WORLDWIDE wwPDB PROTEIN DATA BANK

Full wwPDB EM Validation Report (i)

Jun 3, 2024 – 01:56 PM JST

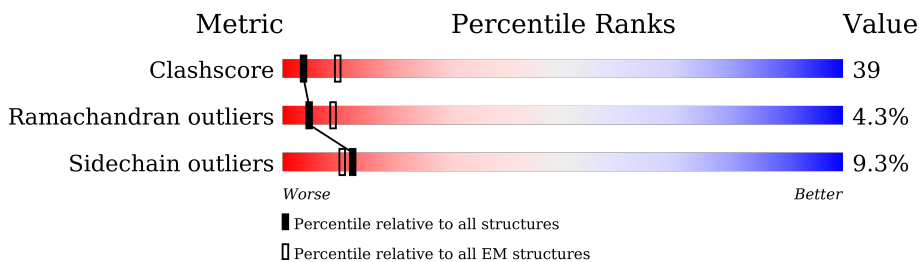|		
PDB ID	:	8HAT
EMDB ID	:	EMD-34608
Title	:	NARROW LEAF 1-open from Japonica
Authors	:	Zhang, S.J.; He, Y.J.; Wang, N.; Zhang, W.J.; Liu, C.M.
Deposited on	:	2022-10-26
Resolution	:	3.03 Å(reported)

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 3.03 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		39
Ramachandran outliers		4.3%
Sidechain outliers		9.3%

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	409	5% — 47% 32% 13% 5% ·
1	B	409	42% — 39% 44% · · 14%
1	C	409	31% — 46% 36% · 14%
1	D	409	40% — 46% 36% · 14%
1	E	409	31% — 47% 35% · · 14%
1	F	409	8% — 53% 31% 10% · ·

2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 16967 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 Protein NARROW LEAF 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	F	396	Total	C	N	O	S	0	0
			3051	1935	534	570	12		
1	D	353	Total	C	N	O	S	0	0
			2714	1720	469	514	11		
1	E	353	Total	C	N	O	S	0	0
			2714	1720	469	514	11		
1	A	399	Total	C	N	O	S	0	0
			3072	1948	538	574	12		
1	B	353	Total	C	N	O	S	0	0
			2714	1720	469	514	11		
1	C	352	Total	C	N	O	S	0	0
			2702	1711	468	512	11		

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: Protein NARROW LEAF 1

• Molecule 1: Protein NARROW LEAF 1

• Molecule 1: Protein NARROW LEAF 1

Chain E:

31%

47% 35% 14%

• Molecule 1: Protein NARROW LEAF 1

Chain A:

5%

47% 32% 13% 5%

• Molecule 1: Protein NARROW LEAF 1

Chain B:

42%
39%   44%   14%

• Molecule 1: Protein NARROW LEAF 1

Chain C:

31%
46%   36%   14%

C193 G194 S195 D196 E197 C198 I199 G200 S201 G202 S203 Q204 V205 A206 S207 H208 E209 T210 L214 G215 A216 I217 V218 K219 R220 R221 T222 G223 N224 K225 Q226 V227 G228 F229 L230 T231 N232 H233 H234 V235 A236 V237 D238 L239 D240 Y241 P242 N243 Q244 K245 M246 F247 H248 P249 L250 P251 P252 N253

G257 V258 Y259 L260 G261 A262 V263 E264 R265 A266 T267 S268 F269 I270 T271 D272 D273 V274 W275 Y276 G277 I278 Y279 A280 G281 T282 N283 P284 E285 T286 F287 V288 R289 A290 D291 G292 A293 F294 I295 P296 F297 A298 D299 D300 F301 D302 I303 S304 T305 V306 T307 V310 R311 G312 D315 I316 G317 D318

V319 K320 V321 I322 D323 L324 Q325 C326 P327 L328 N329 S330 L331 I332 G333 V336 C337 K338 R341 S342 S343 G344 H345 T346 T347 G348 T349 V350 M351 A352 Y353 A354 L355 E356 D359 E360 K361 G362 I363 C364 F365 F366 T367 D368 I369 L370 V371 E374 N375 R376 F379 D380 S385 G386

S387 L388 I389 I390 L391 T392 S393 Q394 D395 G396 E397 K398 P399 R400 P401 W406 G407 G408 T409 A410 N411 R414 L415 T418 S419 P423 W426 T427 L432 G433 R434 L435 L436 D437 R438 L439 E440 L441 D442 I443 I444 I445 T446 N447 E448 S449 L450 Q451 D452 ALA VAL GLN

4　Experimental information　ⓘ

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C2	Depositor
Number of particles used	330894	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION; CTF amplitude correction was performed following 3D reconstruction	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{Å}^2)$	50	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	22500	Depositor
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	2.414	Depositor
Minimum map value	-1.677	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.066	Depositor
Recommended contour level	0.2	Depositor
Map size (Å)	214.76, 214.76, 214.76	wwPDB
Map dimensions	200, 200, 200	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.0738, 1.0738, 1.0738	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	0.66	6/3139 (0.2%)	0.81	13/4261 (0.3%)
1	B	0.35	1/2769 (0.0%)	0.75	6/3758 (0.2%)
1	C	0.31	0/2756	0.66	4/3740 (0.1%)
1	D	0.30	0/2769	0.65	2/3758 (0.1%)
1	E	0.29	0/2769	0.68	2/3758 (0.1%)
1	F	0.61	6/3118 (0.2%)	0.83	17/4232 (0.4%)
All	All	0.45	13/17320 (0.1%)	0.74	44/23507 (0.2%)

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	0	1
1	B	0	3
1	D	0	2
1	E	0	2
1	F	0	1
All	All	0	9

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	B	152	PRO	CG-CD	-10.27	1.16	1.50
1	F	50	TYR	CE2-CZ	-8.77	1.27	1.38
1	A	50	TYR	CE1-CZ	-8.58	1.27	1.38
1	A	51	PHE	CB-CG	-6.93	1.39	1.51
1	A	52	LEU	C-O	-6.65	1.10	1.23
1	F	51	PHE	CB-CG	-6.52	1.40	1.51
1	F	53	TRP	CB-CG	-6.42	1.38	1.50
1	F	51	PHE	CG-CD1	-6.39	1.29	1.38
1	A	51	PHE	CG-CD1	-6.02	1.29	1.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	50	TYR	CE2-CZ	-5.58	1.31	1.38
1	F	50	TYR	CG-CD1	-5.41	1.32	1.39
1	F	50	TYR	CE1-CZ	-5.31	1.31	1.38
1	A	51	PHE	N-CA	5.03	1.56	1.46

All (44) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	152	PRO	N-CD-CG	-14.26	81.81	103.20
1	E	251	PRO	C-N-CD	12.42	154.48	128.40
1	B	152	PRO	CA-N-CD	-8.98	98.92	111.50
1	A	101	ARG	N-CA-C	-8.40	88.33	111.00
1	B	248	HIS	C-N-CD	-8.13	102.71	120.60
1	A	102	ALA	N-CA-C	-8.03	89.33	111.00
1	A	55	THR	N-CA-CB	8.01	125.51	110.30
1	A	52	LEU	CA-CB-CG	7.83	133.30	115.30
1	B	152	PRO	CA-CB-CG	-7.62	89.51	104.00
1	A	51	PHE	N-CA-C	7.48	131.19	111.00
1	C	251	PRO	CA-N-CD	-7.42	101.11	111.50
1	F	53	TRP	CB-CA-C	-7.27	95.86	110.40
1	F	244	GLN	N-CA-C	7.04	130.01	111.00
1	F	64	GLU	N-CA-C	-6.89	92.39	111.00
1	E	251	PRO	C-N-CA	-6.85	93.24	122.00
1	F	235	VAL	N-CA-C	-6.64	93.06	111.00
1	A	50	TYR	N-CA-CB	6.64	122.55	110.60
1	A	150	CYS	N-CA-C	-6.52	93.39	111.00
1	F	51	PHE	CB-CA-C	-6.45	97.50	110.40
1	F	59	GLN	CB-CA-C	6.34	123.08	110.40
1	A	95	LEU	N-CA-C	-6.29	94.01	111.00
1	F	324	LEU	CA-CB-CG	6.27	129.72	115.30
1	A	52	LEU	N-CA-C	6.20	127.73	111.00
1	F	324	LEU	CB-CG-CD1	-6.18	100.50	111.00
1	F	232	ASN	O-C-N	-6.15	112.86	122.70
1	A	65	GLY	N-CA-C	-5.80	98.61	113.10
1	F	60	HIS	N-CA-CB	5.64	120.75	110.60
1	F	92	ASN	C-N-CA	-5.56	107.80	121.70
1	C	259	TYR	N-CA-C	5.52	125.91	111.00
1	F	49	ALA	C-N-CA	5.52	135.50	121.70
1	C	258	VAL	O-C-N	5.50	131.50	122.70
1	D	147	PRO	CA-N-CD	-5.45	103.86	111.50
1	A	59	GLN	N-CA-C	5.43	125.67	111.00
1	F	50	TYR	N-CA-C	5.39	125.56	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	F	96	ASP	C-N-CA	-5.39	108.23	121.70
1	F	92	ASN	O-C-N	-5.37	114.10	122.70
1	B	230	LEU	CA-CB-CG	5.31	127.51	115.30
1	F	92	ASN	N-CA-C	5.31	125.33	111.00
1	D	291	ASP	CB-CG-OD1	5.25	123.03	118.30
1	A	49	ALA	N-CA-C	-5.12	97.16	111.00
1	C	258	VAL	C-N-CA	5.12	134.50	121.70
1	F	59	GLN	CA-C-N	5.09	128.40	117.20
1	A	50	TYR	N-CA-C	5.05	124.64	111.00
1	B	147	PRO	CA-N-CD	-5.02	104.47	111.50

There are no chirality outliers.

All (9) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	52	LEU	Mainchain
1	B	248	HIS	Peptide
1	B	366	PHE	Peptide
1	B	405	ILE	Peptide
1	D	248	HIS	Peptide
1	D	371	VAL	Peptide
1	E	248	HIS	Peptide
1	E	256	PRO	Mainchain
1	F	232	ASN	Mainchain

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	3072	0	3040	343	0
1	B	2714	0	2689	176	0
1	C	2702	0	2680	177	0
1	D	2714	0	2688	209	0
1	E	2714	0	2689	213	0
1	F	3051	0	3018	287	0
All	All	16967	0	16804	1305	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 39.

All (1305) 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:E:251:PRO:HG3	1:E:254:LEU:CD1	1.29	1.62
1:E:251:PRO:CD	1:E:254:LEU:HB2	1.16	1.60
1:F:244:GLN:CB	1:A:56:SER:HB2	1.33	1.58
1:D:245:LYS:HD2	1:D:259:TYR:CE2	1.06	1.57
1:D:245:LYS:CD	1:D:259:TYR:CE2	1.83	1.57
1:F:242:PRO:HB2	1:A:54:PRO:CB	1.32	1.57
1:F:244:GLN:HB2	1:A:56:SER:CB	1.11	1.55
1:C:247:PHE:CE1	1:C:251:PRO:HA	1.41	1.54
1:E:247:PHE:CA	1:E:260:LEU:CD1	1.84	1.51
1:C:247:PHE:CZ	1:C:251:PRO:CA	1.96	1.45
1:F:242:PRO:CB	1:A:54:PRO:HB3	0.97	1.44
1:C:247:PHE:CE1	1:C:251:PRO:CA	1.99	1.41
1:E:247:PHE:CE2	1:E:252:PRO:HD3	1.55	1.41
1:F:95:LEU:CD2	1:F:324:LEU:O	1.67	1.41
1:D:245:LYS:CA	1:D:259:TYR:OH	1.64	1.41
1:E:251:PRO:HG2	1:E:254:LEU:N	1.10	1.40
1:E:251:PRO:CG	1:E:254:LEU:CB	1.99	1.40
1:D:298:ALA:HB3	1:D:301:PHE:CD1	1.55	1.39
1:E:247:PHE:HA	1:E:260:LEU:CD1	0.92	1.38
1:E:251:PRO:CG	1:E:254:LEU:HB2	1.52	1.36
1:E:251:PRO:HG3	1:E:254:LEU:CG	1.55	1.35
1:C:247:PHE:CZ	1:C:251:PRO:HA	1.53	1.34
1:F:242:PRO:CB	1:A:54:PRO:CB	1.92	1.34
1:C:248:HIS:ND1	1:C:249:PRO:HD3	1.40	1.33
1:C:247:PHE:CZ	1:C:251:PRO:CB	2.11	1.31
1:D:259:TYR:O	1:D:301:PHE:CD2	1.81	1.30
1:E:248:HIS:ND1	1:E:249:PRO:HD3	1.46	1.30
1:F:94:LEU:O	1:F:98:MET:HG2	1.21	1.29
1:C:265:ARG:HG2	1:C:439:LEU:CD1	1.61	1.28
1:D:298:ALA:CB	1:D:301:PHE:CE1	2.18	1.27
1:C:247:PHE:CE1	1:C:251:PRO:CB	2.16	1.27
1:E:251:PRO:CD	1:E:254:LEU:CB	2.10	1.26
1:E:247:PHE:CA	1:E:260:LEU:HD11	1.54	1.25
1:D:302:ASP:OD1	1:D:305:THR:HG23	1.17	1.24
1:E:251:PRO:CG	1:E:254:LEU:CD1	2.15	1.22
1:E:247:PHE:CE2	1:E:252:PRO:CD	2.23	1.21
1:F:245:LYS:HD3	1:A:56:SER:OG	1.33	1.21

