Full wwPDB EM Validation Report ⓘ

Nov 18, 2024 – 11:54 AM EST

PDB ID	:	9CLN
EMDB ID	:	EMD-45726
Title	:	Cryo-EM model derived from localized reconstruction of human adenovirus 5 (Ad5)-hexon-FII complex at 3.9A resolution
Authors	:	Reddy, V.S.; Ma, O.X.
Deposited on	:	2024-07-11
Resolution	:	4.13 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 ⓘ symbol.

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

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

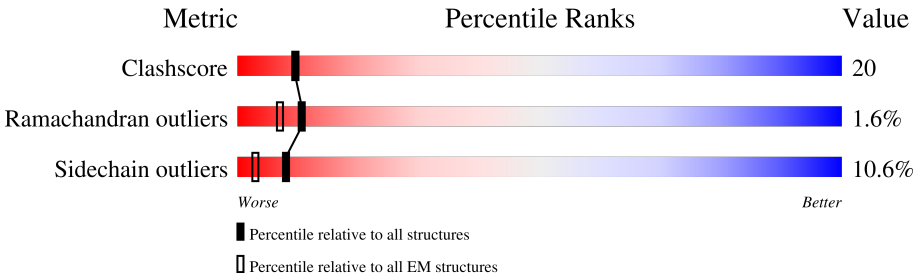
EMDB validation analysis	:	0.0.1.dev113
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)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

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 4.13 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	952	59% 31% 7%
1	K	952	62% 29% 5%
1	L	952	58% 30% 8%
2	Z	622	89% 55% 36% 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	16	-	-	X	-

2 Entry composition

There are 3 unique types of molecules in this entry. The entry contains 26799 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	925	Total	C	N	O	S	0	0
			7401	4703	1253	1409	36		
1	K	922	Total	C	N	O	S	0	0
			7382	4691	1250	1405	36		
1	L	924	Total	C	N	O	S	0	0
			7394	4699	1252	1407	36		

- 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).

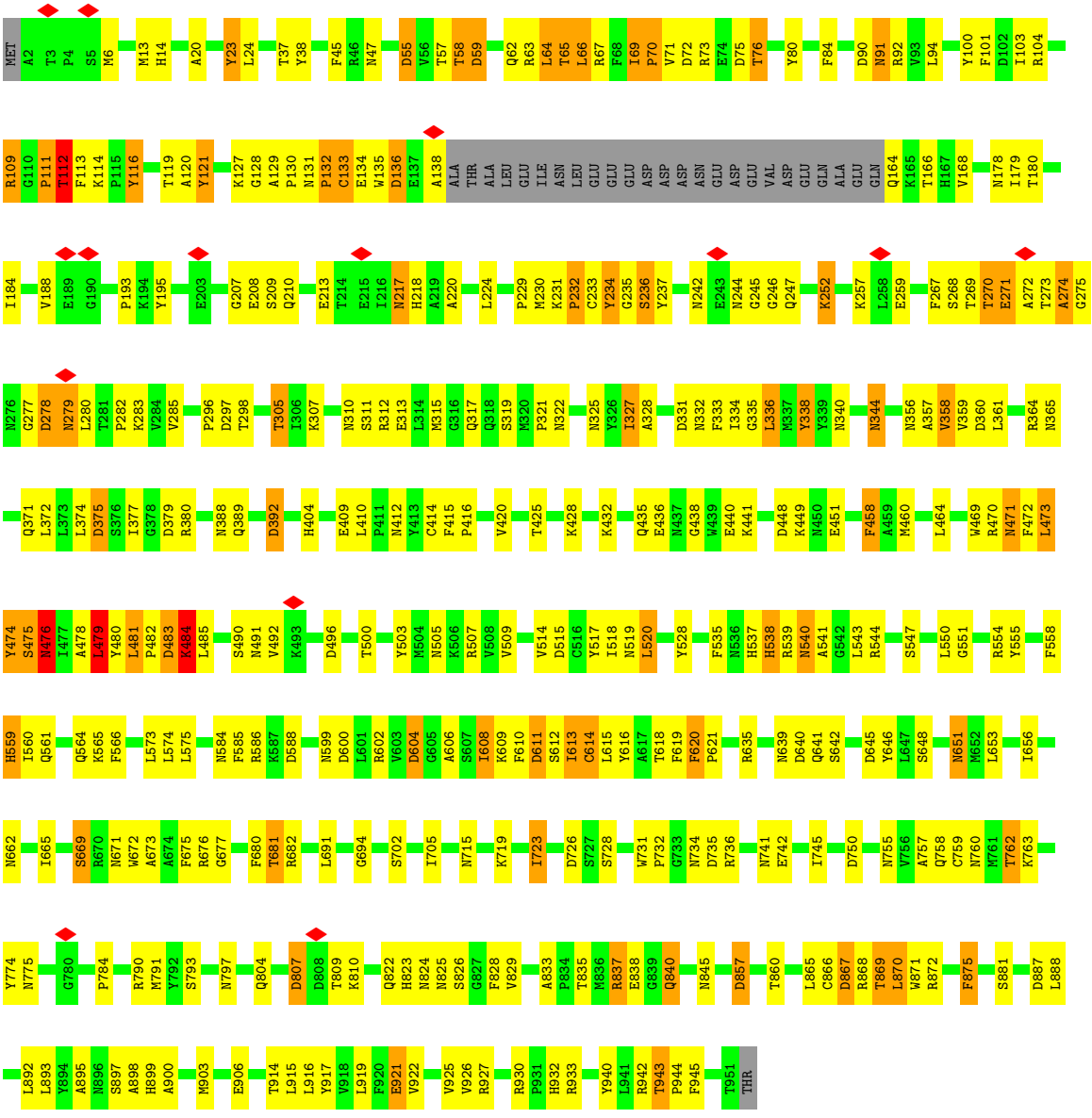
Mol	Chain	Residues	Atoms		AltConf
3	K	1	Total	Ca	0
			1	1	
3	Z	6	Total	Ca	0
			6	6	

