
1:B:673:SER:O	1:B:674:PRO:C	2.54	0.44
1:A:43:ARG:CG	1:A:365:THR:HG23	2.48	0.44
1:A:493:MET:CE	1:A:672:TYR:HD2	2.31	0.44
1:A:724:THR:O	1:A:726:ILE:HG23	2.17	0.44
1:B:43:ARG:CG	1:B:365:THR:HG23	2.47	0.44
1:A:713:SER:HA	1:A:714:SER:HA	1.57	0.44
1:B:39:TRP:CE2	1:B:515:TYR:HD2	2.36	0.44
1:B:493:MET:CE	1:B:672:TYR:HD2	2.31	0.44
1:A:381:ILE:HD11	1:A:394:ILE:CD1	2.48	0.44
1:A:399:ALA:HB2	1:A:584:ILE:HB	1.99	0.44
1:A:408:TYR:HB2	1:A:425:ILE:HG23	2.00	0.44
1:A:448:GLN:NE2	1:B:121:TRP:CD2	2.86	0.44
1:A:557:SER:OG	1:A:560:ALA:HB3	2.17	0.44
1:B:33:SER:HA	1:B:526:ARG:O	2.18	0.44
1:A:46:GLU:OE2	1:A:587:ILE:HG13	2.14	0.43
1:A:267:HIS:CE1	1:A:295:THR:HG23	2.52	0.43
1:B:257:ARG:HG3	1:B:305:SER:HB2	2.00	0.43
1:B:629:GLU:HA	1:B:635:ARG:HH11	1.83	0.43
1:A:181:ALA:HB1	1:A:182:PRO:HD2	2.00	0.43
1:A:663:LEU:HD23	1:A:663:LEU:HA	1.89	0.43
1:B:503:ILE:CG2	1:B:515:TYR:CD1	3.01	0.43
1:A:503:ILE:CG2	1:A:515:TYR:CD1	3.01	0.43
1:A:35:SER:O	1:A:522:ALA:HB1	0.61	0.43
1:A:68:ARG:HG3	1:A:165:ALA:CB	2.48	0.43
1:A:367:ALA:HA	1:A:371:PHE:O	2.18	0.43
1:A:528:PRO:HG2	1:A:531:GLU:HB3	2.01	0.43
1:A:690:SER:HA	1:A:691:ASP:C	2.39	0.43
1:B:369:LEU:CA	1:B:515:TYR:CD2	3.02	0.43
1:A:173:VAL:O	1:A:174:THR:HG23	2.19	0.43
1:A:629:GLU:HA	1:A:635:ARG:HH11	1.83	0.43
1:A:260:ALA:HB2	1:A:302:TRP:HB3	2.00	0.43
1:B:37:ALA:HB2	1:B:525:VAL:HG11	2.00	0.43
1:B:226:PRO:HG2	1:B:229:ARG:HH21	1.84	0.43
1:B:374:GLY:HA2	1:B:376:GLY:N	2.34	0.43
1:B:721:ASP:O	1:B:724:THR:HG22	2.19	0.43
1:A:33:SER:OG	1:A:526:ARG:HD3	2.19	0.43
1:A:74:VAL:O	1:A:77:ILE:HG22	2.18	0.43
1:A:365:THR:HB	1:A:371:PHE:CZ	2.53	0.43
1:A:701:LEU:HD23	1:A:701:LEU:O	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:35:SER:HG	1:B:523:SER:H	1.65	0.43
1:B:97:GLU:O	1:B:100:MET:N	2.52	0.43
1:B:385:ASP:OD1	1:B:385:ASP:N	2.52	0.43
1:A:385:ASP:N	1:A:385:ASP:OD1	2.52	0.43
1:A:464:ARG:HG2	1:A:469:GLU:OE2	2.19	0.43
1:B:173:VAL:O	1:B:174:THR:HG23	2.19	0.43
1:B:254:ARG:NH1	1:B:352:LEU:HD23	2.34	0.43
1:B:464:ARG:HG2	1:B:469:GLU:OE2	2.19	0.43
1:B:690:SER:HA	1:B:691:ASP:C	2.39	0.43
1:B:51:SER:HB2	1:B:57:ARG:H	1.84	0.42
1:B:437:PHE:HD1	1:B:437:PHE:H	1.68	0.42
1:A:34:THR:HB	1:A:524:SER:HA	1.87	0.42
1:A:97:GLU:O	1:A:100:MET:N	2.52	0.42
1:A:451:GLN:OE1	1:B:224:ASP:OD1	2.37	0.42
1:A:658:GLY:HA3	1:A:661:VAL:HG11	2.01	0.42
1:B:493:MET:HE2	1:B:672:TYR:HD2	1.84	0.42
1:B:701:LEU:HD23	1:B:701:LEU:O	2.19	0.42
1:A:374:GLY:HA2	1:A:376:GLY:N	2.34	0.42
1:A:586:ILE:HG12	1:A:671:VAL:HG23	2.01	0.42
1:B:74:VAL:O	1:B:77:ILE:HG22	2.18	0.42
1:B:181:ALA:HB1	1:B:182:PRO:HD2	2.00	0.42
1:B:360:VAL:O	1:B:364:VAL:HB	2.19	0.42
1:B:586:ILE:HG12	1:B:671:VAL:HG23	2.01	0.42
1:B:733:VAL:O	1:B:736:GLN:N	2.53	0.42
1:A:51:SER:HB2	1:A:57:ARG:H	1.84	0.42
1:B:36:GLY:HA2	1:B:519:ALA:C	2.38	0.42
1:A:54:LEU:HD23	1:A:496:LEU:CG	2.48	0.42
1:B:528:PRO:HG2	1:B:531:GLU:HB3	2.01	0.42
1:A:64:GLN:HE21	1:A:130:ASN:HD21	1.68	0.42
1:A:257:ARG:HG3	1:A:305:SER:HB2	2.00	0.42
1:B:658:GLY:HA3	1:B:661:VAL:HG11	2.01	0.42
1:A:729:GLN:HE21	1:A:730:PRO:HD2	1.85	0.42
1:B:116:ALA:HB3	1:B:227:ILE:HG22	2.02	0.42
1:A:360:VAL:O	1:A:364:VAL:HB	2.19	0.42
1:A:125:SER:O	1:A:128:ASP:HB2	2.20	0.42
1:A:226:PRO:HG2	1:A:229:ARG:HH21	1.84	0.42
1:A:254:ARG:NH1	1:A:352:LEU:HD23	2.34	0.42
1:B:68:ARG:HG3	1:B:165:ALA:CB	2.48	0.42
1:B:187:SER:O	1:B:188:ASP:HB2	2.20	0.42
1:B:369:LEU:O	1:B:515:TYR:CD2	2.72	0.42
1:B:693:ASP:HB3	1:B:696:ALA:HB3	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:32:PHE:CD2	1:A:526:ARG:CA	2.95	0.42
1:A:369:LEU:N	1:A:520:SER:HA	2.33	0.42
1:A:657:PHE:CD2	1:A:663:LEU:HD12	2.55	0.42
1:A:733:VAL:O	1:A:736:GLN:N	2.53	0.42
1:B:729:GLN:HE21	1:B:730:PRO:HD2	1.85	0.42
