Full wwPDB EM Validation Report

Nov 18, 2024 – 10:26 AM EST

PDB ID	:	9CMO
EMDB ID	:	EMD-45751
Title	:	Cryo-EM model derived from localized reconstruction of Ad657-hexon-FII complex at 4.14A resolution
Authors	:	Reddy, V.S.; Ma, O.X.
Deposited on	:	2024-07-15
Resolution	:	4.17 Å(reported)
Based on initial model	:	6B1T

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/EMValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at
http://www.wwpdb.org/validation/2017/FAQs#types.

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

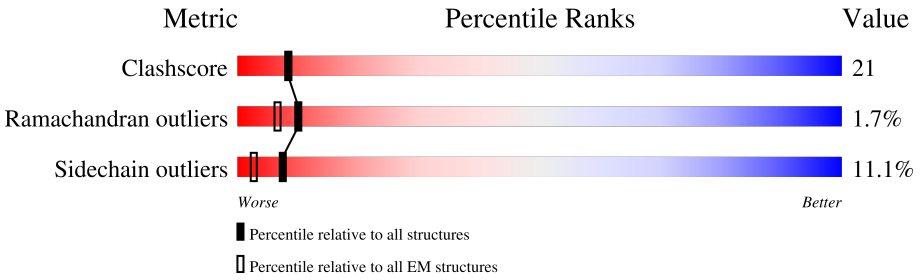
EMDB validation analysis	:	0.0.1.dev113
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.39

1 Overall quality at a glance

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

The reported resolution of this entry is 4.17 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



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

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the EM map (all-atom inclusion < 40%). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	J	959	55% 34% 7%
1	K	959	56% 33% 7%
1	L	959	57% 31% 7%
2	Z	622	85% 58% 32% 7%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
2	CGU	Z	19	-	-	X	-

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 26791 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 Hexon protein.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	J	931	Total	C	N	O	S	0	0
			7402	4685	1259	1420	38		
1	K	929	Total	C	N	O	S	0	0
			7393	4680	1258	1417	38		
1	L	927	Total	C	N	O	S	0	0
			7374	4670	1252	1414	38		

There are 9 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
J	291	LEU	VAL	conflict	UNP A0A348FV85
J	827	ILE	LEU	conflict	UNP A0A348FV85
J	853	VAL	PHE	conflict	UNP A0A348FV85
K	291	LEU	VAL	conflict	UNP A0A348FV85
K	827	ILE	LEU	conflict	UNP A0A348FV85
K	853	VAL	PHE	conflict	UNP A0A348FV85
L	291	LEU	VAL	conflict	UNP A0A348FV85
L	827	ILE	LEU	conflict	UNP A0A348FV85
L	853	VAL	PHE	conflict	UNP A0A348FV85

- Molecule 2 is a protein called Prothrombin.

Mol	Chain	Residues	Atoms					AltConf	Trace
2	Z	579	Total	C	N	O	S	0	0
			4615	2868	805	910	32		

- Molecule 3 is CALCIUM ION (three-letter code: CA) (formula: Ca) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
3	L	1	Total	Ca	0
			1	1	

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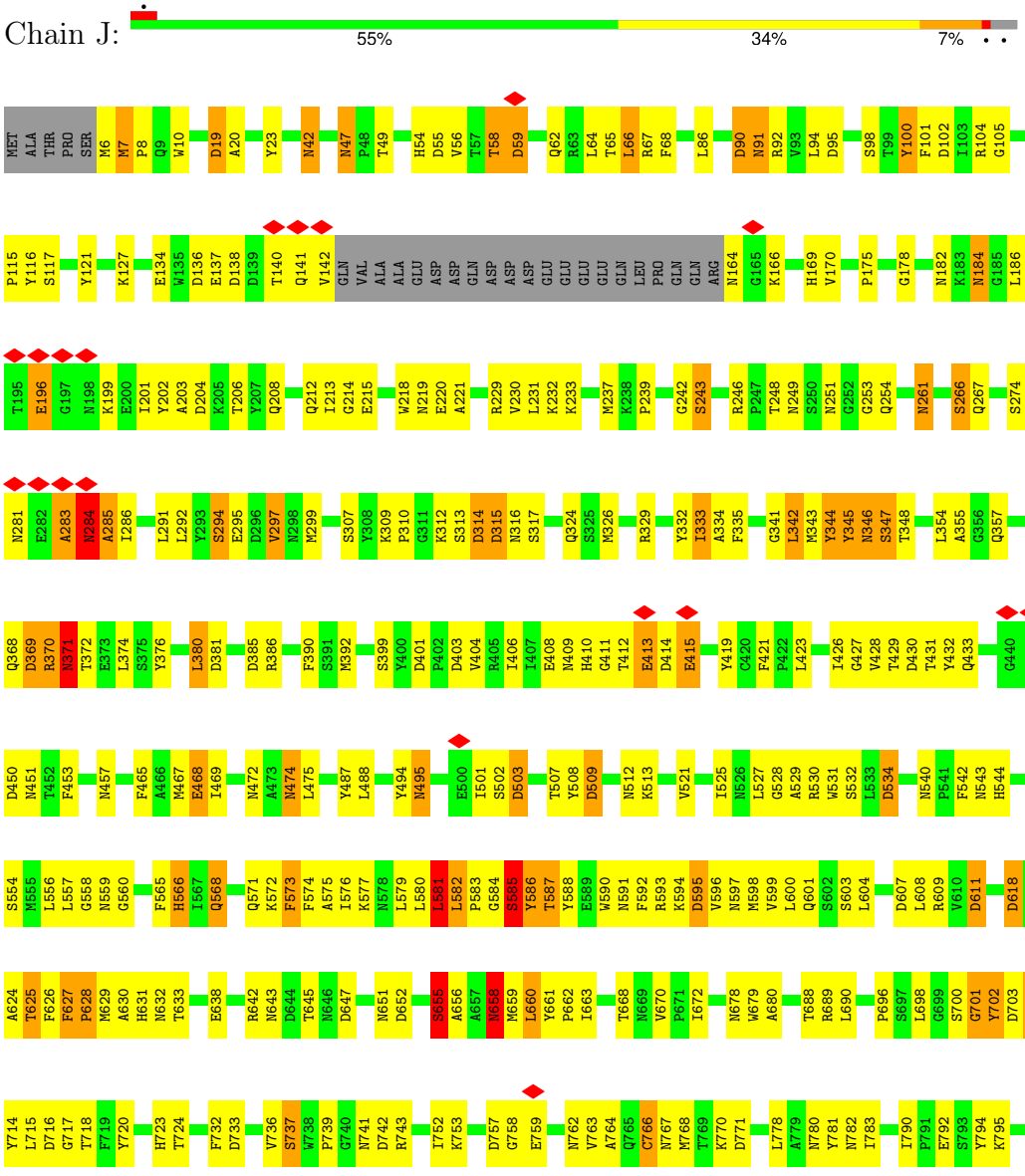
Mol	Chain	Residues	Atoms		AltConf
			Total	Ca	
3	Z	6	6	6	0

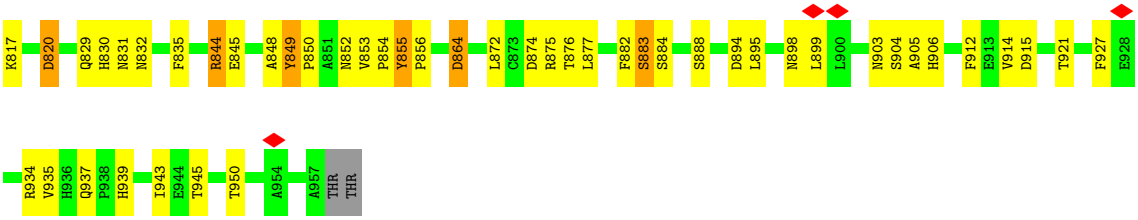
3 Residue-property plots (i)

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: Hexon protein

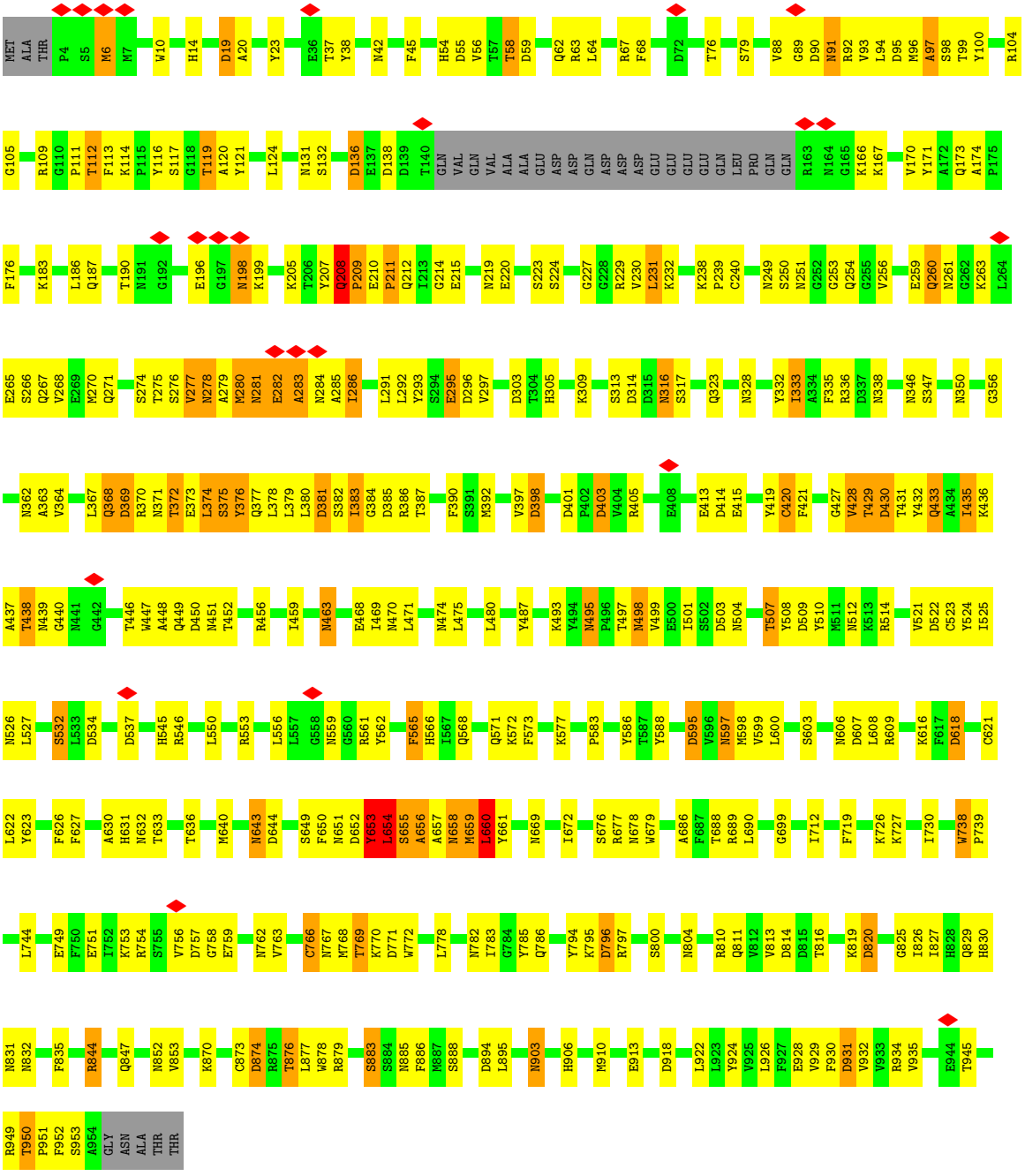
Chain J:





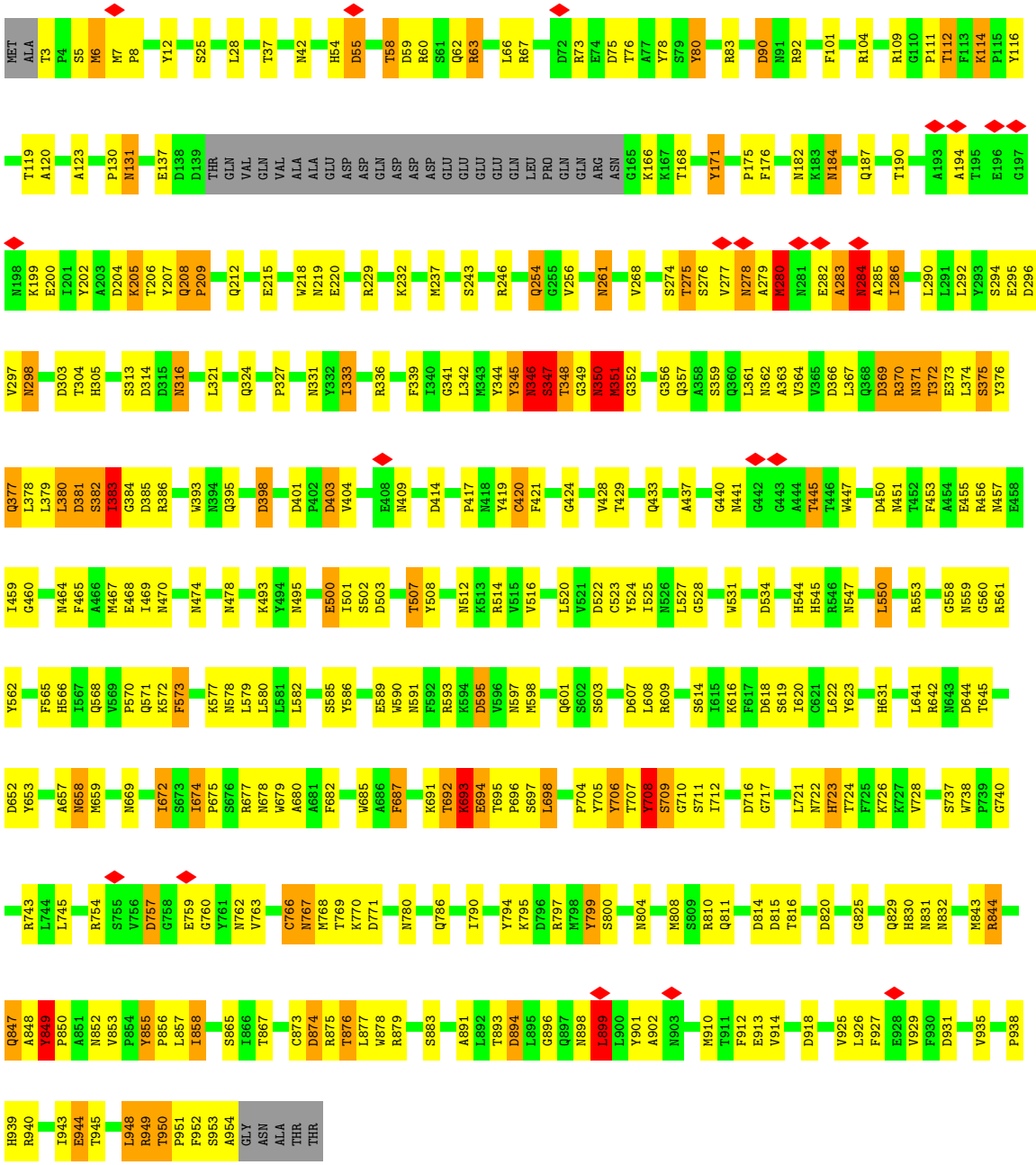
• Molecule 1: Hexon protein

Chain K:



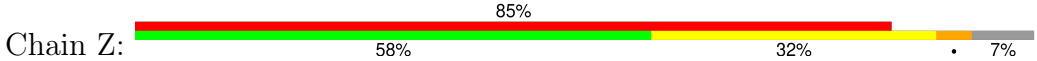
• Molecule 1: Hexon protein

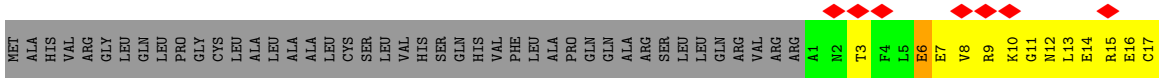
Chain L:

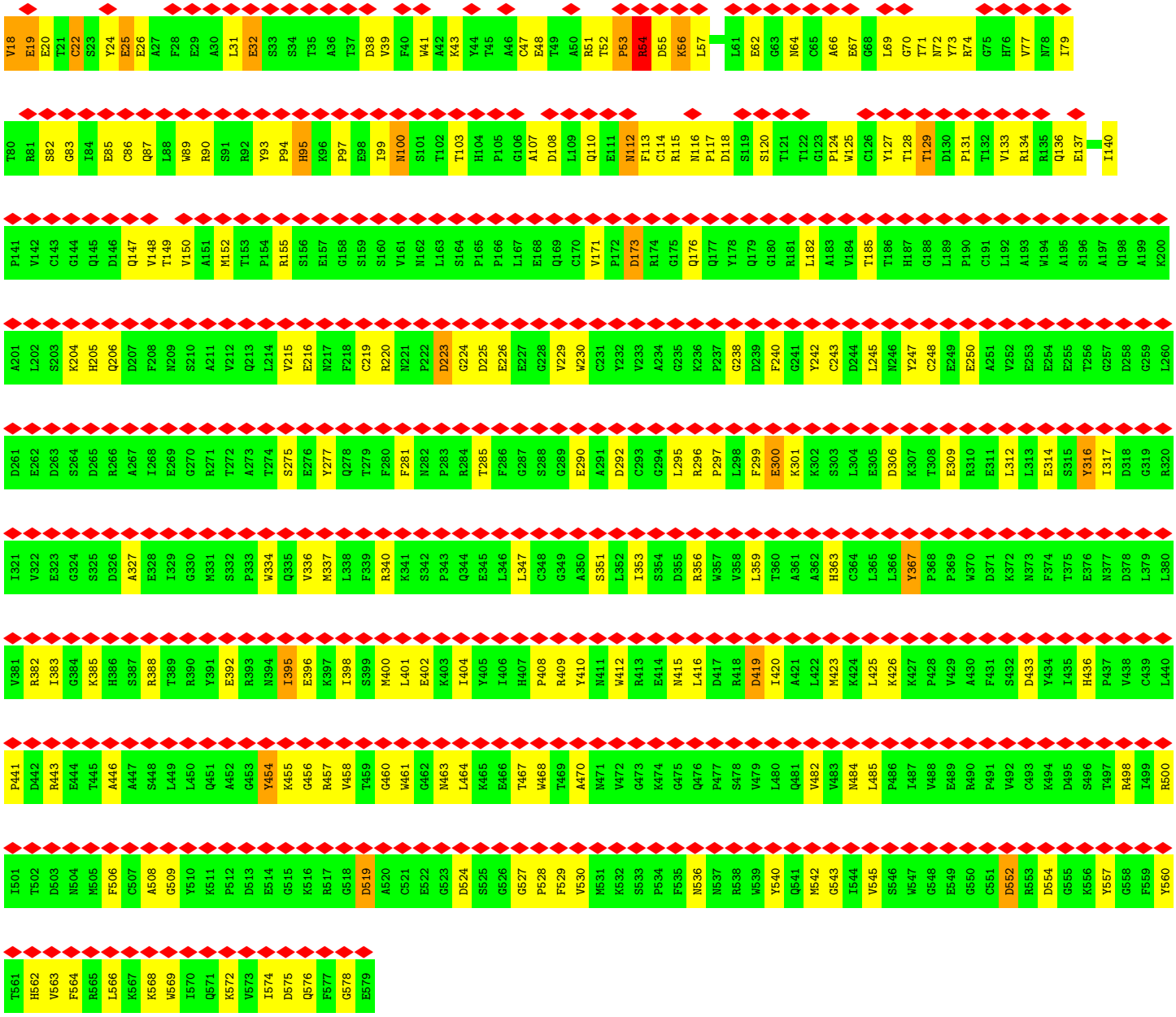


• Molecule 2: Prothrombin

Chain Z:






