Full wwPDB EM Validation Report ⓘ

Jul 3, 2024 – 03:51 am BST

PDB ID	:	7A2G
EMDB ID	:	EMD-11624
Title	:	Full-length structure of the substrate-free tyrosine hydroxylase (apo-TH).
Authors	:	Bueno-Carrasco, M.T.; Cuellar, J.; Santiago, C.; Flydal, M.I.; Martinez, A.; Valpuesta, J.M.
Deposited on	:	2020-08-17
Resolution	:	4.10 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:

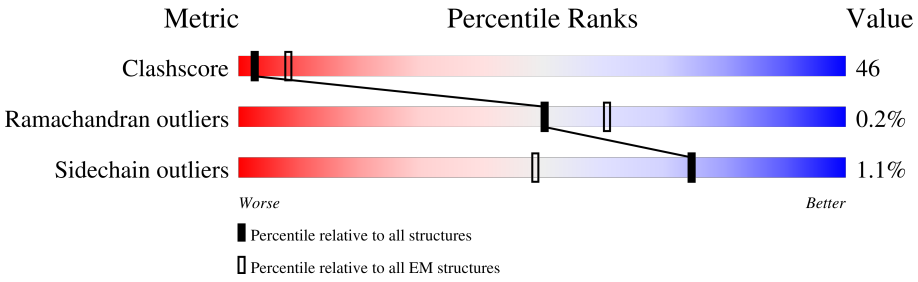
EMDB validation analysis	:	0.0.1.dev92
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 4.10 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	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	420	31% 68%
1	B	420	31% 68%
1	C	420	32% 67%
1	D	420	29% 69%

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 13408 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 Tyrosine 3-monooxygenase.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	420	Total	C	N	O	S	0	0
			3350	2130	586	624	10		
1	B	420	Total	C	N	O	S	0	0
			3350	2130	586	624	10		
1	C	420	Total	C	N	O	S	0	0
			3350	2130	586	624	10		
1	D	420	Total	C	N	O	S	0	0
			3350	2130	586	624	10		

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	81	MET	VAL	conflict	UNP P07101
B	81	MET	VAL	conflict	UNP P07101
C	81	MET	VAL	conflict	UNP P07101
D	81	MET	VAL	conflict	UNP P07101

- Molecule 2 is FE (III) ION (three-letter code: FE) (formula: Fe).

Mol	Chain	Residues	Atoms		AltConf
2	A	1	Total	Fe	0
			1	1	
2	B	1	Total	Fe	0
			1	1	
2	C	1	Total	Fe	0
			1	1	
2	D	1	Total	Fe	0
			1	1	

- Molecule 3 is water.

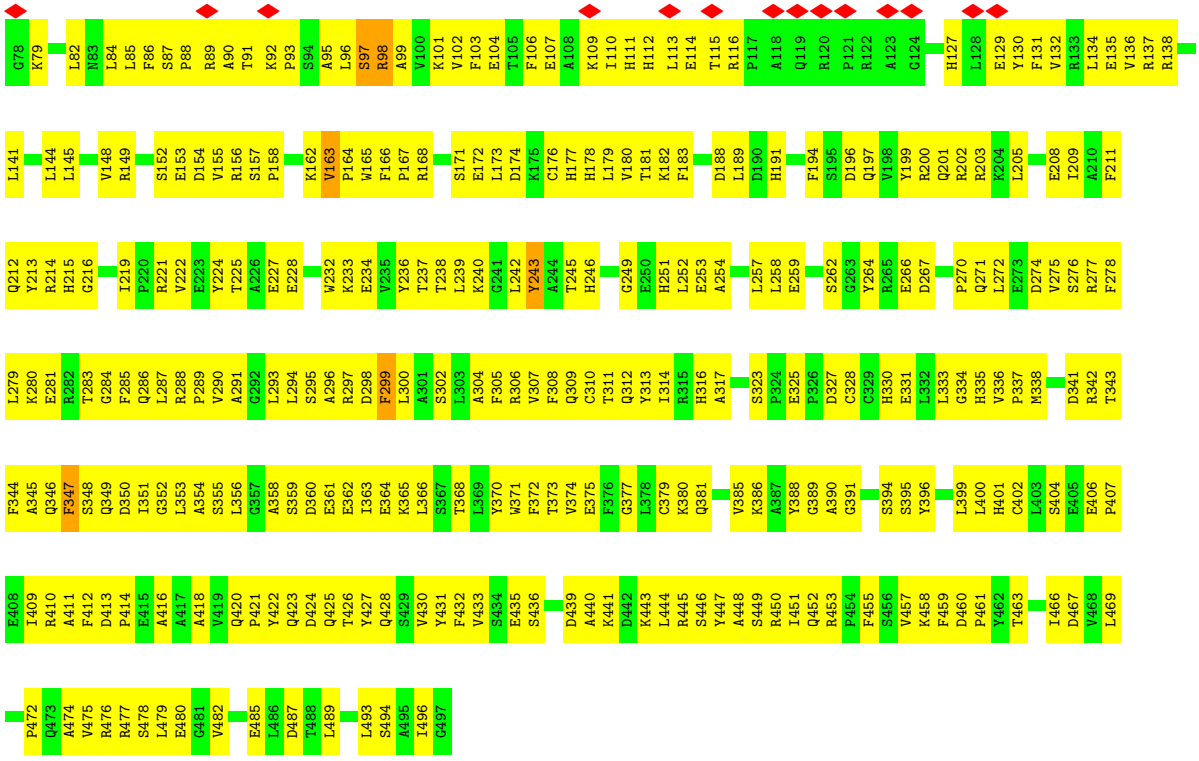
Mol	Chain	Residues	Atoms	AltConf
3	A	1	Total O 1 1	0
3	B	1	Total O 1 1	0
3	C	1	Total O 1 1	0
3	D	1	Total O 1 1	0

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

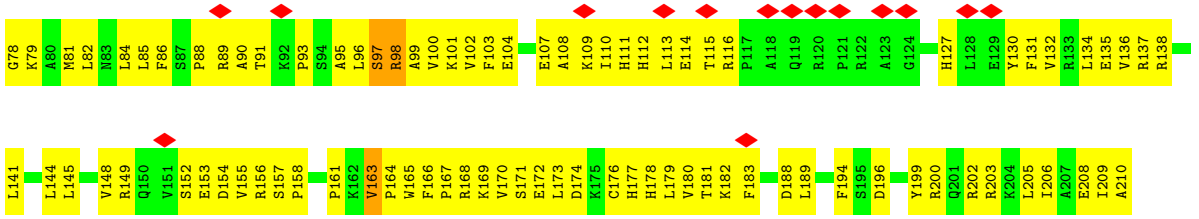
- Molecule 1: Tyrosine 3-monooxygenase

Chain A:



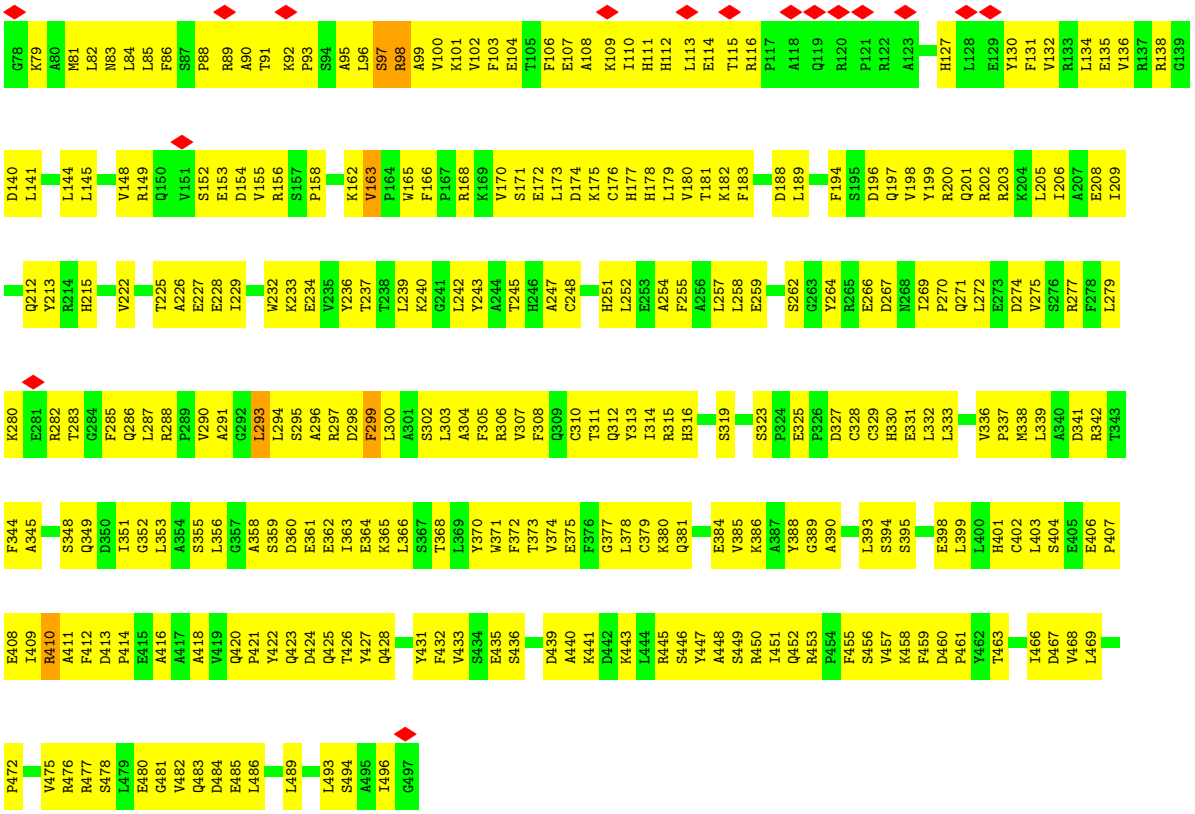
- Molecule 1: Tyrosine 3-monooxygenase

Chain B:



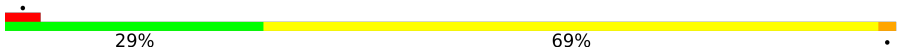
• Molecule 1: Tyrosine 3-monooxygenase

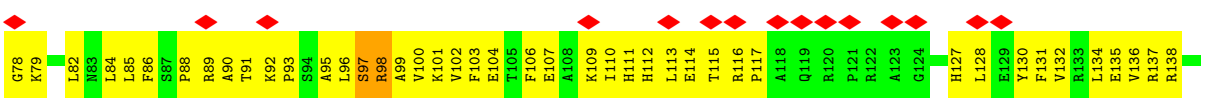
Chain C:

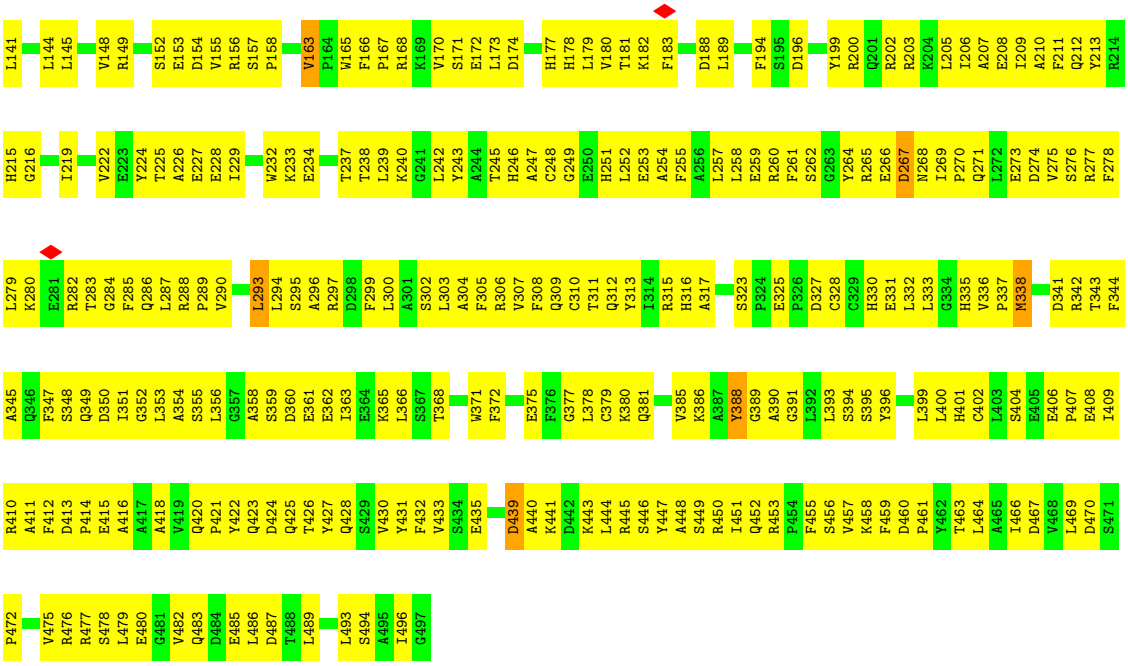


• Molecule 1: Tyrosine 3-monooxygenase

Chain D:






L141 L144 L145 V148 R149 S152 E153 D154 V155 R156 S157 P158 V163 P164 W165 F166 P167 R168 K169 V170 S171 E172 L173 D174 H177 H178 L179 V180 T181 K182 F183 D188 L189 F194 S195 D196 Y199 R200 Q201 R202 R203 K204 L205 I206 A207 E208 I209 A210 F211 Q212 Y213 R214
H215 G216 I219 V222 E223 Y224 T225 A226 E227 E228 I229 W232 K233 E234 T237 T238 L239 K240 G241 L242 Y243 A244 T245 H246 A247 C248 G249 E250 H251 L252 E253 A254 F255 A256 L257 L258 E259 R260 F261 S262 G263 Y264 R265 E266 D267 N268 I269 P270 Q271 L272 E273 D274 V275 S276 R277 F278
L279 K280 E281 R282 T283 G284 F285 Q286 L287 R288 P289 V290 L293 L294 S295 A296 R297 D298 F299 L300 A301 S302 L303 A304 F305 R306 V307 F308 Q309 C310 T311 Q312 Y313 I314 R315 H316 A317 S323 P324 E325 P326 D327 C328 C329 H330 E331 L332 L333 G334 H335 V336 P337 M338 D341 R342 T343 F344
A345 Q346 F347 S348 Q349 D350 I351 G352 L353 A354 S355 L356 G357 A358 S359 D360 E361 E362 I363 E364 K365 L366 S367 T368 W371 F372 E375 F376 G377 L378 C379 K380 Q381 V385 K386 A387 Y388 G389 A390 G391 L392 L393 S394 S395 Y396 L399 L400 H401 C402 L403 S404 E405 E406 P407 E408 I409
R410 A411 F412 D413 P414 E415 A416 A417 A418 V419 Q420 P421 Y422 Q423 D424 Q425 T426 Y427 Q428 S429 V430 Y431 F432 V433 S434 E435 D439 A440 K441 D442 K443 L444 R445 S446 Y447 A448 S449 R450 I451 Q452 R453 P454 F455 S456 V457 K458 F459 D460 P461 Y462 T463 L464 A465 I466 D467 V468 L469 D470 S471
P472 V475 R476 R477 S478 L479 E480 G481 V482 Q483 D484 E485 L486 D487 T488 L489 L493 S494 A495 I496 G497

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	29418	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	39.6	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	3000	Depositor
Magnification	130000	Depositor
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.735	Depositor
Minimum map value	-0.394	Depositor
Average map value	0.008	Depositor
Map value standard deviation	0.048	Depositor
Recommended contour level	0.129	Depositor
Map size (Å)	188.99998, 188.99998, 188.99998	wwPDB
Map dimensions	180, 180, 180	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.05, 1.05, 1.05	Depositor

5 Model quality

5.1 Standard geometry

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

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	0.35	0/3435	0.48	0/4654
1	B	0.36	0/3435	0.48	0/4654
1	C	0.36	0/3435	0.48	0/4654
1	D	0.35	0/3435	0.48	0/4654
All	All	0.36	0/13740	0.48	0/18616

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	2
1	C	0	2
1	D	0	2
All	All	0	7

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (7) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	163	VAL	Peptide
1	B	163	VAL	Peptide
1	B	293	LEU	Peptide
1	C	163	VAL	Peptide
1	C	293	LEU	Peptide

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Mol	Chain	Res	Type	Group
1	D	163	VAL	Peptide
1	D	293	LEU	Peptide

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	3350	0	3278	318	0
1	B	3350	0	3278	326	0
1	C	3350	0	3278	324	0
1	D	3350	0	3278	337	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	0	0
3	D	1	0	0	0	0
All	All	13408	0	13112	1229	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 46.