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:247:PHE:CZ	1:E:252:PRO:CD	2.23	1.21
1:E:251:PRO:CG	1:E:254:LEU:H	1.52	1.21
1:E:251:PRO:CG	1:E:254:LEU:N	2.04	1.20
1:C:248:HIS:ND1	1:C:249:PRO:CD	2.04	1.20
1:C:294:PHE:O	1:C:295:ILE:HG13	1.41	1.19
1:F:86:PRO:HB2	1:F:162:TRP:CD1	1.77	1.18
1:C:247:PHE:CE1	1:C:251:PRO:HB3	1.79	1.16
1:F:97:LEU:HD12	1:F:100:ILE:HD12	1.17	1.16
1:F:95:LEU:HD21	1:F:324:LEU:O	0.97	1.15
1:E:247:PHE:HA	1:E:260:LEU:HD13	1.24	1.15
1:D:298:ALA:HB3	1:D:301:PHE:CE1	1.77	1.14
1:C:265:ARG:CG	1:C:439:LEU:HD13	1.78	1.14
1:E:251:PRO:HG3	1:E:254:LEU:CB	1.70	1.13
1:F:94:LEU:O	1:F:98:MET:CG	1.97	1.13
1:D:245:LYS:HD2	1:D:259:TYR:CZ	1.82	1.13
1:E:251:PRO:HG3	1:E:254:LEU:HD13	1.15	1.13
1:C:265:ARG:CG	1:C:439:LEU:CD1	2.28	1.12
1:E:247:PHE:HB3	1:E:259:TYR:HA	1.20	1.11
1:E:251:PRO:CG	1:E:254:LEU:HD13	1.75	1.11
1:E:251:PRO:HD2	1:E:254:LEU:HB2	1.26	1.11
1:F:97:LEU:CD1	1:F:100:ILE:HD12	1.79	1.11
1:E:248:HIS:ND1	1:E:249:PRO:CD	2.12	1.11
1:C:245:LYS:HE2	1:C:259:TYR:CE2	1.85	1.10
1:E:251:PRO:HG2	1:E:254:LEU:CA	1.80	1.10
1:E:247:PHE:CA	1:E:260:LEU:HD12	1.64	1.09
1:E:251:PRO:HD3	1:E:254:LEU:HB2	1.28	1.09
1:D:259:TYR:O	1:D:301:PHE:CE2	2.06	1.09
1:F:244:GLN:CB	1:A:56:SER:CB	2.03	1.09
1:F:242:PRO:HB3	1:A:54:PRO:HB3	1.14	1.08
1:D:246:MET:N	1:D:259:TYR:HE1	1.51	1.08
1:F:244:GLN:CG	1:A:55:THR:O	2.01	1.08
1:D:302:ASP:OD1	1:D:305:THR:CG2	2.03	1.06
1:D:245:LYS:HA	1:D:259:TYR:CZ	1.91	1.05
1:A:100:ILE:HA	1:A:103:PHE:HB2	1.35	1.05
1:E:256:PRO:O	1:E:257:GLY:O	1.74	1.05
1:F:53:TRP:HZ3	1:A:237:VAL:HG12	1.16	1.04
1:E:247:PHE:CZ	1:E:252:PRO:HD2	1.92	1.04
1:A:103:PHE:CE1	1:A:157:GLY:HA2	1.93	1.04
1:E:247:PHE:HA	1:E:260:LEU:HD12	1.06	1.04
1:C:248:HIS:HB3	1:C:249:PRO:HD2	1.38	1.04
1:A:100:ILE:CA	1:A:103:PHE:HB2	1.87	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:245:LYS:HD2	1:D:259:TYR:CD2	1.93	1.03
1:F:244:GLN:CB	1:A:55:THR:O	2.07	1.02
1:F:244:GLN:HB2	1:A:56:SER:HB3	1.40	1.02
1:C:247:PHE:O	1:C:248:HIS:O	1.76	1.02
1:E:247:PHE:CZ	1:E:252:PRO:HD3	1.88	1.01
1:D:245:LYS:HD3	1:D:259:TYR:CE2	1.95	1.01
1:E:251:PRO:CG	1:E:254:LEU:CA	2.38	1.01
1:D:245:LYS:CD	1:D:259:TYR:CZ	2.41	1.01
1:C:218:VAL:HG21	1:C:294:PHE:CE1	1.95	1.00
1:D:245:LYS:CD	1:D:259:TYR:HE2	1.40	1.00
1:E:251:PRO:O	1:E:252:PRO:C	1.88	0.98
1:A:51:PHE:HE2	1:A:239:LEU:HD13	1.26	0.98
1:C:247:PHE:HZ	1:C:251:PRO:HB2	1.25	0.98
1:C:218:VAL:HG21	1:C:294:PHE:CD1	1.98	0.97
1:F:92:ASN:HB2	1:F:327:PRO:HA	1.47	0.97
1:F:94:LEU:HD12	1:F:324:LEU:HA	1.48	0.96
1:E:247:PHE:C	1:E:260:LEU:HD11	1.86	0.96
1:F:245:LYS:HD3	1:A:56:SER:HG	1.05	0.96
1:A:55:THR:O	1:A:56:SER:HB2	1.66	0.96
1:E:251:PRO:CB	1:E:254:LEU:HD13	1.96	0.95
1:C:248:HIS:CB	1:C:249:PRO:HD2	1.97	0.95
1:A:53:TRP:HE1	1:A:56:SER:N	1.65	0.95
1:E:202:GLY:H	1:E:214:LEU:HB3	1.29	0.94
1:A:100:ILE:C	1:A:103:PHE:HB2	1.87	0.94
1:F:244:GLN:HB3	1:A:56:SER:HB2	1.48	0.94
1:E:248:HIS:N	1:E:260:LEU:HD11	1.82	0.94
1:F:55:THR:OG1	1:A:243:ASN:ND2	2.00	0.94
1:F:242:PRO:HG2	1:A:55:THR:H	1.32	0.94
1:D:246:MET:N	1:D:259:TYR:CE1	2.28	0.94
1:E:247:PHE:HA	1:E:260:LEU:HD11	0.97	0.94
1:D:260:LEU:CD1	1:D:301:PHE:HB3	1.97	0.93
1:D:302:ASP:CG	1:D:305:THR:HG23	1.86	0.93
1:A:104:HIS:HB2	1:A:155:LEU:HD23	1.49	0.93
1:C:247:PHE:HE1	1:C:251:PRO:HB3	1.20	0.93
1:F:245:LYS:CD	1:A:56:SER:OG	2.16	0.93
1:B:130:PRO:HG3	1:B:328:LEU:HD13	1.48	0.93
1:F:53:TRP:CZ3	1:A:237:VAL:HG12	2.02	0.93
1:F:53:TRP:H	1:F:54:PRO:HD3	1.33	0.92
1:C:247:PHE:HZ	1:C:251:PRO:CB	1.62	0.92
1:F:86:PRO:HB2	1:F:162:TRP:HD1	1.25	0.92
1:F:94:LEU:CD1	1:F:324:LEU:HA	2.00	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:242:PRO:HB2	1:A:54:PRO:HB2	1.51	0.91
1:C:247:PHE:HE1	1:C:251:PRO:CB	1.73	0.91
1:C:265:ARG:HG2	1:C:439:LEU:HD13	0.91	0.91
1:E:247:PHE:CB	1:E:260:LEU:HD12	2.01	0.91
1:D:259:TYR:O	1:D:301:PHE:HD2	1.37	0.90
1:A:86:PRO:HG2	1:A:162:TRP:HB3	1.53	0.90
1:F:240:ASP:O	1:F:241:TYR:HB2	1.72	0.90
1:D:298:ALA:CB	1:D:301:PHE:CD1	2.43	0.90
1:E:250:LEU:HB3	1:E:251:PRO:CD	2.02	0.90
1:E:259:TYR:CZ	1:E:298:ALA:HB1	2.08	0.89
1:F:95:LEU:HD11	1:F:325:GLN:CD	1.94	0.88
1:D:245:LYS:HA	1:D:259:TYR:OH	0.71	0.88
1:F:244:GLN:HB2	1:A:56:SER:OG	1.74	0.88
1:E:247:PHE:CB	1:E:259:TYR:HA	2.03	0.87
1:C:248:HIS:CG	1:C:249:PRO:HD2	2.10	0.87
1:E:247:PHE:HZ	1:E:252:PRO:HD2	1.36	0.86
1:D:260:LEU:HA	1:D:301:PHE:CD2	2.10	0.86
1:A:157:GLY:HA3	1:A:161:VAL:HG23	1.56	0.86
1:E:247:PHE:HB3	1:E:259:TYR:CA	2.05	0.86
1:A:286:THR:HA	1:A:364:CYS:HB2	1.57	0.86
1:C:265:ARG:CG	1:C:439:LEU:HD11	2.06	0.86
1:A:53:TRP:HE1	1:A:56:SER:H	1.19	0.85
1:F:60:HIS:O	1:F:60:HIS:ND1	2.08	0.85
1:A:113:LEU:HB3	1:A:135:PHE:CE1	2.12	0.84
1:E:247:PHE:HZ	1:E:252:PRO:CD	1.88	0.84
1:D:260:LEU:HA	1:D:301:PHE:HD2	1.42	0.84
1:F:69:TYR:HE2	1:F:102:ALA:HB1	1.41	0.84
1:D:245:LYS:CA	1:D:259:TYR:CZ	2.55	0.84
1:C:245:LYS:HE2	1:C:259:TYR:CD2	2.12	0.83
1:E:250:LEU:HD12	1:E:250:LEU:H	1.42	0.83
1:A:109:ARG:NH1	1:A:358:ASN:HB2	1.92	0.83
1:C:248:HIS:CG	1:C:249:PRO:CD	2.62	0.83
1:A:103:PHE:O	1:A:105:SER:N	2.11	0.83
1:C:247:PHE:HB3	1:C:259:TYR:HA	1.59	0.83
1:C:248:HIS:ND1	1:C:249:PRO:HD2	1.93	0.83
1:A:101:ARG:HG3	1:A:102:ALA:N	1.95	0.82
1:F:57:ASN:HB2	1:A:47:SER:N	1.94	0.82
1:D:260:LEU:HD12	1:D:301:PHE:HB3	1.59	0.82
1:E:121:ILE:H	1:E:133:LEU:HD11	1.44	0.82
1:A:97:LEU:HD21	1:A:131:ALA:O	1.80	0.82
1:F:244:GLN:HB3	1:A:55:THR:O	1.78	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:244:GLN:HG2	1:F:245:LYS:HG2	1.60	0.81
1:E:247:PHE:HE2	1:E:252:PRO:CD	1.88	0.81
1:F:53:TRP:H	1:F:54:PRO:CD	1.93	0.81
1:F:95:LEU:HD23	1:F:95:LEU:H	1.45	0.80
1:D:138:ARG:NE	1:E:250:LEU:HD11	1.96	0.80
1:A:109:ARG:CZ	1:A:358:ASN:HD22	1.95	0.80
1:F:71:GLY:H	1:F:75:LYS:HB2	1.47	0.80
1:C:265:ARG:HG3	1:C:439:LEU:HD11	1.63	0.80
1:D:298:ALA:HB1	1:D:301:PHE:CE1	2.14	0.80
1:C:248:HIS:HB3	1:C:249:PRO:CD	2.12	0.80
1:F:242:PRO:CG	1:A:54:PRO:HB3	2.06	0.79
1:A:94:LEU:HD21	1:A:117:VAL:HG21	1.65	0.79
1:F:86:PRO:HG2	1:F:162:TRP:HB3	1.63	0.79
1:F:71:GLY:C	1:F:75:LYS:HG3	2.02	0.79
1:E:289:ARG:HB3	1:E:406:TRP:HE1	1.46	0.79
1:C:248:HIS:CB	1:C:249:PRO:CD	2.59	0.79
1:E:251:PRO:HG3	1:E:254:LEU:HD12	1.59	0.78
1:E:247:PHE:CB	1:E:260:LEU:CD1	2.60	0.78
1:F:69:TYR:CE2	1:F:102:ALA:HB1	2.18	0.78
1:D:237:VAL:HG21	1:D:263:VAL:HG21	1.65	0.78
1:F:55:THR:HG21	1:A:242:PRO:O	1.83	0.78
1:F:75:LYS:HG2	1:F:76:GLY:N	1.99	0.78
1:C:187:GLU:HB3	1:C:191:LYS:HE2	1.64	0.77
1:E:251:PRO:HD2	1:E:254:LEU:CB	1.96	0.77
1:C:199:ILE:HG22	1:C:248:HIS:HE2	1.49	0.77
1:C:115:THR:HG22	1:C:134:VAL:HA	1.66	0.77
1:C:121:ILE:H	1:C:133:LEU:HD11	1.50	0.77
1:F:89:GLN:HB2	1:F:161:VAL:HG12	1.67	0.77
1:A:57:ASN:O	1:A:58:LEU:HB2	1.83	0.77
1:D:95:LEU:HB2	1:D:278:ILE:HG22	1.67	0.77
1:D:138:ARG:HE	1:E:250:LEU:HD11	1.49	0.77
1:E:247:PHE:CE2	1:E:252:PRO:HD2	2.13	0.76
1:C:265:ARG:NH1	1:C:267:THR:HB	1.99	0.76
1:D:213:THR:OG1	1:D:385:SER:O	2.03	0.76
1:F:244:GLN:HG3	1:A:55:THR:O	1.82	0.76
1:D:318:ASP:OD1	1:D:319:VAL:N	2.19	0.76
1:D:302:ASP:CG	1:D:305:THR:CG2	2.53	0.76
1:A:145:LEU:HD23	1:B:256:PRO:HB3	1.66	0.76
1:E:230:LEU:HB2	1:E:293:ALA:HB1	1.67	0.76
1:A:136:VAL:HG21	1:A:167:VAL:HG13	1.68	0.76
1:D:245:LYS:CB	1:D:259:TYR:CZ	2.70	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:136:VAL:CG2	1:A:167:VAL:HG13	2.16	0.75
1:C:219:LYS:HB2	1:C:442:ASP:HB3	1.68	0.75
1:F:244:GLN:HB2	1:A:56:SER:HB2	0.75	0.75
1:E:248:HIS:H	1:E:260:LEU:HD11	1.50	0.75
1:C:317:GLY:N	1:C:399:PRO:O	2.14	0.75
1:C:390:ILE:HA	1:C:401:PRO:HA	1.68	0.75
1:A:109:ARG:HH12	1:A:358:ASN:HB2	1.50	0.75
1:F:108:LEU:O	1:F:112:SER:OG	2.05	0.74
1:F:236:ALA:HB1	1:F:263:VAL:HG21	1.69	0.74
1:F:53:TRP:HZ3	1:A:237:VAL:CG1	1.99	0.74
1:A:103:PHE:HE1	1:A:158:PRO:HD3	1.51	0.74
1:F:431:ASP:OD2	1:F:434:ARG:NH1	2.21	0.73
1:C:202:GLY:H	1:C:214:LEU:HB3	1.53	0.73
1:A:51:PHE:CE2	1:A:239:LEU:HD13	2.18	0.73
1:D:245:LYS:HD3	1:D:259:TYR:HE2	1.35	0.73
1:B:316:ILE:HA	1:B:399:PRO:HD2	1.69	0.73
1:B:289:ARG:HB3	1:B:366:PHE:HB2	1.69	0.73
1:E:189:VAL:O	1:E:341:ARG:NH1	2.22	0.73
1:A:132:ILE:HG12	1:A:163:CYS:SG	2.29	0.73
1:E:247:PHE:HD2	1:E:259:TYR:N	1.87	0.73
1:A:66:ARG:HA	1:A:279:TYR:CE2	2.23	0.72
1:C:376:ARG:NH2	1:C:419:SER:OG	2.22	0.72
1:F:244:GLN:CG	1:A:56:SER:OG	2.36	0.72
1:E:246:MET:O	1:E:260:LEU:HD12	1.89	0.72
1:F:242:PRO:HB3	1:A:54:PRO:CB	1.90	0.72
1:D:100:ILE:HD11	1:D:161:VAL:HG23	1.71	0.72
1:E:250:LEU:CB	1:E:251:PRO:CD	2.66	0.72
1:E:250:LEU:HD12	1:E:250:LEU:N	2.04	0.72
1:A:87:LYS:O	1:A:88:GLY:C	2.27	0.72
1:E:247:PHE:HD2	1:E:259:TYR:H	1.34	0.72
1:E:250:LEU:HB3	1:E:251:PRO:HD2	1.71	0.72
1:D:404:ILE:HD12	1:D:435:LEU:HD12	1.72	0.72
1:E:316:ILE:HG13	1:E:445:ILE:HD13	1.71	0.72
1:B:274:VAL:O	1:B:438:ARG:NH2	2.23	0.72
1:A:100:ILE:HA	1:A:103:PHE:CB	2.16	0.72
1:F:240:ASP:O	1:F:241:TYR:CB	2.38	0.71
1:E:121:ILE:HG22	1:E:126:LEU:HB3	1.70	0.71
1:F:120:ARG:NH1	1:F:165:VAL:O	2.23	0.71
1:B:275:TRP:HD1	1:B:276:TYR:H	1.37	0.71
1:E:251:PRO:HD2	1:E:254:LEU:C	2.11	0.71
1:D:259:TYR:C	1:D:301:PHE:CE2	2.63	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:238:ASP:CG	1:F:239:LEU:H	1.89	0.71
1:A:55:THR:O	1:A:56:SER:CB	2.38	0.71
1:C:247:PHE:HB3	1:C:259:TYR:CA	2.20	0.71
1:F:66:ARG:HH11	1:F:284:PRO:HA	1.54	0.70
1:D:94:LEU:HG	1:D:328:LEU:HD21	1.73	0.70
1:D:371:VAL:HG12	1:D:427:THR:H	1.57	0.70
1:E:233:HIS:HB3	1:E:291:ASP:HB3	1.72	0.70
1:A:53:TRP:HD1	1:A:54:PRO:N	1.89	0.70
1:A:98:MET:O	1:A:102:ALA:HB2	1.91	0.70
1:C:245:LYS:CE	1:C:259:TYR:CD2	2.74	0.70
1:E:247:PHE:HB3	1:E:260:LEU:HD12	1.72	0.70
1:D:101:ARG:HH22	1:D:117:VAL:HG13	1.57	0.70
1:D:350:VAL:HA	1:D:371:VAL:HA	1.74	0.70
1:D:415:LEU:HD13	1:D:426:TRP:CD1	2.27	0.70
1:E:248:HIS:ND1	1:E:249:PRO:HD2	2.03	0.69
1:E:193:CYS:SG	1:E:341:ARG:NH1	2.65	0.69
1:A:94:LEU:O	1:A:98:MET:HB2	1.92	0.69
1:A:135:PHE:CD1	1:A:170:PHE:HB2	2.26	0.69
1:C:206:ALA:HB3	1:C:247:PHE:O	1.92	0.69
1:F:94:LEU:O	1:F:98:MET:SD	2.51	0.69
1:F:244:GLN:CG	1:A:56:SER:HB2	2.21	0.69
1:F:244:GLN:CD	1:A:55:THR:O	2.30	0.69
1:A:110:ARG:HG2	1:A:111:PHE:CE1	2.28	0.69
1:C:243:ASN:HD21	1:C:262:ALA:HB1	1.55	0.69
1:D:208:HIS:H	1:D:251:PRO:HG3	1.58	0.69
1:F:51:PHE:HD1	1:F:51:PHE:H	1.38	0.69
1:F:71:GLY:N	1:F:75:LYS:HB2	2.08	0.69
1:F:244:GLN:HG3	1:A:56:SER:OG	1.93	0.69
1:F:250:LEU:HD11	1:E:138:ARG:HG2	1.74	0.69
1:D:371:VAL:HG12	1:D:427:THR:N	2.07	0.69
1:E:232:ASN:HD21	1:E:235:VAL:HG23	1.58	0.69
1:A:60:HIS:CG	1:A:61:CYS:N	2.56	0.69
1:E:272:ASP:HB2	1:E:286:THR:HG21	1.74	0.69
1:C:120:ARG:HA	1:C:133:LEU:HD21	1.74	0.68
1:F:244:GLN:CG	1:A:56:SER:CB	2.71	0.68
1:E:247:PHE:CD2	1:E:259:TYR:N	2.60	0.68
1:F:54:PRO:O	1:A:47:SER:HB2	1.93	0.68
1:F:190:ASP:O	1:F:195:SER:OG	2.11	0.68
1:F:86:PRO:CB	1:F:162:TRP:CD1	2.68	0.68
1:D:288:VAL:HG11	1:D:434:ARG:HH21	1.58	0.68
1:A:135:PHE:CD1	1:A:135:PHE:C	2.64	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:251:PRO:CG	1:E:254:LEU:HD12	2.19	0.68
1:A:51:PHE:HE2	1:A:239:LEU:CD1	2.02	0.68
1:C:289:ARG:HG2	1:C:365:PHE:HB3	1.73	0.68
1:F:55:THR:HG22	1:A:48:ALA:O	1.92	0.68
1:D:357:TYR:OH	1:D:365:PHE:N	2.27	0.68
1:F:85:LEU:O	1:F:86:PRO:C	2.29	0.68
1:E:259:TYR:CE2	1:E:298:ALA:HB1	2.29	0.68
1:E:353:TYR:O	1:E:355:LEU:N	2.26	0.68
1:A:55:THR:HG22	1:A:287:PHE:CE2	2.29	0.68
1:F:93:SER:HB2	1:F:96:ASP:H	1.59	0.67
1:A:103:PHE:CZ	1:A:157:GLY:HA2	2.29	0.67
1:A:77:LEU:HD23	1:A:78:LEU:H	1.58	0.67
1:F:66:ARG:NH1	1:F:284:PRO:HA	2.08	0.67
1:B:229:PHE:HD2	1:B:297:PHE:HE1	1.42	0.67
1:B:93:SER:O	1:B:97:LEU:N	2.27	0.67
1:B:289:ARG:HB2	1:B:365:PHE:CD1	2.30	0.67
1:B:350:VAL:HA	1:B:371:VAL:HA	1.75	0.67
1:C:236:ALA:O	1:C:244:GLN:NE2	2.24	0.67
1:F:234:HIS:HA	1:F:237:VAL:O	1.94	0.67
1:D:301:PHE:HD1	1:D:301:PHE:H	1.40	0.67
1:A:86:PRO:O	1:A:87:LYS:C	2.33	0.67
1:A:317:GLY:N	1:A:399:PRO:O	2.28	0.67
1:C:247:PHE:CB	1:C:259:TYR:HA	2.23	0.67
1:D:246:MET:H	1:D:259:TYR:HE1	0.76	0.67
1:C:287:PHE:O	1:C:288:VAL:HG23	1.95	0.67
1:C:291:ASP:OD1	1:C:406:TRP:NE1	2.27	0.67
1:D:232:ASN:HB3	1:D:385:SER:HB3	1.77	0.66
1:D:245:LYS:CE	1:D:259:TYR:HE2	2.07	0.66
1:A:80:ARG:HH12	1:A:152:PRO:HG2	1.58	0.66
1:A:113:LEU:HG	1:A:135:PHE:HZ	1.60	0.66
1:A:53:TRP:CD1	1:A:54:PRO:N	2.63	0.66
1:A:86:PRO:HG2	1:A:162:TRP:CB	2.24	0.66
1:A:66:ARG:HG3	1:A:66:ARG:O	1.95	0.66
1:A:99:THR:C	1:A:100:ILE:HG12	2.15	0.66
1:C:230:LEU:HB2	1:C:293:ALA:HB1	1.78	0.66
1:A:136:VAL:HG12	1:A:137:ALA:H	1.59	0.66
1:E:251:PRO:HB3	1:E:254:LEU:HD13	1.78	0.65
1:D:357:TYR:HE1	1:D:366:PHE:HB3	1.61	0.65
1:E:94:LEU:HG	1:E:324:LEU:HB2	1.78	0.65
1:A:103:PHE:CE1	1:A:158:PRO:HD3	2.31	0.65
1:F:66:ARG:HG2	1:F:279:TYR:CE2	2.31	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:85:LEU:HG	1:F:86:PRO:O	1.96	0.65
1:F:430:VAL:HG21	1:F:435:LEU:HD22	1.78	0.65
1:D:245:LYS:CE	1:D:259:TYR:CE2	2.75	0.65
1:A:149:GLN:OE1	1:B:256:PRO:HA	1.96	0.65
1:C:317:GLY:HA2	1:C:398:LYS:HD2	1.78	0.65
1:F:95:LEU:HD23	1:F:95:LEU:N	2.11	0.65
1:F:244:GLN:OE1	1:A:55:THR:O	2.13	0.65
1:F:403:GLY:HA2	1:F:432:LEU:HB2	1.79	0.65
1:A:73:LEU:HD21	1:A:103:PHE:HA	1.78	0.65
1:E:113:LEU:HD22	1:E:358:ASN:HB2	1.79	0.65
1:A:101:ARG:N	1:A:103:PHE:H	1.95	0.65
1:B:96:ASP:O	1:B:100:ILE:HG12	1.96	0.65
1:D:406:TRP:N	1:D:428:SER:OG	2.31	0.64
1:D:132:ILE:HG22	1:D:165:VAL:HA	1.79	0.64
1:E:251:PRO:CD	1:E:254:LEU:CA	2.74	0.64
1:A:99:THR:O	1:A:100:ILE:HG12	1.98	0.64
1:F:233:HIS:NE2	1:F:237:VAL:HB	2.13	0.64
1:E:211:PHE:HE2	1:E:341:ARG:HE	1.43	0.64
1:F:431:ASP:O	1:F:433:GLY:N	2.31	0.64
1:C:221:ARG:NE	1:C:441:LEU:O	2.19	0.64
1:D:334:ARG:HH11	1:D:391:LEU:HD22	1.63	0.64
1:C:324:LEU:HD11	1:C:331:LEU:HD13	1.78	0.64
1:E:250:LEU:HB3	1:E:251:PRO:HD3	1.78	0.63
1:F:410:ALA:HB1	1:F:425:ASN:HB3	1.80	0.63
1:C:229:PHE:HB3	1:C:297:PHE:CE1	2.32	0.63
1:A:101:ARG:HG3	1:A:102:ALA:H	1.62	0.63
1:B:415:LEU:HB2	1:B:426:TRP:HD1	1.63	0.63
1:C:294:PHE:O	1:C:295:ILE:CG1	2.33	0.63
1:F:53:TRP:O	1:F:55:THR:N	2.30	0.63
1:E:359:ASP:HB3	1:E:363:ILE:HB	1.81	0.63
1:E:218:VAL:HG12	1:E:443:ILE:HA	1.81	0.63
1:E:221:ARG:HE	1:E:442:ASP:HB2	1.64	0.63
1:B:233:HIS:CG	1:B:234:HIS:H	2.17	0.63
1:F:70:PHE:HE2	1:F:282:THR:CG2	2.12	0.63
1:F:207:SER:HB3	1:F:243:ASN:HD21	1.64	0.63
1:E:152:PRO:HG2	1:E:155:LEU:HD11	1.81	0.63
1:E:251:PRO:HD2	1:E:254:LEU:CA	2.29	0.63
1:A:76:GLY:O	1:A:77:LEU:HB2	1.99	0.63
1:F:75:LYS:H	1:F:75:LYS:HD3	1.64	0.63
1:F:233:HIS:CD2	1:F:237:VAL:HB	2.34	0.63
1:D:172:TYR:O	1:D:414:ARG:N	2.32	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:197:GLU:OE1	1:A:197:GLU:N	2.29	0.62
1:A:73:LEU:CD2	1:A:103:PHE:HA	2.29	0.62
1:E:247:PHE:CB	1:E:259:TYR:N	2.61	0.62
1:C:117:VAL:HG12	1:C:132:ILE:HA	1.80	0.62
1:F:166:ASP:OD1	1:F:167:VAL:N	2.32	0.62
1:C:194:GLY:N	1:C:249:PRO:HG3	2.15	0.62
1:F:204:GLN:OE1	1:E:138:ARG:NH2	2.32	0.62
1:F:242:PRO:HB2	1:A:54:PRO:HB3	0.62	0.62
1:D:221:ARG:HH21	1:D:440:GLU:HG3	1.65	0.62
1:B:95:LEU:N	1:B:324:LEU:O	2.30	0.62
1:F:97:LEU:CD1	1:F:100:ILE:CD1	2.69	0.62
1:D:245:LYS:HB3	1:D:259:TYR:CZ	2.35	0.62
1:A:109:ARG:CZ	1:A:358:ASN:HB2	2.29	0.62
1:E:94:LEU:H	1:E:325:GLN:HA	1.65	0.62
1:E:199:ILE:HG22	1:E:248:HIS:CD2	2.35	0.62
1:A:113:LEU:HB3	1:A:135:PHE:CZ	2.34	0.62
1:C:247:PHE:CZ	1:C:251:PRO:HB2	2.04	0.62
1:C:245:LYS:HG3	1:C:259:TYR:HD2	1.64	0.62
1:E:117:VAL:HG12	1:E:132:ILE:HG23	1.81	0.61
1:F:244:GLN:CB	1:A:56:SER:OG	2.36	0.61
1:D:376:ARG:HH12	1:D:421:HIS:CG	2.18	0.61
1:C:245:LYS:NZ	1:C:259:TYR:CD2	2.68	0.61
1:F:235:VAL:O	1:F:246:MET:HE1	2.00	0.61
1:F:242:PRO:CG	1:A:55:THR:H	2.08	0.61
1:D:259:TYR:C	1:D:301:PHE:HE2	2.02	0.61
1:A:358:ASN:OD1	1:A:364:CYS:HA	2.01	0.61
1:F:413:GLY:O	1:F:426:TRP:NE1	2.30	0.61
1:B:361:LYS:HZ3	1:B:363:ILE:HB	1.65	0.61
1:F:47:SER:O	1:A:271:THR:HG22	1.99	0.61
1:C:135:PHE:HB3	1:C:170:PHE:HB2	1.81	0.61
1:E:201:SER:HB2	1:E:310:VAL:HA	1.82	0.61
1:B:415:LEU:N	1:B:424:GLU:O	2.33	0.61
1:D:308:THR:HG21	1:D:447:ASN:HA	1.83	0.61
1:A:52:LEU:HG	1:A:52:LEU:O	2.01	0.61
1:B:101:ARG:CZ	1:B:155:LEU:HD13	2.31	0.61
1:B:445:ILE:HD12	1:B:445:ILE:H	1.66	0.61
1:D:260:LEU:HD12	1:D:301:PHE:CB	2.30	0.61
1:A:80:ARG:HH22	1:A:152:PRO:HB3	1.66	0.61
1:A:97:LEU:HD23	1:A:117:VAL:HG12	1.83	0.61
1:A:132:ILE:HD11	1:A:163:CYS:HB3	1.83	0.60
1:B:130:PRO:HG3	1:B:328:LEU:CD1	2.25	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:192:LEU:HB3	1:C:203:SER:HA	1.83	0.60
1:D:204:GLN:HA	1:D:213:THR:HA	1.82	0.60
1:E:204:GLN:HE21	1:E:206:ALA:HB2	1.66	0.60
1:A:153:ALA:HA	1:A:165:VAL:HB	1.83	0.60
1:C:202:GLY:N	1:C:214:LEU:HB3	2.16	0.60
1:F:92:ASN:O	1:F:93:SER:OG	2.19	0.60
1:B:400:ARG:HD2	1:B:402:ILE:HD11	1.83	0.60
1:F:242:PRO:CB	1:A:54:PRO:CA	2.76	0.60
1:E:250:LEU:CB	1:E:251:PRO:HD2	2.30	0.60
1:B:289:ARG:HH21	1:B:368:ASP:H	1.48	0.60
1:F:92:ASN:CB	1:F:327:PRO:HA	2.28	0.60
1:A:109:ARG:HH22	1:A:358:ASN:H	1.48	0.60
1:A:114:GLY:HA3	1:A:135:PHE:CE2	2.37	0.60
1:C:204:GLN:HB2	1:C:341:ARG:HG3	1.83	0.60
1:A:85:LEU:O	1:A:87:LYS:N	2.34	0.60
1:D:421:HIS:HA	1:E:185:PHE:HB3	1.83	0.60
1:B:101:ARG:O	1:B:101:ARG:HG2	2.00	0.60
1:C:228:GLY:HA3	1:C:296:PRO:HA	1.83	0.60
1:F:53:TRP:N	1:F:54:PRO:HD3	2.12	0.60
1:F:94:LEU:HD13	1:F:324:LEU:HA	1.82	0.60
1:B:288:VAL:HG22	1:B:366:PHE:CG	2.36	0.60
1:E:316:ILE:HG22	1:E:399:PRO:HG2	1.84	0.60
1:A:100:ILE:O	1:A:103:PHE:HB2	2.01	0.60
1:D:259:TYR:C	1:D:301:PHE:CD2	2.73	0.60
1:A:103:PHE:O	1:A:104:HIS:C	2.37	0.60
1:B:135:PHE:CE1	1:B:168:VAL:HB	2.37	0.60
1:D:237:VAL:HG22	1:D:244:GLN:HE21	1.67	0.59
1:D:298:ALA:HB2	1:D:301:PHE:CE1	2.30	0.59
1:A:85:LEU:O	1:A:86:PRO:C	2.41	0.59
1:A:136:VAL:HG21	1:A:167:VAL:CG1	2.32	0.59
1:B:123:LYS:HE2	1:B:125:ASP:HB2	1.84	0.59
1:F:136:VAL:O	1:F:170:PHE:N	2.33	0.59
1:B:95:LEU:HA	1:B:278:ILE:HD11	1.82	0.59
1:B:416:LYS:HB3	1:B:423:PRO:HD3	1.83	0.59
1:D:121:ILE:HG22	1:D:126:LEU:HA	1.85	0.59
1:E:237:VAL:HG22	1:E:263:VAL:HG11	1.84	0.59
1:E:352:ALA:HB3	1:E:370:LEU:HB3	1.83	0.59
1:B:355:LEU:HB3	1:B:367:THR:HB	1.83	0.59
1:F:48:ALA:O	1:A:53:TRP:CD2	2.56	0.59
1:F:207:SER:CB	1:F:243:ASN:ND2	2.65	0.59
1:D:288:VAL:HG11	1:D:434:ARG:NH2	2.18	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:53:TRP:CD1	1:A:54:PRO:O	2.55	0.59
1:D:270:ILE:O	1:D:288:VAL:N	2.35	0.59
1:E:101:ARG:NH2	1:E:356:GLU:OE2	2.25	0.59
1:C:347:THR:OG1	1:C:374:GLU:OE1	2.18	0.59
1:D:101:ARG:NH2	1:D:117:VAL:HG13	2.18	0.59
1:A:107:ILE:O	1:A:110:ARG:HB3	2.02	0.59
1:A:416:LYS:HE3	1:A:423:PRO:HB3	1.83	0.59
1:B:219:LYS:O	1:B:442:ASP:N	2.36	0.59
1:A:69:TYR:CD1	1:A:279:TYR:HD2	2.21	0.59
1:A:133:LEU:O	1:A:135:PHE:N	2.33	0.59
1:D:298:ALA:HB1	1:D:301:PHE:HE1	1.62	0.58
1:B:166:ASP:OD1	1:B:167:VAL:N	2.36	0.58
1:F:90:GLN:O	1:F:91:ALA:HB2	2.03	0.58
1:D:415:LEU:O	1:D:424:GLU:N	2.31	0.58
1:D:319:VAL:HB	1:D:432:LEU:HD23	1.85	0.58