V18 E19 E20 T21 C22 S23 Y24 E25 E26 K27 F28 E29 A30 L31 E32 S33 S34 T35 A36 T37 D38 V39 F40 W41 A42 K43 Y44 T45 A46 C47 E48 T49 A50 R51 T52 P53 R54 D55 K56 L57 L61 E62 G63 N64 C65 A66 E67 G68 L69 G70 T71 N72 Y73 R74 G75 H76 V77 N78 I79
T80 R81 S82 G83 I84 E85 C86 Q87 L88 W89 R90 S91 R92 Y93 P94 H95 K96 P97 E98 I99 N100 S101 T102 T103 H104 P105 G106 A107 D108 L109 Q110 E111 N112 F113 C114 R115 N116 P117 D118 S119 S120 T121 T122 G123 P124 W125 C126 Y127 T128 T129 D130 P131 T132 V133 R134 R135 Q136 E137 I140
P141 V142 C143 G144 Q145 D146 Q147 V148 T149 V150 A151 M152 T153 P154 R155 S156 E157 G158 S159 S160 V161 N162 L163 S164 P165 P166 L167 E168 Q169 C170 V171 P172 D173 R174 G175 Q176 Q177 Y178 Q179 G180 R181 L182 A183 V184 T185 T186 H187 G188 L189 P190 C191 L192 A193 W194 A195 S196 A197 Q198 A199 K200
A201 L202 S203 K204 H205 Q206 D207 F208 N209 S210 A211 V212 Q213 L214 V215 E216 N217 F218 C219 R220 N221 P222 D223 G224 D225 E226 E227 G228 V229 W230 C231 Y232 V233 A234 G235 K236 P237 G238 D239 F240 G241 Y242 C243 D244 L245 N246 Y247 C248 E249 E250 A251 V252 E253 E254 E255 T256 G257 D258 G259 L260
D261 E262 D263 S264 D265 R266 A267 I268 E269 G270 R271 T272 A273 T274 S275 E276 Y277 Q278 T279 F280 F281 N282 P283 R284 T285 F286 G287 S288 G289 E290 A291 D292 C293 G294 L295 R296 P297 L298 F299 E300 K301 K302 S303 L304 E305 D306 K307 T308 E309 R310 E311 L312 L313 E314 S315 Y316 I317 D318 G319 R320
I321 V322 E323 G324 S325 D326 A327 E328 I329 G330 M331 S332 P333 W334 Q335 V336 M337 L338 F339 R340 K341 S342 P343 Q344 E345 L346 L347 C348 G349 A350 S351 L352 I353 S354 D355 R356 W357 V358 L359 T360 A361 A362 H363 C364 L365 L366 Y367 P368 P369 W370 D371 K372 N373 F374 T375 E376 N377 D378 L379 L380
V381 R382 I383 G384 K385 H386 S387 R388 T389 R390 Y391 E392 R393 N394 I395 E396 K397 I398 S399 M400 L401 E402 K403 I404 Y405 I406 H407 P408 R409 Y410 N411 W412 R413 E414 N415 L416 D417 R418 D419 I420 A421 L422 M423 K424 L425 K426 K427 P428 V429 A430 F431 S432 D433 Y434 I435 H436 P437 V438 C439 L440
P441 D442 R443 E444 T445 A446 A447 S448 L449 L450 Q451 A452 G453 Y454 K455 G456 R457 V458 T459 G460 W461 G462 N463 L464 K465 E466 T467 W468 T469 A470 N471 V472 G473 K474 G475 Q476 P477 S478 V479 L480 Q481 V482 V483 N484 L485 P486 I487 V488 E489 R490 P491 V492 C493 K494 D495 S496 T497 R498 I499 R500
I501 T502 D503 N504 M505 F506 C507 A508 G509 Y510 K511 P512 D513 E514 G515 K516 R517 G518 D519 A520 C521 E522 G523 D524 S525 G526 G527 P528 F529 V530 M531 K532 S533 P534 F535 N536 N537 R538 W539 Y540 Q541 M542 G543 I544 V545 S546 W547 G548 E549 G550 C551 D552 R553 D554 G555 K556 Y557 G558 F559 Y560
T561 H562 V563 F564 R565 L566 K567 K568 W569 I570 Q571 K572 V573 I574 D575 Q576 F577 G578 E579

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	4635	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 ($e^-/Å^2$)	81	Depositor
Minimum defocus (nm)	1000	Depositor
Maximum defocus (nm)	5000	Depositor
Magnification	81000	Depositor
Image detector	GATAN K3 BIOCONTINUUM (6k x 4k)	Depositor
Maximum map value	0.029	Depositor
Minimum map value	-0.016	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.007	Depositor
Map size (Å)	129.536, 211.2, 112.64	wwPDB
Map dimensions	150, 80, 92	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.408, 1.408, 1.408	Depositor

5 Model quality

5.1 Standard geometry

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

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	J	0.48	0/7595	0.53	0/10330
1	K	0.46	0/7587	0.53	0/10318
1	L	0.48	0/7568	0.53	1/10294 (0.0%)
2	Z	0.25	0/4597	0.43	0/6220
All	All	0.45	0/27347	0.51	1/37162 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	J	0	1
1	K	0	2
1	L	0	2
All	All	0	5

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	L	899	LEU	CA-CB-CG	5.95	128.98	115.30

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	J	853	VAL	Peptide
1	K	208	GLN	Peptide

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Mol	Chain	Res	Type	Group
1	K	738	TRP	Peptide
1	L	208	GLN	Peptide
1	L	853	VAL	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	J	7402	0	7067	336	0
1	K	7393	0	7062	335	0
1	L	7374	0	7040	348	0
2	Z	4615	0	4343	176	0
3	L	1	0	0	0	0
3	Z	6	0	0	0	0
All	All	26791	0	25512	1108	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 21.