All (1229) 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:C:111:HIS:HB2	1:D:114:GLU:H	1.19	1.03
1:A:109:LYS:HB2	1:B:115:THR:H	1.31	0.95
1:A:310:CYS:SG	1:A:312:GLN:NE2	2.41	0.93
1:C:115:THR:H	1:D:109:LYS:HB2	1.34	0.92
1:A:111:HIS:HB2	1:B:114:GLU:H	1.36	0.90
1:A:348:SER:HA	1:A:351:ILE:HD12	1.54	0.88
1:A:79:LYS:HB2	1:A:135:GLU:HG2	1.58	0.85
1:D:348:SER:HA	1:D:351:ILE:HD12	1.57	0.84
1:B:174:ASP:OD1	1:B:288:ARG:NH2	2.12	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:251:HIS:CE1	1:C:337:PRO:HB2	2.15	0.82
1:B:348:SER:HA	1:B:351:ILE:HD12	1.61	0.82
1:D:79:LYS:HB2	1:D:135:GLU:HG2	1.60	0.81
1:C:348:SER:HA	1:C:351:ILE:HD12	1.64	0.80
1:A:458:LYS:O	1:A:467:ASP:N	2.13	0.80
1:D:328:CYS:O	1:D:332:LEU:HB2	1.82	0.80
1:B:460:ASP:OD2	1:B:463:THR:N	2.13	0.80
1:C:109:LYS:HB3	1:D:115:THR:H	1.47	0.80
1:A:132:VAL:HG13	1:B:113:LEU:HD13	1.64	0.80
1:B:82:LEU:HD22	1:B:158:PRO:HB3	1.63	0.79
1:C:458:LYS:O	1:C:467:ASP:N	2.14	0.79
1:A:300:LEU:HG	1:A:352:GLY:HA2	1.64	0.79
1:B:414:PRO:HG3	1:B:443:LYS:HB3	1.63	0.79
1:C:483:GLN:HA	1:C:486:LEU:HD12	1.64	0.79
1:C:79:LYS:HB2	1:C:135:GLU:HG2	1.64	0.78
1:A:180:VAL:HG13	1:A:181:THR:HG23	1.66	0.78
1:D:82:LEU:HD22	1:D:158:PRO:HB3	1.64	0.78
1:D:283:THR:HG23	1:D:285:PHE:H	1.48	0.78
1:D:310:CYS:SG	1:D:312:GLN:NE2	2.56	0.78
1:D:460:ASP:OD2	1:D:463:THR:N	2.14	0.78
1:A:239:LEU:O	1:A:243:TYR:N	2.16	0.78
1:A:476:ARG:HD2	1:C:494:SER:HB3	1.65	0.78
1:C:165:TRP:NE1	1:C:176:CYS:SG	2.57	0.78
1:A:115:THR:H	1:B:109:LYS:HB2	1.48	0.77
1:B:330:HIS:HA	1:B:394:SER:HB3	1.65	0.77
1:D:458:LYS:O	1:D:467:ASP:N	2.14	0.77
1:C:300:LEU:HG	1:C:352:GLY:HA2	1.66	0.77
1:D:287:LEU:HD22	1:D:310:CYS:HB3	1.65	0.77
1:C:82:LEU:HD22	1:C:158:PRO:HB3	1.67	0.76
1:D:178:HIS:HB3	1:D:182:LYS:HB2	1.67	0.76
1:B:134:LEU:HD13	1:B:144:LEU:HD11	1.68	0.76
1:C:134:LEU:HD13	1:C:144:LEU:HD11	1.66	0.76
1:A:460:ASP:OD2	1:A:463:THR:N	2.17	0.76
1:C:188:ASP:OD2	1:C:194:PHE:N	2.16	0.76
1:B:288:ARG:HH11	1:B:309:GLN:HE22	1.34	0.76
1:B:476:ARG:HD2	1:D:494:SER:HB3	1.68	0.75
1:B:494:SER:HB3	1:D:476:ARG:HD2	1.68	0.75
1:A:188:ASP:OD2	1:A:194:PHE:N	2.19	0.75
1:A:272:LEU:HD13	1:A:287:LEU:HD11	1.69	0.75
1:A:356:LEU:O	1:A:453:ARG:NH1	2.18	0.75
1:B:79:LYS:HB2	1:B:135:GLU:HG2	1.67	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:287:LEU:HD11	1:C:310:CYS:HB3	1.68	0.75
1:D:181:THR:HG22	1:D:294:LEU:HB2	1.69	0.75
1:B:180:VAL:HG13	1:B:181:THR:HG23	1.68	0.74
1:A:414:PRO:HG3	1:A:443:LYS:HB3	1.69	0.74
1:D:174:ASP:OD1	1:D:288:ARG:NH2	2.20	0.74
1:C:248:CYS:SG	1:C:381:GLN:NE2	2.60	0.74
1:C:460:ASP:OD2	1:C:463:THR:N	2.18	0.74
1:A:494:SER:HB3	1:C:476:ARG:HD2	1.69	0.74
1:C:330:HIS:HA	1:C:394:SER:HB3	1.70	0.73
1:B:262:SER:HB2	1:B:275:VAL:HG12	1.71	0.73
1:A:413:ASP:HB2	1:A:416:ALA:HB3	1.69	0.73
1:A:82:LEU:HD22	1:A:158:PRO:HB3	1.69	0.73
1:C:100:VAL:HG11	1:D:110:ILE:HD12	1.70	0.73
1:C:114:GLU:H	1:D:111:HIS:HB2	1.53	0.73
1:A:208:GLU:O	1:A:212:GLN:NE2	2.20	0.73
1:C:168:ARG:HA	1:C:466:ILE:HD12	1.70	0.72
1:A:203:ARG:NH2	1:A:314:ILE:O	2.22	0.72
1:C:202:ARG:NH2	1:C:228:GLU:OE2	2.19	0.72
1:D:239:LEU:O	1:D:243:TYR:N	2.21	0.72
1:B:188:ASP:OD2	1:B:194:PHE:N	2.18	0.72
1:B:356:LEU:HD23	1:B:457:VAL:HG11	1.71	0.72
1:C:409:ILE:HG23	1:C:431:TYR:HB2	1.69	0.72
1:D:134:LEU:HD13	1:D:144:LEU:HD11	1.71	0.72
1:A:330:HIS:HA	1:A:394:SER:HB3	1.70	0.72
1:A:134:LEU:HD13	1:A:144:LEU:HD11	1.69	0.72
1:B:356:LEU:O	1:B:453:ARG:NH2	2.22	0.72
1:B:300:LEU:HG	1:B:352:GLY:HA2	1.71	0.72
1:C:362:GLU:OE2	1:C:452:GLN:NE2	2.23	0.71
1:C:458:LYS:HB2	1:C:469:LEU:HD11	1.72	0.71
1:D:354:ALA:O	1:D:453:ARG:NH2	2.24	0.71
1:A:88:PRO:O	1:A:127:HIS:NE2	2.24	0.71
1:D:258:LEU:O	1:D:262:SER:N	2.24	0.71
1:B:413:ASP:HB2	1:B:416:ALA:HB3	1.71	0.71
1:C:208:GLU:O	1:C:212:GLN:NE2	2.23	0.70
1:D:458:LYS:HB3	1:D:467:ASP:HB2	1.72	0.70
1:A:168:ARG:HA	1:A:466:ILE:HD12	1.73	0.70
1:D:297:ARG:NH2	1:D:358:ALA:O	2.24	0.70
1:D:401:HIS:O	1:D:404:SER:OG	2.08	0.70
1:B:327:ASP:H	1:B:330:HIS:HB3	1.56	0.70
1:B:458:LYS:O	1:B:467:ASP:N	2.18	0.70
1:A:283:THR:HG23	1:A:285:PHE:H	1.57	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:178:HIS:HA	1:C:182:LYS:HG2	1.73	0.70
1:C:239:LEU:HB3	1:C:243:TYR:CZ	2.27	0.70
1:C:414:PRO:HD3	1:C:443:LYS:HD3	1.74	0.70
1:A:98:ARG:HH12	1:A:101:LYS:HB3	1.57	0.69
1:A:412:PHE:HA	1:A:432:PHE:HB3	1.74	0.69
1:A:327:ASP:H	1:A:330:HIS:HB3	1.57	0.69
1:D:323:SER:OG	1:D:325:GLU:O	2.10	0.69
1:D:132:VAL:H	1:D:156:ARG:HH22	1.40	0.69
1:D:88:PRO:O	1:D:127:HIS:NE2	2.26	0.69
1:A:202:ARG:NH2	1:A:228:GLU:OE2	2.26	0.69
1:A:323:SER:OG	1:A:325:GLU:O	2.10	0.69
1:C:222:VAL:O	1:C:271:GLN:NE2	2.24	0.69
1:B:412:PHE:HA	1:B:432:PHE:HB3	1.75	0.69
1:C:88:PRO:O	1:C:127:HIS:NE2	2.26	0.69
1:C:373:THR:HG23	1:C:374:VAL:HG23	1.75	0.69
1:B:270:PRO:HG2	1:B:332:LEU:HD21	1.76	0.68
1:A:413:ASP:OD1	1:A:443:LYS:NZ	2.26	0.68
1:A:423:GLN:NE2	1:A:426:THR:O	2.26	0.68
1:B:98:ARG:HH12	1:B:101:LYS:HB3	1.59	0.68
1:C:412:PHE:O	1:C:443:LYS:NZ	2.26	0.68
1:C:262:SER:HB2	1:C:275:VAL:HG12	1.75	0.68
1:C:113:LEU:HD12	1:D:110:ILE:HA	1.74	0.68
1:C:258:LEU:O	1:C:262:SER:N	2.26	0.68
1:C:98:ARG:HH12	1:C:101:LYS:HB3	1.59	0.68
1:D:458:LYS:HB2	1:D:469:LEU:HD11	1.76	0.68
1:B:88:PRO:O	1:B:127:HIS:NE2	2.27	0.68
1:C:286:GLN:HG2	1:C:307:VAL:HG13	1.75	0.68
1:A:178:HIS:HA	1:A:182:LYS:HD3	1.75	0.68
1:B:323:SER:OG	1:B:325:GLU:O	2.12	0.68
1:B:413:ASP:OD1	1:B:443:LYS:NZ	2.27	0.68
1:A:446:SER:O	1:A:449:SER:OG	2.12	0.67
1:C:84:LEU:HD22	1:C:131:PHE:HB2	1.76	0.67
1:C:380:LYS:HA	1:C:385:VAL:HA	1.74	0.67
1:B:208:GLU:O	1:B:212:GLN:NE2	2.22	0.67
1:C:377:GLY:H	1:C:389:GLY:HA3	1.59	0.67
1:D:447:TYR:O	1:D:451:ILE:N	2.24	0.67
1:A:334:GLY:O	1:A:338:MET:HG2	1.93	0.67
1:B:377:GLY:H	1:B:389:GLY:HA3	1.59	0.67
1:A:447:TYR:O	1:A:451:ILE:N	2.28	0.67
1:A:242:LEU:O	1:A:245:THR:OG1	2.11	0.67
1:A:401:HIS:O	1:A:404:SER:OG	2.13	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:86:PHE:HB2	1:C:156:ARG:HE	1.60	0.66
1:C:181:THR:HG22	1:C:294:LEU:HB2	1.78	0.66
1:D:412:PHE:HA	1:D:432:PHE:HB3	1.77	0.66
1:B:414:PRO:HD3	1:B:443:LYS:HD3	1.76	0.66
1:D:300:LEU:HA	1:D:303:LEU:HD12	1.78	0.66
1:A:111:HIS:HB2	1:B:114:GLU:N	2.10	0.66
1:A:233:LYS:HD2	1:A:267:ASP:HA	1.77	0.66
1:A:288:ARG:O	1:A:310:CYS:N	2.24	0.66
1:A:205:LEU:O	1:A:209:ILE:HG12	1.95	0.66
1:C:356:LEU:HB2	1:C:453:ARG:NH2	2.10	0.66
1:D:267:ASP:N	1:D:267:ASP:OD1	2.26	0.66
1:D:300:LEU:HG	1:D:352:GLY:HA2	1.76	0.66
1:B:168:ARG:HA	1:B:466:ILE:HD12	1.76	0.66
1:B:436:SER:HG	1:B:438:SER:HG	1.41	0.66
1:C:296:ALA:HA	1:C:299:PHE:HB3	1.78	0.66
1:D:375:GLU:HA	1:D:390:ALA:HB3	1.77	0.66
1:A:341:ASP:OD2	1:A:344:PHE:N	2.17	0.66
1:B:205:LEU:O	1:B:209:ILE:HG12	1.96	0.66
1:C:435:GLU:OE1	1:C:435:GLU:N	2.28	0.66
1:A:84:LEU:HA	1:A:156:ARG:HD2	1.78	0.66
1:A:375:GLU:HA	1:A:390:ALA:HB3	1.78	0.66
1:B:447:TYR:O	1:B:451:ILE:N	2.28	0.66
1:C:341:ASP:OD2	1:C:344:PHE:N	2.19	0.66
1:C:297:ARG:HB2	1:C:363:ILE:HG21	1.77	0.65
1:D:84:LEU:HA	1:D:156:ARG:HD2	1.78	0.65
1:D:98:ARG:HH12	1:D:101:LYS:HB3	1.59	0.65
1:D:288:ARG:O	1:D:310:CYS:N	2.22	0.65
1:D:372:PHE:CZ	1:D:422:TYR:HB3	2.31	0.65
1:A:354:ALA:O	1:A:453:ARG:NH2	2.28	0.65
1:A:362:GLU:OE2	1:A:452:GLN:NE2	2.28	0.65
1:A:225:THR:N	1:A:228:GLU:OE2	2.29	0.65
1:B:173:LEU:HA	1:B:177:HIS:CE1	2.31	0.65
1:A:132:VAL:H	1:A:156:ARG:HH22	1.42	0.65
1:B:181:THR:HG22	1:B:294:LEU:HB2	1.79	0.65
1:C:89:ARG:H	1:C:153:GLU:HB2	1.61	0.65
1:A:181:THR:HG22	1:A:294:LEU:HB2	1.78	0.65
1:D:208:GLU:O	1:D:212:GLN:NE2	2.29	0.65
1:B:409:ILE:HG12	1:B:431:TYR:HD2	1.60	0.65
1:B:267:ASP:N	1:B:267:ASP:OD1	2.29	0.65
1:B:343:THR:O	1:B:441:LYS:NZ	2.30	0.65
1:D:205:LEU:O	1:D:209:ILE:HG12	1.97	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:297:ARG:HB2	1:B:363:ILE:HG21	1.79	0.65
1:A:420:GLN:NE2	1:A:421:PRO:O	2.30	0.65
1:A:423:GLN:OE1	1:A:425:GLN:N	2.30	0.65
1:A:359:SER:OG	1:A:361:GLU:OE1	2.13	0.64
1:B:84:LEU:HD22	1:B:131:PHE:HB2	1.78	0.64
1:C:323:SER:OG	1:C:325:GLU:O	2.15	0.64
1:C:401:HIS:O	1:C:404:SER:OG	2.14	0.64
1:D:413:ASP:HB3	1:D:416:ALA:HB3	1.79	0.64
1:A:91:THR:HA	1:A:127:HIS:HB3	1.78	0.64
1:C:205:LEU:O	1:C:209:ILE:HG12	1.98	0.64
1:A:239:LEU:HD23	1:A:333:LEU:HD12	1.79	0.64
1:C:414:PRO:O	1:C:418:ALA:N	2.31	0.64
1:D:420:GLN:NE2	1:D:421:PRO:O	2.29	0.64
1:B:435:GLU:OE1	1:B:435:GLU:N	2.28	0.64
1:C:180:VAL:HG13	1:C:181:THR:HG23	1.78	0.64
1:C:375:GLU:HA	1:C:390:ALA:HB3	1.79	0.64
1:D:188:ASP:OD2	1:D:194:PHE:N	2.20	0.64
1:D:424:ASP:OD2	1:D:425:GLN:NE2	2.30	0.64
1:A:296:ALA:HA	1:A:299:PHE:HB3	1.80	0.64
1:A:447:TYR:HA	1:A:450:ARG:HG2	1.78	0.64
1:A:461:PRO:HB2	1:D:461:PRO:HB2	1.79	0.64
1:B:84:LEU:HA	1:B:156:ARG:HD2	1.80	0.64
1:D:172:GLU:OE2	1:D:172:GLU:N	2.30	0.64
1:D:377:GLY:H	1:D:389:GLY:HA3	1.63	0.64
1:C:84:LEU:HA	1:C:156:ARG:HD2	1.79	0.64
1:B:401:HIS:O	1:B:404:SER:OG	2.13	0.63
1:C:178:HIS:HE1	1:C:288:ARG:HH22	1.44	0.63
1:A:233:LYS:HG3	1:A:266:GLU:HB3	1.80	0.63
1:B:296:ALA:HA	1:B:299:PHE:HB3	1.81	0.63
1:C:288:ARG:O	1:C:310:CYS:N	2.31	0.63
1:C:447:TYR:O	1:C:451:ILE:N	2.31	0.63
1:D:251:HIS:CE1	1:D:337:PRO:HB2	2.33	0.63
1:C:225:THR:N	1:C:228:GLU:OE2	2.32	0.63
1:A:251:HIS:ND1	1:A:338:MET:SD	2.72	0.63
1:A:297:ARG:HB2	1:A:363:ILE:HG21	1.80	0.63
1:C:270:PRO:HG2	1:C:332:LEU:HD21	1.79	0.63
1:D:335:HIS:NE2	1:D:375:GLU:OE1	2.32	0.63
1:C:420:GLN:NE2	1:C:421:PRO:O	2.32	0.63
1:C:172:GLU:OE2	1:C:172:GLU:N	2.28	0.63
1:C:181:THR:HA	1:C:294:LEU:HD22	1.80	0.62
1:C:448:ALA:HA	1:C:451:ILE:HD12	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:423:GLN:OE1	1:D:425:GLN:N	2.32	0.62
1:A:286:GLN:OE1	1:A:286:GLN:N	2.33	0.62
1:A:299:PHE:O	1:A:302:SER:OG	2.17	0.62
1:B:85:LEU:HB3	1:B:157:SER:HB2	1.81	0.62
1:B:240:LYS:HA	1:B:243:TYR:CD2	2.35	0.62
1:A:452:GLN:OE1	1:A:452:GLN:N	2.30	0.62
1:C:177:HIS:HA	1:C:180:VAL:HG12	1.79	0.62
1:C:409:ILE:HG12	1:C:431:TYR:HD2	1.63	0.62
1:D:264:TYR:HE1	1:D:270:PRO:HG3	1.63	0.62
1:A:410:ARG:NH2	1:A:420:GLN:OE1	2.33	0.62
1:D:181:THR:HA	1:D:294:LEU:HD22	1.82	0.62
1:D:234:GLU:O	1:D:237:THR:OG1	2.17	0.62
1:A:232:TRP:CZ2	1:A:270:PRO:HD2	2.34	0.62
1:A:404:SER:OG	1:A:406:GLU:OE2	2.18	0.62
1:D:249:GLY:HA2	1:D:252:LEU:HD12	1.82	0.62
1:A:262:SER:HB2	1:A:275:VAL:HG12	1.79	0.62
1:C:291:ALA:O	1:C:313:TYR:OH	2.16	0.62
1:C:345:ALA:O	1:C:348:SER:OG	2.17	0.62
1:B:132:VAL:H	1:B:156:ARG:HH22	1.48	0.62
1:C:82:LEU:HD11	1:C:141:LEU:HD13	1.81	0.62
1:C:452:GLN:OE1	1:C:452:GLN:N	2.31	0.62
1:A:189:LEU:HD13	1:A:194:PHE:CG	2.35	0.62
1:D:232:TRP:NE1	1:D:265:ARG:O	2.28	0.62
1:D:288:ARG:HH11	1:D:309:GLN:HE22	1.47	0.62
1:B:225:THR:N	1:B:228:GLU:OE2	2.32	0.62
1:B:420:GLN:NE2	1:B:421:PRO:O	2.32	0.62
1:D:296:ALA:HA	1:D:299:PHE:HB3	1.82	0.62
1:B:375:GLU:HA	1:B:390:ALA:HB3	1.82	0.61
1:D:330:HIS:HA	1:D:394:SER:HB3	1.81	0.61
1:A:251:HIS:CE1	1:A:337:PRO:HB2	2.35	0.61
1:D:202:ARG:NH2	1:D:228:GLU:OE2	2.32	0.61
1:B:299:PHE:O	1:B:302:SER:OG	2.16	0.61
1:B:461:PRO:HB2	1:C:461:PRO:HB2	1.83	0.61
1:B:212:GLN:OE1	1:B:212:GLN:N	2.25	0.61
1:C:341:ASP:HB3	1:C:344:PHE:HB3	1.83	0.61
1:C:359:SER:OG	1:C:361:GLU:OE1	2.12	0.61
1:D:345:ALA:O	1:D:348:SER:OG	2.17	0.61
1:D:414:PRO:O	1:D:418:ALA:N	2.34	0.61
1:A:89:ARG:H	1:A:153:GLU:HB2	1.65	0.61
1:A:148:VAL:O	1:A:152:SER:N	2.34	0.61
1:B:89:ARG:H	1:B:153:GLU:HB2	1.65	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:341:ASP:OD2	1:D:344:PHE:N	2.18	0.61
1:D:446:SER:O	1:D:449:SER:OG	2.16	0.61
1:D:447:TYR:HA	1:D:450:ARG:HE	1.65	0.61
1:A:199:TYR:HE2	1:A:316:HIS:HA	1.66	0.61
1:C:251:HIS:HB2	1:C:338:MET:SD	2.41	0.61
1:C:303:LEU:HD11	1:C:308:PHE:HD1	1.66	0.61
1:C:384:GLU:OE2	1:C:386:LYS:NZ	2.33	0.61
1:D:456:SER:HB3	1:D:469:LEU:HB2	1.83	0.61
1:A:360:ASP:OD1	1:A:360:ASP:N	2.32	0.61
1:C:194:PHE:O	1:C:200:ARG:NH1	2.31	0.61
1:D:89:ARG:H	1:D:153:GLU:HB2	1.66	0.61
1:D:144:LEU:O	1:D:148:VAL:HG23	2.01	0.61
1:D:177:HIS:O	1:D:181:THR:OG1	2.11	0.61
1:C:286:GLN:N	1:C:286:GLN:OE1	2.34	0.60
1:D:225:THR:N	1:D:228:GLU:OE2	2.33	0.60
1:C:148:VAL:HG12	1:C:152:SER:HB3	1.82	0.60
1:D:360:ASP:OD1	1:D:360:ASP:N	2.33	0.60
1:A:144:LEU:O	1:A:148:VAL:HG23	2.01	0.60
1:C:189:LEU:HD22	1:C:194:PHE:CZ	2.37	0.60
1:D:180:VAL:HG13	1:D:181:THR:HG23	1.81	0.60
1:A:291:ALA:O	1:A:313:TYR:OH	2.19	0.60
1:D:148:VAL:HG12	1:D:152:SER:HB3	1.83	0.60
1:B:109:LYS:HZ1	1:B:135:GLU:H	1.49	0.60
1:B:202:ARG:NH2	1:B:228:GLU:OE2	2.33	0.60
1:D:233:LYS:HD2	1:D:267:ASP:HA	1.84	0.60
1:D:247:ALA:HB3	1:D:252:LEU:HD21	1.83	0.60
1:C:189:LEU:HD13	1:C:194:PHE:CG	2.37	0.60
1:D:380:LYS:HA	1:D:385:VAL:HA	1.82	0.60
1:B:202:ARG:HH22	1:B:224:TYR:HA	1.67	0.60
1:A:110:ILE:HD12	1:B:100:VAL:HG11	1.84	0.60
1:D:299:PHE:CZ	1:D:303:LEU:HD11	2.36	0.60
1:D:300:LEU:HD23	1:D:355:SER:HB3	1.83	0.60
1:A:251:HIS:HE1	1:A:337:PRO:HG2	1.67	0.60
1:A:114:GLU:HB3	1:B:111:HIS:CD2	2.37	0.60
1:B:303:LEU:HD11	1:B:308:PHE:HD1	1.66	0.60
1:B:258:LEU:O	1:B:262:SER:N	2.34	0.59
1:B:404:SER:OG	1:B:406:GLU:OE2	2.20	0.59
1:C:242:LEU:O	1:C:245:THR:OG1	2.19	0.59
1:A:164:PRO:HD2	1:A:297:ARG:HH12	1.68	0.59
1:D:410:ARG:N	1:D:431:TYR:O	2.35	0.59
1:A:148:VAL:HG12	1:A:152:SER:HB3	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:174:ASP:OD1	1:A:288:ARG:NH2	2.34	0.59
1:C:259:GLU:HA	1:C:264:TYR:HB2	1.83	0.59
1:D:276:SER:O	1:D:280:LYS:HG3	2.02	0.59
1:A:234:GLU:O	1:A:237:THR:OG1	2.19	0.59
1:B:283:THR:O	1:B:342:ARG:NH2	2.24	0.59
1:C:424:ASP:OD2	1:C:425:GLN:NE2	2.34	0.59
1:A:136:VAL:HG12	1:A:137:ARG:H	1.67	0.59
1:B:233:LYS:HG3	1:B:266:GLU:HB3	1.83	0.59
1:B:304:ALA:HB1	1:B:353:LEU:HD23	1.84	0.59
1:B:345:ALA:O	1:B:348:SER:OG	2.20	0.59
1:B:347:PHE:HB2	1:B:441:LYS:HG2	1.85	0.59