1:C:352:ALA:HB3	1:C:370:LEU:HB3	1.85	0.58
1:A:109:ARG:CZ	1:A:358:ASN:ND2	2.66	0.58
1:A:135:PHE:HD1	1:A:136:VAL:N	2.02	0.58
1:B:289:ARG:HB2	1:B:365:PHE:CE1	2.39	0.58
1:E:247:PHE:CB	1:E:259:TYR:H	2.16	0.58
1:A:53:TRP:CD1	1:A:53:TRP:C	2.75	0.58
1:D:144:TRP:HE3	1:E:258:VAL:HG21	1.69	0.58
1:D:357:TYR:CD1	1:D:357:TYR:N	2.72	0.58
1:A:95:LEU:O	1:A:96:ASP:C	2.39	0.58
1:F:90:GLN:HA	1:F:90:GLN:OE1	2.03	0.58
1:F:113:LEU:HD23	1:F:170:PHE:HB3	1.85	0.58
1:D:276:TYR:HB2	1:D:278:ILE:HG12	1.86	0.58
1:E:101:ARG:HD2	1:E:117:VAL:HG11	1.84	0.58
1:F:87:LYS:HD3	1:F:87:LYS:N	2.18	0.58
1:E:390:ILE:HA	1:E:401:PRO:HA	1.85	0.58
1:A:393:SER:OG	1:A:397:GLU:O	2.17	0.58
1:B:140:VAL:HG13	1:C:194:GLY:HA2	1.86	0.58
1:B:409:THR:OG1	1:B:410:ALA:N	2.35	0.58
1:C:265:ARG:CZ	1:C:267:THR:HB	2.33	0.58
1:C:390:ILE:HG22	1:C:401:PRO:HB3	1.85	0.58
1:F:51:PHE:CD1	1:F:51:PHE:N	2.71	0.57
1:A:73:LEU:CG	1:A:103:PHE:HA	2.33	0.57
1:B:233:HIS:NE2	1:B:291:ASP:OD2	2.37	0.57
1:C:201:SER:HB2	1:C:310:VAL:HA	1.86	0.57
1:F:207:SER:HB3	1:F:243:ASN:ND2	2.19	0.57
1:D:357:TYR:CE1	1:D:366:PHE:HB3	2.38	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:316:ILE:HG13	1:B:445:ILE:HG23	1.86	0.57
1:D:434:ARG:HG3	1:D:434:ARG:HH11	1.70	0.57
1:E:256:PRO:O	1:E:257:GLY:C	2.42	0.57
1:E:275:TRP:HD1	1:E:366:PHE:HD2	1.52	0.57
1:A:273:ASP:OD1	1:A:273:ASP:N	2.35	0.57
1:B:138:ARG:NH1	1:B:169:GLU:OE2	2.34	0.57
1:F:48:ALA:N	1:A:53:TRP:CZ3	2.72	0.57
1:F:242:PRO:CG	1:A:54:PRO:CB	2.73	0.57
1:B:401:PRO:O	1:B:432:LEU:HD22	2.04	0.57
1:C:368:ASP:OD2	1:C:434:ARG:NH1	2.38	0.57
1:D:245:LYS:HD3	1:D:259:TYR:CZ	2.29	0.57
1:A:359:ASP:OD2	1:A:361:LYS:NZ	2.33	0.57
1:B:101:ARG:O	1:B:103:PHE:N	2.37	0.57
1:F:168:VAL:O	1:F:169:GLU:HB3	2.05	0.57
1:F:146:ASN:O	1:F:148:ALA:N	2.38	0.57
1:A:119:PHE:CE1	1:A:328:LEU:HD22	2.39	0.57
1:A:251:PRO:HD2	1:A:254:LEU:HB2	1.87	0.57
1:D:204:GLN:NE2	1:D:249:PRO:O	2.38	0.56
1:A:409:THR:O	1:A:412:ARG:N	2.30	0.56
1:F:242:PRO:HG2	1:A:55:THR:N	2.12	0.56
1:B:409:THR:HB	1:B:425:ASN:OD1	2.05	0.56
1:F:372:VAL:HG22	1:F:426:TRP:HB3	1.87	0.56
1:A:53:TRP:CH2	1:A:57:ASN:O	2.58	0.56
1:A:72:ASN:HB3	1:A:75:LYS:HB3	1.86	0.56
1:A:87:LYS:H	1:A:87:LYS:HE2	1.70	0.56
1:A:100:ILE:C	1:A:103:PHE:CB	2.69	0.56
1:B:355:LEU:HD22	1:B:367:THR:HG21	1.87	0.56
1:E:114:GLY:HA3	1:E:135:PHE:H	1.71	0.56
1:A:94:LEU:HD21	1:A:117:VAL:CG2	2.34	0.56
1:B:336:VAL:HG22	1:B:348:GLY:O	2.05	0.56
1:B:394:GLN:N	1:B:397:GLU:OE2	2.29	0.56
1:C:275:TRP:CZ2	1:C:438:ARG:HB2	2.40	0.56
1:D:96:ASP:O	1:D:100:ILE:HG13	2.06	0.56
1:C:218:VAL:HG11	1:C:228:GLY:H	1.70	0.56
1:B:289:ARG:H	1:B:366:PHE:H	1.52	0.56
1:D:260:LEU:HD12	1:D:301:PHE:CD2	2.40	0.56
1:D:319:VAL:HG21	1:D:432:LEU:HB3	1.88	0.56
1:E:251:PRO:O	1:E:253:ASN:N	2.39	0.56
1:A:220:ARG:HH11	1:A:265:ARG:HD2	1.71	0.56
1:B:289:ARG:NH2	1:B:368:ASP:H	2.02	0.56
1:F:71:GLY:CA	1:F:75:LYS:HG3	2.36	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:354:ALA:N	1:F:368:ASP:O	2.38	0.56
1:D:204:GLN:O	1:D:248:HIS:ND1	2.39	0.56
1:D:409:THR:OG1	1:D:410:ALA:N	2.38	0.56
1:F:48:ALA:HB1	1:A:270:ILE:HD13	1.87	0.55
1:A:73:LEU:HG	1:A:103:PHE:HA	1.88	0.55
1:F:54:PRO:C	1:F:56:SER:N	2.59	0.55
1:D:121:ILE:N	1:D:166:ASP:OD2	2.25	0.55
1:A:106:LYS:HD2	1:A:107:ILE:HG13	1.88	0.55
1:F:231:THR:OG1	1:F:235:VAL:HG21	2.07	0.55
1:E:213:THR:HG21	1:E:387:SER:HB3	1.89	0.55
1:F:338:LYS:HE3	1:F:380:ASP:HB3	1.87	0.55
1:D:318:ASP:O	1:D:400:ARG:HD2	2.06	0.55
1:F:138:ARG:NH2	1:D:193:CYS:O	2.39	0.55
1:F:414:ARG:HH21	1:F:423:PRO:HG2	1.70	0.55
1:D:371:VAL:CG1	1:D:427:THR:HG23	2.37	0.55
1:A:101:ARG:C	1:A:103:PHE:N	2.49	0.55
1:D:108:LEU:HD11	1:D:155:LEU:HD12	1.88	0.55
1:E:270:ILE:HB	1:E:288:VAL:HB	1.88	0.55
1:A:100:ILE:HA	1:A:103:PHE:CD1	2.41	0.55
1:B:103:PHE:HD2	1:B:158:PRO:HG3	1.72	0.55
1:B:267:THR:HG23	1:B:439:LEU:HB3	1.89	0.55
1:F:336:VAL:HG12	1:F:391:LEU:HD23	1.89	0.55
1:E:120:ARG:HA	1:E:133:LEU:HD21	1.87	0.55
1:E:247:PHE:HE2	1:E:252:PRO:HD3	1.41	0.55
1:A:197:GLU:HB3	1:C:141:HIS:CE1	2.42	0.55
1:A:270:ILE:O	1:A:288:VAL:N	2.38	0.55
1:B:217:ILE:HG22	1:B:444:ILE:HD12	1.88	0.55
1:B:121:ILE:HD11	1:B:168:VAL:HG13	1.89	0.55
1:B:204:GLN:HE21	1:B:249:PRO:HA	1.72	0.55
1:C:218:VAL:HG23	1:C:441:LEU:HD23	1.88	0.55
1:C:270:ILE:HD11	1:C:438:ARG:HG2	1.87	0.55
1:F:238:ASP:CG	1:F:239:LEU:N	2.59	0.55
1:C:446:THR:HB	1:C:448:GLU:OE1	2.06	0.55
1:D:245:LYS:HD3	1:D:259:TYR:OH	2.07	0.55
1:E:353:TYR:C	1:E:355:LEU:H	2.09	0.55
1:A:113:LEU:HG	1:A:135:PHE:CZ	2.39	0.55
1:B:231:THR:OG1	1:B:232:ASN:N	2.39	0.55
1:F:95:LEU:HD23	1:F:324:LEU:O	1.95	0.54
1:B:372:VAL:HG21	1:B:415:LEU:HD22	1.88	0.54
1:D:394:GLN:N	1:D:397:GLU:OE2	2.35	0.54
1:B:204:GLN:OE1	1:B:341:ARG:NH1	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:264:GLU:O	1:B:266:ALA:N	2.39	0.54
1:B:414:ARG:NH1	1:B:425:ASN:HB2	2.22	0.54
1:F:71:GLY:N	1:F:75:LYS:CB	2.70	0.54
1:D:95:LEU:HB3	1:D:324:LEU:HB2	1.89	0.54
1:E:105:SER:O	1:E:109:ARG:HG2	2.07	0.54
1:E:199:ILE:CG2	1:E:248:HIS:CD2	2.90	0.54
1:B:415:LEU:HB2	1:B:426:TRP:CD1	2.43	0.54
1:C:445:ILE:HG13	1:C:446:THR:HG23	1.88	0.54
1:F:66:ARG:HG2	1:F:279:TYR:CD2	2.43	0.54
1:A:320:LYS:HG2	1:A:400:ARG:HE	1.72	0.54
1:A:103:PHE:CE1	1:A:157:GLY:CA	2.79	0.54
1:A:144:TRP:CD1	1:A:144:TRP:N	2.73	0.54
1:D:94:LEU:O	1:D:97:LEU:N	2.39	0.54
1:D:232:ASN:HD21	1:D:406:TRP:HD1	1.56	0.54
1:A:125:ASP:O	1:A:126:LEU:C	2.43	0.54
1:A:145:LEU:CD1	1:A:150:CYS:HB3	2.38	0.54
1:A:220:ARG:NH1	1:A:265:ARG:HD2	2.23	0.54
1:F:140:VAL:HG11	1:D:256:PRO:HG2	1.89	0.54
1:D:231:THR:HB	1:D:293:ALA:HB3	1.90	0.54
1:E:247:PHE:CD1	1:E:247:PHE:N	2.72	0.54
1:A:431:ASP:OD2	1:A:434:ARG:NH2	2.41	0.54
1:F:93:SER:O	1:F:97:LEU:N	2.34	0.54
1:F:95:LEU:CD2	1:F:95:LEU:H	2.12	0.54
1:D:334:ARG:O	1:D:349:THR:OG1	2.16	0.54
1:E:247:PHE:CE1	1:E:251:PRO:HA	2.43	0.54
1:A:141:HIS:O	1:A:145:LEU:HG	2.08	0.54
1:F:207:SER:HB2	1:F:246:MET:HE3	1.90	0.54
1:F:220:ARG:HG2	1:F:222:THR:H	1.72	0.54
1:A:134:VAL:HG23	1:A:165:VAL:HG13	1.90	0.54
1:C:218:VAL:CG1	1:C:228:GLY:H	2.21	0.54
1:F:80:ARG:HH21	1:F:82:PRO:HD3	1.72	0.54
1:F:85:LEU:HD12	1:F:86:PRO:HD2	1.90	0.53
1:E:337:CYS:HA	1:E:347:THR:HG22	1.90	0.53
1:A:53:TRP:NE1	1:A:54:PRO:O	2.41	0.53
1:B:355:LEU:HD13	1:B:370:LEU:HD13	1.89	0.53
1:F:431:ASP:OD1	1:F:431:ASP:N	2.33	0.53
1:E:141:HIS:O	1:E:141:HIS:ND1	2.41	0.53
1:A:72:ASN:C	1:A:74:GLN:H	2.11	0.53
1:A:146:ASN:O	1:A:148:ALA:N	2.41	0.53
1:B:338:LYS:HB3	1:B:379:PHE:CZ	2.43	0.53
1:D:357:TYR:HD1	1:D:357:TYR:H	1.56	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:315:ASP:OD1	1:E:315:ASP:N	2.37	0.53
1:B:276:TYR:HH	1:B:366:PHE:HE1	1.56	0.53
1:F:51:PHE:HD1	1:F:51:PHE:N	2.04	0.53
1:F:57:ASN:CB	1:A:47:SER:N	2.68	0.53
1:A:60:HIS:C	1:A:60:HIS:CD2	2.81	0.53
1:B:421:HIS:ND1	1:B:422:GLY:N	2.57	0.53
1:D:260:LEU:HD11	1:D:301:PHE:HB3	1.84	0.53
1:E:166:ASP:OD1	1:E:167:VAL:N	2.36	0.53
1:A:233:HIS:HE1	1:A:266:ALA:HB1	1.74	0.53
1:F:212:GLY:HA3	1:F:235:VAL:HG22	1.90	0.53
1:F:235:VAL:O	1:F:235:VAL:HG12	2.09	0.53
1:F:235:VAL:HG12	1:F:246:MET:HE1	1.90	0.53
1:F:361:LYS:NZ	1:F:363:ILE:HD11	2.24	0.53
1:D:203:SER:HB2	1:D:248:HIS:CE1	2.44	0.53
1:D:336:VAL:HG12	1:D:391:LEU:HD23	1.91	0.53
1:A:72:ASN:HA	1:A:75:LYS:HB3	1.90	0.53
1:A:101:ARG:CG	1:A:102:ALA:N	2.70	0.53
1:B:191:LYS:HD3	1:B:195:SER:HB3	1.90	0.53
1:B:388:LEU:HD23	1:B:404:ILE:HG12	1.91	0.53
1:C:353:TYR:O	1:C:355:LEU:N	2.42	0.53
1:F:55:THR:O	1:F:57:ASN:N	2.42	0.53
1:E:133:LEU:HD22	1:E:166:ASP:HB3	1.89	0.53
1:E:247:PHE:HB2	1:E:259:TYR:N	2.24	0.53
1:A:100:ILE:C	1:A:103:PHE:H	2.12	0.53
1:A:104:HIS:HB2	1:A:155:LEU:CD2	2.32	0.53
1:A:111:PHE:CE1	1:A:151:LEU:HD11	2.44	0.53
1:C:251:PRO:HD2	1:C:251:PRO:O	2.08	0.53
1:F:316:ILE:HG21	1:F:401:PRO:HG3	1.89	0.53
1:E:193:CYS:O	1:E:249:PRO:HG3	2.09	0.53
1:A:96:ASP:O	1:A:100:ILE:HD11	2.09	0.53
1:A:393:SER:HB2	1:A:399:PRO:HG3	1.91	0.53
1:C:104:HIS:ND1	1:C:155:LEU:HD12	2.24	0.53
1:F:73:LEU:O	1:F:75:LYS:HD3	2.09	0.53
1:E:251:PRO:C	1:E:253:ASN:N	2.62	0.53
1:A:111:PHE:O	1:A:112:SER:OG	2.27	0.53
1:A:150:CYS:O	1:A:150:CYS:SG	2.67	0.53
1:A:372:VAL:HG21	1:A:415:LEU:HD23	1.90	0.53
1:C:229:PHE:HB3	1:C:297:PHE:HE1	1.72	0.53
1:F:86:PRO:HG2	1:F:162:TRP:CB	2.37	0.53
1:F:272:ASP:OD2	1:F:286:THR:HG22	2.09	0.53
1:D:376:ARG:HH12	1:D:421:HIS:CD2	2.27	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:275:TRP:HD1	1:E:366:PHE:CD2	2.26	0.53
1:A:143:LYS:C	1:A:145:LEU:H	2.12	0.52
1:B:103:PHE:CD2	1:B:158:PRO:HG3	2.44	0.52
1:B:213:THR:OG1	1:B:385:SER:O	2.27	0.52
1:C:246:MET:HE1	1:C:295:ILE:HD13	1.91	0.52
1:F:439:LEU:HB2	1:F:441:LEU:HD22	1.90	0.52
1:B:421:HIS:HD1	1:B:422:GLY:N	2.07	0.52
1:F:80:ARG:HE	1:F:81:HIS:N	2.07	0.52
1:F:135:PHE:HB3	1:F:170:PHE:CG	2.44	0.52
1:F:244:GLN:CG	1:F:245:LYS:HG2	2.34	0.52
1:A:122:ARG:O	1:A:124:GLY:N	2.37	0.52
1:B:94:LEU:HA	1:B:97:LEU:HB3	1.91	0.52
1:B:305:THR:O	1:B:305:THR:OG1	2.26	0.52
1:F:55:THR:C	1:F:57:ASN:H	2.12	0.52
1:E:250:LEU:H	1:E:250:LEU:CD1	2.15	0.52
1:B:116:ALA:HB2	1:B:355:LEU:HB2	1.92	0.52
1:C:95:LEU:HD22	1:C:278:ILE:HD13	1.91	0.52
1:D:210:THR:OG1	1:D:235:VAL:O	2.25	0.52
1:A:69:TYR:CD1	1:A:279:TYR:CD2	2.98	0.52
1:A:146:ASN:O	1:A:147:PRO:C	2.48	0.52
1:C:193:CYS:SG	1:C:249:PRO:HB3	2.50	0.52
1:D:205:VAL:HG12	1:D:246:MET:HG3	1.91	0.52
1:E:202:GLY:N	1:E:214:LEU:HB3	2.11	0.52
1:E:210:THR:OG1	1:E:211:PHE:N	2.38	0.52
1:A:352:ALA:O	1:A:370:LEU:HB2	2.10	0.52
1:A:144:TRP:HZ3	1:B:248:HIS:HE2	1.55	0.52
1:A:218:VAL:HG11	1:A:230:LEU:HB2	1.92	0.52
1:C:93:SER:HB3	1:C:96:ASP:HB2	1.91	0.52
1:F:80:ARG:HH21	1:F:81:HIS:HA	1.74	0.52
1:D:414:ARG:HB3	1:D:423:PRO:HB3	1.91	0.52
1:D:431:ASP:OD1	1:D:431:ASP:N	2.42	0.52
1:E:228:GLY:HA2	1:E:297:PHE:CD2	2.45	0.52
1:A:132:ILE:HG13	1:A:164:ASP:O	2.08	0.52
1:A:138:ARG:O	1:A:140:VAL:HG22	2.10	0.52
1:B:289:ARG:HH22	1:B:367:THR:HA	1.75	0.52
1:B:371:VAL:HG13	1:B:427:THR:OG1	2.10	0.52
1:C:259:TYR:CD1	1:C:259:TYR:C	2.84	0.52
1:B:141:HIS:HB2	1:C:195:SER:HA	1.91	0.52
1:F:81:HIS:HB2	1:F:84:ARG:HG2	1.92	0.51
1:D:138:ARG:HE	1:E:250:LEU:CD1	2.22	0.51
1:D:206:ALA:N	1:D:247:PHE:O	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:94:LEU:O	1:A:94:LEU:HD23	2.10	0.51
1:B:328:LEU:O	1:B:332:ILE:HG22	2.10	0.51
1:C:113:LEU:HD23	1:C:113:LEU:H	1.76	0.51
1:F:87:LYS:N	1:F:87:LYS:CD	2.71	0.51
1:A:130:PRO:HG3	1:A:328:LEU:HD13	1.92	0.51
1:A:142:LYS:HB3	1:A:142:LYS:HZ2	1.75	0.51
1:B:107:ILE:HG22	1:B:108:LEU:HD23	1.91	0.51
1:A:65:GLY:O	1:A:279:TYR:HE2	1.93	0.51
1:F:93:SER:HB3	1:F:325:GLN:OE1	2.09	0.51
1:F:95:LEU:HD11	1:F:325:GLN:OE1	2.09	0.51
1:D:406:TRP:H	1:D:428:SER:HG	1.58	0.51
1:A:323:ASP:OD1	1:A:323:ASP:N	2.42	0.51
1:F:92:ASN:C	1:F:93:SER:OG	2.49	0.51
1:F:145:LEU:HD13	1:F:150:CYS:H	1.75	0.51
1:F:235:VAL:HG12	1:F:246:MET:CE	2.40	0.51
1:F:319:VAL:HA	1:F:401:PRO:HD2	1.92	0.51
1:F:170:PHE:CD2	1:F:413:GLY:HA3	2.45	0.51
1:D:220:ARG:HH21	1:D:224:ASN:H	1.59	0.51
1:C:94:LEU:H	1:C:325:GLN:HA	1.74	0.51
1:C:320:LYS:HG3	1:C:400:ARG:HD2	1.93	0.51
1:D:200:GLY:O	1:D:203:SER:OG	2.27	0.51
1:A:56:SER:O	1:A:57:ASN:ND2	2.42	0.51
1:A:116:ALA:O	1:A:117:VAL:HG13	2.09	0.51
1:A:354:ALA:N	1:A:368:ASP:O	2.36	0.51
1:D:141:HIS:CD2	1:D:143:LYS:H	2.29	0.51
1:D:417:LEU:H	1:D:422:GLY:HA2	1.76	0.51
1:A:97:LEU:HA	1:A:100:ILE:HG13	1.93	0.51
1:C:216:ALA:HB3	1:C:443:ILE:HD11	1.91	0.51
1:E:259:TYR:CE2	1:E:298:ALA:CB	2.94	0.51
1:B:216:ALA:HB2	1:B:388:LEU:HD11	1.93	0.51
1:F:81:HIS:HD2	1:F:84:ARG:O	1.94	0.51
1:E:298:ALA:O	1:E:301:PHE:N	2.29	0.51
1:B:389:ILE:N	1:B:403:GLY:O	2.43	0.51
1:A:62:ALA:O	1:A:64:GLU:N	2.41	0.50
1:C:104:HIS:O	1:C:108:LEU:N	2.44	0.50
1:C:315:ASP:OD1	1:C:315:ASP:N	2.40	0.50
1:A:97:LEU:HD23	1:A:117:VAL:CG1	2.39	0.50
1:B:271:THR:OG1	1:B:272:ASP:N	2.43	0.50
1:B:414:ARG:HA	1:B:414:ARG:HH11	1.75	0.50
1:C:320:LYS:HE2	1:C:400:ARG:HD2	1.93	0.50
1:D:100:ILE:HA	1:D:158:PRO:HD3	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:259:TYR:OH	1:E:298:ALA:HB1	2.11	0.50
1:E:385:SER:HA	1:E:405:ILE:HB	1.93	0.50
1:B:101:ARG:NH1	1:B:155:LEU:HD13	2.26	0.50
1:A:50:TYR:CD1	1:A:50:TYR:C	2.85	0.50
1:A:136:VAL:HG23	1:A:168:VAL:O	2.10	0.50
1:F:97:LEU:HD11	1:F:100:ILE:HD12	1.86	0.50
1:D:428:SER:OG	1:D:428:SER:O	2.23	0.50
1:B:385:SER:HA	1:B:405:ILE:HG22	1.93	0.50
1:D:433:GLY:HA2	1:D:436:LEU:HD11	1.93	0.50
1:A:149:GLN:CD	1:B:256:PRO:HA	2.32	0.50
1:F:205:VAL:CG1	1:F:235:VAL:HG11	2.41	0.50
1:F:236:ALA:CB	1:F:263:VAL:HG21	2.39	0.50
1:D:289:ARG:HD3	1:D:364:CYS:O	2.11	0.50
1:A:70:PHE:CE1	1:A:73:LEU:HD13	2.47	0.50
1:C:247:PHE:O	1:C:247:PHE:HD1	1.95	0.50
1:A:62:ALA:C	1:A:64:GLU:H	2.15	0.50
1:A:80:ARG:C	1:A:82:PRO:HD3	2.32	0.50
1:C:353:TYR:CD1	1:C:354:ALA:N	2.80	0.50
1:D:289:ARG:HG2	1:D:365:PHE:CD2	2.47	0.50
1:F:73:LEU:O	1:F:75:LYS:N	2.41	0.49
1:D:207:SER:HB3	1:D:247:PHE:H	1.77	0.49
1:D:233:HIS:NE2	1:D:291:ASP:HB2	2.27	0.49
1:E:416:LYS:HG3	1:E:418:THR:H	1.75	0.49
1:B:301:PHE:O	1:B:301:PHE:CG	2.65	0.49
1:F:48:ALA:O	1:A:53:TRP:CE3	2.65	0.49
1:D:265:ARG:HH21	1:D:439:LEU:HB3	1.77	0.49
1:A:66:ARG:HA	1:A:279:TYR:HE2	1.75	0.49
1:A:151:LEU:HB3	1:A:152:PRO:CD	2.42	0.49
1:C:338:LYS:HE2	1:C:387:SER:OG	2.12	0.49
1:B:97:LEU:HA	1:B:100:ILE:HG12	1.94	0.49
1:F:72:ASN:O	1:F:73:LEU:C	2.50	0.49
1:D:112:SER:HB2	1:D:134:VAL:O	2.12	0.49
1:E:251:PRO:CG	1:E:254:LEU:CG	2.43	0.49
1:A:145:LEU:HD22	1:A:149:GLN:HB3	1.95	0.49
1:C:121:ILE:HG22	1:C:126:LEU:HB3	1.95	0.49
1:C:121:ILE:N	1:C:133:LEU:HD11	2.23	0.49
1:C:233:HIS:CG	1:C:233:HIS:O	2.65	0.49
1:F:232:ASN:OD1	1:F:235:VAL:HG23	2.12	0.49
1:E:199:ILE:CG2	1:E:248:HIS:HD2	2.25	0.49
1:B:198:CYS:HB3	1:B:307:THR:HB	1.94	0.49
1:F:75:LYS:O	1:F:76:GLY:C	2.50	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:265:ARG:O	1:F:266:ALA:HB2	2.12	0.49
1:D:207:SER:OG	1:D:245:LYS:O	2.29	0.49
1:D:406:TRP:N	1:D:428:SER:HG	2.10	0.49
1:E:440:GLU:O	1:E:441:LEU:HD23	2.13	0.49
1:A:103:PHE:CD2	1:A:104:HIS:CE1	3.00	0.49
1:C:316:ILE:HD12	1:C:401:PRO:HG3	1.94	0.49
1:C:317:GLY:O	1:C:445:ILE:HD13	2.12	0.49
1:F:319:VAL:HG13	1:F:432:LEU:HD23	1.94	0.49
1:A:87:LYS:O	1:A:89:GLN:N	2.45	0.49
1:A:135:PHE:CD1	1:A:136:VAL:N	2.80	0.49
1:B:101:ARG:HG3	1:B:156:GLU:O	2.13	0.49
1:B:129:ILE:O	1:B:130:PRO:C	2.44	0.49
1:F:82:PRO:O	1:F:83:GLY:C	2.50	0.49
1:F:207:SER:OG	1:F:243:ASN:ND2	2.45	0.49
1:E:436:LEU:HD11	1:E:442:ASP:HA	1.94	0.49
1:F:87:LYS:CD	1:F:87:LYS:H	2.26	0.49
1:F:207:SER:HB2	1:F:246:MET:CE	2.42	0.49
1:E:155:LEU:HB2	1:E:163:CYS:SG	2.53	0.49
1:A:66:ARG:HD3	1:A:279:TYR:CD2	2.48	0.49
1:A:109:ARG:NH2	1:A:358:ASN:HB2	2.28	0.49
1:B:130:PRO:CG	1:B:328:LEU:HD13	2.32	0.49
1:C:363:ILE:HG13	1:C:363:ILE:O	2.12	0.49
1:F:55:THR:OG1	1:A:243:ASN:CG	2.51	0.49
1:A:264:GLU:HG3	1:A:265:ARG:HG3	1.94	0.49
1:F:55:THR:CA	1:A:48:ALA:O	2.60	0.48
1:D:439:LEU:HD13	1:D:441:LEU:HD11	1.95	0.48
1:A:100:ILE:O	1:A:103:PHE:CB	2.61	0.48
1:A:103:PHE:HD2	1:A:104:HIS:H	1.61	0.48
1:B:209:GLU:OE1	1:B:210:THR:HG23	2.12	0.48
1:B:389:ILE:HB	1:B:403:GLY:HA3	1.94	0.48
1:F:50:TYR:C	1:F:50:TYR:CD1	2.86	0.48
1:F:249:PRO:HB2	1:F:250:LEU:HD12	1.94	0.48
1:D:144:TRP:CE3	1:E:258:VAL:HG21	2.48	0.48
1:D:331:LEU:HD21	1:D:353:TYR:HD2	1.79	0.48
1:A:100:ILE:HG22	1:A:156:GLU:O	2.13	0.48
1:A:101:ARG:HH12	1:A:356:GLU:HB3	1.79	0.48
1:A:147:PRO:O	1:A:148:ALA:HB2	2.12	0.48
1:B:222:THR:HG23	1:B:440:GLU:HG2	1.95	0.48
1:F:242:PRO:CG	1:A:55:THR:N	2.74	0.48
1:A:101:ARG:N	1:A:103:PHE:N	2.60	0.48
1:A:156:GLU:HA	1:A:162:TRP:HA	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:114:GLY:HA2	1:B:357:TYR:HA	1.94	0.48
1:B:446:THR:O	1:B:449:SER:OG	2.31	0.48
1:F:245:LYS:CG	1:A:56:SER:OG	2.60	0.48
1:D:103:PHE:HB2	1:D:158:PRO:HG3	1.94	0.48
1:D:139:LYS:HA	1:D:169:GLU:OE2	2.14	0.48
1:E:247:PHE:HD2	1:E:259:TYR:CA	2.27	0.48
1:F:53:TRP:HH2	1:A:238:ASP:H	1.60	0.48
1:F:141:HIS:NE2	1:D:196:ASP:O	2.47	0.48
1:D:116:ALA:HB2	1:D:355:LEU:HA	1.95	0.48
1:D:260:LEU:CA	1:D:301:PHE:CD2	2.89	0.48
1:D:436:LEU:HA	1:D:441:LEU:HD12	1.95	0.48
1:E:248:HIS:CE1	1:E:249:PRO:HD3	2.37	0.48
1:A:50:TYR:CD1	1:A:50:TYR:O	2.67	0.48
1:A:149:GLN:NE2	1:B:256:PRO:HA	2.27	0.48
1:B:237:VAL:HG21	1:B:263:VAL:HG21	1.95	0.48
1:B:323:ASP:OD1	1:B:326:CYS:HB2	2.13	0.48
1:F:416:LYS:HE2	1:F:423:PRO:HG3	1.95	0.48
1:E:288:VAL:HG12	1:E:290:ALA:HB2	1.94	0.48
1:B:232:ASN:HD21	1:B:406:TRP:HD1	1.60	0.48
1:C:353:TYR:C	1:C:355:LEU:H	2.17	0.48
1:A:97:LEU:CD2	1:A:117:VAL:HG12	2.43	0.48
1:B:233:HIS:O	1:B:237:VAL:N	2.47	0.48
1:B:433:GLY:HA2	1:B:436:LEU:HG	1.96	0.48
1:E:120:ARG:NH1	1:E:164:ASP:OD1	2.47	0.48
1:B:274:VAL:HG12	1:B:438:ARG:HE	1.78	0.48
1:C:216:ALA:HB2	1:C:388:LEU:HD11	1.95	0.48
1:C:275:TRP:HZ2	1:C:438:ARG:HB2	1.76	0.48
1:F:92:ASN:O	1:F:93:SER:CB	2.52	0.48
1:D:233:HIS:HE2	1:D:291:ASP:HB2	1.78	0.48
1:D:237:VAL:HG11	1:D:263:VAL:HG11	1.96	0.48
1:E:318:ASP:O	1:E:401:PRO:HD2	2.13	0.48
1:E:220:ARG:NH2	1:E:224:ASN:OD1	2.42	0.48
1:A:119:PHE:CZ	1:A:328:LEU:HD22	2.49	0.48
1:D:432:LEU:O	1:D:436:LEU:HG	2.14	0.47
1:A:101:ARG:O	1:A:102:ALA:C	2.49	0.47
1:F:207:SER:HA	1:F:246:MET:HA	1.96	0.47
1:E:114:GLY:HA3	1:E:135:PHE:HB2	1.96	0.47
1:B:392:THR:OG1	1:B:393:SER:N	2.47	0.47
1:D:136:VAL:HG23	1:D:169:GLU:HG2	1.95	0.47
1:D:270:ILE:O	1:D:288:VAL:HG12	2.15	0.47
1:D:294:PHE:CE2	1:D:441:LEU:HD22	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:128:ASP:C	1:A:129:ILE:HG13	2.34	0.47
1:A:308:THR:HG21	1:A:444:ILE:HG22	1.96	0.47
1:B:289:ARG:NH2	1:B:367:THR:HA	2.29	0.47
1:F:71:GLY:O	1:F:75:LYS:HG3	2.12	0.47
1:F:94:LEU:HD22	1:F:353:TYR:CD2	2.49	0.47
1:D:94:LEU:HB3	1:D:98:MET:HE3	1.97	0.47
1:F:48:ALA:N	1:A:53:TRP:CE3	2.80	0.47
1:F:86:PRO:O	1:F:87:LYS:C	2.52	0.47
1:F:234:HIS:CD2	1:F:238:ASP:HB3	2.50	0.47
1:D:319:VAL:HG11	1:D:436:LEU:HD21	1.97	0.47
1:A:319:VAL:O	1:A:400:ARG:NH2	2.47	0.47
1:A:93:SER:HG	1:A:96:ASP:H	1.61	0.47
1:A:404:ILE:HD11	1:A:432:LEU:HD13	1.96	0.47
1:C:218:VAL:CG2	1:C:294:PHE:CE1	2.84	0.47
1:F:48:ALA:HB1	1:A:269:PHE:O	2.14	0.47
1:F:93:SER:CA	1:F:96:ASP:HB2	2.45	0.47
1:F:170:PHE:CE2	1:F:413:GLY:HA3	2.50	0.47
1:D:94:LEU:HB2	1:D:324:LEU:O	2.14	0.47
1:D:144:TRP:NE1	1:E:196:ASP:O	2.40	0.47
1:D:221:ARG:NH2	1:D:440:GLU:HG3	2.29	0.47
1:E:288:VAL:HA	1:E:366:PHE:HB2	1.97	0.47
1:E:334:ARG:NH1	1:E:394:GLN:OE1	2.42	0.47
1:E:363:ILE:HG23	1:E:365:PHE:CE2	2.49	0.47
1:A:60:HIS:O	1:A:62:ALA:N	2.47	0.47
1:A:153:ALA:HA	1:A:165:VAL:CG2	2.45	0.47
1:B:99:THR:HG23	1:B:278:ILE:HG23	1.96	0.47
1:C:127:THR:HG22	1:C:128:ASP:H	1.78	0.47
1:C:196:ASP:OD2	1:C:311:ARG:NH2	2.47	0.47
1:C:247:PHE:HE1	1:C:251:PRO:CA	1.88	0.47
1:F:55:THR:HG1	1:A:243:ASN:ND2	2.09	0.47
1:A:93:SER:OG	1:A:96:ASP:N	2.42	0.47
1:B:130:PRO:O	1:B:164:ASP:OD1	2.32	0.47
