



Full wwPDB EM Validation Report ⓘ

Oct 8, 2024 – 05:01 PM JST

PDB ID : 8WGZ
EMDB ID : EMD-37523
Title : MPOX E5 double hexamer ssDNA bound conformation
Authors : Zhang, Z.; Dong, C.
Deposited on : 2023-09-22
Resolution : 3.22 Å (reported)

This is a Full wwPDB EM Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

The following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

EMDB validation analysis : 0.0.1.dev113
MolProbity : 4.02b-467
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) : 2.39

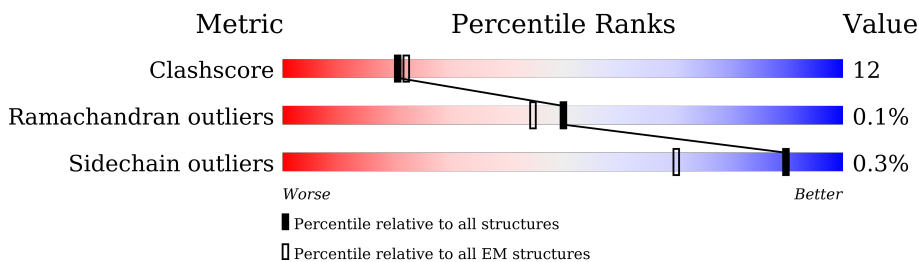
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.22 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.






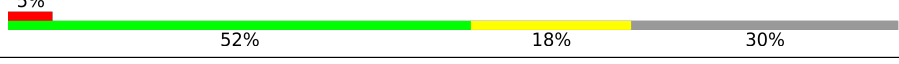

Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	210492	15764
Ramachandran outliers	207382	16835
Sidechain outliers	206894	16415

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 $\leq 5\%$. 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	785	
1	B	785	
1	C	785	
1	D	785	
1	E	785	
1	F	785	
1	G	785	
1	H	785	

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Mol	Chain	Length	Quality of chain
1	I	785	 7% 52% 18% 30%
1	J	785	 6% 54% 16% 30%
1	K	785	 7% 51% 19% 30%
1	L	785	 5% 52% 18% 30%
2	T	5	 40% 60%

2 Entry composition [i](#)

There are 2 unique types of molecules in this entry. The entry contains 51396 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 Uncoating factor OPG117.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	550	4280	2741	727	794	18	0	0
1	B	550	4293	2739	731	806	17	0	0
1	C	550	4321	2774	735	796	16	0	0
1	D	550	4305	2749	740	799	17	0	0
1	E	550	4310	2761	732	800	17	0	0
1	F	550	4302	2752	733	798	19	0	0
1	G	550	4221	2696	717	791	17	0	0
1	H	550	4267	2718	730	804	15	0	0
1	I	550	4257	2722	711	807	17	0	0
1	J	550	4230	2700	726	788	16	0	0
1	K	550	4272	2733	726	796	17	0	0
1	L	550	4243	2715	718	793	17	0	0

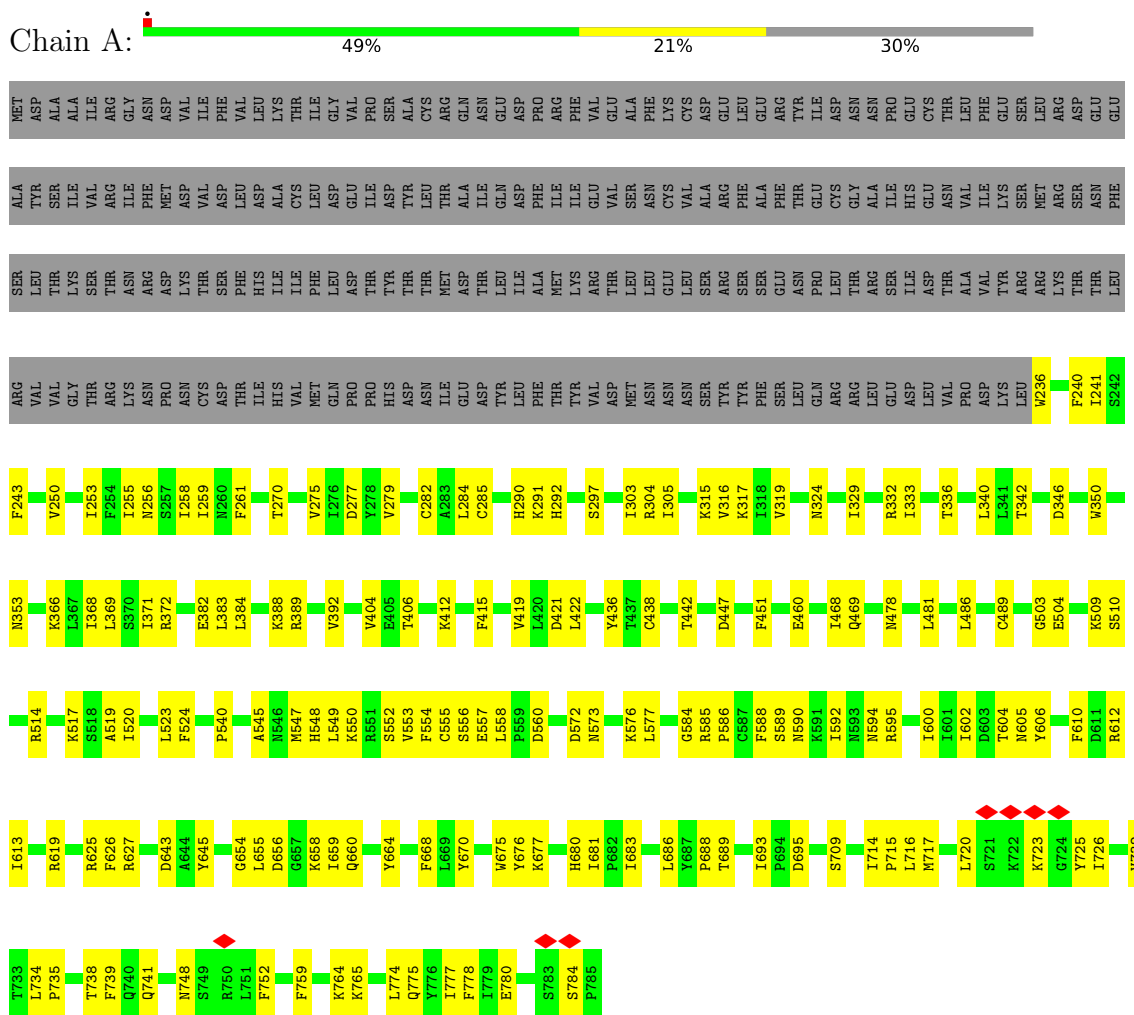
- Molecule 2 is a DNA chain called DNA (5'-D(P*CP*CP*CP*CP*C)-3').

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	T	5	95	45	15	30	5	0	0

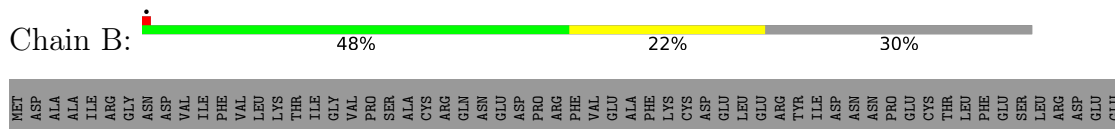
3 Residue-property plots

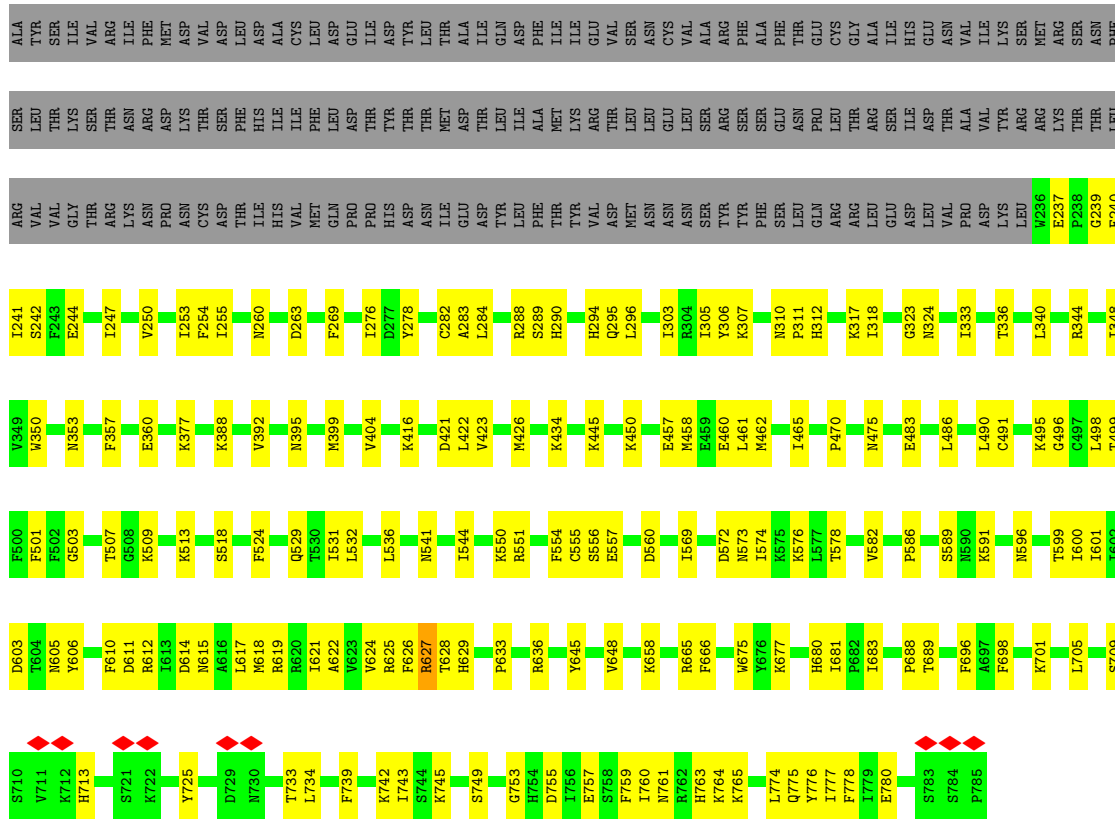
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: Uncoating factor OPG117

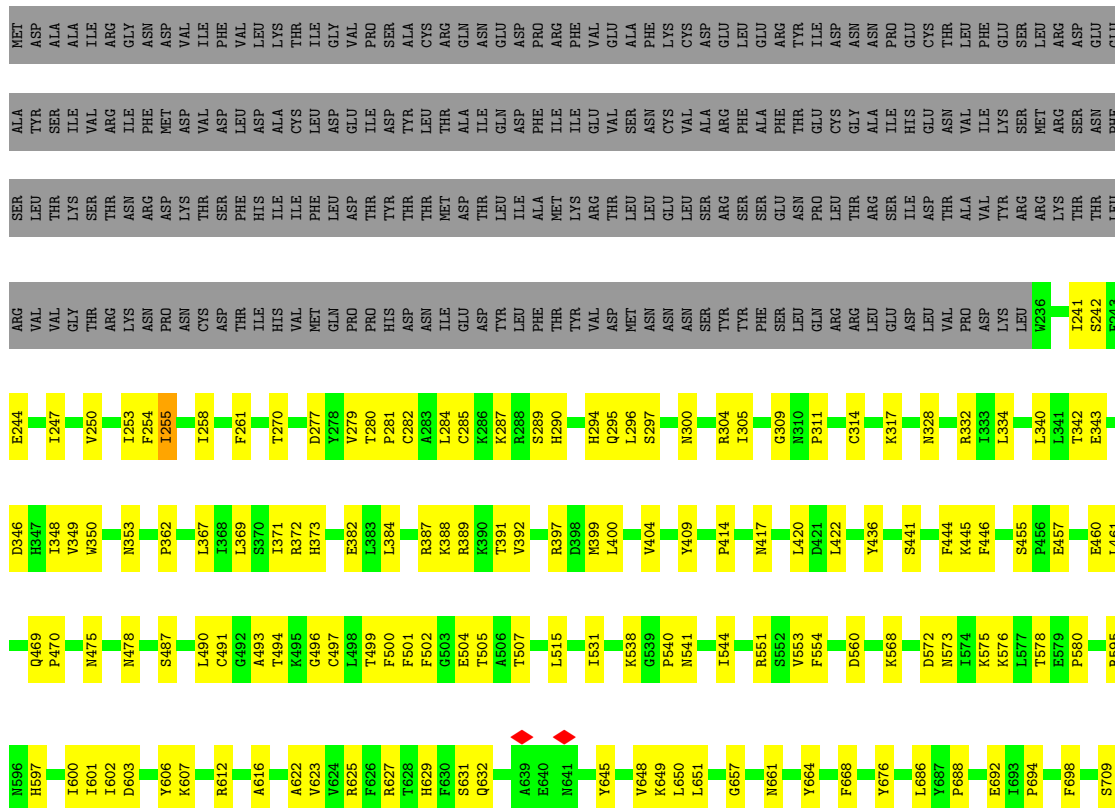


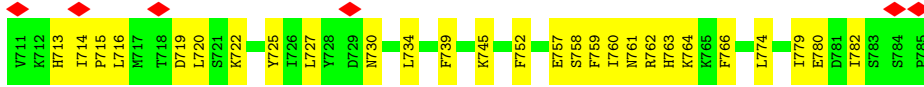
- Molecule 1: Uncoating factor OPG117





● Molecule 1: Uncoating factor OPG117





- Molecule 1: Uncoating factor OPG117

Chain D: 48% 22% 30%

MET ASP ALA ILE ARG GLY ASP ASN VAL PHE LEU LYS THR TYR

ALA TYR SER ILE VAL ARG ILE PHE ASP MET ASP VAL ILE ASP LEU ASP LEU THR TYR

SER LEU THR LYS SER THR ASN ARG ASP LYS THR ASP PHE HIS THR TYR THR TYR

ARG VAL VAL GLY THR ARG LYS ASN PRO ASN CYS THR ASP THR HIS ILE VAL MET PHE LEU ASP

F254 I255 N256 S257 L258 F261 N262 E266 F269 I276 D277 Y278 C285 V279 T280 L284 H290 H292 P293 H294 R304 I305 G309 N310 P311 K317 K325 I329 A330 Q331 R332 I333 L334 D335 T336 N337 S338 L341 R344 I348 Y349 W350 L351 N353

K356 F357 N358 E361 L367 I368 I371 Y379 E382 L383 L384 C385 P386 K387 K388 V392 I396 M399 L400 L402 P405 P410 D411 K412 L413 P414 L422 S441 E453 P456 M458 E459 E460 L461 M462 N466 D467 Q469 P470 L471 T472

M475 M478 R479 E483 K484 S487 C489 L490 C491 C492 T494 K495 C496 C497 F501 F502 G503 E504 T507 G508 K509 S510 T511 A519 L523 F524 V525 G528 H548 L549 K550 R551 S552 V553 F554 E557 D560 F561 S564 K568 K575

P580 S589 M593 N594 R595 H597 A598 I601 Y606 K607 F610 I613 D614 N615 A616 L617 M618 R619 R620 I621 A622 V623 R627 T628 H629 H639 A644 A647 V648 R663 Y664 R665 F666 A667 F668 L669 Y670 L671 Y676 K677 K678 Y679 H680 I681

K685 L686 I693 P694 D695 F696 S708 L716 M717 T719 T720 S721 K722 K723 L734 L735 L736 T737 Q740 R750 H754 S758 F759 I760 N761 R762 H763 K764 K765 Y773 L774 Q775 Y776 I777 D781 I782 S783 S784 P785

- Molecule 1: Uncoating factor OPG117

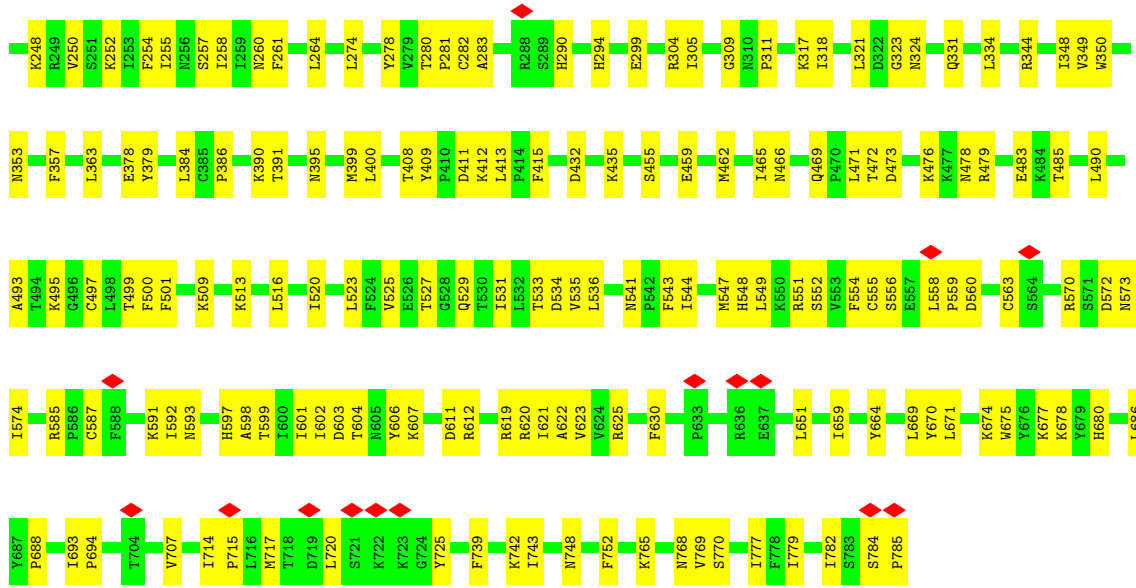
Chain E: 49% 21% 30%

MET ASP ALA ILE ARG GLY ASP ASN VAL PHE LEU LYS THR TYR

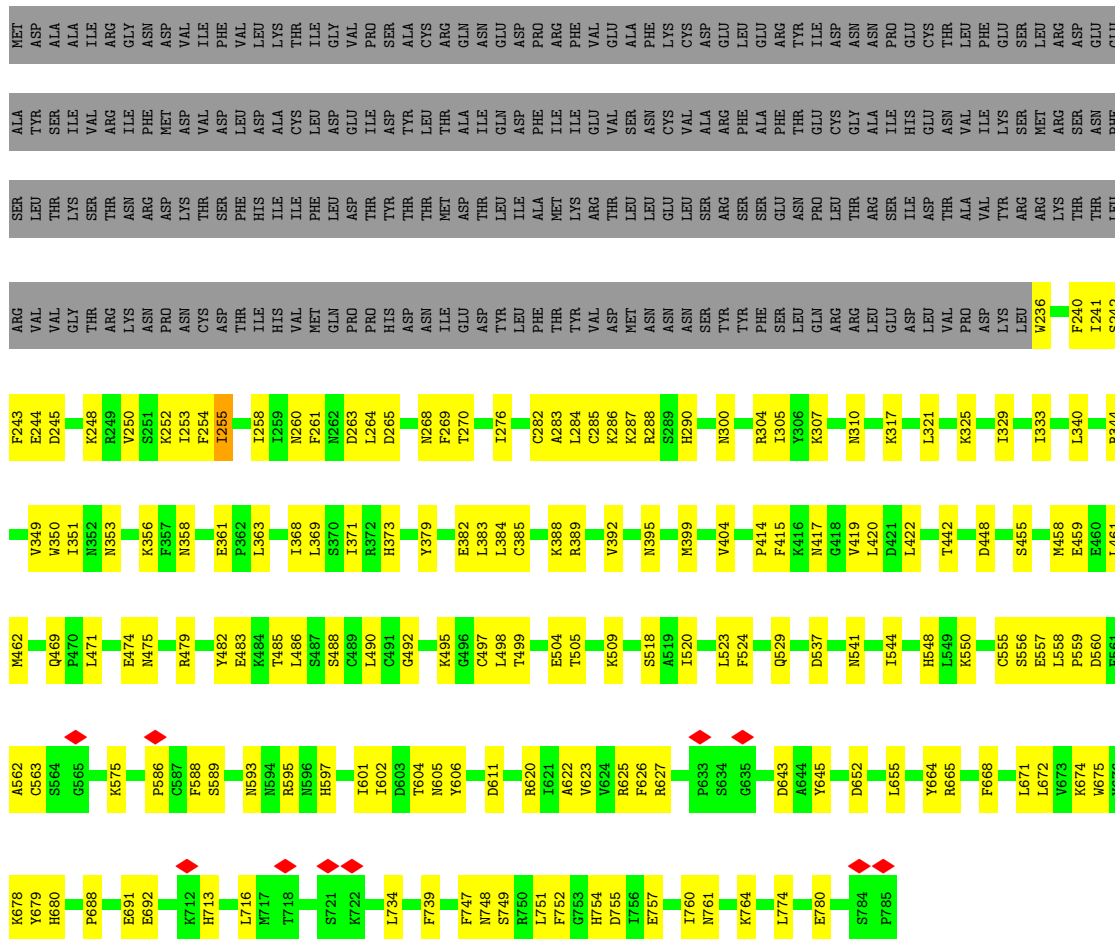
ALA TYR SER ILE VAL ARG ILE PHE ASP MET ASP VAL ILE ASP LEU ASP LEU THR TYR

SER LEU THR LYS SER THR ASN ARG ASP LYS THR ASP PHE HIS THR TYR THR TYR

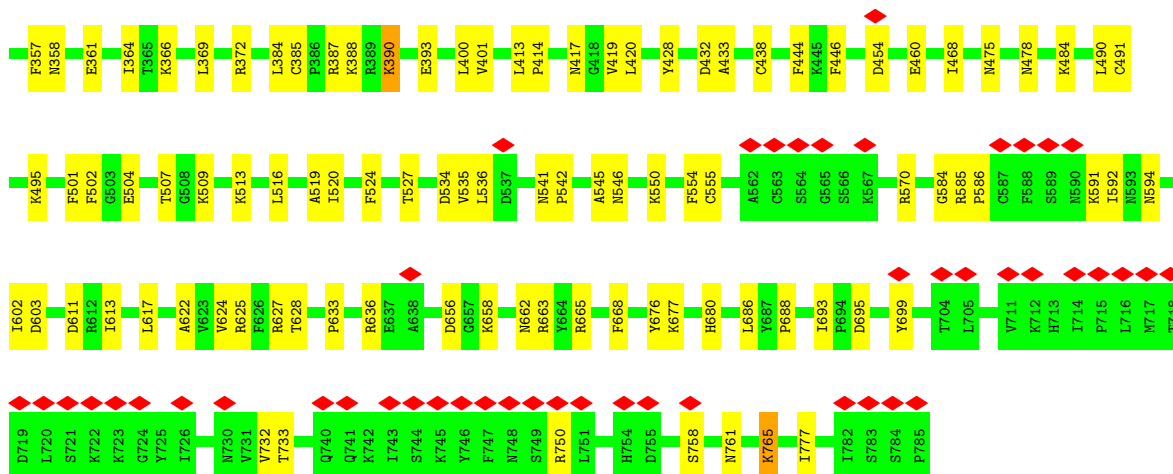
ARG VAL VAL GLY THR ARG LYS ASN PRO ASN CYS THR ASP THR HIS ILE VAL MET PHE LEU ASP