1:B:409:ILE:HG23	1:B:431:TYR:HB2	1.83	0.59
1:B:483:GLN:HE22	1:D:487:ASP:HA	1.66	0.59
1:C:144:LEU:O	1:C:148:VAL:HG23	2.02	0.59
1:C:330:HIS:HE1	1:C:375:GLU:OE1	1.85	0.59
1:D:254:ALA:O	1:D:258:LEU:HG	2.03	0.59
1:A:412:PHE:O	1:A:443:LYS:NZ	2.27	0.59
1:B:144:LEU:O	1:B:148:VAL:HG23	2.02	0.59
1:C:182:LYS:HE3	1:C:290:VAL:HG23	1.83	0.59
1:D:297:ARG:HB2	1:D:363:ILE:HG21	1.84	0.59
1:A:448:ALA:HA	1:A:451:ILE:HD12	1.85	0.59
1:B:373:THR:HG23	1:B:374:VAL:HG23	1.84	0.59
1:C:107:GLU:O	1:D:116:ARG:NH2	2.36	0.59
1:C:299:PHE:O	1:C:302:SER:OG	2.18	0.59
1:C:423:GLN:NE2	1:C:426:THR:O	2.26	0.59
1:B:257:LEU:HD13	1:B:282:ARG:HH21	1.67	0.59
1:C:103:PHE:HE1	1:C:134:LEU:HD22	1.68	0.59
1:C:149:ARG:HD2	1:C:155:VAL:HG13	1.85	0.59
1:D:306:ARG:NE	1:D:349:GLN:OE1	2.35	0.59
1:A:113:LEU:HA	1:B:111:HIS:HB2	1.84	0.59
1:A:300:LEU:HD23	1:A:355:SER:HB3	1.85	0.59
1:A:341:ASP:HB3	1:A:344:PHE:HB3	1.85	0.59
1:B:286:GLN:N	1:B:286:GLN:OE1	2.36	0.59
1:D:350:ASP:HA	1:D:353:LEU:HG	1.85	0.59
1:D:401:HIS:NE2	1:D:428:GLN:O	2.35	0.59
1:A:424:ASP:OD2	1:A:425:GLN:NE2	2.35	0.58
1:C:485:GLU:O	1:C:489:LEU:HG	2.03	0.58
1:D:283:THR:O	1:D:342:ARG:NH2	2.36	0.58
1:D:286:GLN:OE1	1:D:286:GLN:N	2.36	0.58
1:A:181:THR:HA	1:A:294:LEU:HD22	1.85	0.58
1:A:228:GLU:OE1	1:A:228:GLU:N	2.33	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:177:HIS:O	1:B:181:THR:OG1	2.15	0.58
1:A:189:LEU:HD22	1:A:194:PHE:CZ	2.39	0.58
1:A:370:TYR:OH	1:A:375:GLU:OE2	2.17	0.58
1:B:222:VAL:O	1:B:271:GLN:NE2	2.36	0.58
1:B:291:ALA:O	1:B:313:TYR:OH	2.19	0.58
1:D:447:TYR:HA	1:D:450:ARG:HG2	1.85	0.58
1:B:178:HIS:HE1	1:B:288:ARG:HH22	1.49	0.58
1:B:341:ASP:HB3	1:B:344:PHE:HB3	1.85	0.58
1:B:380:LYS:HA	1:B:385:VAL:HA	1.84	0.58
1:C:412:PHE:HA	1:C:432:PHE:HB3	1.84	0.58
1:D:361:GLU:HG2	1:D:365:LYS:NZ	2.19	0.58
1:B:288:ARG:O	1:B:310:CYS:N	2.25	0.58
1:D:107:GLU:HB2	1:D:136:VAL:HG11	1.85	0.58
1:D:415:GLU:HB2	1:D:450:ARG:HH22	1.68	0.58
1:B:98:ARG:NH1	1:B:101:LYS:HB3	2.18	0.58
1:A:113:LEU:HD21	1:B:113:LEU:HG	1.85	0.58
1:B:288:ARG:HH11	1:B:309:GLN:NE2	2.01	0.58
1:B:341:ASP:OD2	1:B:344:PHE:N	2.20	0.58
1:B:379:CYS:SG	1:B:388:TYR:HB3	2.44	0.58
1:C:297:ARG:NH2	1:C:358:ALA:O	2.37	0.58
1:C:370:TYR:OH	1:C:375:GLU:OE2	2.18	0.58
1:D:248:CYS:SG	1:D:381:GLN:NE2	2.77	0.58
1:A:116:ARG:NH2	1:B:107:GLU:O	2.36	0.58
1:A:311:THR:HB	1:A:313:TYR:CZ	2.39	0.58
1:B:161:PRO:HB2	1:B:164:PRO:HG3	1.84	0.58
1:C:109:LYS:HD2	1:D:114:GLU:HA	1.85	0.58
1:B:148:VAL:HG12	1:B:152:SER:HB3	1.85	0.58
1:B:410:ARG:N	1:B:431:TYR:O	2.37	0.58
1:C:132:VAL:HG13	1:D:113:LEU:HD13	1.86	0.58
1:C:272:LEU:HB2	1:C:287:LEU:HD23	1.86	0.58
1:D:278:PHE:HD2	1:D:279:LEU:HD22	1.69	0.58
1:A:199:TYR:CE2	1:A:316:HIS:HA	2.39	0.57
1:A:372:PHE:CZ	1:A:422:TYR:HB3	2.38	0.57
1:A:410:ARG:N	1:A:431:TYR:O	2.37	0.57
1:D:82:LEU:HD11	1:D:141:LEU:HD13	1.86	0.57
1:A:240:LYS:HA	1:A:243:TYR:HD2	1.69	0.57
1:A:297:ARG:NH2	1:A:358:ALA:O	2.38	0.57
1:A:362:GLU:O	1:A:366:LEU:HG	2.04	0.57
1:A:380:LYS:HA	1:A:385:VAL:HA	1.84	0.57
1:B:90:ALA:N	1:B:153:GLU:OE1	2.37	0.57
1:B:239:LEU:HB3	1:B:243:TYR:CE1	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:336:VAL:HG13	1:A:337:PRO:HD3	1.85	0.57
1:D:414:PRO:HD2	1:D:443:LYS:HE3	1.87	0.57
1:A:177:HIS:O	1:A:181:THR:OG1	2.09	0.57
1:B:410:ARG:O	1:B:433:VAL:N	2.27	0.57
1:B:242:LEU:O	1:B:245:THR:OG1	2.20	0.57
1:D:99:ALA:HB1	1:D:148:VAL:HG22	1.86	0.57
1:D:152:SER:OG	1:D:153:GLU:N	2.37	0.57
1:A:109:LYS:O	1:B:113:LEU:HB3	2.05	0.57
1:A:377:GLY:H	1:A:389:GLY:HA3	1.70	0.57
1:B:372:PHE:CZ	1:B:422:TYR:HB3	2.40	0.57
1:C:99:ALA:HB1	1:C:148:VAL:HG22	1.87	0.57
1:C:327:ASP:H	1:C:330:HIS:HB3	1.70	0.57
1:C:362:GLU:O	1:C:366:LEU:HG	2.05	0.57
1:D:166:PHE:CD2	1:D:356:LEU:HD12	2.40	0.57
1:A:99:ALA:HB1	1:A:148:VAL:HG22	1.87	0.57
1:D:372:PHE:HZ	1:D:422:TYR:HB3	1.70	0.57
1:A:280:LYS:HA	1:A:284:GLY:HA2	1.87	0.57
1:A:345:ALA:O	1:A:348:SER:OG	2.19	0.57
1:C:407:PRO:HB2	1:C:431:TYR:CE2	2.40	0.57
1:A:86:PHE:HB2	1:A:156:ARG:HE	1.68	0.57
1:C:356:LEU:HB2	1:C:453:ARG:HH22	1.68	0.57
1:D:264:TYR:CE1	1:D:270:PRO:HG3	2.39	0.57
1:A:277:ARG:HA	1:A:280:LYS:HE2	1.86	0.56
1:A:493:LEU:HD21	1:C:475:VAL:HB	1.86	0.56
1:B:82:LEU:HD11	1:B:141:LEU:HD13	1.87	0.56
1:D:362:GLU:O	1:D:366:LEU:HG	2.04	0.56
1:B:99:ALA:HB1	1:B:148:VAL:HG22	1.86	0.56
1:C:82:LEU:HD12	1:C:134:LEU:HD21	1.87	0.56
1:C:254:ALA:O	1:C:258:LEU:HG	2.05	0.56
1:C:290:VAL:N	1:C:310:CYS:O	2.39	0.56
1:C:372:PHE:CZ	1:C:422:TYR:HB3	2.40	0.56
1:C:257:LEU:HD23	1:C:282:ARG:HH21	1.70	0.56
1:A:116:ARG:HH22	1:B:136:VAL:HG13	1.71	0.56
1:C:148:VAL:O	1:C:152:SER:N	2.34	0.56
1:A:152:SER:OG	1:A:153:GLU:N	2.39	0.56
1:D:78:GLY:O	1:D:137:ARG:NH2	2.39	0.56
1:B:149:ARG:HD2	1:B:155:VAL:HG13	1.88	0.56
1:B:485:GLU:O	1:B:489:LEU:HG	2.06	0.56
1:C:112:HIS:HA	1:D:131:PHE:O	2.06	0.56
1:C:152:SER:OG	1:C:153:GLU:N	2.39	0.56
1:A:90:ALA:N	1:A:153:GLU:OE1	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:328:CYS:HA	1:A:331:GLU:HG2	1.86	0.56
1:D:412:PHE:CE2	1:D:443:LYS:HB2	2.41	0.56
1:C:116:ARG:NH2	1:D:107:GLU:O	2.38	0.55
1:B:86:PHE:HB2	1:B:156:ARG:HE	1.71	0.55
1:C:240:LYS:HA	1:C:243:TYR:CD2	2.41	0.55
1:A:106:PHE:O	1:A:136:VAL:HG21	2.06	0.55
1:A:482:VAL:HG21	1:D:489:LEU:HD11	1.88	0.55
1:B:424:ASP:OD2	1:B:425:GLN:NE2	2.38	0.55
1:C:410:ARG:N	1:C:431:TYR:O	2.40	0.55
1:D:401:HIS:CD2	1:D:427:TYR:HB3	2.41	0.55
1:B:91:THR:HA	1:B:127:HIS:HB3	1.88	0.55
1:D:406:GLU:HG2	1:D:407:PRO:HD3	1.88	0.55
1:A:182:LYS:HB3	1:A:211:PHE:HD1	1.72	0.55
1:A:414:PRO:O	1:A:418:ALA:N	2.40	0.55
1:C:234:GLU:O	1:C:237:THR:OG1	2.23	0.55
1:D:300:LEU:HD12	1:D:303:LEU:HD12	1.89	0.55
1:A:113:LEU:HD13	1:B:110:ILE:HA	1.88	0.55
1:A:458:LYS:HB3	1:A:467:ASP:HB2	1.88	0.55
1:B:173:LEU:HD11	1:B:305:PHE:CG	2.42	0.55
1:B:181:THR:HA	1:B:294:LEU:HD22	1.88	0.55
1:D:341:ASP:HB3	1:D:344:PHE:HB3	1.89	0.55
1:A:191:HIS:HB3	1:A:194:PHE:HE1	1.72	0.55
1:B:290:VAL:N	1:B:310:CYS:O	2.35	0.55
1:D:98:ARG:NH1	1:D:101:LYS:HB3	2.22	0.55
1:A:95:ALA:HA	1:B:110:ILE:HG13	1.89	0.55
1:A:109:LYS:HB2	1:B:115:THR:N	2.12	0.55
1:B:297:ARG:NH2	1:B:358:ALA:O	2.40	0.55
1:C:312:GLN:CD	1:C:312:GLN:H	2.10	0.55
1:A:85:LEU:HB3	1:A:157:SER:HB2	1.88	0.55
1:A:114:GLU:HA	1:B:109:LYS:HB2	1.89	0.55
1:A:274:ASP:N	1:A:274:ASP:OD1	2.39	0.55
1:D:212:GLN:OE1	1:D:212:GLN:N	2.23	0.55
1:B:410:ARG:NH2	1:B:420:GLN:OE1	2.40	0.55
1:D:232:TRP:CD2	1:D:269:ILE:HG13	2.42	0.55
1:D:273:GLU:OE2	1:D:273:GLU:N	2.31	0.55
1:A:174:ASP:O	1:A:178:HIS:ND1	2.38	0.54
1:B:300:LEU:HD21	1:B:351:ILE:HG22	1.89	0.54
1:C:458:LYS:HB3	1:C:467:ASP:HB2	1.89	0.54
1:D:148:VAL:O	1:D:152:SER:N	2.34	0.54
1:D:426:THR:OG1	1:D:427:TYR:N	2.39	0.54
1:A:177:HIS:HA	1:A:180:VAL:HG12	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:378:LEU:HD13	1:C:431:TYR:HB3	1.89	0.54
1:A:98:ARG:NH1	1:A:101:LYS:HB3	2.20	0.54
1:B:93:PRO:HB2	1:B:130:TYR:HE1	1.72	0.54
1:B:329:CYS:HA	1:B:333:LEU:HD23	1.89	0.54
1:C:91:THR:HA	1:C:127:HIS:HB3	1.88	0.54
1:D:202:ARG:HH22	1:D:224:TYR:HA	1.72	0.54
1:D:379:CYS:SG	1:D:388:TYR:HB3	2.47	0.54
1:B:148:VAL:O	1:B:152:SER:N	2.36	0.54
1:B:395:SER:HB2	1:B:398:GLU:HB3	1.89	0.54
1:C:90:ALA:N	1:C:153:GLU:OE1	2.37	0.54
1:C:304:ALA:HB1	1:C:353:LEU:HD23	1.90	0.54
1:D:233:LYS:HG3	1:D:266:GLU:HB3	1.90	0.54
1:A:485:GLU:O	1:A:489:LEU:HG	2.07	0.54
1:A:414:PRO:HD3	1:A:443:LYS:HD3	1.89	0.54
1:C:107:GLU:HB2	1:C:136:VAL:HG11	1.90	0.54
1:C:132:VAL:H	1:C:156:ARG:HH22	1.55	0.54
1:D:96:LEU:HB3	1:D:99:ALA:HB3	1.88	0.54
1:D:280:LYS:HA	1:D:284:GLY:HA2	1.89	0.54
1:C:274:ASP:N	1:C:274:ASP:OD1	2.41	0.54
1:C:395:SER:HB2	1:C:398:GLU:HB3	1.90	0.54
1:A:381:GLN:OE1	1:A:386:LYS:HB2	2.08	0.54
1:B:264:TYR:CD1	1:B:270:PRO:HG3	2.42	0.54
1:C:131:PHE:O	1:D:112:HIS:HA	2.07	0.54
1:C:173:LEU:HD21	1:C:305:PHE:CE1	2.43	0.54
1:C:206:ILE:HD13	1:C:313:TYR:HB3	1.90	0.54
1:C:336:VAL:HG13	1:C:337:PRO:HD3	1.89	0.54
1:D:149:ARG:HD2	1:D:155:VAL:HG13	1.90	0.54
1:D:199:TYR:CE2	1:D:316:HIS:HA	2.43	0.54
1:B:362:GLU:O	1:B:366:LEU:HG	2.08	0.54
1:C:401:HIS:CD2	1:C:427:TYR:HB3	2.43	0.54
1:D:91:THR:HA	1:D:127:HIS:HB3	1.89	0.54
1:A:194:PHE:O	1:A:200:ARG:NH1	2.34	0.54
1:A:283:THR:HA	1:A:342:ARG:NH1	2.23	0.54
1:C:410:ARG:O	1:C:433:VAL:N	2.26	0.54
1:C:411:ALA:HA	1:C:433:VAL:HG12	1.90	0.54
1:D:182:LYS:HD2	1:D:211:PHE:HA	1.88	0.54
1:C:401:HIS:NE2	1:C:428:GLN:O	2.36	0.53
1:D:485:GLU:O	1:D:489:LEU:HG	2.08	0.53
1:A:401:HIS:CD2	1:A:427:TYR:HB3	2.43	0.53
1:B:361:GLU:HG2	1:B:365:LYS:NZ	2.23	0.53
1:A:335:HIS:NE2	1:A:375:GLU:OE1	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:373:THR:HG23	1:A:374:VAL:HG23	1.89	0.53
1:B:152:SER:OG	1:B:153:GLU:N	2.40	0.53
1:C:174:ASP:OD1	1:C:288:ARG:NH2	2.41	0.53
1:C:233:LYS:HG3	1:C:266:GLU:HB3	1.91	0.53
1:D:90:ALA:N	1:D:153:GLU:OE1	2.38	0.53
1:A:239:LEU:HG	1:A:243:TYR:CE2	2.43	0.53
1:C:288:ARG:N	1:C:308:PHE:O	2.41	0.53
1:C:476:ARG:HG2	1:C:480:GLU:OE2	2.08	0.53
1:D:251:HIS:HB2	1:D:338:MET:HE1	1.90	0.53
1:B:239:LEU:HB3	1:B:243:TYR:CZ	2.43	0.53
1:A:327:ASP:OD1	1:A:330:HIS:N	2.41	0.53
1:B:401:HIS:CD2	1:B:427:TYR:HB3	2.44	0.53
1:C:116:ARG:NH1	1:D:135:GLU:O	2.39	0.53
1:B:441:LYS:O	1:B:445:ARG:HG2	2.09	0.53
1:D:428:GLN:O	1:D:431:TYR:OH	2.14	0.53
1:A:131:PHE:O	1:B:112:HIS:HA	2.08	0.53
1:B:234:GLU:O	1:B:237:THR:OG1	2.22	0.53
1:B:489:LEU:HD11	1:C:482:VAL:HG21	1.91	0.53
1:C:283:THR:HA	1:C:342:ARG:NH1	2.24	0.53
1:D:410:ARG:NH2	1:D:420:GLN:OE1	2.39	0.53
1:A:209:ILE:HA	1:A:212:GLN:HE22	1.74	0.53
1:C:364:GLU:OE2	1:C:368:THR:OG1	2.27	0.53
1:B:311:THR:HB	1:B:313:TYR:CZ	2.43	0.52
1:C:98:ARG:NH1	1:C:101:LYS:HB3	2.22	0.52
1:A:199:TYR:O	1:A:203:ARG:HG2	2.08	0.52
1:B:233:LYS:HD2	1:B:267:ASP:HA	1.92	0.52
1:C:205:LEU:HA	1:C:208:GLU:HG2	1.91	0.52
1:C:315:ARG:NH2	1:C:329:CYS:HB2	2.24	0.52
1:C:477:ARG:NH2	1:C:478:SER:HA	2.23	0.52
1:D:286:GLN:CD	1:D:307:VAL:HG22	2.30	0.52
1:A:163:VAL:HG21	1:A:455:PHE:HE2	1.74	0.52
1:A:227:GLU:N	1:A:227:GLU:OE1	2.40	0.52
1:A:264:TYR:CG	1:A:270:PRO:HG3	2.44	0.52
1:B:364:GLU:OE2	1:B:368:THR:OG1	2.27	0.52
1:B:452:GLN:N	1:B:452:GLN:OE1	2.41	0.52
1:C:110:ILE:HG13	1:D:95:ALA:HA	1.92	0.52
1:A:401:HIS:NE2	1:A:428:GLN:O	2.30	0.52
1:D:205:LEU:HA	1:D:208:GLU:HG2	1.91	0.52
1:D:423:GLN:NE2	1:D:426:THR:O	2.35	0.52
1:A:85:LEU:HD23	1:A:157:SER:HB2	1.91	0.52
1:D:381:GLN:OE1	1:D:386:LYS:HB2	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:196:ASP:HB3	1:A:199:TYR:CG	2.44	0.52
1:B:276:SER:O	1:B:280:LYS:HG3	2.09	0.52
1:C:239:LEU:O	1:C:243:TYR:N	2.43	0.52
1:C:456:SER:HB3	1:C:469:LEU:HB2	1.92	0.52
1:D:163:VAL:HG21	1:D:455:PHE:HE2	1.74	0.52
1:B:205:LEU:HA	1:B:208:GLU:HG2	1.92	0.52
1:B:286:GLN:CD	1:B:307:VAL:HG22	2.30	0.52
1:B:378:LEU:HD13	1:B:431:TYR:HB3	1.92	0.52
1:A:183:PHE:HD1	1:A:211:PHE:HE1	1.58	0.51
1:C:379:CYS:SG	1:C:388:TYR:HB3	2.50	0.51
1:D:173:LEU:HD21	1:D:305:PHE:CE1	2.44	0.51
1:D:410:ARG:O	1:D:433:VAL:N	2.25	0.51
1:A:112:HIS:HA	1:B:131:PHE:O	2.10	0.51
1:A:288:ARG:HH11	1:A:309:GLN:HE22	1.58	0.51
1:B:178:HIS:CD2	1:B:182:LYS:HG3	2.45	0.51
1:C:199:TYR:O	1:C:203:ARG:HG2	2.10	0.51
1:D:196:ASP:O	1:D:199:TYR:N	2.43	0.51
1:B:412:PHE:CE2	1:B:440:ALA:HA	2.46	0.51
1:C:300:LEU:HD23	1:C:355:SER:HB3	1.92	0.51
1:D:448:ALA:HA	1:D:451:ILE:HD12	1.92	0.51
1:A:288:ARG:HH11	1:A:309:GLN:NE2	2.08	0.51
1:B:138:ARG:HH21	1:B:141:LEU:HD11	1.75	0.51
1:B:178:HIS:CE1	1:B:288:ARG:HH22	2.29	0.51
1:C:356:LEU:HD12	1:C:457:VAL:HG21	1.91	0.51
1:A:361:GLU:HG2	1:A:365:LYS:NZ	2.25	0.51
1:B:251:HIS:HB2	1:B:338:MET:SD	2.50	0.51
1:D:84:LEU:HD22	1:D:131:PHE:HB2	1.93	0.51
1:A:364:GLU:OE2	1:A:368:THR:OG1	2.29	0.51
1:B:251:HIS:CE1	1:B:337:PRO:HB2	2.44	0.51
1:B:253:GLU:O	1:B:257:LEU:HG	2.10	0.51
1:D:304:ALA:HB1	1:D:353:LEU:HD23	1.93	0.51
1:D:409:ILE:HG12	1:D:431:TYR:HD2	1.75	0.51
1:A:84:LEU:HD22	1:A:131:PHE:HB2	1.92	0.51
1:B:274:ASP:OD1	1:B:274:ASP:N	2.44	0.51
1:A:395:SER:OG	1:A:399:LEU:N	2.43	0.51
1:C:329:CYS:HA	1:C:333:LEU:HD23	1.92	0.51
1:D:347:PHE:CZ	1:D:351:ILE:HD11	2.46	0.51
1:A:426:THR:OG1	1:A:427:TYR:N	2.43	0.51
1:B:297:ARG:NE	1:B:363:ILE:HG13	2.25	0.51
1:B:412:PHE:HE2	1:B:440:ALA:HA	1.76	0.51
1:C:114:GLU:H	1:D:111:HIS:CB	2.22	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:274:ASP:OD1	1:D:274:ASP:N	2.42	0.51
1:A:242:LEU:HD13	1:A:400:LEU:HD21	1.93	0.51
1:A:249:GLY:HA2	1:A:252:LEU:HD12	1.93	0.51
1:B:483:GLN:NE2	1:D:486:LEU:HG	2.26	0.51
1:D:288:ARG:HH11	1:D:309:GLN:NE2	2.09	0.51
1:A:219:ILE:HG21	1:A:272:LEU:HD11	1.93	0.50
1:B:96:LEU:HD23	1:B:99:ALA:HB3	1.93	0.50
1:B:213:TYR:CZ	1:B:215:HIS:HA	2.46	0.50
1:D:168:ARG:HA	1:D:466:ILE:HD12	1.93	0.50
1:D:207:ALA:O	1:D:211:PHE:N	2.38	0.50
1:D:222:VAL:O	1:D:271:GLN:NE2	2.44	0.50
1:D:242:LEU:HD13	1:D:400:LEU:HD21	1.92	0.50
1:D:411:ALA:HA	1:D:433:VAL:HG12	1.93	0.50
1:A:402:CYS:HA	1:A:407:PRO:HG3	1.92	0.50
1:B:86:PHE:CE2	1:B:154:ASP:HB3	2.45	0.50
1:B:199:TYR:CE2	1:B:316:HIS:HA	2.46	0.50
1:C:251:HIS:CE1	1:C:393:LEU:HD23	2.46	0.50
1:A:361:GLU:O	1:A:365:LYS:HG3	2.12	0.50
1:B:407:PRO:HB2	1:B:431:TYR:CE2	2.46	0.50
1:B:493:LEU:HD21	1:D:475:VAL:HB	1.92	0.50
1:D:300:LEU:HD11	1:D:351:ILE:HG22	1.92	0.50
1:A:475:VAL:HG12	1:A:479:LEU:HD23	1.94	0.50
1:C:86:PHE:CE2	1:C:154:ASP:HB3	2.47	0.50
1:C:202:ARG:NH1	1:C:225:THR:OG1	2.33	0.50
1:C:213:TYR:CZ	1:C:215:HIS:HA	2.46	0.50
1:D:479:LEU:O	1:D:483:GLN:HG3	2.12	0.50
1:A:410:ARG:O	1:A:433:VAL:N	2.31	0.50
1:B:189:LEU:HD13	1:B:194:PHE:CD2	2.46	0.50
1:B:259:GLU:HA	1:B:264:TYR:HB2	1.93	0.50
1:B:472:PRO:HB3	1:D:493:LEU:HD11	1.94	0.50
1:B:486:LEU:HG	1:D:483:GLN:NE2	2.27	0.50
1:C:447:TYR:CE2	1:C:451:ILE:HD11	2.47	0.50