All (1108) 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:K:275:THR:HB	1:K:277:VAL:HG22	1.33	1.08
1:J:277:VAL:HB	1:J:280:MET:HG3	1.40	1.03
1:L:949:ARG:HG2	1:L:953:SER:HB2	1.52	0.90
1:J:116:TYR:HE1	1:L:858:ILE:HD11	1.36	0.89
2:Z:441:PRO:HD3	2:Z:540:TYR:HB3	1.52	0.89
1:K:378:LEU:O	1:K:381:ASP:HB3	1.73	0.88
1:K:276:SER:HB3	1:L:433:GLN:HB2	1.57	0.86
1:K:275:THR:HB	1:K:277:VAL:CG2	2.05	0.86
1:J:623:TYR:CE2	1:L:770:LYS:HE2	2.14	0.83
1:L:766:CYS:SG	1:L:767:ASN:N	2.51	0.82
1:K:656:ALA:HA	1:K:929:VAL:HG22	1.61	0.82
1:K:766:CYS:SG	1:K:767:ASN:N	2.53	0.81
2:Z:53:PRO:HD2	2:Z:56:LYS:HB2	1.63	0.81
1:J:820:ASP:OD1	1:J:820:ASP:N	2.15	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:929:VAL:HB	1:L:950:THR:O	1.82	0.79
1:J:7:MET:SD	1:J:7:MET:N	2.55	0.79
1:J:766:CYS:SG	1:J:767:ASN:N	2.54	0.79
1:L:378:LEU:O	1:L:381:ASP:HB3	1.82	0.79
1:K:275:THR:CB	1:K:277:VAL:HG22	2.12	0.79
1:K:763:VAL:HB	1:K:770:LYS:HG2	1.65	0.79
1:L:137:GLU:O	1:L:166:LYS:HA	1.82	0.78
1:J:590:TRP:HD1	1:J:591:ASN:H	1.29	0.78
2:Z:116:ASN:HB2	2:Z:124:PRO:HA	1.65	0.78
1:K:874:ASP:OD1	1:K:874:ASP:N	2.18	0.76
1:J:656:ALA:HB1	1:J:927:PHE:O	1.86	0.75
1:L:757:ASP:N	1:L:757:ASP:OD1	2.19	0.75
2:Z:18:VAL:CG1	2:Z:19:CGU:OE12	2.35	0.75
1:J:335:PHE:O	1:J:553:ARG:NH1	2.20	0.75
1:L:215:GLU:HB3	1:L:220:GLU:HG2	1.69	0.75
2:Z:485:LEU:HD22	2:Z:509:GLY:HA2	1.68	0.75
1:K:495:ASN:OD1	1:K:495:ASN:N	2.20	0.74
1:L:350:ASN:HB2	1:L:591:ASN:ND2	2.02	0.74
1:K:316:ASN:N	1:K:316:ASN:OD1	2.21	0.74
1:L:336:ARG:HH12	1:L:712:ILE:H	1.35	0.74
2:Z:9:ARG:NH2	2:Z:10:LYS:HE2	2.02	0.74
1:L:680:ALA:HA	1:L:899:LEU:HD23	1.68	0.74
1:J:638:GLU:OE2	1:J:642:ARG:NE	2.20	0.74
1:J:121:TYR:HB2	1:J:242:GLY:HA2	1.71	0.73
1:L:692:THR:O	1:L:693:LYS:C	2.24	0.73
1:J:581:LEU:HD21	1:J:586:TYR:HE1	1.54	0.73
1:K:362:ASN:ND2	1:K:364:VAL:O	2.21	0.73
1:K:844:ARG:O	1:K:844:ARG:NH1	2.22	0.73
1:J:503:ASP:OD1	1:J:503:ASP:N	2.22	0.73
1:J:371:ASN:HD21	1:J:374:LEU:CB	2.02	0.72
2:Z:229:VAL:HG23	2:Z:243:CYS:HB2	1.71	0.72
1:J:582:LEU:HB3	1:J:638:GLU:OE1	1.88	0.72
1:K:114:LYS:NZ	1:K:116:TYR:O	2.22	0.72
1:K:276:SER:CB	1:L:433:GLN:HB2	2.18	0.72
1:K:96:MET:O	1:K:97:ALA:C	2.25	0.72
1:K:276:SER:CA	1:L:433:GLN:HB2	2.19	0.72
1:J:116:TYR:CE1	1:L:858:ILE:HD11	2.22	0.72
2:Z:171:VAL:HG21	2:Z:245:LEU:HD13	1.72	0.72
1:J:831:ASN:HD21	1:K:121:TYR:HA	1.56	0.71
1:L:830:HIS:H	1:L:852:ASN:HD21	1.37	0.71
1:L:284:ASN:O	1:L:286:ILE:HD13	1.90	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:398:ASP:OD1	1:K:398:ASP:N	2.24	0.70
1:L:362:ASN:ND2	1:L:364:VAL:O	2.24	0.70
1:K:751:GLU:OE2	1:K:754:ARG:NE	2.25	0.70
1:L:275:THR:O	1:L:278:ASN:HB2	1.91	0.70
1:L:371:ASN:H	1:L:658:ASN:HD21	1.40	0.70
2:Z:85:GLU:OE1	2:Z:498:ARG:NH1	2.24	0.69
1:J:474:ASN:OD1	1:J:474:ASN:N	2.25	0.69
1:J:472:ASN:HA	1:J:475:LEU:HD12	1.75	0.69
1:L:493:LYS:O	1:L:514:ARG:NH2	2.26	0.69
1:K:653:TYR:O	1:K:654:LEU:C	2.30	0.69
2:Z:347:LEU:O	2:Z:463:ASN:ND2	2.25	0.69
1:K:132:SER:HB3	1:K:230:VAL:HG23	1.73	0.69
2:Z:79:ILE:HB	2:Z:83:GLY:HA2	1.75	0.69
1:K:930:PHE:H	1:K:950:THR:HG21	1.56	0.68
1:L:207:TYR:O	1:L:208:GLN:NE2	2.25	0.68
1:J:249:ASN:OD1	1:J:253:GLY:N	2.26	0.68
2:Z:71:THR:O	2:Z:74:ARG:NH2	2.22	0.68
2:Z:17:CYS:HA	2:Z:22:CYS:HB3	1.74	0.68
1:L:830:HIS:O	1:L:830:HIS:ND1	2.25	0.68
1:K:415:GLU:N	1:K:415:GLU:OE1	2.27	0.68
1:K:438:THR:OG1	1:K:448:ALA:N	2.27	0.68
1:L:708:TYR:CZ	1:L:710:GLY:N	2.62	0.67
1:J:716:ASP:OD1	1:J:717:GLY:N	2.26	0.67
2:Z:69:LEU:O	2:Z:116:ASN:ND2	2.27	0.67
1:K:375:SER:O	1:K:376:TYR:C	2.28	0.67
1:J:246:ARG:NH1	1:L:820:ASP:OD2	2.26	0.67
1:K:276:SER:HA	1:L:433:GLN:OE1	1.95	0.67
1:L:345:TYR:O	1:L:347:SER:N	2.27	0.67
1:L:898:ASN:O	1:L:901:TYR:N	2.21	0.67
1:J:362:ASN:ND2	1:J:364:VAL:O	2.28	0.67
1:J:284:ASN:C	1:J:286:ILE:H	1.98	0.67
1:J:844:ARG:O	1:J:844:ARG:NH1	2.26	0.67
1:K:534:ASP:OD1	1:K:534:ASP:N	2.28	0.67
2:Z:18:VAL:HG13	2:Z:57:LEU:HD23	1.77	0.67
1:J:627:PHE:O	1:J:629:MET:N	2.28	0.67
1:L:694:GLU:HB3	1:L:708:TYR:CZ	2.29	0.67
1:J:90:ASP:N	1:J:90:ASP:OD1	2.25	0.67
1:K:368:GLN:O	1:K:370:ARG:N	2.28	0.67
1:K:820:ASP:OD2	1:L:246:ARG:NH1	2.28	0.66
1:K:440:GLY:H	1:K:446:THR:H	1.43	0.66
1:K:522:ASP:OD1	1:K:523:CYS:N	2.24	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:393:TRP:HB2	1:L:395:GLN:HG3	1.78	0.66
1:J:59:ASP:N	1:J:59:ASP:OD1	2.27	0.66
1:J:343:MET:HG2	1:J:592:PHE:CE1	2.31	0.66
1:L:303:ASP:OD1	1:L:303:ASP:N	2.27	0.66
1:L:811:GLN:HG3	1:L:867:THR:HG22	1.76	0.66
1:J:433:GLN:CG	1:L:276:SER:HA	2.26	0.66
1:J:413:GLU:O	1:J:472:ASN:ND2	2.28	0.66
1:K:62:GLN:OE1	1:K:92:ARG:NH1	2.29	0.66
1:L:830:HIS:H	1:L:852:ASN:ND2	1.94	0.66
1:J:178:GLY:HA3	1:J:186:LEU:HD11	1.77	0.66
1:J:595:ASP:OD2	1:J:598:MET:HG2	1.95	0.66
1:K:376:TYR:HE1	1:K:380:LEU:HG	1.61	0.66
1:L:362:ASN:OD1	1:L:363:ALA:N	2.29	0.66
1:L:382:SER:HA	1:L:797:ARG:HD3	1.77	0.65
2:Z:238:GLY:HA3	2:Z:576:GLN:HG2	1.78	0.65
1:J:450:ASP:OD1	1:J:451:ASN:N	2.28	0.65
1:K:58:THR:OG1	1:K:59:ASP:N	2.29	0.65
1:K:6:MET:SD	1:K:6:MET:N	2.69	0.65
2:Z:137:GLU:HG3	2:Z:150:VAL:HG21	1.76	0.65
1:J:371:ASN:HD21	1:J:374:LEU:HB3	1.61	0.65
1:K:727:LYS:NZ	1:K:749:GLU:OE1	2.28	0.65
1:L:370:ARG:O	1:L:372:THR:N	2.27	0.65
1:J:534:ASP:N	1:J:534:ASP:OD1	2.29	0.65
1:K:403:ASP:OD1	1:K:403:ASP:N	2.28	0.65
1:J:309:LYS:NZ	1:J:314:ASP:OD2	2.29	0.64
2:Z:118:ASP:OD1	2:Z:125:TRP:NE1	2.28	0.64
1:K:219:ASN:OD1	1:K:220:GLU:N	2.26	0.64
1:L:767:ASN:N	1:L:767:ASN:OD1	2.30	0.64
1:L:298:ASN:N	1:L:298:ASN:OD1	2.26	0.64
1:J:104:ARG:NH2	1:L:759:GLU:OE1	2.31	0.64
1:K:136:ASP:N	1:K:136:ASP:OD1	2.27	0.64
1:K:332:TYR:N	1:K:603:SER:OG	2.31	0.64
1:K:374:LEU:HG	1:K:654:LEU:HD21	1.80	0.64
1:L:350:ASN:HD22	1:L:591:ASN:HD22	1.46	0.64
1:K:385:ASP:OD1	1:K:386:ARG:N	2.31	0.64
1:K:754:ARG:HD3	1:K:758:GLY:HA3	1.78	0.64
1:L:830:HIS:N	1:L:852:ASN:HD21	1.95	0.64
2:Z:114:CYS:O	2:Z:115:ARG:NH1	2.29	0.64
1:J:661:TYR:CD2	1:J:672:ILE:HG21	2.32	0.64
1:K:950:THR:OG1	1:K:951:PRO:HD2	1.98	0.64
1:K:660:LEU:HD13	1:K:922:LEU:HD13	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:814:ASP:OD1	1:L:815:ASP:N	2.31	0.63
1:J:642:ARG:NH1	1:J:937:GLN:O	2.31	0.63
1:K:303:ASP:N	1:K:303:ASP:OD1	2.30	0.63
1:L:277:VAL:O	1:L:278:ASN:C	2.35	0.63
1:L:316:ASN:OD1	1:L:316:ASN:N	2.20	0.63
1:L:708:TYR:CG	1:L:709:SER:N	2.66	0.63
2:Z:292:ASP:O	2:Z:436:HIS:NE2	2.31	0.63
1:K:380:LEU:O	1:K:381:ASP:C	2.34	0.63
1:L:495:ASN:OD1	1:L:514:ARG:NH1	2.30	0.63
1:K:280:MET:H	1:K:280:MET:CE	2.11	0.63
1:J:830:HIS:ND1	1:J:830:HIS:O	2.32	0.63
1:J:829:GLN:HA	1:J:852:ASN:HD21	1.64	0.63
1:J:369:ASP:O	1:J:370:ARG:HB2	1.98	0.63
1:J:571:GLN:OE1	1:J:572:LYS:N	2.32	0.63
1:L:6:MET:SD	1:L:6:MET:N	2.72	0.63
1:L:348:THR:O	1:L:349:GLY:C	2.37	0.63
1:J:58:THR:OG1	1:J:59:ASP:N	2.27	0.62
1:K:208:GLN:H	1:K:229:ARG:NH1	1.97	0.62
1:L:237:MET:HG3	1:L:316:ASN:HD22	1.64	0.62
1:J:342:LEU:O	1:J:342:LEU:HD22	1.99	0.62
1:K:820:ASP:N	1:K:820:ASP:OD1	2.32	0.62
2:Z:296:ARG:O	2:Z:300:GLU:N	2.31	0.62
1:J:254:GLN:N	1:J:254:GLN:OE1	2.33	0.62
1:J:848:ALA:O	1:J:849:TYR:HB2	1.98	0.62
1:J:935:VAL:HG22	1:J:945:THR:HG22	1.82	0.62
1:K:95:ASP:O	1:K:96:MET:C	2.35	0.62
1:K:876:THR:OG1	1:K:877:LEU:N	2.32	0.62
2:Z:182:LEU:HD22	2:Z:245:LEU:HG	1.82	0.62
1:J:385:ASP:OD1	1:J:386:ARG:N	2.32	0.62
1:K:429:THR:HG22	1:K:459:ILE:C	2.19	0.62
1:L:893:THR:HG23	1:L:896:GLY:H	1.65	0.62
2:Z:543:GLY:HA2	2:Z:563:VAL:HG13	1.82	0.62
1:J:370:ARG:O	1:J:372:THR:N	2.33	0.62
1:L:669:ASN:HB3	1:L:913:GLU:HG3	1.80	0.62
1:K:414:ASP:OD2	1:K:470:ASN:ND2	2.29	0.62
1:L:304:THR:HG22	1:L:327:PRO:HA	1.81	0.62
1:L:571:GLN:OE1	1:L:573:PHE:N	2.26	0.62
1:L:694:GLU:HB3	1:L:708:TYR:CE2	2.35	0.62
1:J:283:ALA:O	1:J:285:ALA:N	2.33	0.62
1:L:346:ASN:ND2	1:L:370:ARG:O	2.33	0.62
1:L:380:LEU:HD12	1:L:386:ARG:HD3	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:583:PRO:HD2	1:J:638:GLU:OE1	2.00	0.62
1:K:450:ASP:OD1	1:K:451:ASN:N	2.33	0.62
1:L:607:ASP:OD1	1:L:608:LEU:N	2.33	0.62
1:J:581:LEU:HD21	1:J:586:TYR:CE1	2.35	0.61
1:K:210:GLU:O	1:K:212:GLN:N	2.33	0.61
1:K:527:LEU:O	1:L:559:ASN:ND2	2.33	0.61
1:J:98:SER:OG	1:J:625:THR:N	2.33	0.61
1:L:949:ARG:HG2	1:L:953:SER:CB	2.28	0.61
1:K:119:THR:OG1	1:K:120:ALA:N	2.32	0.61
2:Z:219:CYS:O	2:Z:220:ARG:NH1	2.33	0.61
1:J:67:ARG:NH2	1:J:621:CYS:SG	2.72	0.61
1:K:931:ASP:OD2	1:K:949:ARG:NE	2.30	0.61
1:L:109:ARG:NH2	1:L:560:GLY:O	2.28	0.61
1:K:166:LYS:H	1:K:166:LYS:HD2	1.65	0.61
1:K:207:TYR:O	1:K:207:TYR:CG	2.54	0.61
1:L:762:ASN:ND2	1:L:766:CYS:O	2.33	0.61
1:K:275:THR:C	1:K:277:VAL:N	2.47	0.61
1:L:844:ARG:O	1:L:844:ARG:NH1	2.30	0.61
2:Z:82:SER:HB2	2:Z:155:ARG:HG3	1.83	0.61
2:Z:285:THR:O	2:Z:356:ARG:NH1	2.34	0.61
1:L:374:LEU:O	1:L:377:GLN:HB2	2.01	0.61
1:J:187:GLN:NE2	1:J:190:THR:OG1	2.34	0.60
1:J:315:ASP:OD1	1:J:315:ASP:N	2.34	0.60
1:J:527:LEU:O	1:K:559:ASN:ND2	2.34	0.60
1:L:282:GLU:C	1:L:284:ASN:H	2.04	0.60
1:L:380:LEU:O	1:L:381:ASP:C	2.37	0.60
1:J:876:THR:OG1	1:J:877:LEU:N	2.34	0.60
1:L:571:GLN:OE1	1:L:572:LYS:N	2.33	0.60
1:J:182:ASN:ND2	1:J:202:TYR:OH	2.34	0.60
1:K:346:ASN:ND2	1:K:370:ARG:O	2.34	0.60
1:L:371:ASN:O	1:L:373:GLU:N	2.34	0.60
1:J:284:ASN:O	1:J:286:ILE:N	2.34	0.60
1:L:894:ASP:OD1	1:L:894:ASP:N	2.18	0.60
1:L:58:THR:OG1	1:L:59:ASP:N	2.34	0.60
1:J:280:MET:HB3	2:Z:52:THR:OG1	2.00	0.60
1:J:894:ASP:O	1:J:898:ASN:N	2.33	0.60
1:J:212:GLN:NE2	1:L:829:GLN:O	2.32	0.59
1:J:770:LYS:HE2	1:K:623:TYR:CE2	2.37	0.59
1:K:655:SER:O	1:K:656:ALA:HB2	2.01	0.59
1:L:948:LEU:HG	1:L:949:ARG:N	2.16	0.59
1:J:540:ASN:HD21	1:J:542:PHE:HB2	1.67	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:56:VAL:O	1:K:630:ALA:N	2.35	0.59
1:K:260:GLN:NE2	1:K:265:GLU:OE1	2.31	0.59
1:K:376:TYR:HD2	1:K:572:LYS:HG2	1.65	0.59
1:J:184:ASN:OD1	1:J:184:ASN:N	2.31	0.59
1:J:408:GLU:OE2	1:J:530:ARG:NH2	2.35	0.59
1:J:399:SER:H	1:J:547:ASN:HD21	1.49	0.59
1:J:547:ASN:OD1	1:J:550:LEU:N	2.26	0.59
1:J:845:GLU:OE2	1:K:214:GLY:N	2.36	0.59
1:L:324:GLN:N	1:L:324:GLN:OE1	2.35	0.59
1:L:607:ASP:OD1	1:L:609:ARG:N	2.33	0.59
1:J:831:ASN:OD1	1:J:832:ASN:ND2	2.36	0.59
1:K:438:THR:HG21	1:K:448:ALA:HB3	1.85	0.59
1:K:509:ASP:OD1	1:K:510:TYR:N	2.35	0.59
1:J:430:ASP:OD2	2:Z:10:LYS:CE	2.50	0.59
1:L:350:ASN:ND2	1:L:591:ASN:HD22	2.00	0.59
1:J:376:TYR:HE1	1:J:380:LEU:HD12	1.68	0.59
2:Z:363:HIS:ND1	2:Z:419:ASP:OD2	2.30	0.59
2:Z:392:GLU:HB3	2:Z:395:ILE:HG13	1.85	0.59
1:K:390:PHE:CE2	1:K:392:MET:HB3	2.38	0.58
1:L:341:GLY:O	1:L:593:ARG:NH1	2.36	0.58
1:J:206:THR:O	1:J:229:ARG:NH2	2.34	0.58
1:K:239:PRO:HG3	1:K:323:GLN:HG3	1.85	0.58
1:K:797:ARG:O	1:K:800:SER:OG	2.20	0.58
1:J:431:THR:HA	1:J:457:ASN:O	2.04	0.58
1:J:702:TYR:O	1:J:704:PRO:HD3	2.04	0.58
1:K:67:ARG:NH1	1:K:621:CYS:SG	2.77	0.58
1:K:830:HIS:O	1:K:830:HIS:ND1	2.35	0.58
2:Z:441:PRO:HB2	2:Z:446:ALA:HB2	1.85	0.58
1:L:874:ASP:OD1	1:L:874:ASP:N	2.20	0.58
1:K:278:ASN:O	1:K:279:ALA:C	2.39	0.58
1:J:116:TYR:CG	1:L:527:LEU:HD21	2.39	0.58
1:J:127:LYS:N	1:L:468:GLU:OE1	2.34	0.58
1:K:328:ASN:OD1	1:K:512:ASN:ND2	2.36	0.58
1:J:764:ALA:H	1:K:568:GLN:HE22	1.52	0.58
1:K:254:GLN:O	1:K:297:VAL:HG12	2.03	0.58
1:K:894:ASP:OD1	1:K:895:LEU:N	2.36	0.58
2:Z:18:VAL:HG11	2:Z:19:CGU:OE12	2.03	0.58
2:Z:309:GLU:HG3	2:Z:312:LEU:HD12	1.84	0.58
2:Z:327:ALA:HB2	2:Z:482:VAL:HG11	1.85	0.58
1:J:100:TYR:CE1	1:J:623:TYR:HB2	2.39	0.58
1:J:849:TYR:CD1	1:J:850:PRO:HD2	2.39	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:94:LEU:HB2	1:K:626:PHE:CE1	2.39	0.58
2:Z:176:GLN:HG2	2:Z:224:GLY:HA2	1.85	0.58
1:J:757:ASP:OD1	1:J:758:GLY:N	2.37	0.57
1:K:112:THR:O	1:K:112:THR:OG1	2.19	0.57
1:K:362:ASN:OD1	1:K:363:ALA:N	2.37	0.57
1:L:346:ASN:OD1	1:L:346:ASN:N	2.27	0.57
1:L:371:ASN:O	1:L:372:THR:C	2.42	0.57
1:J:6:MET:N	1:J:7:MET:SD	2.77	0.57
2:Z:70:GLY:HA3	2:Z:124:PRO:HG3	1.86	0.57
2:Z:204:LYS:HE2	2:Z:205:HIS:HE1	1.69	0.57
1:J:432:TYR:HD1	1:L:275:THR:HA	1.69	0.57
1:J:623:TYR:HE2	1:L:770:LYS:HE2	1.68	0.57
1:K:131:ASN:ND2	1:K:238:LYS:O	2.38	0.57
2:Z:124:PRO:HG2	2:Z:149:THR:HG21	1.86	0.57
1:J:343:MET:O	1:J:344:TYR:C	2.40	0.57
1:L:7:MET:HB3	1:L:8:PRO:HD3	1.86	0.57
1:L:347:SER:C	1:L:349:GLY:H	2.06	0.57
1:J:140:THR:OG1	1:J:141:GLN:OE1	2.21	0.57
1:K:369:ASP:OD1	1:K:369:ASP:N	2.37	0.57
1:L:346:ASN:ND2	1:L:371:ASN:HA	2.19	0.57
1:L:708:TYR:CZ	1:L:710:GLY:CA	2.88	0.57
1:J:362:ASN:OD1	1:J:363:ALA:N	2.38	0.57
1:K:929:VAL:HB	1:K:950:THR:CG2	2.35	0.57
1:J:406:ILE:HG22	1:J:532:SER:HB3	1.87	0.57
1:J:581:LEU:HD11	1:J:586:TYR:CE1	2.39	0.57
1:L:815:ASP:OD1	1:L:816:THR:N	2.37	0.57
1:K:205:LYS:NZ	1:K:268:VAL:O	2.33	0.57
1:K:230:VAL:HG22	1:K:231:LEU:H	1.69	0.57
1:L:375:SER:OG	1:L:376:TYR:N	2.35	0.57
1:J:469:ILE:HB	1:L:420:CYS:HB3	1.86	0.57
1:K:230:VAL:HG22	1:K:231:LEU:N	2.20	0.57
1:K:370:ARG:HG2	1:K:371:ASN:O	2.05	0.56
1:K:440:GLY:H	1:K:446:THR:N	2.02	0.56
1:L:114:LYS:NZ	1:L:116:TYR:O	2.27	0.56
1:L:350:ASN:O	1:L:351:MET:C	2.40	0.56
1:L:414:ASP:OD2	1:L:470:ASN:ND2	2.39	0.56
2:Z:508:ALA:HB3	2:Z:560:TYR:HE2	1.71	0.56
1:J:371:ASN:ND2	1:J:374:LEU:HB3	2.20	0.56
1:J:414:ASP:N	1:J:415:GLU:OE2	2.37	0.56
1:K:232:LYS:HB2	1:K:295:GLU:O	2.05	0.56
1:L:119:THR:OG1	1:L:120:ALA:N	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Z:67:GLU:N	2:Z:72:ASN:OD1	2.28	0.56
1:J:647:ASP:OD2	1:J:934:ARG:NH1	2.33	0.56
1:K:376:TYR:HD1	1:K:376:TYR:O	1.87	0.56
1:J:345:TYR:O	1:J:347:SER:N	2.39	0.56
1:L:350:ASN:HB2	1:L:591:ASN:HD21	1.69	0.56
1:L:547:ASN:OD1	1:L:550:LEU:N	2.33	0.56
1:L:582:LEU:O	1:L:586:TYR:OH	2.20	0.56
2:Z:128:THR:OG1	2:Z:133:VAL:O	2.20	0.56
2:Z:43:LYS:O	2:Z:47:CYS:N	2.28	0.56
2:Z:97:PRO:HA	2:Z:127:TYR:CZ	2.41	0.56
1:J:832:ASN:OD1	1:K:124:LEU:N	2.35	0.56
1:K:597:ASN:OD1	1:K:597:ASN:N	2.38	0.56
1:K:104:ARG:HG2	1:K:566:HIS:HB2	1.87	0.56
1:K:275:THR:HB	1:K:277:VAL:HG13	1.87	0.56
1:J:700:SER:O	1:J:701:GLY:C	2.44	0.56
1:K:167:LYS:NZ	1:L:451:ASN:O	2.32	0.56
1:K:738:TRP:CD2	1:K:739:PRO:HD3	2.41	0.56
2:Z:242:TYR:HD1	2:Z:408:PRO:HG2	1.71	0.56
1:L:691:LYS:O	1:L:692:THR:C	2.42	0.55
1:L:694:GLU:HB3	1:L:708:TYR:CE1	2.41	0.55
1:L:951:PRO:O	1:L:952:PHE:HB2	2.05	0.55
2:Z:94:PRO:HG2	2:Z:95:HIS:CE1	2.41	0.55
1:J:116:TYR:HE1	1:L:858:ILE:CD1	2.15	0.55
1:K:94:LEU:HB2	1:K:626:PHE:HE1	1.70	0.55
1:K:187:GLN:NE2	1:K:190:THR:OG1	2.39	0.55
1:K:607:ASP:OD1	1:K:608:LEU:N	2.39	0.55
1:L:205:LYS:H	1:L:205:LYS:HD3	1.70	0.55
1:J:894:ASP:OD1	1:J:895:LEU:N	2.37	0.55
1:K:537:ASP:OD2	1:K:870:LYS:NZ	2.28	0.55
1:K:571:GLN:OE1	1:K:572:LYS:N	2.39	0.55
1:L:794:TYR:O	1:L:797:ARG:NH1	2.39	0.55
1:L:73:ARG:NE	1:L:80:TYR:OH	2.39	0.55
1:L:375:SER:C	1:L:377:GLN:N	2.56	0.55
1:L:695:THR:O	1:L:696:PRO:C	2.41	0.55
2:Z:519:ASP:N	2:Z:519:ASP:OD1	2.39	0.55
1:J:899:LEU:HB3	1:J:903:ASN:ND2	2.22	0.55
1:L:403:ASP:N	1:L:403:ASP:OD1	2.39	0.55
1:J:220:GLU:OE1	1:J:221:ALA:N	2.39	0.55
2:Z:89:TRP:CZ2	2:Z:115:ARG:HB2	2.42	0.55
2:Z:385:LYS:NZ	2:Z:396:GLU:OE1	2.35	0.55
1:K:643:ASN:OD1	1:K:643:ASN:N	2.33	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:390:PHE:CE2	1:J:392:MET:HB3	2.42	0.55
1:K:174:ALA:HB1	1:K:227:GLY:C	2.27	0.55
1:J:409:ASN:ND2	1:J:527:LEU:HA	2.22	0.55
1:L:794:TYR:CE2	1:L:795:LYS:HG3	2.42	0.55
1:J:430:ASP:OD2	2:Z:10:LYS:HE3	2.07	0.54
1:K:367:LEU:O	1:K:368:GLN:C	2.45	0.54
1:K:532:SER:OG	1:K:537:ASP:OD1	2.25	0.54
1:L:500:GLU:OE1	1:L:501:ILE:N	2.40	0.54
1:L:899:LEU:HD22	1:L:902:ALA:HB2	1.89	0.54
1:L:899:LEU:HD13	1:L:902:ALA:HB2	1.88	0.54
2:Z:100:ASN:N	2:Z:103:THR:OG1	2.37	0.54
2:Z:206:GLN:NE2	2:Z:575:ASP:OD2	2.33	0.54
1:J:274:SER:OG	1:J:275:THR:N	2.40	0.54
1:J:592:PHE:HE2	1:J:620:ILE:HD11	1.71	0.54
1:K:19:ASP:N	1:K:19:ASP:OD1	2.39	0.54
2:Z:275:SER:HB3	2:Z:536:ASN:HB3	1.90	0.54
1:J:95:ASP:OD2	1:L:786:GLN:NE2	2.41	0.54
1:J:203:ALA:HB1	1:J:208:GLN:HG3	1.90	0.54
1:K:753:LYS:HD2	1:K:767:ASN:HD21	1.72	0.54
1:L:55:ASP:N	1:L:55:ASP:OD1	2.41	0.54
2:Z:229:VAL:N	2:Z:247:TYR:OH	2.39	0.54
2:Z:336:VAL:HG22	2:Z:383:ILE:HG23	1.89	0.54
1:J:904:SER:OG	1:J:905:ALA:N	2.39	0.54
1:L:455:GLU:HG3	1:L:456:ARG:HG3	1.88	0.54
1:L:716:ASP:OD1	1:L:717:GLY:N	2.40	0.54
1:L:737:SER:OG	1:L:738:TRP:N	2.40	0.54
1:J:341:GLY:O	1:J:593:ARG:NH1	2.41	0.54
1:K:376:TYR:CE1	1:K:380:LEU:HG	2.43	0.54
1:L:283:ALA:O	1:L:285:ALA:N	2.41	0.54
1:L:385:ASP:OD1	1:L:386:ARG:N	2.41	0.54
2:Z:402:GLU:HG3	2:Z:426:LYS:HA	1.89	0.54
1:J:175:PRO:HG3	1:L:847:GLN:HG2	1.88	0.54
1:L:595:ASP:OD2	1:L:598:MET:N	2.35	0.54
1:L:678:ASN:OD1	1:L:679:TRP:N	2.41	0.54
1:J:632:ASN:OD1	1:J:633:THR:N	2.39	0.54
1:L:73:ARG:HH21	1:L:620:ILE:HG22	1.72	0.54
1:L:369:ASP:C	1:L:658:ASN:HD22	2.11	0.54
1:K:170:VAL:N	1:L:457:ASN:OD1	2.40	0.54
1:K:785:TYR:O	1:K:786:GLN:NE2	2.41	0.54
1:K:207:TYR:O	1:K:208:GLN:HB2	2.08	0.54
1:K:618:ASP:OD1	1:K:618:ASP:N	2.40	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:672:ILE:HG13	1:L:910:MET:HB2	1.88	0.54
1:J:113:PHE:CE1	1:J:115:PRO:HD3	2.43	0.53
1:J:142:VAL:HG11	1:J:164:ASN:HB3	1.90	0.53
1:K:356:GLY:HA2	1:K:586:TYR:HD1	1.73	0.53
1:L:8:PRO:O	1:L:12:TYR:HB2	2.08	0.53
1:J:342:LEU:HD23	1:J:599:VAL:HG11	1.89	0.53
1:L:219:ASN:OD1	1:L:219:ASN:N	2.39	0.53
1:K:68:PHE:HB2	1:K:622:LEU:HB3	1.89	0.53
1:K:753:LYS:HD2	1:K:767:ASN:ND2	2.23	0.53
1:L:678:ASN:OD1	1:L:680:ALA:N	2.41	0.53
1:K:196:GLU:HB2	1:K:199:LYS:HD3	1.89	0.53
1:K:374:LEU:O	1:K:377:GLN:HB2	2.09	0.53
2:Z:296:ARG:HB2	2:Z:299:PHE:HB2	1.91	0.53
1:J:703:ASP:C	1:J:705:TYR:H	2.11	0.53
1:K:209:PRO:O	1:K:229:ARG:HD2	2.09	0.53
1:K:376:TYR:CD2	1:K:572:LYS:HG2	2.43	0.53
1:L:313:SER:OG	1:L:314:ASP:N	2.40	0.53
1:K:487:TYR:OH	1:K:545:HIS:ND1	2.35	0.53
1:L:642:ARG:NH1	1:L:939:HIS:O	2.42	0.53
1:J:116:TYR:CE1	1:L:858:ILE:CD1	2.90	0.53
1:J:670:VAL:HB	1:J:912:PHE:HB2	1.90	0.53
2:Z:243:CYS:O	2:Z:409:ARG:NH2	2.31	0.53
1:K:607:ASP:OD1	1:K:609:ARG:N	2.32	0.53
2:Z:467:THR:HB	2:Z:468:TRP:CD1	2.44	0.53
1:J:343:MET:HG2	1:J:592:PHE:HE1	1.70	0.53
1:K:362:ASN:OD1	1:K:364:VAL:N	2.39	0.53
1:K:686:ALA:HB3	1:K:926:LEU:HB2	1.91	0.53
2:Z:185:THR:HA	2:Z:243:CYS:HA	1.90	0.53
1:J:399:SER:H	1:J:547:ASN:ND2	2.07	0.53
1:K:347:SER:OG	1:K:699:GLY:O	2.26	0.53
1:K:632:ASN:OD1	1:K:633:THR:N	2.43	0.53
1:K:173:GLN:OE1	1:K:173:GLN:N	2.43	0.52
2:Z:204:LYS:HE2	2:Z:205:HIS:CE1	2.44	0.52
2:Z:353:ILE:HD13	2:Z:359:LEU:HB2	1.90	0.52
1:J:196:GLU:OE2	1:J:199:LYS:HB2	2.09	0.52
1:L:111:PRO:N	1:L:561:ARG:HH21	2.07	0.52
1:J:743:ARG:HB3	1:K:64:LEU:HD12	1.91	0.52
1:L:674:ILE:HG22	1:L:675:PRO:HD2	1.91	0.52
2:Z:401:LEU:HD23	2:Z:425:LEU:HA	1.90	0.52
1:J:651:ASN:OD1	1:J:651:ASN:N	2.42	0.52
1:K:274:SER:O	1:L:433:GLN:N	2.36	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:409:ASN:HD22	1:J:527:LEU:HA	1.75	0.52
1:L:377:GLN:O	1:L:378:LEU:C	2.46	0.52
1:J:413:GLU:OE2	1:K:546:ARG:NH2	2.42	0.52
1:K:950:THR:O	1:K:953:SER:OG	2.27	0.52
1:L:131:ASN:OD1	1:L:131:ASN:N	2.34	0.52
1:L:401:ASP:HB3	1:L:404:VAL:HG23	1.91	0.52
2:Z:527:GLY:N	2:Z:545:VAL:HB	2.25	0.52
1:J:112:THR:O	1:J:112:THR:OG1	2.25	0.52
1:J:558:GLY:HA3	1:L:811:GLN:HE22	1.75	0.52
1:K:640:MET:HB3	1:L:28:LEU:HD13	1.91	0.52
1:L:274:SER:HB3	1:L:278:ASN:OD1	2.10	0.52
1:J:507:THR:OG1	1:J:508:TYR:N	2.42	0.52
2:Z:10:LYS:O	2:Z:10:LYS:HG3	2.08	0.52
2:Z:351:SER:HB3	2:Z:528:PRO:HG3	1.91	0.52
2:Z:415:ASN:ND2	2:Z:500:ARG:O	2.29	0.52
1:J:743:ARG:O	1:K:64:LEU:HB2	2.10	0.52
1:K:829:GLN:O	1:L:212:GLN:NE2	2.37	0.52
1:L:814:ASP:H	1:L:865:SER:HA	1.74	0.52
1:L:855:TYR:HD1	1:L:856:PRO:HD2	1.75	0.52
2:Z:19:CGU:N	2:Z:19:CGU:CD1	2.73	0.52
1:J:399:SER:O	1:J:547:ASN:ND2	2.43	0.52
1:J:678:ASN:OD1	1:J:680:ALA:N	2.43	0.52
1:L:63:ARG:HG3	1:L:66:LEU:HD21	1.91	0.52
1:L:398:ASP:OD1	1:L:398:ASP:N	2.43	0.52
1:J:367:LEU:O	1:J:369:ASP:N	2.38	0.51
1:J:433:GLN:HG3	1:L:276:SER:HA	1.90	0.51
1:J:723:HIS:O	1:J:753:LYS:NZ	2.28	0.51
1:K:949:ARG:HG3	1:K:950:THR:O	2.11	0.51
1:L:352:GLY:HA3	1:L:590:TRP:CE3	2.45	0.51
1:J:611:ASP:OD1	1:J:611:ASP:N	2.43	0.51
1:J:625:THR:HG22	1:J:626:PHE:H	1.74	0.51
2:Z:9:ARG:HG3	2:Z:10:LYS:N	2.25	0.51
2:Z:74:ARG:HD2	2:Z:108:ASP:HB3	1.93	0.51
1:J:232:LYS:HG3	1:J:295:GLU:O	2.11	0.51
1:J:430:ASP:O	1:J:431:THR:C	2.48	0.51
1:J:814:ASP:CG	1:J:817:LYS:H	2.13	0.51
1:K:198:ASN:OD1	1:K:198:ASN:N	2.38	0.51
1:K:313:SER:OG	1:K:314:ASP:N	2.41	0.51
1:J:430:ASP:OD2	2:Z:10:LYS:HE2	2.09	0.51
1:J:703:ASP:OD1	1:J:705:TYR:HB2	2.10	0.51
1:K:132:SER:CB	1:K:230:VAL:HG23	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:275:THR:CB	1:K:277:VAL:HG13	2.41	0.51
1:K:332:TYR:HB2	1:K:603:SER:HB3	1.93	0.51
1:K:371:ASN:O	1:K:372:THR:OG1	2.27	0.51
1:J:309:LYS:HG3	1:J:310:PRO:HD2	1.92	0.51
1:J:658:ASN:N	1:J:658:ASN:ND2	2.56	0.51
1:K:94:LEU:HD12	1:K:95:ASP:H	1.76	0.51
1:K:561:ARG:HG2	1:K:562:TYR:CE2	2.46	0.51
1:L:682:PHE:CE1	1:L:927:PHE:HB3	2.45	0.51
2:Z:147:GLN:HG2	2:Z:148:VAL:H	1.75	0.51
1:J:804:ASN:OD1	1:J:804:ASN:N	2.43	0.51
1:L:382:SER:O	1:L:384:GLY:N	2.44	0.51
2:Z:48:GLU:OE1	2:Z:51:ARG:NH2	2.43	0.51
1:J:280:MET:HB3	2:Z:52:THR:HG21	1.93	0.51
1:K:759:GLU:OE2	1:L:104:ARG:NE	2.44	0.51
1:K:208:GLN:O	1:K:229:ARG:NH1	2.44	0.51
1:K:405:ARG:NH2	1:K:874:ASP:OD2	2.40	0.51
1:L:347:SER:C	1:L:349:GLY:N	2.65	0.51
2:Z:552:ASP:N	2:Z:552:ASP:OD1	2.43	0.51
1:J:284:ASN:C	1:J:286:ILE:N	2.61	0.51
1:J:495:ASN:N	1:J:495:ASN:OD1	2.44	0.51
1:K:138:ASP:N	1:K:138:ASP:OD1	2.41	0.51
1:K:379:LEU:O	1:K:383:ILE:HG23	2.11	0.51
1:L:379:LEU:O	1:L:383:ILE:HG23	2.11	0.51
2:Z:95:HIS:NE2	2:Z:128:THR:O	2.41	0.51
2:Z:314:GLU:HA	2:Z:455:LYS:HE3	1.92	0.51
1:J:105:GLY:HA2	1:J:618:ASP:OD1	2.11	0.50
1:J:239:PRO:O	1:J:243:SER:OG	2.28	0.50
1:J:528:GLY:O	1:K:559:ASN:ND2	2.42	0.50
1:K:794:TYR:O	1:K:797:ARG:NH1	2.43	0.50
1:L:90:ASP:OD1	1:L:90:ASP:N	2.44	0.50
1:L:261:ASN:OD1	1:L:261:ASN:N	2.44	0.50
1:L:829:GLN:HA	1:L:852:ASN:HD21	1.76	0.50
1:J:623:TYR:O	1:J:624:ALA:HB2	2.09	0.50
1:K:275:THR:CA	1:K:277:VAL:HG13	2.41	0.50
1:K:375:SER:OG	1:K:654:LEU:HB2	2.11	0.50
1:K:503:ASP:OD1	1:K:503:ASP:N	2.37	0.50
1:K:924:TYR:CZ	1:K:926:LEU:HD11	2.46	0.50
1:J:401:ASP:OD1	1:J:403:ASP:N	2.39	0.50
1:J:432:TYR:CD1	1:L:275:THR:HA	2.47	0.50
2:Z:140:ILE:O	2:Z:149:THR:HG23	2.12	0.50
1:L:182:ASN:ND2	1:L:202:TYR:OH	2.37	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:561:ARG:NH1	1:L:562:TYR:OH	2.44	0.50
1:J:527:LEU:HD21	1:K:116:TYR:CE2	2.47	0.50
1:K:96:MET:O	1:K:98:SER:N	2.43	0.50
1:L:286:ILE:HD13	1:L:286:ILE:H	1.77	0.50
1:J:307:SER:HB3	1:J:326:MET:HB2	1.94	0.50
1:K:229:ARG:HH21	1:K:295:GLU:CD	2.15	0.50
1:K:382:SER:O	1:K:383:ILE:C	2.48	0.50
1:K:654:LEU:O	1:K:655:SER:HB2	2.10	0.50
1:J:94:LEU:HB2	1:J:626:PHE:HE1	1.76	0.50
1:J:579:LEU:HG	1:J:580:LEU:N	2.26	0.50
1:J:854:PRO:HG2	1:K:121:TYR:CE1	2.47	0.50
1:K:510:TYR:OH	1:K:514:ARG:NH1	2.45	0.50
1:K:595:ASP:OD2	1:K:598:MET:N	2.32	0.50
1:L:204:ASP:N	1:L:208:GLN:HG3	2.26	0.50
1:L:722:ASN:HB3	1:L:878:TRP:HE1	1.77	0.50
2:Z:312:LEU:HD13	2:Z:454:TYR:HE1	1.76	0.50
1:J:345:TYR:O	1:J:346:ASN:C	2.48	0.50
1:K:276:SER:HB3	1:L:433:GLN:CB	2.36	0.50
1:L:687:PHE:CE1	1:L:878:TRP:HB2	2.46	0.50
1:J:334:ALA:HB2	1:J:554:SER:HA	1.94	0.50
1:L:275:THR:C	1:L:278:ASN:HB2	2.33	0.50
2:Z:66:ALA:HB1	2:Z:70:GLY:HA2	1.94	0.50
1:J:316:ASN:OD1	1:J:316:ASN:N	2.45	0.49
1:J:689:ARG:NH1	1:J:724:THR:OG1	2.40	0.49
1:K:463:ASN:OD1	1:K:463:ASN:N	2.44	0.49
1:L:83:ARG:NH2	1:L:589:GLU:OE1	2.44	0.49
1:L:544:HIS:O	1:L:603:SER:HB2	2.12	0.49
2:Z:39:VAL:HG12	2:Z:43:LYS:HE3	1.93	0.49
1:K:223:SER:OG	1:K:224:SER:N	2.45	0.49
1:K:284:ASN:O	1:K:286:ILE:N	2.43	0.49
1:K:738:TRP:CE3	1:K:739:PRO:HD3	2.47	0.49
1:K:883:SER:OG	1:K:886:PHE:N	2.45	0.49
1:L:474:ASN:O	1:L:478:ASN:ND2	2.32	0.49
1:L:642:ARG:NH1	1:L:938:PRO:O	2.45	0.49
2:Z:306:ASP:OD1	2:Z:309:GLU:N	2.45	0.49
1:J:91:ASN:OD1	1:J:91:ASN:N	2.43	0.49
1:J:136:ASP:OD2	1:J:233:LYS:NZ	2.31	0.49
1:J:182:ASN:ND2	1:J:184:ASN:OD1	2.46	0.49
1:J:276:SER:OG	1:K:431:THR:HG22	2.12	0.49
1:J:716:ASP:OD1	1:J:718:THR:N	2.28	0.49
1:K:116:TYR:HE2	1:K:119:THR:HA	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:694:GLU:HB3	1:L:708:TYR:CD2	2.47	0.49
2:Z:226:GLU:OE2	2:Z:443:ARG:NH1	2.45	0.49
1:J:249:ASN:CG	1:J:253:GLY:H	2.12	0.49
1:K:935:VAL:HG22	1:K:945:THR:HG22	1.93	0.49
1:L:73:ARG:HH22	1:L:619:SER:HA	1.76	0.49
1:L:112:THR:O	1:L:112:THR:OG1	2.26	0.49
1:L:507:THR:OG1	1:L:508:TYR:N	2.45	0.49
1:J:344:TYR:HE1	1:J:593:ARG:NE	2.10	0.49
1:J:371:ASN:HD21	1:J:374:LEU:HB2	1.78	0.49
1:J:688:THR:OG1	1:J:689:ARG:N	2.45	0.49