1:A:35:SER:C	1:A:522:ALA:HB3	1.99	0.41
1:A:187:SER:O	1:A:188:ASP:HB2	2.20	0.41
1:A:721:ASP:O	1:A:724:THR:HG22	2.19	0.41
1:A:145:ASP:CB	1:A:148:GLN:NE2	2.83	0.41
1:A:307:ILE:HA	1:A:311:GLY:HA2	2.02	0.41
1:A:693:ASP:HB3	1:A:696:ALA:HB3	2.02	0.41
1:B:145:ASP:CB	1:B:148:GLN:NE2	2.83	0.41
1:B:677:LYS:O	1:B:680:LEU:HB3	2.20	0.41
1:A:452:ASN:HA	1:B:117:ARG:HB2	2.02	0.41
1:B:171:LYS:O	1:B:171:LYS:CD	2.68	0.41
1:B:733:VAL:HA	1:B:736:GLN:HG2	2.01	0.41
1:A:238:GLY:O	1:A:241:MET:N	2.53	0.41
1:A:366:PHE:CD1	1:A:366:PHE:N	2.89	0.41
1:A:547:THR:HG22	1:A:549:GLN:OE1	2.21	0.41
1:A:733:VAL:HA	1:A:736:GLN:HG2	2.01	0.41
1:B:55:ARG:HH21	1:B:586:ILE:HA	1.84	0.41
1:B:64:GLN:HE21	1:B:130:ASN:HD21	1.68	0.41
1:B:350:THR:HA	1:B:353:ILE:HD12	2.02	0.41
1:B:366:PHE:N	1:B:366:PHE:CD1	2.89	0.41
1:B:408:TYR:HB2	1:B:425:ILE:HG23	2.00	0.41
1:A:289:ILE:HD11	1:A:503:ILE:HG23	2.02	0.41
1:A:350:THR:HA	1:A:353:ILE:HD12	2.02	0.41
1:B:31:PRO:HB3	1:B:526:ARG:NH2	2.29	0.41
1:A:754:THR:O	1:A:756:ILE:N	2.49	0.41
1:A:51:SER:CB	1:A:57:ARG:H	2.34	0.41
1:A:55:ARG:HH22	1:A:587:ILE:HG13	1.86	0.41
1:A:116:ALA:HB3	1:A:227:ILE:HG22	2.02	0.41
1:A:402:ILE:HD12	1:A:668:VAL:HG11	2.02	0.41
1:B:55:ARG:NH2	1:B:586:ILE:HA	2.36	0.41
1:B:307:ILE:HA	1:B:311:GLY:HA2	2.02	0.41
1:B:402:ILE:HD12	1:B:668:VAL:HG11	2.02	0.41
1:A:33:SER:O	1:A:524:SER:OG	2.37	0.41
1:A:369:LEU:HD11	1:A:515:TYR:CZ	2.55	0.41
1:A:437:PHE:H	1:A:437:PHE:HD1	1.67	0.41
1:A:503:ILE:HG22	1:A:515:TYR:CD1	2.56	0.41
1:A:769:VAL:O	1:A:769:VAL:HG12	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:34:THR:HG22	1:B:525:VAL:H	1.33	0.41
1:B:101:ARG:HA	1:B:231:SER:HB3	2.03	0.41
1:B:657:PHE:CD2	1:B:663:LEU:HD12	2.55	0.41
1:A:54:LEU:HD23	1:A:496:LEU:HA	2.02	0.41
1:A:311:GLY:HA2	1:A:312:SER:HA	1.83	0.41
1:A:618:LYS:HB2	1:A:621:ASP:HB3	2.03	0.41
1:B:238:GLY:O	1:B:241:MET:N	2.53	0.41
1:B:437:PHE:CZ	1:B:677:LYS:HG2	2.56	0.41
1:B:773:ASP:OD2	1:B:775:ASN:HB2	2.21	0.41
1:A:370:SER:N	1:A:518:ALA:N	2.68	0.41
1:A:672:TYR:CE1	1:A:677:LYS:HG3	2.56	0.41
1:A:677:LYS:O	1:A:680:LEU:HB3	2.20	0.41
1:B:374:GLY:HA3	1:B:375:LEU:HA	1.87	0.41
1:B:503:ILE:HG22	1:B:515:TYR:CD1	2.56	0.41
1:A:54:LEU:CD2	1:A:496:LEU:HG	2.49	0.40
1:A:396:ARG:HD3	1:A:443:PHE:CG	2.56	0.40
1:A:785:VAL:O	1:A:789:LEU:HG	2.21	0.40
1:B:125:SER:O	1:B:128:ASP:HB2	2.20	0.40
1:B:369:LEU:HB2	1:B:519:ALA:HB3	1.82	0.40
1:B:417:ASP:HB3	1:B:419:GLY:HA3	2.03	0.40
1:B:635:ARG:HE	1:B:637:LEU:HD11	1.86	0.40
1:A:255:LYS:NZ	1:A:359:SER:OG	2.33	0.40
1:A:439:GLU:OE2	1:A:489:ASN:ND2	2.54	0.40
1:A:451:GLN:HB3	1:B:224:ASP:OD2	2.21	0.40
1:A:627:SER:HB3	1:A:726:ILE:HD11	2.03	0.40
1:B:31:PRO:HB2	1:B:526:ARG:CZ	2.35	0.40
1:B:439:GLU:OE2	1:B:489:ASN:ND2	2.54	0.40
1:B:769:VAL:O	1:B:769:VAL:HG12	2.21	0.40
1:B:785:VAL:O	1:B:789:LEU:HG	2.21	0.40
1:A:370:SER:H	1:A:518:ALA:C	2.24	0.40
1:B:126:ASP:OD1	1:B:126:ASP:N	2.43	0.40
1:B:369:LEU:N	1:B:516:MET:O	2.52	0.40
1:B:381:ILE:HD12	1:B:450:MET:HB2	2.04	0.40
1:B:618:LYS:HB2	1:B:621:ASP:HB3	2.03	0.40
1:B:672:TYR:HE1	1:B:677:LYS:CB	2.34	0.40
1:A:171:LYS:O	1:A:171:LYS:CD	2.68	0.40
1:A:391:ALA:HB1	1:A:458:VAL:HG21	2.03	0.40
1:A:437:PHE:CZ	1:A:677:LYS:HG2	2.56	0.40
1:A:451:GLN:HE22	1:B:223:ARG:HH11	0.53	0.40
1:A:659:ILE:HD12	1:A:659:ILE:N	2.37	0.40
1:A:672:TYR:HE1	1:A:677:LYS:CB	2.34	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:396:ARG:HD3	1:B:443:PHE:CG	2.56	0.40
1:B:672:TYR:CE1	1:B:677:LYS:HG3	2.56	0.40
1:A:68:ARG:HH22	1:A:166:GLN:CG	2.35	0.40
1:B:51:SER:CB	1:B:57:ARG:H	2.34	0.40
1:B:164:LEU:HA	1:B:167:SER:HB3	2.04	0.40
1:B:638:TYR:CE1	1:B:647:VAL:HG11	2.56	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1   Protein backbone ⓘ