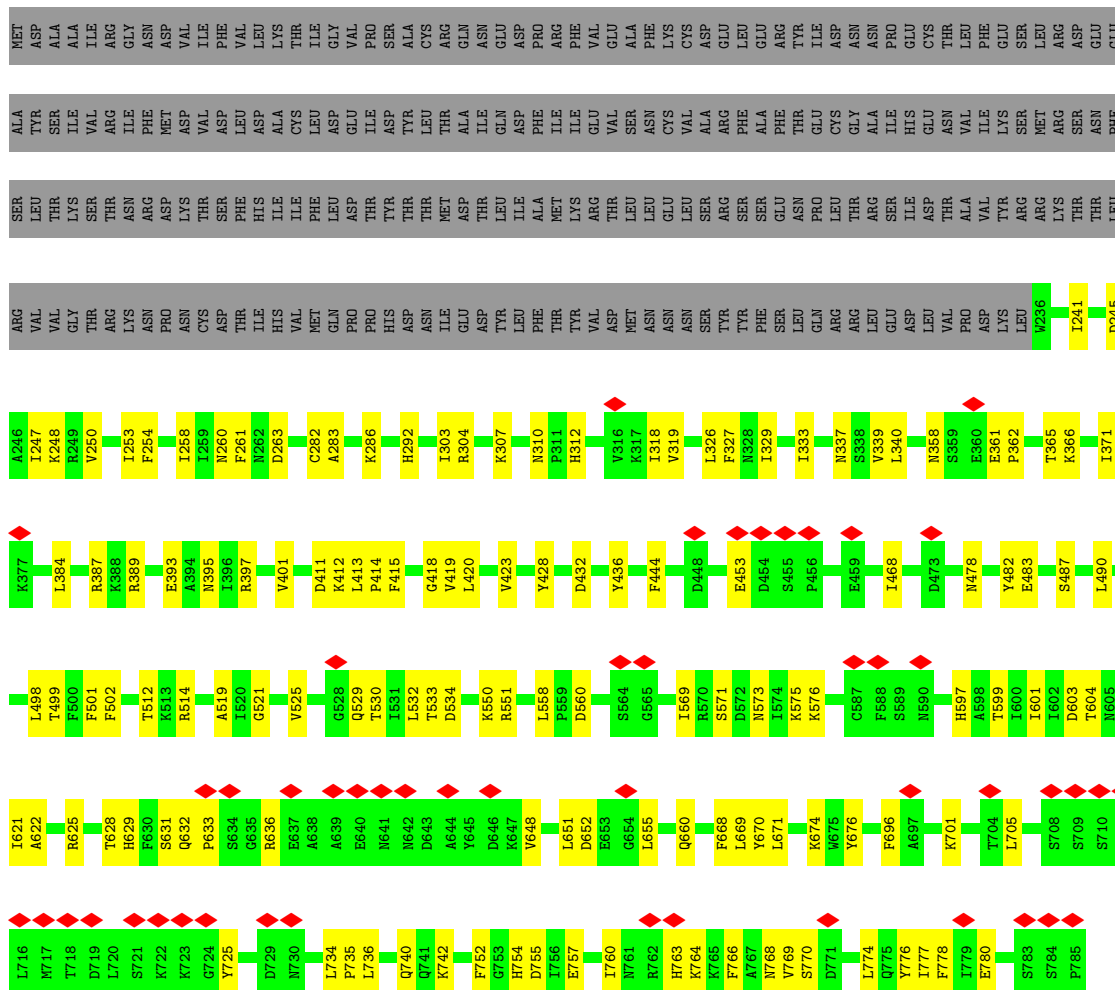
- Molecule 1: Uncoating factor OPG117



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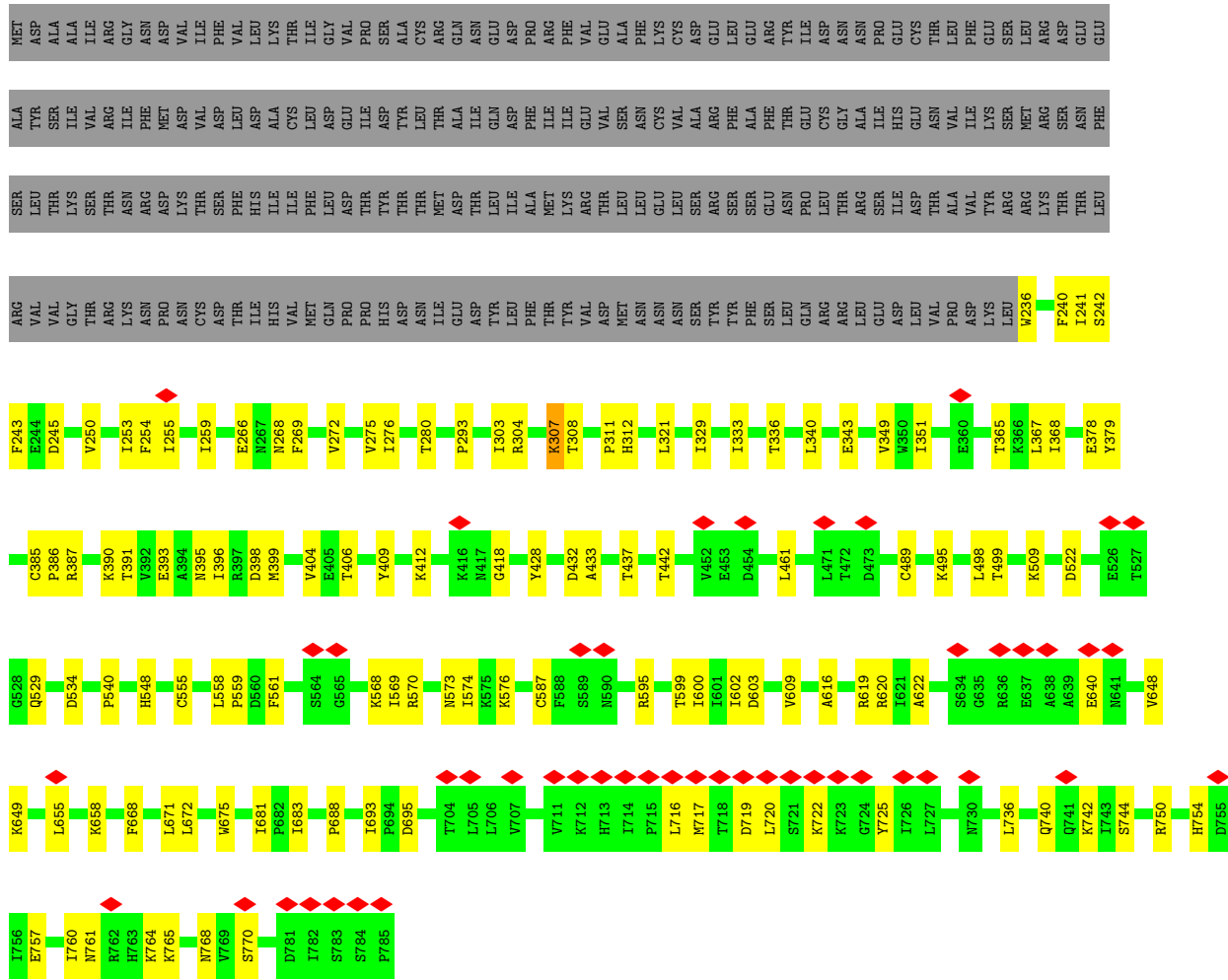


• Molecule 1: Uncoating factor OPG117

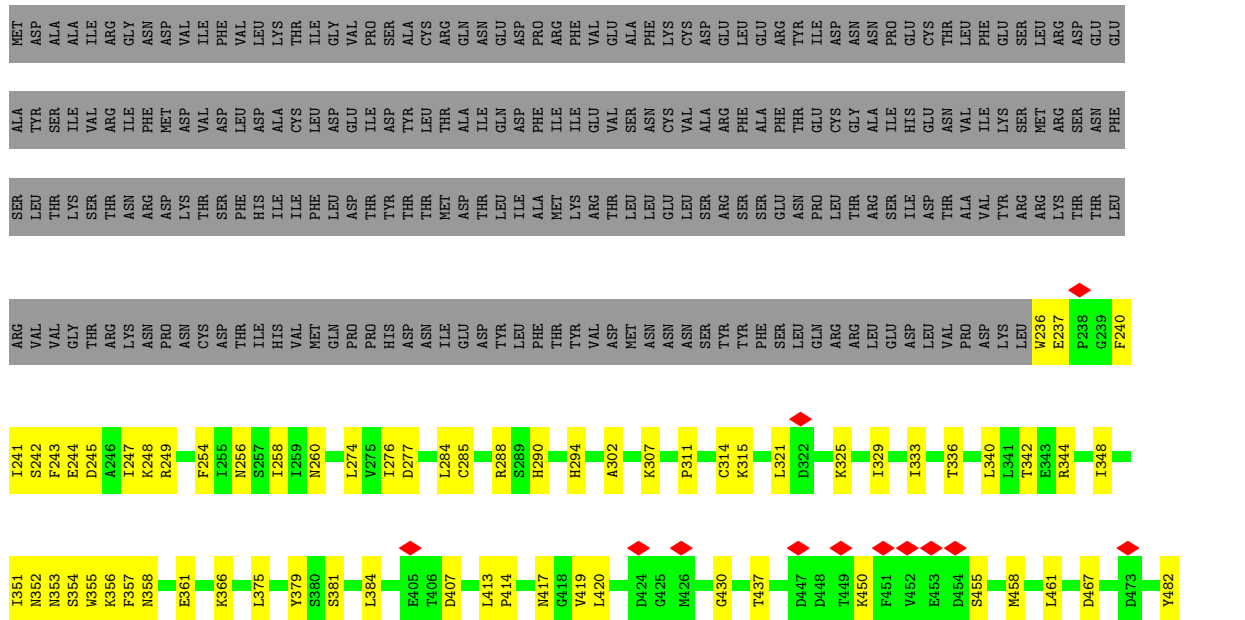


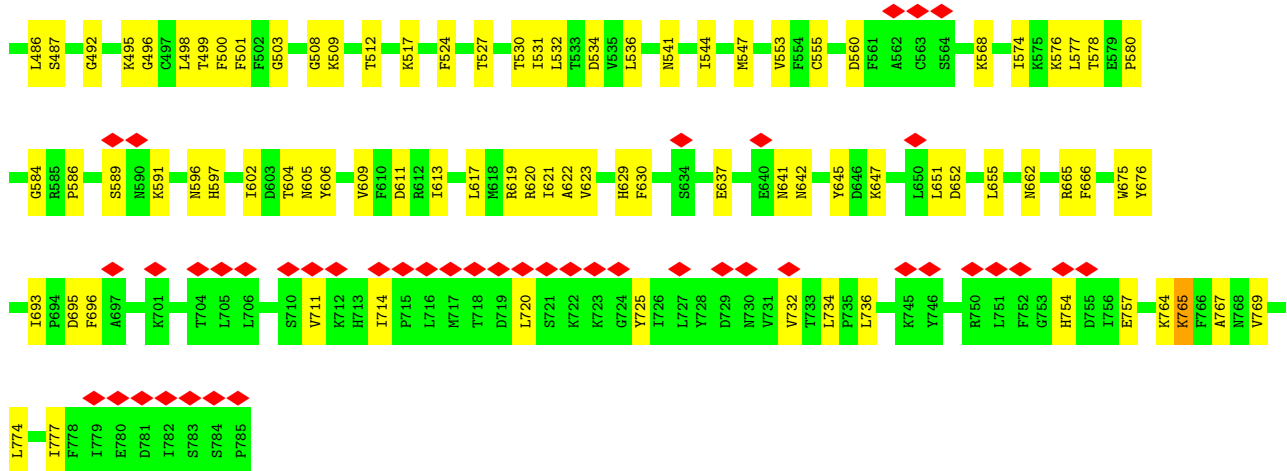
• Molecule 1: Uncoating factor OPG117



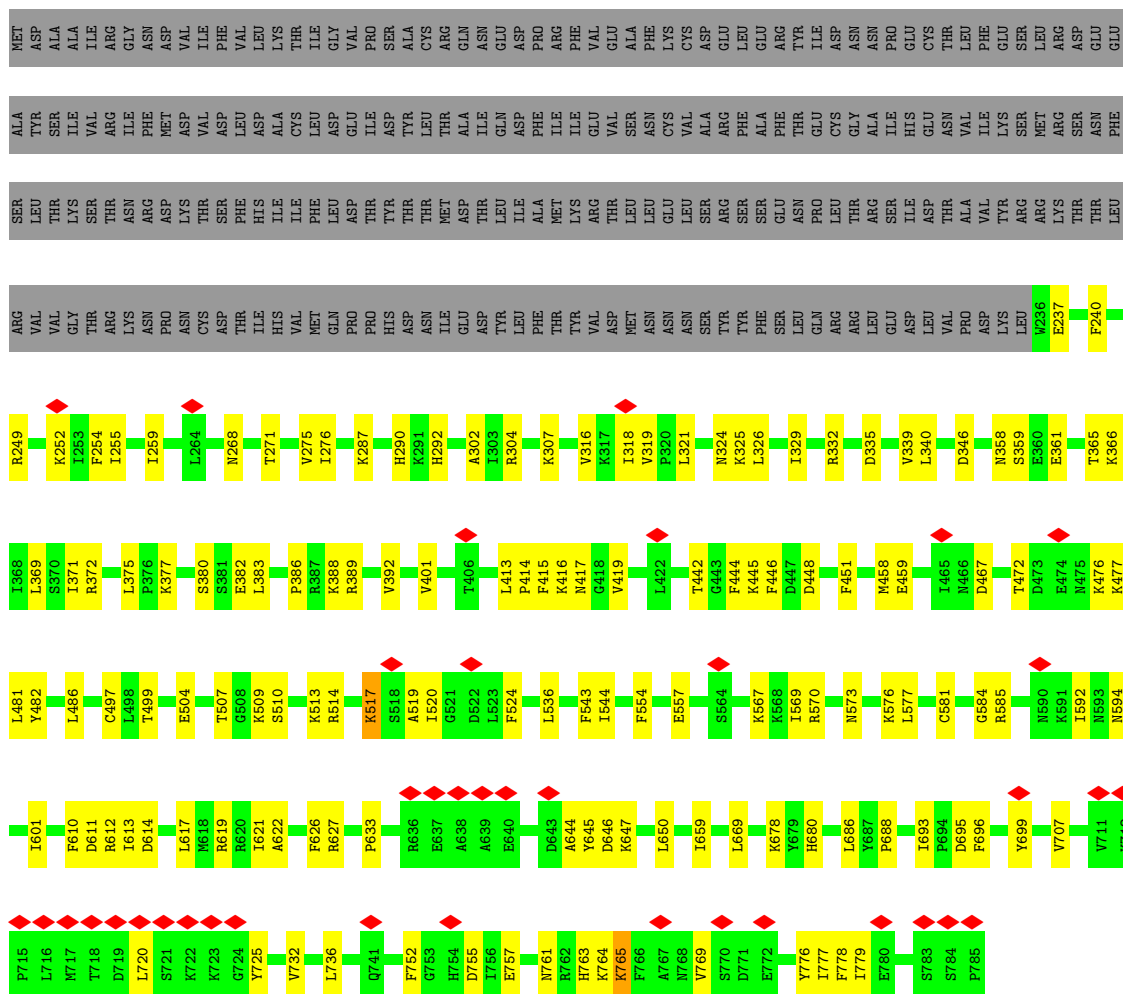


● Molecule 1: Uncoating factor OPG117





• Molecule 1: Uncoating factor OPG117



• Molecule 2: DNA (5'-D(P*CP*CP*CP*CP*C)-3')





4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	215801	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	60	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	1.079	Depositor
Minimum map value	-0.577	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.012	Depositor
Recommended contour level	0.036	Depositor
Map size (\AA)	483.84, 483.84, 483.84	wwPDB
Map dimensions	576, 576, 576	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	0.84, 0.84, 0.84	Depositor

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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	0.33	0/4374	0.51	0/5932
1	B	0.32	0/4385	0.51	0/5951
1	C	0.33	0/4417	0.52	0/5986
1	D	0.33	0/4400	0.53	0/5966
1	E	0.32	0/4404	0.53	1/5968 (0.0%)
1	F	0.32	0/4398	0.51	0/5961
1	G	0.25	0/4315	0.44	0/5860
1	H	0.24	0/4358	0.45	0/5915
1	I	0.25	0/4350	0.44	0/5907
1	J	0.25	0/4321	0.47	0/5865
1	K	0.25	0/4367	0.45	0/5924
1	L	0.25	0/4339	0.46	0/5890
2	T	0.64	0/104	0.86	0/156
All	All	0.29	0/52532	0.49	1/71281 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed($^{\circ}$)	Ideal($^{\circ}$)
1	E	400	LEU	CA-CB-CG	6.11	129.36	115.30

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	4280	0	4160	115	0
1	B	4293	0	4162	126	0
1	C	4321	0	4262	131	0
1	D	4305	0	4207	120	0
1	E	4310	0	4223	120	0
1	F	4302	0	4193	127	0
1	G	4221	0	4039	77	0
1	H	4267	0	4130	87	0
1	I	4257	0	4117	92	0
1	J	4230	0	4054	82	0
1	K	4272	0	4150	99	0
1	L	4243	0	4078	92	0
2	T	95	0	56	3	0
All	All	51396	0	49831	1205	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 12.