1:B:191:LYS:CD	1:B:195:SER:HB3	2.44	0.47
1:B:376:ARG:HH22	1:B:421:HIS:CD2	2.32	0.47
1:F:358:ASN:OD1	1:F:358:ASN:N	2.48	0.47
1:D:130:PRO:HB3	1:D:328:LEU:HD12	1.97	0.47
1:A:51:PHE:HD1	1:A:51:PHE:O	1.98	0.47
1:A:91:ALA:O	1:A:130:PRO:HG2	2.15	0.47
1:A:103:PHE:HE1	1:A:158:PRO:CD	2.24	0.47
1:C:187:GLU:OE1	1:C:187:GLU:N	2.48	0.47
1:A:196:ASP:OD2	1:A:311:ARG:NH1	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:135:PHE:HE2	1:B:355:LEU:HD11	1.80	0.46
1:B:227:VAL:HG12	1:B:297:PHE:CE2	2.49	0.46
1:B:319:VAL:HG11	1:B:436:LEU:HD11	1.97	0.46
1:C:243:ASN:OD1	1:C:263:VAL:N	2.49	0.46
1:F:325:GLN:OE1	1:F:325:GLN:HA	2.15	0.46
1:E:119:PHE:CD2	1:E:126:LEU:HB2	2.50	0.46
1:E:199:ILE:HG12	1:E:306:VAL:HG22	1.98	0.46
1:E:286:THR:HA	1:E:365:PHE:CD1	2.49	0.46
1:A:233:HIS:CE1	1:A:266:ALA:HB1	2.50	0.46
1:C:385:SER:O	1:C:385:SER:OG	2.26	0.46
1:A:51:PHE:O	1:A:51:PHE:CD1	2.68	0.46
1:D:289:ARG:HG2	1:D:365:PHE:CG	2.50	0.46
1:F:80:ARG:NH2	1:F:82:PRO:HD3	2.30	0.46
1:F:100:ILE:HG21	1:F:163:CYS:HB2	1.98	0.46
1:E:199:ILE:HG22	1:E:248:HIS:NE2	2.30	0.46
1:A:271:THR:HG23	1:A:274:VAL:HG12	1.96	0.46
1:C:109:ARG:NE	1:C:115:THR:OG1	2.48	0.46
1:F:47:SER:HB3	1:A:53:TRP:HE3	1.81	0.46
1:F:51:PHE:HB2	1:A:266:ALA:HB3	1.98	0.46
1:F:72:ASN:C	1:F:75:LYS:HD2	2.36	0.46
1:F:268:SER:HA	1:F:290:ALA:O	2.16	0.46
1:E:145:LEU:HD22	1:E:149:GLN:HG3	1.96	0.46
1:A:206:ALA:O	1:A:247:PHE:N	2.39	0.46
1:B:95:LEU:HB2	1:B:324:LEU:HB2	1.97	0.46
1:B:97:LEU:HD11	1:B:130:PRO:CB	2.45	0.46
1:B:112:SER:HB2	1:B:134:VAL:O	2.16	0.46
1:B:374:GLU:O	1:B:377:GLN:HG2	2.16	0.46
1:C:199:ILE:HG22	1:C:248:HIS:NE2	2.24	0.46
1:D:125:ASP:N	1:D:125:ASP:OD1	2.37	0.46
1:D:233:HIS:O	1:D:236:ALA:N	2.30	0.46
1:D:259:TYR:HB3	1:D:301:PHE:HE2	1.79	0.46
1:A:158:PRO:HD2	1:A:161:VAL:CG2	2.46	0.46
1:C:338:LYS:HB2	1:C:379:PHE:CE1	2.51	0.46
1:E:416:LYS:HE3	1:E:423:PRO:HD3	1.98	0.46
1:C:298:ALA:O	1:C:300:ASP:N	2.49	0.46
1:F:242:PRO:CG	1:A:54:PRO:CA	2.93	0.46
1:D:371:VAL:HG11	1:D:427:THR:HG23	1.98	0.46
1:A:128:ASP:O	1:A:129:ILE:HG13	2.16	0.46
1:A:389:ILE:HG13	1:A:405:ILE:HG13	1.97	0.46
1:F:207:SER:CB	1:F:243:ASN:HD21	2.26	0.46
1:D:245:LYS:CB	1:D:259:TYR:OH	2.47	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:135:PHE:HB3	1:E:170:PHE:HB2	1.98	0.46
1:E:151:LEU:HD12	1:E:151:LEU:H	1.81	0.46
1:E:275:TRP:O	1:E:434:ARG:NH1	2.43	0.46
1:B:276:TYR:HD1	1:B:324:LEU:HD22	1.81	0.46
1:B:421:HIS:HA	1:C:185:PHE:HB3	1.98	0.45
1:F:80:ARG:H	1:F:80:ARG:HG3	1.54	0.45
1:D:220:ARG:NH2	1:D:224:ASN:H	2.14	0.45
1:B:285:GLU:OE1	1:B:363:ILE:HA	2.17	0.45
1:C:205:VAL:HG21	1:C:229:PHE:CE2	2.51	0.45
1:C:319:VAL:HG23	1:C:432:LEU:HG	1.97	0.45
1:D:245:LYS:C	1:D:259:TYR:OH	2.48	0.45
1:A:65:GLY:O	1:A:279:TYR:CE2	2.69	0.45
1:A:139:LYS:HG3	1:A:167:VAL:CG1	2.47	0.45
1:A:141:HIS:CD2	1:B:195:SER:O	2.69	0.45
1:A:153:ALA:HA	1:A:165:VAL:CB	2.46	0.45
1:F:75:LYS:CG	1:F:76:GLY:N	2.69	0.45
1:F:414:ARG:HE	1:F:423:PRO:HB2	1.80	0.45
1:D:246:MET:N	1:D:259:TYR:CZ	2.80	0.45
1:D:390:ILE:HD13	1:D:401:PRO:HA	1.99	0.45
1:E:259:TYR:O	1:E:259:TYR:CD1	2.70	0.45
1:A:113:LEU:CB	1:A:135:PHE:CZ	2.98	0.45
1:F:50:TYR:CD1	1:F:50:TYR:O	2.70	0.45
1:A:50:TYR:O	1:A:50:TYR:CG	2.69	0.45
1:A:60:HIS:CG	1:A:61:CYS:H	2.33	0.45
1:A:111:PHE:CD1	1:A:151:LEU:HD21	2.52	0.45
1:B:116:ALA:O	1:B:132:ILE:HD12	2.16	0.45
1:B:347:THR:HG22	1:B:348:GLY:H	1.80	0.45
1:B:428:SER:O	1:B:428:SER:OG	2.31	0.45
1:F:50:TYR:O	1:F:50:TYR:HD1	2.00	0.45
1:F:238:ASP:O	1:A:239:LEU:HD21	2.17	0.45
1:D:444:ILE:HG23	1:D:449:SER:OG	2.16	0.45
1:A:134:VAL:O	1:A:135:PHE:C	2.52	0.45
1:A:233:HIS:CE1	1:A:237:VAL:HG21	2.51	0.45
1:C:193:CYS:C	1:C:249:PRO:HG3	2.37	0.45
1:C:338:LYS:HB2	1:C:379:PHE:CZ	2.51	0.45
1:D:328:LEU:HD23	1:D:328:LEU:HA	1.75	0.45
1:E:193:CYS:C	1:E:249:PRO:HG3	2.37	0.45
1:A:135:PHE:CD1	1:A:170:PHE:CB	2.98	0.45
1:F:55:THR:C	1:F:57:ASN:N	2.70	0.45
1:D:439:LEU:HB2	1:D:441:LEU:HD11	1.98	0.45
1:A:103:PHE:CZ	1:A:157:GLY:CA	2.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:50:TYR:C	1:F:50:TYR:HD1	2.21	0.45
1:F:244:GLN:C	1:F:245:LYS:HG2	2.35	0.45
1:F:355:LEU:HD12	1:F:356:GLU:H	1.81	0.45
1:E:221:ARG:NE	1:E:442:ASP:HB2	2.32	0.45
1:A:286:THR:HG23	1:A:364:CYS:HB3	1.99	0.45
1:D:232:ASN:ND2	1:D:406:TRP:HD1	2.14	0.45
1:D:330:SER:O	1:D:334:ARG:HG3	2.16	0.45
1:E:298:ALA:O	1:E:300:ASP:N	2.49	0.45
1:B:291:ASP:O	1:B:435:LEU:HD11	2.17	0.45
1:B:333:GLY:O	1:B:334:ARG:HG2	2.16	0.45
1:C:232:ASN:HD21	1:C:235:VAL:HG23	1.81	0.45
1:C:245:LYS:HE2	1:C:259:TYR:HE2	1.66	0.45
1:C:247:PHE:HA	1:C:260:LEU:HD12	1.99	0.45
1:F:93:SER:CB	1:F:325:GLN:OE1	2.65	0.44
1:F:337:CYS:HG	1:F:392:THR:HG1	1.45	0.44
1:F:412:ARG:O	1:F:412:ARG:HG3	2.17	0.44
1:D:172:TYR:HD1	1:D:172:TYR:HA	1.66	0.44
1:E:270:ILE:HD12	1:E:290:ALA:HB3	1.99	0.44
1:A:91:ALA:HB1	1:A:97:LEU:HB2	1.99	0.44
1:A:141:HIS:NE2	1:B:195:SER:O	2.49	0.44
1:E:205:VAL:HG11	1:E:229:PHE:CZ	2.52	0.44
1:A:101:ARG:HB3	1:A:132:ILE:CG2	2.47	0.44
1:A:372:VAL:HG22	1:A:426:TRP:HB3	1.99	0.44
1:A:430:VAL:HG21	1:A:435:LEU:HD22	1.99	0.44
1:B:133:LEU:HB3	1:B:135:PHE:CE1	2.51	0.44
1:C:132:ILE:O	1:C:132:ILE:HG22	2.17	0.44
1:C:317:GLY:O	1:C:445:ILE:HG21	2.17	0.44
1:F:115:THR:HG22	1:F:134:VAL:HG23	1.98	0.44
1:E:439:LEU:O	1:E:441:LEU:HG	2.17	0.44
1:B:101:ARG:NE	1:B:155:LEU:HB3	2.32	0.44
1:B:141:HIS:CE1	1:C:197:GLU:HG3	2.52	0.44
1:C:202:GLY:CA	1:C:214:LEU:HB3	2.46	0.44
1:C:322:ILE:HD12	1:C:322:ILE:O	2.17	0.44
1:D:155:LEU:HD23	1:D:155:LEU:HA	1.81	0.44
1:A:142:LYS:NZ	1:A:143:LYS:HG2	2.33	0.44
1:A:144:TRP:CZ2	1:B:197:GLU:HA	2.52	0.44
1:A:403:GLY:HA2	1:A:432:LEU:HB3	1.99	0.44
1:B:221:ARG:NE	1:B:440:GLU:OE2	2.51	0.44
1:B:233:HIS:CG	1:B:234:HIS:N	2.83	0.44
1:B:316:ILE:HG21	1:B:390:ILE:HD11	2.00	0.44
1:B:348:GLY:HA2	1:B:374:GLU:HB2	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:101:ARG:NH2	1:C:356:GLU:OE2	2.51	0.44
1:A:274:VAL:HG22	1:A:438:ARG:NH2	2.31	0.44
1:C:336:VAL:O	1:C:348:GLY:N	2.49	0.44
1:F:67:ALA:O	1:F:72:ASN:HB2	2.18	0.44
1:F:322:ILE:O	1:F:434:ARG:NH2	2.51	0.44
1:D:207:SER:HB3	1:D:247:PHE:N	2.32	0.44
1:E:251:PRO:HG2	1:E:254:LEU:H	0.62	0.44
1:A:353:TYR:OH	1:A:434:ARG:NH2	2.48	0.44
1:C:338:LYS:O	1:C:345:HIS:HA	2.18	0.44
1:C:414:ARG:HB2	1:C:423:PRO:HB2	2.00	0.44
1:F:139:LYS:HE3	1:F:167:VAL:HB	2.00	0.44
1:E:119:PHE:HB2	1:E:332:ILE:HG21	2.00	0.44
1:E:251:PRO:CB	1:E:254:LEU:CD1	2.74	0.44
1:E:336:VAL:HB	1:E:389:ILE:HG22	1.99	0.44
1:A:60:HIS:O	1:A:63:ALA:N	2.51	0.44
1:A:106:LYS:HD2	1:A:107:ILE:N	2.33	0.44
1:B:134:VAL:HB	1:B:167:VAL:HG12	1.98	0.44
1:B:248:HIS:CD2	1:B:249:PRO:HD3	2.53	0.44
1:F:245:LYS:HG2	1:A:56:SER:OG	2.17	0.44
1:E:163:CYS:SG	1:E:164:ASP:N	2.91	0.44
1:E:288:VAL:HG22	1:E:366:PHE:CG	2.53	0.44
1:A:79:PRO:O	1:A:80:ARG:C	2.56	0.44
1:C:117:VAL:HG23	1:C:117:VAL:O	2.17	0.44
1:C:218:VAL:O	1:C:219:LYS:HG2	2.18	0.44
1:F:75:LYS:HG2	1:F:76:GLY:H	1.78	0.44
1:F:155:LEU:HD12	1:F:155:LEU:H	1.82	0.44
1:D:220:ARG:HD3	1:D:265:ARG:HH12	1.83	0.44
1:E:444:ILE:HD12	1:E:444:ILE:HA	1.82	0.44
1:B:135:PHE:HE1	1:B:168:VAL:HB	1.81	0.44
1:F:53:TRP:CZ2	1:A:238:ASP:O	2.70	0.43
1:F:71:GLY:C	1:F:75:LYS:CG	2.81	0.43
1:D:371:VAL:HG22	1:D:372:VAL:C	2.39	0.43
1:E:247:PHE:CZ	1:E:251:PRO:HA	2.53	0.43
1:E:247:PHE:CD2	1:E:259:TYR:CA	3.01	0.43
1:B:260:LEU:HD22	1:B:301:PHE:HA	2.00	0.43
1:F:84:ARG:O	1:F:85:LEU:C	2.57	0.43
1:F:93:SER:HB2	1:F:96:ASP:HB2	2.01	0.43
1:F:239:LEU:HB2	1:F:240:ASP:OD1	2.18	0.43
1:F:244:GLN:HG3	1:A:56:SER:CB	2.43	0.43
1:A:103:PHE:HD2	1:A:104:HIS:CG	2.36	0.43
1:A:207:SER:HA	1:A:246:MET:HA	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:335:GLN:HB2	1:B:392:THR:HG21	2.00	0.43
1:F:94:LEU:CD2	1:F:353:TYR:CD2	3.01	0.43
1:E:192:LEU:HB3	1:E:203:SER:HA	1.99	0.43
1:B:206:ALA:HB3	1:B:249:PRO:O	2.18	0.43
1:B:227:VAL:HG13	1:B:444:ILE:CD1	2.48	0.43
1:D:95:LEU:HD23	1:D:325:GLN:HB3	2.00	0.43
1:E:172:TYR:OH	1:E:412:ARG:NH1	2.51	0.43
1:A:55:THR:HG22	1:A:287:PHE:CD2	2.53	0.43
1:A:204:GLN:OE1	1:C:138:ARG:NH1	2.44	0.43
1:B:130:PRO:CG	1:B:328:LEU:CD1	2.95	0.43
1:F:201:SER:HB2	1:F:216:ALA:HA	2.00	0.43
1:F:326:CYS:SG	1:F:327:PRO:HD2	2.58	0.43
1:D:135:PHE:CE2	1:D:355:LEU:HD12	2.53	0.43
1:A:84:ARG:HB3	1:A:85:LEU:H	1.65	0.43
1:A:145:LEU:HD11	1:A:150:CYS:HB3	2.00	0.43
1:A:436:LEU:HD11	1:A:443:ILE:HG12	1.99	0.43
1:B:376:ARG:HH22	1:B:421:HIS:CE1	2.37	0.43
1:F:55:THR:CB	1:A:48:ALA:O	2.67	0.43
1:D:192:LEU:HD11	1:D:341:ARG:HB2	2.00	0.43
1:A:102:ALA:O	1:A:103:PHE:O	2.36	0.43
1:A:119:PHE:HB3	1:A:127:THR:O	2.18	0.43
1:B:237:VAL:CG2	1:B:244:GLN:HB3	2.48	0.43
1:F:310:VAL:HG21	1:F:316:ILE:HD11	2.01	0.43
1:A:114:GLY:O	1:A:115:THR:C	2.57	0.43
1:A:144:TRP:N	1:A:144:TRP:HD1	2.16	0.43
1:B:404:ILE:HG13	1:B:432:LEU:CD1	2.49	0.43
1:D:409:THR:HG22	1:D:426:TRP:O	2.18	0.43
1:E:259:TYR:O	1:E:259:TYR:CG	2.70	0.43
1:A:143:LYS:HG3	1:A:144:TRP:CD1	2.54	0.43
1:B:288:VAL:HG22	1:B:366:PHE:CD2	2.54	0.43
1:F:237:VAL:HG12	1:F:238:ASP:N	2.32	0.43
1:E:104:HIS:O	1:E:107:ILE:HG22	2.18	0.43
1:E:208:HIS:HB3	1:E:244:GLN:NE2	2.33	0.43
1:E:288:VAL:HG13	1:E:366:PHE:HB3	2.00	0.43
1:A:119:PHE:O	1:A:120:ARG:C	2.57	0.43
1:A:120:ARG:NH2	1:A:165:VAL:O	2.50	0.43
1:A:122:ARG:HG2	1:A:123:LYS:HG2	2.01	0.43
1:C:337:CYS:SG	1:C:390:ILE:HG12	2.58	0.43
1:C:409:THR:OG1	1:C:427:THR:HA	2.18	0.43
1:C:415:LEU:HD23	1:C:426:TRP:CD1	2.54	0.43
1:F:220:ARG:HB2	1:F:294:PHE:CE2	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:416:LYS:HG3	1:F:423:PRO:HB3	2.00	0.43
1:D:170:PHE:CD1	1:D:415:LEU:HD12	2.54	0.43
1:B:336:VAL:HG12	1:B:391:LEU:HD23	2.01	0.43
1:C:247:PHE:HB3	1:C:259:TYR:CB	2.49	0.43
1:C:297:PHE:HD1	1:C:297:PHE:HA	1.65	0.43
1:A:143:LYS:HG3	1:A:144:TRP:HD1	1.83	0.42
1:A:264:GLU:O	1:A:265:ARG:HG2	2.18	0.42
1:A:423:PRO:HD3	1:B:185:PHE:CE2	2.54	0.42
1:B:100:ILE:O	1:B:158:PRO:HD3	2.19	0.42
1:B:252:PRO:HD3	1:B:257:GLY:HA3	2.01	0.42
1:B:266:ALA:HB1	1:B:293:ALA:HA	2.01	0.42
1:C:322:ILE:H	1:C:322:ILE:HG13	1.71	0.42
1:C:361:LYS:HB2	1:C:361:LYS:HE3	1.66	0.42
1:C:444:ILE:HD12	1:C:444:ILE:HA	1.83	0.42
1:F:93:SER:CB	1:F:96:ASP:HB2	2.48	0.42
1:D:334:ARG:HH22	1:D:392:THR:HG23	1.83	0.42
1:D:369:ILE:HG22	1:D:427:THR:OG1	2.19	0.42
1:D:416:LYS:HB3	1:D:423:PRO:HD3	2.01	0.42
1:A:338:LYS:HZ1	1:A:343:SER:HG	1.56	0.42
1:B:93:SER:HB3	1:B:325:GLN:HA	2.01	0.42
1:F:58:LEU:HB3	1:F:59:GLN:H	1.57	0.42
1:F:242:PRO:HB3	1:A:54:PRO:CA	2.48	0.42
1:E:95:LEU:HD12	1:E:95:LEU:H	1.83	0.42
1:E:438:ARG:HD2	1:E:438:ARG:HA	1.65	0.42
1:B:421:HIS:HA	1:C:185:PHE:CG	2.54	0.42
1:C:204:GLN:OE1	1:C:341:ARG:NE	2.38	0.42
1:F:250:LEU:CD1	1:E:138:ARG:HG2	2.45	0.42
1:D:115:THR:H	1:D:356:GLU:H	1.68	0.42
1:D:316:ILE:HG22	1:D:399:PRO:HD2	2.00	0.42
1:D:434:ARG:HH12	1:D:438:ARG:HG2	1.85	0.42
1:E:107:ILE:HD12	1:E:107:ILE:HA	1.88	0.42
1:A:142:LYS:O	1:A:145:LEU:HB2	2.20	0.42
1:C:318:ASP:O	1:C:400:ARG:HG2	2.19	0.42
1:C:324:LEU:C	1:C:326:CYS:H	2.21	0.42
1:F:55:THR:CG2	1:A:48:ALA:O	2.64	0.42
1:F:94:LEU:HD22	1:F:353:TYR:CE2	2.54	0.42
1:D:98:MET:O	1:D:280:ALA:HB2	2.20	0.42
1:D:246:MET:HB3	1:D:261:GLY:O	2.19	0.42
1:D:334:ARG:NH1	1:D:391:LEU:HD22	2.31	0.42
1:E:248:HIS:CG	1:E:249:PRO:CD	2.99	0.42
1:E:351:MET:HG2	1:E:372:VAL:HG12	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:111:PHE:CD1	1:A:151:LEU:HD11	2.54	0.42
1:A:113:LEU:CG	1:A:135:PHE:CZ	3.03	0.42
1:B:386:GLY:N	1:B:405:ILE:O	2.35	0.42
1:C:247:PHE:HB3	1:C:259:TYR:HB2	2.00	0.42
1:C:318:ASP:O	1:C:401:PRO:HD2	2.19	0.42
1:F:87:LYS:HD3	1:F:88:GLY:H	1.83	0.42
1:F:404:ILE:HG12	1:F:432:LEU:HD13	2.01	0.42
1:D:119:PHE:CD1	1:D:332:ILE:HG21	2.54	0.42
1:D:132:ILE:HD12	1:D:132:ILE:HA	1.88	0.42
1:D:198:CYS:O	1:D:311:ARG:NH1	2.50	0.42
1:D:297:PHE:O	1:D:298:ALA:O	2.37	0.42
1:B:118:GLY:HA2	1:B:332:ILE:HD11	2.01	0.42
1:B:207:SER:HB3	1:B:247:PHE:H	1.85	0.42
1:C:120:ARG:HB3	1:C:129:ILE:O	2.20	0.42
1:C:217:ILE:HB	1:C:444:ILE:HG22	2.01	0.42
1:C:270:ILE:HD13	1:C:275:TRP:CE2	2.54	0.42
1:F:53:TRP:HD1	1:F:55:THR:CG2	2.33	0.42
1:D:116:ALA:O	1:D:132:ILE:HD12	2.19	0.42
1:D:221:ARG:HE	1:D:440:GLU:HG3	1.85	0.42
1:E:247:PHE:CD2	1:E:259:TYR:HA	2.54	0.42
1:A:72:ASN:CA	1:A:75:LYS:HB3	2.49	0.42
1:B:120:ARG:HE	1:B:120:ARG:HB2	1.73	0.42
1:B:320:LYS:HD3	1:B:400:ARG:HD3	2.02	0.42
1:C:379:PHE:HD2	1:C:427:THR:HG21	1.85	0.42
1:F:245:LYS:HD2	1:F:259:TYR:OH	2.20	0.42
1:A:70:PHE:CE2	1:A:281:GLY:O	2.73	0.42
1:C:448:GLU:OE1	1:C:448:GLU:N	2.42	0.42
1:F:53:TRP:CH2	1:A:238:ASP:O	2.72	0.42
1:F:70:PHE:CE2	1:F:282:THR:HG23	2.54	0.42
1:F:320:LYS:HD3	1:F:320:LYS:HA	1.92	0.42
1:F:358:ASN:HB3	1:F:364:CYS:SG	2.59	0.42
1:E:229:PHE:CE2	1:E:231:THR:HB	2.55	0.42
1:E:416:LYS:HA	1:E:423:PRO:HA	2.02	0.42
1:A:112:SER:HB3	1:A:113:LEU:H	1.55	0.42
1:B:264:GLU:HB3	1:B:265:ARG:H	1.69	0.42
1:C:337:CYS:SG	1:C:338:LYS:N	2.93	0.42
1:F:70:PHE:CE2	1:F:282:THR:CG2	2.98	0.42
1:F:89:GLN:O	1:F:89:GLN:CG	2.68	0.42
1:F:432:LEU:HG	1:F:436:LEU:HD23	2.02	0.42
1:E:249:PRO:CB	1:E:250:LEU:HD12	2.49	0.42
1:A:60:HIS:O	1:A:61:CYS:C	2.57	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:220:ARG:NH2	1:A:222:THR:OG1	2.45	0.42
1:B:94:LEU:HD12	1:B:94:LEU:H	1.84	0.42
1:B:192:LEU:HD23	1:B:311:ARG:HE	1.84	0.42
1:F:145:LEU:HA	1:D:256:PRO:HB3	2.02	0.41
1:D:245:LYS:CD	1:D:259:TYR:OH	2.59	0.41
1:A:101:ARG:NH1	1:A:356:GLU:HB3	2.35	0.41
1:A:315:ASP:O	1:A:399:PRO:HD2	2.20	0.41
1:A:391:LEU:HD12	1:A:391:LEU:HA	1.91	0.41
1:B:218:VAL:HG12	1:B:443:ILE:HD13	2.01	0.41
1:C:123:LYS:HD3	1:C:123:LYS:HA	1.85	0.41
1:C:343:SER:OG	1:C:380:ASP:HA	2.20	0.41
1:C:350:VAL:HG22	1:C:371:VAL:HG12	2.02	0.41
1:F:111:PHE:HB2	1:F:151:LEU:HD21	2.01	0.41
1:E:353:TYR:CG	1:E:354:ALA:N	2.89	0.41
1:E:409:THR:OG1	1:E:427:THR:HA	2.19	0.41
1:A:73:LEU:HG	1:A:103:PHE:CG	2.55	0.41
1:A:288:VAL:HG22	1:A:366:PHE:HB2	2.02	0.41
1:C:225:LYS:H	1:C:225:LYS:HD2	1.85	0.41
1:D:191:LYS:HA	1:D:191:LYS:HD3	1.85	0.41
1:D:368:ASP:HB2	1:D:430:VAL:HA	2.02	0.41
1:D:414:ARG:NH1	1:D:423:PRO:O	2.50	0.41
1:A:413:GLY:HA3	1:A:426:TRP:CZ2	2.55	0.41
1:B:301:PHE:O	1:B:302:ASP:C	2.59	0.41
1:E:119:PHE:CZ	1:E:128:ASP:HA	2.56	0.41
1:E:247:PHE:CB	1:E:259:TYR:CA	2.80	0.41
1:A:308:THR:HG22	1:A:308:THR:O	2.21	0.41
1:B:232:ASN:ND2	1:B:406:TRP:HD1	2.18	0.41
1:B:417:LEU:HG	1:B:418:THR:H	1.85	0.41
1:F:110:ARG:HG2	1:F:111:PHE:CD2	2.55	0.41
1:D:268:SER:HB2	1:D:269:PHE:H	1.70	0.41
1:A:95:LEU:C	1:A:97:LEU:N	2.73	0.41
1:A:100:ILE:HA	1:A:103:PHE:HD1	1.84	0.41
1:A:110:ARG:HG2	1:A:110:ARG:HH11	1.84	0.41
1:C:94:LEU:HG	1:C:324:LEU:HB2	2.03	0.41
1:F:208:HIS:HA	1:F:251:PRO:HG3	2.02	0.41
1:D:220:ARG:HH22	1:D:226:GLN:HB2	1.85	0.41
1:D:260:LEU:HA	1:D:260:LEU:HD12	1.50	0.41
1:E:233:HIS:ND1	1:E:233:HIS:C	2.73	0.41
1:A:72:ASN:OD1	1:A:72:ASN:N	2.54	0.41
1:A:112:SER:O	1:A:113:LEU:HB2	2.21	0.41
1:A:317:GLY:O	1:A:445:ILE:HG21	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:115:THR:HB	1:B:356:GLU:HG2	2.03	0.41
1:B:220:ARG:O	1:B:225:LYS:HA	2.20	0.41
1:B:308:THR:HG21	1:B:447:ASN:HA	2.02	0.41
1:F:74:GLN:HG2	1:F:158:PRO:CB	2.51	0.41
1:F:135:PHE:HB3	1:F:170:PHE:HB2	2.02	0.41
1:D:119:PHE:HD1	1:D:332:ILE:HG21	1.85	0.41
1:D:122:ARG:O	1:D:123:LYS:HG2	2.21	0.41
1:A:106:LYS:HD2	1:A:107:ILE:H	1.84	0.41
1:B:297:PHE:CD2	1:B:301:PHE:HE2	2.38	0.41
1:C:438:ARG:HA	1:C:438:ARG:HD2	1.81	0.41
1:F:47:SER:CB	1:A:53:TRP:CE3	3.03	0.41
1:F:143:LYS:HB3	1:F:143:LYS:HE2	1.85	0.41
1:D:246:MET:CA	1:D:259:TYR:HE1	2.28	0.41
1:B:422:GLY:HA3	1:B:423:PRO:HD2	1.85	0.41
1:B:438:ARG:N	1:B:438:ARG:HD2	2.35	0.41
1:F:63:ALA:H	1:F:65:GLY:H	1.69	0.41
1:F:205:VAL:HG11	1:F:235:VAL:HG11	2.02	0.41
1:F:205:VAL:HG13	1:F:235:VAL:CG1	2.50	0.41
1:F:239:LEU:HB3	1:A:239:LEU:CD2	2.50	0.41
1:D:141:HIS:HB3	1:E:195:SER:HA	2.01	0.41
1:D:259:TYR:HB3	1:D:301:PHE:CE2	2.55	0.41
1:E:115:THR:O	1:E:355:LEU:HA	2.21	0.41
1:E:191:LYS:HB3	1:E:196:ASP:OD2	2.21	0.41
1:E:249:PRO:HB3	1:E:250:LEU:HD12	2.03	0.41
1:A:80:ARG:NH2	1:A:152:PRO:HB3	2.33	0.41
1:A:155:LEU:CD1	1:A:165:VAL:HG21	2.51	0.41
1:A:222:THR:HB	1:A:223:GLY:H	1.70	0.41
1:B:116:ALA:HB3	1:B:133:LEU:HD12	2.02	0.41
1:B:186:SER:HB3	1:B:189:VAL:HG23	2.03	0.41
1:B:198:CYS:HB2	1:B:311:ARG:HH12	1.86	0.41
1:B:347:THR:HG22	1:B:348:GLY:N	2.36	0.41
1:C:132:ILE:HB	1:C:165:VAL:HG22	2.03	0.41
1:F:251:PRO:HB2	1:F:253:ASN:OD1	2.20	0.41
1:D:222:THR:OG1	1:D:223:GLY:N	2.54	0.41
1:E:229:PHE:HB3	1:E:297:PHE:CZ	2.56	0.41
1:E:368:ASP:HB3	1:E:369:ILE:H	1.59	0.41
1:A:139:LYS:HD2	1:A:167:VAL:O	2.20	0.41
1:C:202:GLY:H	1:C:214:LEU:CB	2.30	0.41
1:C:303:ILE:HG12	1:C:451:GLN:NE2	2.36	0.41
1:F:391:LEU:HD23	1:F:391:LEU:HA	1.95	0.40
1:E:116:ALA:HB2	1:E:135:PHE:CE2	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:132:ILE:CG1	1:A:163:CYS:SG	3.06	0.40
1:A:171:SER:OG	1:A:172:TYR:N	2.55	0.40
1:B:138:ARG:HA	1:B:138:ARG:HD2	1.83	0.40
1:B:262:ALA:O	1:B:296:PRO:HD2	2.21	0.40
1:B:404:ILE:HG13	1:B:432:LEU:HD12	2.03	0.40
1:C:397:GLU:H	1:C:397:GLU:HG3	1.76	0.40
1:F:238:ASP:N	1:F:238:ASP:OD1	2.53	0.40
1:D:289:ARG:NH1	1:D:364:CYS:O	2.53	0.40
1:E:420:ASP:O	1:E:421:HIS:ND1	2.54	0.40
1:A:98:MET:HG2	1:A:278:ILE:HD11	2.02	0.40
1:F:66:ARG:NH2	1:F:273:ASP:OD1	2.54	0.40
1:F:110:ARG:HG2	1:F:111:PHE:CE2	2.56	0.40
1:D:98:MET:SD	1:D:278:ILE:HG21	2.61	0.40
1:D:221:ARG:HB2	1:D:440:GLU:O	2.22	0.40
1:E:123:LYS:HA	1:E:123:LYS:HD3	1.81	0.40
1:E:197:GLU:OE1	1:E:197:GLU:N	2.51	0.40
1:E:432:LEU:HA	1:E:435:LEU:HB3	2.03	0.40
1:A:93:SER:O	1:A:328:LEU:HD12	2.22	0.40
1:A:139:LYS:C	1:A:140:VAL:HG22	2.42	0.40
1:B:100:ILE:CG2	1:B:163:CYS:HB3	2.52	0.40
1:C:143:LYS:O	1:C:143:LYS:HG3	2.21	0.40
1:F:89:GLN:HB2	1:F:161:VAL:CG1	2.44	0.40
1:F:135:PHE:HE2	1:F:355:LEU:HD13	1.86	0.40
1:F:165:VAL:HG12	1:F:166:ASP:H	1.86	0.40
1:F:270:ILE:HB	1:F:288:VAL:HB	2.03	0.40
1:D:241:TYR:HB3	1:D:244:GLN:HB3	2.04	0.40
1:E:308:THR:O	1:E:308:THR:OG1	2.37	0.40
1:A:93:SER:OG	1:A:96:ASP:HB2	2.20	0.40
1:A:134:VAL:O	1:A:136:VAL:HG22	2.22	0.40
1:F:54:PRO:O	1:F:55:THR:C	2.60	0.40
1:F:101:ARG:NH1	1:F:115:THR:O	2.54	0.40
1:F:113:LEU:HD12	1:F:113:LEU:HA	1.96	0.40
1:D:143:LYS:HA	1:D:143:LYS:HD2	1.89	0.40
1:A:101:ARG:HB3	1:A:132:ILE:HG21	2.03	0.40
1:A:132:ILE:O	1:A:134:VAL:N	2.54	0.40
1:B:389:ILE:HB	1:B:403:GLY:CA	2.52	0.40
1:C:247:PHE:O	1:C:247:PHE:CD1	2.74	0.40
1:C:260:LEU:O	1:C:297:PHE:C	2.60	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	395/409 (97%)	300 (76%)	57 (14%)	38 (10%)	0	2
1	B	349/409 (85%)	272 (78%)	69 (20%)	8 (2%)	6	27
1	C	348/409 (85%)	289 (83%)	54 (16%)	5 (1%)	11	40
1	D	349/409 (85%)	275 (79%)	65 (19%)	9 (3%)	5	24
1	E	349/409 (85%)	276 (79%)	64 (18%)	9 (3%)	5	24
1	F	392/409 (96%)	316 (81%)	52 (13%)	24 (6%)	1	8
All	All	2182/2454 (89%)	1728 (79%)	361 (16%)	93 (4%)	5	14