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	730/792 (92%)	640 (88%)	74 (10%)	16 (2%)	6	35
1	B	728/792 (92%)	641 (88%)	72 (10%)	15 (2%)	7	36
All	All	1458/1584 (92%)	1281 (88%)	146 (10%)	31 (2%)	10	36

All (31) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	370	SER
1	A	503	ILE
1	B	503	ILE
1	A	559	SER
1	A	643	GLY
1	A	644	GLY
1	B	559	SER
1	B	643	GLY
1	B	644	GLY
1	A	578	HIS
1	A	777	PHE
1	B	578	HIS

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Mol	Chain	Res	Type
1	B	777	PHE
1	A	222	ASP
1	A	279	ASP
1	A	386	SER
1	A	773	ASP
1	B	222	ASP
1	B	279	ASP
1	B	386	SER
1	B	773	ASP
1	A	296	ARG
1	A	630	THR
1	B	296	ARG
1	B	630	THR
1	A	434	LEU
1	B	434	LEU
1	A	350	THR
1	B	350	THR
1	A	351	PRO
1	B	351	PRO

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	617/663 (93%)	511 (83%)	106 (17%)	2	11
1	B	617/663 (93%)	512 (83%)	105 (17%)	2	12
All	All	1234/1326 (93%)	1023 (83%)	211 (17%)	5	11

All (211) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	30	ILE
1	A	33	SER
1	A	39	TRP
1	A	44	LEU

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Mol	Chain	Res	Type
1	A	55	ARG
1	A	85	ASP
1	A	97	GLU
1	A	98	GLU
1	A	100	MET
1	A	108	MET
1	A	111	LYS
1	A	113	ARG
1	A	115	ASN
1	A	117	ARG
1	A	118	THR
1	A	123	GLU
1	A	126	ASP
1	A	131	ARG
1	A	171	LYS
1	A	180	SER
1	A	189	TYR
1	A	190	LEU
1	A	194	SER
1	A	205	SER
1	A	215	ARG
1	A	220	LEU
1	A	221	GLU
1	A	223	ARG
1	A	228	THR
1	A	229	ARG
1	A	237	MET
1	A	264	GLU
1	A	265	ILE
1	A	269	ARG
1	A	277	LEU
1	A	278	ASN
1	A	280	SER
1	A	284	THR
1	A	286	ARG
1	A	288	ASN
1	A	289	ILE
1	A	298	THR
1	A	301	ARG
1	A	313	LEU
1	A	314	LYS
1	A	320	ILE

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Mol	Chain	Res	Type
1	A	354	ARG
1	A	370	SER
1	A	371	PHE
1	A	372	TYR
1	A	379	THR
1	A	381	ILE
1	A	385	ASP
1	A	396	ARG
1	A	404	LEU
1	A	412	GLN
1	A	418	VAL
1	A	421	LYS
1	A	429	ARG
1	A	431	SER
1	A	436	GLU
1	A	437	PHE
1	A	438	SER
1	A	440	ASP
1	A	446	LEU
1	A	461	LEU
1	A	478	GLN
1	A	479	LEU
1	A	482	THR
1	A	485	LEU
1	A	493	MET
1	A	502	LYS
1	A	524	SER
1	A	526	ARG
1	A	540	SER
1	A	541	ASN
1	A	547	THR
1	A	555	GLN
1	A	556	LEU
1	A	558	HIS
1	A	563	THR
1	A	567	LEU
1	A	579	THR
1	A	581	SER
1	A	595	ARG
1	A	604	LYS
1	A	634	GLU
1	A	635	ARG

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Mol	Chain	Res	Type
1	A	641	ARG
1	A	661	VAL
1	A	672	TYR
1	A	689	GLU
1	A	691	ASP
1	A	693	ASP
1	A	694	LYS
1	A	703	THR
1	A	709	THR
1	A	713	SER
1	A	723	ILE
1	A	724	THR
1	A	729	GLN
1	A	731	SER
1	A	732	ASP
1	A	775	ASN
1	A	776	ARG
1	A	777	PHE
1	B	30	ILE
1	B	33	SER
1	B	39	TRP
1	B	44	LEU
1	B	55	ARG
1	B	85	ASP
1	B	97	GLU
1	B	98	GLU
1	B	100	MET
1	B	108	MET
1	B	111	LYS
1	B	113	ARG
1	B	115	ASN
1	B	117	ARG
1	B	118	THR
1	B	123	GLU
1	B	126	ASP
1	B	131	ARG
1	B	171	LYS
1	B	180	SER
1	B	189	TYR
1	B	190	LEU
1	B	194	SER
1	B	205	SER

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Mol	Chain	Res	Type
1	B	215	ARG
1	B	220	LEU
1	B	221	GLU
1	B	223	ARG
1	B	228	THR
1	B	229	ARG
1	B	237	MET
1	B	264	GLU
1	B	265	ILE
1	B	269	ARG
1	B	277	LEU
1	B	278	ASN
1	B	280	SER
1	B	284	THR
1	B	286	ARG
1	B	288	ASN
1	B	289	ILE
1	B	298	THR
1	B	301	ARG
1	B	313	LEU
1	B	314	LYS
1	B	320	ILE
1	B	354	ARG
1	B	371	PHE
1	B	372	TYR
1	B	379	THR
1	B	381	ILE
1	B	385	ASP
1	B	396	ARG
1	B	404	LEU
1	B	412	GLN
1	B	418	VAL
1	B	421	LYS
1	B	429	ARG
1	B	431	SER
1	B	436	GLU
1	B	437	PHE
1	B	438	SER
1	B	440	ASP
1	B	446	LEU
1	B	461	LEU
1	B	478	GLN