All (1205) 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:G:282:CYS:HB3	1:G:287:LYS:H	1.42	0.82
1:D:575:LYS:HZ1	1:D:617:LEU:HB2	1.42	0.82
1:B:307:LYS:NZ	1:B:310:ASN:O	2.14	0.80
1:C:414:PRO:HB2	1:C:441:SER:HA	1.63	0.80
1:E:529:GLN:NE2	1:E:556:SER:O	2.13	0.80
1:D:617:LEU:HD22	1:D:696:PHE:HZ	1.47	0.80
1:G:387:ARG:HH12	1:I:387:ARG:HH21	1.31	0.79
1:A:619:ARG:HA	1:A:688:PRO:HG3	1.65	0.78
1:C:657:GLY:O	1:C:661:ASN:ND2	2.17	0.77
1:B:250:VAL:O	1:B:254:PHE:HB2	1.85	0.77
1:F:499:THR:HB	1:F:601:ILE:HG12	1.66	0.77
1:A:584:GLY:O	1:A:594:ASN:ND2	2.19	0.76
1:A:612:ARG:HH22	1:E:563:CYS:H	1.33	0.75
1:E:469:GLN:O	1:E:479:ARG:NH1	2.20	0.74
1:E:490:LEU:O	1:E:551:ARG:NH1	2.20	0.74
1:A:558:LEU:HD12	1:A:604:THR:HB	1.69	0.73
1:B:377:LYS:HD2	1:F:244:GLU:HB3	1.71	0.73
1:C:290:HIS:NE2	1:C:314:CYS:SG	2.62	0.73
1:B:518:SER:O	1:B:665:ARG:NH1	2.21	0.73
1:A:415:PHE:HD1	1:A:442:THR:HG1	1.37	0.73
1:D:344:ARG:NH2	1:D:593:ASN:O	2.23	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:629:HIS:HB3	1:C:648:VAL:HG22	1.71	0.72
1:J:340:LEU:HD12	1:J:404:VAL:HG11	1.73	0.71
1:F:307:LYS:NZ	1:F:310:ASN:OD1	2.24	0.71
1:B:288:ARG:HH22	1:C:311:PRO:HG2	1.56	0.70
1:G:397:ARG:HA	1:G:400:LEU:HD12	1.73	0.70
1:C:720:LEU:HB3	1:C:725:TYR:HB2	1.73	0.70
1:G:470:PRO:O	1:G:475:ASN:ND2	2.23	0.70
1:H:282:CYS:HB3	1:H:287:LYS:H	1.54	0.70
1:C:490:LEU:O	1:C:551:ARG:NH1	2.24	0.69
1:E:500:PHE:HB3	1:E:623:VAL:HG22	1.74	0.69
1:D:507:THR:OG1	1:D:509:LYS:NZ	2.26	0.69
1:L:369:LEU:O	1:L:372:ARG:NH1	2.25	0.69
1:E:348:ILE:HG22	1:E:357:PHE:HB3	1.73	0.69
1:H:264:LEU:HA	1:H:268:ASN:HD21	1.57	0.69
1:J:395:ASN:OD1	1:L:389:ARG:NH1	2.20	0.69
1:D:490:LEU:O	1:D:551:ARG:NH1	2.26	0.68
1:E:274:LEU:HB3	1:E:294:HIS:HB2	1.75	0.68
1:E:344:ARG:NH2	1:E:593:ASN:O	2.26	0.68
1:D:256:ASN:OD1	1:F:304:ARG:NH1	2.26	0.68
1:E:501:PHE:HB3	1:E:603:ASP:HB3	1.76	0.68
1:C:572:ASP:HA	1:C:575:LYS:HE2	1.76	0.68
1:B:622:ALA:HB2	1:B:688:PRO:HA	1.77	0.67
1:G:414:PRO:HG2	1:G:441:SER:HA	1.76	0.67
1:L:507:THR:OG1	1:L:509:LYS:NZ	2.28	0.67
1:F:495:LYS:NZ	1:F:597:HIS:O	2.26	0.67
1:F:505:THR:O	1:F:645:TYR:OH	2.11	0.67
1:E:677:LYS:O	1:E:680:HIS:ND1	2.28	0.66
1:B:237:GLU:HG3	1:B:239:GLY:H	1.60	0.66
1:C:622:ALA:HB2	1:C:688:PRO:HA	1.77	0.66
1:F:486:LEU:HD12	1:F:675:TRP:HZ3	1.61	0.66
1:F:260:ASN:HB2	1:F:263:ASP:HB3	1.78	0.66
1:G:504:GLU:O	1:G:509:LYS:NZ	2.28	0.66
1:C:625:ARG:HB2	1:C:627:ARG:HH21	1.61	0.66
1:D:491:CYS:O	1:D:495:LYS:NZ	2.25	0.66
1:A:585:ARG:NH1	1:E:587:CYS:SG	2.69	0.66
1:G:299:GLU:OE1	1:G:304:ARG:NH1	2.29	0.66
1:C:497:CYS:HB3	1:C:686:LEU:HB2	1.76	0.66
1:F:529:GLN:NE2	1:F:556:SER:O	2.27	0.66
1:B:532:LEU:HA	1:B:573:ASN:HD22	1.62	0.65
1:D:750:ARG:NH1	1:E:769:VAL:O	2.29	0.65
1:F:752:PHE:HB3	1:F:755:ASP:HB2	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:720:LEU:HB3	1:G:725:TYR:HB2	1.77	0.65
1:B:498:LEU:HG	1:B:600:ILE:HB	1.79	0.65
1:J:534:ASP:O	1:J:573:ASN:ND2	2.27	0.65
1:A:368:ILE:HD13	1:A:392:VAL:HG13	1.78	0.65
1:E:619:ARG:HA	1:E:688:PRO:HG3	1.77	0.65
1:J:725:TYR:OH	1:J:742:LYS:NZ	2.29	0.65
1:E:478:ASN:HD21	1:E:625:ARG:H	1.43	0.65
1:F:520:ILE:HD11	1:F:524:PHE:HB2	1.78	0.65
1:G:590:ASN:OD1	1:G:591:LYS:NZ	2.30	0.65
1:E:529:GLN:HG2	1:E:558:LEU:HA	1.79	0.64
1:J:365:THR:OG1	1:J:393:GLU:OE1	2.15	0.64
1:K:354:SER:OG	1:K:356:LYS:NZ	2.29	0.64
1:B:501:PHE:HB2	1:B:603:ASP:HB3	1.79	0.64
1:C:469:GLN:HE22	1:C:478:ASN:ND2	1.95	0.64
1:B:483:GLU:HG3	1:B:675:TRP:CD2	2.33	0.64
1:B:742:LYS:O	1:B:745:LYS:NZ	2.26	0.64
1:C:287:LYS:HZ1	1:C:290:HIS:HA	1.61	0.64
1:K:544:ILE:HD13	1:K:584:GLY:HA3	1.80	0.64
1:D:258:ILE:HB	1:D:261:PHE:HB2	1.79	0.63
1:C:417:ASN:HD21	1:C:446:PHE:HB3	1.63	0.63
1:G:571:SER:OG	1:G:612:ARG:O	2.15	0.63
1:D:497:CYS:HB2	1:D:686:LEU:HB2	1.80	0.63
1:B:240:PHE:O	1:B:323:GLY:N	2.32	0.63
1:B:490:LEU:O	1:B:551:ARG:NH1	2.32	0.63
1:C:461:LEU:HD11	1:C:664:TYR:HB3	1.79	0.62
1:A:324:ASN:ND2	1:E:384:LEU:O	2.32	0.62
1:B:573:ASN:HA	1:B:576:LYS:HB2	1.79	0.62
1:E:551:ARG:HA	1:E:598:ALA:HA	1.80	0.62
1:A:693:ILE:HG22	1:A:695:ASP:H	1.63	0.62
1:G:461:LEU:HD13	1:G:664:TYR:HB3	1.81	0.62
1:A:304:ARG:HD2	1:C:280:THR:HG21	1.81	0.62
1:D:475:ASN:O	1:D:479:ARG:N	2.31	0.62
1:A:258:ILE:HG23	1:A:261:PHE:HB2	1.80	0.62
1:I:326:LEU:HA	1:I:329:ILE:HD12	1.79	0.62
1:E:395:ASN:O	1:E:399:MET:HG3	1.99	0.62
1:K:302:ALA:HA	1:K:321:LEU:HD13	1.81	0.62
1:G:351:ILE:HG21	1:I:401:VAL:HG11	1.80	0.61
1:L:584:GLY:O	1:L:594:ASN:ND2	2.33	0.61
1:C:554:PHE:CE1	1:C:601:ILE:HB	2.35	0.61
1:C:284:LEU:HA	1:C:317:LYS:HZ3	1.64	0.61
1:E:523:LEU:HD11	1:E:551:ARG:HG3	1.80	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:585:ARG:HB3	1:L:592:ILE:HG12	1.83	0.61
1:G:751:LEU:HD11	1:I:768:ASN:HA	1.82	0.61
1:A:520:ILE:HD11	1:A:524:PHE:HB2	1.82	0.61
1:I:671:LEU:HA	1:I:674:LYS:HE3	1.82	0.61
1:L:302:ALA:HA	1:L:321:LEU:HD13	1.83	0.61
1:A:612:ARG:NH2	1:E:563:CYS:SG	2.74	0.61
1:G:348:ILE:HG22	1:G:357:PHE:HB3	1.83	0.61
1:L:268:ASN:OD1	1:L:271:THR:OG1	2.19	0.61
1:D:629:HIS:HB3	1:D:648:VAL:HA	1.83	0.60
1:F:497:CYS:SG	1:F:498:LEU:N	2.74	0.60
1:D:237:GLU:HG3	1:D:238:PRO:HD2	1.83	0.60
1:F:344:ARG:NH2	1:F:593:ASN:O	2.35	0.60
1:K:344:ARG:HH11	1:K:591:LYS:HD2	1.66	0.60
1:E:280:THR:HB	1:E:281:PRO:HD2	1.83	0.60
1:I:393:GLU:OE2	1:I:397:ARG:NE	2.34	0.60
1:I:490:LEU:O	1:I:551:ARG:NH1	2.29	0.60
1:D:472:THR:OG1	1:D:627:ARG:NH2	2.35	0.60
1:D:523:LEU:HD13	1:D:551:ARG:HD2	1.82	0.60
1:H:369:LEU:O	1:H:372:ARG:NH1	2.33	0.60
1:A:504:GLU:OE1	1:A:627:ARG:NH2	2.32	0.60
1:D:621:ILE:HG21	1:D:696:PHE:HE2	1.67	0.60
1:K:353:ASN:ND2	1:K:417:ASN:O	2.35	0.60
1:E:675:TRP:O	1:E:678:LYS:HG2	2.02	0.60
1:H:413:LEU:HD12	1:H:414:PRO:HD2	1.82	0.60
1:F:415:PHE:HA	1:F:442:THR:HG22	1.84	0.59
1:D:500:PHE:O	1:D:624:VAL:N	2.21	0.59
1:G:629:HIS:N	1:G:647:LYS:O	2.35	0.59
1:A:256:ASN:HD21	1:A:279:VAL:H	1.49	0.59
1:L:569:ILE:HG13	1:L:610:PHE:HD1	1.67	0.59
1:C:745:LYS:NZ	1:C:780:GLU:OE2	2.34	0.59
1:H:305:ILE:HB	1:H:317:LYS:HB2	1.84	0.59
1:C:779:ILE:HA	1:C:782:ILE:HD12	1.85	0.59
1:G:621:ILE:HG21	1:G:696:PHE:HE2	1.67	0.59
1:A:460:GLU:OE2	1:A:664:TYR:OH	2.20	0.59
1:F:541:ASN:HB3	1:F:544:ILE:HG12	1.85	0.59
1:F:555:CYS:HB3	1:F:602:ILE:HD12	1.84	0.59
1:K:577:LEU:O	1:K:596:ASN:ND2	2.35	0.59
1:D:384:LEU:O	1:E:324:ASN:ND2	2.35	0.59
1:F:537:ASP:O	1:F:541:ASN:ND2	2.36	0.59
1:H:256:ASN:OD1	1:H:280:THR:OG1	2.21	0.59
1:I:478:ASN:ND2	1:I:625:ARG:O	2.35	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:468:ILE:HG22	1:A:469:GLN:HG2	1.84	0.58
1:E:527:THR:HG21	1:E:531:ILE:HD12	1.85	0.58
1:G:347:HIS:NE2	1:G:400:LEU:HD13	2.18	0.58
1:I:502:PHE:HD1	1:I:604:THR:HG23	1.68	0.58
1:L:414:PRO:HA	1:L:419:VAL:HA	1.84	0.58
1:B:531:ILE:O	1:B:573:ASN:ND2	2.35	0.58
1:H:509:LYS:HD2	1:H:603:ASP:HB2	1.85	0.58
1:I:757:GLU:HA	1:I:760:ILE:HG12	1.85	0.58
1:K:568:LYS:HD2	1:K:609:VAL:HG13	1.86	0.58
1:G:347:HIS:CD2	1:G:400:LEU:HD13	2.39	0.58
1:G:475:ASN:HB2	1:G:627:ARG:HH22	1.68	0.58
1:H:613:ILE:HG23	1:H:617:LEU:HD22	1.84	0.58
1:K:531:ILE:HG13	1:K:532:LEU:HD12	1.84	0.58
1:E:500:PHE:N	1:E:622:ALA:O	2.28	0.58
1:J:693:ILE:HG22	1:J:695:ASP:H	1.67	0.58
1:K:260:ASN:HD21	1:K:274:LEU:HA	1.68	0.58
1:K:353:ASN:ND2	1:K:430:GLY:H	2.01	0.58
1:C:342:THR:OG1	1:C:346:ASP:O	2.22	0.58
1:C:258:ILE:HB	1:C:261:PHE:HB2	1.84	0.58
1:L:346:ASP:OD2	1:L:359:SER:OG	2.20	0.58
1:A:256:ASN:ND2	1:A:277:ASP:O	2.37	0.58
1:K:352:ASN:OD1	1:K:356:LYS:NZ	2.36	0.58
1:A:270:THR:HG22	1:A:297:SER:HA	1.86	0.58
1:L:536:LEU:HD12	1:L:576:LYS:HD2	1.85	0.58
1:L:621:ILE:HG21	1:L:696:PHE:HE2	1.69	0.58
1:L:627:ARG:NH1	1:L:644:ALA:O	2.36	0.58
1:B:348:ILE:HG22	1:B:357:PHE:HB3	1.86	0.57
1:B:763:HIS:HB3	1:B:776:TYR:HE2	1.67	0.57
1:J:568:LYS:HD2	1:J:609:VAL:HG13	1.86	0.57
1:A:366:LYS:NZ	1:C:400:LEU:O	2.33	0.57
1:D:717:MET:HA	1:D:720:LEU:HB2	1.86	0.57
1:L:611:ASP:OD1	1:L:612:ARG:N	2.36	0.57
1:F:250:VAL:HA	1:F:253:ILE:HG22	1.86	0.57
1:F:469:GLN:HB3	1:F:479:ARG:HH11	1.67	0.57
1:A:717:MET:HA	1:A:720:LEU:HB2	1.86	0.57
1:H:366:LYS:HD3	1:L:401:VAL:HG23	1.85	0.57
1:C:734:LEU:HB3	1:C:739:PHE:CE2	2.40	0.57
1:J:391:THR:HG23	1:L:386:PRO:HG2	1.87	0.57
1:G:333:ILE:HD13	1:G:368:ILE:HG12	1.85	0.57
1:E:240:PHE:HE2	1:E:321:LEU:HD23	1.69	0.57
1:C:494:THR:HG21	1:C:580:PRO:HB3	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:460:GLU:OE2	1:H:663:ARG:NH2	2.38	0.57
1:K:495:LYS:NZ	1:K:597:HIS:O	2.37	0.57
1:D:504:GLU:O	1:D:509:LYS:NZ	2.29	0.56
1:E:237:GLU:H	1:E:240:PHE:HE1	1.53	0.56
1:F:284:LEU:HD13	1:F:317:LYS:HE3	1.86	0.56
1:J:395:ASN:HA	1:L:389:ARG:HH22	1.70	0.56
1:B:572:ASP:OD1	1:B:573:ASN:N	2.38	0.56
1:B:774:LEU:HD12	1:B:776:TYR:HD2	1.69	0.56
1:F:509:LYS:NZ	1:F:604:THR:O	2.38	0.56
1:G:327:PHE:HA	1:G:395:ASN:ND2	2.20	0.56
1:H:385:CYS:HB3	1:H:388:LYS:HD2	1.87	0.56
1:L:417:ASN:HB3	1:L:445:LYS:HE2	1.86	0.56
1:A:489:CYS:HB3	1:A:552:SER:HB2	1.88	0.56
1:C:284:LEU:HD13	1:C:317:LYS:HZ3	1.67	0.56
1:E:768:ASN:ND2	1:E:770:SER:OG	2.34	0.56
1:F:482:TYR:CZ	1:F:486:LEU:HD11	2.41	0.56
1:I:632:GLN:HG3	1:I:651:LEU:HD13	1.88	0.56
1:D:422:LEU:HD21	1:D:676:TYR:CE2	2.40	0.56
1:G:282:CYS:N	1:G:287:LYS:O	2.37	0.56
1:H:733:THR:HG21	1:H:765:LYS:HE2	1.86	0.56
1:D:348:ILE:HG22	1:D:357:PHE:HB3	1.87	0.56
1:H:585:ARG:HB2	1:H:592:ILE:HA	1.88	0.56
1:D:723:LYS:HZ3	1:D:781:ASP:HB2	1.71	0.56
1:E:250:VAL:O	1:E:254:PHE:HB2	2.06	0.56
1:E:255:ILE:HD12	1:E:283:ALA:HB1	1.86	0.56
1:H:502:PHE:N	1:H:624:VAL:O	2.38	0.56
1:J:406:THR:OG1	1:J:437:THR:O	2.24	0.56
1:K:492:GLY:O	1:K:597:HIS:ND1	2.38	0.56
1:L:619:ARG:HE	1:L:688:PRO:HG3	1.69	0.56
1:C:455:SER:OG	1:C:457:GLU:OE1	2.23	0.56
1:H:658:LYS:HD3	1:H:663:ARG:HH11	1.71	0.56
1:I:250:VAL:HA	1:I:253:ILE:HG22	1.88	0.56
1:A:422:LEU:O	1:A:677:LYS:NZ	2.30	0.56
1:B:360:GLU:OE1	1:B:360:GLU:N	2.39	0.56
1:C:760:ILE:HA	1:C:774:LEU:HD21	1.87	0.56
1:H:288:ARG:HD2	1:I:312:HIS:CE1	2.40	0.56
1:G:389:ARG:NH2	1:I:395:ASN:OD1	2.38	0.56
1:A:778:PHE:HB3	1:A:780:GLU:HG2	1.87	0.55
1:B:260:ASN:HB2	1:B:263:ASP:HB2	1.87	0.55
1:C:499:THR:HB	1:C:601:ILE:HG12	1.88	0.55
1:E:529:GLN:HG2	1:E:559:PRO:HD3	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:629:HIS:HB3	1:I:648:VAL:HA	1.88	0.55
1:A:282:CYS:SG	1:A:284:LEU:HB2	2.47	0.55
1:C:372:ARG:HE	1:C:384:LEU:HD21	1.70	0.55
1:D:334:LEU:HG	1:D:399:MET:HE2	1.87	0.55
1:D:693:ILE:HG22	1:D:695:ASP:H	1.72	0.55
1:F:442:THR:OG1	1:F:520:ILE:O	2.22	0.55
1:K:329:ILE:HD11	1:K:375:LEU:HD13	1.87	0.55
1:K:500:PHE:N	1:K:622:ALA:O	2.39	0.55
1:A:560:ASP:HA	1:A:606:TYR:CZ	2.42	0.55
1:B:757:GLU:O	1:B:761:ASN:ND2	2.39	0.55
1:B:759:PHE:O	1:B:763:HIS:HB2	2.06	0.55
1:C:282:CYS:SG	1:C:284:LEU:HB2	2.47	0.55
1:C:349:VAL:HG21	1:C:367:LEU:HB2	1.88	0.55
1:C:469:GLN:HE22	1:C:478:ASN:HD22	1.54	0.55
1:C:540:PRO:HG3	2:T:4:DC:H5"	1.89	0.55
1:C:698:PHE:HB2	1:C:752:PHE:CE2	2.42	0.55
1:D:410:PRO:O	1:D:492:GLY:N	2.31	0.55
1:F:483:GLU:HG3	1:F:675:TRP:CD2	2.42	0.55
1:J:250:VAL:HA	1:J:253:ILE:HG22	1.88	0.55
1:C:475:ASN:OD1	1:C:478:ASN:HB3	2.07	0.55
1:H:414:PRO:HB3	1:H:438:CYS:HB3	1.87	0.55
1:H:504:GLU:O	1:H:509:LYS:NZ	2.40	0.55
1:K:342:THR:HG23	1:K:344:ARG:H	1.72	0.55
1:A:677:LYS:O	1:A:680:HIS:ND1	2.39	0.55
1:D:764:LYS:HA	1:D:774:LEU:HG	1.88	0.55
1:L:520:ILE:HD11	1:L:524:PHE:HB2	1.88	0.55
1:C:629:HIS:HB2	1:C:645:TYR:CD1	2.42	0.55
1:K:732:VAL:HB	1:K:777:ILE:HD11	1.89	0.55
1:F:518:SER:O	1:F:665:ARG:NE	2.35	0.55
1:H:280:THR:HG21	1:I:304:ARG:HE	1.71	0.55
1:H:536:LEU:O	1:H:541:ASN:ND2	2.38	0.55
1:E:500:PHE:HZ	1:E:604:THR:HG22	1.72	0.55
1:I:725:TYR:OH	1:I:742:LYS:NZ	2.40	0.55
1:G:519:ALA:HB1	1:G:669:LEU:HG	1.89	0.54
1:K:285:CYS:HB3	1:K:314:CYS:HA	1.89	0.54
1:L:332:ARG:HB3	1:L:375:LEU:HD11	1.89	0.54
1:B:483:GLU:HG3	1:B:675:TRP:CE2	2.42	0.54
1:D:762:ARG:NH2	1:F:563:CYS:SG	2.79	0.54
1:J:498:LEU:HD22	1:J:600:ILE:HB	1.88	0.54
1:J:750:ARG:NH1	1:K:769:VAL:O	2.41	0.54
1:K:254:PHE:CD2	1:K:256:ASN:HB2	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:358:ASN:OD1	1:K:361:GLU:N	2.33	0.54
1:K:381:SER:HA	1:K:384:LEU:HD23	1.89	0.54
1:K:736:LEU:HD21	1:K:764:LYS:HD2	1.90	0.54
1:A:285:CYS:SG	1:A:290:HIS:NE2	2.81	0.54
1:J:461:LEU:HD11	1:J:668:PHE:HD1	1.73	0.54
1:D:500:PHE:H	1:D:623:VAL:HA	1.73	0.54
1:E:485:THR:HG23	1:E:499:THR:HG21	1.88	0.54
1:K:344:ARG:HD3	1:K:591:LYS:HD2	1.90	0.54
1:C:244:GLU:OE1	1:C:244:GLU:N	2.39	0.54
1:E:630:PHE:HB2	1:E:651:LEU:HA	1.88	0.54
1:H:401:VAL:HG12	1:I:366:LYS:HD3	1.88	0.54
1:L:329:ILE:HD13	1:L:383:LEU:HD21	1.89	0.54
1:B:681:ILE:HG22	1:B:683:ILE:H	1.73	0.54
1:D:723:LYS:NZ	1:D:784:SER:OG	2.36	0.54
1:B:350:TRP:CZ2	1:B:353:ASN:HA	2.42	0.54
1:B:475:ASN:OD1	1:B:627:ARG:NH1	2.41	0.54
1:B:677:LYS:O	1:B:680:HIS:ND1	2.40	0.54
1:E:607:LYS:HE3	1:E:694:PRO:HD3	1.89	0.54
1:K:720:LEU:HB3	1:K:725:TYR:HB2	1.89	0.54
1:C:284:LEU:HD13	1:C:317:LYS:NZ	2.24	0.53
1:D:560:ASP:HA	1:D:606:TYR:CZ	2.43	0.53
1:F:757:GLU:O	1:F:761:ASN:ND2	2.41	0.53
1:J:398:ASP:OD1	1:L:365:THR:OG1	2.21	0.53
1:A:658:LYS:HB3	1:A:664:TYR:HE2	1.73	0.53
1:C:372:ARG:NE	1:C:384:LEU:HD21	2.22	0.53
1:K:450:LYS:HZ2	1:K:666:PHE:HD2	1.56	0.53
1:C:757:GLU:O	1:C:761:ASN:ND2	2.41	0.53
1:E:462:MET:HA	1:E:465:ILE:HG12	1.90	0.53
1:A:316:VAL:HG13	1:C:281:PRO:HG2	1.90	0.53
1:D:775:GLN:OE1	1:D:775:GLN:N	2.37	0.53
1:K:496:GLY:HA2	1:K:578:THR:HG23	1.90	0.53
1:B:503:GLY:HA3	1:B:626:PHE:HB2	1.91	0.53
1:C:348:ILE:O	1:C:348:ILE:HG13	2.09	0.53
1:F:469:GLN:OE1	1:F:475:ASN:ND2	2.42	0.53
1:J:555:CYS:HB3	1:J:602:ILE:HG23	1.90	0.53
1:L:358:ASN:OD1	1:L:361:GLU:N	2.41	0.53
1:A:481:LEU:HD11	1:A:689:THR:HG21	1.91	0.53
1:B:416:LYS:HE2	1:B:445:LYS:N	2.24	0.53
1:D:392:VAL:O	1:D:396:ILE:HG12	2.08	0.53
1:F:414:PRO:HA	1:F:419:VAL:HG22	1.89	0.53
1:K:623:VAL:HG21	1:K:693:ILE:HD11	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:478:ASN:HD21	1:E:625:ARG:N	2.06	0.53
1:E:495:LYS:HE3	1:E:599:THR:HG23	1.90	0.53
1:F:333:ILE:HD12	1:F:371:ILE:HG21	1.91	0.53
1:C:270:THR:O	1:C:295:GLN:NE2	2.35	0.53
1:E:555:CYS:HB3	1:E:602:ILE:HG12	1.90	0.53
1:E:707:VAL:HG23	1:E:779:ILE:HD11	1.91	0.53
1:B:388:LYS:O	1:B:392:VAL:HG23	2.09	0.53
1:B:486:LEU:HD12	1:B:675:TRP:HZ3	1.74	0.53
1:L:304:ARG:HG3	1:L:318:ILE:HG12	1.90	0.53
1:B:395:ASN:O	1:B:399:MET:HG2	2.08	0.53
1:H:272:VAL:O	1:H:295:GLN:NE2	2.32	0.53
1:J:509:LYS:HD2	1:J:603:ASP:HB2	1.90	0.52
1:B:509:LYS:HD2	1:B:603:ASP:HB2	1.92	0.52
1:D:338:SER:HB3	1:D:367:LEU:HD21	1.92	0.52
1:D:462:MET:SD	1:D:466:ASN:ND2	2.82	0.52
1:F:504:GLU:HA	1:F:605:ASN:HB3	1.90	0.52
1:J:719:ASP:HB2	1:J:722:LYS:HE2	1.91	0.52
1:K:348:ILE:HG22	1:K:357:PHE:HB3	1.89	0.52
1:L:499:THR:HA	1:L:622:ALA:HB3	1.91	0.52
1:B:276:ILE:HB	1:B:278:TYR:CE1	2.44	0.52
1:G:548:HIS:CE1	1:G:595:ARG:HE	2.28	0.52
1:G:520:ILE:HD11	1:G:524:PHE:HB2	1.92	0.52
1:G:742:LYS:O	1:G:745:LYS:NZ	2.39	0.52
1:A:555:CYS:HB3	1:A:602:ILE:HG12	1.90	0.52
1:D:276:ILE:HB	1:D:278:TYR:CE1	2.44	0.52
1:D:575:LYS:NZ	1:D:617:LEU:HB2	2.21	0.52
1:K:536:LEU:HD12	1:K:576:LYS:HD3	1.91	0.52
1:B:763:HIS:HB3	1:B:776:TYR:CE2	2.45	0.52
1:C:369:LEU:HD13	1:C:389:ARG:HH11	1.75	0.52
1:D:358:ASN:OD1	1:D:361:GLU:N	2.41	0.52
1:F:529:GLN:HG3	1:F:555:CYS:SG	2.50	0.52
1:F:529:GLN:NE2	1:F:557:GLU:O	2.43	0.52
1:I:411:ASP:HB2	1:I:423:VAL:HG23	1.92	0.52
1:L:325:LYS:HE3	1:L:382:GLU:HG3	1.92	0.52
1:C:349:VAL:HG23	1:C:367:LEU:HD22	1.92	0.52
1:C:554:PHE:HE1	1:C:601:ILE:HB	1.73	0.52
1:D:456:PRO:O	1:D:460:GLU:HG3	2.10	0.52
1:D:762:ARG:HD3	1:F:562:ALA:HB3	1.92	0.52
1:G:768:ASN:ND2	1:G:770:SER:OG	2.43	0.52
1:H:387:ARG:O	1:H:390:LYS:HG3	2.10	0.52
1:B:513:LYS:HD2	1:B:554:PHE:CE2	2.45	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:280:THR:HG21	1:F:304:ARG:HD2	1.91	0.51
1:D:284:LEU:HD22	1:D:294:HIS:NE2	2.24	0.51
1:D:665:ARG:HG2	1:D:666:PHE:CD1	2.45	0.51
1:H:542:PRO:HA	1:H:545:ALA:HB3	1.92	0.51
1:H:677:LYS:O	1:H:680:HIS:ND1	2.29	0.51
1:F:780:GLU:OE1	1:F:780:GLU:N	2.43	0.51
1:H:288:ARG:HD2	1:I:312:HIS:HE1	1.74	0.51
1:A:240:PHE:O	1:A:241:ILE:HG12	2.10	0.51
1:A:720:LEU:HD13	1:A:732:VAL:HG11	1.90	0.51
1:B:541:ASN:HB2	1:B:544:ILE:HG22	1.92	0.51
1:F:255:ILE:O	1:F:255:ILE:HG22	2.10	0.51
1:F:455:SER:OG	1:F:458:MET:HG2	2.11	0.51
1:I:499:THR:HA	1:I:622:ALA:HB3	1.92	0.51
1:A:547:MET:SD	1:A:553:VAL:HG11	2.50	0.51
1:B:244:GLU:HA	1:B:247:ILE:HG22	1.92	0.51
1:E:331:GLN:O	1:E:331:GLN:NE2	2.41	0.51
1:F:369:LEU:HD13	1:F:389:ARG:HH11	1.74	0.51
1:G:752:PHE:O	1:G:756:ILE:N	2.38	0.51
1:I:413:LEU:O	1:I:420:LEU:N	2.32	0.51
1:I:495:LYS:NZ	1:I:597:HIS:O	2.43	0.51
1:I:752:PHE:HB3	1:I:755:ASP:HB2	1.92	0.51
1:L:763:HIS:HB3	1:L:776:TYR:HE2	1.76	0.51
1:E:670:TYR:O	1:E:674:LYS:HG2	2.11	0.51
1:H:413:LEU:HD23	1:H:420:LEU:HD23	1.93	0.51
1:K:764:LYS:HA	1:K:774:LEU:HG	1.92	0.51
1:A:333:ILE:O	1:A:336:THR:OG1	2.28	0.51
1:C:764:LYS:HE2	1:C:766:PHE:CZ	2.46	0.51
1:E:415:PHE:CE2	1:E:669:LEU:HD21	2.45	0.51
1:I:337:ASN:OD1	1:I:340:LEU:HD21	2.11	0.51
1:C:250:VAL:O	1:C:253:ILE:HG22	2.10	0.51
1:F:349:VAL:HG11	1:F:363:LEU:HB2	1.93	0.51
1:F:671:LEU:HD12	1:F:672:LEU:HD22	1.92	0.51
1:H:509:LYS:O	1:H:513:LYS:HG2	2.11	0.51
1:L:254:PHE:CZ	1:L:276:ILE:HG12	2.46	0.51
1:C:623:VAL:HG11	1:C:692:GLU:HG2	1.93	0.51
1:E:240:PHE:CD2	1:E:321:LEU:HB3	2.45	0.51
1:E:523:LEU:HD21	1:E:551:ARG:HD2	1.93	0.51
1:I:482:TYR:OH	1:I:512:THR:HG21	2.10	0.51
1:D:469:GLN:OE1	1:D:475:ASN:ND2	2.44	0.51
1:E:536:LEU:O	1:E:541:ASN:ND2	2.40	0.51
1:F:290:HIS:ND1	1:F:307:LYS:HG3	2.26	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:588:PHE:HZ	2:T:3:DC:H42	1.58	0.51
1:J:754:HIS:O	1:J:757:GLU:HG2	2.10	0.51
1:L:757:GLU:O	1:L:761:ASN:ND2	2.44	0.51
1:A:612:ARG:NH2	1:E:560:ASP:O	2.43	0.50
1:C:629:HIS:CE1	1:C:631:SER:HB3	2.46	0.50
1:E:415:PHE:HE2	1:E:669:LEU:HD21	1.76	0.50
1:J:399:MET:HE1	1:L:369:LEU:HD11	1.93	0.50
1:J:757:GLU:O	1:J:761:ASN:ND2	2.44	0.50
1:B:318:ILE:HD11	1:F:255:ILE:HG23	1.93	0.50
1:B:450:LYS:HG3	1:B:666:PHE:HD2	1.75	0.50
1:C:714:ILE:HB	1:C:715:PRO:HD3	1.93	0.50
1:F:340:LEU:HD13	1:F:404:VAL:HG21	1.93	0.50
1:H:333:ILE:O	1:H:336:THR:OG1	2.23	0.50
1:I:621:ILE:HG21	1:I:696:PHE:HE2	1.75	0.50