1:D:226:ALA:HA	1:D:229:ILE:HD12	1.92	0.50
1:A:109:LYS:HZ1	1:A:135:GLU:H	1.58	0.50
1:B:165:TRP:NE1	1:B:176:CYS:SG	2.80	0.50
1:B:171:SER:OG	1:B:172:GLU:OE1	2.29	0.50
1:A:413:ASP:H	1:A:432:PHE:HD2	1.60	0.50
1:B:228:GLU:OE1	1:B:228:GLU:N	2.37	0.50
1:B:357:GLY:O	1:B:453:ARG:NH1	2.45	0.50
1:B:371:TRP:HD1	1:B:372:PHE:CG	2.30	0.50
1:B:493:LEU:HD11	1:D:472:PRO:HB3	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:413:ASP:HB3	1:C:416:ALA:HB3	1.93	0.50
1:D:240:LYS:HZ3	1:D:255:PHE:HE2	1.59	0.50
1:D:248:CYS:HB2	1:D:379:CYS:SG	2.52	0.50
1:D:299:PHE:O	1:D:302:SER:OG	2.21	0.50
1:A:283:THR:HA	1:A:342:ARG:HH12	1.77	0.49
1:A:286:GLN:CD	1:A:307:VAL:HG22	2.31	0.49
1:A:381:GLN:OE1	1:A:381:GLN:N	2.44	0.49
1:B:199:TYR:O	1:B:203:ARG:HG2	2.12	0.49
1:B:359:SER:O	1:B:363:ILE:N	2.31	0.49
1:C:199:TYR:CE2	1:C:316:HIS:HA	2.47	0.49
1:C:404:SER:OG	1:C:406:GLU:OE2	2.21	0.49
1:B:401:HIS:NE2	1:B:428:GLN:O	2.41	0.49
1:B:411:ALA:HA	1:B:433:VAL:HG12	1.94	0.49
1:B:412:PHE:HA	1:B:432:PHE:HD2	1.78	0.49
1:C:293:LEU:O	1:C:295:SER:N	2.45	0.49
1:C:493:LEU:O	1:C:496:ILE:HG22	2.12	0.49
1:D:359:SER:O	1:D:363:ILE:N	2.32	0.49
1:D:381:GLN:OE1	1:D:381:GLN:N	2.45	0.49
1:A:86:PHE:CE2	1:A:154:ASP:HB3	2.46	0.49
1:D:257:LEU:O	1:D:261:PHE:HB2	2.12	0.49
1:D:330:HIS:HD2	1:D:331:GLU:CD	2.15	0.49
1:A:312:GLN:N	1:A:312:GLN:OE1	2.46	0.49
1:C:239:LEU:HB3	1:C:243:TYR:CE1	2.46	0.49
1:D:391:GLY:O	1:D:395:SER:N	2.43	0.49
1:A:205:LEU:HA	1:A:208:GLU:HG2	1.95	0.49
1:A:289:PRO:HA	1:A:312:GLN:HE22	1.78	0.49
1:D:308:PHE:CZ	1:D:331:GLU:HG2	2.47	0.49
1:C:199:TYR:HE2	1:C:316:HIS:CG	2.31	0.49
1:C:329:CYS:O	1:C:333:LEU:HB2	2.13	0.49
1:C:436:SER:HB3	1:C:439:ASP:OD2	2.13	0.49
1:D:359:SER:OG	1:D:361:GLU:OE1	2.30	0.49
1:C:361:GLU:O	1:C:365:LYS:HG3	2.13	0.49
1:D:362:GLU:HA	1:D:365:LYS:HE2	1.94	0.49
1:A:371:TRP:HD1	1:A:372:PHE:CG	2.31	0.49
1:B:196:ASP:HB3	1:B:199:TYR:CG	2.48	0.49
1:B:248:CYS:HB3	1:B:251:HIS:HB3	1.94	0.49
1:C:81:MET:SD	1:C:81:MET:N	2.77	0.49
1:C:378:LEU:CD1	1:C:431:TYR:HB3	2.42	0.49
1:C:381:GLN:OE1	1:C:381:GLN:N	2.46	0.49
1:C:450:ARG:NH2	1:C:451:ILE:HA	2.28	0.49
1:D:279:LEU:O	1:D:283:THR:N	2.31	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:407:PRO:HB2	1:A:431:TYR:HE2	1.78	0.49
1:B:81:MET:HB3	1:B:135:GLU:HG3	1.95	0.49
1:C:96:LEU:O	1:C:98:ARG:N	2.46	0.49
1:C:104:GLU:HA	1:C:108:ALA:H	1.77	0.49
1:C:136:VAL:HG13	1:D:116:ARG:HH22	1.77	0.49
1:C:412:PHE:CE2	1:C:440:ALA:HA	2.48	0.49
1:B:482:VAL:HG21	1:C:489:LEU:HD11	1.94	0.49
1:C:202:ARG:HH12	1:C:225:THR:HG1	1.58	0.49
1:D:299:PHE:O	1:D:303:LEU:HG	2.13	0.49
1:C:377:GLY:H	1:C:389:GLY:CA	2.26	0.48
1:D:476:ARG:NE	1:D:480:GLU:OE2	2.46	0.48
1:A:136:VAL:HG12	1:A:137:ARG:N	2.28	0.48
1:A:472:PRO:O	1:C:493:LEU:HD21	2.14	0.48
1:C:381:GLN:OE1	1:C:386:LYS:HB2	2.12	0.48
1:D:234:GLU:O	1:D:238:THR:HG23	2.13	0.48
1:A:379:CYS:SG	1:A:388:TYR:HB3	2.53	0.48
1:B:437:PHE:O	1:B:441:LYS:HG3	2.12	0.48
1:C:85:LEU:H	1:C:156:ARG:HD3	1.77	0.48
1:C:441:LYS:HZ3	1:C:445:ARG:HE	1.60	0.48
1:A:87:SER:OG	1:A:129:GLU:OE2	2.29	0.48
1:A:347:PHE:CZ	1:A:351:ILE:HD11	2.48	0.48
1:A:412:PHE:CE2	1:A:440:ALA:HA	2.49	0.48
1:B:409:ILE:HG22	1:B:433:VAL:HB	1.94	0.48
1:C:458:LYS:HD3	1:C:459:PHE:N	2.27	0.48
1:A:368:THR:O	1:A:371:TRP:HB3	2.14	0.48
1:A:436:SER:N	1:A:439:ASP:OD2	2.46	0.48
1:C:233:LYS:HD2	1:C:267:ASP:HA	1.95	0.48
1:C:314:ILE:HA	1:C:327:ASP:HB2	1.95	0.48
1:C:368:THR:O	1:C:371:TRP:HB3	2.14	0.48
1:A:86:PHE:HA	1:A:154:ASP:OD2	2.14	0.48
1:A:111:HIS:CB	1:B:114:GLU:H	2.19	0.48
1:C:213:TYR:OH	1:C:215:HIS:HA	2.13	0.48
1:C:349:GLN:O	1:C:353:LEU:HG	2.14	0.48
1:A:109:LYS:HD3	1:B:114:GLU:HA	1.95	0.48
1:C:371:TRP:HD1	1:C:372:PHE:CG	2.31	0.48
1:D:407:PRO:HB2	1:D:431:TYR:CE2	2.49	0.48
1:A:96:LEU:O	1:A:98:ARG:N	2.44	0.48
1:A:222:VAL:O	1:A:271:GLN:NE2	2.47	0.48
1:A:278:PHE:HD2	1:A:279:LEU:HD22	1.78	0.48
1:A:407:PRO:HB2	1:A:431:TYR:CE2	2.49	0.48
1:A:474:ALA:O	1:A:477:ARG:HG3	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:199:TYR:HE2	1:B:316:HIS:CG	2.31	0.48
1:A:82:LEU:HD12	1:A:134:LEU:HD21	1.95	0.48
1:A:107:GLU:O	1:B:116:ARG:NH2	2.46	0.48
1:C:212:GLN:OE1	1:C:212:GLN:N	2.27	0.48
1:C:361:GLU:HG2	1:C:365:LYS:NZ	2.28	0.48
1:D:420:GLN:NE2	1:D:430:VAL:HG11	2.29	0.48
1:A:277:ARG:HH21	1:D:216:GLY:HA3	1.78	0.48
1:C:408:GLU:OE1	1:C:410:ARG:HD3	2.14	0.48
1:D:199:TYR:HE2	1:D:316:HIS:CG	2.32	0.48
1:D:213:TYR:CZ	1:D:215:HIS:HA	2.48	0.48
1:A:168:ARG:HE	1:A:466:ILE:HB	1.77	0.47
1:B:86:PHE:HA	1:B:154:ASP:OD2	2.14	0.47
1:C:196:ASP:HB3	1:C:199:TYR:CG	2.49	0.47
1:C:377:GLY:O	1:C:389:GLY:N	2.48	0.47
1:D:196:ASP:OD1	1:D:316:HIS:NE2	2.47	0.47
1:D:412:PHE:CE2	1:D:440:ALA:HA	2.48	0.47
1:B:447:TYR:HD1	1:B:450:ARG:HE	1.61	0.47
1:D:86:PHE:HA	1:D:154:ASP:OD2	2.14	0.47
1:D:138:ARG:HH21	1:D:141:LEU:HD11	1.79	0.47
1:A:166:PHE:CD2	1:A:356:LEU:HD12	2.48	0.47
1:B:293:LEU:O	1:B:295:SER:N	2.48	0.47
1:B:349:GLN:O	1:B:353:LEU:HG	2.14	0.47
1:C:202:ARG:O	1:C:205:LEU:HG	2.14	0.47
1:C:356:LEU:HD11	1:C:466:ILE:HD13	1.96	0.47
1:C:264:TYR:CE1	1:C:270:PRO:HG3	2.48	0.47
1:D:435:GLU:HB2	1:D:439:ASP:OD2	2.14	0.47
1:A:173:LEU:HA	1:A:177:HIS:CE1	2.49	0.47
1:A:188:ASP:HB3	1:A:200:ARG:HH11	1.79	0.47
1:A:212:GLN:OE1	1:A:212:GLN:N	2.32	0.47
1:B:356:LEU:HD12	1:B:356:LEU:HA	1.69	0.47
1:B:447:TYR:CE2	1:B:451:ILE:HD11	2.50	0.47
1:D:331:GLU:HG3	1:D:335:HIS:CD2	2.49	0.47
1:B:165:TRP:CG	1:B:166:PHE:N	2.82	0.47
1:D:165:TRP:CG	1:D:166:PHE:N	2.83	0.47
1:D:283:THR:HA	1:D:342:ARG:NH1	2.29	0.47
1:D:441:LYS:O	1:D:445:ARG:HG2	2.13	0.47
1:A:149:ARG:HD2	1:A:155:VAL:HG13	1.96	0.47
1:A:293:LEU:O	1:A:295:SER:N	2.48	0.47
1:A:356:LEU:HG	1:A:457:VAL:HG21	1.97	0.47
1:A:412:PHE:CE2	1:A:443:LYS:HB2	2.50	0.47
1:B:163:VAL:HB	1:B:357:GLY:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:311:THR:H	1:B:331:GLU:CD	2.17	0.47
1:C:132:VAL:N	1:C:156:ARG:HH12	2.13	0.47
1:C:199:TYR:HE2	1:C:316:HIS:HA	1.80	0.47
1:C:232:TRP:CG	1:C:269:ILE:HB	2.49	0.47
1:C:428:GLN:O	1:C:431:TYR:OH	2.11	0.47
1:D:279:LEU:HA	1:D:282:ARG:HB2	1.96	0.47
1:D:361:GLU:O	1:D:365:LYS:HG3	2.15	0.47
1:A:396:TYR:O	1:A:399:LEU:HB3	2.15	0.47
1:B:213:TYR:OH	1:B:215:HIS:HA	2.15	0.47
1:B:429:SER:OG	1:B:430:VAL:N	2.48	0.47
1:B:479:LEU:HD11	1:D:486:LEU:HD11	1.96	0.47
1:C:361:GLU:HG2	1:C:365:LYS:HZ3	1.80	0.47
1:D:163:VAL:HG21	1:D:455:PHE:CE2	2.49	0.47
1:A:115:THR:N	1:B:109:LYS:HB2	2.22	0.47
1:B:285:PHE:CE1	1:B:345:ALA:HB1	2.50	0.47
1:C:227:GLU:HG2	1:C:228:GLU:H	1.80	0.47
1:A:489:LEU:HD11	1:D:482:VAL:HG21	1.95	0.47
1:C:110:ILE:O	1:D:115:THR:HB	2.15	0.47
1:D:179:LEU:HA	1:D:183:PHE:CZ	2.50	0.47
1:D:251:HIS:CE1	1:D:393:LEU:HD23	2.50	0.47
1:B:287:LEU:HD23	1:B:287:LEU:HA	1.73	0.46
1:C:166:PHE:HB2	1:C:356:LEU:HD22	1.97	0.46
1:C:300:LEU:HD21	1:C:351:ILE:HG22	1.97	0.46
1:D:138:ARG:HD3	1:D:141:LEU:HD11	1.96	0.46
1:A:262:SER:OG	1:A:264:TYR:HD1	1.98	0.46
1:B:368:THR:O	1:B:371:TRP:HB3	2.15	0.46
1:C:295:SER:O	1:C:299:PHE:N	2.34	0.46
1:D:167:PRO:HB3	1:D:177:HIS:CE1	2.50	0.46
1:A:86:PHE:HB2	1:A:156:ARG:NE	2.31	0.46
1:A:254:ALA:O	1:A:258:LEU:HD13	2.15	0.46
1:C:86:PHE:HA	1:C:154:ASP:OD2	2.15	0.46
1:C:311:THR:HB	1:C:313:TYR:CZ	2.50	0.46
1:D:232:TRP:NE1	1:D:268:ASN:O	2.48	0.46
1:D:402:CYS:HA	1:D:407:PRO:HG3	1.97	0.46
1:A:163:VAL:HG21	1:A:455:PHE:CE2	2.51	0.46
1:A:173:LEU:HD21	1:A:305:PHE:CE1	2.50	0.46
1:A:453:ARG:HD3	1:A:455:PHE:CE1	2.51	0.46
1:B:199:TYR:HE2	1:B:316:HIS:HA	1.79	0.46
1:D:331:GLU:HA	1:D:335:HIS:CD2	2.50	0.46
1:D:452:GLN:OE1	1:D:452:GLN:N	2.37	0.46
1:A:289:PRO:HA	1:A:312:GLN:NE2	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:98:ARG:HH22	1:B:101:LYS:HD3	1.81	0.46
1:C:228:GLU:OE1	1:C:228:GLU:N	2.40	0.46
1:C:402:CYS:HA	1:C:407:PRO:HG3	1.97	0.46
1:D:293:LEU:O	1:D:295:SER:N	2.48	0.46
1:C:92:LYS:HA	1:C:92:LYS:HD2	1.85	0.46
1:C:247:ALA:HB3	1:C:252:LEU:HD11	1.97	0.46
1:C:332:LEU:HD12	1:C:336:VAL:HG11	1.98	0.46
1:C:370:TYR:HA	1:C:373:THR:HG22	1.97	0.46
1:D:377:GLY:O	1:D:389:GLY:N	2.49	0.46
1:B:361:GLU:O	1:B:365:LYS:HG3	2.16	0.46
1:C:165:TRP:CG	1:C:166:PHE:N	2.82	0.46
1:A:116:ARG:NH2	1:B:135:GLU:O	2.49	0.46
1:A:411:ALA:HA	1:A:433:VAL:HG12	1.98	0.46
1:B:177:HIS:HA	1:B:180:VAL:HG12	1.97	0.46
1:B:179:LEU:HA	1:B:183:PHE:CZ	2.51	0.46
1:C:198:VAL:O	1:C:202:ARG:HG2	2.15	0.46
1:D:306:ARG:HH12	1:D:342:ARG:HH21	1.63	0.46
1:A:86:PHE:CD2	1:A:88:PRO:HD3	2.51	0.46
1:A:353:LEU:O	1:A:356:LEU:HD23	2.15	0.46
1:A:478:SER:O	1:A:482:VAL:HG23	2.16	0.46
1:A:493:LEU:HD11	1:C:472:PRO:HB3	1.97	0.46
1:B:169:LYS:HB2	1:B:172:GLU:OE1	2.16	0.46
1:B:361:GLU:N	1:B:361:GLU:OE1	2.49	0.46
1:B:381:GLN:OE1	1:B:386:LYS:HB2	2.16	0.46
1:D:251:HIS:NE2	1:D:337:PRO:HB2	2.30	0.46
1:A:361:GLU:HG2	1:A:365:LYS:HZ3	1.81	0.46
1:B:412:PHE:CE2	1:B:443:LYS:HB2	2.51	0.46
1:C:285:PHE:CE1	1:C:345:ALA:HB1	2.51	0.46
1:D:396:TYR:O	1:D:399:LEU:HB3	2.16	0.46
1:B:327:ASP:OD1	1:B:330:HIS:N	2.45	0.45
1:C:99:ALA:O	1:C:102:VAL:HG22	2.16	0.45
1:D:327:ASP:H	1:D:330:HIS:HB3	1.81	0.45
1:A:476:ARG:HG2	1:A:480:GLU:OE2	2.16	0.45
1:D:170:VAL:HG23	1:D:171:SER:H	1.81	0.45
1:D:401:HIS:CG	1:D:427:TYR:HB3	2.51	0.45
1:D:478:SER:O	1:D:482:VAL:HG23	2.17	0.45
1:A:264:TYR:CD1	1:A:270:PRO:HG3	2.51	0.45
1:B:370:TYR:OH	1:B:375:GLU:OE2	2.28	0.45
1:B:487:ASP:HA	1:D:483:GLN:HE22	1.82	0.45
1:C:441:LYS:O	1:C:445:ARG:HG2	2.16	0.45
1:D:262:SER:HB2	1:D:275:VAL:HG12	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:361:GLU:OE1	1:D:361:GLU:N	2.48	0.45
1:A:202:ARG:HH22	1:A:224:TYR:HA	1.81	0.45
1:A:267:ASP:OD1	1:A:267:ASP:N	2.49	0.45
1:B:88:PRO:HG2	1:B:127:HIS:CG	2.51	0.45
1:B:189:LEU:HD22	1:B:194:PHE:CE2	2.51	0.45
1:B:283:THR:OG1	1:B:285:PHE:HB2	2.16	0.45
1:B:312:GLN:H	1:B:312:GLN:NE2	2.14	0.45
1:B:359:SER:OG	1:B:361:GLU:OE1	2.35	0.45
1:C:110:ILE:HD12	1:D:100:VAL:HG11	1.97	0.45
1:C:203:ARG:HD3	1:C:203:ARG:N	2.31	0.45
1:C:412:PHE:HA	1:C:432:PHE:HD2	1.80	0.45
1:D:287:LEU:HD23	1:D:287:LEU:HA	1.68	0.45
1:D:493:LEU:O	1:D:496:ILE:HG22	2.17	0.45
1:A:258:LEU:O	1:A:262:SER:N	2.49	0.45
1:B:98:ARG:NH1	1:B:102:VAL:HG13	2.31	0.45
1:B:248:CYS:SG	1:B:381:GLN:NE2	2.89	0.45
1:B:254:ALA:O	1:B:258:LEU:HG	2.16	0.45
1:C:239:LEU:HD12	1:C:243:TYR:HE1	1.81	0.45
1:A:165:TRP:CG	1:A:166:PHE:N	2.83	0.45
1:A:179:LEU:HA	1:A:183:PHE:CZ	2.52	0.45
1:A:380:LYS:HB2	1:A:380:LYS:HE3	1.71	0.45
1:B:423:GLN:NE2	1:B:426:THR:O	2.28	0.45
1:C:90:ALA:O	1:C:127:HIS:HB3	2.16	0.45
1:C:138:ARG:HD3	1:C:141:LEU:HD11	1.98	0.45
1:C:166:PHE:CD2	1:C:356:LEU:HD22	2.52	0.45
1:D:312:GLN:N	1:D:312:GLN:CD	2.70	0.45
1:A:290:VAL:HB	1:A:309:GLN:OE1	2.17	0.45
1:A:306:ARG:NE	1:A:349:GLN:OE1	2.50	0.45
1:B:377:GLY:O	1:B:389:GLY:N	2.49	0.45
1:C:106:PHE:HB3	1:C:140:ASP:HB3	1.99	0.45
1:C:283:THR:HA	1:C:342:ARG:HH12	1.82	0.45
1:B:172:GLU:OE1	1:B:172:GLU:N	2.40	0.45
1:B:450:ARG:NH2	1:B:451:ILE:HA	2.32	0.45
1:C:362:GLU:HA	1:C:365:LYS:HE2	1.98	0.45
1:C:379:CYS:SG	1:C:381:GLN:NE2	2.86	0.45
1:D:242:LEU:O	1:D:245:THR:OG1	2.28	0.45
1:D:338:MET:CE	1:D:388:TYR:HB2	2.47	0.45
1:A:285:PHE:CE1	1:A:345:ALA:HB1	2.52	0.45
1:B:458:LYS:HB3	1:B:467:ASP:HB2	1.99	0.45
1:C:196:ASP:OD1	1:C:316:HIS:NE2	2.50	0.45
1:C:197:GLN:O	1:C:201:GLN:NE2	2.27	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:227:GLU:HG2	1:C:228:GLU:N	2.32	0.45
1:D:95:ALA:C	1:D:97:SER:H	2.20	0.45
1:D:96:LEU:O	1:D:98:ARG:N	2.46	0.45
1:D:251:HIS:ND1	1:D:338:MET:HG2	2.32	0.45
1:D:459:PHE:CZ	1:D:461:PRO:HA	2.52	0.45
1:D:459:PHE:CE1	1:D:464:LEU:HA	2.52	0.45
1:B:90:ALA:O	1:B:127:HIS:HB3	2.17	0.45
1:B:90:ALA:H	1:B:153:GLU:CD	2.20	0.45
1:B:227:GLU:HG2	1:B:228:GLU:H	1.82	0.45
1:B:257:LEU:O	1:B:261:PHE:HB2	2.17	0.45
1:C:86:PHE:HB2	1:C:156:ARG:NE	2.29	0.45
1:C:173:LEU:HA	1:C:177:HIS:CE1	2.52	0.45
1:D:199:TYR:HE2	1:D:316:HIS:HA	1.81	0.45
1:D:199:TYR:HH	1:D:317:ALA:H	1.65	0.45
1:A:264:TYR:HA	1:A:270:PRO:HD3	1.99	0.44
1:C:236:TYR:OH	1:C:259:GLU:OE2	2.26	0.44
1:C:409:ILE:HG22	1:C:433:VAL:HB	1.99	0.44
1:D:274:ASP:OD1	1:D:275:VAL:N	2.48	0.44
1:D:285:PHE:CE1	1:D:345:ALA:HB1	2.51	0.44
1:A:113:LEU:O	1:B:109:LYS:HG3	2.17	0.44
1:A:163:VAL:HG23	1:A:163:VAL:O	2.16	0.44
1:A:196:ASP:OD1	1:A:316:HIS:NE2	2.49	0.44
1:B:246:HIS:HA	1:B:386:LYS:HE3	1.99	0.44
1:D:173:LEU:HD21	1:D:305:PHE:CD1	2.52	0.44
1:D:356:LEU:HG	1:D:457:VAL:HG21	1.99	0.44
1:D:372:PHE:CZ	1:D:420:GLN:HG3	2.52	0.44
1:A:288:ARG:N	1:A:308:PHE:O	2.50	0.44
1:B:173:LEU:HA	1:B:177:HIS:NE2	2.32	0.44
1:B:311:THR:HB	1:B:313:TYR:CE2	2.52	0.44
1:B:479:LEU:O	1:B:483:GLN:HG3	2.16	0.44
1:C:163:VAL:HG21	1:C:455:PHE:CE2	2.53	0.44
1:C:311:THR:HB	1:C:313:TYR:CE1	2.52	0.44
1:C:413:ASP:OD1	1:C:416:ALA:N	2.30	0.44
1:A:172:GLU:OE2	1:A:172:GLU:N	2.39	0.44
1:B:93:PRO:HB2	1:B:130:TYR:CE1	2.52	0.44
1:B:338:MET:HE1	1:B:393:LEU:HD22	1.98	0.44
1:C:178:HIS:CD2	1:C:182:LYS:HG3	2.52	0.44
1:C:180:VAL:HG11	1:C:298:ASP:OD2	2.18	0.44
1:D:194:PHE:O	1:D:200:ARG:NH1	2.43	0.44
1:D:477:ARG:HA	1:D:480:GLU:CD	2.38	0.44
1:A:171:SER:OG	1:A:172:GLU:OE2	2.29	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:259:GLU:HG3	1:A:264:TYR:O	2.18	0.44
1:A:391:GLY:O	1:A:395:SER:N	2.50	0.44
1:A:401:HIS:CG	1:A:427:TYR:HB3	2.53	0.44
1:B:484:ASP:OD2	1:C:441:LYS:HE3	2.17	0.44
1:C:264:TYR:CD1	1:C:270:PRO:HG3	2.52	0.44
1:D:86:PHE:CD2	1:D:88:PRO:HD3	2.53	0.44
1:D:368:THR:O	1:D:371:TRP:HB3	2.17	0.44
1:B:226:ALA:HA	1:B:229:ILE:HD12	1.99	0.44
1:B:227:GLU:HG2	1:B:228:GLU:N	2.32	0.44
1:B:239:LEU:HD12	1:B:243:TYR:HE1	1.82	0.44
1:B:242:LEU:HD13	1:B:400:LEU:HD21	1.98	0.44
1:B:290:VAL:HB	1:B:309:GLN:OE1	2.17	0.44
1:B:291:ALA:HA	1:B:313:TYR:HE1	1.82	0.44
1:B:329:CYS:O	1:B:333:LEU:HB2	2.18	0.44