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Mol	Chain	Res	Type
1	B	479	LEU
1	B	482	THR
1	B	485	LEU
1	B	493	MET
1	B	502	LYS
1	B	524	SER
1	B	526	ARG
1	B	540	SER
1	B	541	ASN
1	B	547	THR
1	B	555	GLN
1	B	556	LEU
1	B	558	HIS
1	B	563	THR
1	B	567	LEU
1	B	579	THR
1	B	581	SER
1	B	595	ARG
1	B	604	LYS
1	B	634	GLU
1	B	635	ARG
1	B	641	ARG
1	B	661	VAL
1	B	672	TYR
1	B	689	GLU
1	B	691	ASP
1	B	693	ASP
1	B	694	LYS
1	B	703	THR
1	B	709	THR
1	B	713	SER
1	B	723	ILE
1	B	724	THR
1	B	729	GLN
1	B	731	SER
1	B	732	ASP
1	B	775	ASN
1	B	776	ARG
1	B	777	PHE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (20) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	130	ASN
1	A	148	GLN
1	A	169	HIS
1	A	288	ASN
1	A	409	GLN
1	A	448	GLN
1	A	451	GLN
1	A	478	GLN
1	A	517	GLN
1	A	729	GLN
1	A	741	GLN
1	B	130	ASN
1	B	148	GLN
1	B	169	HIS
1	B	288	ASN
1	B	409	GLN
1	B	478	GLN
1	B	517	GLN
1	B	729	GLN
1	B	741	GLN

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 monosaccharides in this entry.

5.6   Ligand geometry ⓘ

There are no ligands in this entry.

5.7   Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

The following chains have linkage breaks:

Mol	Chain	Number of breaks
1	B	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	B	369:LEU	C	370:SER	N	10.38

6 Map visualisation ⓘ

This section contains visualisations of the EMDB entry EMD-1300. 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 |
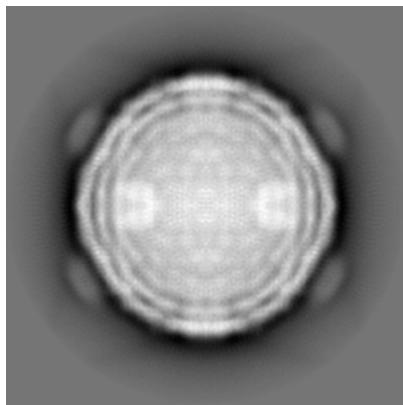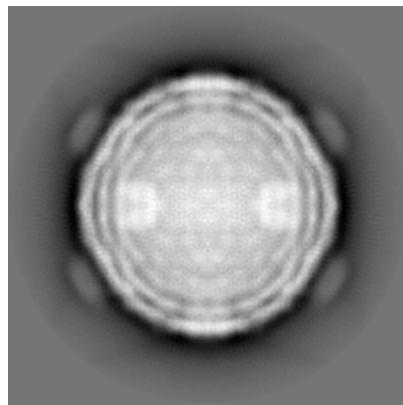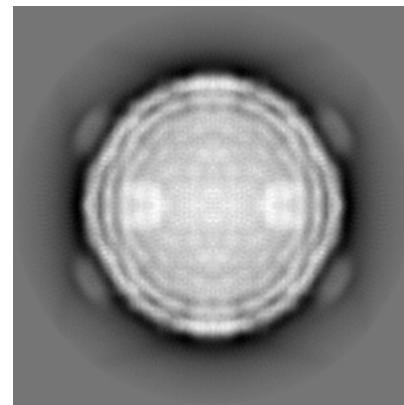
The images above show the map projected in three orthogonal directions.

6.2 Central slices ⓘ
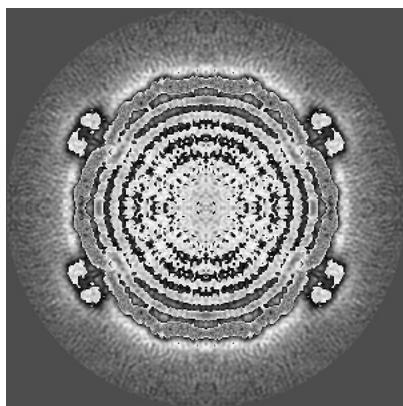
6.2.1 Primary map
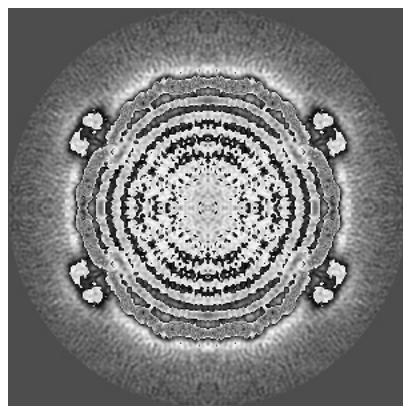
| X Index: 271 | Y Index: 271 | Z Index: 271 |
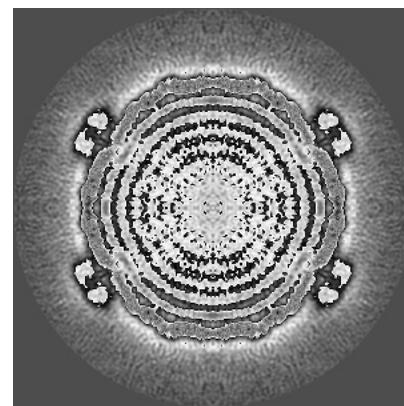
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices ⓘ
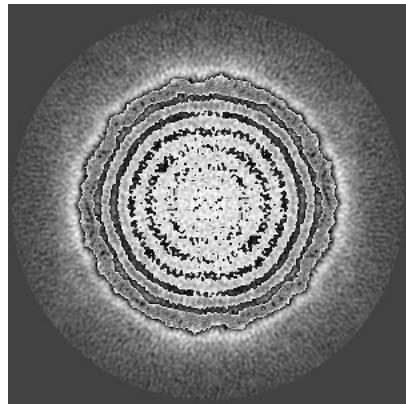
6.3.1 Primary map
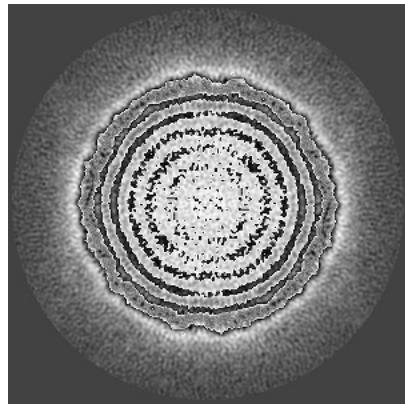
| X Index: 321 | Y Index: 221 | Z Index: 321 |
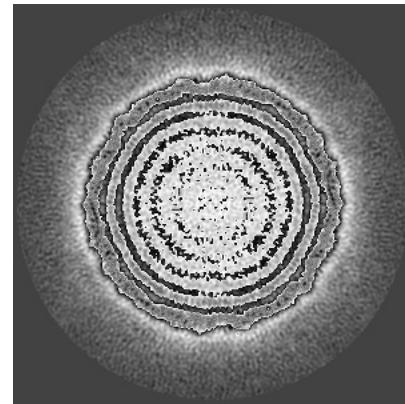
The images above show the largest variance slices of the map in three orthogonal directions.