1:K:501:PHE:N	1:K:602:ILE:O	2.41	0.50
2:T:4:DC:H2'	2:T:5:DC:C2	2.46	0.50
1:B:560:ASP:HA	1:B:606:TYR:CZ	2.46	0.50
1:D:607:LYS:HE3	1:D:694:PRO:HD3	1.94	0.50
1:E:717:MET:HA	1:E:720:LEU:HB2	1.93	0.50
1:H:501:PHE:N	1:H:602:ILE:O	2.40	0.50
1:I:519:ALA:HB2	1:I:668:PHE:HB3	1.94	0.50
1:L:249:ARG:HH22	1:L:319:VAL:HB	1.76	0.50
1:A:350:TRP:CZ2	1:A:353:ASN:HA	2.47	0.50
1:D:414:PRO:HG2	1:D:441:SER:HA	1.92	0.50
1:E:240:PHE:CE2	1:E:321:LEU:HD23	2.47	0.50
1:E:304:ARG:HG3	1:E:318:ILE:HG13	1.93	0.50
1:E:497:CYS:HB2	1:E:686:LEU:HB3	1.92	0.50
1:F:520:ILE:HD12	1:F:523:LEU:HB2	1.93	0.50
1:J:768:ASN:ND2	1:J:770:SER:OG	2.44	0.50
1:L:507:THR:HG22	1:L:645:TYR:HE1	1.75	0.50
1:C:285:CYS:SG	1:C:287:LYS:HE2	2.51	0.50
1:C:478:ASN:ND2	1:C:625:ARG:O	2.45	0.50
1:F:492:GLY:O	1:F:597:HIS:ND1	2.44	0.50
1:F:734:LEU:HB3	1:F:739:PHE:CE2	2.46	0.50
1:G:696:PHE:HA	1:G:699:TYR:HD2	1.77	0.50
1:K:637:GLU:OE2	1:K:641:ASN:ND2	2.44	0.50
1:A:478:ASN:ND2	1:A:625:ARG:O	2.42	0.50
1:C:478:ASN:HD21	1:C:625:ARG:H	1.59	0.50
1:D:663:ARG:HG2	1:D:664:TYR:CE1	2.47	0.50
1:E:500:PHE:HB2	1:E:621:ILE:HD11	1.93	0.50
1:F:475:ASN:O	1:F:479:ARG:N	2.36	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:303:ILE:HB	1:I:319:VAL:HG23	1.94	0.50
1:B:507:THR:HA	1:B:628:THR:O	2.12	0.50
1:C:420:LEU:HD22	1:C:422:LEU:HD23	1.92	0.50
1:C:531:ILE:O	1:C:573:ASN:ND2	2.44	0.50
1:D:677:LYS:O	1:D:680:HIS:ND1	2.42	0.50
1:B:333:ILE:O	1:B:336:THR:HG22	2.12	0.50
1:B:572:ASP:O	1:B:576:LYS:N	2.43	0.50
1:D:341:LEU:HD22	1:D:400:LEU:HB3	1.94	0.50
1:H:546:ASN:O	1:H:550:LYS:NZ	2.32	0.50
1:I:501:PHE:HB3	1:I:603:ASP:HA	1.94	0.50
1:K:237:GLU:HB2	1:K:240:PHE:HE2	1.76	0.50
1:L:680:HIS:O	1:L:680:HIS:ND1	2.45	0.50
1:B:460:GLU:OE1	1:B:658:LYS:NZ	2.30	0.49
1:B:677:LYS:HD3	1:B:680:HIS:CE1	2.47	0.49
1:C:297:SER:O	1:C:304:ARG:N	2.27	0.49
1:I:560:ASP:HA	1:I:606:TYR:CZ	2.47	0.49
1:J:495:LYS:HG2	1:J:599:THR:HG22	1.93	0.49
1:K:290:HIS:HE1	1:K:314:CYS:SG	2.35	0.49
1:C:491:CYS:HB2	1:C:676:TYR:HE2	1.77	0.49
1:C:649:LYS:HG2	1:C:650:LEU:H	1.77	0.49
1:D:470:PRO:HG3	1:D:647:LYS:NZ	2.26	0.49
1:D:554:PHE:CZ	1:D:601:ILE:HB	2.47	0.49
1:E:548:HIS:NE2	1:E:549:LEU:HD23	2.28	0.49
1:G:500:PHE:HB2	1:G:623:VAL:HG22	1.93	0.49
1:K:450:LYS:HG2	1:K:666:PHE:HB2	1.93	0.49
1:L:613:ILE:HA	1:L:617:LEU:HD12	1.94	0.49
1:C:560:ASP:HA	1:C:606:TYR:CZ	2.47	0.49
1:G:467:ASP:OD1	1:G:647:LYS:NZ	2.32	0.49
1:G:548:HIS:HD1	1:G:595:ARG:H	1.58	0.49
1:G:674:LYS:O	1:G:678:LYS:HG2	2.12	0.49
1:K:340:LEU:HD13	1:K:355:TRP:HH2	1.78	0.49
1:L:577:LEU:HD23	1:L:577:LEU:O	2.12	0.49
1:D:382:GLU:HG2	1:D:388:LYS:HD3	1.95	0.49
1:D:615:ASN:O	1:D:618:MET:HG2	2.12	0.49
1:G:475:ASN:OD1	1:G:478:ASN:HB3	2.12	0.49
1:I:307:LYS:NZ	1:I:310:ASN:OD1	2.45	0.49
1:I:514:ARG:NH2	1:I:660:GLN:HB3	2.27	0.49
1:J:255:ILE:HG12	1:L:318:ILE:HG21	1.93	0.49
1:E:479:ARG:O	1:E:483:GLU:HG2	2.12	0.49
1:F:713:HIS:HD2	1:F:716:LEU:HD21	1.78	0.49
1:H:490:LEU:HD12	1:H:676:TYR:HB2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:453:GLU:HG3	1:D:670:TYR:CE2	2.48	0.49
1:E:525:VAL:N	1:E:552:SER:O	2.44	0.49
1:J:386:PRO:O	1:J:390:LYS:HG2	2.12	0.49
1:L:287:LYS:HD2	1:L:290:HIS:CE1	2.47	0.49
1:A:383:LEU:O	1:A:384:LEU:HD23	2.13	0.49
1:B:622:ALA:HA	1:B:689:THR:H	1.77	0.49
1:G:736:LEU:HB2	1:G:764:LYS:HZ3	1.78	0.49
1:H:658:LYS:HB3	1:H:663:ARG:HD3	1.95	0.49
1:K:254:PHE:HZ	1:K:276:ILE:HG12	1.78	0.49
1:L:497:CYS:H	1:L:686:LEU:HD12	1.77	0.49
1:E:725:TYR:OH	1:E:742:LYS:NZ	2.35	0.49
1:G:499:THR:HA	1:G:622:ALA:HB3	1.93	0.49
1:J:574:ILE:HG22	1:J:620:ARG:HH21	1.78	0.49
1:A:303:ILE:HB	1:A:319:VAL:HG23	1.95	0.49
1:A:486:LEU:HD23	1:A:675:TRP:HZ3	1.77	0.49
1:D:422:LEU:HD11	1:D:490:LEU:HG	1.95	0.49
1:H:468:ILE:O	1:H:628:THR:OG1	2.30	0.49
1:B:778:PHE:HB3	1:B:780:GLU:HG2	1.94	0.48
1:C:500:PHE:HD1	1:C:602:ILE:HB	1.78	0.48
1:I:258:ILE:HB	1:I:261:PHE:HB3	1.94	0.48
1:J:307:LYS:HE3	1:J:311:PRO:HA	1.94	0.48
1:K:241:ILE:HG22	1:K:242:SER:O	2.13	0.48
1:L:292:HIS:HB2	1:L:307:LYS:HD3	1.95	0.48
1:C:504:GLU:HG2	1:C:507:THR:HG21	1.95	0.48
1:G:350:TRP:CZ2	1:G:353:ASN:HA	2.49	0.48
1:H:413:LEU:HB3	1:H:420:LEU:HB3	1.95	0.48
1:I:260:ASN:HB2	1:I:263:ASP:HB3	1.95	0.48
1:J:329:ILE:O	1:J:333:ILE:HG12	2.13	0.48
1:J:736:LEU:HB3	1:J:764:LYS:HZ3	1.78	0.48
1:A:592:ILE:HD12	1:E:543:PHE:CE1	2.48	0.48
1:E:548:HIS:CD2	1:E:549:LEU:HD23	2.48	0.48
1:F:351:ILE:HB	1:F:356:LYS:NZ	2.28	0.48
1:F:747:PHE:HB2	1:F:751:LEU:HD12	1.94	0.48
1:I:365:THR:HG23	1:I:389:ARG:HB3	1.95	0.48
1:J:640:GLU:HG2	1:J:648:VAL:HG11	1.95	0.48
1:K:333:ILE:O	1:K:336:THR:OG1	2.31	0.48
1:F:471:LEU:HD23	1:F:471:LEU:H	1.78	0.48
1:F:764:LYS:HA	1:F:774:LEU:HG	1.94	0.48
1:K:274:LEU:N	1:K:294:HIS:O	2.33	0.48
1:D:484:LYS:HD3	1:D:679:TYR:CD2	2.49	0.48
1:E:386:PRO:O	1:E:390:LYS:HG2	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:693:ILE:HG12	1:H:695:ASP:H	1.79	0.48
1:J:442:THR:O	1:J:522:ASP:N	2.31	0.48
1:A:557:GLU:HB2	1:C:572:ASP:HB2	1.95	0.48
1:B:625:ARG:NH1	1:B:627:ARG:HD2	2.28	0.48
1:B:725:TYR:CE2	1:B:777:ILE:HA	2.49	0.48
1:B:290:HIS:CE1	1:B:307:LYS:HG3	2.48	0.48
1:C:764:LYS:HA	1:C:774:LEU:HA	1.94	0.48
1:F:269:PHE:HD2	1:F:270:THR:HG23	1.79	0.48
1:H:342:THR:HG23	1:H:344:ARG:H	1.78	0.48
1:J:254:PHE:CE2	1:J:276:ILE:HG12	2.49	0.48
1:J:259:ILE:HD13	1:J:275:VAL:HG22	1.95	0.48
1:K:413:LEU:N	1:K:420:LEU:O	2.34	0.48
1:L:567:LYS:HZ1	1:L:570:ARG:HG3	1.78	0.48
1:A:329:ILE:O	1:A:333:ILE:HG12	2.14	0.48
1:G:330:ALA:HB2	1:G:392:VAL:HG23	1.96	0.48
1:G:414:PRO:HA	1:G:419:VAL:HG13	1.96	0.48
1:B:495:LYS:HE3	1:B:599:THR:OG1	2.14	0.48
1:C:632:GLN:HG2	1:C:651:LEU:HD12	1.96	0.48
1:F:325:LYS:O	1:F:329:ILE:HG13	2.14	0.48
1:H:348:ILE:HG22	1:H:357:PHE:HB3	1.94	0.48
1:H:419:VAL:HG23	1:H:433:ALA:HB1	1.95	0.48
1:J:333:ILE:O	1:J:336:THR:OG1	2.30	0.48
1:K:711:VAL:HA	1:K:714:ILE:HD12	1.96	0.48
1:L:290:HIS:CE1	1:L:307:LYS:HE2	2.49	0.48
1:A:236:TRP:HH2	1:A:243:PHE:HA	1.78	0.48
1:A:656:ASP:O	1:A:660:GLN:HG2	2.14	0.48
1:B:278:TYR:CE2	1:B:282:CYS:HB2	2.49	0.48
1:J:740:GLN:O	1:J:744:SER:OG	2.24	0.48
1:K:498:LEU:HD22	1:K:574:ILE:HD12	1.94	0.48
1:B:311:PRO:O	1:F:288:ARG:NH2	2.46	0.47
1:C:334:LEU:HD21	1:C:399:MET:HB3	1.95	0.47
1:G:358:ASN:ND2	1:G:360:GLU:OE2	2.47	0.47
1:H:750:ARG:NH1	1:L:769:VAL:O	2.47	0.47
1:J:368:ILE:HD11	1:J:396:ILE:HD12	1.96	0.47
1:K:503:GLY:N	1:K:604:THR:O	2.41	0.47
1:A:291:LYS:O	1:A:292:HIS:ND1	2.47	0.47
1:A:775:GLN:OE1	1:A:775:GLN:N	2.38	0.47
1:C:277:ASP:O	1:C:279:VAL:N	2.47	0.47
1:D:388:LYS:O	1:D:392:VAL:HG12	2.15	0.47
1:F:368:ILE:HD13	1:F:392:VAL:HG23	1.94	0.47
1:F:678:LYS:HG2	1:F:679:TYR:CZ	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:757:GLU:HA	1:F:760:ILE:HG12	1.96	0.47
1:A:372:ARG:HB2	1:A:383:LEU:HD21	1.97	0.47
1:A:382:GLU:O	1:A:388:LYS:HD3	2.14	0.47
1:C:553:VAL:HG13	1:C:600:ILE:HD13	1.97	0.47
1:D:413:LEU:HD12	1:D:414:PRO:HD2	1.95	0.47
1:E:309:GLY:O	1:E:311:PRO:HD3	2.14	0.47
1:F:504:GLU:CD	1:F:504:GLU:H	2.18	0.47
1:G:475:ASN:CG	1:G:627:ARG:HH12	2.18	0.47
1:I:736:LEU:O	1:I:740:GLN:HG2	2.14	0.47
1:L:732:VAL:HB	1:L:777:ILE:HD11	1.97	0.47
1:A:340:LEU:HD23	1:A:404:VAL:HG21	1.96	0.47
1:A:643:ASP:OD1	1:A:643:ASP:N	2.43	0.47
1:B:457:GLU:O	1:B:461:LEU:HD23	2.14	0.47
1:B:529:GLN:HG3	1:B:555:CYS:SG	2.54	0.47
1:C:409:TYR:CD2	1:C:436:TYR:HD1	2.33	0.47
1:D:475:ASN:OD1	1:D:478:ASN:HB3	2.15	0.47
1:E:282:CYS:HG	1:E:290:HIS:CD2	2.26	0.47
1:F:253:ILE:HG12	1:F:317:LYS:NZ	2.29	0.47
1:F:548:HIS:CE1	1:F:595:ARG:H	2.33	0.47
1:F:558:LEU:HD12	1:F:604:THR:HB	1.97	0.47
1:H:250:VAL:HA	1:H:253:ILE:HG22	1.96	0.47
1:I:725:TYR:HE2	1:I:777:ILE:HG23	1.79	0.47
1:I:734:LEU:HD12	1:I:735:PRO:HD2	1.96	0.47
1:L:416:LYS:HB3	1:L:445:LYS:HA	1.96	0.47
1:A:305:ILE:N	1:A:317:LYS:O	2.43	0.47
1:B:619:ARG:HH12	1:C:632:GLN:HE21	1.62	0.47
1:C:501:PHE:N	1:C:602:ILE:O	2.46	0.47
1:F:529:GLN:HG2	1:F:559:PRO:HD3	1.96	0.47
1:H:236:TRP:HZ3	1:H:243:PHE:HA	1.80	0.47
1:H:475:ASN:OD1	1:H:478:ASN:HB3	2.14	0.47
1:J:757:GLU:HA	1:J:760:ILE:HG22	1.97	0.47
1:B:377:LYS:HZ3	1:F:245:ASP:HB2	1.79	0.47
1:E:432:ASP:O	1:E:435:LYS:HE2	2.14	0.47
1:H:324:ASN:ND2	1:I:384:LEU:O	2.48	0.47
1:K:254:PHE:CZ	1:K:276:ILE:HG12	2.50	0.47
1:A:369:LEU:HD13	1:A:389:ARG:HH11	1.80	0.47
1:A:504:GLU:HG3	1:A:645:TYR:HE1	1.80	0.47
1:B:629:HIS:CD2	1:B:648:VAL:HG13	2.50	0.47
1:B:633:PRO:HA	1:B:636:ARG:HB2	1.96	0.47
1:C:709:SER:HA	1:C:713:HIS:CD2	2.50	0.47
1:D:248:LYS:NZ	1:F:300:ASN:HB2	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:336:THR:O	1:D:337:ASN:HB2	2.15	0.47
1:D:405:GLU:OE1	1:D:405:GLU:N	2.42	0.47
1:D:499:THR:O	1:D:601:ILE:HA	2.14	0.47
1:E:299:GLU:OE1	1:E:304:ARG:NH1	2.47	0.47
1:E:493:ALA:O	1:E:597:HIS:HA	2.15	0.47
1:E:591:LYS:HE3	1:E:593:ASN:HB3	1.96	0.47
1:F:287:LYS:HE3	1:F:290:HIS:CE1	2.49	0.47
1:F:461:LEU:HD22	1:F:664:TYR:HB3	1.97	0.47
1:I:414:PRO:HA	1:I:419:VAL:HA	1.96	0.47
1:I:573:ASN:HA	1:I:576:LYS:HD3	1.97	0.47
1:J:529:GLN:HG2	1:J:559:PRO:HD2	1.96	0.47
1:K:351:ILE:HG12	1:K:352:ASN:ND2	2.30	0.47
1:K:621:ILE:HG12	1:K:696:PHE:HE2	1.78	0.47
1:C:382:GLU:OE1	1:C:388:LYS:NZ	2.31	0.47
1:C:500:PHE:CD1	1:C:602:ILE:HB	2.49	0.47
1:E:413:LEU:HD11	1:E:490:LEU:HD13	1.96	0.47
1:J:717:MET:HA	1:J:720:LEU:HB2	1.96	0.47
1:K:560:ASP:HA	1:K:606:TYR:CZ	2.50	0.47
1:A:545:ALA:HB2	1:A:586:PRO:HA	1.97	0.47
1:C:388:LYS:O	1:C:392:VAL:HG23	2.15	0.47
1:D:309:GLY:O	1:D:311:PRO:HD3	2.15	0.47
1:D:502:PHE:N	1:D:624:VAL:O	2.47	0.47
1:F:285:CYS:O	1:F:286:LYS:HG2	2.15	0.47
1:F:369:LEU:HD13	1:F:389:ARG:NH1	2.30	0.47
1:H:339:VAL:HG12	1:H:400:LEU:HD11	1.96	0.47
1:L:764:LYS:NZ	1:L:765:LYS:O	2.48	0.47
1:A:510:SER:OG	1:A:514:ARG:NH2	2.45	0.47
1:C:491:CYS:HB2	1:C:676:TYR:CE2	2.49	0.47
1:E:334:LEU:HD11	1:E:399:MET:HB3	1.97	0.47
1:G:584:GLY:O	1:G:594:ASN:ND2	2.45	0.47
1:H:344:ARG:HB3	1:H:591:LYS:HE2	1.96	0.47
1:H:656:ASP:OD1	1:H:656:ASP:N	2.47	0.47
1:I:362:PRO:HB3	1:I:397:ARG:HH22	1.80	0.47
1:L:448:ASP:HA	1:L:451:PHE:HB3	1.97	0.47
1:E:574:ILE:HG22	1:E:620:ARG:HD3	1.97	0.46
1:A:486:LEU:HD21	1:A:668:PHE:HZ	1.80	0.46
1:A:548:HIS:NE2	1:A:549:LEU:HD23	2.29	0.46
1:B:529:GLN:NE2	1:B:557:GLU:HG2	2.30	0.46
1:D:305:ILE:HB	1:D:317:LYS:HB3	1.96	0.46
1:G:327:PHE:HA	1:G:395:ASN:HD22	1.79	0.46
1:G:509:LYS:HB2	1:G:509:LYS:HE2	1.72	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:584:GLY:O	1:H:594:ASN:ND2	2.48	0.46
1:I:498:LEU:O	1:I:622:ALA:N	2.48	0.46
1:I:764:LYS:HE2	1:I:766:PHE:CZ	2.50	0.46
1:J:671:LEU:HD12	1:J:675:TRP:CZ2	2.51	0.46
1:K:236:TRP:CH2	1:K:243:PHE:HB3	2.51	0.46
1:K:407:ASP:H	1:K:437:THR:HG23	1.80	0.46
1:B:340:LEU:HD13	1:B:404:VAL:HG11	1.97	0.46
1:B:532:LEU:HA	1:B:573:ASN:ND2	2.31	0.46
1:C:305:ILE:HD11	1:C:317:LYS:HB2	1.96	0.46
1:D:386:PRO:HG2	1:E:391:THR:HG23	1.97	0.46
1:D:411:ASP:O	1:D:412:LYS:NZ	2.39	0.46
1:D:519:ALA:HB1	1:D:669:LEU:HD12	1.98	0.46
1:D:548:HIS:CE1	1:D:595:ARG:H	2.33	0.46
1:E:240:PHE:CD2	1:E:241:ILE:N	2.84	0.46
1:E:411:ASP:O	1:E:412:LYS:HD2	2.16	0.46
1:E:714:ILE:HB	1:E:715:PRO:HD3	1.98	0.46
1:H:491:CYS:O	1:H:495:LYS:NZ	2.47	0.46
1:I:413:LEU:HD12	1:I:414:PRO:HD2	1.97	0.46
1:I:487:SER:HB2	1:I:676:TYR:HA	1.98	0.46
1:I:768:ASN:ND2	1:I:770:SER:OG	2.48	0.46
1:L:367:LEU:O	1:L:371:ILE:HG12	2.15	0.46
1:A:451:PHE:HE1	1:A:670:TYR:HA	1.81	0.46
1:A:519:ALA:HB2	1:A:668:PHE:HD2	1.81	0.46
1:B:532:LEU:HB3	1:B:569:ILE:HD11	1.98	0.46
1:C:515:LEU:HB3	1:C:668:PHE:CE2	2.51	0.46
1:C:727:LEU:HD21	1:C:730:ASN:HA	1.97	0.46
1:F:677:LYS:O	1:F:680:HIS:ND1	2.49	0.46
1:G:346:ASP:OD2	1:G:359:SER:OG	2.32	0.46
1:H:243:PHE:O	1:H:247:ILE:HG12	2.16	0.46
1:A:333:ILE:HD12	1:A:371:ILE:HG21	1.98	0.46
1:B:524:PHE:HE1	1:B:554:PHE:HB2	1.81	0.46
1:C:371:ILE:O	1:C:373:HIS:N	2.49	0.46
1:C:710:SER:H	1:C:713:HIS:HB2	1.81	0.46
1:E:585:ARG:HB3	1:E:592:ILE:HG22	1.98	0.46
1:E:674:LYS:HA	1:E:677:LYS:HE2	1.98	0.46
1:F:485:THR:O	1:F:488:SER:OG	2.22	0.46
1:F:754:HIS:O	1:F:757:GLU:HG2	2.16	0.46
1:I:333:ILE:HG23	1:I:371:ILE:HD11	1.97	0.46
1:B:701:LYS:O	1:B:705:LEU:N	2.49	0.46
1:C:612:ARG:HH21	1:C:762:ARG:HD2	1.79	0.46
1:E:520:ILE:HD12	1:E:523:LEU:HB3	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:507:THR:HA	1:G:628:THR:O	2.16	0.46
1:H:633:PRO:HA	1:H:636:ARG:HB2	1.97	0.46
1:I:633:PRO:HA	1:I:636:ARG:HB2	1.97	0.46
1:K:509:LYS:HB2	1:K:509:LYS:HE2	1.65	0.46
1:L:627:ARG:HB3	1:L:646:ASP:HB2	1.97	0.46
1:L:633:PRO:HG3	1:L:650:LEU:HD22	1.97	0.46
1:A:259:ILE:HB	1:A:275:VAL:HG23	1.97	0.46
1:A:451:PHE:CE1	1:A:670:TYR:HA	2.50	0.46
1:C:343:GLU:CD	1:C:343:GLU:H	2.19	0.46
1:E:509:LYS:O	1:E:513:LYS:HG2	2.15	0.46
1:E:534:ASP:O	1:E:570:ARG:NH2	2.49	0.46
1:F:236:TRP:CZ3	1:F:243:PHE:HD1	2.34	0.46
1:G:499:THR:O	1:G:601:ILE:HA	2.16	0.46
1:H:324:ASN:O	1:H:327:PHE:N	2.46	0.46
1:I:247:ILE:HA	1:I:250:VAL:HG22	1.97	0.46
1:C:713:HIS:ND1	1:C:716:LEU:HD11	2.31	0.46
1:E:473:ASP:HA	1:E:476:LYS:HB2	1.99	0.46
1:F:371:ILE:O	1:F:373:HIS:N	2.49	0.46
1:G:325:LYS:HD3	1:G:382:GLU:OE2	2.16	0.46
1:K:754:HIS:O	1:K:757:GLU:HG2	2.16	0.46
1:L:416:LYS:HD2	1:L:445:LYS:HB2	1.97	0.46
1:L:693:ILE:HG22	1:L:695:ASP:H	1.81	0.46
1:A:540:PRO:HB3	1:A:588:PHE:H	1.81	0.45
1:A:553:VAL:CG1	1:A:600:ILE:HG12	2.46	0.45
1:A:676:TYR:O	1:A:680:HIS:HB3	2.15	0.45
1:E:549:LEU:HD13	1:E:597:HIS:CD2	2.51	0.45
1:F:254:PHE:HZ	1:F:276:ILE:HG13	1.81	0.45
1:H:662:ASN:HB3	1:H:665:ARG:HB2	1.98	0.45
1:K:467:ASP:O	1:K:647:LYS:NZ	2.39	0.45
1:L:514:ARG:HD2	1:L:659:ILE:HD12	1.98	0.45
1:L:707:VAL:HG13	1:L:779:ILE:HD11	1.98	0.45
1:B:253:ILE:HD11	1:B:317:LYS:HE2	1.97	0.45
1:G:384:LEU:HD22	1:I:327:PHE:CE2	2.51	0.45
1:J:398:ASP:O	1:L:366:LYS:HG2	2.15	0.45
1:K:487:SER:HB2	1:K:676:TYR:HA	1.98	0.45
1:A:686:LEU:HD23	1:A:686:LEU:HA	1.83	0.45
1:B:503:GLY:O	1:B:605:ASN:HA	2.16	0.45
1:E:544:ILE:O	1:E:547:MET:HG3	2.17	0.45
1:G:584:GLY:N	1:G:592:ILE:O	2.40	0.45
1:H:625:ARG:HD2	1:H:627:ARG:HE	1.82	0.45
1:J:619:ARG:HA	1:J:688:PRO:HG3	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:414:PRO:HA	1:K:419:VAL:HG12	1.98	0.45
1:L:514:ARG:O	1:L:517:LYS:HG3	2.16	0.45
1:A:447:ASP:OD1	1:A:447:ASP:N	2.49	0.45
1:A:524:PHE:HE2	1:A:554:PHE:CG	2.34	0.45
1:B:677:LYS:HD3	1:B:680:HIS:ND1	2.31	0.45
1:D:460:GLU:HB2	1:D:664:TYR:CE1	2.51	0.45
1:D:498:LEU:O	1:D:622:ALA:N	2.48	0.45
1:F:253:ILE:HD13	1:F:317:LYS:HD3	1.99	0.45
1:F:560:ASP:HA	1:F:606:TYR:CZ	2.51	0.45
1:I:304:ARG:HG3	1:I:318:ILE:HG12	1.97	0.45
1:K:720:LEU:HD13	1:K:732:VAL:HG11	1.98	0.45
1:C:496:GLY:HA2	1:C:578:THR:HG23	1.98	0.45
1:E:500:PHE:CZ	1:E:604:THR:HG22	2.52	0.45
1:E:501:PHE:HB2	1:E:601:ILE:HD11	1.99	0.45
1:F:422:LEU:HD22	1:F:490:LEU:HD21	1.97	0.45
1:F:586:PRO:HD2	1:F:589:SER:HB3	1.97	0.45
1:H:248:LYS:HE2	1:H:252:LYS:NZ	2.31	0.45
1:H:269:PHE:O	1:H:296:LEU:HD21	2.16	0.45
1:H:520:ILE:HD11	1:H:524:PHE:HB2	1.98	0.45
1:L:752:PHE:HB3	1:L:755:ASP:HB2	1.98	0.45
1:B:491:CYS:O	1:B:495:LYS:NZ	2.49	0.45
1:D:496:GLY:HA3	1:D:685:LYS:HE2	1.98	0.45
1:J:312:HIS:CD2	1:K:288:ARG:HB3	2.51	0.45
1:K:530:THR:O	1:K:534:ASP:N	2.39	0.45
1:L:736:LEU:HD21	1:L:764:LYS:HD2	1.97	0.45
1:A:509:LYS:HG2	1:A:626:PHE:CE2	2.52	0.45
1:I:529:GLN:O	1:I:533:THR:OG1	2.25	0.45
1:I:571:SER:HB3	1:I:575:LYS:HZ1	1.82	0.45
1:G:287:LYS:HE3	1:G:289:SER:O	2.16	0.45
1:G:652:ASP:HB3	1:G:655:LEU:HG	1.98	0.45
1:H:622:ALA:HB2	1:H:688:PRO:HA	1.99	0.45
1:I:494:THR:OG1	1:I:597:HIS:ND1	2.49	0.45
1:J:268:ASN:ND2	1:J:272:VAL:HB	2.32	0.45
1:K:693:ILE:HG22	1:K:695:ASP:H	1.82	0.45
1:L:510:SER:HB3	1:L:514:ARG:HH21	1.82	0.45
1:B:450:LYS:HG3	1:B:666:PHE:CD2	2.51	0.45
1:B:462:MET:HA	1:B:465:ILE:HG12	1.99	0.45
1:E:570:ARG:NH1	1:E:572:ASP:OD2	2.49	0.45
1:F:305:ILE:CG2	1:F:317:LYS:HB3	2.47	0.45
1:F:382:GLU:O	1:F:388:LYS:HD3	2.17	0.45
1:F:474:GLU:OE1	1:F:625:ARG:NH2	2.49	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:242:SER:OG	1:J:245:ASP:OD2	2.34	0.45
1:J:343:GLU:HG2	1:J:404:VAL:O	2.16	0.45
1:A:590:ASN:ND2	1:E:587:CYS:O	2.48	0.45
1:B:350:TRP:CD1	1:B:434:LYS:HE2	2.52	0.45
1:C:254:PHE:O	1:C:255:ILE:HG22	2.17	0.45
1:D:330:ALA:HB2	1:D:392:VAL:HG23	1.99	0.45
1:D:617:LEU:HD22	1:D:696:PHE:CZ	2.38	0.45
1:G:398:ASP:HA	1:K:366:LYS:HG2	1.99	0.45
1:H:519:ALA:HB2	1:H:668:PHE:HD2	1.81	0.45
1:J:461:LEU:HD11	1:J:668:PHE:CD1	2.50	0.45
1:L:237:GLU:HB2	1:L:240:PHE:CE2	2.52	0.45
1:B:282:CYS:SG	1:B:290:HIS:NE2	2.89	0.44
1:B:529:GLN:HE22	1:B:557:GLU:HG2	1.82	0.44
1:B:586:PRO:HD2	1:B:589:SER:HB3	1.98	0.44
1:B:611:ASP:OD1	1:B:612:ARG:N	2.51	0.44
1:B:629:HIS:HB2	1:B:645:TYR:CG	2.52	0.44
1:F:383:LEU:O	1:F:384:LEU:HD23	2.17	0.44
1:H:507:THR:HA	1:H:628:THR:O	2.17	0.44
1:K:499:THR:HA	1:K:622:ALA:HB3	1.99	0.44
1:A:550:LYS:HA	1:A:550:LYS:HD3	1.72	0.44
1:B:377:LYS:HZ3	1:F:245:ASP:H	1.64	0.44
1:D:290:HIS:HB3	1:D:292:HIS:O	2.17	0.44
1:D:668:PHE:CE1	1:D:671:LEU:HD22	2.52	0.44
1:F:668:PHE:O	1:F:672:LEU:HD23	2.18	0.44
1:K:277:ASP:OD1	1:K:277:ASP:N	2.47	0.44
1:K:353:ASN:HD21	1:K:430:GLY:H	1.65	0.44
1:B:310:ASN:HB3	1:B:312:HIS:ND1	2.32	0.44
1:B:603:ASP:OD1	1:B:603:ASP:N	2.50	0.44
1:C:573:ASN:HA	1:C:576:LYS:HG2	1.98	0.44
1:D:325:LYS:HE2	1:D:379:TYR:HD1	1.82	0.44
1:D:483:GLU:O	1:D:487:SER:N	2.49	0.44
1:D:525:VAL:HG11	1:D:550:LYS:HG3	1.98	0.44
1:F:265:ASP:N	1:F:268:ASN:HD21	2.15	0.44
1:F:287:LYS:NZ	1:F:290:HIS:HA	2.32	0.44
1:H:417:ASN:HD21	1:H:446:PHE:HB3	1.82	0.44
1:H:555:CYS:SG	1:H:602:ILE:HG12	2.57	0.44
1:H:686:LEU:H	1:H:686:LEU:HD23	1.81	0.44
1:K:586:PRO:HD2	1:K:589:SER:HB3	2.00	0.44
1:L:763:HIS:HB3	1:L:776:TYR:CE2	2.51	0.44
1:A:324:ASN:HD22	1:E:384:LEU:HB3	1.82	0.44
1:B:739:PHE:O	1:B:743:ILE:N	2.41	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:499:THR:HG22	1:C:601:ILE:HG23	2.00	0.44
1:F:325:LYS:HG3	1:F:379:TYR:CE1	2.51	0.44
1:G:498:LEU:O	1:G:622:ALA:N	2.50	0.44
1:G:778:PHE:HB3	1:G:780:GLU:HG2	1.98	0.44
1:H:358:ASN:OD1	1:H:361:GLU:N	2.40	0.44
1:A:412:LYS:NZ	1:A:421:ASP:OD2	2.49	0.44
1:A:517:LYS:HD3	1:A:524:PHE:CD1	2.53	0.44
1:A:573:ASN:HA	1:A:576:LYS:NZ	2.33	0.44
1:C:309:GLY:O	1:C:311:PRO:HD3	2.17	0.44
1:D:553:VAL:HG22	1:D:598:ALA:HB1	2.00	0.44
1:F:529:GLN:HG2	1:F:558:LEU:HD23	2.00	0.44
1:I:530:THR:O	1:I:534:ASP:N	2.51	0.44