All (93) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	F	50	TYR
1	F	53	TRP
1	F	63	ALA
1	F	82	PRO
1	F	90	GLN
1	F	91	ALA
1	F	92	ASN
1	F	140	VAL
1	F	432	LEU
1	D	237	VAL
1	D	249	PRO
1	D	298	ALA
1	D	301	PHE
1	D	302	ASP
1	D	410	ALA
1	D	411	ASN
1	D	423	PRO
1	E	249	PRO
1	E	250	LEU
1	E	257	GLY

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Mol	Chain	Res	Type
1	E	258	VAL
1	E	259	TYR
1	E	354	ALA
1	A	50	TYR
1	A	56	SER
1	A	58	LEU
1	A	60	HIS
1	A	61	CYS
1	A	74	GLN
1	A	80	ARG
1	A	86	PRO
1	A	87	LYS
1	A	88	GLY
1	A	89	GLN
1	A	100	ILE
1	A	103	PHE
1	A	104	HIS
1	A	113	LEU
1	A	117	VAL
1	A	146	ASN
1	A	147	PRO
1	A	148	ALA
1	A	149	GLN
1	A	410	ALA
1	B	209	GLU
1	B	233	HIS
1	B	249	PRO
1	B	411	ASN
1	B	423	PRO
1	C	248	HIS
1	C	299	ASP
1	C	354	ALA
1	F	48	ALA
1	F	56	SER
1	F	73	LEU
1	F	76	GLY
1	D	209	GLU
1	E	103	PHE
1	A	48	ALA
1	A	63	ALA
1	A	77	LEU
1	A	114	GLY