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

6.4.1 Primary map

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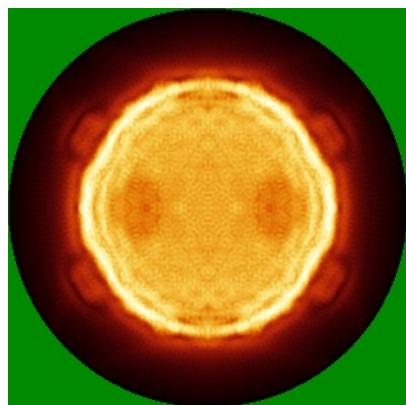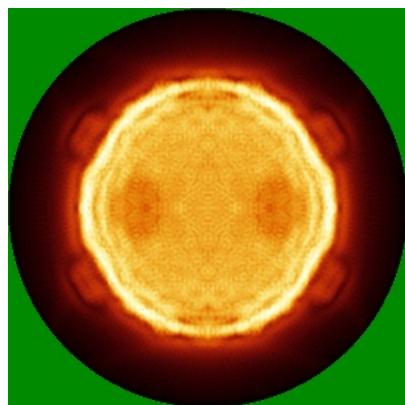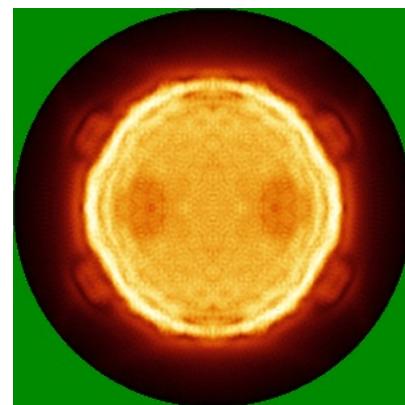
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

6.5.1 Primary map
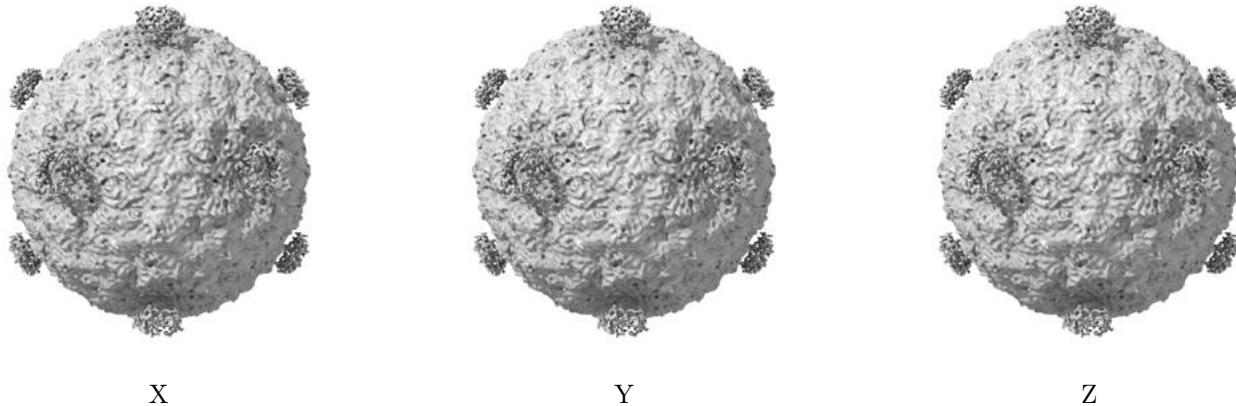
X	Y	Z

The images above show the 3D surface view of the map at the recommended contour level 10400.0. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

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_1300_msk_1.map ⓘ
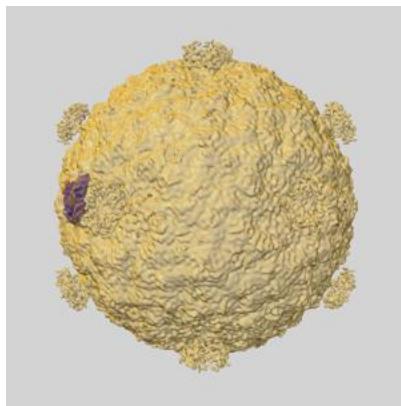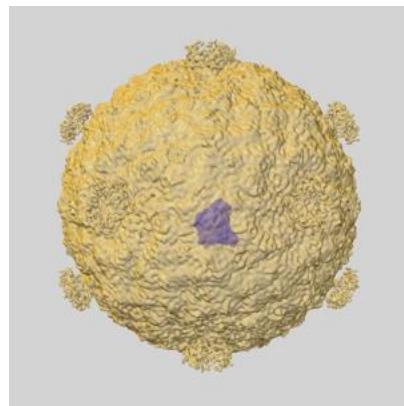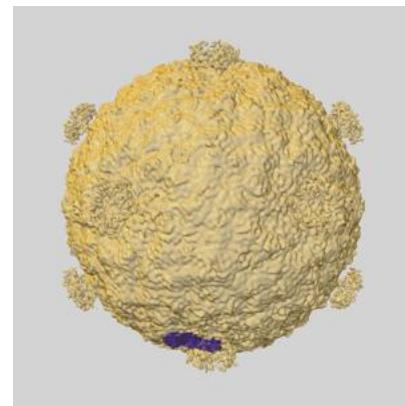
| X | Y | Z |

6.6.2 emd_1300_msk_2.map ⓘ

| X | Y | Z |
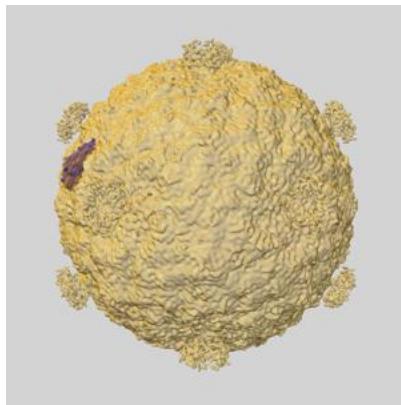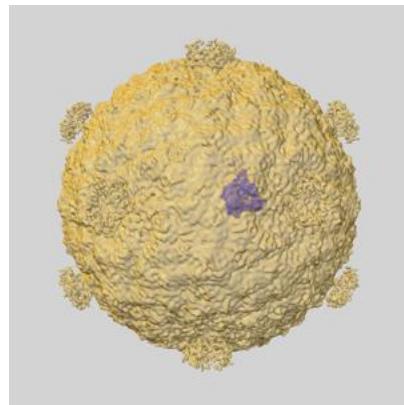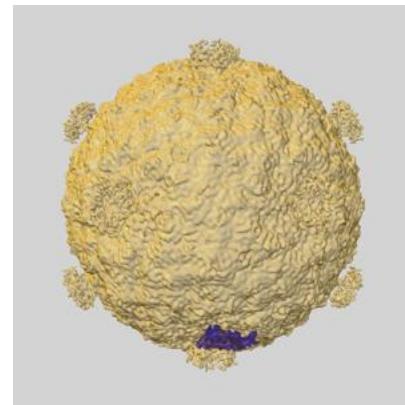
7　Map analysis ⓘ