1:J:570:ARG:HB2	1:J:573:ASN:HB2	1.98	0.44
1:C:629:HIS:O	1:C:648:VAL:HA	2.18	0.44
1:D:333:ILE:HD12	1:D:371:ILE:HG21	2.00	0.44
1:E:501:PHE:N	1:E:602:ILE:O	2.27	0.44
1:E:777:ILE:HB	1:E:782:ILE:HD11	2.00	0.44
1:G:572:ASP:OD2	1:G:576:LYS:NZ	2.51	0.44
1:I:495:LYS:HE3	1:I:599:THR:HG22	1.99	0.44
1:J:349:VAL:HB	1:J:367:LEU:HG	1.99	0.44
1:K:240:PHE:HD1	1:K:325:LYS:HZ1	1.66	0.44
1:K:455:SER:OG	1:K:458:MET:HG2	2.17	0.44
1:A:342:THR:OG1	1:A:346:ASP:O	2.25	0.44
1:A:732:VAL:HB	1:A:777:ILE:HD11	1.99	0.44
1:B:288:ARG:NH2	1:C:311:PRO:HG2	2.29	0.44
1:C:387:ARG:O	1:C:391:THR:HG23	2.17	0.44
1:C:554:PHE:CD1	1:C:601:ILE:HB	2.53	0.44
1:D:614:ASP:OD1	1:D:614:ASP:N	2.49	0.44
1:I:444:PHE:HE1	1:I:521:GLY:HA3	1.83	0.44
1:I:575:LYS:HA	1:I:575:LYS:HD3	1.87	0.44
1:A:504:GLU:CD	1:A:504:GLU:H	2.21	0.44
1:A:725:TYR:CG	1:A:734:LEU:HD13	2.52	0.44
1:B:255:ILE:HG21	1:B:283:ALA:HB2	1.99	0.44
1:B:458:MET:HG2	1:B:462:MET:SD	2.57	0.44
1:G:604:THR:HG22	1:G:606:TYR:H	1.82	0.44
1:G:720:LEU:HD22	1:G:725:TYR:CD1	2.53	0.44
1:I:629:HIS:NE2	1:I:631:SER:HB3	2.33	0.44
1:I:701:LYS:HG3	1:I:705:LEU:HD12	1.99	0.44
1:L:259:ILE:HB	1:L:275:VAL:HG23	1.99	0.44
1:L:482:TYR:O	1:L:486:LEU:HD23	2.18	0.44
1:L:720:LEU:HD13	1:L:732:VAL:HG11	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:332:ARG:HB2	1:A:332:ARG:NH1	2.33	0.44
1:A:406:THR:O	1:A:595:ARG:NH1	2.37	0.44
1:A:549:LEU:HD22	1:A:595:ARG:HB3	1.99	0.44
1:B:574:ILE:HG21	1:B:621:ILE:HD11	2.00	0.44
1:E:317:LYS:HA	1:E:317:LYS:HD3	1.79	0.44
1:F:305:ILE:HG22	1:F:317:LYS:HB3	1.99	0.44
1:F:415:PHE:CE2	1:F:420:LEU:HD22	2.53	0.44
1:F:748:ASN:OD1	1:F:749:SER:N	2.48	0.44
1:J:616:ALA:O	1:J:620:ARG:NH1	2.51	0.44
1:B:709:SER:HA	1:B:713:HIS:ND1	2.33	0.43
1:D:492:GLY:O	1:D:597:HIS:ND1	2.50	0.43
1:E:739:PHE:CZ	1:E:743:ILE:HD12	2.52	0.43
1:G:455:SER:HB3	1:G:458:MET:HG2	1.98	0.43
1:L:326:LEU:HD23	1:L:329:ILE:HD12	2.00	0.43
1:J:548:HIS:CE1	1:J:595:ARG:H	2.37	0.43
1:K:547:MET:SD	1:K:553:VAL:HG11	2.58	0.43
1:D:494:THR:HG21	1:D:580:PRO:HB3	2.00	0.43
1:F:255:ILE:HD13	1:F:283:ALA:HB3	2.00	0.43
1:F:264:LEU:HA	1:F:268:ASN:HD21	1.83	0.43
1:H:534:ASP:O	1:H:570:ARG:NH1	2.51	0.43
1:I:412:LYS:HE2	1:I:436:TYR:CZ	2.54	0.43
1:I:763:HIS:HB3	1:I:776:TYR:HE2	1.83	0.43
1:B:725:TYR:CD2	1:B:734:LEU:HD13	2.53	0.43
1:E:260:ASN:O	1:E:264:LEU:N	2.52	0.43
1:F:575:LYS:O	1:F:620:ARG:NH1	2.52	0.43
1:F:652:ASP:HB3	1:F:655:LEU:HB2	2.01	0.43
1:G:677:LYS:O	1:G:680:HIS:ND1	2.50	0.43
1:J:418:GLY:HA3	1:J:428:TYR:O	2.18	0.43
1:J:558:LEU:HD23	1:J:558:LEU:H	1.84	0.43
1:L:581:CYS:SG	1:L:595:ARG:NH1	2.92	0.43
1:A:419:VAL:HG11	1:A:436:TYR:HD2	1.82	0.43
1:C:247:ILE:HA	1:C:250:VAL:HG12	1.99	0.43
1:C:629:HIS:HE1	1:C:631:SER:HB3	1.83	0.43
1:D:762:ARG:NH1	1:F:560:ASP:O	2.49	0.43
1:E:748:ASN:O	1:E:752:PHE:HB2	2.17	0.43
1:G:305:ILE:O	1:G:316:VAL:HG13	2.17	0.43
1:H:613:ILE:HB	1:H:699:TYR:HE2	1.83	0.43
1:I:329:ILE:O	1:I:333:ILE:HG12	2.18	0.43
1:I:652:ASP:HB2	1:I:655:LEU:HG	1.99	0.43
1:J:303:ILE:HG12	1:J:321:LEU:HD11	1.99	0.43
1:J:736:LEU:HB3	1:J:764:LYS:NZ	2.33	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:765:LYS:NZ	1:K:767:ALA:HB2	2.33	0.43
1:L:415:PHE:CG	1:L:446:PHE:HB2	2.54	0.43
1:A:557:GLU:OE2	1:C:576:LYS:HB3	2.19	0.43
1:C:758:SER:HA	1:C:761:ASN:HD21	1.84	0.43
1:D:628:THR:HA	1:D:647:LYS:HG2	2.00	0.43
1:D:681:ILE:HD12	1:D:681:ILE:H	1.83	0.43
1:D:758:SER:HA	1:D:761:ASN:HD21	1.83	0.43
1:F:739:PHE:CE2	1:F:774:LEU:HB2	2.53	0.43
1:G:510:SER:O	1:G:513:LYS:HG3	2.19	0.43
1:G:709:SER:OG	1:G:731:VAL:HG13	2.19	0.43
1:I:532:LEU:HB3	1:I:569:ILE:HG12	1.99	0.43
1:A:655:LEU:O	1:A:659:ILE:HG12	2.18	0.43
1:B:269:PHE:HE2	1:B:303:ILE:HD12	1.83	0.43
1:B:324:ASN:ND2	1:C:384:LEU:O	2.52	0.43
1:C:457:GLU:HA	1:C:460:GLU:OE1	2.19	0.43
1:E:240:PHE:O	1:E:323:GLY:HA3	2.17	0.43
1:F:459:GLU:O	1:F:462:MET:HG2	2.19	0.43
1:F:469:GLN:HB3	1:F:479:ARG:NH1	2.33	0.43
1:G:244:GLU:O	1:G:248:LYS:HE2	2.19	0.43
1:G:298:LEU:HD12	1:G:303:ILE:HD11	1.99	0.43
1:K:243:PHE:O	1:K:247:ILE:HG12	2.19	0.43
1:A:738:THR:O	1:A:741:GLN:HG3	2.19	0.43
1:B:507:THR:HB	1:B:626:PHE:HB3	2.01	0.43
1:C:287:LYS:HG2	1:C:289:SER:H	1.84	0.43
1:J:681:ILE:HG22	1:J:683:ILE:H	1.84	0.43
1:K:482:TYR:CZ	1:K:486:LEU:HD11	2.54	0.43
1:K:517:LYS:HB2	1:K:524:PHE:CD1	2.53	0.43
1:A:503:GLY:O	1:A:605:ASN:HA	2.17	0.43
1:A:586:PRO:HD2	1:A:589:SER:HB2	2.00	0.43
1:B:610:PHE:CG	1:B:617:LEU:HD21	2.54	0.43
1:D:765:LYS:N	1:D:773:TYR:O	2.51	0.43
1:I:525:VAL:HB	1:I:550:LYS:NZ	2.34	0.43
1:K:486:LEU:HD12	1:K:675:TRP:HZ3	1.84	0.43
1:K:662:ASN:OD1	1:K:665:ARG:HB2	2.18	0.43
1:L:626:PHE:O	1:L:627:ARG:NE	2.52	0.43
1:C:350:TRP:CZ2	1:C:353:ASN:HA	2.54	0.43
1:D:266:GLU:HA	1:D:269:PHE:CE1	2.54	0.43
1:D:351:ILE:O	1:D:356:LYS:NZ	2.51	0.43
1:D:716:LEU:HD23	1:D:716:LEU:O	2.18	0.43
1:D:777:ILE:HB	1:D:782:ILE:HD11	2.01	0.43
1:E:408:THR:HG23	1:E:409:TYR:CD1	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:465:ILE:HG13	1:E:466:ASN:N	2.33	0.43
1:E:516:LEU:HD22	1:E:554:PHE:HZ	1.84	0.43
1:E:516:LEU:HD22	1:E:554:PHE:CZ	2.54	0.43
1:J:280:THR:OG1	1:L:316:VAL:HG21	2.19	0.43
1:J:489:CYS:HA	1:J:599:THR:HG21	2.01	0.43
1:J:498:LEU:HD12	1:J:574:ILE:HG23	2.00	0.43
1:A:573:ASN:O	1:A:577:LEU:HG	2.19	0.42
1:A:723:LYS:NZ	1:A:784:SER:OG	2.49	0.42
1:B:615:ASN:HB2	1:C:505:THR:HG21	2.01	0.42
1:C:625:ARG:HB2	1:C:627:ARG:NH2	2.31	0.42
1:E:535:VAL:HA	1:E:570:ARG:NH2	2.33	0.42
1:F:417:ASN:OD1	1:F:417:ASN:N	2.49	0.42
1:F:674:LYS:HA	1:F:677:LYS:NZ	2.34	0.42
1:H:364:ILE:HB	1:H:393:GLU:OE2	2.19	0.42
1:H:535:VAL:HA	1:H:570:ARG:HH12	1.84	0.42
1:J:432:ASP:OD1	1:J:433:ALA:N	2.52	0.42
1:J:716:LEU:O	1:J:716:LEU:HD23	2.19	0.42
1:L:543:PHE:CD2	1:L:544:ILE:HG23	2.54	0.42
1:B:614:ASP:N	1:B:614:ASP:OD1	2.52	0.42
1:B:677:LYS:HB2	1:B:677:LYS:HE2	1.86	0.42
1:C:328:ASN:O	1:C:332:ARG:HG2	2.18	0.42
1:C:340:LEU:HD13	1:C:404:VAL:HG11	2.02	0.42
1:D:519:ALA:O	1:D:669:LEU:HD11	2.19	0.42
1:D:737:THR:O	1:D:740:GLN:HG3	2.19	0.42
1:F:240:PHE:HB3	1:F:321:LEU:O	2.18	0.42
1:G:493:ALA:O	1:G:495:LYS:NZ	2.42	0.42
1:G:498:LEU:HG	1:G:574:ILE:HD12	2.01	0.42
1:G:747:PHE:HE2	1:G:756:ILE:HD11	1.84	0.42
1:I:282:CYS:O	1:I:286:LYS:HD2	2.19	0.42
1:I:519:ALA:HB1	1:I:669:LEU:HG	2.01	0.42
1:I:754:HIS:HA	1:I:757:GLU:HG2	2.01	0.42
1:K:461:LEU:HD12	1:K:461:LEU:HA	1.90	0.42
1:A:436:TYR:O	1:A:438:CYS:N	2.52	0.42
1:A:714:ILE:HB	1:A:715:PRO:HD3	2.01	0.42
1:B:470:PRO:HD2	1:B:627:ARG:NH2	2.34	0.42
1:C:300:ASN:O	1:C:300:ASN:ND2	2.52	0.42
1:C:487:SER:HB2	1:C:676:TYR:HA	2.01	0.42
1:C:568:LYS:HA	1:C:568:LYS:HD3	1.89	0.42
1:D:325:LYS:O	1:D:329:ILE:HG12	2.19	0.42
1:E:349:VAL:HG21	1:E:363:LEU:HB2	2.02	0.42
1:E:611:ASP:OD1	1:E:612:ARG:N	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:240:PHE:O	1:F:241:ILE:HG13	2.19	0.42
1:I:468:ILE:O	1:I:628:THR:OG1	2.34	0.42
1:J:266:GLU:HA	1:J:269:PHE:CE1	2.55	0.42
1:K:619:ARG:HB2	1:K:620:ARG:HH11	1.84	0.42
1:L:413:LEU:HD12	1:L:414:PRO:HD2	2.00	0.42
1:A:548:HIS:CD2	1:A:549:LEU:HD23	2.54	0.42
1:B:289:SER:OG	1:B:290:HIS:N	2.52	0.42
1:B:294:HIS:HD2	1:B:306:TYR:O	2.02	0.42
1:B:698:PHE:CE2	1:B:755:ASP:HB3	2.54	0.42
1:C:572:ASP:OD1	1:C:573:ASN:N	2.52	0.42
1:E:278:TYR:CE1	1:E:282:CYS:HA	2.54	0.42
1:E:671:LEU:HB3	1:E:675:TRP:CZ2	2.54	0.42
1:G:748:ASN:HD22	1:I:769:VAL:H	1.68	0.42
1:H:758:SER:HA	1:H:761:ASN:HD21	1.82	0.42
1:K:508:GLY:O	1:K:512:THR:HG23	2.19	0.42
1:L:509:LYS:O	1:L:513:LYS:HG2	2.19	0.42
1:A:250:VAL:O	1:A:253:ILE:HG22	2.19	0.42
1:A:369:LEU:HD13	1:A:389:ARG:NH1	2.34	0.42
1:A:610:PHE:HB2	1:A:613:ILE:HG12	2.01	0.42
1:C:541:ASN:HB3	1:C:544:ILE:HG22	2.00	0.42
1:C:580:PRO:O	1:C:595:ARG:NH1	2.53	0.42
1:F:351:ILE:O	1:F:356:LYS:NZ	2.46	0.42
1:H:324:ASN:HD22	1:I:384:LEU:HB3	1.84	0.42
1:L:614:ASP:OD1	1:L:617:LEU:HG	2.19	0.42
1:L:678:LYS:HE2	1:L:678:LYS:HB3	1.81	0.42
1:A:748:ASN:O	1:A:752:PHE:HB2	2.18	0.42
1:D:468:ILE:HD11	1:D:511:THR:HB	2.00	0.42
1:D:717:MET:HA	1:D:720:LEU:HD12	2.01	0.42
1:E:570:ARG:HB2	1:E:573:ASN:OD1	2.19	0.42
1:F:448:ASP:N	1:F:448:ASP:OD1	2.51	0.42
1:G:677:LYS:HD2	1:G:677:LYS:HA	1.85	0.42
1:H:516:LEU:HD23	1:H:554:PHE:CE2	2.55	0.42
1:I:241:ILE:CG2	1:I:245:ASP:HB3	2.49	0.42
1:I:248:LYS:HA	1:I:248:LYS:HD2	1.76	0.42
1:J:236:TRP:HH2	1:J:243:PHE:HA	1.83	0.42
1:J:499:THR:HA	1:J:622:ALA:HB3	2.01	0.42
1:K:613:ILE:HG23	1:K:617:LEU:HD23	2.02	0.42
1:L:519:ALA:HB1	1:L:669:LEU:HG	2.00	0.42
1:B:250:VAL:HA	1:B:253:ILE:HG22	2.02	0.42
1:B:760:ILE:O	1:B:764:LYS:N	2.37	0.42
1:L:467:ASP:HA	1:L:647:LYS:NZ	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:726:ILE:HG12	1:A:735:PRO:HD3	2.02	0.42
1:B:241:ILE:HG22	1:B:242:SER:N	2.34	0.42
1:C:470:PRO:HD2	1:C:475:ASN:ND2	2.35	0.42
1:E:350:TRP:CZ2	1:E:353:ASN:HA	2.53	0.42
1:F:420:LEU:H	1:F:420:LEU:HD23	1.84	0.42
1:K:329:ILE:HD13	1:K:379:TYR:CD2	2.54	0.42
1:K:580:PRO:HA	1:K:596:ASN:HB3	2.01	0.42
1:A:442:THR:HG22	1:A:523:LEU:HG	2.01	0.42
1:A:605:ASN:OD1	1:C:616:ALA:HB2	2.20	0.42
1:B:296:LEU:HB3	1:B:305:ILE:HD12	2.02	0.42
1:B:629:HIS:HD2	1:B:648:VAL:HG13	1.84	0.42
1:C:296:LEU:CB	1:C:305:ILE:HG22	2.50	0.42
1:I:292:HIS:HB2	1:I:307:LYS:HD3	2.01	0.42
1:I:558:LEU:HD23	1:I:558:LEU:HA	1.91	0.42
1:J:268:ASN:CG	1:J:272:VAL:HB	2.39	0.42
1:J:576:LYS:HZ2	1:L:557:GLU:HG2	1.85	0.42
1:K:693:ILE:HD13	1:K:693:ILE:HA	1.87	0.42
1:A:297:SER:OG	1:A:304:ARG:HB3	2.20	0.42
1:B:421:ASP:OD1	1:B:422:LEU:N	2.52	0.42
1:C:285:CYS:HB3	1:C:314:CYS:HA	2.01	0.42
1:C:501:PHE:HB2	1:C:603:ASP:HA	2.02	0.42
1:C:759:PHE:O	1:C:763:HIS:HB2	2.18	0.42
1:E:305:ILE:N	1:E:317:LYS:O	2.52	0.42
1:E:623:VAL:HG21	1:E:693:ILE:HD11	2.01	0.42
1:E:659:ILE:HG22	1:E:664:TYR:CD2	2.54	0.42
1:F:248:LYS:NZ	1:F:252:LYS:HB3	2.35	0.42
1:F:282:CYS:O	1:F:286:LYS:N	2.47	0.42
1:F:415:PHE:CD1	1:F:442:THR:HG21	2.55	0.42
1:F:560:ASP:HA	1:F:606:TYR:CE1	2.55	0.42
1:G:377:LYS:HA	1:G:377:LYS:HD3	1.85	0.42
1:H:296:LEU:H	1:H:296:LEU:HD23	1.85	0.42
1:L:332:ARG:HA	1:L:335:ASP:OD2	2.20	0.42
1:B:282:CYS:HG	1:B:290:HIS:CD2	2.38	0.41
1:B:501:PHE:CD1	1:B:624:VAL:HB	2.55	0.41
1:B:629:HIS:HB2	1:B:645:TYR:CD1	2.55	0.41
1:C:460:GLU:OE1	1:C:664:TYR:HE1	2.03	0.41
1:D:368:ILE:HD13	1:D:392:VAL:HG13	2.01	0.41
1:D:760:ILE:O	1:D:764:LYS:HB3	2.19	0.41
1:E:784:SER:HA	1:E:785:PRO:HD3	1.92	0.41
1:F:626:PHE:H	1:F:627:ARG:NH1	2.18	0.41
1:D:304:ARG:NH1	1:E:280:THR:OG1	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:494:THR:HG22	1:D:596:ASN:O	2.20	0.41
1:F:329:ILE:O	1:F:333:ILE:HG12	2.20	0.41
1:F:358:ASN:HB3	1:F:361:GLU:O	2.20	0.41
1:F:385:CYS:HB3	1:F:388:LYS:HD2	2.03	0.41
1:I:514:ARG:HH21	1:I:660:GLN:HB3	1.85	0.41
1:I:674:LYS:HE2	1:I:674:LYS:HB3	1.85	0.41
1:J:293:PRO:O	1:J:308:THR:HG22	2.19	0.41
1:K:244:GLU:C	1:K:248:LYS:HZ2	2.23	0.41
1:A:681:ILE:O	1:A:683:ILE:N	2.54	0.41
1:D:350:TRP:CH2	1:D:353:ASN:HA	2.55	0.41
1:D:610:PHE:HB2	1:D:613:ILE:HD11	2.02	0.41
1:E:248:LYS:O	1:E:252:LYS:HG2	2.20	0.41
1:F:550:LYS:HA	1:F:550:LYS:HD3	1.83	0.41
1:H:342:THR:HG23	1:H:344:ARG:N	2.35	0.41
1:I:358:ASN:HB3	1:I:361:GLU:O	2.19	0.41
1:J:385:CYS:SG	1:J:387:ARG:HG2	2.61	0.41
1:J:649:LYS:HB3	1:J:649:LYS:HE3	1.89	0.41
1:K:236:TRP:HH2	1:K:243:PHE:HB3	1.85	0.41
1:K:284:LEU:HD11	1:K:315:LYS:O	2.20	0.41
1:B:295:GLN:HB3	1:B:306:TYR:CZ	2.56	0.41
1:B:536:LEU:HD12	1:B:576:LYS:HD3	2.02	0.41
1:D:460:GLU:OE2	1:D:663:ARG:NH2	2.34	0.41
1:E:348:ILE:HG22	1:E:357:PHE:CB	2.48	0.41
1:E:472:THR:O	1:E:476:LYS:N	2.53	0.41
1:I:483:GLU:O	1:I:487:SER:N	2.53	0.41
1:K:541:ASN:OD1	1:K:544:ILE:N	2.48	0.41
1:K:629:HIS:HB2	1:K:645:TYR:CD1	2.56	0.41
1:L:467:ASP:HA	1:L:647:LYS:HZ2	1.85	0.41
1:B:764:LYS:HE2	1:B:764:LYS:HB3	1.86	0.41
1:H:454:ASP:N	1:H:454:ASP:OD1	2.53	0.41
1:I:736:LEU:HD23	1:I:774:LEU:HD11	2.03	0.41
1:L:339:VAL:O	1:L:340:LEU:HD22	2.21	0.41
1:A:572:ASP:OD1	1:A:573:ASN:N	2.53	0.41
1:A:709:SER:OG	1:A:775:GLN:HB2	2.20	0.41
1:B:499:THR:HG22	1:B:622:ALA:HB3	2.01	0.41
1:D:470:PRO:HG3	1:D:647:LYS:HZ2	1.86	0.41
1:D:617:LEU:HD23	1:D:621:ILE:HB	2.02	0.41
1:E:257:SER:OG	1:E:258:ILE:N	2.53	0.41
1:E:471:LEU:HD23	1:E:479:ARG:NE	2.35	0.41
1:F:611:ASP:N	1:F:611:ASP:OD1	2.52	0.41
1:F:622:ALA:HB2	1:F:688:PRO:HA	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:428:TYR:HD1	1:H:432:ASP:HB3	1.85	0.41
1:I:428:TYR:HB3	1:I:432:ASP:HB3	2.02	0.41
1:K:568:LYS:HG2	1:K:611:ASP:N	2.35	0.41
1:L:442:THR:HB	1:L:444:PHE:CZ	2.55	0.41
1:L:472:THR:O	1:L:476:LYS:N	2.54	0.41
1:A:715:PRO:O	1:A:716:LEU:HD12	2.21	0.41
1:B:496:GLY:HA2	1:B:578:THR:HG23	2.03	0.41
1:C:493:ALA:O	1:C:597:HIS:HA	2.21	0.41
1:C:553:VAL:O	1:C:600:ILE:HA	2.21	0.41
1:E:455:SER:O	1:E:459:GLU:N	2.42	0.41
1:F:258:ILE:HG23	1:F:261:PHE:CD1	2.55	0.41
1:F:350:TRP:CH2	1:F:353:ASN:HA	2.56	0.41
1:L:570:ARG:HB2	1:L:573:ASN:OD1	2.21	0.41
1:A:383:LEU:H	1:A:383:LEU:HD23	1.86	0.41
1:B:582:VAL:HG23	1:B:596:ASN:HB2	2.02	0.41
1:C:287:LYS:NZ	1:C:290:HIS:HA	2.32	0.41
1:D:475:ASN:HB2	1:D:627:ARG:HH21	1.85	0.41
1:E:533:THR:HG22	1:E:533:THR:O	2.21	0.41
1:E:535:VAL:HA	1:E:570:ARG:HH22	1.86	0.41
1:F:643:ASP:N	1:F:643:ASP:OD1	2.48	0.41
1:G:708:SER:HB2	1:K:642:ASN:HA	2.01	0.41
1:K:630:PHE:HB3	1:K:651:LEU:HD12	2.02	0.41
1:B:544:ILE:HD11	1:B:582:VAL:HG12	2.02	0.41
1:B:550:LYS:HA	1:B:550:LYS:HD3	1.83	0.41
1:B:618:MET:HA	1:B:696:PHE:CE2	2.56	0.41
1:B:749:SER:O	1:B:753:GLY:N	2.54	0.41
1:C:241:ILE:HG22	1:C:242:SER:N	2.36	0.41
1:C:553:VAL:O	1:C:600:ILE:HD12	2.21	0.41
1:C:627:ARG:HA	1:C:627:ARG:HD3	1.83	0.41
1:C:719:ASP:O	1:C:722:LYS:HG2	2.20	0.41
1:D:402:ASP:OD1	1:D:402:ASP:N	2.42	0.41
1:D:708:SER:HA	1:D:776:TYR:HD1	1.86	0.41
1:E:258:ILE:HG22	1:E:261:PHE:N	2.36	0.41
1:E:560:ASP:HA	1:E:606:TYR:CZ	2.56	0.41
1:F:691:GLU:HG2	1:F:692:GLU:N	2.36	0.41
1:G:329:ILE:HG21	1:G:383:LEU:HD11	2.03	0.41
1:G:350:TRP:O	1:G:351:ILE:HD13	2.21	0.41
1:H:248:LYS:HE2	1:H:252:LYS:HZ1	1.86	0.41
1:H:284:LEU:HD23	1:H:290:HIS:CE1	2.55	0.41
1:H:315:LYS:HZ3	1:H:317:LYS:HD3	1.86	0.41
1:H:585:ARG:HG2	1:H:586:PRO:O	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:613:ILE:HA	1:H:617:LEU:HD13	2.03	0.41
1:H:732:VAL:HB	1:H:777:ILE:HD11	2.03	0.41
1:I:453:GLU:HG3	1:I:670:TYR:HE2	1.86	0.41
1:J:304:ARG:CZ	1:K:256:ASN:HA	2.51	0.41
1:J:378:GLU:HG2	1:J:379:TYR:CD1	2.56	0.41
1:J:576:LYS:HA	1:J:576:LYS:HD3	1.89	0.41
1:J:655:LEU:HA	1:J:658:LYS:HG2	2.02	0.41
1:K:237:GLU:HB2	1:K:240:PHE:CE2	2.54	0.41
1:K:245:ASP:O	1:K:249:ARG:HG2	2.21	0.41
1:L:377:LYS:HD3	1:L:380:SER:HB2	2.03	0.41
1:L:504:GLU:H	1:L:504:GLU:CD	2.24	0.41
1:A:368:ILE:HG22	1:A:383:LEU:HD12	2.03	0.41
1:C:284:LEU:HG	1:C:294:HIS:CE1	2.56	0.41
1:D:254:PHE:CD2	1:D:258:ILE:HD11	2.56	0.41
1:D:317:LYS:HA	1:D:317:LYS:HD3	1.71	0.41
1:D:332:ARG:NE	1:D:379:TYR:HE2	2.18	0.41
1:G:461:LEU:HD23	1:G:671:LEU:HD12	2.03	0.41
1:H:444:PHE:CE2	1:H:665:ARG:HD3	2.56	0.41
1:J:351:ILE:HB	1:J:367:LEU:HD21	2.03	0.41
1:J:509:LYS:HB2	1:J:509:LYS:HE2	1.89	0.41
1:K:307:LYS:HB3	1:K:311:PRO:HB3	2.02	0.41
1:K:503:GLY:O	1:K:605:ASN:ND2	2.42	0.41
1:K:652:ASP:HB3	1:K:655:LEU:HG	2.03	0.41
1:L:725:TYR:HH	1:L:778:PHE:HB2	1.86	0.41
1:B:284:LEU:CD2	1:B:307:LYS:HB2	2.51	0.40
1:B:733:THR:HA	1:B:775:GLN:HA	2.02	0.40
1:C:607:LYS:HE3	1:C:694:PRO:HD3	2.03	0.40
1:D:561:PHE:CE1	1:D:568:LYS:HA	2.56	0.40
1:F:623:VAL:HG21	1:F:692:GLU:HG2	2.02	0.40
1:J:241:ILE:HG22	1:J:242:SER:O	2.20	0.40
1:J:540:PRO:HB3	1:J:587:CYS:HA	2.03	0.40
1:J:561:PHE:CZ	1:J:569:ILE:HG13	2.56	0.40
1:L:458:MET:SD	1:L:459:GLU:N	2.95	0.40
1:A:764:LYS:HA	1:A:774:LEU:HD13	2.02	0.40
1:C:444:PHE:HD1	1:C:445:LYS:O	2.04	0.40
1:D:262:ASN:OD1	1:D:262:ASN:N	2.53	0.40
1:E:378:GLU:HG2	1:E:379:TYR:N	2.35	0.40
1:G:384:LEU:HD13	1:I:327:PHE:CD1	2.56	0.40
1:H:384:LEU:HB3	1:L:324:ASN:HD22	1.86	0.40
1:H:611:ASP:N	1:H:611:ASP:OD1	2.54	0.40
1:I:415:PHE:N	1:I:418:GLY:O	2.42	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:258:ILE:HD12	1:K:274:LEU:HD21	2.04	0.40
1:K:527:THR:HG23	1:K:555:CYS:HB3	2.03	0.40
1:L:477:LYS:O	1:L:481:LEU:HG	2.21	0.40
1:L:554:PHE:CD1	1:L:601:ILE:HB	2.56	0.40
1:A:556:SER:OG	1:A:557:GLU:N	2.54	0.40
1:A:654:GLY:O	1:A:658:LYS:HB2	2.21	0.40
1:A:739:PHE:HE2	1:A:759:PHE:HE2	1.68	0.40
1:B:344:ARG:NH1	1:B:591:LYS:HE2	2.36	0.40
1:B:554:PHE:HD1	1:B:601:ILE:HB	1.87	0.40
1:C:362:PRO:HG2	1:C:397:ARG:NH2	2.37	0.40
1:C:500:PHE:HE2	1:C:502:PHE:HD1	1.70	0.40
1:D:734:LEU:HD12	1:D:735:PRO:HD2	2.03	0.40
1:H:484:LYS:HE2	1:H:686:LEU:HA	2.03	0.40
1:H:527:THR:O	1:H:555:CYS:HA	2.21	0.40
1:I:501:PHE:HB2	1:I:601:ILE:HG22	2.04	0.40
1:I:778:PHE:HB3	1:I:780:GLU:HG2	2.04	0.40
1:D:458:MET:SD	1:D:459:GLU:N	2.94	0.40
1:D:489:CYS:SG	1:D:552:SER:HB2	2.61	0.40
1:H:277:ASP:N	1:H:277:ASP:OD1	2.52	0.40
1:J:240:PHE:O	1:J:241:ILE:HG13	2.22	0.40
1:J:395:ASN:O	1:J:399:MET:HG2	2.22	0.40
1:J:409:TYR:HB3	1:J:412:LYS:HG2	2.03	0.40
1:K:325:LYS:HG3	1:K:379:TYR:HE1	1.87	0.40
1:A:284:LEU:O	1:A:315:LYS:HE3	2.22	0.40
1:B:423:VAL:O	1:B:677:LYS:NZ	2.41	0.40
1:B:529:GLN:NE2	1:B:556:SER:O	2.55	0.40
1:D:617:LEU:HD23	1:D:617:LEU:O	2.22	0.40
1:F:241:ILE:HG22	1:F:242:SER:O	2.22	0.40
1:F:395:ASN:O	1:F:399:MET:HG2	2.21	0.40
1:I:254:PHE:O	1:I:283:ALA:HB2	2.22	0.40
1:I:339:VAL:O	1:I:340:LEU:HD22	2.22	0.40
1:I:571:SER:O	1:I:575:LYS:NZ	2.48	0.40
1:J:672:LEU:HD23	1:J:675:TRP:CE3	2.56	0.40
1:K:734:LEU:HD12	1:K:734:LEU:HA	1.96	0.40
1:L:388:LYS:O	1:L:392:VAL:HG23	2.20	0.40
1:L:613:ILE:HB	1:L:699:TYR:CZ	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	548/785 (70%)	510 (93%)	37 (7%)	1 (0%)	44	74
1	B	548/785 (70%)	504 (92%)	44 (8%)	0	100	100
1	C	548/785 (70%)	507 (92%)	39 (7%)	2 (0%)	30	63
1	D	548/785 (70%)	502 (92%)	46 (8%)	0	100	100
1	E	548/785 (70%)	511 (93%)	37 (7%)	0	100	100
1	F	548/785 (70%)	514 (94%)	33 (6%)	1 (0%)	44	74
1	G	548/785 (70%)	514 (94%)	33 (6%)	1 (0%)	44	74
1	H	548/785 (70%)	528 (96%)	19 (4%)	1 (0%)	44	74
1	I	548/785 (70%)	524 (96%)	24 (4%)	0	100	100
1	J	548/785 (70%)	518 (94%)	30 (6%)	0	100	100
1	K	548/785 (70%)	522 (95%)	26 (5%)	0	100	100
1	L	548/785 (70%)	527 (96%)	20 (4%)	1 (0%)	44	74
All	All	6576/9420 (70%)	6181 (94%)	388 (6%)	7 (0%)	50	79