1:B:370:TYR:HA	1:B:373:THR:HG22	1.99	0.44
1:C:441:LYS:NZ	1:C:445:ARG:HE	2.16	0.44
1:C:468:VAL:O	1:C:469:LEU:HD23	2.17	0.44
1:D:227:GLU:OE1	1:D:227:GLU:N	2.48	0.44
1:D:378:LEU:HD11	1:D:431:TYR:CD2	2.52	0.44
1:A:212:GLN:O	1:A:214:ARG:NH1	2.51	0.44
1:A:467:ASP:HB3	1:A:477:ARG:HH22	1.82	0.44
1:B:168:ARG:HE	1:B:466:ILE:HB	1.82	0.44
1:B:303:LEU:HD23	1:B:303:LEU:HA	1.86	0.44
1:C:175:LYS:O	1:C:179:LEU:HB2	2.18	0.44
1:D:375:GLU:HA	1:D:391:GLY:H	1.82	0.44
1:A:135:GLU:O	1:B:116:ARG:NH1	2.50	0.44
1:A:327:ASP:N	1:A:330:HIS:HB3	2.28	0.44
1:C:188:ASP:HB3	1:C:200:ARG:HH11	1.82	0.44
1:D:90:ALA:O	1:D:127:HIS:HB3	2.17	0.44
1:D:170:VAL:HG23	1:D:171:SER:N	2.33	0.44
1:A:166:PHE:HD2	1:A:167:PRO:O	2.01	0.44
1:A:412:PHE:HA	1:A:432:PHE:HD2	1.82	0.44
1:B:380:LYS:HB2	1:B:380:LYS:HE3	1.77	0.44
1:B:389:GLY:H	1:B:392:LEU:HD12	1.83	0.44
1:C:179:LEU:HA	1:C:183:PHE:CE1	2.53	0.44
1:C:399:LEU:O	1:C:403:LEU:HG	2.18	0.44
1:D:85:LEU:HB3	1:D:157:SER:HB2	2.00	0.44
1:D:227:GLU:HG2	1:D:228:GLU:N	2.33	0.44
1:D:308:PHE:CE2	1:D:331:GLU:HG2	2.53	0.44
1:A:96:LEU:HG	1:A:130:TYR:CZ	2.54	0.43
1:A:196:ASP:HB3	1:A:199:TYR:HB2	1.98	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:205:LEU:O	1:A:208:GLU:HG2	2.18	0.43
1:B:236:TYR:OH	1:B:259:GLU:OE2	2.24	0.43
1:C:163:VAL:HG21	1:C:455:PHE:HE2	1.82	0.43
1:D:82:LEU:HD12	1:D:134:LEU:HD21	1.99	0.43
1:D:243:TYR:CZ	1:D:252:LEU:HD23	2.53	0.43
1:A:435:GLU:HB2	1:A:439:ASP:OD2	2.18	0.43
1:B:104:GLU:HA	1:B:108:ALA:H	1.83	0.43
1:B:247:ALA:HB3	1:B:252:LEU:HD11	1.99	0.43
1:B:287:LEU:HD22	1:B:310:CYS:HB3	1.99	0.43
1:C:408:GLU:CD	1:C:410:ARG:HD3	2.39	0.43
1:C:445:ARG:O	1:C:449:SER:OG	2.23	0.43
1:D:88:PRO:HB3	1:D:152:SER:OG	2.18	0.43
1:D:145:LEU:HD22	1:D:156:ARG:H	1.83	0.43
1:A:132:VAL:N	1:A:156:ARG:HH12	2.16	0.43
1:A:493:LEU:HA	1:A:496:ILE:HG22	2.00	0.43
1:B:168:ARG:HH21	1:B:466:ILE:C	2.21	0.43
1:B:173:LEU:HD21	1:B:305:PHE:CE1	2.53	0.43
1:B:290:VAL:HG11	1:B:309:GLN:HB3	2.01	0.43
1:B:447:TYR:O	1:B:451:ILE:HG13	2.18	0.43
1:C:279:LEU:HA	1:C:282:ARG:HB2	2.00	0.43
1:C:496:ILE:HD12	1:C:496:ILE:HA	1.85	0.43
1:D:259:GLU:HA	1:D:264:TYR:HB2	2.00	0.43
1:D:283:THR:OG1	1:D:342:ARG:NH2	2.51	0.43
1:A:90:ALA:O	1:A:127:HIS:HB3	2.19	0.43
1:A:258:LEU:HD23	1:A:264:TYR:CE1	2.53	0.43
1:A:266:GLU:H	1:A:266:GLU:CD	2.19	0.43
1:A:362:GLU:HA	1:A:365:LYS:HE2	2.00	0.43
1:A:441:LYS:HE3	1:A:441:LYS:HB2	1.79	0.43
1:B:145:LEU:HD22	1:B:156:ARG:H	1.83	0.43
1:B:166:PHE:CD1	1:B:357:GLY:HA3	2.53	0.43
1:B:395:SER:O	1:B:399:LEU:HB2	2.18	0.43
1:C:89:ARG:N	1:C:153:GLU:HB2	2.29	0.43
1:C:327:ASP:N	1:C:330:HIS:HB3	2.33	0.43
1:C:328:CYS:HA	1:C:331:GLU:HG2	2.00	0.43
1:C:413:ASP:HA	1:C:443:LYS:HD3	2.00	0.43
1:D:209:ILE:HA	1:D:212:GLN:HE22	1.82	0.43
1:D:248:CYS:O	1:D:252:LEU:HG	2.18	0.43
1:B:134:LEU:HD12	1:B:141:LEU:HB2	1.99	0.43
1:B:469:LEU:HD13	1:B:469:LEU:HA	1.92	0.43
1:B:474:ALA:HA	1:B:477:ARG:HG2	1.99	0.43
1:D:86:PHE:CE2	1:D:154:ASP:HB3	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:103:PHE:HE1	1:D:134:LEU:HD22	1.84	0.43
1:D:219:ILE:HB	1:D:273:GLU:CG	2.49	0.43
1:D:297:ARG:HE	1:D:363:ILE:HG13	1.83	0.43
1:D:333:LEU:O	1:D:337:PRO:HG2	2.18	0.43
1:A:276:SER:O	1:A:280:LYS:HG3	2.18	0.43
1:A:352:GLY:O	1:A:355:SER:OG	2.23	0.43
1:A:416:ALA:O	1:A:420:GLN:HB2	2.19	0.43
1:B:78:GLY:O	1:B:137:ARG:NH2	2.52	0.43
1:B:243:TYR:HD1	1:B:243:TYR:HA	1.67	0.43
1:C:92:LYS:N	1:C:93:PRO:HD2	2.34	0.43
1:D:311:THR:HB	1:D:313:TYR:CE2	2.54	0.43
1:A:145:LEU:HD22	1:A:156:ARG:H	1.84	0.43
1:A:440:ALA:O	1:A:444:LEU:HD23	2.19	0.43
1:B:96:LEU:O	1:B:98:ARG:N	2.45	0.43
1:B:166:PHE:HD1	1:B:357:GLY:HA3	1.83	0.43
1:C:109:LYS:CB	1:D:115:THR:H	2.25	0.43
1:C:116:ARG:HG3	1:D:109:LYS:HB3	2.00	0.43
1:D:287:LEU:HB3	1:D:310:CYS:SG	2.59	0.43
1:D:338:MET:HB3	1:D:344:PHE:HE2	1.83	0.43
1:A:165:TRP:NE1	1:A:176:CYS:SG	2.80	0.43
1:C:111:HIS:HB2	1:D:114:GLU:N	2.04	0.43
1:C:315:ARG:HD3	1:C:319:SER:O	2.18	0.43
1:C:380:LYS:HB2	1:C:380:LYS:HE3	1.74	0.43
1:A:280:LYS:HA	1:A:284:GLY:CA	2.48	0.43
1:B:167:PRO:HG3	1:B:177:HIS:NE2	2.34	0.43
1:B:180:VAL:HG11	1:B:298:ASP:OD2	2.19	0.43
1:B:282:ARG:HD3	1:B:282:ARG:HA	1.89	0.43
1:C:209:ILE:HA	1:C:212:GLN:HE22	1.84	0.43
1:D:92:LYS:N	1:D:93:PRO:HD2	2.33	0.43
1:D:210:ALA:HB2	1:D:289:PRO:HB2	2.01	0.43
1:D:228:GLU:N	1:D:228:GLU:OE1	2.39	0.43
1:D:408:GLU:HB3	1:D:430:VAL:HA	2.01	0.43
1:A:341:ASP:OD2	1:A:343:THR:N	2.52	0.43
1:A:412:PHE:HE2	1:A:440:ALA:HA	1.82	0.43
1:A:168:ARG:HH21	1:A:466:ILE:C	2.21	0.42
1:A:458:LYS:HD3	1:A:459:PHE:N	2.34	0.42
1:B:283:THR:HA	1:B:342:ARG:NH1	2.33	0.42
1:B:352:GLY:O	1:B:355:SER:OG	2.28	0.42
1:C:226:ALA:HA	1:C:229:ILE:HD12	2.01	0.42
1:D:196:ASP:HB3	1:D:199:TYR:CG	2.54	0.42
1:A:180:VAL:HG11	1:A:298:ASP:OD2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:199:TYR:O	1:D:203:ARG:HG2	2.19	0.42
1:D:202:ARG:O	1:D:205:LEU:HG	2.19	0.42
1:D:440:ALA:O	1:D:444:LEU:HD23	2.19	0.42
1:A:110:ILE:O	1:B:115:THR:HB	2.20	0.42
1:A:162:LYS:O	1:A:163:VAL:HG22	2.19	0.42
1:A:372:PHE:CZ	1:A:420:GLN:HG3	2.54	0.42
1:A:487:ASP:HB3	1:C:483:GLN:HE22	1.84	0.42
1:B:95:ALA:C	1:B:97:SER:H	2.22	0.42
1:B:96:LEU:C	1:B:98:ARG:H	2.22	0.42
1:B:446:SER:O	1:B:449:SER:OG	2.37	0.42
1:C:106:PHE:O	1:C:136:VAL:HG11	2.19	0.42
1:D:251:HIS:ND1	1:D:393:LEU:HD23	2.34	0.42
1:D:257:LEU:HA	1:D:260:ARG:HG2	2.01	0.42
1:A:99:ALA:O	1:A:102:VAL:HG22	2.20	0.42
1:A:290:VAL:N	1:A:310:CYS:O	2.49	0.42
1:B:458:LYS:HD3	1:B:459:PHE:N	2.35	0.42
1:C:196:ASP:HB3	1:C:199:TYR:HB2	2.00	0.42
1:C:398:GLU:HB2	1:C:427:TYR:CE1	2.53	0.42
1:D:106:PHE:O	1:D:136:VAL:HG11	2.20	0.42
1:D:202:ARG:HH12	1:D:225:THR:H	1.67	0.42
1:D:206:ILE:HD13	1:D:313:TYR:HB3	2.01	0.42
1:D:259:GLU:HG3	1:D:264:TYR:O	2.20	0.42
1:A:92:LYS:N	1:A:93:PRO:HD2	2.34	0.42
1:A:115:THR:HB	1:B:110:ILE:O	2.19	0.42
1:A:179:LEU:HA	1:A:183:PHE:CE1	2.54	0.42
1:B:194:PHE:O	1:B:200:ARG:NH1	2.49	0.42
1:B:402:CYS:HA	1:B:407:PRO:HG3	2.00	0.42
1:D:258:LEU:O	1:D:261:PHE:N	2.52	0.42
1:A:221:ARG:NH1	1:A:271:GLN:HG3	2.35	0.42
1:A:409:ILE:HG23	1:A:431:TYR:HB2	2.01	0.42
1:B:476:ARG:O	1:B:480:GLU:HG3	2.20	0.42
1:C:88:PRO:HG2	1:C:127:HIS:CG	2.55	0.42
1:C:303:LEU:HD11	1:C:308:PHE:CD1	2.52	0.42
1:C:330:HIS:HA	1:C:394:SER:CB	2.46	0.42
1:C:360:ASP:OD1	1:C:361:GLU:N	2.51	0.42
1:D:166:PHE:HD2	1:D:167:PRO:O	2.02	0.42
1:A:275:VAL:O	1:A:279:LEU:HD23	2.18	0.42
1:A:304:ALA:O	1:A:349:GLN:HG3	2.19	0.42
1:A:443:LYS:O	1:A:446:SER:OG	2.25	0.42
1:B:86:PHE:HD2	1:B:88:PRO:HD3	1.85	0.42
1:B:304:ALA:O	1:B:349:GLN:HG3	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:398:GLU:HB2	1:B:427:TYR:CE1	2.55	0.42
1:B:444:LEU:HD23	1:B:445:ARG:N	2.35	0.42
1:B:475:VAL:HB	1:D:493:LEU:HD21	2.02	0.42
1:B:493:LEU:HA	1:B:496:ILE:HG22	2.01	0.42
1:C:93:PRO:O	1:C:130:TYR:HE1	2.02	0.42
1:D:341:ASP:OD2	1:D:343:THR:N	2.53	0.42
1:D:349:GLN:O	1:D:353:LEU:HG	2.20	0.42
1:A:234:GLU:O	1:A:238:THR:HG23	2.18	0.42
1:A:236:TYR:CD2	1:A:266:GLU:HG3	2.54	0.42
1:A:441:LYS:O	1:A:445:ARG:HG2	2.19	0.42
1:B:82:LEU:HD12	1:B:134:LEU:HD21	2.02	0.42
1:B:202:ARG:O	1:B:205:LEU:HG	2.20	0.42
1:B:206:ILE:HD13	1:B:313:TYR:HB3	2.00	0.42
1:B:279:LEU:HD21	1:B:285:PHE:HB3	2.01	0.42
1:B:413:ASP:HA	1:B:443:LYS:NZ	2.35	0.42
1:C:205:LEU:O	1:C:208:GLU:HG2	2.19	0.42
1:C:408:GLU:O	1:C:431:TYR:N	2.53	0.42
1:C:412:PHE:HA	1:C:432:PHE:CD2	2.54	0.42
1:A:96:LEU:C	1:A:98:ARG:H	2.22	0.42
1:A:116:ARG:NH2	1:B:136:VAL:HG13	2.34	0.42
1:A:213:TYR:CZ	1:A:215:HIS:HA	2.54	0.42
1:B:232:TRP:HZ3	1:B:333:LEU:HD21	1.84	0.42
1:B:408:GLU:HB3	1:B:430:VAL:HA	2.02	0.42
1:C:291:ALA:HA	1:C:313:TYR:HE1	1.85	0.42
1:C:443:LYS:O	1:C:446:SER:OG	2.31	0.42
1:D:189:LEU:HD13	1:D:194:PHE:CD2	2.55	0.42
1:D:227:GLU:HG2	1:D:228:GLU:H	1.84	0.42
1:D:290:VAL:HG12	1:D:310:CYS:O	2.20	0.42
1:A:346:GLN:HB3	1:A:441:LYS:HZ1	1.84	0.42
1:B:362:GLU:HA	1:B:365:LYS:HZ3	1.85	0.42
1:D:493:LEU:HA	1:D:496:ILE:HG22	2.02	0.42
1:D:496:ILE:HD12	1:D:496:ILE:HA	1.87	0.42
1:B:210:ALA:HB2	1:B:289:PRO:HB2	2.02	0.41
1:B:381:GLN:OE1	1:B:381:GLN:N	2.52	0.41
1:C:306:ARG:NE	1:C:349:GLN:OE1	2.53	0.41
1:D:85:LEU:HD23	1:D:157:SER:HB2	2.02	0.41
1:D:96:LEU:C	1:D:98:ARG:H	2.24	0.41
1:D:315:ARG:NH2	1:D:327:ASP:OD1	2.30	0.41
1:D:396:TYR:O	1:D:400:LEU:HG	2.20	0.41
1:A:197:GLN:O	1:A:201:GLN:NE2	2.27	0.41
1:B:219:ILE:HB	1:B:273:GLU:HG3	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:81:MET:HB3	1:C:135:GLU:HG3	2.02	0.41
1:C:88:PRO:HB3	1:C:152:SER:OG	2.20	0.41
1:C:482:VAL:HA	1:C:485:GLU:OE1	2.21	0.41
1:D:476:ARG:O	1:D:479:LEU:HG	2.20	0.41
1:A:90:ALA:H	1:A:153:GLU:CD	2.23	0.41
1:A:95:ALA:C	1:A:97:SER:H	2.23	0.41
1:A:103:PHE:HE1	1:A:134:LEU:HB3	1.85	0.41
1:A:253:GLU:O	1:A:257:LEU:HD23	2.20	0.41
1:A:469:LEU:HD13	1:A:469:LEU:HA	1.95	0.41
1:B:259:GLU:HG3	1:B:264:TYR:O	2.21	0.41
1:C:132:VAL:HG13	1:D:113:LEU:CD1	2.50	0.41
1:C:170:VAL:HG23	1:C:171:SER:N	2.34	0.41
1:D:99:ALA:O	1:D:102:VAL:HG22	2.21	0.41
1:D:294:LEU:HD12	1:D:294:LEU:H	1.84	0.41
1:D:338:MET:HB3	1:D:344:PHE:CE2	2.55	0.41
1:D:446:SER:OG	1:D:447:TYR:N	2.52	0.41
1:B:86:PHE:CD2	1:B:88:PRO:HD3	2.55	0.41
1:B:358:ALA:HB3	1:B:363:ILE:CD1	2.50	0.41
1:B:414:PRO:O	1:B:418:ALA:N	2.53	0.41
1:C:96:LEU:C	1:C:98:ARG:H	2.23	0.41
1:D:170:VAL:HA	1:D:173:LEU:HD23	2.01	0.41
1:D:189:LEU:HD22	1:D:194:PHE:CZ	2.55	0.41
1:D:253:GLU:O	1:D:257:LEU:HD23	2.21	0.41
1:D:336:VAL:HG13	1:D:337:PRO:HD3	2.01	0.41
1:D:338:MET:HE3	1:D:388:TYR:HB2	2.02	0.41
1:A:287:LEU:HB2	1:A:310:CYS:SG	2.60	0.41
1:A:428:GLN:O	1:A:431:TYR:OH	2.23	0.41
1:B:138:ARG:HD3	1:B:141:LEU:HD11	2.02	0.41
1:C:175:LYS:HG3	1:C:176:CYS:H	1.85	0.41
1:C:179:LEU:HA	1:C:183:PHE:CZ	2.56	0.41
1:C:389:GLY:O	1:C:393:LEU:N	2.34	0.41
1:C:481:GLY:O	1:C:484:ASP:HB3	2.21	0.41
1:D:111:HIS:CG	1:D:112:HIS:H	2.39	0.41
1:D:303:LEU:O	1:D:306:ARG:N	2.49	0.41
1:A:138:ARG:HD2	1:A:141:LEU:HD21	2.02	0.41
1:A:277:ARG:O	1:A:281:GLU:HG2	2.20	0.41
1:A:350:ASP:O	1:A:353:LEU:HB3	2.20	0.41
1:D:178:HIS:CE1	1:D:288:ARG:HH12	2.39	0.41
1:D:246:HIS:C	1:D:386:LYS:HD2	2.41	0.41
1:D:290:VAL:HB	1:D:309:GLN:OE1	2.21	0.41
1:A:202:ARG:O	1:A:205:LEU:HG	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:84:LEU:HD13	1:B:131:PHE:HA	2.02	0.41
1:C:145:LEU:HD22	1:C:156:ARG:H	1.86	0.41
1:C:285:PHE:HA	1:C:306:ARG:O	2.20	0.41
1:A:370:TYR:HA	1:A:373:THR:HG22	2.03	0.41
1:B:107:GLU:HB2	1:B:136:VAL:HG11	2.03	0.41
1:B:295:SER:O	1:B:299:PHE:N	2.38	0.41
1:B:379:CYS:HG	1:B:386:LYS:HB2	1.85	0.41
1:C:95:ALA:C	1:C:97:SER:H	2.24	0.41
1:C:327:ASP:O	1:C:331:GLU:HG2	2.20	0.41
1:A:420:GLN:NE2	1:A:430:VAL:HG11	2.36	0.41
1:A:493:LEU:O	1:A:496:ILE:HG22	2.21	0.41
1:B:132:VAL:N	1:B:156:ARG:HH12	2.19	0.41
1:B:170:VAL:HB	1:B:215:HIS:CE1	2.56	0.41
1:B:251:HIS:ND1	1:B:337:PRO:HB2	2.36	0.41
1:B:366:LEU:HD21	1:B:451:ILE:HD11	2.03	0.41
1:B:372:PHE:CZ	1:B:420:GLN:HG3	2.56	0.41
1:B:443:LYS:O	1:B:446:SER:OG	2.33	0.41
1:C:96:LEU:HD21	1:C:130:TYR:CE2	2.56	0.41
1:C:240:LYS:HZ3	1:C:255:PHE:HZ	1.67	0.41
1:C:285:PHE:CD2	1:C:339:LEU:HD21	2.56	0.41
1:D:174:ASP:HA	1:D:178:HIS:CD2	2.56	0.41
1:D:304:ALA:HB2	1:D:352:GLY:C	2.41	0.41
1:D:304:ALA:O	1:D:349:GLN:HG3	2.21	0.41
1:D:408:GLU:OE1	1:D:430:VAL:HG23	2.21	0.41
1:D:448:ALA:O	1:D:451:ILE:HB	2.21	0.41
1:B:399:LEU:O	1:B:403:LEU:HG	2.21	0.41
1:B:436:SER:HB3	1:B:439:ASP:OD2	2.21	0.41
1:C:175:LYS:HG3	1:C:176:CYS:N	2.36	0.41
1:C:290:VAL:O	1:C:311:THR:HA	2.21	0.41
1:D:240:LYS:NZ	1:D:255:PHE:HE2	2.19	0.41
1:D:336:VAL:CG1	1:D:337:PRO:HD3	2.51	0.41
1:D:453:ARG:HG2	1:D:455:PHE:H	1.85	0.41
1:A:101:LYS:HA	1:A:104:GLU:HG3	2.04	0.40
1:A:216:GLY:HA3	1:D:277:ARG:HH21	1.85	0.40
1:C:86:PHE:CD2	1:C:88:PRO:HD3	2.56	0.40
1:C:283:THR:O	1:C:342:ARG:NH2	2.46	0.40
1:D:89:ARG:N	1:D:153:GLU:HB2	2.32	0.40
1:D:96:LEU:HG	1:D:130:TYR:CZ	2.55	0.40
1:D:359:SER:OG	1:D:362:GLU:HB2	2.21	0.40
1:B:312:GLN:CD	1:B:312:GLN:N	2.75	0.40
1:C:266:GLU:H	1:C:266:GLU:CD	2.23	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:267:ASP:OD1	1:C:267:ASP:N	2.53	0.40
1:C:413:ASP:HB2	1:C:443:LYS:HZ1	1.85	0.40
1:C:414:PRO:HG3	1:C:443:LYS:HB3	2.04	0.40
1:D:79:LYS:HB3	1:D:136:VAL:HA	2.02	0.40
1:D:167:PRO:HB3	1:D:177:HIS:HE1	1.85	0.40
1:D:470:ASP:OD1	1:D:470:ASP:N	2.53	0.40
1:B:103:PHE:HE1	1:B:134:LEU:HD22	1.86	0.40
1:B:169:LYS:HB2	1:B:169:LYS:HE2	1.84	0.40
1:C:272:LEU:HD23	1:C:272:LEU:H	1.87	0.40
1:C:277:ARG:HA	1:C:280:LYS:HD3	2.02	0.40
1:C:293:LEU:HD23	1:C:293:LEU:H	1.86	0.40
1:D:84:LEU:HD13	1:D:131:PHE:HA	2.03	0.40
1:D:101:LYS:HG2	1:D:104:GLU:OE2	2.22	0.40
1:D:251:HIS:HB2	1:D:338:MET:CE	2.51	0.40
1:A:246:HIS:HA	1:A:386:LYS:HD2	2.03	0.40
1:B:327:ASP:O	1:B:331:GLU:HG2	2.22	0.40
1:C:83:ASN:HD21	1:C:162:LYS:NZ	2.19	0.40
1:C:90:ALA:H	1:C:153:GLU:CD	2.24	0.40
1:C:173:LEU:HD21	1:C:305:PHE:CD1	2.56	0.40
1:C:406:GLU:N	1:C:407:PRO:HD2	2.36	0.40
1:C:441:LYS:HZ1	1:C:445:ARG:HH21	1.69	0.40
1:D:280:LYS:HA	1:D:284:GLY:CA	2.50	0.40
1:A:85:LEU:H	1:A:156:ARG:HD3	1.86	0.40
1:A:199:TYR:HH	1:A:317:ALA:H	1.70	0.40
1:A:251:HIS:HE1	1:A:337:PRO:CG	2.32	0.40
1:B:231:THR:O	1:B:235:VAL:HG12	2.21	0.40
1:B:239:LEU:O	1:B:243:TYR:N	2.54	0.40
1:B:293:LEU:HD23	1:B:293:LEU:H	1.86	0.40
1:B:485:GLU:O	1:B:488:THR:HB	2.21	0.40
1:C:174:ASP:OD1	1:C:174:ASP:N	2.54	0.40
1:D:117:PRO:HA	1:D:128:LEU:HD11	2.03	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	418/420 (100%)	351 (84%)	66 (16%)	1 (0%)	47 80
1	B	418/420 (100%)	351 (84%)	66 (16%)	1 (0%)	47 80
1	C	418/420 (100%)	349 (84%)	68 (16%)	1 (0%)	47 80
1	D	418/420 (100%)	344 (82%)	73 (18%)	1 (0%)	47 80
All	All	1672/1680 (100%)	1395 (83%)	273 (16%)	4 (0%)	50 80