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 ⓘ
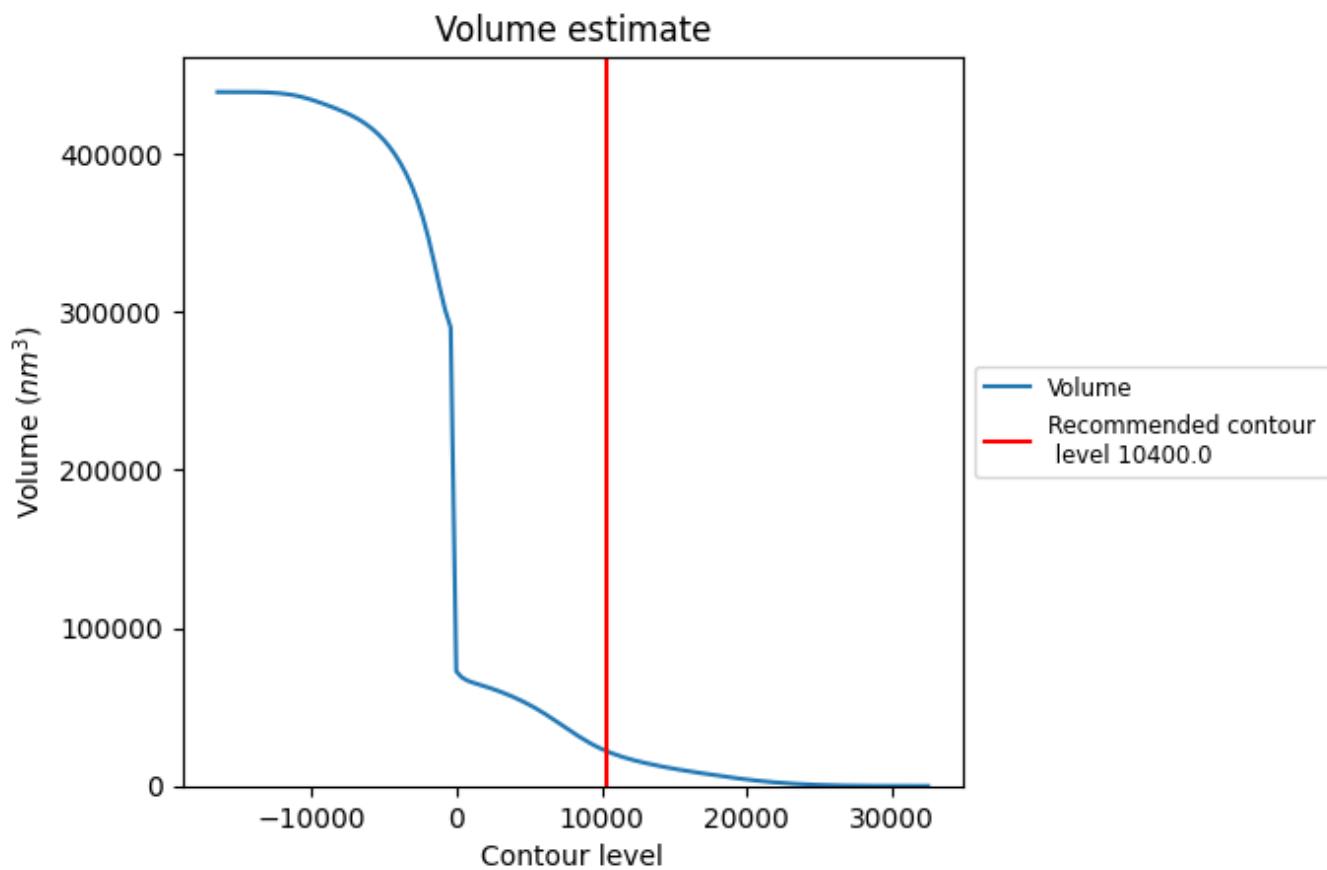
The volume at the recommended contour level is 21837 nm³; this corresponds to an approximate mass of 19726 kDa.

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

7.3 Rotationally averaged power spectrum ⓘ
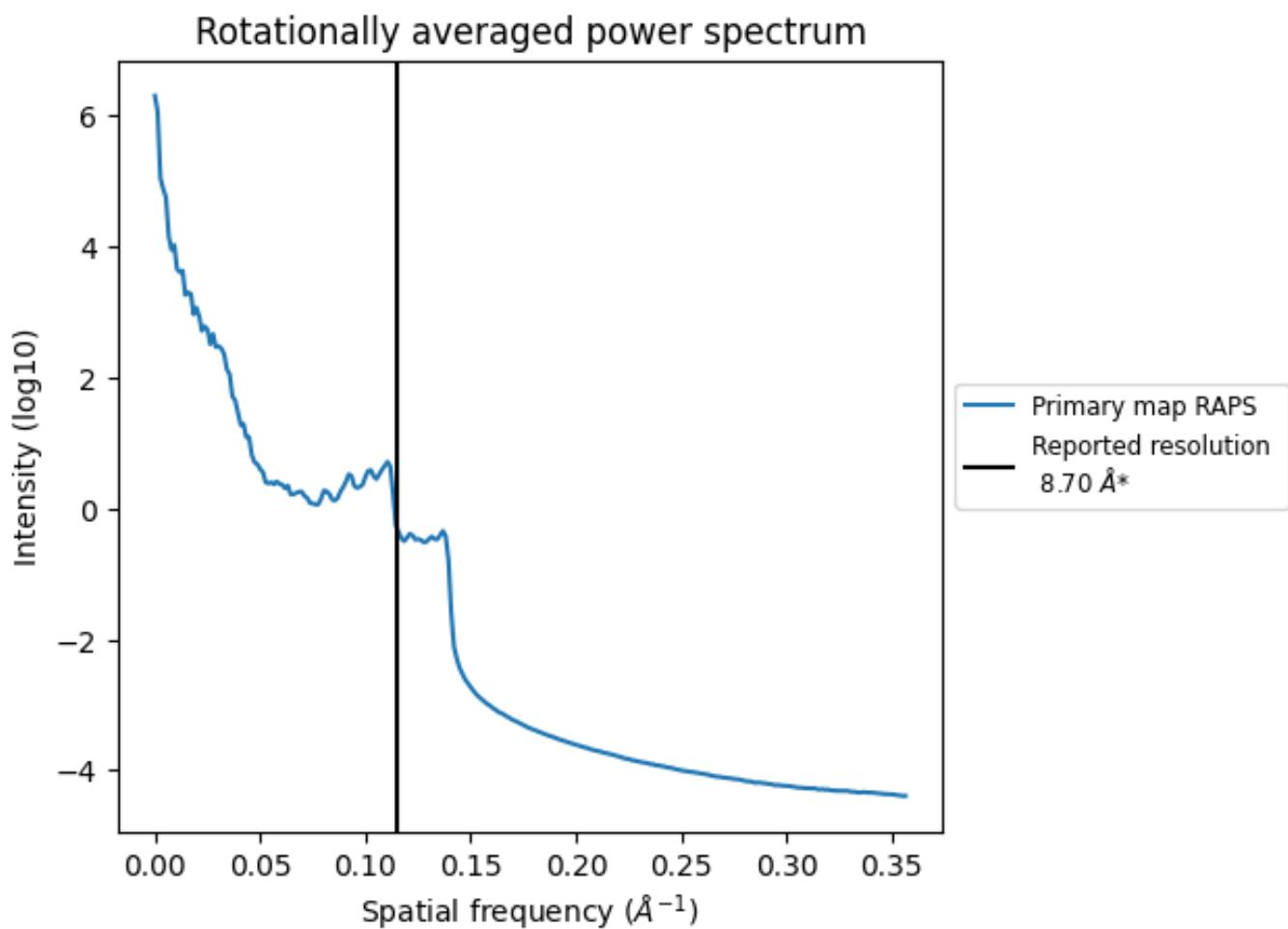
*Reported resolution corresponds to spatial frequency of 0.115 Å^{-1}