All (7) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	C	538	LYS
1	A	255	ILE
1	C	255	ILE
1	F	255	ILE
1	H	255	ILE
1	L	255	ILE
1	G	255	ILE

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	459/725 (63%)	458 (100%)	1 (0%)	92	96
1	B	464/725 (64%)	461 (99%)	3 (1%)	84	91
1	C	470/725 (65%)	470 (100%)	0	100	100
1	D	466/725 (64%)	465 (100%)	1 (0%)	92	96
1	E	467/725 (64%)	466 (100%)	1 (0%)	92	96
1	F	465/725 (64%)	465 (100%)	0	100	100
1	G	445/725 (61%)	442 (99%)	3 (1%)	81	90
1	H	458/725 (63%)	456 (100%)	2 (0%)	89	93
1	I	460/725 (63%)	460 (100%)	0	100	100
1	J	445/725 (61%)	443 (100%)	2 (0%)	89	93
1	K	459/725 (63%)	458 (100%)	1 (0%)	92	96
1	L	449/725 (62%)	446 (99%)	3 (1%)	81	90
All	All	5507/8700 (63%)	5490 (100%)	17 (0%)	90	95

All (17) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	765	LYS
1	B	426	MET
1	B	627	ARG
1	B	765	LYS
1	D	620	ARG
1	E	765	LYS
1	G	387	ARG
1	G	513	LYS
1	G	765	LYS
1	H	390	LYS
1	H	765	LYS
1	J	307	LYS
1	J	765	LYS
1	K	765	LYS

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Mol	Chain	Res	Type
1	L	252	LYS
1	L	517	LYS
1	L	765	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (19) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	294	HIS
1	A	295	GLN
1	A	324	ASN
1	B	294	HIS
1	B	573	ASN
1	B	761	ASN
1	C	478	ASN
1	C	629	HIS
1	C	661	ASN
1	D	761	ASN
1	F	541	ASN
1	G	395	ASN
1	H	469	GLN
1	H	761	ASN
1	J	768	ASN
1	K	260	ASN
1	K	290	HIS
1	K	353	ASN
1	L	324	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

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.