1:K:275:THR:HB	1:K:277:VAL:CG1	2.42	0.49
1:K:277:VAL:HG23	2:Z:25:CGU:OE22	2.13	0.49
2:Z:248:CYS:HB2	2:Z:250:GLU:HG3	1.95	0.49
2:Z:527:GLY:H	2:Z:545:VAL:HB	1.77	0.49
1:J:218:TRP:CE2	1:J:219:ASN:HB3	2.47	0.49
1:J:540:ASN:ND2	1:J:542:PHE:H	2.11	0.49
1:J:642:ARG:NH1	1:J:939:HIS:O	2.45	0.49
1:J:109:ARG:NH2	1:J:560:GLY:O	2.23	0.49
1:J:584:GLY:HA3	1:J:586:TYR:CZ	2.46	0.49
1:K:811:GLN:NE2	1:L:560:GLY:H	2.11	0.49
2:Z:441:PRO:HG3	2:Z:542:MET:SD	2.52	0.49
1:J:42:ASN:OD1	1:J:42:ASN:N	2.46	0.49
1:L:464:ASN:N	1:L:464:ASN:OD1	2.45	0.49
1:L:692:THR:O	1:L:694:GLU:N	2.45	0.49
1:L:935:VAL:HG22	1:L:945:THR:HG22	1.95	0.49
2:Z:13:LEU:O	2:Z:17:CYS:HB2	2.12	0.49
1:J:369:ASP:C	1:J:658:ASN:HD21	2.16	0.49
1:J:771:ASP:N	1:J:771:ASP:OD1	2.45	0.49
1:J:864:ASP:OD1	1:J:864:ASP:N	2.44	0.49
1:L:218:TRP:CZ3	1:L:424:GLY:HA3	2.47	0.49
1:J:540:ASN:OD1	1:J:543:ASN:N	2.30	0.49
1:J:627:PHE:CD1	1:J:627:PHE:C	2.86	0.49
1:K:636:THR:O	1:K:640:MET:HG2	2.13	0.49
2:Z:13:LEU:HD22	2:Z:31:LEU:HD21	1.95	0.49
2:Z:93:TYR:HB2	2:Z:468:TRP:HE3	1.77	0.49
1:L:184:ASN:OD1	1:L:184:ASN:N	2.37	0.48
1:L:440:GLY:H	1:L:445:THR:HG23	1.77	0.48
1:L:544:HIS:CG	1:L:545:HIS:H	2.31	0.48
2:Z:441:PRO:CD	2:Z:540:TYR:HB3	2.32	0.48
1:J:20:ALA:HB2	1:J:47:ASN:HB3	1.95	0.48
1:J:68:PHE:CE2	1:J:86:LEU:HD12	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:344:TYR:CE1	1:J:593:ARG:NE	2.81	0.48
1:J:529:ALA:HB2	1:K:559:ASN:ND2	2.29	0.48
1:K:37:THR:OG1	1:K:38:TYR:N	2.45	0.48
1:K:174:ALA:HB1	1:K:227:GLY:O	2.13	0.48
1:L:101:PHE:O	1:L:568:GLN:HA	2.13	0.48
1:L:459:ILE:HG22	1:L:460:GLY:H	1.78	0.48
1:L:708:TYR:CE1	1:L:710:GLY:HA3	2.48	0.48
1:J:571:GLN:OE1	1:J:573:PHE:N	2.30	0.48
1:J:737:SER:OG	1:J:739:PRO:O	2.31	0.48
1:L:760:GLY:O	1:L:770:LYS:NZ	2.46	0.48
2:Z:383:ILE:O	2:Z:396:GLU:HA	2.13	0.48
1:L:62:GLN:OE1	1:L:92:ARG:NH1	2.46	0.48
1:L:831:ASN:OD1	1:L:832:ASN:ND2	2.46	0.48
1:J:759:GLU:OE1	1:J:762:ASN:ND2	2.47	0.48
1:K:210:GLU:O	1:K:211:PRO:C	2.51	0.48
1:L:366:ASP:OD1	1:L:367:LEU:N	2.46	0.48
1:L:375:SER:O	1:L:376:TYR:C	2.49	0.48
1:K:20:ALA:HA	1:K:23:TYR:CE2	2.47	0.48
1:K:375:SER:C	1:K:377:GLN:N	2.62	0.48
1:K:689:ARG:O	1:K:690:LEU:HD23	2.14	0.48
1:L:771:ASP:N	1:L:771:ASP:OD1	2.47	0.48
2:Z:93:TYR:HB2	2:Z:468:TRP:CE3	2.47	0.48
1:J:355:ALA:O	1:J:586:TYR:HB3	2.13	0.48
1:J:704:PRO:HG2	1:J:705:TYR:CD1	2.49	0.48
1:K:276:SER:HA	1:L:433:GLN:HB2	1.95	0.48
1:K:309:LYS:HD3	1:K:498:ASN:O	2.13	0.48
1:L:371:ASN:H	1:L:658:ASN:ND2	2.11	0.48
2:Z:295:LEU:HA	2:Z:300:GLU:HG2	1.95	0.48
1:J:433:GLN:CD	1:L:276:SER:HA	2.34	0.48
1:J:794:TYR:CE1	1:J:795:LYS:HG3	2.49	0.48
1:K:677:ARG:HG2	1:K:678:ASN:O	2.13	0.48
2:Z:404:ILE:HG23	2:Z:423:MET:HG2	1.96	0.48
1:J:204:ASP:N	1:J:208:GLN:OE1	2.40	0.48
1:J:344:TYR:HE1	1:J:593:ARG:HE	1.60	0.48
1:J:607:ASP:OD1	1:J:609:ARG:N	2.47	0.48
1:K:266:SER:OG	1:K:267:GLN:N	2.46	0.48
1:K:280:MET:HE3	2:Z:24:TYR:HE2	1.79	0.48
1:J:7:MET:N	1:J:8:PRO:HD2	2.29	0.48
1:J:91:ASN:HD22	1:J:631:HIS:CG	2.32	0.48
1:J:419:TYR:HD1	1:J:468:GLU:HB2	1.79	0.48
2:Z:545:VAL:HA	2:Z:560:TYR:HD1	1.79	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:275:THR:HB	1:K:277:VAL:CB	2.44	0.47
1:L:176:PHE:HD2	1:L:209:PRO:HB3	1.79	0.47
1:L:205:LYS:HB2	1:L:268:VAL:HG11	1.95	0.47
1:L:948:LEU:HG	1:L:949:ARG:H	1.78	0.47
2:Z:38:ASP:HA	2:Z:41:TRP:HB3	1.96	0.47
1:J:369:ASP:CB	1:J:658:ASN:ND2	2.77	0.47
1:L:929:VAL:HG12	1:L:951:PRO:HD2	1.97	0.47
1:J:62:GLN:HG3	1:J:92:ARG:HH22	1.79	0.47
1:J:404:VAL:HG11	1:J:544:HIS:CD2	2.50	0.47
1:J:831:ASN:OD1	1:J:832:ASN:N	2.48	0.47
1:K:309:LYS:HB3	1:K:498:ASN:HB2	1.95	0.47
1:K:507:THR:OG1	1:K:508:TYR:N	2.47	0.47
1:K:794:TYR:CZ	1:K:795:LYS:HG3	2.49	0.47
1:L:708:TYR:CZ	1:L:710:GLY:HA3	2.49	0.47
1:L:898:ASN:O	1:L:899:LEU:HD12	2.14	0.47
1:J:357:GLN:HB2	1:J:585:SER:O	2.13	0.47
1:J:408:GLU:HB3	1:J:410:HIS:HE1	1.79	0.47
1:K:91:ASN:OD1	1:K:91:ASN:N	2.48	0.47
1:L:3:THR:HG21	1:L:7:MET:HB2	1.97	0.47
1:L:522:ASP:OD1	1:L:523:CYS:N	2.43	0.47
2:Z:14:CGU:HA	2:Z:18:VAL:HG23	1.95	0.47
1:K:829:GLN:HA	1:K:852:ASN:HD21	1.80	0.47
1:K:831:ASN:OD1	1:K:832:ASN:N	2.47	0.47
1:L:176:PHE:CD2	1:L:209:PRO:HB3	2.50	0.47
1:L:351:MET:SD	1:L:366:ASP:HB3	2.54	0.47
1:L:672:ILE:HD11	1:L:912:PHE:HE2	1.80	0.47
1:J:625:THR:O	1:J:626:PHE:CD1	2.67	0.47
1:K:651:ASN:OD1	1:K:932:VAL:HG13	2.15	0.47
1:K:830:HIS:HB3	1:L:212:GLN:NE2	2.30	0.47
1:L:73:ARG:NH2	1:L:618:ASP:O	2.47	0.47
1:L:187:GLN:HG3	1:L:200:GLU:HB3	1.95	0.47
1:L:450:ASP:OD2	1:L:453:PHE:N	2.31	0.47
1:J:266:SER:OG	1:J:267:GLN:N	2.47	0.47
1:J:590:TRP:HD1	1:J:591:ASN:N	2.07	0.47
1:K:96:MET:O	1:K:99:THR:N	2.48	0.47
1:K:771:ASP:OD1	1:K:772:TRP:N	2.47	0.47
1:L:804:ASN:O	1:L:873:CYS:HA	2.15	0.47
2:Z:18:VAL:HG12	2:Z:19:CGU:OE12	2.12	0.47
2:Z:56:LYS:HD2	2:Z:56:LYS:HA	1.66	0.47
1:J:597:ASN:ND2	1:J:706:TYR:O	2.47	0.47
1:K:437:ALA:HA	1:K:447:TRP:HZ3	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:707:THR:OG1	1:L:708:TYR:N	2.45	0.47
1:K:659:MET:N	1:K:659:MET:SD	2.87	0.47
1:L:398:ASP:OD1	1:L:553:ARG:NH2	2.48	0.47
1:L:804:ASN:ND2	1:L:875:ARG:HB3	2.30	0.47
2:Z:74:ARG:NH2	2:Z:107:ALA:HA	2.30	0.47
1:J:137:GLU:OE1	1:J:169:HIS:NE2	2.47	0.47
1:J:696:PRO:HB3	1:J:706:TYR:CE2	2.50	0.47
1:K:111:PRO:HG2	1:K:112:THR:HG22	1.97	0.47
1:K:176:PHE:CD2	1:K:209:PRO:HB3	2.50	0.47
1:L:5:SER:OG	1:L:6:MET:HG3	2.15	0.47
1:J:56:VAL:O	1:J:630:ALA:N	2.37	0.46
1:J:230:VAL:O	1:J:294:SER:HA	2.15	0.46
1:K:527:LEU:HD21	1:L:116:TYR:CD1	2.51	0.46
1:L:687:PHE:HB3	1:L:925:VAL:HG22	1.96	0.46
2:Z:137:GLU:CD	2:Z:137:GLU:H	2.19	0.46
2:Z:456:GLY:HA3	2:Z:529:PHE:CZ	2.50	0.46
1:J:94:LEU:HD13	1:J:626:PHE:CE1	2.49	0.46
1:K:280:MET:HG3	2:Z:24:TYR:OH	2.15	0.46
1:K:430:ASP:HB2	1:K:432:TYR:CZ	2.50	0.46
1:K:688:THR:OG1	1:K:689:ARG:N	2.48	0.46
1:L:347:SER:O	1:L:349:GLY:N	2.48	0.46
1:L:379:LEU:HD13	1:L:653:TYR:HB2	1.97	0.46
2:Z:118:ASP:OD2	2:Z:120:SER:HB2	2.15	0.46
2:Z:410:TYR:CE1	2:Z:412:TRP:HB3	2.50	0.46
1:L:229:ARG:NE	1:L:295:GLU:OE2	2.28	0.46
2:Z:73:TYR:O	2:Z:74:ARG:NH1	2.41	0.46
1:J:101:PHE:CD2	1:J:592:PHE:HZ	2.33	0.46
1:J:248:THR:OG1	1:J:253:GLY:O	2.25	0.46
1:K:437:ALA:HB1	1:K:439:ASN:HD21	1.80	0.46
1:L:75:ASP:OD1	1:L:76:THR:N	2.49	0.46
1:L:254:GLN:HB2	1:L:297:VAL:HG12	1.98	0.46
1:L:698:LEU:HD23	1:L:698:LEU:HA	1.76	0.46
2:Z:19:CGU:OE11	2:Z:54:ARG:HB3	2.16	0.46
2:Z:457:ARG:NE	2:Z:484:ASN:OD1	2.49	0.46
1:J:138:ASP:HA	1:J:166:LYS:HG2	1.97	0.46
1:J:874:ASP:OD1	1:J:874:ASP:N	2.48	0.46
1:K:561:ARG:HG2	1:K:562:TYR:CZ	2.51	0.46
1:J:138:ASP:OD1	1:J:138:ASP:N	2.48	0.46
1:L:534:ASP:OD1	1:L:534:ASP:N	2.48	0.46
2:Z:461:TRP:H	2:Z:524:ASP:CG	2.18	0.46
2:Z:545:VAL:HA	2:Z:560:TYR:CD1	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:274:SER:O	1:K:432:TYR:HB3	2.15	0.46
1:J:371:ASN:CG	1:J:371:ASN:O	2.54	0.46
1:J:521:VAL:HG13	1:J:525:ILE:HG21	1.97	0.46
1:K:522:ASP:HB3	1:K:524:TYR:CE2	2.51	0.46
1:L:104:ARG:HB2	1:L:619:SER:OG	2.15	0.46
1:L:420:CYS:SG	1:L:467:MET:HB2	2.56	0.46
2:Z:95:HIS:CE1	2:Z:131:PRO:HA	2.50	0.46
1:J:559:ASN:HB3	1:L:528:GLY:O	2.15	0.46
1:K:270:MET:SD	1:K:293:TYR:HE1	2.38	0.46
1:K:282:GLU:OE1	1:K:283:ALA:N	2.49	0.46
1:K:606:ASN:OD1	1:K:606:ASN:N	2.49	0.46
1:L:375:SER:O	1:L:377:GLN:N	2.49	0.46
1:J:49:THR:HG1	1:L:891:ALA:H	1.61	0.46
1:J:540:ASN:HB2	1:J:720:TYR:CE2	2.50	0.46
1:J:732:PHE:HB2	1:J:736:VAL:HG23	1.97	0.46
1:K:89:GLY:HA3	1:K:92:ARG:HE	1.81	0.46
1:K:380:LEU:HD23	1:K:380:LEU:HA	1.59	0.46
1:K:949:ARG:NH1	1:K:952:PHE:O	2.48	0.46
1:J:627:PHE:C	1:J:627:PHE:HD1	2.19	0.46
1:J:660:LEU:HD12	1:J:660:LEU:H	1.80	0.46
1:L:60:ARG:HH21	1:L:631:HIS:CE1	2.34	0.46
1:L:345:TYR:O	1:L:346:ASN:C	2.54	0.46
1:L:657:ALA:O	1:L:658:ASN:CG	2.54	0.46
1:L:659:MET:SD	1:L:659:MET:N	2.89	0.46
1:L:825:GLY:O	1:L:829:GLN:HG3	2.17	0.46
1:L:876:THR:OG1	1:L:877:LEU:N	2.49	0.46
2:Z:363:HIS:HB3	2:Z:416:LEU:HD22	1.98	0.46
1:J:116:TYR:HB3	1:L:527:LEU:HG	1.96	0.45
1:J:313:SER:OG	1:J:315:ASP:OD1	2.34	0.45
1:K:336:ARG:HH12	1:K:712:ILE:HG13	1.81	0.45
1:K:757:ASP:OD1	1:K:757:ASP:N	2.47	0.45
1:L:847:GLN:HB2	1:L:848:ALA:H	1.50	0.45
1:J:134:GLU:HB3	1:J:170:VAL:HG13	1.98	0.45
1:J:542:PHE:CE1	1:J:718:THR:HB	2.51	0.45
1:J:690:LEU:HD22	1:J:713:PRO:HB2	1.98	0.45
1:J:714:TYR:O	1:J:715:LEU:HD23	2.17	0.45
1:K:521:VAL:HG13	1:K:525:ILE:HG21	1.98	0.45
1:K:832:ASN:HD21	1:L:123:ALA:H	1.64	0.45
1:L:502:SER:OG	1:L:503:ASP:N	2.49	0.45
2:Z:19:CGU:HB2	2:Z:54:ARG:CZ	2.47	0.45
2:Z:404:ILE:HG12	2:Z:423:MET:HG2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:279:ALA:O	1:J:280:MET:C	2.53	0.45
1:J:556:LEU:HA	1:J:556:LEU:HD23	1.69	0.45
1:K:215:GLU:OE1	1:K:215:GLU:N	2.26	0.45
1:K:371:ASN:HB2	1:K:658:ASN:HD21	1.80	0.45
1:K:885:ASN:N	1:K:885:ASN:OD1	2.49	0.45
1:L:811:GLN:N	1:L:811:GLN:OE1	2.49	0.45
2:Z:99:ILE:HG22	2:Z:117:PRO:HB2	1.99	0.45
1:K:430:ASP:O	1:K:431:THR:C	2.53	0.45
1:K:819:LYS:HG3	1:K:820:ASP:OD1	2.16	0.45
1:L:346:ASN:HD21	1:L:371:ASN:HA	1.82	0.45
2:Z:77:VAL:O	2:Z:114:CYS:N	2.40	0.45
1:J:488:LEU:HD23	1:J:488:LEU:HA	1.80	0.45
1:K:599:VAL:HG23	1:K:600:LEU:HG	1.99	0.45
1:K:811:GLN:HE22	1:L:558:GLY:HA3	1.81	0.45
1:L:677:ARG:NE	1:L:952:PHE:CE1	2.85	0.45
1:L:722:ASN:HB3	1:L:878:TRP:NE1	2.32	0.45
2:Z:110:GLN:HG2	2:Z:115:ARG:HH21	1.81	0.45
2:Z:457:ARG:N	2:Z:530:VAL:O	2.48	0.45
1:J:421:PHE:CZ	1:K:835:PHE:HD1	2.35	0.45
1:J:557:LEU:HA	1:J:557:LEU:HD23	1.69	0.45
1:J:716:ASP:OD2	1:J:718:THR:OG1	2.33	0.45
1:J:835:PHE:HD2	1:L:421:PHE:CZ	2.34	0.45
1:K:277:VAL:HB	2:Z:25:CGU:OE22	2.16	0.45
1:K:498:ASN:N	1:K:498:ASN:OD1	2.50	0.45
1:L:694:GLU:CB	1:L:708:TYR:CZ	2.98	0.45
2:Z:6:CGU:C	2:Z:8:VAL:H	2.29	0.45
2:Z:508:ALA:HB3	2:Z:560:TYR:CE2	2.50	0.45
1:J:426:ILE:HD12	1:L:171:TYR:HE1	1.81	0.45
1:K:309:LYS:O	1:K:498:ASN:ND2	2.49	0.45
1:L:275:THR:HG23	1:L:278:ASN:OD1	2.17	0.45
1:L:331:ASN:OD1	1:L:603:SER:OG	2.31	0.45
1:L:456:ARG:NH1	2:Z:32:CGU:OE22	2.50	0.45
1:J:369:ASP:N	1:J:369:ASP:OD2	2.50	0.45
1:J:580:LEU:O	1:J:581:LEU:HB2	2.16	0.45
1:J:595:ASP:OD2	1:J:598:MET:N	2.42	0.45
1:J:595:ASP:CG	1:J:597:ASN:H	2.20	0.45
1:K:280:MET:SD	1:K:280:MET:N	2.88	0.45
1:K:431:THR:CG2	1:K:456:ARG:HB3	2.47	0.45
1:J:101:PHE:O	1:J:568:GLN:HA	2.17	0.45
1:J:231:LEU:HD21	1:L:849:TYR:CE1	2.52	0.45
1:J:590:TRP:CD1	1:J:591:ASN:N	2.82	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:105:GLY:HA2	1:K:618:ASP:OD1	2.17	0.45
1:K:401:ASP:OD1	1:K:403:ASP:N	2.41	0.45
2:Z:62:GLU:OE2	2:Z:64:ASN:ND2	2.50	0.45
2:Z:87:GLN:HB2	2:Z:93:TYR:O	2.16	0.45
2:Z:173:ASP:OD1	2:Z:173:ASP:N	2.50	0.45
1:J:10:TRP:N	1:J:10:TRP:CD1	2.85	0.45
1:J:342:LEU:HD23	1:J:599:VAL:CG1	2.47	0.45
1:K:369:ASP:O	1:K:658:ASN:HB2	2.17	0.45
1:L:344:TYR:O	1:L:345:TYR:CG	2.70	0.45
1:L:708:TYR:CD2	1:L:709:SER:N	2.85	0.45
1:L:829:GLN:HA	1:L:852:ASN:ND2	2.32	0.45
1:L:857:LEU:HD23	1:L:857:LEU:HA	1.77	0.45
2:Z:223:ASP:OD1	2:Z:223:ASP:N	2.40	0.45
1:J:804:ASN:HD22	1:J:875:ARG:HB3	1.82	0.44
1:K:414:ASP:N	1:K:414:ASP:OD1	2.49	0.44
1:K:622:LEU:HD12	1:K:623:TYR:H	1.82	0.44
1:L:622:LEU:HD12	1:L:623:TYR:H	1.83	0.44
1:J:713:PRO:HA	1:J:716:ASP:OD1	2.18	0.44
1:K:568:GLN:N	1:K:568:GLN:OE1	2.49	0.44
1:L:207:TYR:O	1:L:207:TYR:CG	2.69	0.44
1:L:345:TYR:HB3	1:L:346:ASN:OD1	2.17	0.44
1:L:918:ASP:N	1:L:918:ASP:OD1	2.48	0.44
1:J:277:VAL:CB	1:J:280:MET:HG3	2.30	0.44
1:J:527:LEU:HD21	1:K:116:TYR:CZ	2.52	0.44
1:K:256:VAL:HG23	1:K:296:ASP:O	2.17	0.44
1:K:778:LEU:HD23	1:K:783:ILE:O	2.17	0.44
1:L:695:THR:H	1:L:706:TYR:HE1	1.64	0.44
1:L:848:ALA:O	1:L:849:TYR:HB2	2.17	0.44
1:J:190:THR:HA	1:J:201:ILE:HG13	1.99	0.44
1:K:657:ALA:O	1:K:658:ASN:CG	2.56	0.44
1:L:379:LEU:O	1:L:380:LEU:C	2.53	0.44
2:Z:337:MET:HE1	2:Z:388:ARG:HD3	2.00	0.44
1:J:607:ASP:O	1:J:608:LEU:HD23	2.17	0.44
1:K:504:ASN:HD22	1:K:507:THR:HG22	1.82	0.44
2:Z:215:VAL:HG12	2:Z:216:GLU:H	1.81	0.44
2:Z:420:ILE:HD13	2:Z:566:LEU:HD21	1.99	0.44
1:J:283:ALA:C	1:J:285:ALA:N	2.70	0.44
1:K:362:ASN:CG	1:K:364:VAL:H	2.20	0.44
1:K:526:ASN:OD1	1:K:810:ARG:NH1	2.50	0.44
1:K:550:LEU:HD12	1:K:550:LEU:HA	1.71	0.44
1:L:740:GLY:O	1:L:743:ARG:HG2	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Z:12:ASN:OD1	2:Z:13:LEU:N	2.51	0.44
1:J:582:LEU:HG	1:J:937:GLN:OE1	2.18	0.44
1:J:770:LYS:HE2	1:K:623:TYR:HE2	1.83	0.44
1:K:678:ASN:OD1	1:K:679:TRP:N	2.50	0.44
1:K:762:ASN:ND2	1:K:767:ASN:HA	2.32	0.44
1:L:356:GLY:O	1:L:359:SER:OG	2.33	0.44
1:L:568:GLN:OE1	1:L:568:GLN:N	2.51	0.44
1:L:766:CYS:SG	1:L:768:MET:N	2.84	0.44
2:Z:433:ASP:OD1	2:Z:433:ASP:N	2.50	0.44
1:J:299:MET:HE1	1:L:850:PRO:HG3	1.99	0.44
1:J:333:ILE:HA	1:J:601:GLN:O	2.18	0.44
1:J:411:GLY:HA3	1:K:117:SER:O	2.18	0.44
1:K:373:GLU:O	1:K:374:LEU:C	2.53	0.44
1:L:682:PHE:HE1	1:L:927:PHE:HB3	1.83	0.44
1:L:830:HIS:H	1:L:852:ASN:CG	2.21	0.44
2:Z:127:TYR:HA	2:Z:134:ARG:O	2.18	0.44
1:J:627:PHE:CD1	1:J:628:PRO:HD2	2.53	0.44
1:J:849:TYR:OH	1:K:295:GLU:OE2	2.28	0.44
1:K:759:GLU:HG3	1:L:104:ARG:NH2	2.33	0.44
1:K:804:ASN:O	1:K:873:CYS:HA	2.18	0.44
1:L:531:TRP:CE3	1:L:810:ARG:HB3	2.53	0.44
1:L:579:LEU:HG	1:L:580:LEU:N	2.33	0.44
1:L:704:PRO:HG2	1:L:705:TYR:CD1	2.53	0.44
1:L:808:MET:HE3	1:L:808:MET:HB2	1.88	0.44
1:J:249:ASN:CG	1:J:251:ASN:H	2.22	0.43
1:J:703:ASP:O	1:J:705:TYR:N	2.51	0.43
1:K:131:ASN:HD21	1:K:240:CYS:N	2.15	0.43
1:K:522:ASP:O	1:K:525:ILE:HG22	2.18	0.43
1:K:814:ASP:OD1	1:K:816:THR:N	2.35	0.43
1:L:577:LYS:NZ	1:L:578:ASN:OD1	2.46	0.43
1:L:680:ALA:O	1:L:951:PRO:HD3	2.18	0.43
2:Z:14:CGU:HG	2:Z:15:ARG:N	2.26	0.43
2:Z:133:VAL:HG11	2:Z:136:GLN:HB2	1.99	0.43
1:K:173:GLN:HA	1:L:459:ILE:HG22	1.99	0.43
1:K:208:GLN:C	1:K:209:PRO:O	2.57	0.43
1:K:903:ASN:OD1	1:K:903:ASN:N	2.51	0.43
1:L:279:ALA:O	1:L:280:MET:HB3	2.17	0.43
1:J:426:ILE:HD12	1:L:171:TYR:CE1	2.53	0.43
1:J:574:PHE:CG	1:J:575:ALA:N	2.86	0.43
1:K:94:LEU:HD12	1:K:95:ASP:N	2.33	0.43
1:L:290:LEU:HA	1:L:290:LEU:HD12	1.67	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:351:MET:HE2	1:L:351:MET:HB2	1.77	0.43
2:Z:86:CYS:HB2	2:Z:112:ASN:O	2.19	0.43
2:Z:93:TYR:HD1	2:Z:468:TRP:HZ3	1.66	0.43
1:J:261:ASN:OD1	1:J:261:ASN:N	2.51	0.43
1:J:763:VAL:HG12	1:J:768:MET:O	2.17	0.43
1:K:649:SER:O	1:K:650:PHE:CD1	2.71	0.43
1:L:377:GLN:O	1:L:379:LEU:N	2.52	0.43
1:L:685:TRP:HD1	1:L:927:PHE:HD1	1.66	0.43
2:Z:3:THR:O	2:Z:6:CGU:N	2.51	0.43
2:Z:382:ARG:HB3	2:Z:385:LYS:HD2	2.01	0.43
1:J:19:ASP:OD1	1:J:19:ASP:N	2.50	0.43
1:K:688:THR:HG21	1:K:719:PHE:CE2	2.54	0.43
1:L:708:TYR:CE1	1:L:710:GLY:N	2.82	0.43
2:Z:87:GLN:HA	2:Z:129:THR:HG23	2.00	0.43
1:J:213:ILE:HG22	1:J:214:GLY:H	1.83	0.43
1:J:364:VAL:HG13	1:J:573:PHE:HE2	1.83	0.43
1:J:584:GLY:HA3	1:J:586:TYR:OH	2.17	0.43
1:J:655:SER:O	1:J:656:ALA:HB2	2.19	0.43
1:J:883:SER:OG	1:J:884:SER:N	2.51	0.43
1:K:88:VAL:HG12	1:K:583:PRO:HA	2.01	0.43
1:L:130:PRO:HG3	1:L:321:LEU:HB3	1.99	0.43
1:K:275:THR:C	1:K:277:VAL:H	2.17	0.43
1:L:437:ALA:HB2	1:L:447:TRP:CZ3	2.54	0.43
1:L:658:ASN:C	1:L:659:MET:SD	2.97	0.43
1:L:693:LYS:HB3	1:L:693:LYS:HE3	1.64	0.43
2:Z:11:GLY:HA3	2:Z:16:CGU:OE21	2.18	0.43
1:K:825:GLY:O	1:K:829:GLN:NE2	2.52	0.43
1:L:204:ASP:O	1:L:208:GLN:HG2	2.19	0.43
1:L:333:ILE:HA	1:L:601:GLN:O	2.19	0.43
1:L:381:ASP:CG	1:L:382:SER:N	2.67	0.43
1:L:797:ARG:N	1:L:800:SER:HG	2.16	0.43
1:J:814:ASP:CG	1:J:816:THR:H	2.21	0.43
1:K:929:VAL:HB	1:K:950:THR:HG21	2.01	0.43
2:Z:458:VAL:HG23	2:Z:529:PHE:HD1	1.84	0.43
1:J:204:ASP:OD1	1:J:206:THR:OG1	2.32	0.43
1:J:254:GLN:O	1:J:297:VAL:HG12	2.19	0.43
1:J:502:SER:HB2	1:J:509:ASP:HB2	2.01	0.43
1:K:356:GLY:HA2	1:K:586:TYR:CD1	2.52	0.43
1:K:440:GLY:HA3	1:K:446:THR:HG23	2.01	0.43
1:L:278:ASN:HD22	1:L:278:ASN:HA	1.55	0.43
1:L:283:ALA:C	1:L:285:ALA:H	2.22	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:373:GLU:C	1:L:375:SER:N	2.69	0.43
1:L:597:ASN:ND2	1:L:706:TYR:O	2.52	0.43
1:L:694:GLU:CB	1:L:708:TYR:CE2	3.00	0.43
1:J:65:THR:HG23	1:L:745:LEU:HD21	2.01	0.42
1:J:65:THR:OG1	1:J:66:LEU:N	2.52	0.42
1:J:354:LEU:HA	1:J:587:THR:O	2.19	0.42
1:J:371:ASN:ND2	1:J:374:LEU:CB	2.77	0.42
1:J:790:ILE:HD12	1:J:790:ILE:H	1.85	0.42
1:K:368:GLN:O	1:K:369:ASP:C	2.57	0.42
1:K:654:LEU:HD13	1:K:654:LEU:HA	1.71	0.42
1:K:796:ASP:OD1	1:K:800:SER:OG	2.28	0.42
1:L:373:GLU:O	1:L:374:LEU:C	2.56	0.42
2:Z:90:ARG:HD2	2:Z:470:ALA:HB3	2.01	0.42
1:J:332:TYR:N	1:J:603:SER:OG	2.39	0.42
1:K:493:LYS:HB2	1:K:514:ARG:HH21	1.84	0.42
1:K:744:LEU:HD23	1:K:744:LEU:HA	1.82	0.42
2:Z:225:ASP:CG	2:Z:568:LYS:HB2	2.39	0.42
2:Z:316:TYR:HD1	2:Z:317:ILE:HG12	1.84	0.42
2:Z:574:ILE:O	2:Z:578:GLY:N	2.52	0.42
1:J:283:ALA:C	1:J:285:ALA:H	2.23	0.42
1:J:550:LEU:HD12	1:J:550:LEU:HA	1.77	0.42
1:K:335:PHE:O	1:K:553:ARG:HD2	2.19	0.42
1:K:504:ASN:ND2	1:K:507:THR:H	2.17	0.42
1:L:275:THR:HG23	1:L:278:ASN:CG	2.40	0.42
1:L:512:ASN:O	1:L:512:ASN:ND2	2.53	0.42
1:L:797:ARG:N	1:L:800:SER:OG	2.52	0.42
1:J:20:ALA:HA	1:J:23:TYR:HE1	1.82	0.42
1:J:68:PHE:CZ	1:J:86:LEU:HD12	2.54	0.42
1:J:782:ASN:HD21	1:J:888:SER:HB2	1.83	0.42
1:K:186:LEU:HD12	1:K:187:GLN:N	2.33	0.42
1:L:393:TRP:CZ3	1:L:570:PRO:HB3	2.54	0.42
1:L:721:LEU:O	1:L:724:THR:OG1	2.32	0.42
2:Z:16:CGU:O	2:Z:22:CYS:HB3	2.18	0.42
2:Z:340:ARG:HB2	2:Z:347:LEU:HD11	2.01	0.42
1:J:98:SER:OG	1:J:624:ALA:HA	2.19	0.42
1:L:694:GLU:HB3	1:L:708:TYR:CD1	2.54	0.42
1:J:254:GLN:HB2	1:J:297:VAL:HG12	2.01	0.42
1:J:291:LEU:O	1:J:292:LEU:HD23	2.20	0.42
1:J:453:PHE:CD1	1:L:168:THR:HB	2.55	0.42
1:K:232:LYS:HD2	1:K:295:GLU:C	2.40	0.42
1:K:660:LEU:HD22	1:K:660:LEU:HA	1.69	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:769:THR:OG1	1:K:771:ASP:OD1	2.32	0.42
1:L:194:ALA:HB3	1:L:199:LYS:H	1.83	0.42
1:L:283:ALA:C	1:L:285:ALA:N	2.73	0.42
2:Z:85:GLU:O	2:Z:129:THR:OG1	2.28	0.42
1:J:579:LEU:HD11	1:J:935:VAL:HG11	2.02	0.42
1:K:20:ALA:HA	1:K:23:TYR:CZ	2.54	0.42
1:K:470:ASN:OD1	1:K:471:LEU:N	2.53	0.42
1:L:232:LYS:HG2	1:L:294:SER:HB2	2.01	0.42
1:L:723:HIS:CE1	1:L:724:THR:HG23	2.55	0.42
2:Z:67:GLU:HB2	2:Z:72:ASN:CG	2.40	0.42
2:Z:74:ARG:CZ	2:Z:107:ALA:HA	2.50	0.42
1:J:596:VAL:HB	1:J:600:LEU:HD12	2.00	0.42
1:K:10:TRP:CD1	1:K:10:TRP:N	2.87	0.42
1:K:109:ARG:HD3	1:K:333:ILE:HG22	2.01	0.42
1:K:271:GLN:O	1:K:291:LEU:HD12	2.20	0.42
1:K:657:ALA:O	1:K:658:ASN:CB	2.68	0.42
1:K:766:CYS:SG	1:K:768:MET:N	2.92	0.42
1:L:931:ASP:HA	1:L:949:ARG:HB2	2.02	0.42
2:Z:297:PRO:O	2:Z:301:LYS:HB2	2.20	0.42
1:J:65:THR:O	1:J:66:LEU:HD23	2.19	0.42
1:K:14:HIS:CE1	1:K:23:TYR:CZ	3.07	0.42
1:L:292:LEU:HD23	1:L:292:LEU:HA	1.85	0.42
1:L:441:ASN:OD1	1:L:441:ASN:N	2.52	0.42
2:Z:18:VAL:HG12	2:Z:19:CGU:CD1	2.50	0.42
2:Z:240:PHE:CE1	2:Z:572:LYS:HB3	2.55	0.42
1:J:487:TYR:HE2	1:J:544:HIS:CE1	2.38	0.42
1:J:899:LEU:HD13	1:J:903:ASN:HD21	1.85	0.42
1:K:280:MET:O	1:K:281:ASN:CB	2.66	0.42
1:K:772:TRP:HZ2	1:K:878:TRP:CE3	2.38	0.42
1:K:782:ASN:HD21	1:K:888:SER:HB2	1.84	0.42
1:L:696:PRO:HD3	1:L:706:TYR:OH	2.19	0.42
1:L:726:LYS:HE2	1:L:726:LYS:HB3	1.82	0.42
2:Z:9:ARG:CG	2:Z:10:LYS:N	2.83	0.42
1:K:616:LYS:HB3	1:K:616:LYS:HE2	1.86	0.41
1:K:811:GLN:N	1:K:811:GLN:OE1	2.53	0.41
1:L:409:ASN:ND2	1:L:525:ILE:O	2.53	0.41
1:L:616:LYS:HB3	1:L:616:LYS:HE2	1.85	0.41
1:L:799:TYR:N	1:L:799:TYR:CD1	2.86	0.41
1:L:944:GLU:OE1	1:L:945:THR:N	2.42	0.41
2:Z:115:ARG:O	2:Z:125:TRP:N	2.53	0.41
2:Z:277:TYR:CE1	2:Z:540:TYR:HE2	2.38	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Z:554:ASP:N	2:Z:554:ASP:OD1	2.53	0.41
1:J:329:ARG:HG3	1:J:512:ASN:OD1	2.20	0.41
1:J:781:TYR:HB2	1:J:783:ILE:HG13	2.02	0.41
1:K:419:TYR:OH	1:L:843:MET:HA	2.20	0.41
1:K:676:SER:HA	1:K:906:HIS:O	2.20	0.41
1:L:256:VAL:HG23	1:L:296:ASP:O	2.20	0.41
1:K:187:GLN:NE2	1:K:190:THR:HG1	2.17	0.41
1:K:380:LEU:O	1:K:382:SER:N	2.53	0.41
1:L:336:ARG:NH2	1:L:712:ILE:HG13	2.35	0.41
1:L:371:ASN:C	1:L:373:GLU:N	2.73	0.41
1:L:440:GLY:HA3	1:L:445:THR:HA	2.02	0.41
1:L:522:ASP:HB3	1:L:524:TYR:CE1	2.55	0.41
2:Z:48:GLU:HA	2:Z:51:ARG:CZ	2.50	0.41
2:Z:230:TRP:CZ2	2:Z:572:LYS:HD3	2.55	0.41
1:J:643:ASN:O	1:J:645:THR:N	2.53	0.41
1:J:668:THR:HG22	1:J:914:VAL:O	2.21	0.41
1:K:661:TYR:CE2	1:K:672:ILE:HG21	2.56	0.41
1:K:847:GLN:HB3	1:L:175:PRO:HG3	2.02	0.41
2:Z:3:THR:O	2:Z:6:CGU:HB2	2.21	0.41
2:Z:506:PHE:HB3	2:Z:562:HIS:NE2	2.35	0.41
1:J:531:TRP:NE1	1:J:532:SER:O	2.53	0.41
1:J:582:LEU:O	1:J:586:TYR:OH	2.36	0.41
1:J:778:LEU:HD23	1:J:783:ILE:N	2.35	0.41
1:J:849:TYR:CD1	1:J:850:PRO:CD	3.03	0.41
1:K:207:TYR:O	1:K:208:GLN:CB	2.68	0.41
1:K:435:ILE:H	1:K:435:ILE:HG12	1.63	0.41
1:L:282:GLU:C	1:L:284:ASN:N	2.69	0.41
2:Z:229:VAL:HG22	2:Z:247:TYR:OH	2.20	0.41
1:J:733:ASP:OD2	1:J:906:HIS:HB3	2.20	0.41
1:J:899:LEU:HD22	1:J:903:ASN:OD1	2.20	0.41
1:K:281:ASN:HB3	1:K:282:GLU:H	1.58	0.41
1:K:469:ILE:HG12	1:K:470:ASN:N	2.36	0.41
1:K:672:ILE:CG1	1:K:910:MET:HB2	2.50	0.41
1:L:345:TYR:HB3	1:L:346:ASN:H	1.57	0.41
1:L:346:ASN:HA	1:L:366:ASP:OD2	2.21	0.41
1:L:380:LEU:HD22	1:L:380:LEU:HA	1.88	0.41
2:Z:77:VAL:HG13	2:Z:79:ILE:HG12	2.02	0.41
1:J:134:GLU:OE1	1:J:134:GLU:N	2.53	0.41
1:J:501:ILE:HG13	1:J:513:LYS:HB2	2.03	0.41
1:J:703:ASP:C	1:J:705:TYR:N	2.73	0.41
1:J:855:TYR:CD2	1:J:856:PRO:HD2	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:76:THR:OG1	1:K:79:SER:OG	2.38	0.41
1:K:249:ASN:HD21	1:K:253:GLY:HA3	1.86	0.41
1:L:522:ASP:O	1:L:525:ILE:HG22	2.21	0.41
1:J:678:ASN:OD1	1:J:679:TRP:N	2.54	0.41
1:K:100:TYR:HD1	1:K:568:GLN:HB3	1.86	0.41
1:K:420:CYS:SG	1:K:421:PHE:N	2.93	0.41
1:K:879:ARG:NH1	1:K:928:GLU:OE2	2.54	0.41
1:L:550:LEU:HD12	1:L:550:LEU:HA	1.60	0.41
1:L:642:ARG:NH2	1:L:940:ARG:HA	2.36	0.41
2:Z:458:VAL:HA	2:Z:528:PRO:O	2.19	0.41
1:J:182:ASN:HD21	1:J:184:ASN:CG	2.24	0.41
1:J:215:GLU:HB2	1:K:463:ASN:ND2	2.36	0.41
1:J:689:ARG:O	1:J:690:LEU:HD23	2.20	0.41
1:J:872:LEU:HD23	1:J:872:LEU:HA	1.88	0.41
1:J:876:THR:O	1:J:877:LEU:HD23	2.21	0.41
1:K:42:ASN:OD1	1:K:42:ASN:N	2.48	0.41
1:K:105:GLY:HA2	1:K:618:ASP:CG	2.41	0.41
1:K:504:ASN:ND2	1:K:507:THR:HG22	2.35	0.41
1:K:565:PHE:HD1	1:K:565:PHE:H	1.69	0.41
1:L:42:ASN:N	1:L:42:ASN:OD1	2.53	0.41
1:L:386:ARG:HD2	1:L:386:ARG:HA	1.83	0.41
1:L:644:ASP:OD1	1:L:645:THR:N	2.54	0.41
2:Z:464:LEU:HD12	2:Z:468:TRP:CD1	2.56	0.41
1:J:604:LEU:HA	1:J:604:LEU:HD23	1.81	0.41
1:J:706:TYR:HD1	1:J:706:TYR:HA	1.66	0.41
1:J:762:ASN:O	1:J:770:LYS:NZ	2.30	0.41
1:K:183:LYS:H	1:K:183:LYS:HG2	1.55	0.41
1:K:259:GLU:HA	1:K:263:LYS:O	2.21	0.41
1:K:433:GLN:NE2	1:K:449:GLN:HA	2.35	0.41
1:L:345:TYR:OH	1:L:572:LYS:HB2	2.21	0.41
1:L:953:SER:OG	1:L:954:ALA:N	2.54	0.41
1:K:475:LEU:HD23	1:K:475:LEU:HA	1.92	0.40
1:L:361:LEU:HD23	1:L:361:LEU:HA	1.90	0.40
2:Z:89:TRP:HB2	2:Z:110:GLN:O	2.21	0.40
2:Z:89:TRP:NE1	2:Z:113:PHE:O	2.53	0.40
2:Z:382:ARG:HG2	2:Z:398:ILE:HG12	2.03	0.40
2:Z:460:GLY:HA3	2:Z:524:ASP:H	1.85	0.40
1:K:385:ASP:OD1	1:K:387:THR:HG23	2.22	0.40
1:K:436:LYS:HE3	1:K:438:THR:HG23	2.03	0.40
1:L:229:ARG:HH21	1:L:295:GLU:CD	2.25	0.40
2:Z:48:GLU:HA	2:Z:51:ARG:NE	2.36	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:280:MET:HB3	2:Z:52:THR:CG2	2.51	0.40
1:J:591:ASN:N	1:J:591:ASN:OD1	2.54	0.40
1:J:702:TYR:CZ	1:J:704:PRO:HA	2.57	0.40
1:J:742:ASP:O	1:K:63:ARG:HD3	2.22	0.40
1:L:67:ARG:NH1	1:L:623:TYR:OH	2.55	0.40
1:L:204:ASP:O	1:L:206:THR:N	2.54	0.40
1:L:339:PHE:HB3	1:L:342:LEU:HD12	2.03	0.40
1:L:357:GLN:HB2	1:L:585:SER:O	2.21	0.40
1:L:417:PRO:HB2	1:L:419:TYR:CZ	2.56	0.40
2:Z:147:GLN:HG2	2:Z:148:VAL:N	2.35	0.40
2:Z:230:TRP:CH2	2:Z:572:LYS:HD3	2.56	0.40
1:J:237:MET:HE3	1:J:317:SER:N	2.35	0.40
1:J:566:HIS:ND1	1:J:566:HIS:O	2.53	0.40
1:J:663:ILE:HB	1:J:921:THR:OG1	2.22	0.40
1:J:778:LEU:HD23	1:J:778:LEU:HA	1.86	0.40
1:J:780:ASN:HB3	1:J:781:TYR:CE1	2.57	0.40
1:K:100:TYR:CE1	1:K:623:TYR:HD2	2.40	0.40
1:K:383:ILE:HG13	1:K:384:GLY:N	2.35	0.40
1:K:440:GLY:N	1:K:446:THR:H	2.15	0.40
1:K:726:LYS:HB2	1:K:913:GLU:O	2.21	0.40
1:K:826:ILE:HG23	1:K:827:ILE:HG23	2.04	0.40
1:K:934:ARG:CZ	1:L:12:TYR:HE1	2.35	0.40
2:Z:363:HIS:HB2	2:Z:367:TYR:CE2	2.56	0.40
1:J:368:GLN:C	1:J:369:ASP:CG	2.80	0.40
1:K:292:LEU:HD23	1:K:292:LEU:HA	1.84	0.40
1:K:431:THR:HG23	1:K:456:ARG:HB3	2.02	0.40
1:L:848:ALA:O	1:L:849:TYR:CB	2.67	0.40
2:Z:566:LEU:O	2:Z:569:TRP:HB3	2.21	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	J	927/959 (97%)	786 (85%)	124 (13%)	17 (2%)	7	36
1	K	925/959 (96%)	789 (85%)	118 (13%)	18 (2%)	6	35
1	L	923/959 (96%)	784 (85%)	119 (13%)	20 (2%)	5	32
2	Z	567/622 (91%)	520 (92%)	44 (8%)	3 (0%)	25	63
All	All	3342/3499 (96%)	2879 (86%)	405 (12%)	58 (2%)	10	37