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Mol	Chain	Res	Type
1	A	134	VAL
1	A	154	ILE
1	A	368	ASP
1	B	410	ALA
1	C	103	PHE
1	F	59	GLN
1	F	74	GLN
1	F	78	LEU
1	F	268	SER
1	E	390	ILE
1	A	53	TRP
1	A	64	GLU
1	A	91	ALA
1	A	112	SER
1	A	133	LEU
1	F	238	ASP
1	F	240	ASP
1	F	241	TYR
1	A	54	PRO
1	A	124	GLY
1	F	88	GLY
1	F	169	GLU
1	F	368	ASP
1	A	142	LYS
1	B	102	ALA
1	B	291	ASP
1	F	54	PRO
1	E	299	ASP
1	A	57	ASN
1	A	79	PRO
1	C	249	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.

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	331/338 (98%)	273 (82%)	58 (18%)	2	9
1	B	296/338 (88%)	280 (95%)	16 (5%)	22	55
1	C	295/338 (87%)	275 (93%)	20 (7%)	16	46
1	D	296/338 (88%)	282 (95%)	14 (5%)	26	61
1	E	296/338 (88%)	278 (94%)	18 (6%)	18	50
1	F	329/338 (97%)	284 (86%)	45 (14%)	3	15
All	All	1843/2028 (91%)	1672 (91%)	171 (9%)	12	31

All (171) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	F	50	TYR
1	F	51	PHE
1	F	52	LEU
1	F	55	THR
1	F	58	LEU
1	F	59	GLN
1	F	61	CYS
1	F	64	GLU
1	F	69	TYR
1	F	74	GLN
1	F	75	LYS
1	F	77	LEU
1	F	78	LEU
1	F	80	ARG
1	F	84	ARG
1	F	85	LEU
1	F	87	LYS
1	F	89	GLN
1	F	90	GLN
1	F	92	ASN
1	F	93	SER
1	F	95	LEU
1	F	96	ASP
1	F	97	LEU
1	F	98	MET
1	F	103	PHE
1	F	106	LYS

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Mol	Chain	Res	Type
1	F	110	ARG
1	F	119	PHE
1	F	150	CYS
1	F	170	PHE
1	F	172	TYR
1	F	208	HIS
1	F	225	LYS
1	F	233	HIS
1	F	239	LEU
1	F	240	ASP
1	F	241	TYR
1	F	244	GLN
1	F	245	LYS
1	F	246	MET
1	F	264	GLU
1	F	265	ARG
1	F	324	LEU
1	F	351	MET
1	D	95	LEU
1	D	125	ASP
1	D	146	ASN
1	D	164	ASP
1	D	172	TYR
1	D	259	TYR
1	D	269	PHE
1	D	289	ARG
1	D	299	ASP
1	D	301	PHE
1	D	311	ARG
1	D	359	ASP
1	D	365	PHE
1	D	447	ASN
1	E	104	HIS
1	E	119	PHE
1	E	125	ASP
1	E	163	CYS
1	E	229	PHE
1	E	233	HIS
1	E	234	HIS
1	E	247	PHE
1	E	249	PRO
1	E	250	LEU

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Mol	Chain	Res	Type
1	E	259	TYR
1	E	260	LEU
1	E	315	ASP
1	E	320	LYS
1	E	335	GLN
1	E	338	LYS
1	E	351	MET
1	E	437	ASP
1	A	51	PHE
1	A	52	LEU
1	A	55	THR
1	A	56	SER
1	A	57	ASN
1	A	58	LEU
1	A	59	GLN
1	A	61	CYS
1	A	66	ARG
1	A	69	TYR
1	A	70	PHE
1	A	72	ASN
1	A	73	LEU
1	A	74	GLN
1	A	75	LYS
1	A	77	LEU
1	A	78	LEU
1	A	80	ARG
1	A	81	HIS
1	A	84	ARG
1	A	85	LEU
1	A	87	LYS
1	A	89	GLN
1	A	90	GLN
1	A	95	LEU
1	A	96	ASP
1	A	98	MET
1	A	100	ILE
1	A	101	ARG
1	A	103	PHE
1	A	105	SER
1	A	106	LYS
1	A	109	ARG
1	A	115	THR