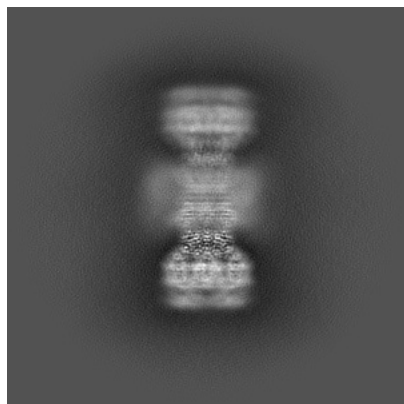
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-37523. These allow visual inspection of the internal detail of the map and identification of artifacts.

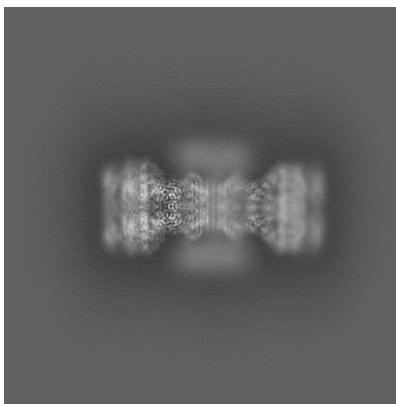
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

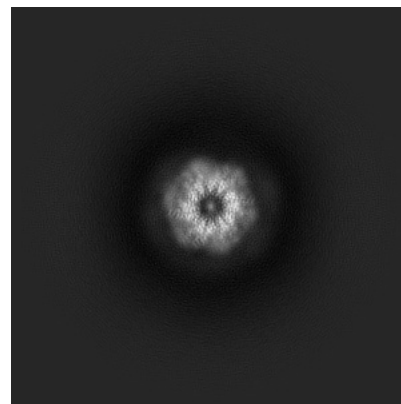
6.1.1 Primary map



X

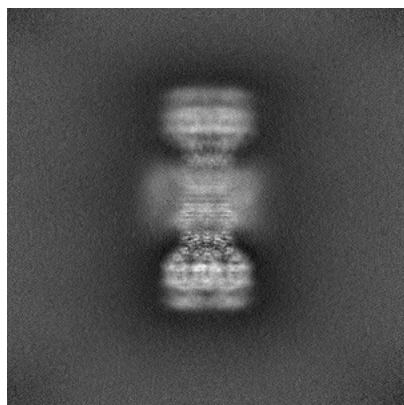


Y

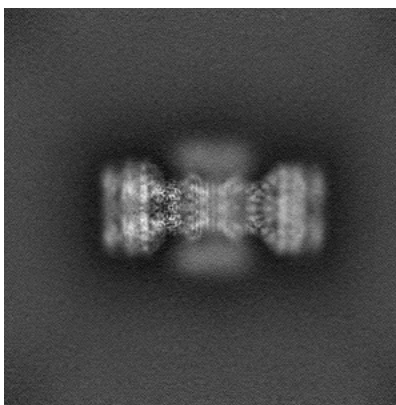


Z

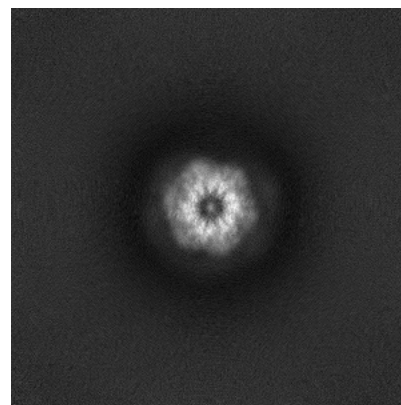
6.1.2 Raw map



X



Y



Z

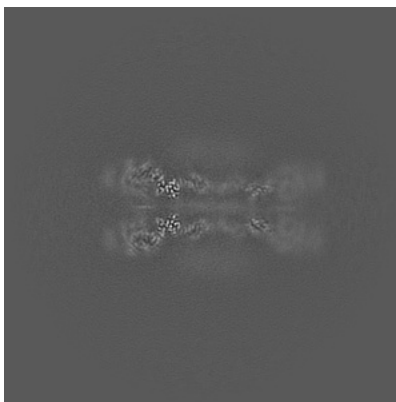
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

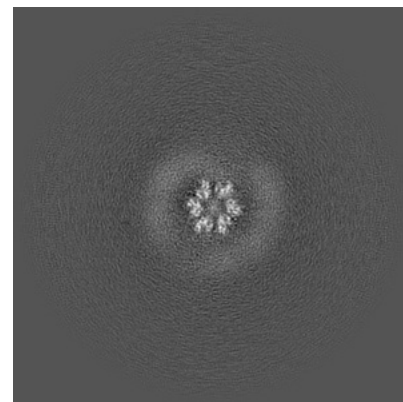
6.2.1 Primary map



X Index: 288

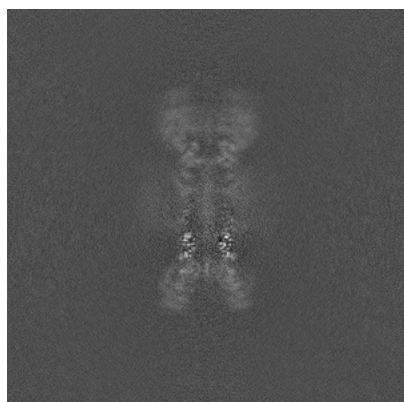


Y Index: 288

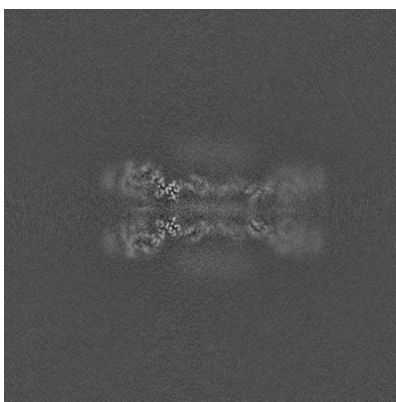


Z Index: 288

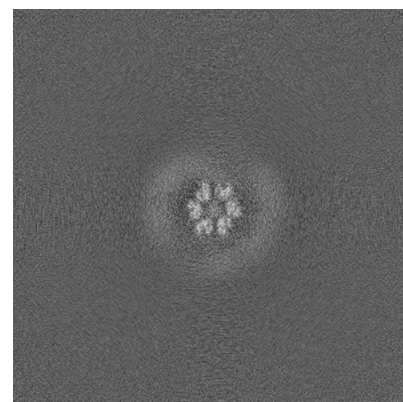
6.2.2 Raw map



X Index: 288



Y Index: 288

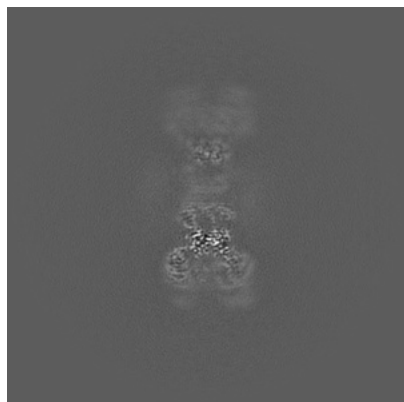


Z Index: 288

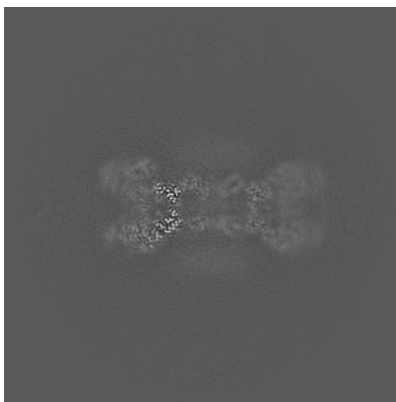
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

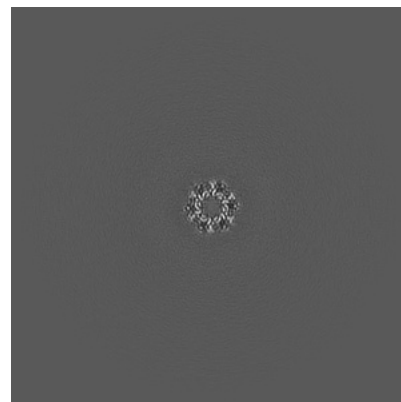
6.3.1 Primary map



X Index: 266

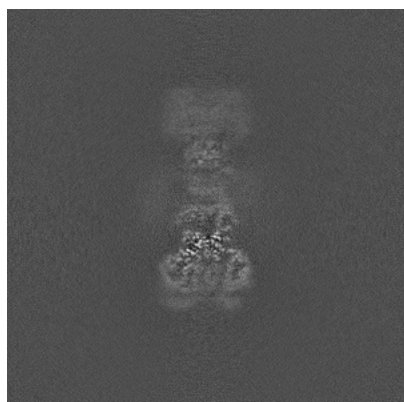


Y Index: 274

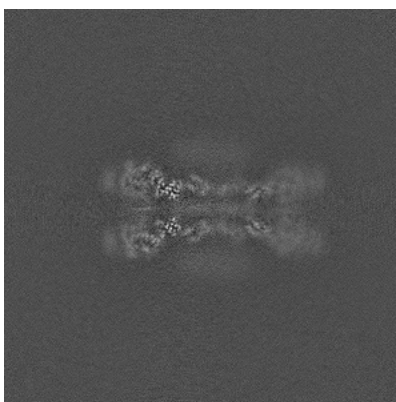


Z Index: 242

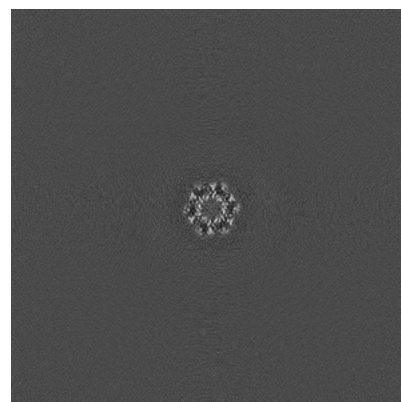
6.3.2 Raw map



X Index: 310



Y Index: 289

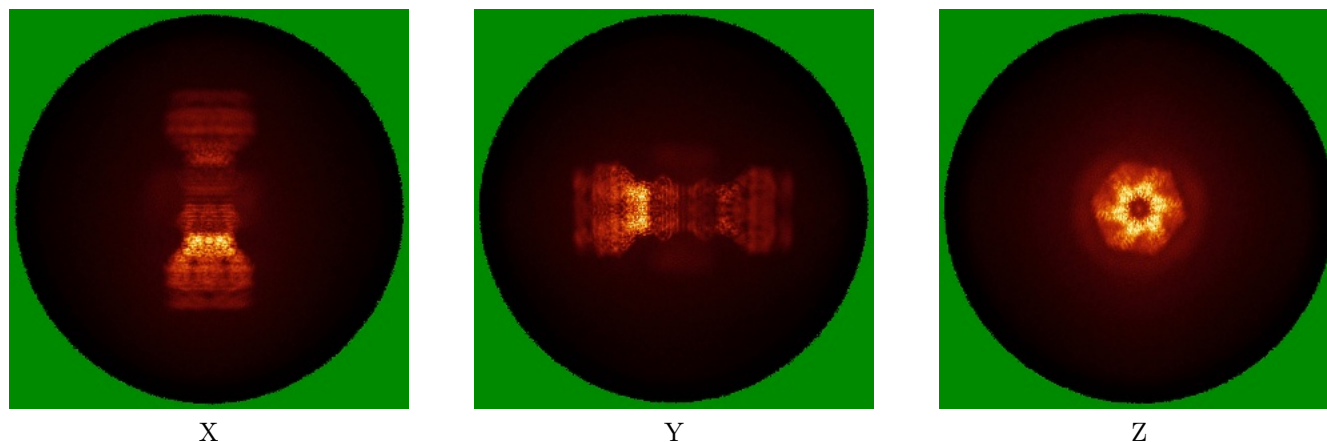


Z Index: 243

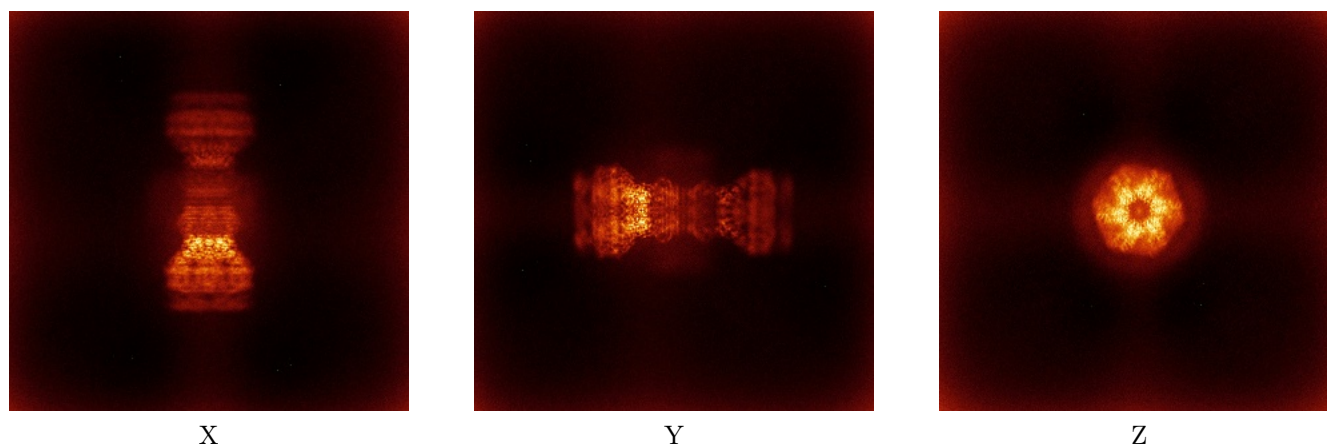
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

6.4.1 Primary map



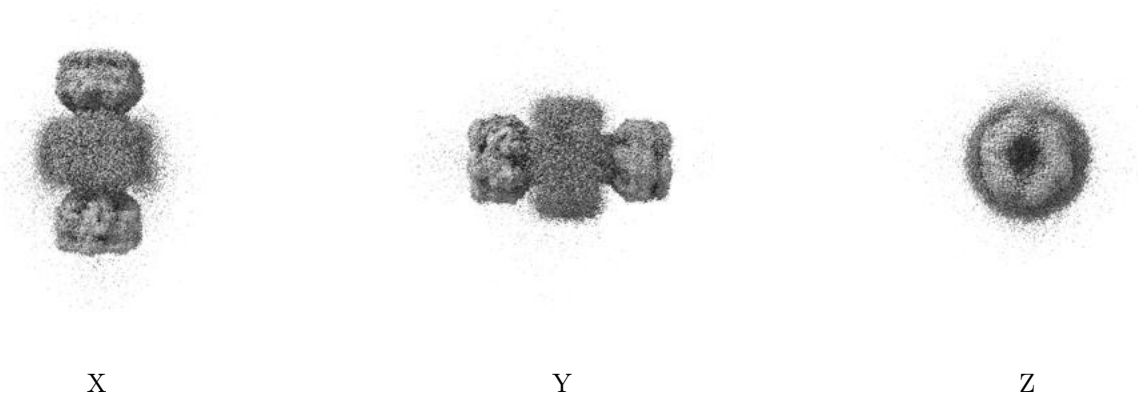
6.4.2 Raw map



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.

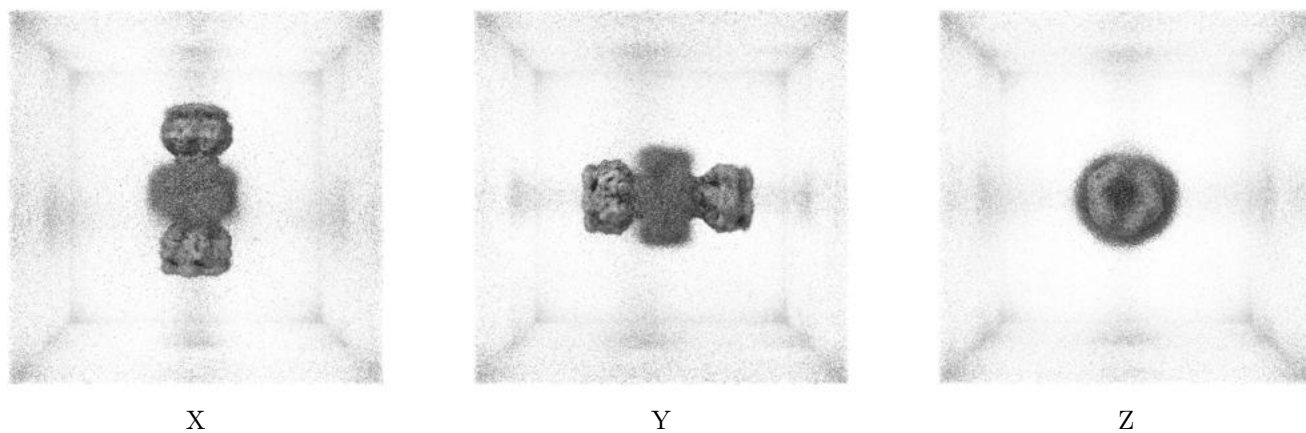
6.5 Orthogonal surface views [i](#)

6.5.1 Primary map



The images above show the 3D surface view of the map at the recommended contour level 0.036. 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



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

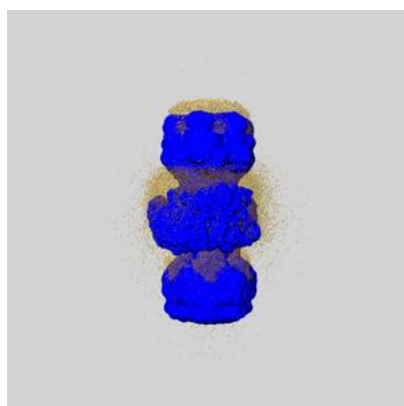
6.6 Mask visualisation [i](#)

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

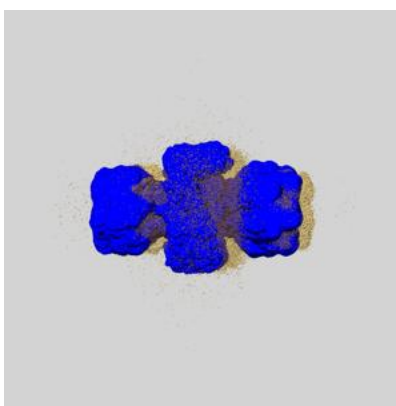
A mask typically either:

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

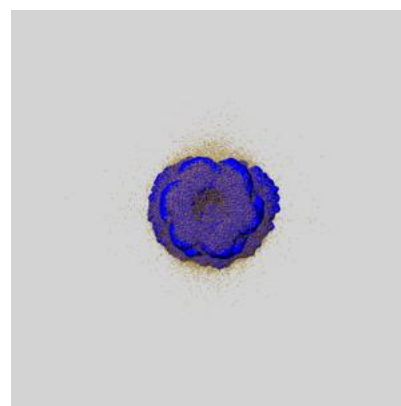
6.6.1 emd_37523_msk_1.map [i](#)