All (58) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	J	283	ALA
1	J	285	ALA
1	J	346	ASN
1	J	370	ARG
1	J	585	SER
1	K	209	PRO
1	K	281	ASN
1	K	368	GLN
1	K	369	ASP
1	K	654	LEU
1	K	658	ASN
1	K	660	LEU
1	L	280	MET
1	L	346	ASN
1	L	350	ASN
1	L	692	THR
1	L	693	LYS
1	J	284	ASN
1	J	371	ASN
1	K	372	THR
1	K	653	TYR
1	L	284	ASN
1	L	371	ASN
1	L	372	THR
1	L	383	ILE
2	Z	18	VAL
1	J	427	GLY
1	J	581	LEU
1	J	655	SER
1	K	283	ALA
1	L	345	TYR
1	L	347	SER
1	L	377	GLN

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Mol	Chain	Res	Type
1	K	285	ALA
1	K	656	ALA
1	L	369	ASP
1	L	658	ASN
1	L	708	TYR
1	L	709	SER
1	L	849	TYR
1	J	275	THR
1	J	628	PRO
1	K	655	SER
1	L	283	ALA
2	Z	54	ARG
1	J	658	ASN
1	K	97	ALA
1	K	208	GLN
1	L	351	MET
1	J	662	PRO
1	J	701	GLY
1	J	704	PRO
1	J	849	TYR
1	K	427	GLY
1	K	211	PRO
1	K	428	VAL
1	L	209	PRO
2	Z	53	PRO