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Mol	Chain	Res	Type
1	A	119	PHE
1	A	125	ASP
1	A	126	LEU
1	A	132	ILE
1	A	133	LEU
1	A	135	PHE
1	A	136	VAL
1	A	138	ARG
1	A	140	VAL
1	A	142	LYS
1	A	154	ILE
1	A	169	GLU
1	A	170	PHE
1	A	195	SER
1	A	196	ASP
1	A	238	ASP
1	A	265	ARG
1	A	273	ASP
1	A	297	PHE
1	A	326	CYS
1	A	351	MET
1	A	360	GLU
1	A	414	ARG
1	A	452	ASP
1	B	96	ASP
1	B	109	ARG
1	B	146	ASN
1	B	184	MET
1	B	196	ASP
1	B	211	PHE
1	B	265	ARG
1	B	273	ASP
1	B	291	ASP
1	B	337	CYS
1	B	357	TYR
1	B	361	LYS
1	B	366	PHE
1	B	434	ARG
1	B	438	ARG
1	B	439	LEU
1	C	119	PHE
1	C	123	LYS

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Mol	Chain	Res	Type
1	C	221	ARG
1	C	224	ASN
1	C	226	GLN
1	C	229	PHE
1	C	245	LYS
1	C	247	PHE
1	C	259	TYR
1	C	275	TRP
1	C	297	PHE
1	C	302	ASP
1	C	329	ASN
1	C	341	ARG
1	C	351	MET
1	C	353	TYR
1	C	385	SER
1	C	414	ARG
1	C	437	ASP
1	C	447	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (8) such sidechains are listed below:

Mol	Chain	Res	Type
1	F	81	HIS
1	F	243	ASN
1	A	60	HIS
1	A	68	ASN
1	A	89	GLN
1	A	92	ASN
1	A	233	HIS
1	B	104	HIS

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides 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　ⓘ

This section contains visualisations of the EMDB entry EMD-34608. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

6.1　Orthogonal projections　ⓘ
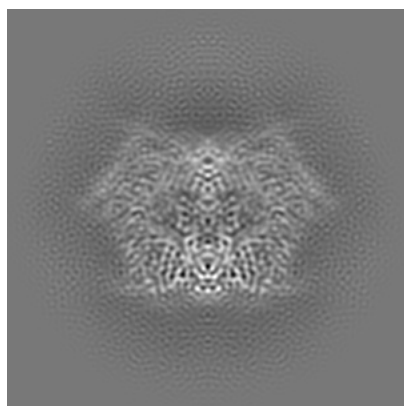
6.1.1　Primary map

X
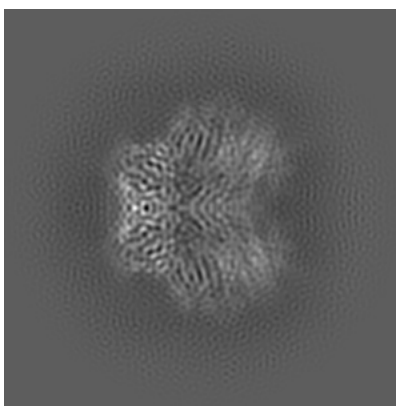
Y
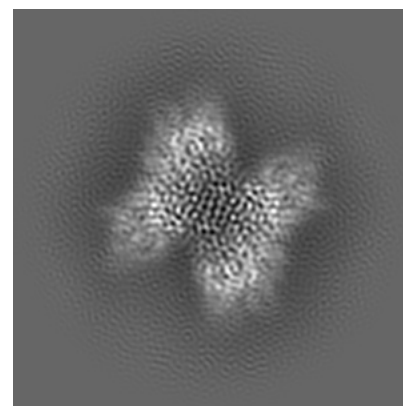
Z

6.1.2　Raw map

X

Y

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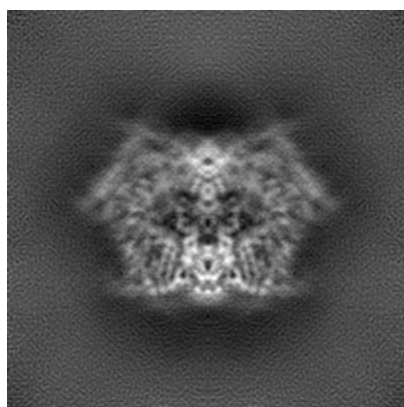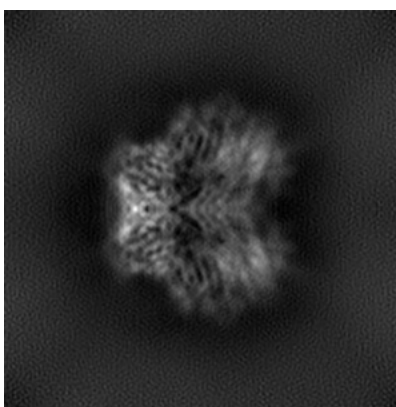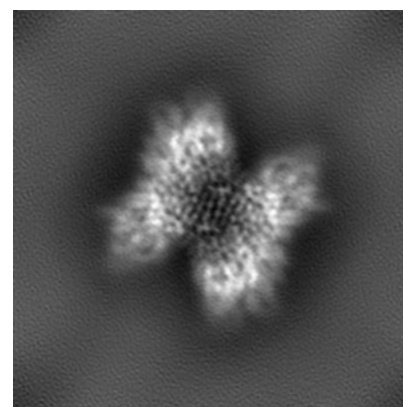
The images above show the map projected in three orthogonal directions.

6.2 Central slices ⓘ
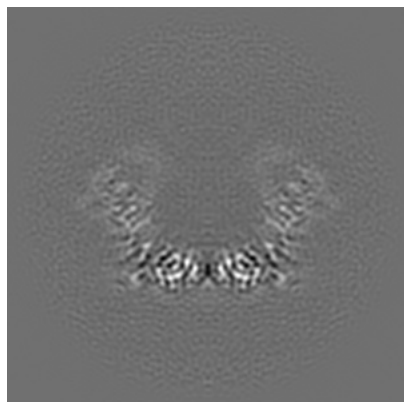
6.2.1 Primary map
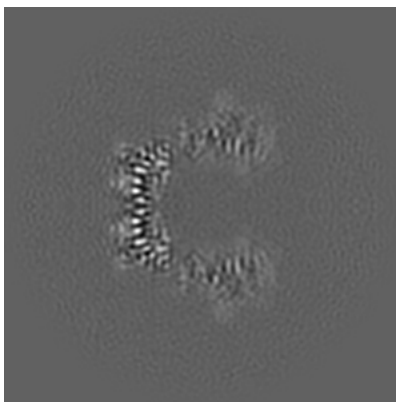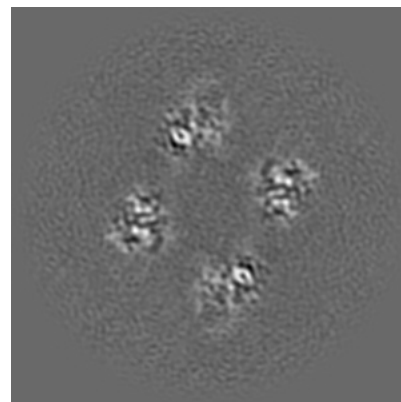
X Index: 100   Y Index: 100   Z Index: 100

6.2.2 Raw map
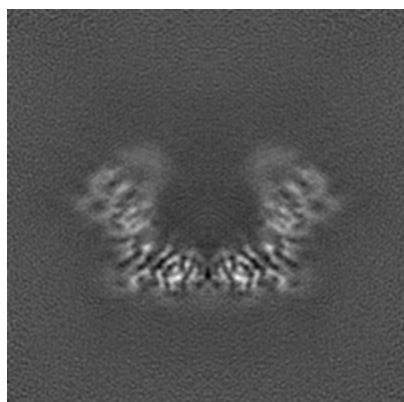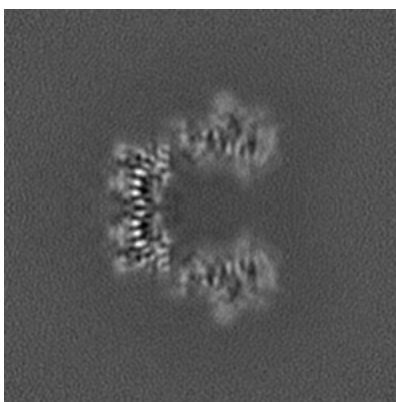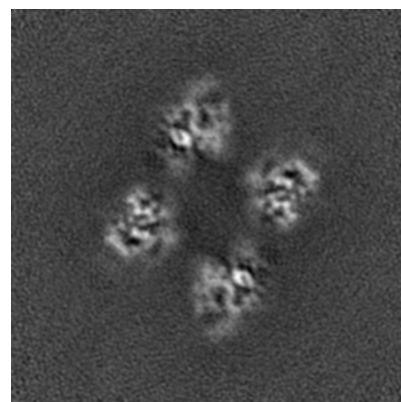
X Index: 100   Y Index: 100   Z Index: 100

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

6.3 Largest variance slices (i)

6.3.1 Primary map
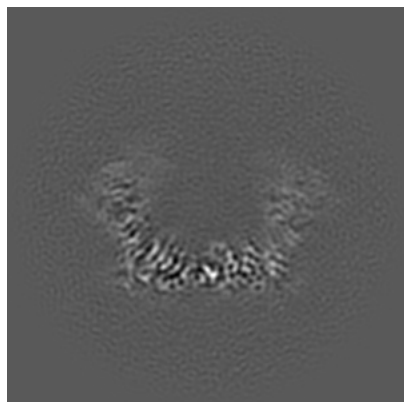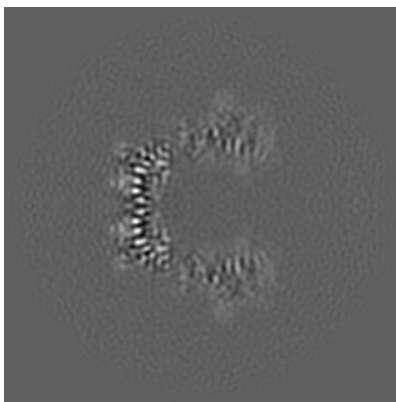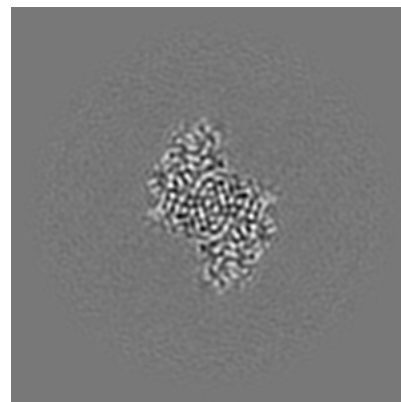
| X Index: 103 | Y Index: 100 | Z Index: 70 |

6.3.2 Raw map
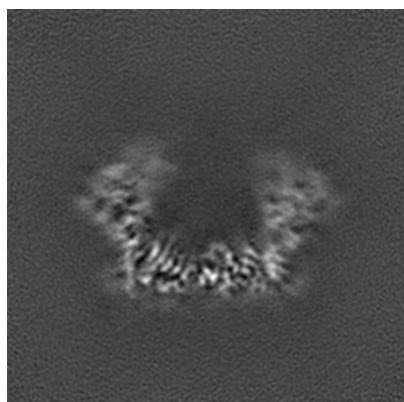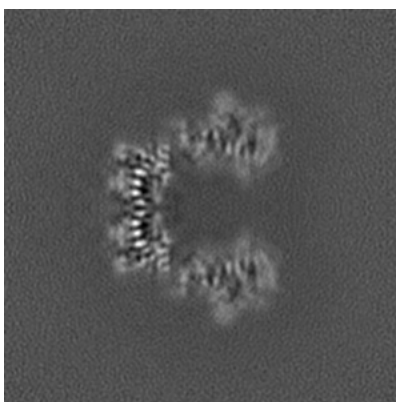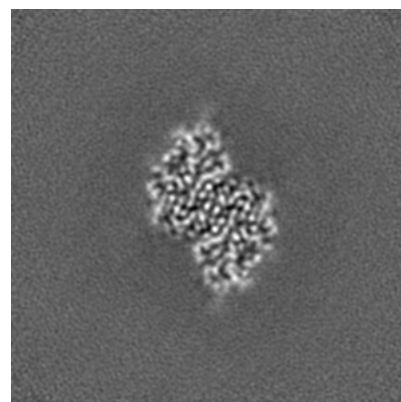
| X Index: 103 | Y Index: 100 | Z Index: 69 |

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
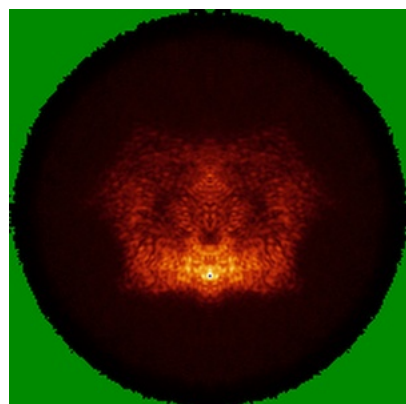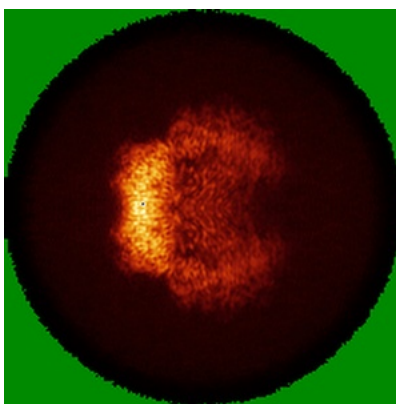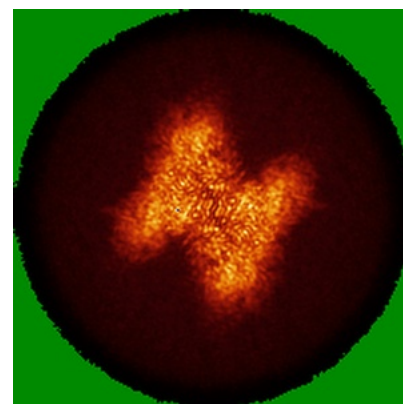
X	Y	Z

6.4.2 Raw map

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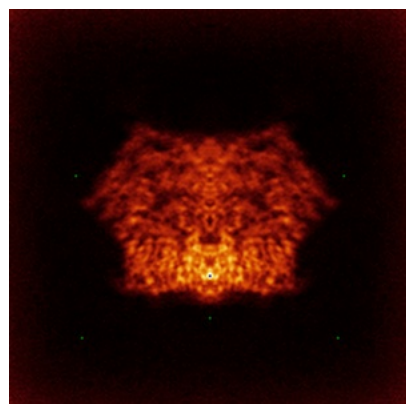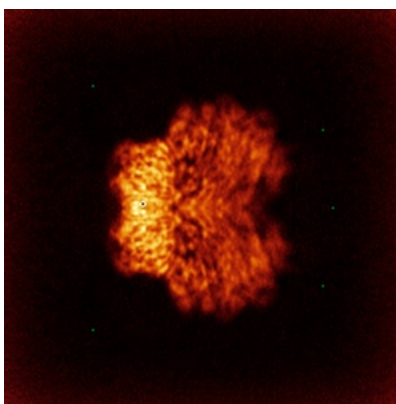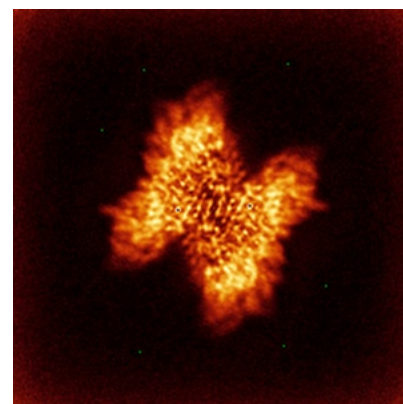
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views ⓘ

6.5.1 Primary map

| X | Y | Z |
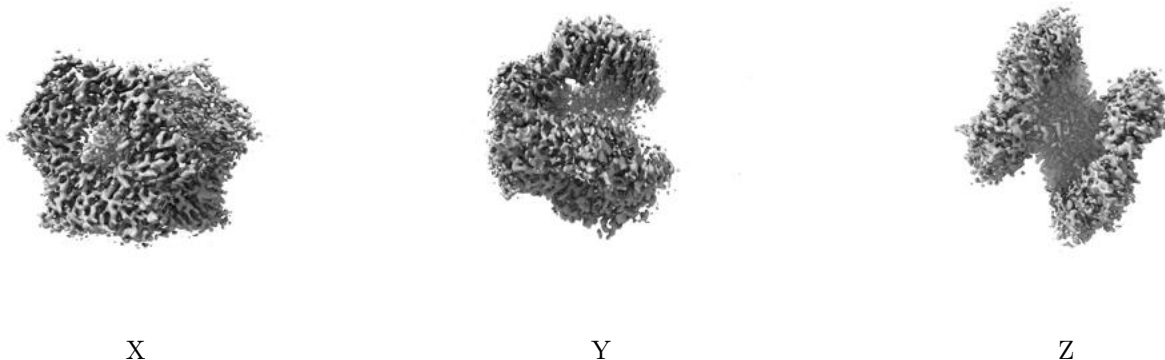
The images above show the 3D surface view of the map at the recommended contour level 0.2. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map

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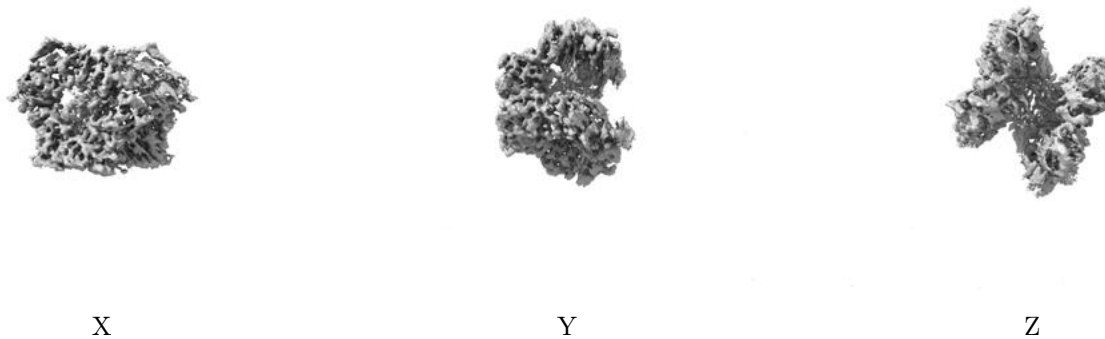
These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

6.6 Mask visualisation ⓘ

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

A mask typically either:

- Encompasses the whole structure

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

6.6.1 emd_34608_msk_1.map ⓘ

X   Y   Z
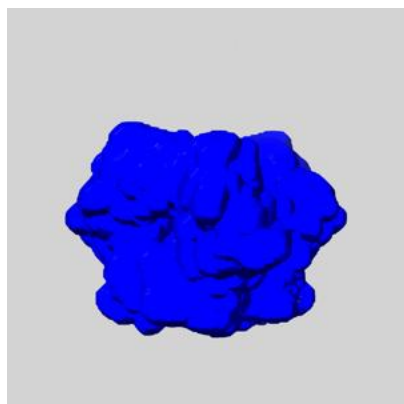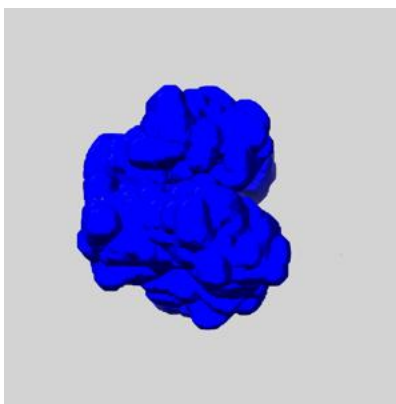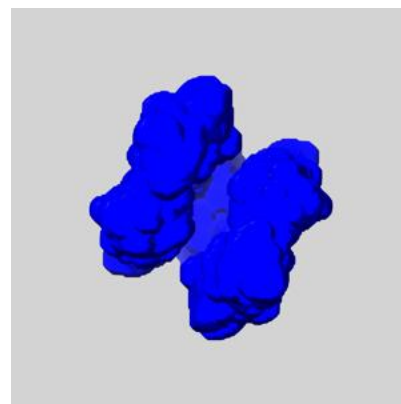
7 Map analysis ⓘ

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

7.1 Map-value distribution ⓘ

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

7.2 Volume estimate (i)
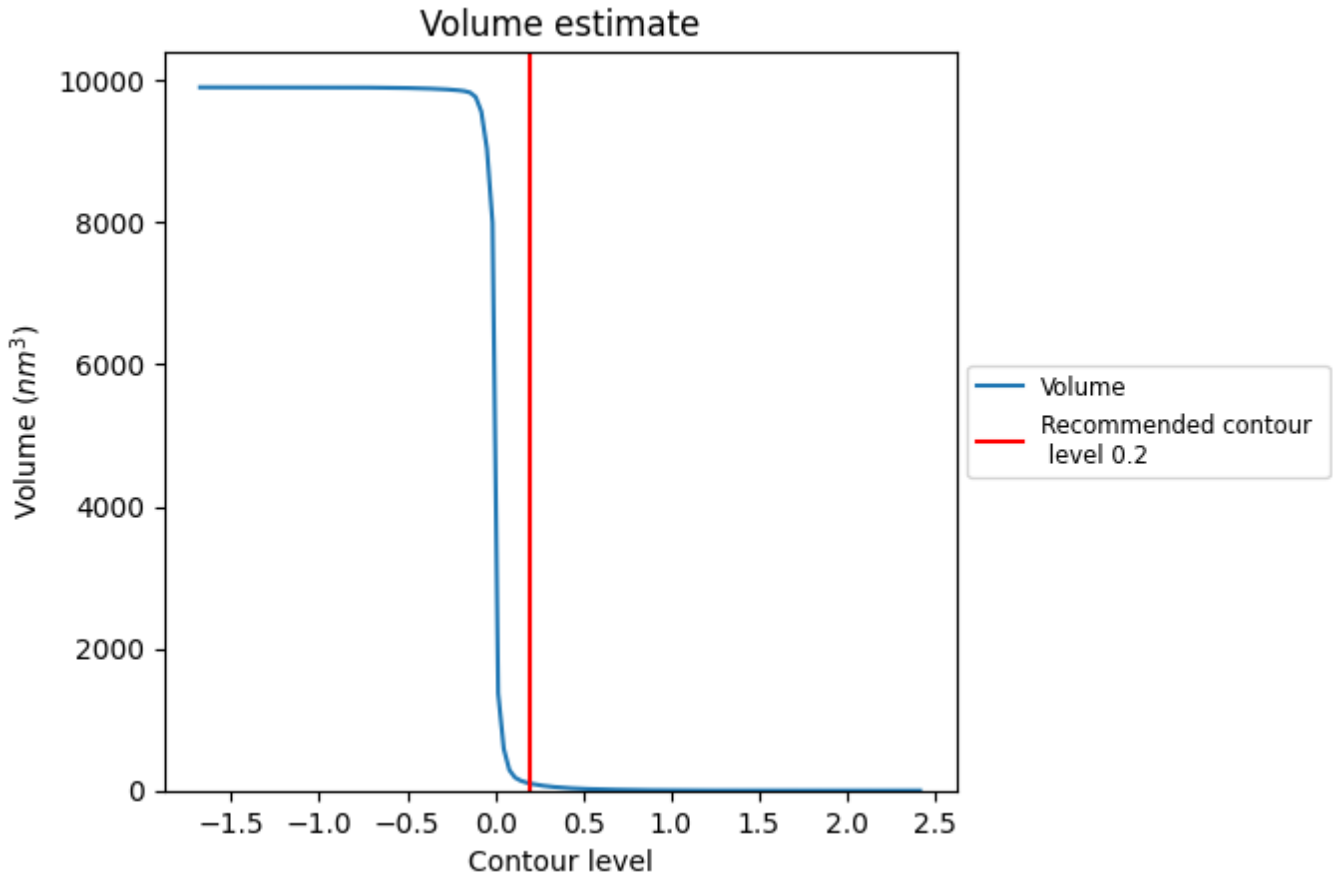
The volume at the recommended contour level is 100 nm^3; this corresponds to an approximate mass of 90 kDa.