X



Y

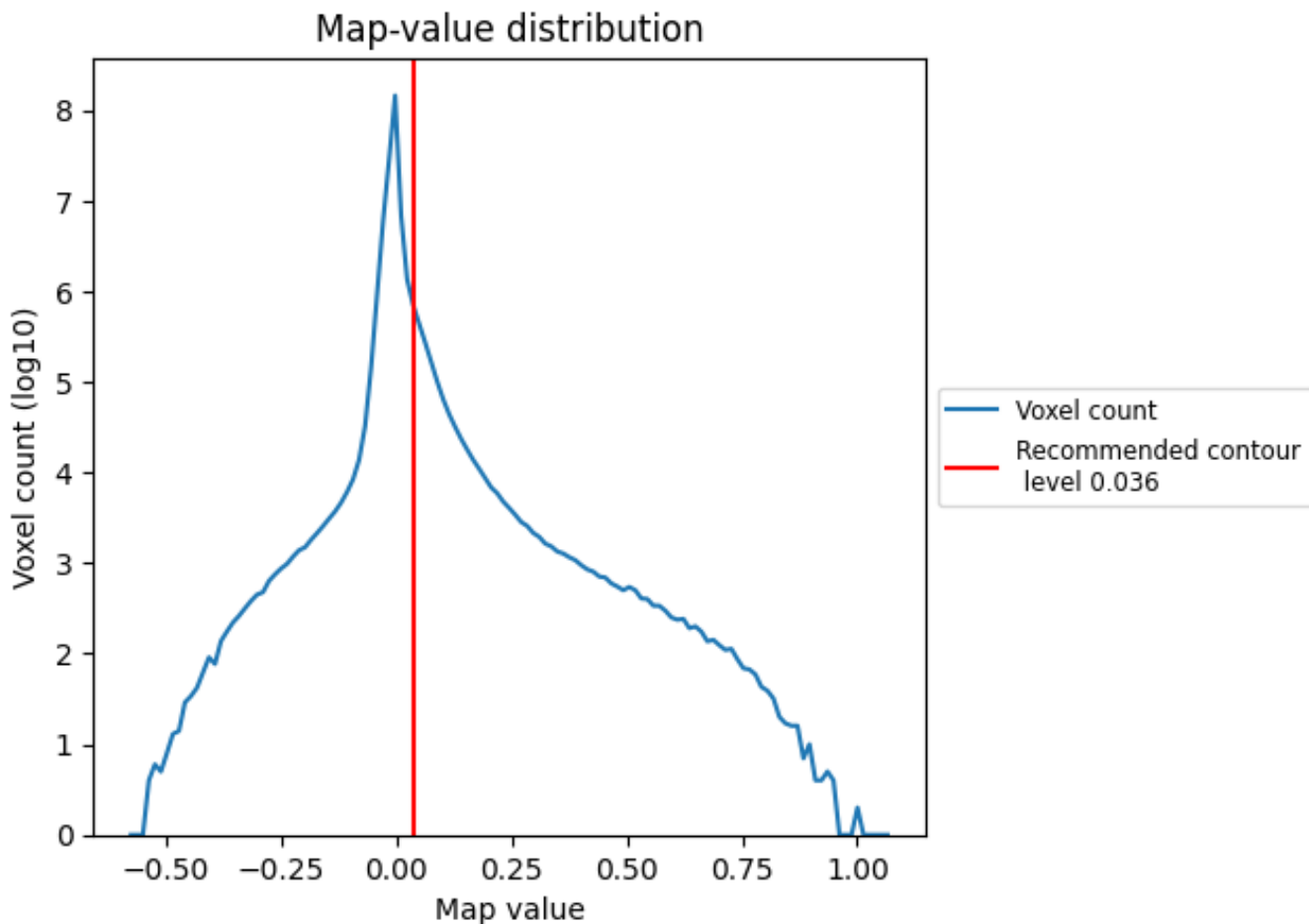


Z

7 Map analysis [i](#)

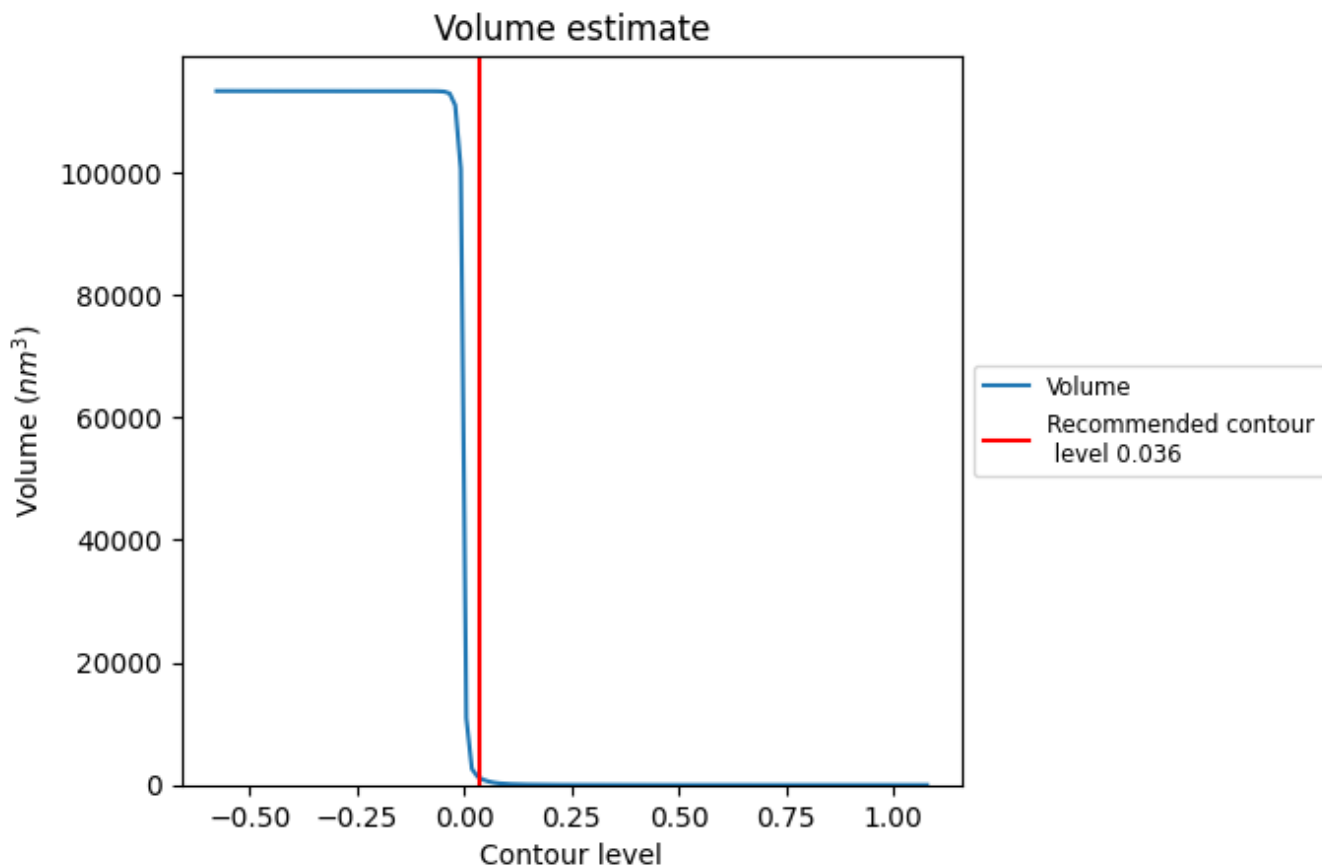
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



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.

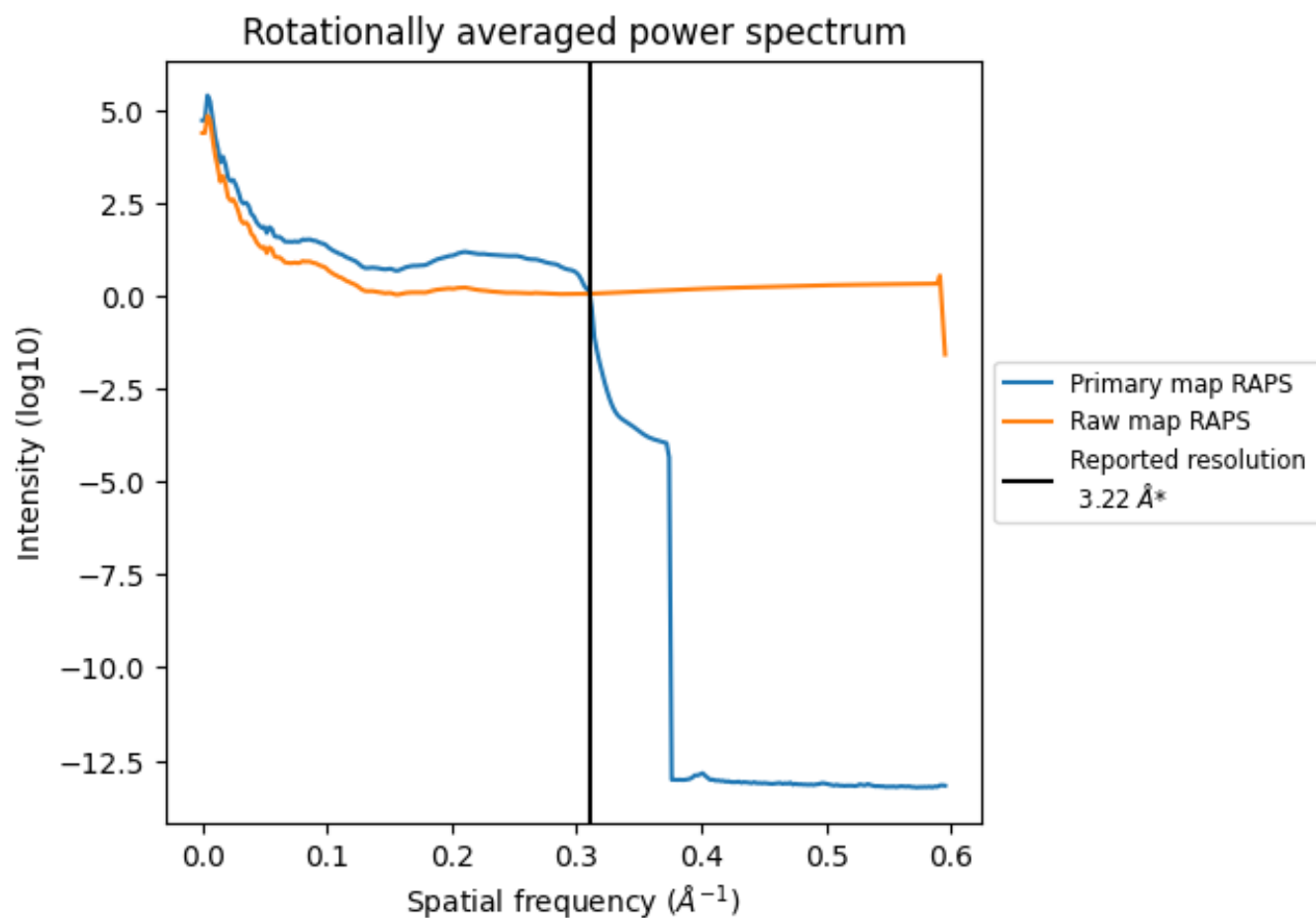
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 1193 nm^3 ; this corresponds to an approximate mass of 1078 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](#)

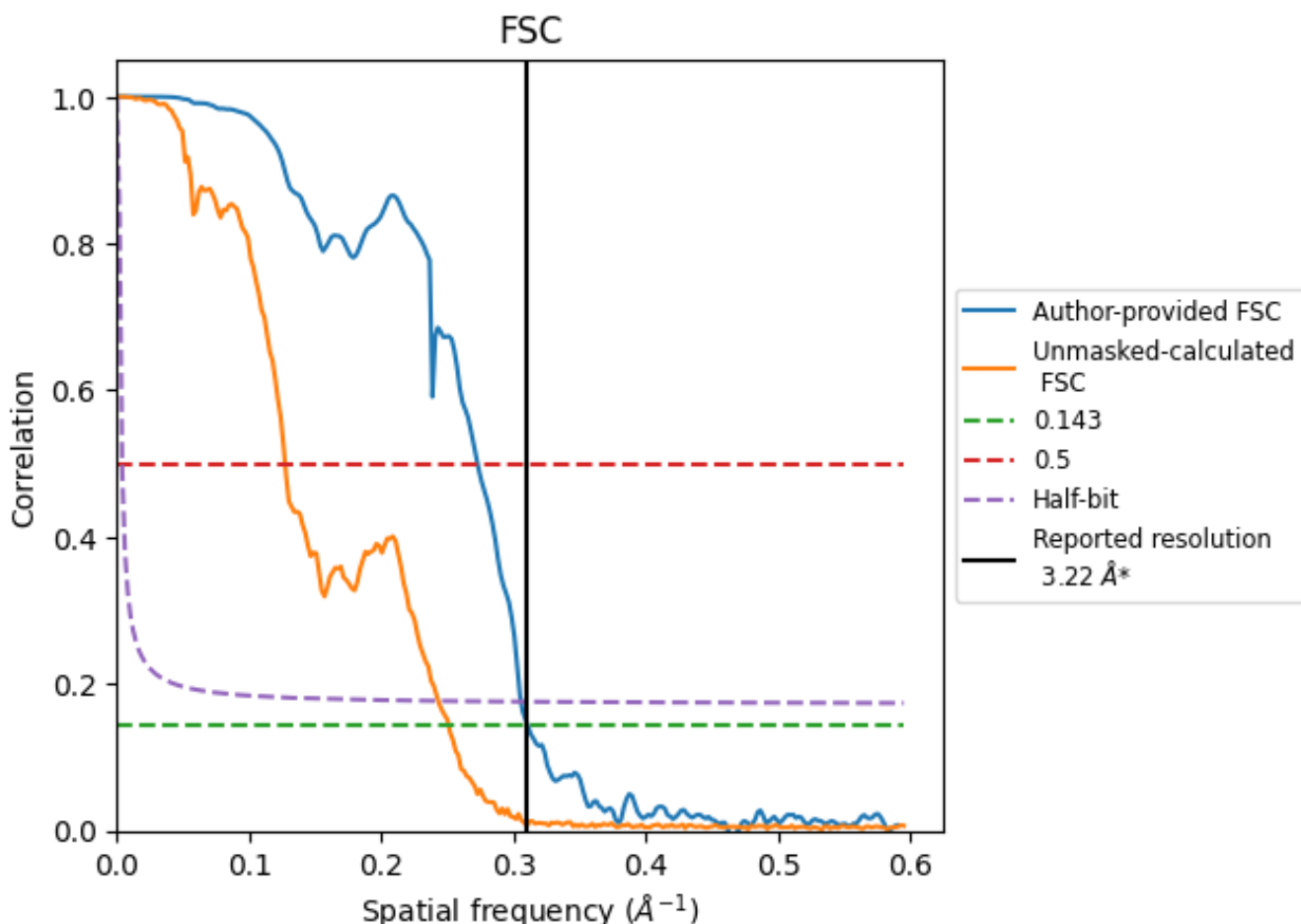


*Reported resolution corresponds to spatial frequency of 0.311 Å⁻¹

8 Fourier-Shell correlation [i](#)

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 [i](#)



*Reported resolution corresponds to spatial frequency of 0.311\AA^{-1}

8.2 Resolution estimates [i](#)

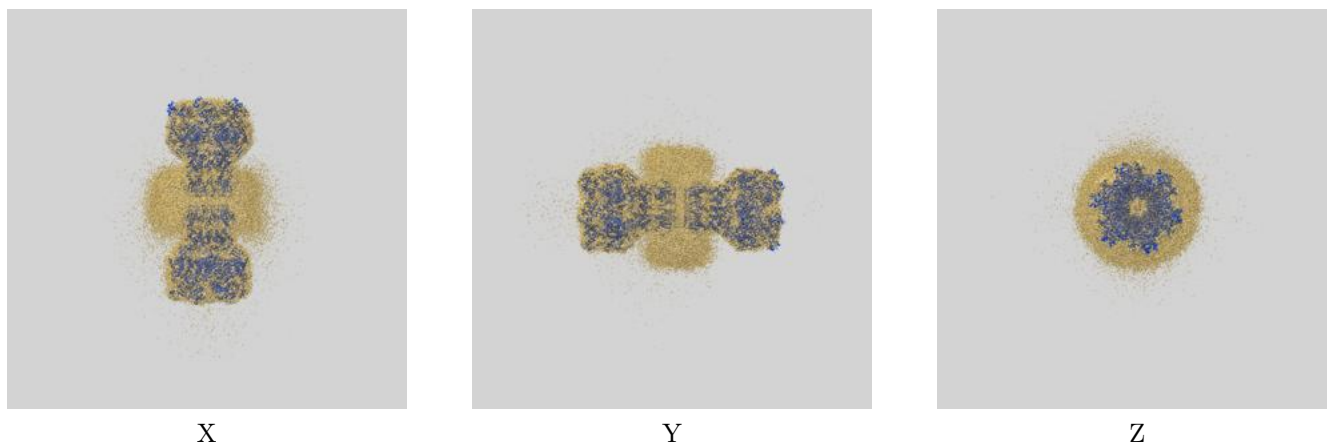
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.22	-	-
Author-provided FSC curve	3.22	3.66	3.27
Unmasked-calculated*	3.98	7.86	4.11

*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 3.98 differs from the reported value 3.22 by more than 10 %

9 Map-model fit [i](#)

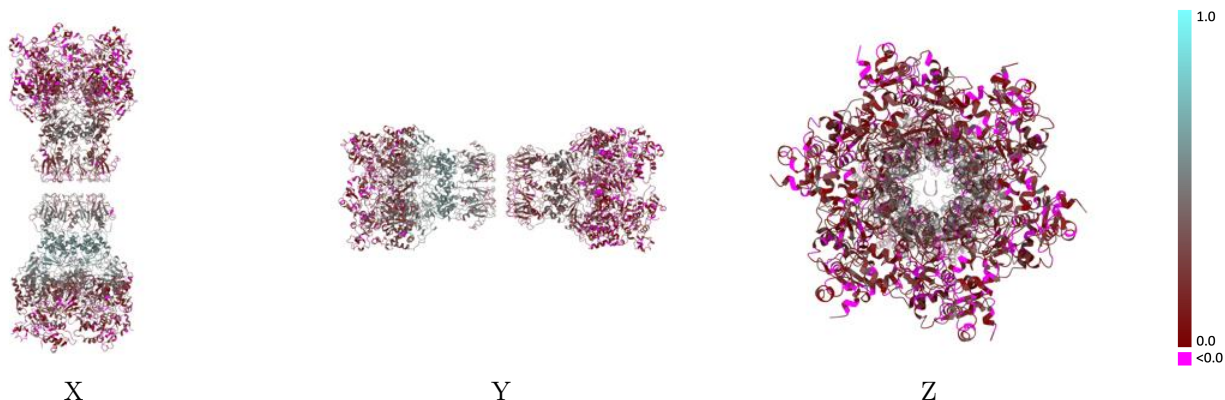
This section contains information regarding the fit between EMDB map EMD-37523 and PDB model 8WGZ. Per-residue inclusion information can be found in section [3](#) on page [5](#).

9.1 Map-model overlay [i](#)



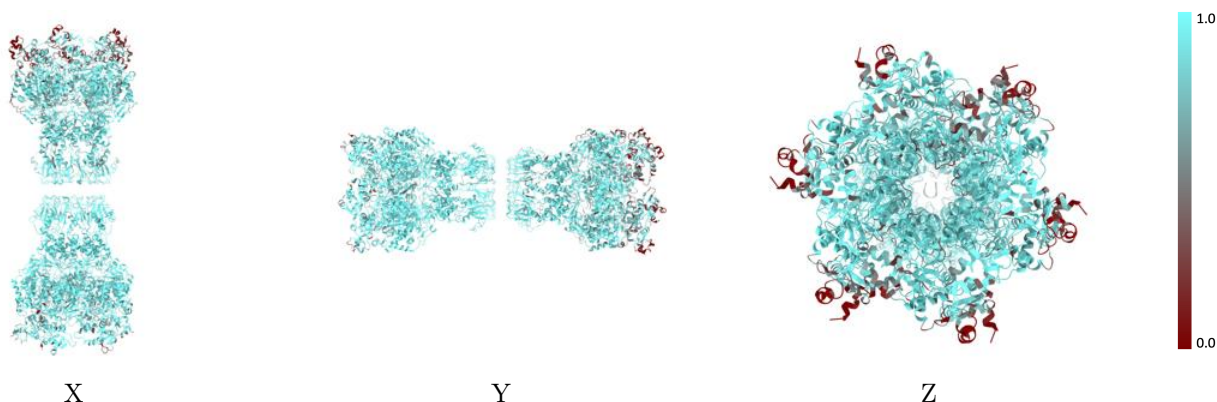
The images above show the 3D surface view of the map at the recommended contour level 0.036 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [\(i\)](#)



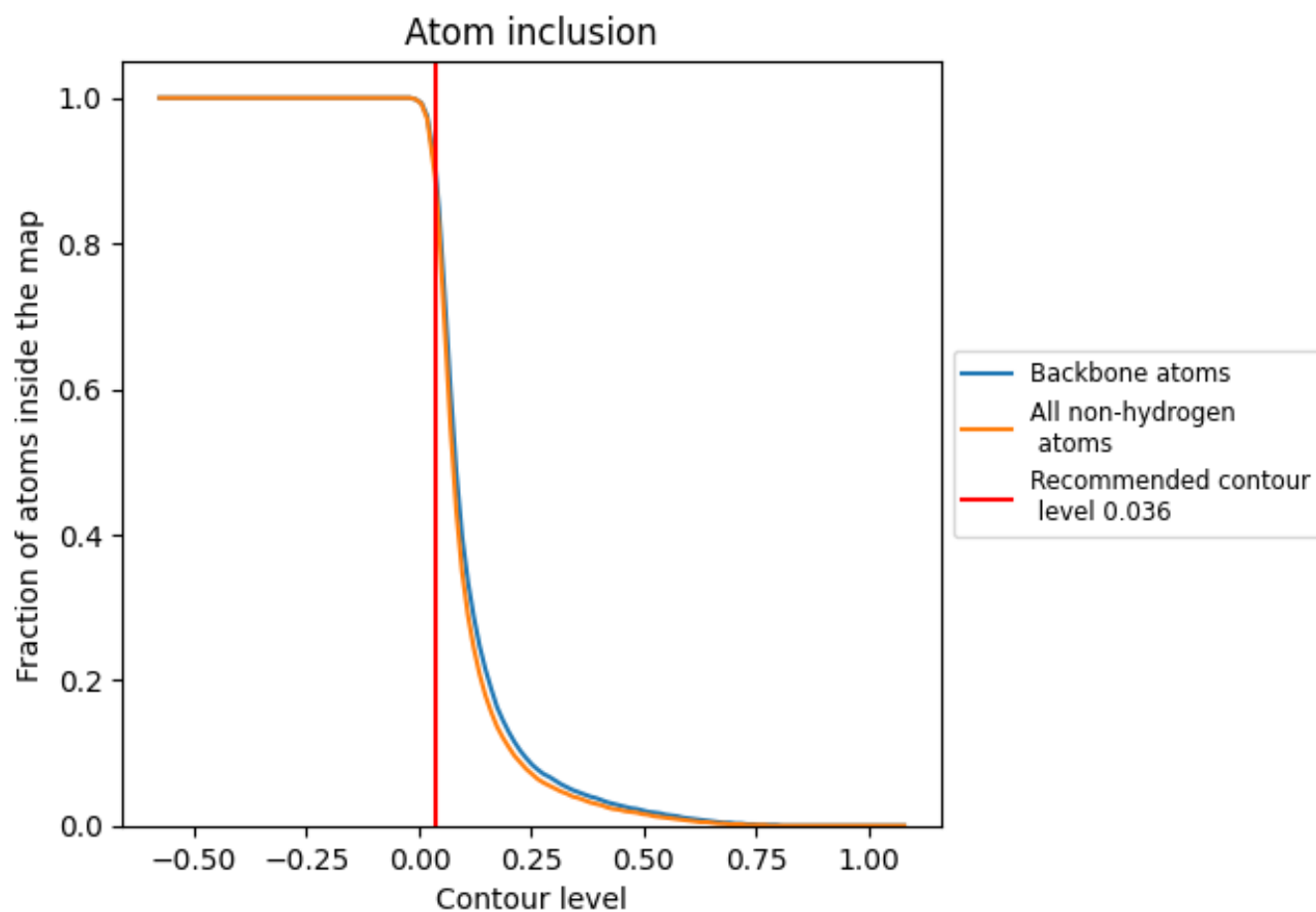
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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 [\(i\)](#)



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 (0.036).





























9.4 Atom inclusion [i](#)



At the recommended contour level, 91% of all backbone atoms, 89% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.036) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.8910	 0.2730
A	 0.9490	 0.3730
B	 0.9510	 0.3670
C	 0.9480	 0.3660
D	 0.9340	 0.3360
E	 0.9200	 0.3300
F	 0.9470	 0.3410
G	 0.8170	 0.1920
H	 0.8410	 0.1730
I	 0.8550	 0.2110
J	 0.8490	 0.1970
K	 0.8290	 0.1870
L	 0.8560	 0.1960
T	 0.6630	 0.2300