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	J	799/824 (97%)	698 (87%)	101 (13%)	3 17
1	K	799/824 (97%)	704 (88%)	95 (12%)	4 18
1	L	797/824 (97%)	698 (88%)	99 (12%)	4 18
2	Z	486/521 (93%)	461 (95%)	25 (5%)	20 44
All	All	2881/2993 (96%)	2561 (89%)	320 (11%)	7 20

All (320) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	J	7	MET
1	J	19	ASP
1	J	42	ASN
1	J	47	ASN
1	J	54	HIS
1	J	55	ASP
1	J	58	THR
1	J	59	ASP
1	J	64	LEU
1	J	66	LEU
1	J	90	ASP
1	J	91	ASN
1	J	100	TYR
1	J	102	ASP
1	J	112	THR
1	J	117	SER
1	J	184	ASN
1	J	196	GLU
1	J	243	SER
1	J	261	ASN
1	J	266	SER
1	J	275	THR
1	J	278	ASN
1	J	281	ASN
1	J	284	ASN
1	J	294	SER
1	J	297	VAL
1	J	312	LYS
1	J	314	ASP
1	J	315	ASP
1	J	324	GLN
1	J	333	ILE
1	J	342	LEU
1	J	344	TYR
1	J	345	TYR
1	J	347	SER
1	J	348	THR
1	J	361	LEU
1	J	369	ASP
1	J	371	ASN
1	J	380	LEU
1	J	381	ASP