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 ⓘ
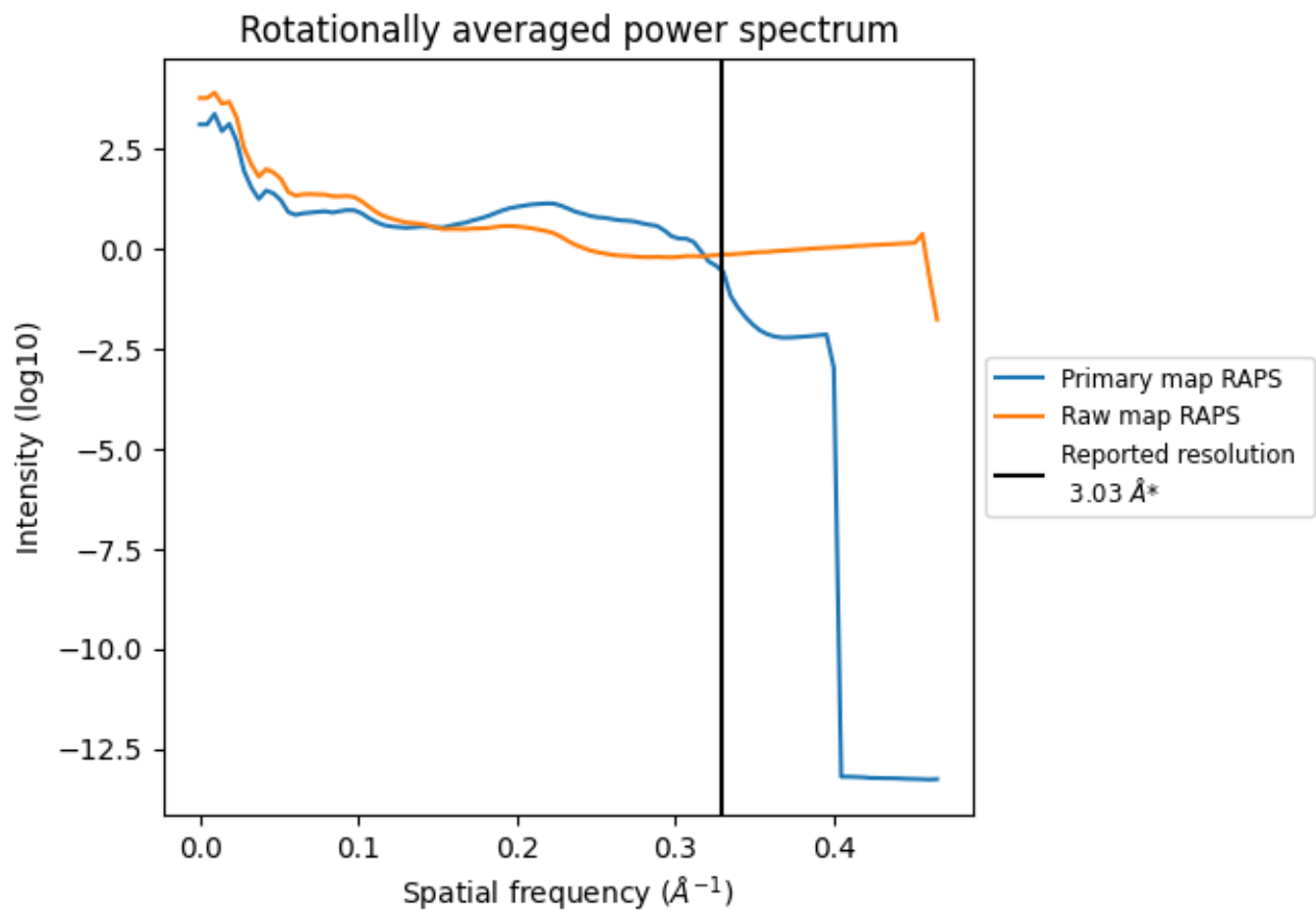
*Reported resolution corresponds to spatial frequency of 0.330 Å^{-1}

8　Fourier-Shell correlation ⓘ

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

8.1　FSC ⓘ
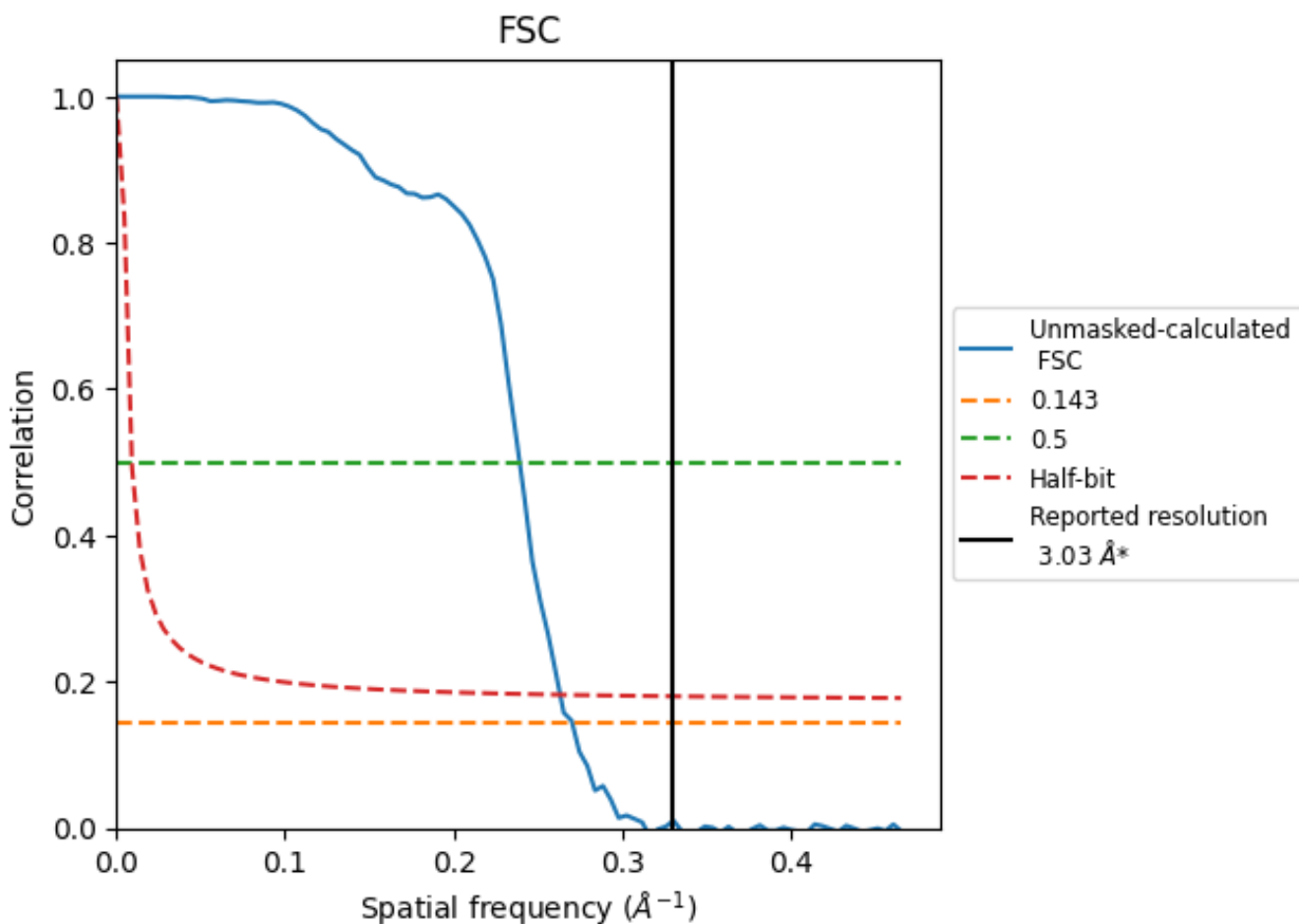
*Reported resolution corresponds to spatial frequency of 0.330 Å^{-1}

8.2 Resolution estimates ⓘ

Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.03	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.70	4.18	3.80

*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 3.70 differs from the reported value 3.03 by more than 10 %

9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-34608 and PDB model 8HAT. Per-residue inclusion information can be found in section 3 on page 4.

9.1 Map-model overlay ⓘ

X   Y   Z
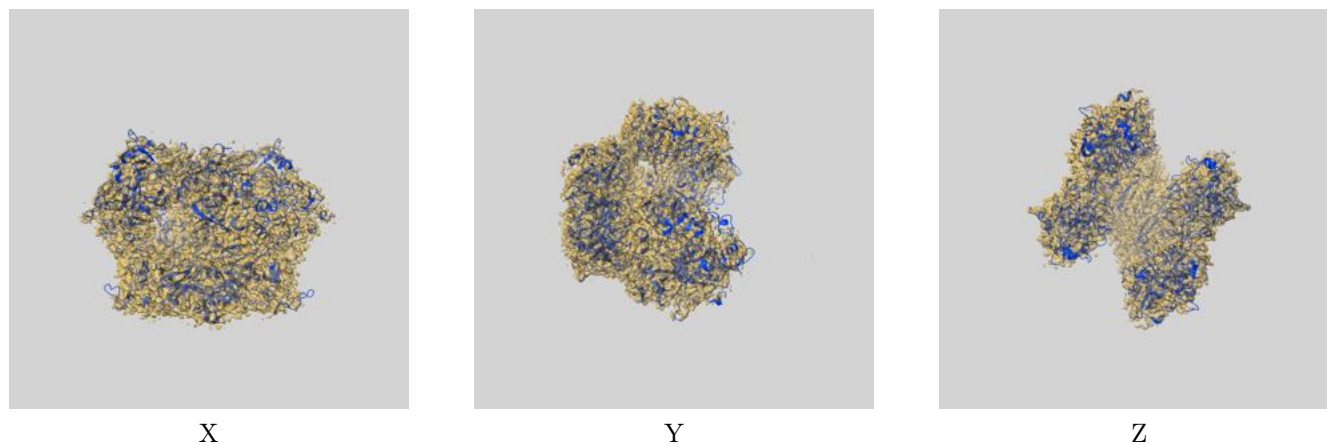
The images above show the 3D surface view of the map at the recommended contour level 0.2 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2　Q-score mapped to coordinate model ⓘ

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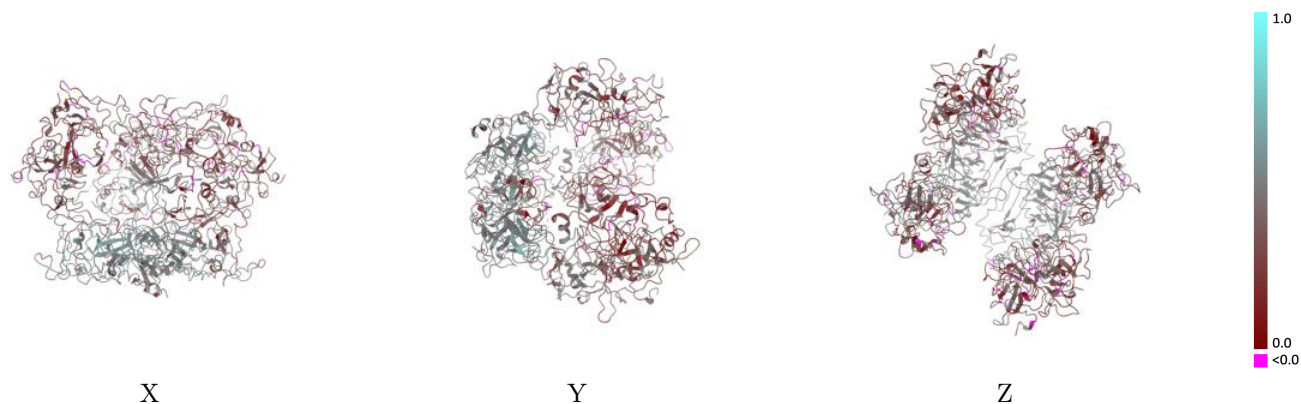
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions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

9.3　Atom inclusion mapped to coordinate model ⓘ

X　　　　　　　　　　　Y　　　　　　　　　　　Z
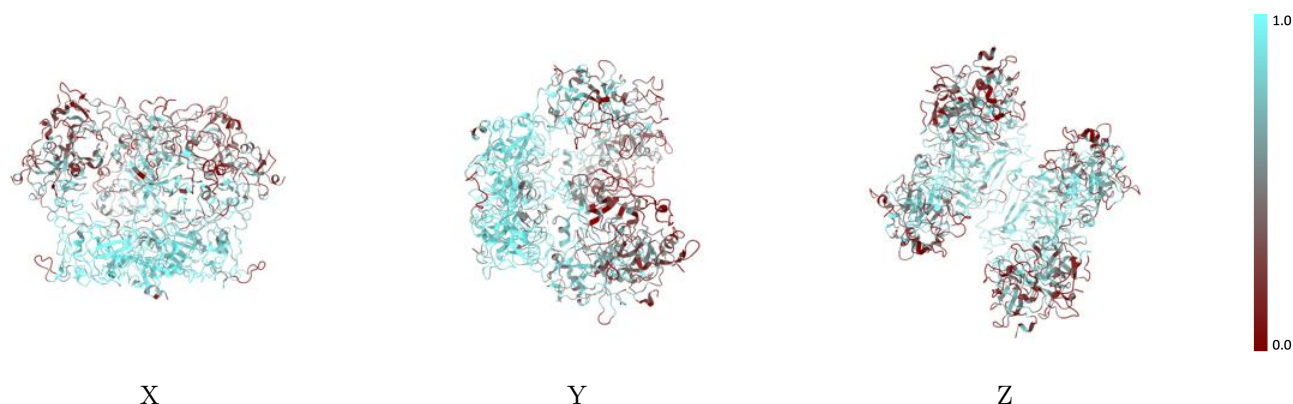
The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.2).

9.4 Atom inclusion ⓘ
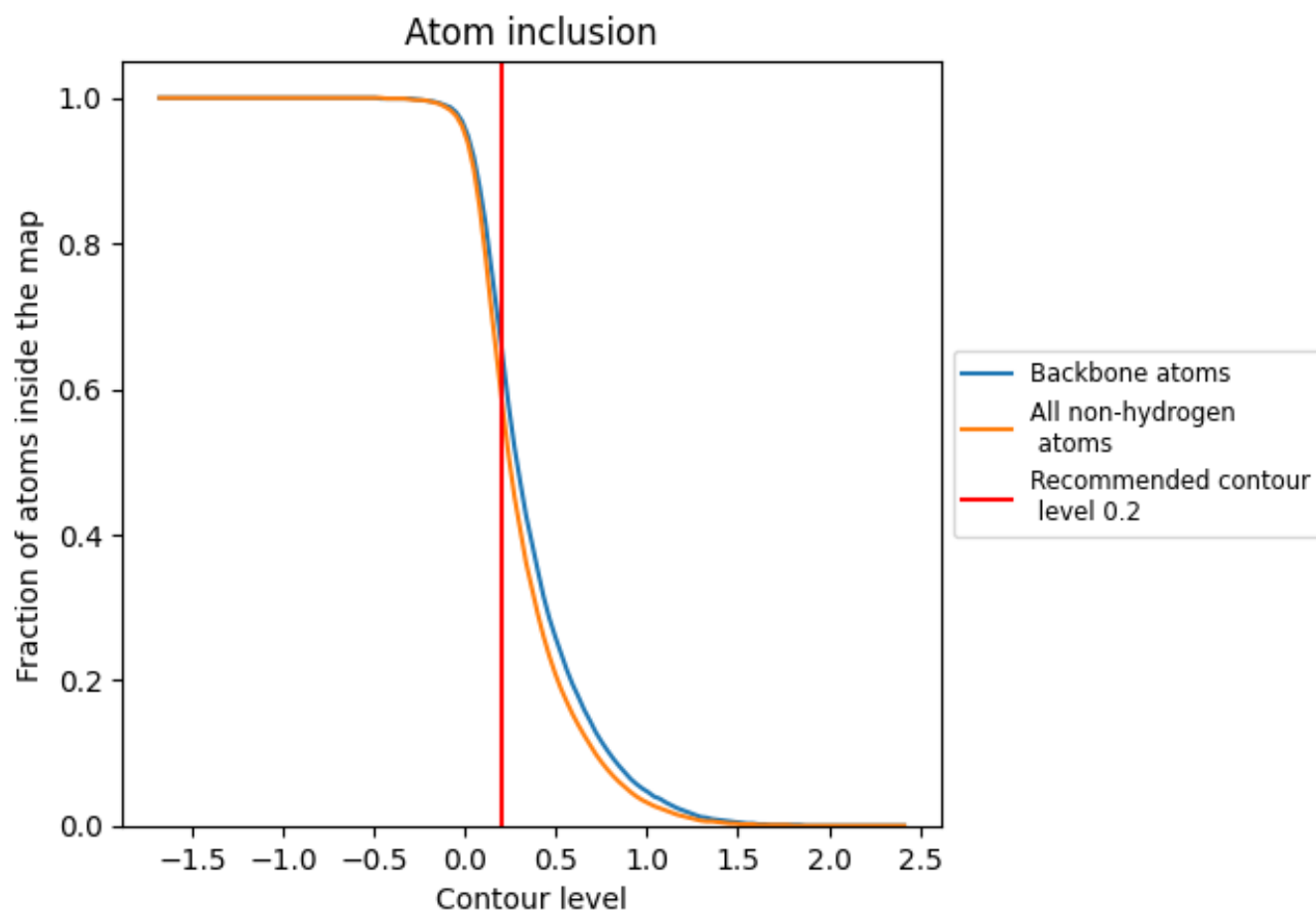
At the recommended contour level, 66% of all backbone atoms, 59% of all non-hydrogen atoms, are inside the map.

9.5　Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.2) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.5910	0.3760
A	0.8130	0.4710
B	0.4140	0.2920
C	0.5220	0.3480
D	0.4300	0.3080
E	0.5270	0.3570
F	0.7860	0.4580

1.0

0.0
<0.0