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	97	SER
1	B	97	SER
1	C	97	SER
1	D	97	SER

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	357/357 (100%)	353 (99%)	4 (1%)	73 84
1	B	357/357 (100%)	354 (99%)	3 (1%)	81 88
1	C	357/357 (100%)	354 (99%)	3 (1%)	81 88
1	D	357/357 (100%)	352 (99%)	5 (1%)	67 80
All	All	1428/1428 (100%)	1413 (99%)	15 (1%)	74 84

All (15) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	98	ARG
1	A	243	TYR
1	A	299	PHE
1	A	347	PHE

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Mol	Chain	Res	Type
1	B	98	ARG
1	B	299	PHE
1	B	467	ASP
1	C	98	ARG
1	C	299	PHE
1	C	410	ARG
1	D	98	ARG
1	D	267	ASP
1	D	338	MET
1	D	388	TYR
1	D	439	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (22) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	111	HIS
1	A	312	GLN
1	A	346	GLN
1	A	428	GLN
1	B	111	HIS
1	B	191	HIS
1	B	271	GLN
1	B	309	GLN
1	B	428	GLN
1	C	83	ASN
1	C	191	HIS
1	C	381	GLN
1	C	428	GLN
1	C	483	GLN
1	D	111	HIS
1	D	251	HIS
1	D	312	GLN
1	D	346	GLN
1	D	381	GLN
1	D	382	ASN
1	D	428	GLN
1	D	483	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 4 ligands modelled in this entry, 4 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

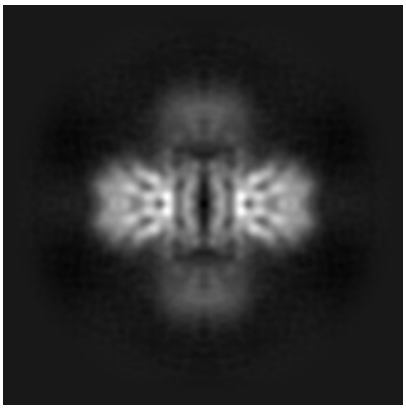
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-11624. These allow visual inspection of the internal detail of the map and identification of artifacts.