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Mol	Chain	Res	Type
1	J	412	THR
1	J	413	GLU
1	J	415	GLU
1	J	423	LEU
1	J	428	VAL
1	J	429	THR
1	J	446	THR
1	J	465	PHE
1	J	467	MET
1	J	468	GLU
1	J	474	ASN
1	J	494	TYR
1	J	495	ASN
1	J	503	ASP
1	J	509	ASP
1	J	534	ASP
1	J	553	ARG
1	J	565	PHE
1	J	566	HIS
1	J	568	GLN
1	J	573	PHE
1	J	576	ILE
1	J	577	LYS
1	J	581	LEU
1	J	582	LEU
1	J	585	SER
1	J	586	TYR
1	J	587	THR
1	J	588	TYR
1	J	594	LYS
1	J	595	ASP
1	J	611	ASP
1	J	618	ASP
1	J	625	THR
1	J	627	PHE
1	J	652	ASP
1	J	655	SER
1	J	658	ASN
1	J	659	MET
1	J	660	LEU
1	J	698	LEU
1	J	702	TYR

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Mol	Chain	Res	Type
1	J	706	TYR
1	J	737	SER
1	J	741	ASN
1	J	752	ILE
1	J	766	CYS
1	J	792	GLU
1	J	804	ASN
1	J	814	ASP
1	J	820	ASP
1	J	844	ARG
1	J	855	TYR
1	J	864	ASP
1	J	882	PHE
1	J	883	SER
1	J	915	ASP
1	J	943	ILE
1	J	950	THR
1	K	6	MET
1	K	19	ASP
1	K	45	PHE
1	K	54	HIS
1	K	55	ASP
1	K	58	THR
1	K	90	ASP
1	K	91	ASN
1	K	93	VAL
1	K	112	THR
1	K	113	PHE
1	K	119	THR
1	K	136	ASP
1	K	171	TYR
1	K	198	ASN
1	K	208	GLN
1	K	231	LEU
1	K	250	SER
1	K	251	ASN
1	K	260	GLN
1	K	261	ASN
1	K	277	VAL
1	K	278	ASN
1	K	280	MET
1	K	282	GLU

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Mol	Chain	Res	Type
1	K	286	ILE
1	K	295	GLU
1	K	305	HIS
1	K	316	ASN
1	K	317	SER
1	K	333	ILE
1	K	338	ASN
1	K	350	ASN
1	K	374	LEU
1	K	375	SER
1	K	376	TYR
1	K	381	ASP
1	K	383	ILE
1	K	397	VAL
1	K	398	ASP
1	K	403	ASP
1	K	413	GLU
1	K	420	CYS
1	K	428	VAL
1	K	429	THR
1	K	430	ASP
1	K	433	GLN
1	K	435	ILE
1	K	438	THR
1	K	452	THR
1	K	463	ASN
1	K	468	GLU
1	K	474	ASN
1	K	480	LEU
1	K	495	ASN
1	K	497	THR
1	K	498	ASN
1	K	499	VAL
1	K	501	ILE
1	K	507	THR
1	K	532	SER
1	K	556	LEU
1	K	565	PHE
1	K	573	PHE
1	K	577	LYS
1	K	588	TYR
1	K	595	ASP

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Mol	Chain	Res	Type
1	K	597	ASN
1	K	618	ASP
1	K	627	PHE
1	K	631	HIS
1	K	643	ASN
1	K	644	ASP
1	K	652	ASP
1	K	653	TYR
1	K	654	LEU
1	K	659	MET
1	K	660	LEU
1	K	669	ASN
1	K	730	ILE
1	K	756	VAL
1	K	766	CYS
1	K	769	THR
1	K	796	ASP
1	K	813	VAL
1	K	820	ASP
1	K	844	ARG
1	K	853	VAL
1	K	874	ASP
1	K	876	THR
1	K	883	SER
1	K	903	ASN
1	K	918	ASP
1	K	931	ASP
1	K	950	THR
1	L	6	MET
1	L	25	SER
1	L	37	THR
1	L	54	HIS
1	L	55	ASP
1	L	58	THR
1	L	63	ARG
1	L	78	TYR
1	L	80	TYR
1	L	90	ASP
1	L	112	THR
1	L	114	LYS
1	L	131	ASN
1	L	171	TYR

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Mol	Chain	Res	Type
1	L	184	ASN
1	L	190	THR
1	L	205	LYS
1	L	243	SER
1	L	254	GLN
1	L	261	ASN
1	L	275	THR
1	L	278	ASN
1	L	280	MET
1	L	284	ASN
1	L	286	ILE
1	L	298	ASN
1	L	305	HIS
1	L	316	ASN
1	L	333	ILE
1	L	346	ASN
1	L	347	SER
1	L	348	THR
1	L	350	ASN
1	L	351	MET
1	L	370	ARG
1	L	375	SER
1	L	380	LEU
1	L	381	ASP
1	L	382	SER
1	L	383	ILE
1	L	398	ASP
1	L	403	ASP
1	L	420	CYS
1	L	428	VAL
1	L	429	THR
1	L	445	THR
1	L	465	PHE
1	L	469	ILE
1	L	500	GLU
1	L	507	THR
1	L	516	VAL
1	L	520	LEU
1	L	550	LEU
1	L	565	PHE
1	L	566	HIS
1	L	573	PHE

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Mol	Chain	Res	Type
1	L	595	ASP
1	L	614	SER
1	L	641	LEU
1	L	652	ASP
1	L	672	ILE
1	L	674	ILE
1	L	687	PHE
1	L	693	LYS
1	L	694	GLU
1	L	697	SER
1	L	698	LEU
1	L	706	TYR
1	L	708	TYR
1	L	711	SER
1	L	723	HIS
1	L	728	VAL
1	L	754	ARG
1	L	757	ASP
1	L	763	VAL
1	L	766	CYS
1	L	767	ASN
1	L	769	THR
1	L	780	ASN
1	L	790	ILE
1	L	799	TYR
1	L	844	ARG
1	L	847	GLN
1	L	849	TYR
1	L	855	TYR
1	L	858	ILE
1	L	874	ASP
1	L	876	THR
1	L	879	ARG
1	L	883	SER
1	L	894	ASP
1	L	899	LEU
1	L	914	VAL
1	L	926	LEU
1	L	943	ILE
1	L	944	GLU
1	L	948	LEU
1	L	949	ARG

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Mol	Chain	Res	Type
1	L	950	THR
2	Z	22	CYS
2	Z	54	ARG
2	Z	55	ASP
2	Z	56	LYS
2	Z	95	HIS
2	Z	100	ASN
2	Z	112	ASN
2	Z	129	THR
2	Z	152	MET
2	Z	173	ASP
2	Z	223	ASP
2	Z	281	PHE
2	Z	290	GLU
2	Z	300	GLU
2	Z	316	TYR
2	Z	334	TRP
2	Z	367	TYR
2	Z	395	ILE
2	Z	400	MET
2	Z	419	ASP
2	Z	454	TYR
2	Z	519	ASP
2	Z	552	ASP
2	Z	557	TYR
2	Z	564	PHE

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

Mol	Chain	Res	Type
1	J	182	ASN
1	J	187	GLN
1	J	658	ASN
1	K	131	ASN
1	K	278	ASN
1	K	346	ASN
1	L	449	GLN
1	L	591	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

10 non-standard protein/DNA/RNA residues are modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
2	CGU	Z	6	2,3	9,11,12	1.64	1 (11%)	10,14,16	0.92	0
2	CGU	Z	25	2	9,11,12	1.72	1 (11%)	10,14,16	0.90	0
2	CGU	Z	7	2,3	9,11,12	1.74	2 (22%)	10,14,16	0.89	0
2	CGU	Z	16	2,3	9,11,12	1.28	0	10,14,16	0.95	0
2	CGU	Z	26	2,3	9,11,12	1.41	1 (11%)	10,14,16	0.81	0
2	CGU	Z	29	2,3	9,11,12	1.36	0	10,14,16	0.83	0
2	CGU	Z	20	2,3	9,11,12	1.39	1 (11%)	10,14,16	0.81	0
2	CGU	Z	19	2	9,11,12	1.56	1 (11%)	10,14,16	0.84	0
2	CGU	Z	32	2	9,11,12	1.53	1 (11%)	10,14,16	0.90	0
2	CGU	Z	14	2,3	9,11,12	1.18	0	10,14,16	0.78	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the Chemical Component Dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	CGU	Z	6	2,3	-	3/13/14/16	-
2	CGU	Z	25	2	-	4/13/14/16	-
2	CGU	Z	7	2,3	-	5/13/14/16	-
2	CGU	Z	16	2,3	-	2/13/14/16	-
2	CGU	Z	26	2,3	-	0/13/14/16	-
2	CGU	Z	29	2,3	-	8/13/14/16	-
2	CGU	Z	20	2,3	-	1/13/14/16	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	CGU	Z	19	2	-	3/13/14/16	-
2	CGU	Z	32	2	-	2/13/14/16	-
2	CGU	Z	14	2,3	-	2/13/14/16	-

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	Z	25	CGU	CG-CD2	3.54	1.56	1.52
2	Z	7	CGU	CG-CD2	3.09	1.56	1.52
2	Z	19	CGU	CG-CD1	2.97	1.55	1.52
2	Z	6	CGU	CG-CD2	2.71	1.55	1.52
2	Z	7	CGU	CG-CD1	2.12	1.54	1.52
2	Z	32	CGU	CA-N	2.07	1.53	1.48
2	Z	26	CGU	CG-CD2	2.06	1.54	1.52
2	Z	20	CGU	CG-CD2	2.04	1.54	1.52

There are no bond angle outliers.

There are no chirality outliers.

All (30) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	Z	6	CGU	C-CA-CB-CG
2	Z	6	CGU	OE21-CD2-CG-CB
2	Z	6	CGU	OE22-CD2-CG-CB
2	Z	7	CGU	N-CA-CB-CG
2	Z	14	CGU	C-CA-CB-CG
2	Z	16	CGU	CA-CB-CG-CD1
2	Z	19	CGU	N-CA-CB-CG
2	Z	19	CGU	CA-CB-CG-CD1
2	Z	20	CGU	O-C-CA-CB
2	Z	29	CGU	OE22-CD2-CG-CD1
2	Z	32	CGU	N-CA-CB-CG
2	Z	32	CGU	C-CA-CB-CG
2	Z	14	CGU	N-CA-CB-CG
2	Z	7	CGU	OE21-CD2-CG-CB
2	Z	25	CGU	OE21-CD2-CG-CB
2	Z	25	CGU	OE22-CD2-CG-CB
2	Z	29	CGU	OE21-CD2-CG-CB
2	Z	29	CGU	OE22-CD2-CG-CB
2	Z	29	CGU	OE21-CD2-CG-CD1

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Mol	Chain	Res	Type	Atoms
2	Z	7	CGU	C-CA-CB-CG
2	Z	25	CGU	N-CA-CB-CG
2	Z	29	CGU	N-CA-CB-CG
2	Z	7	CGU	OE22-CD2-CG-CB
2	Z	29	CGU	OE11-CD1-CG-CB
2	Z	29	CGU	OE12-CD1-CG-CB
2	Z	7	CGU	OE11-CD1-CG-CD2
2	Z	16	CGU	OE11-CD1-CG-CD2
2	Z	19	CGU	OE21-CD2-CG-CD1
2	Z	25	CGU	OE21-CD2-CG-CD1
2	Z	29	CGU	OE11-CD1-CG-CD2

There are no ring outliers.

6 monomers are involved in 17 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	Z	6	CGU	3	0
2	Z	25	CGU	2	0
2	Z	16	CGU	2	0
2	Z	19	CGU	7	0
2	Z	32	CGU	1	0
2	Z	14	CGU	2	0

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 7 ligands modelled in this entry, 7 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 (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

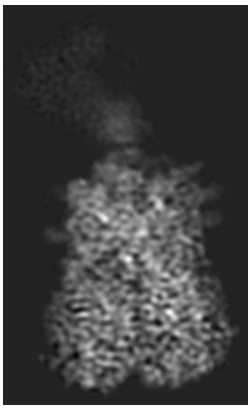
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-45751. These allow visual inspection of the internal detail of the map and identification of artifacts.

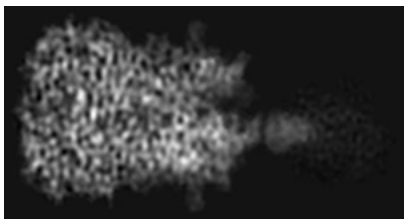
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

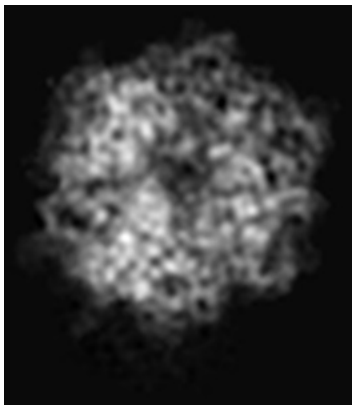
6.1.1 Primary map



X

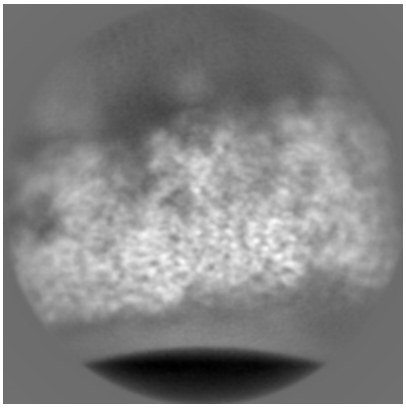


Y

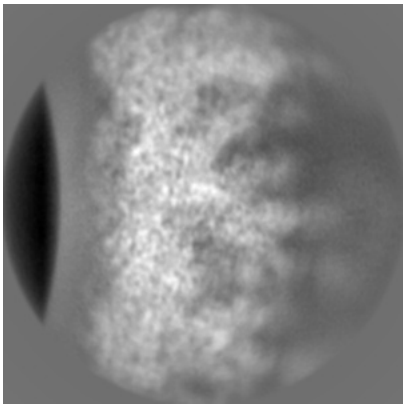


Z

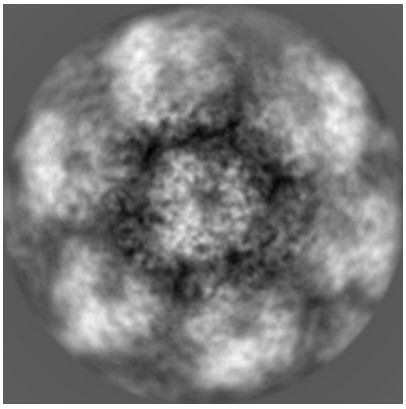
6.1.2 Raw map



X



Y

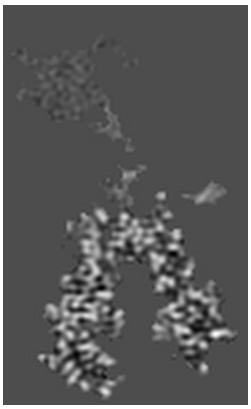


Z

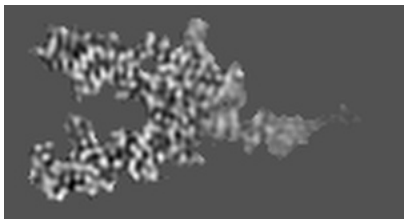
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

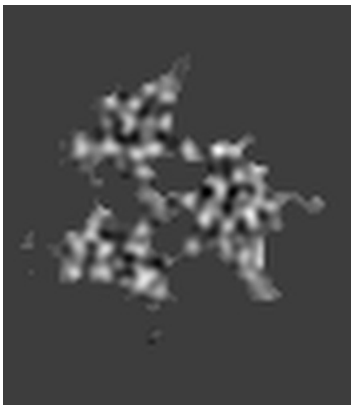
6.2.1 Primary map



X Index: 40

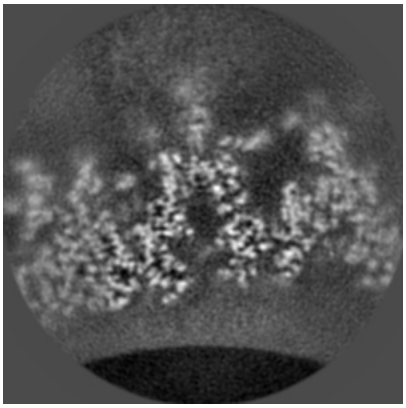


Y Index: 46

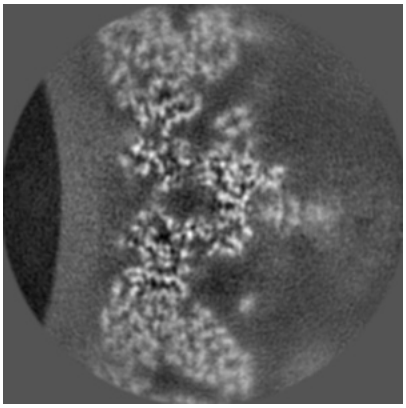


Z Index: 75

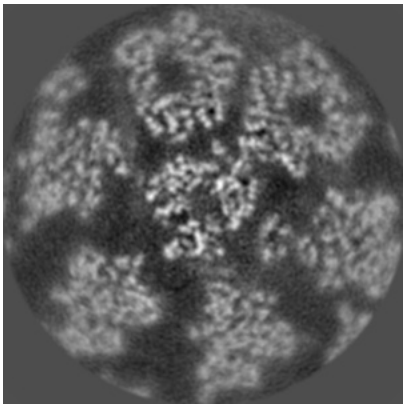
6.2.2 Raw map



X Index: 100



Y Index: 100

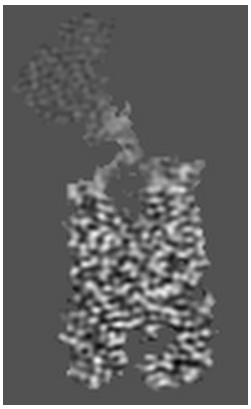


Z Index: 100

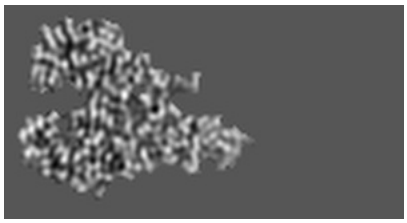
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