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-1300 and PDB model 4BX4. Per-residue inclusion information can be found in section 3 on page 4.

9.1 Map-model overlays

9.1.1 Map-model overlay ⓘ
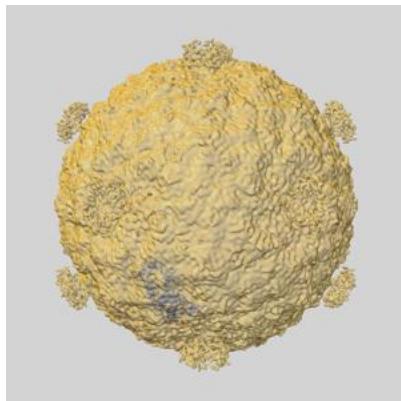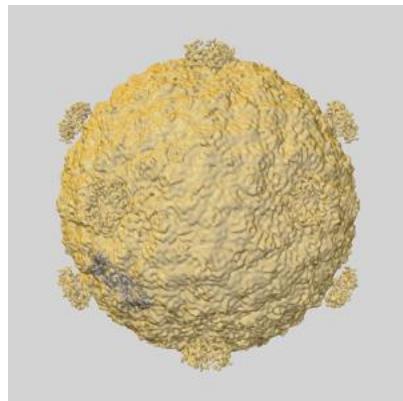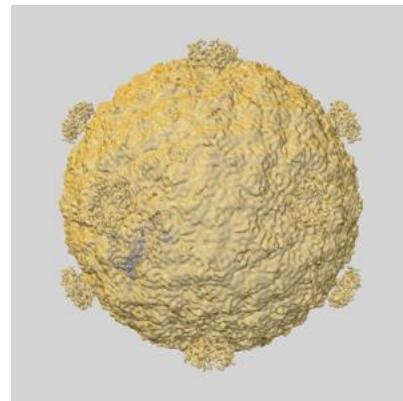
| X | Y | Z |

9.1.2 Map-model assembly overlay ⓘ
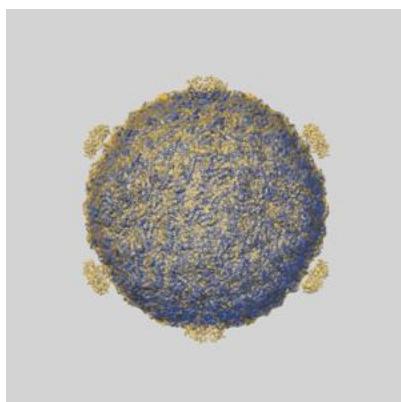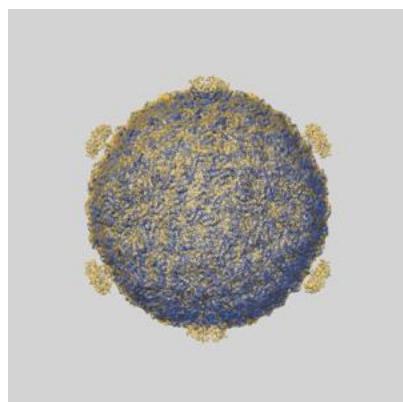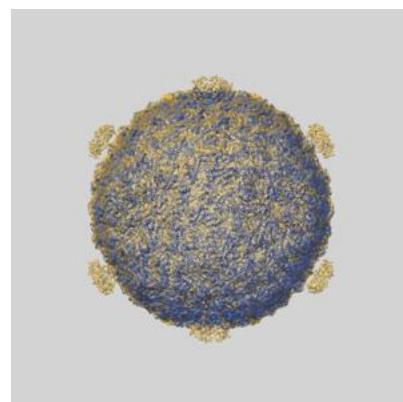
| X | Y | Z |

The images above show the 3D surface view of the map at the recommended contour level 10400.0 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2　Q-score mapped to coordinate model ⓘ

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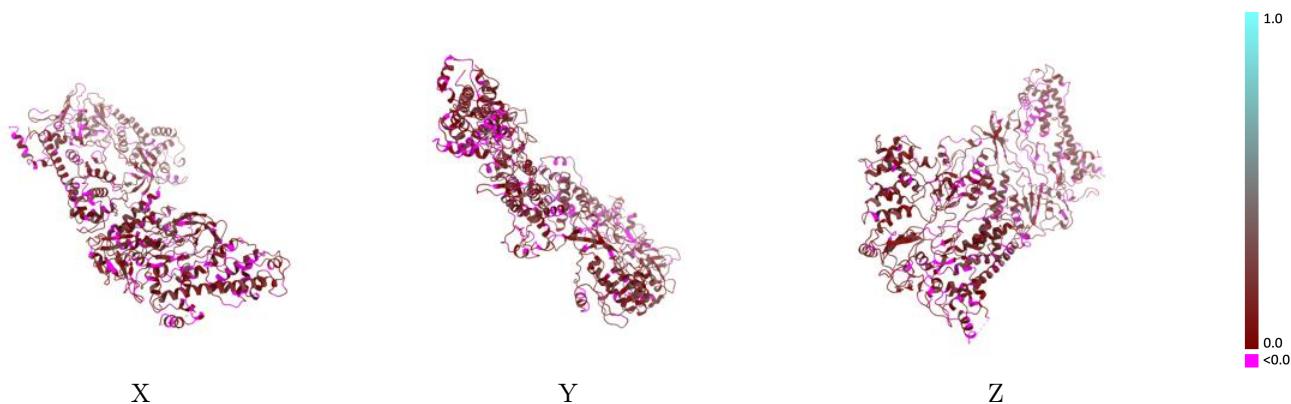
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3　Atom inclusion mapped to coordinate model ⓘ