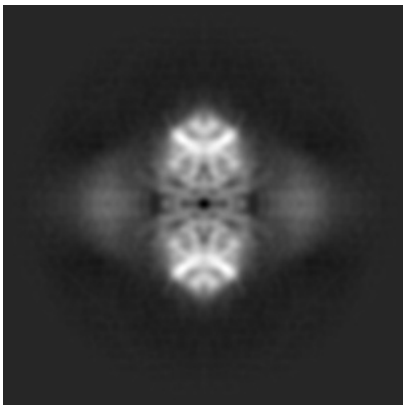
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

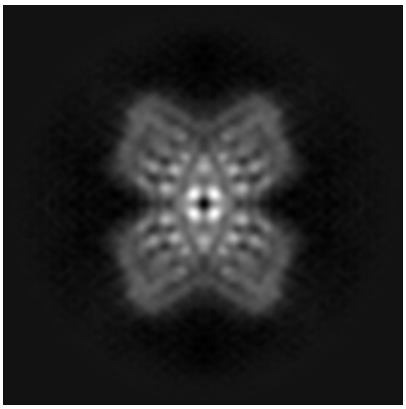
6.1.1 Primary map



X

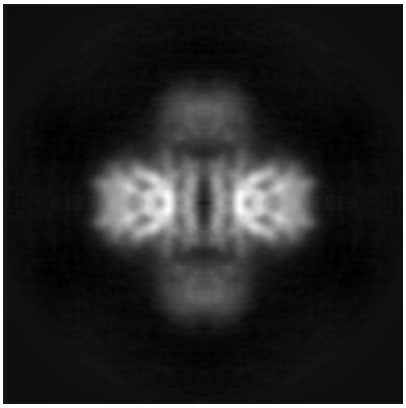


Y

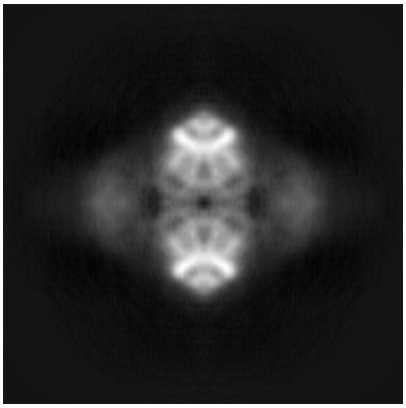


Z

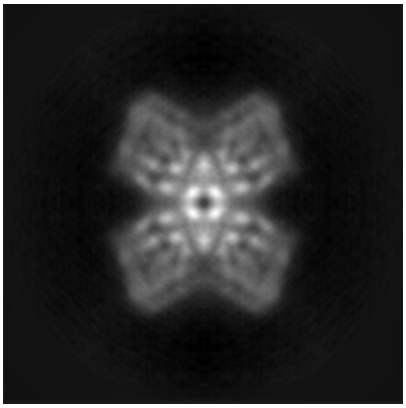
6.1.2 Raw map



X



Y

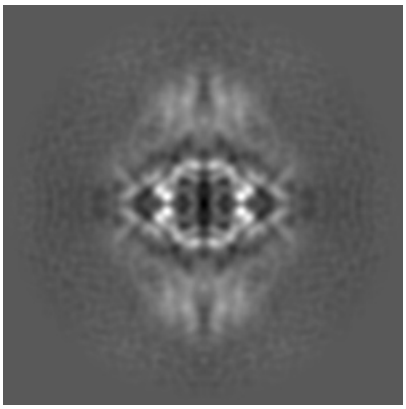


Z

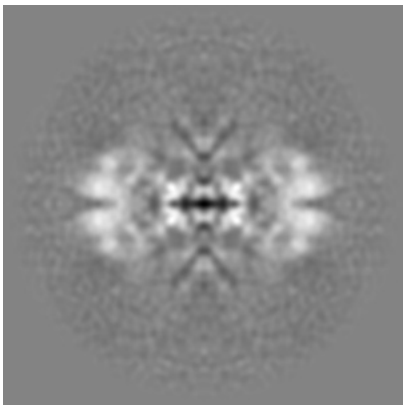
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

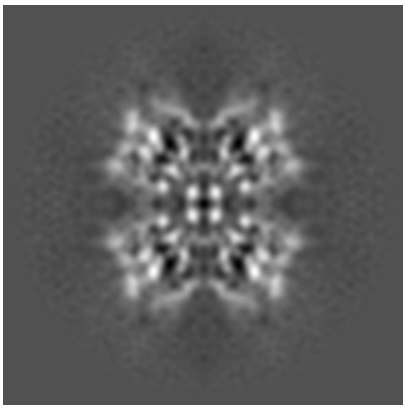
6.2.1 Primary map



X Index: 90

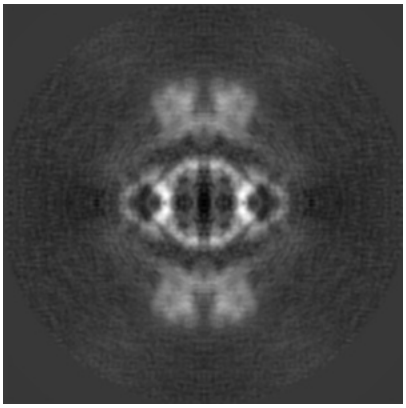


Y Index: 90

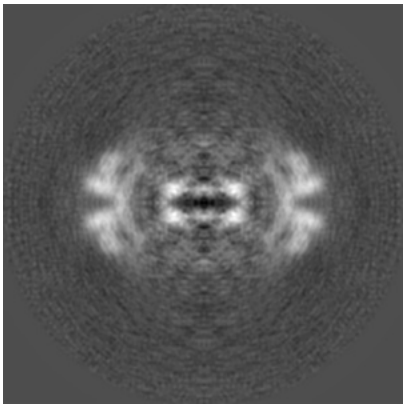


Z Index: 90

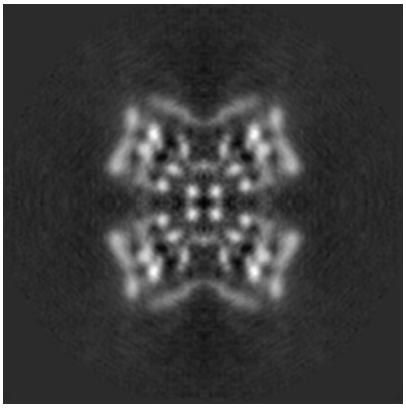
6.2.2 Raw map



X Index: 90



Y Index: 90

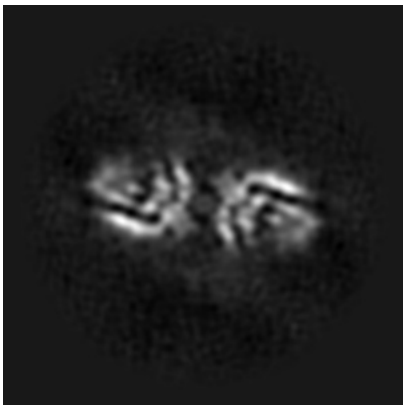


Z Index: 90

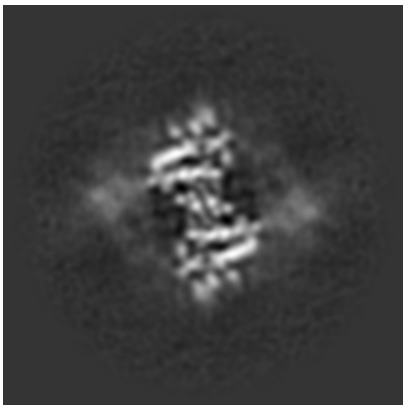
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

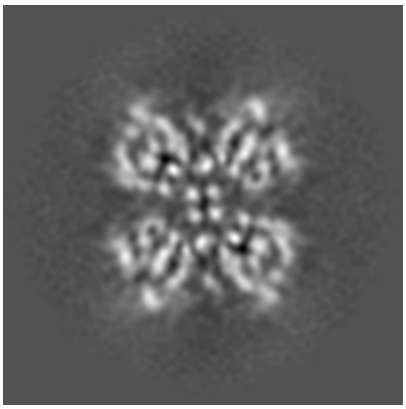
6.3.1 Primary map



X Index: 62

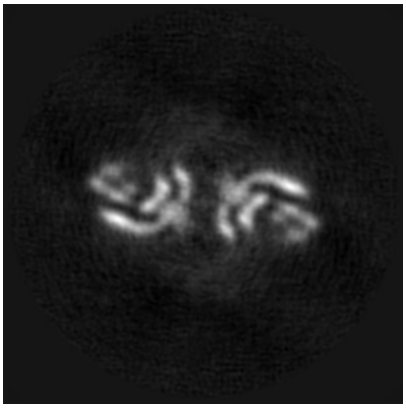


Y Index: 74

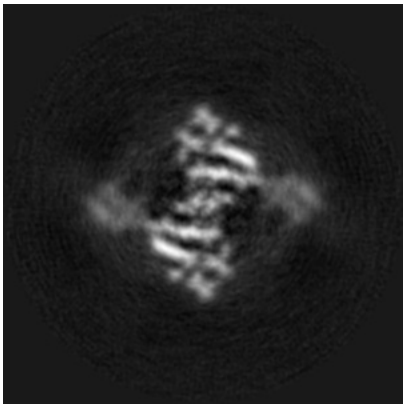


Z Index: 86

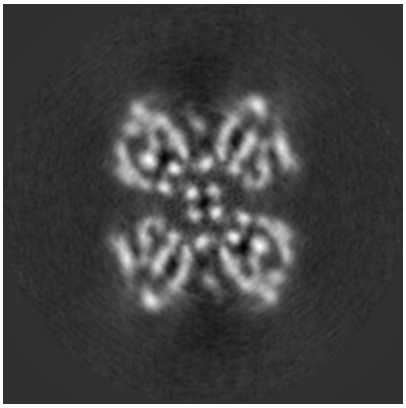
6.3.2 Raw map



X Index: 63



Y Index: 106

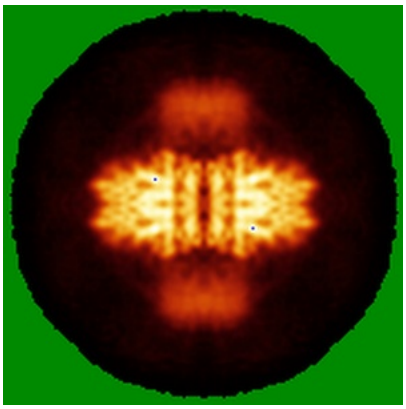


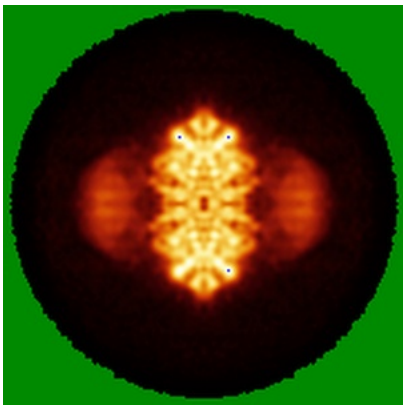
Z Index: 86

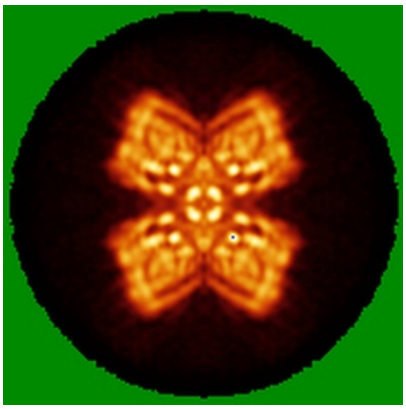
The images above show the largest variance slices of the map in three orthogonal directions.

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

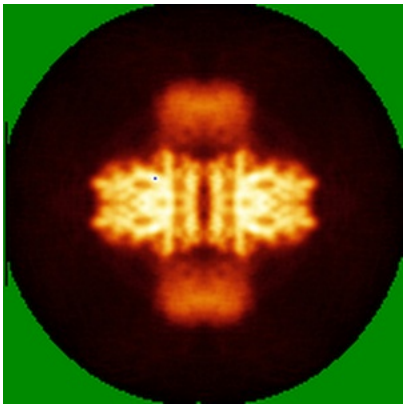
6.4.1 Primary map

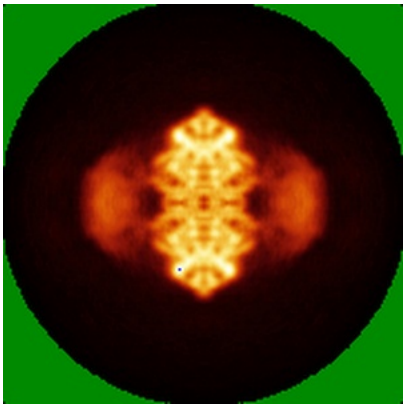

X


Y


Z

6.4.2 Raw map


X

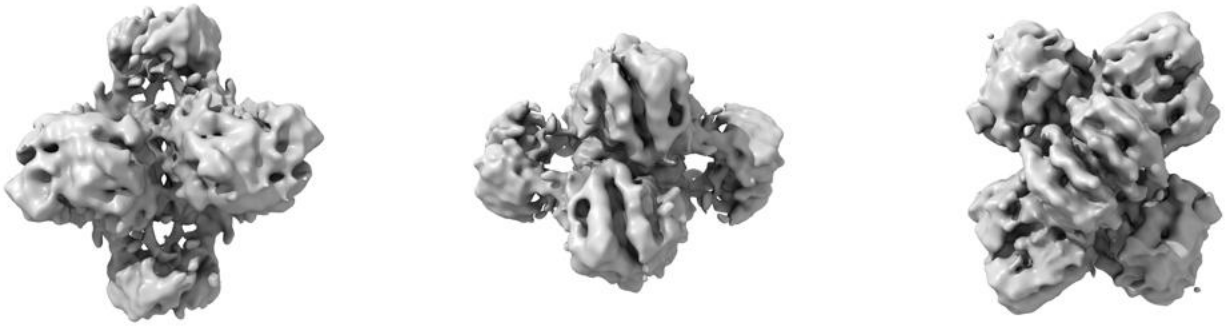

Y


Z

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

6.5 Orthogonal surface views (i)

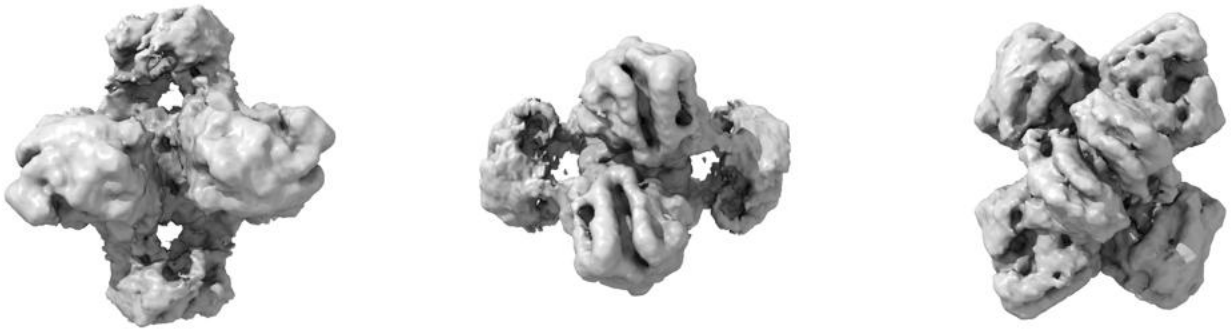
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.129. 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.

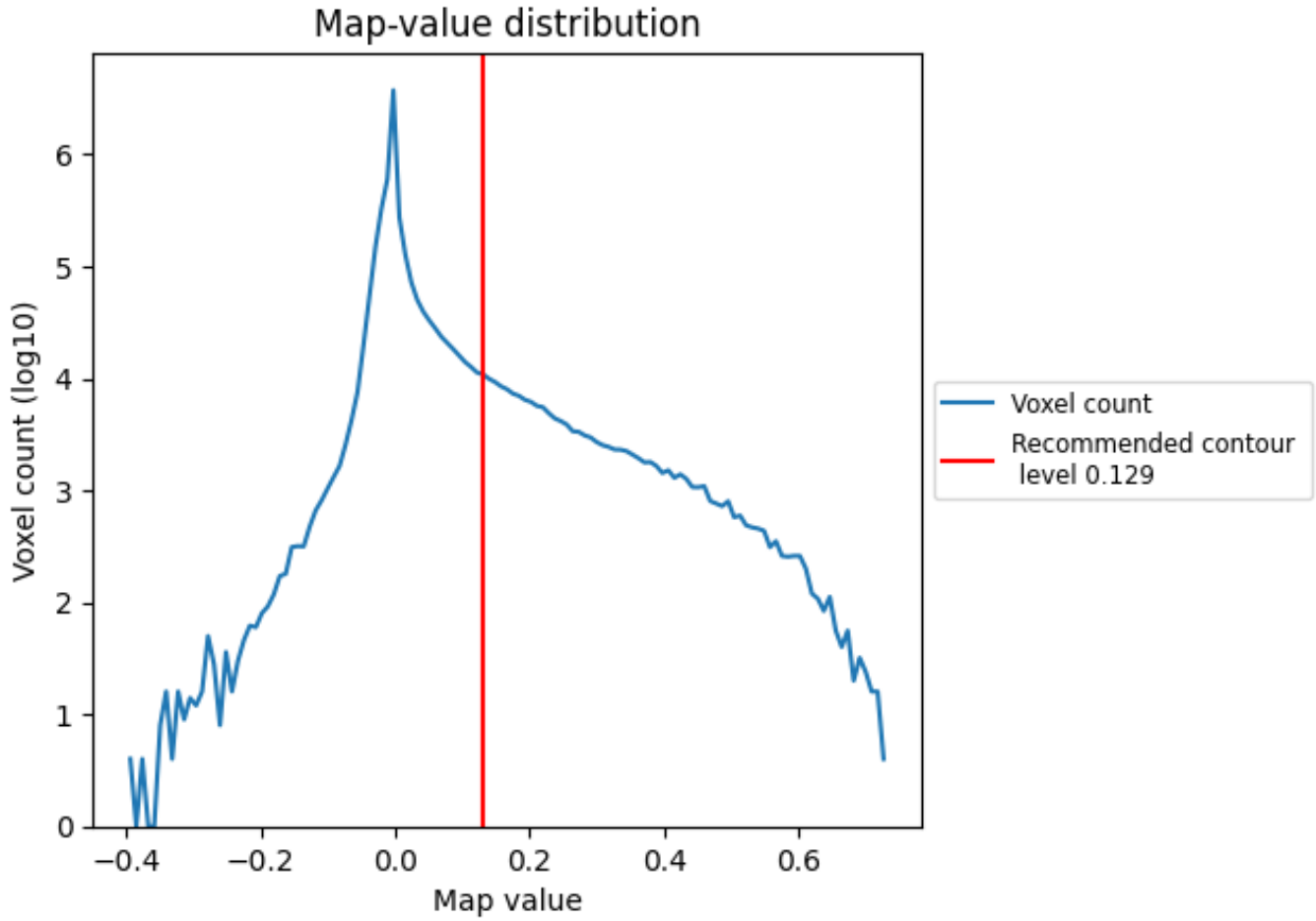
6.6 Mask visualisation (i)