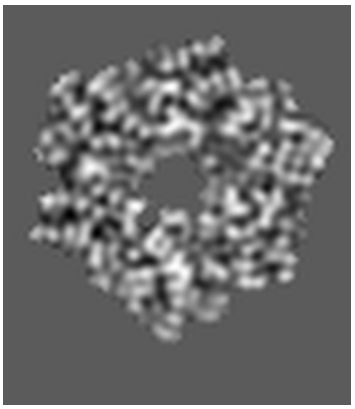
6.3.1 Primary map



X Index: 28

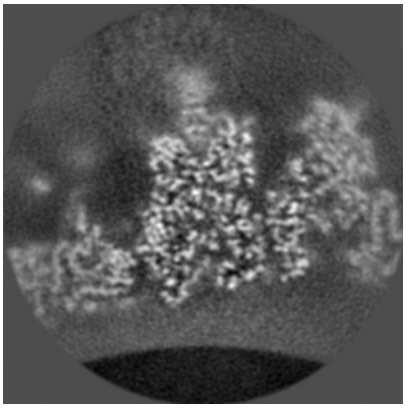


Y Index: 64

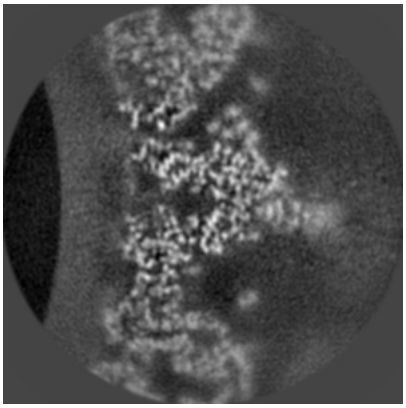


Z Index: 33

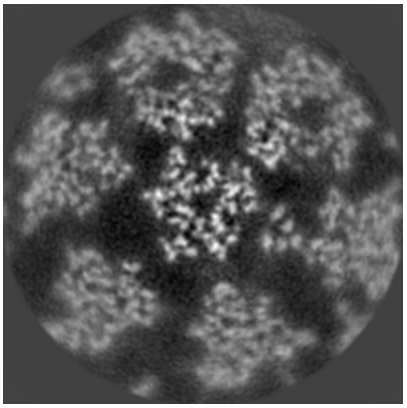
6.3.2 Raw map



X Index: 92



Y Index: 96

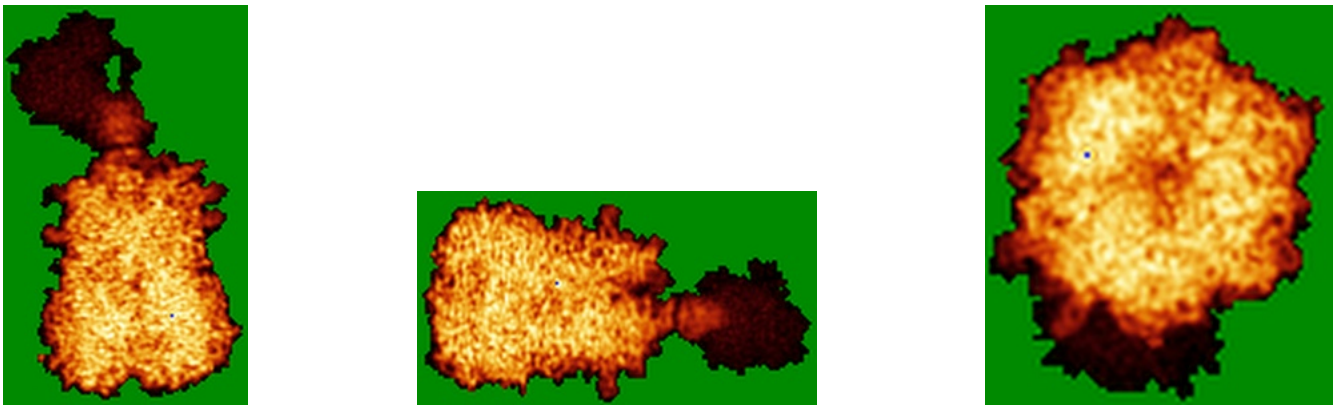


Z Index: 104

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

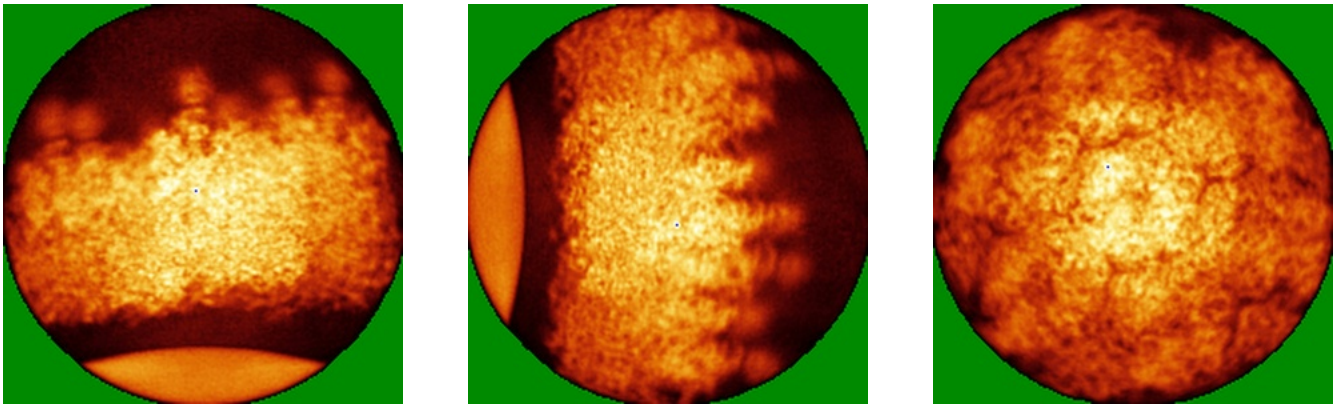
6.4 Orthogonal standard-deviation projections (False-color) (i)

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 0.007. 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.

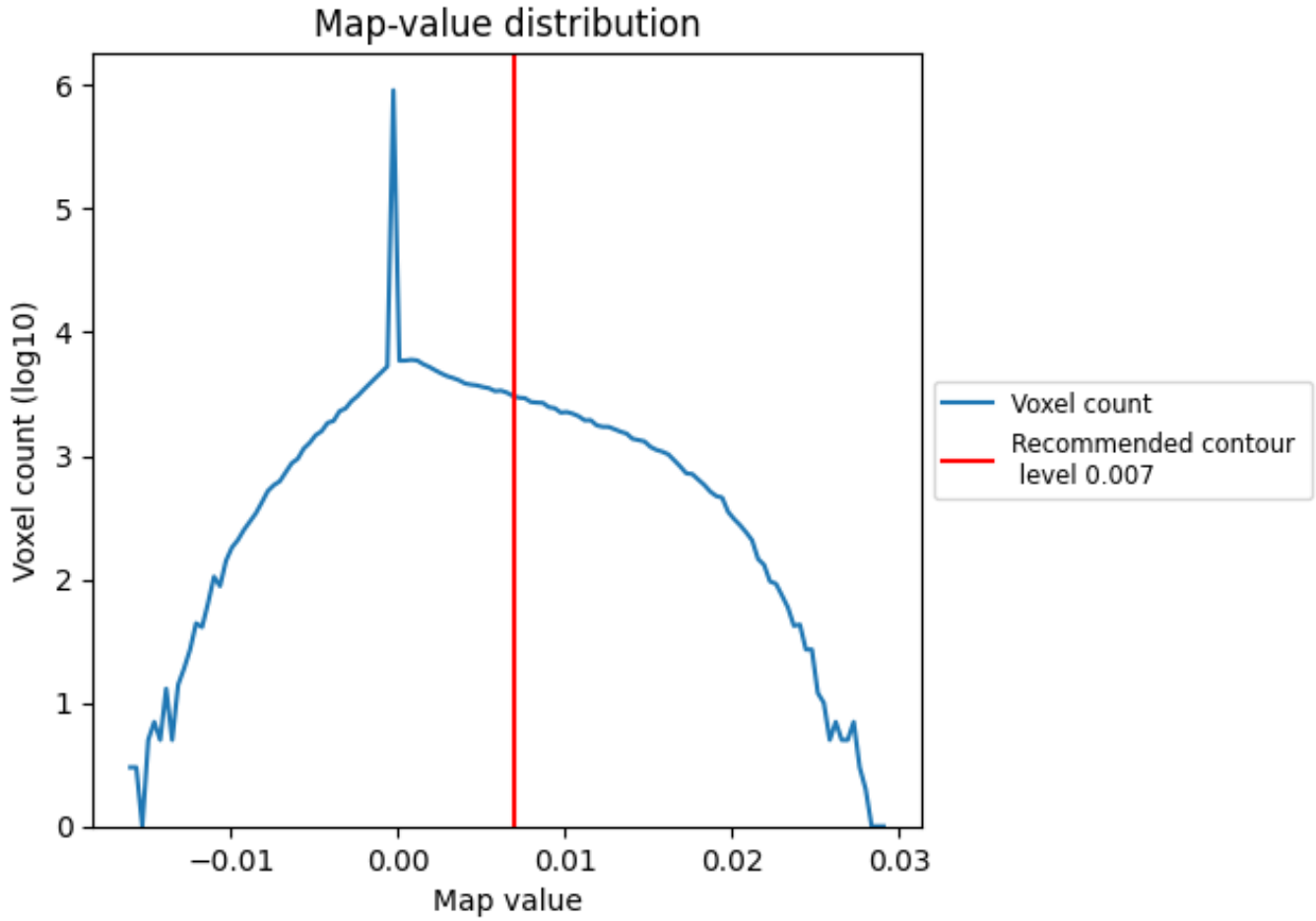
6.6 Mask visualisation (i)

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

7 Map analysis

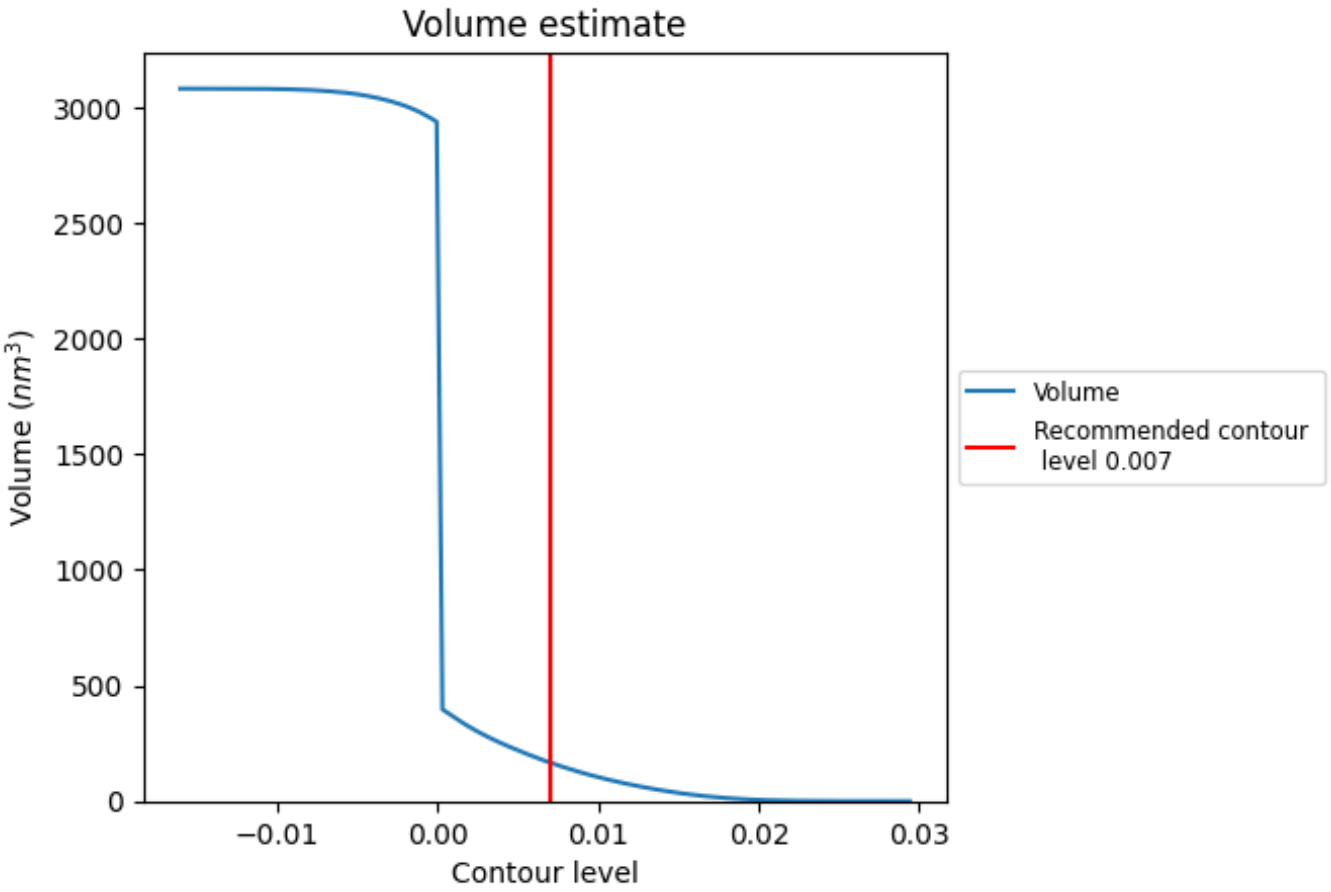
This section contains the results of statistical analysis of the map.

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 167 nm^3; this corresponds to an approximate mass of 151 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

This section was not generated. The rotationally averaged power spectrum is only generated for cubic maps.

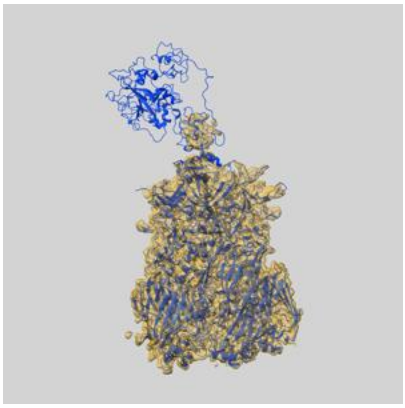
8 Fourier-Shell correlation

This section was not generated. No FSC curve or half-maps provided.

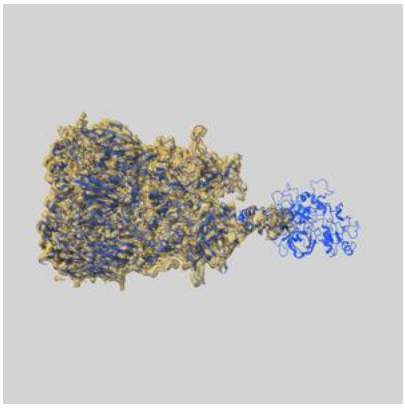
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-45751 and PDB model 9CMO. Per-residue inclusion information can be found in section 3 on page 5.

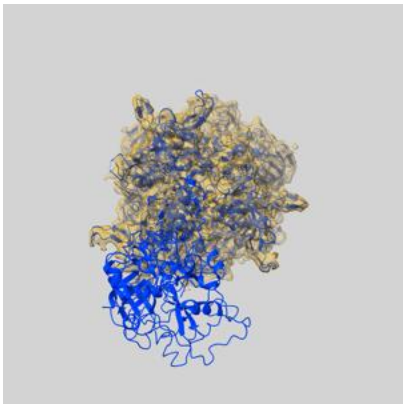
9.1 Map-model overlay



X



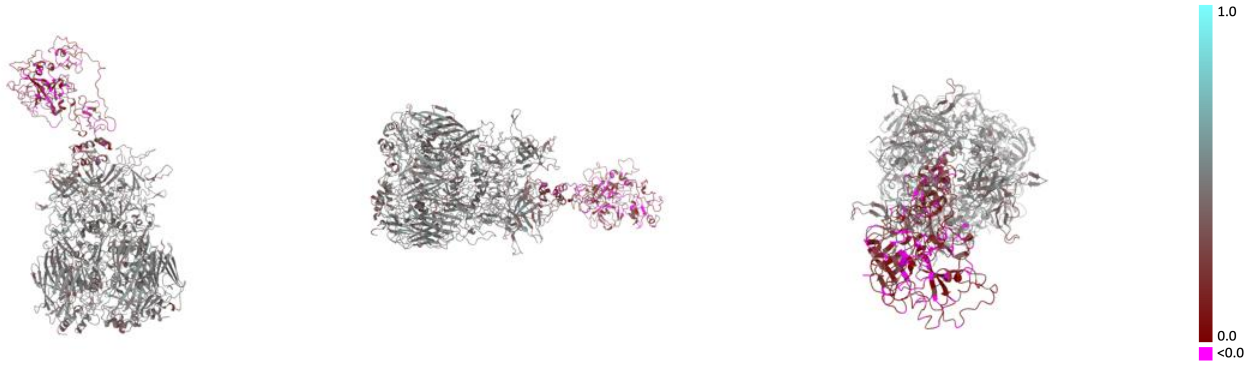
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.007 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

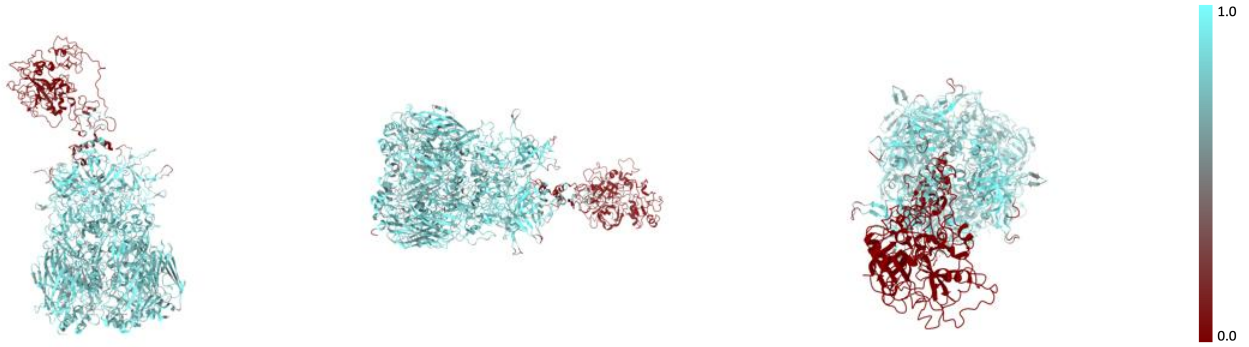
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

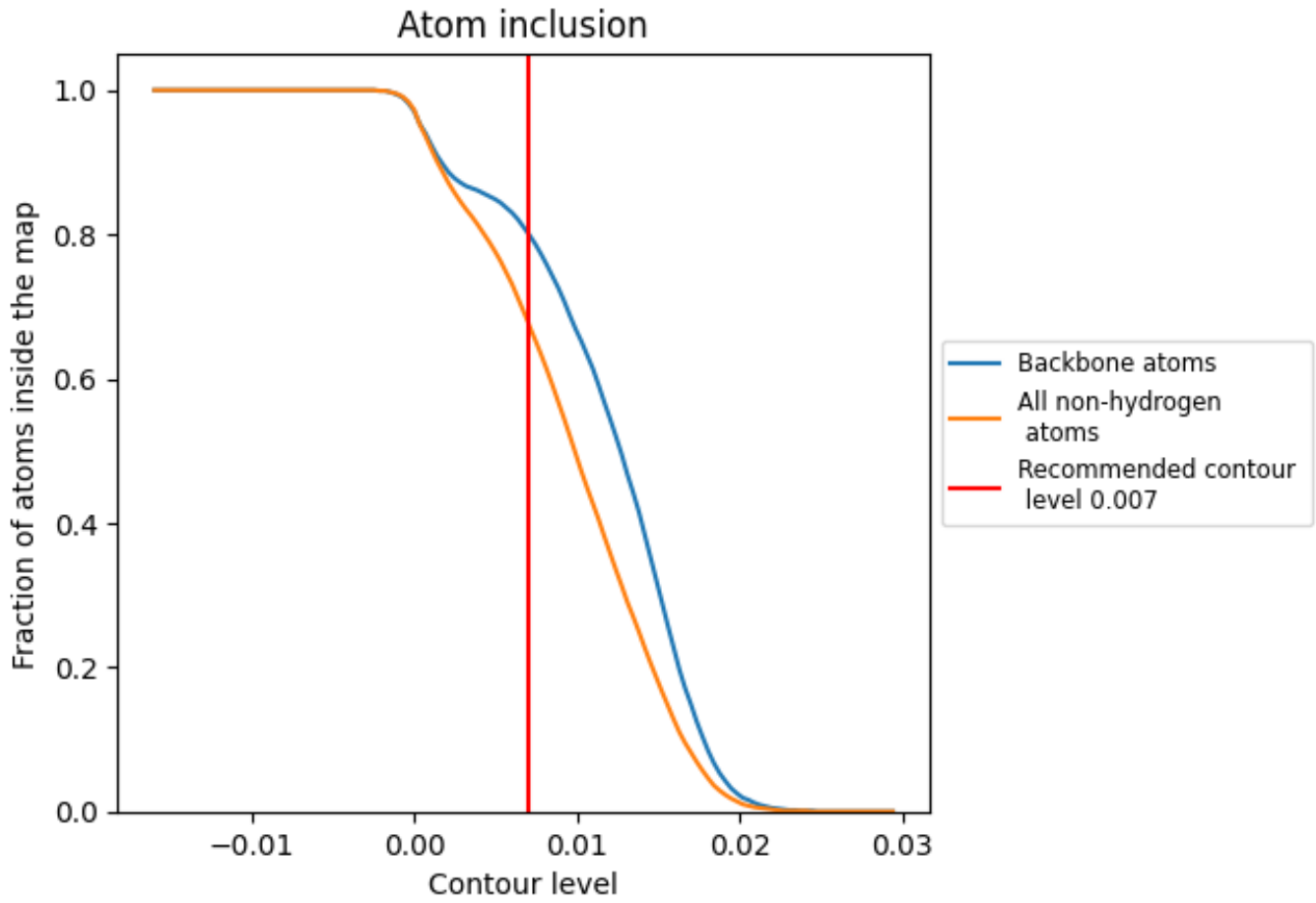
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.007).

9.4 Atom inclusion (i)



At the recommended contour level, 80% of all backbone atoms, 68% 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 (0.007) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6770	0.4090
J	0.7960	0.4630
K	0.7980	0.4590
L	0.8050	0.4610
Z	0.0860	0.1610