X　　　　　　　　　　　Y　　　　　　　　　　　Z
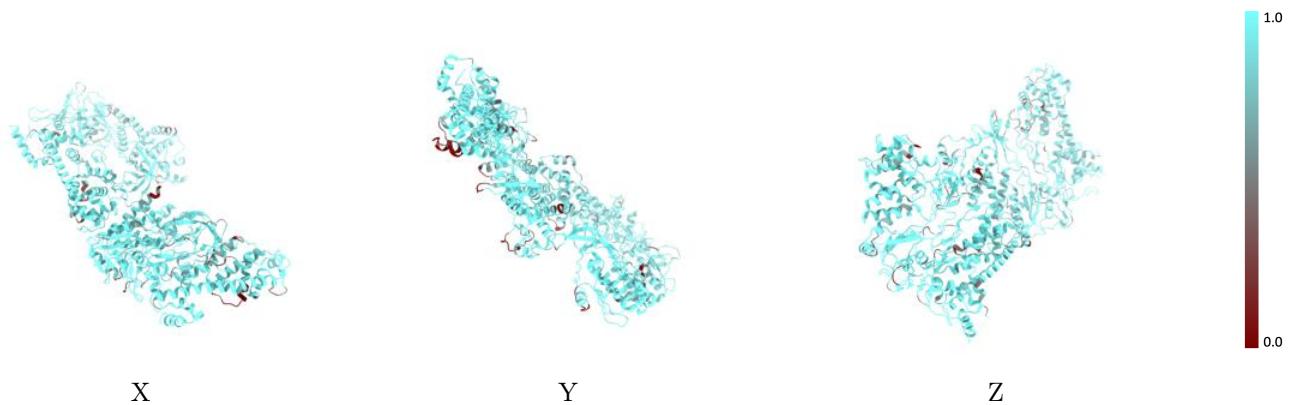
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (10400.0).

9.4 Atom inclusion ⓘ
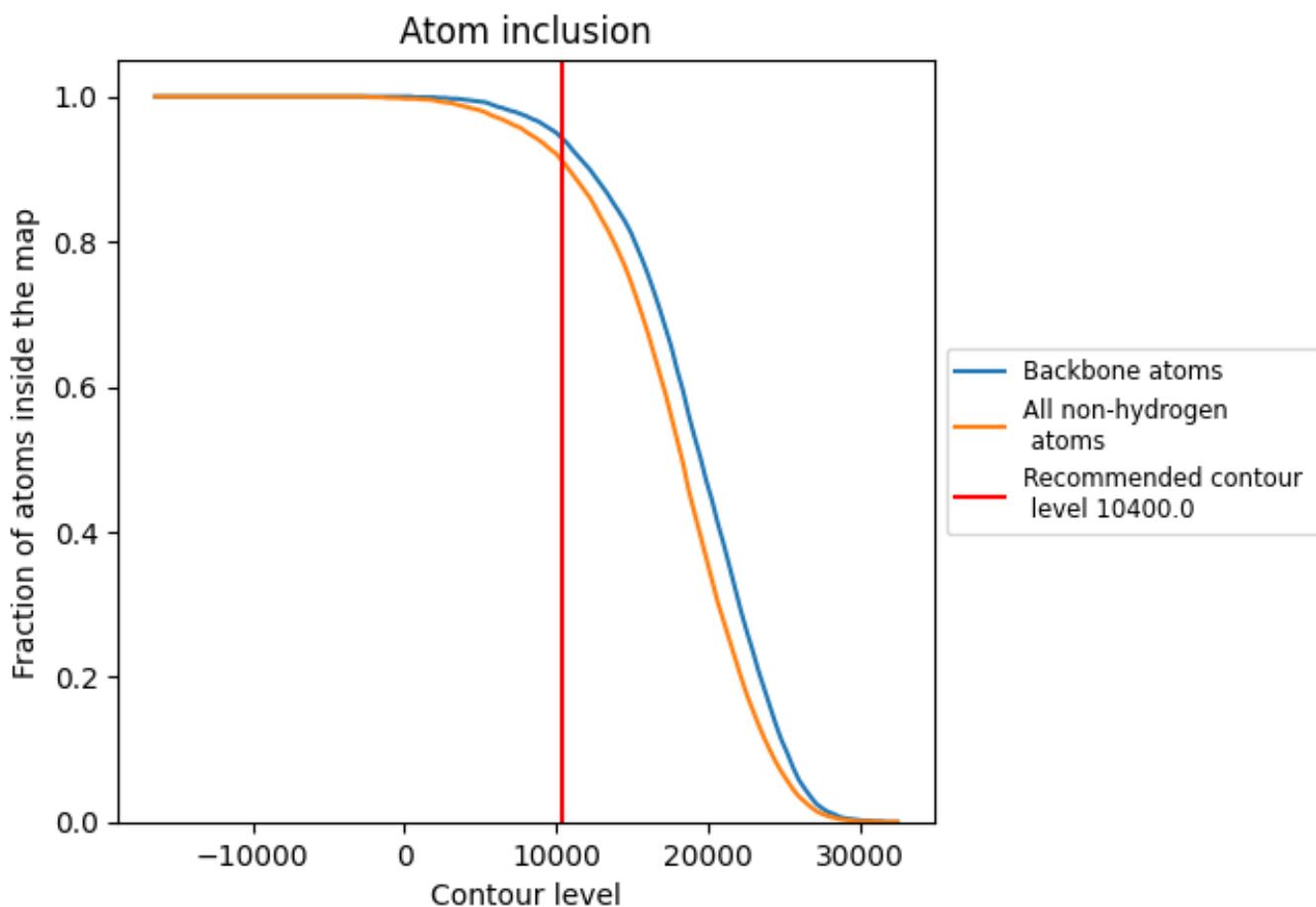
Atom inclusion

At the recommended contour level, 94% of all backbone atoms, 91% 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 (10400.0) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9110	0.1020
A	0.8980	0.0950
B	0.9250	0.1100

1.0

0.0
<0.0