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

7 Map analysis

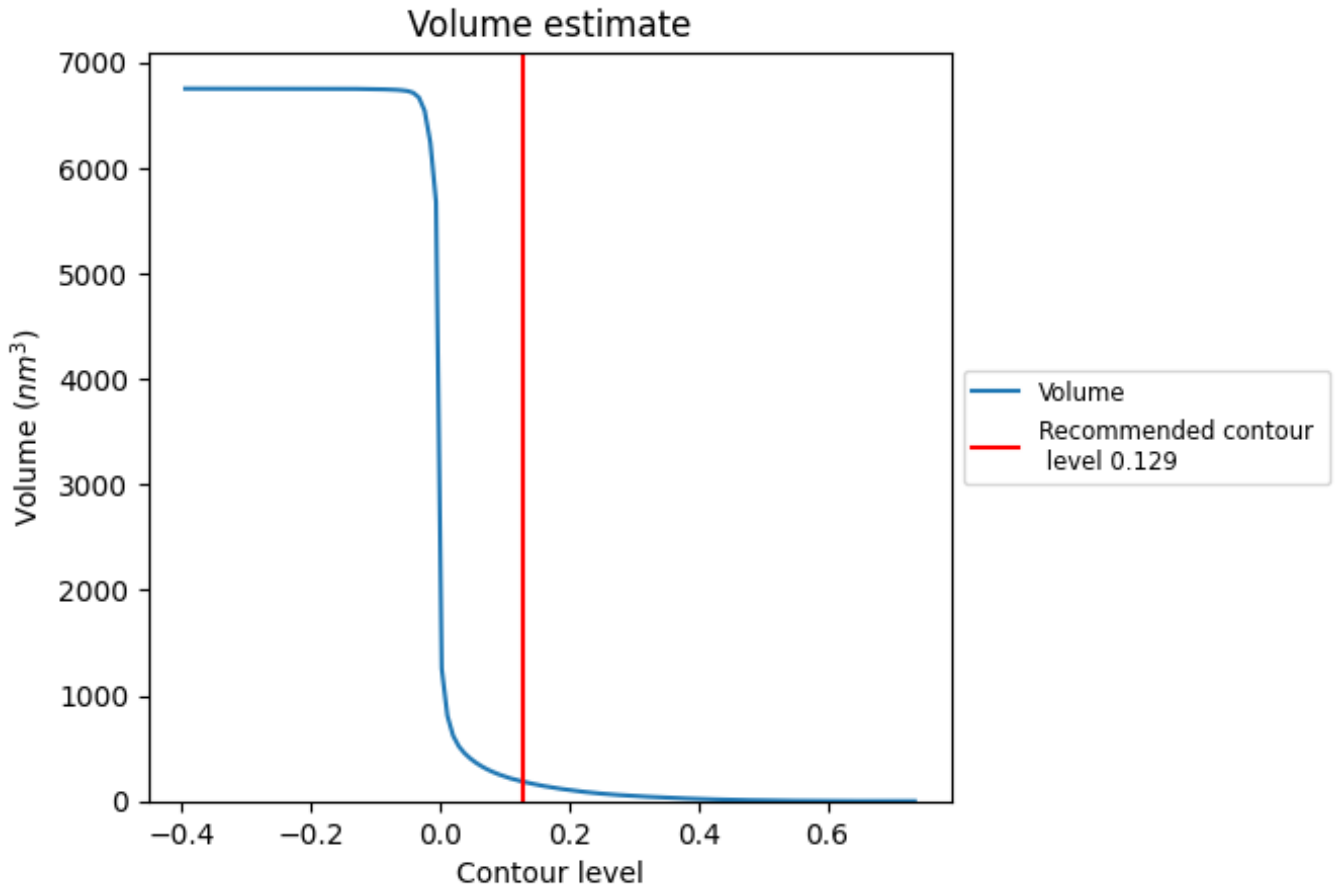
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

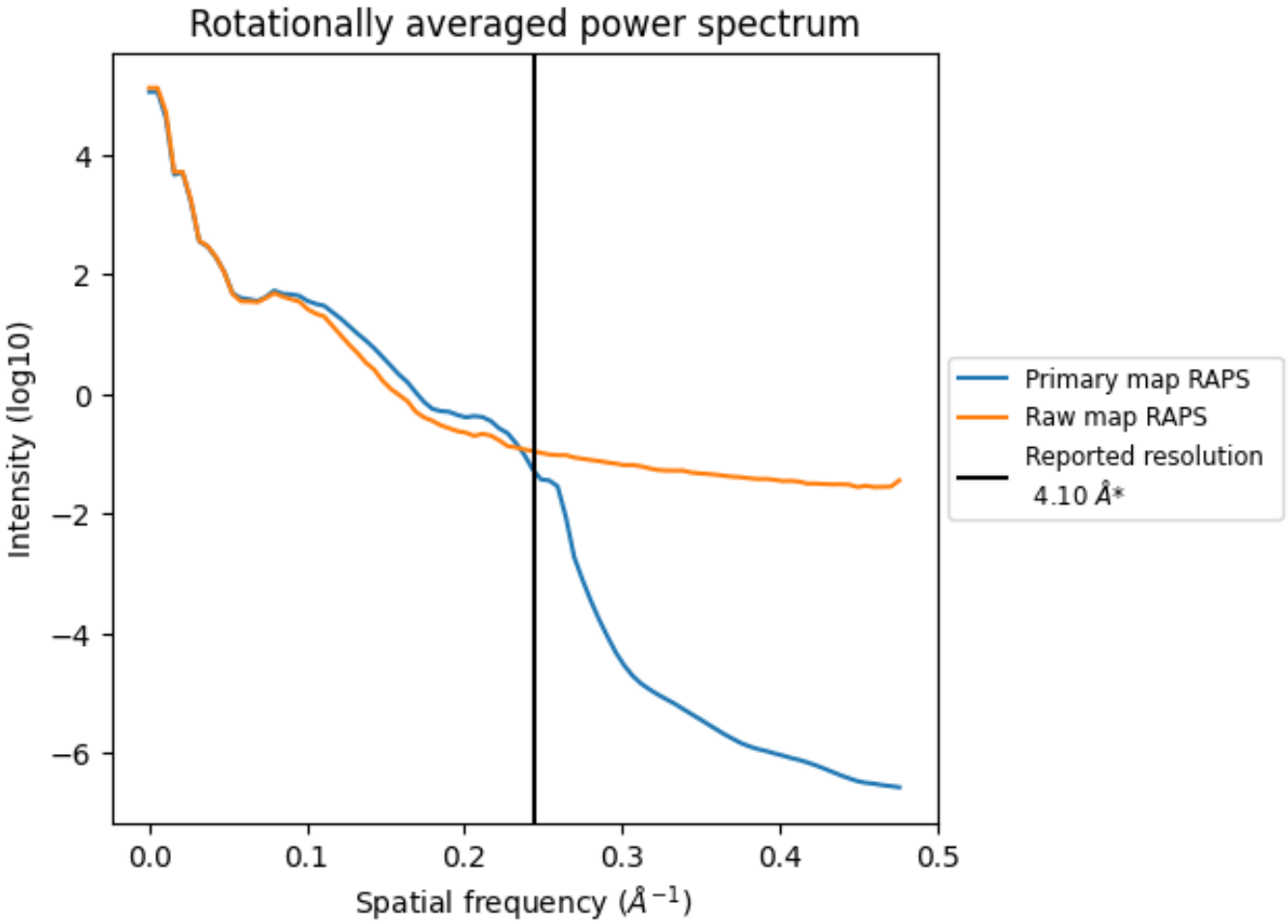
7.2 Volume estimate



The volume at the recommended contour level is 185 nm^3; this corresponds to an approximate mass of 167 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)

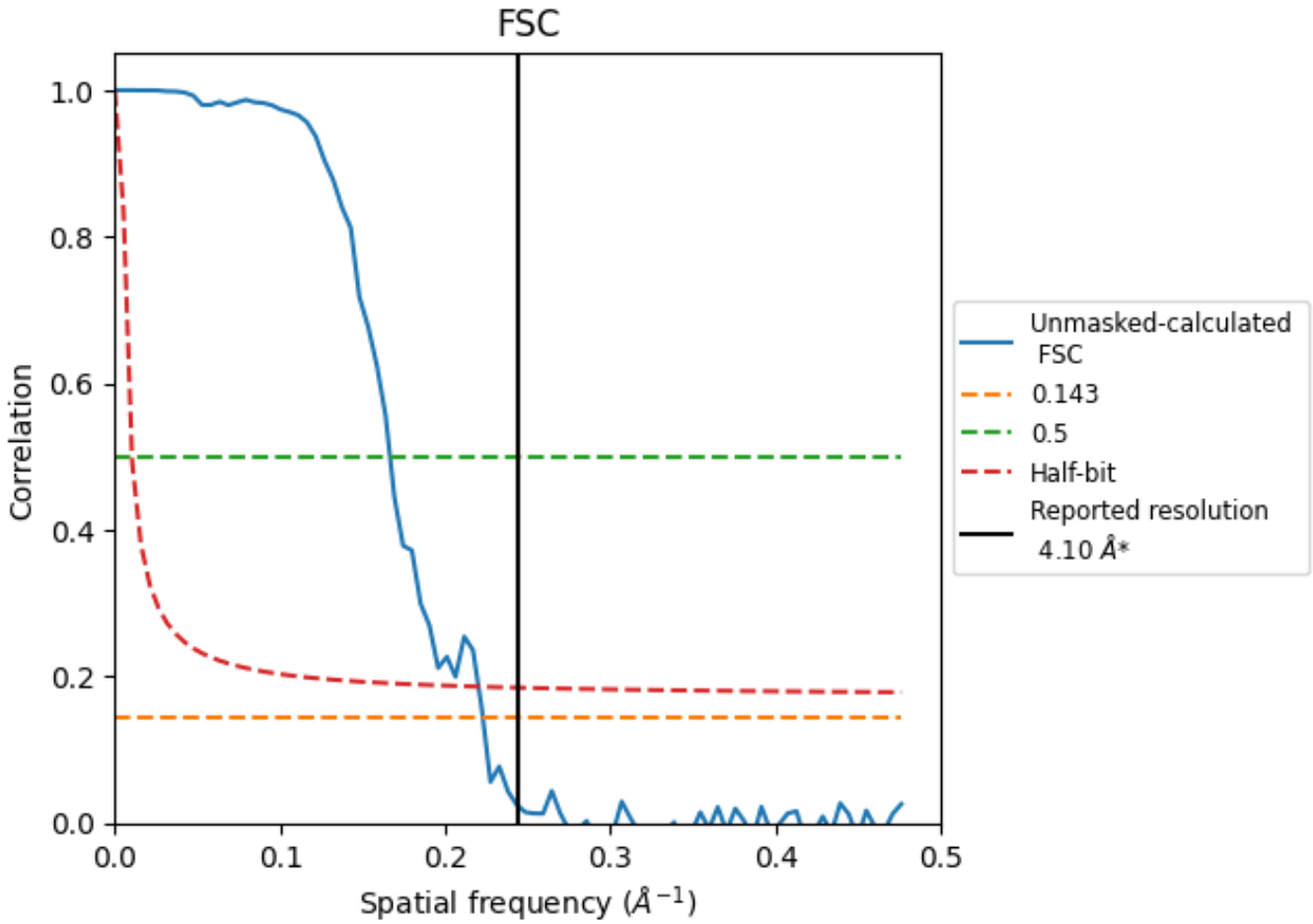


*Reported resolution corresponds to spatial frequency of 0.244 Å^{-1}

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 0.244 Å^{-1}

8.2 Resolution estimates (i)

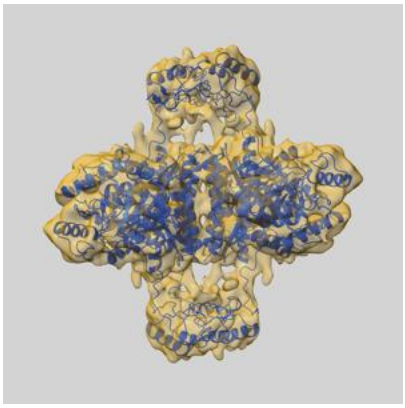
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.10	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	4.49	6.00	4.54

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

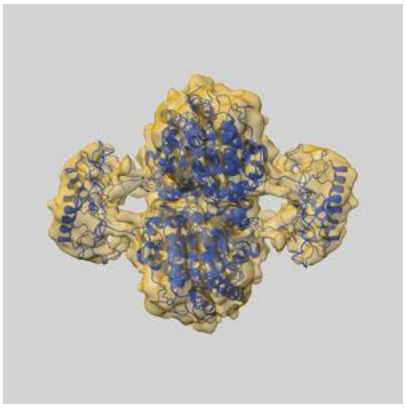
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-11624 and PDB model 7A2G. Per-residue inclusion information can be found in section 3 on page 5.

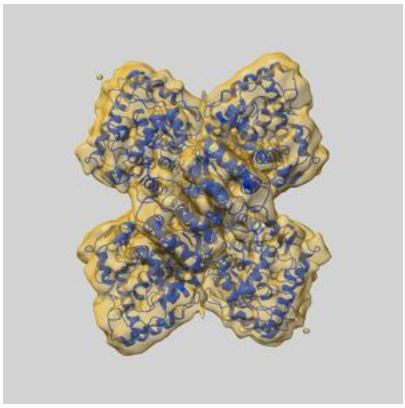
9.1 Map-model overlay



X



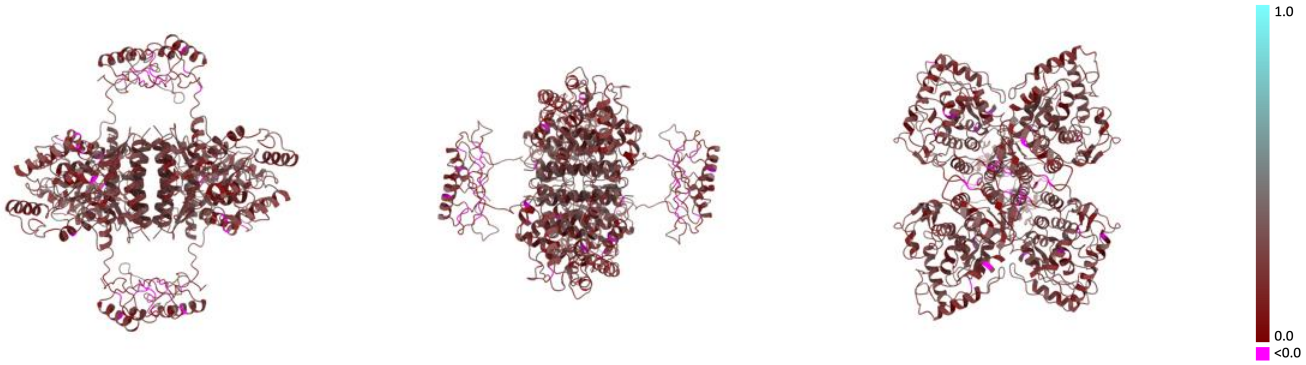
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.129 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.

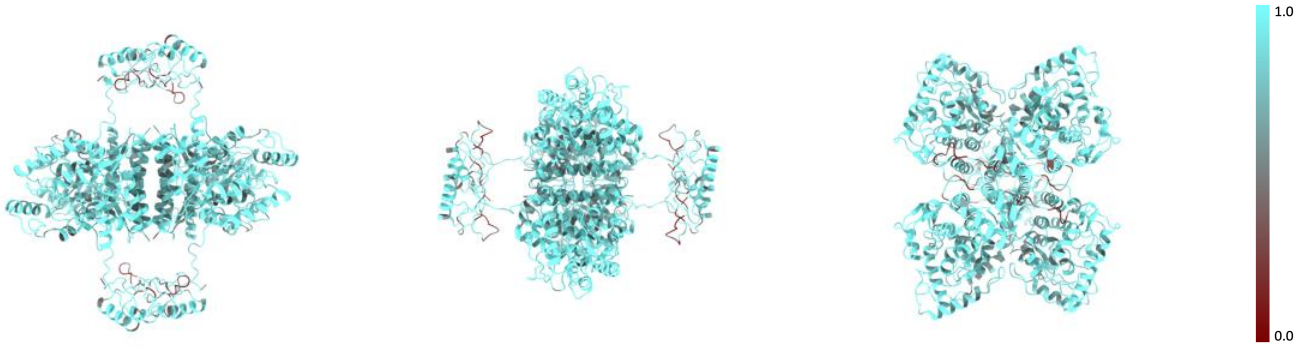
9.2 Q-score mapped to coordinate model



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.

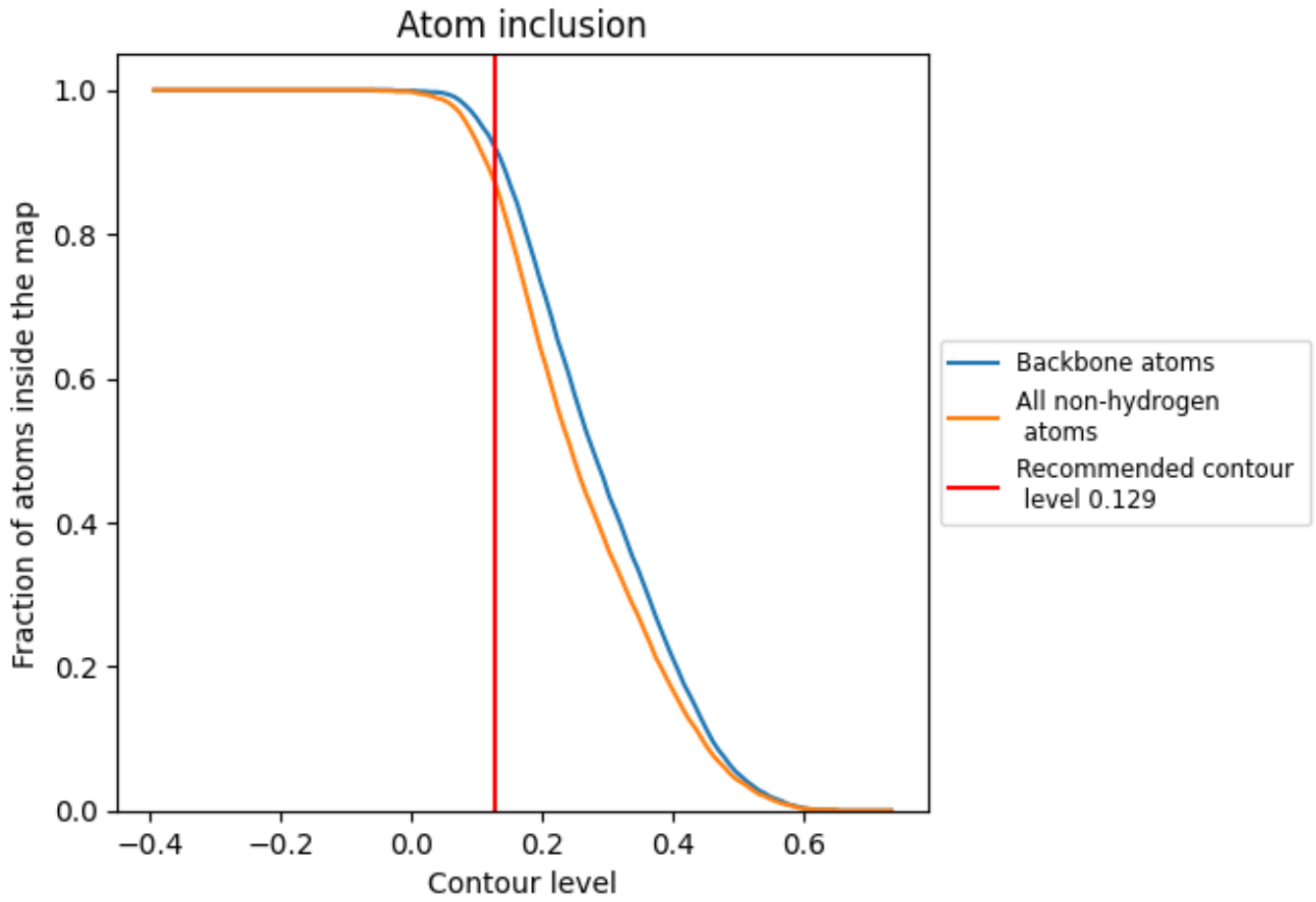
9.3 Atom inclusion mapped to coordinate model



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 (0.129).

9.4 Atom inclusion (i)



At the recommended contour level, 92% of all backbone atoms, 87% 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 (0.129) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8690	0.2340
A	0.8730	0.2350
B	0.8730	0.2330
C	0.8750	0.2350
D	0.8770	0.2340