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.

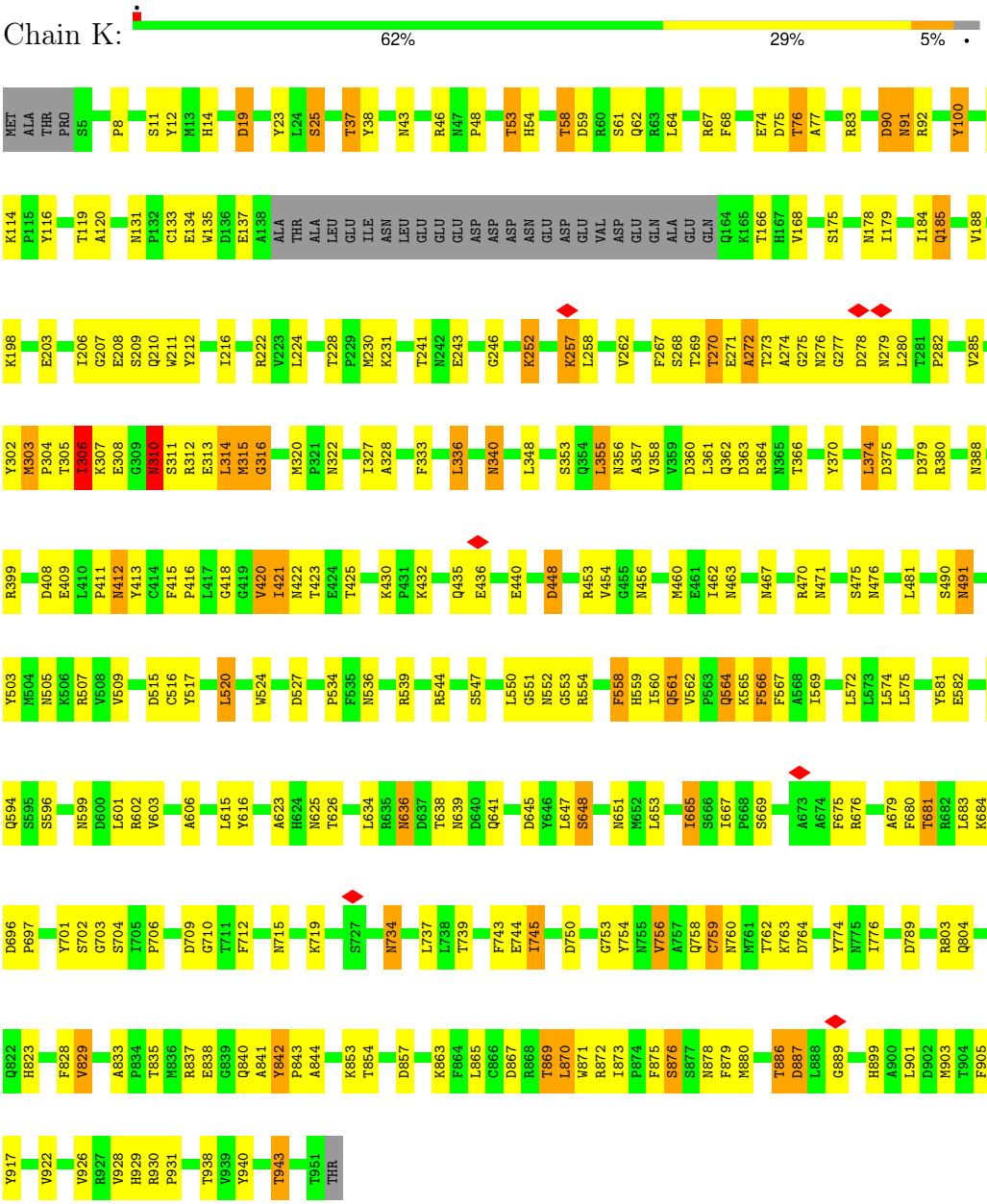
- Molecule 1: Hexon protein

Chain J:



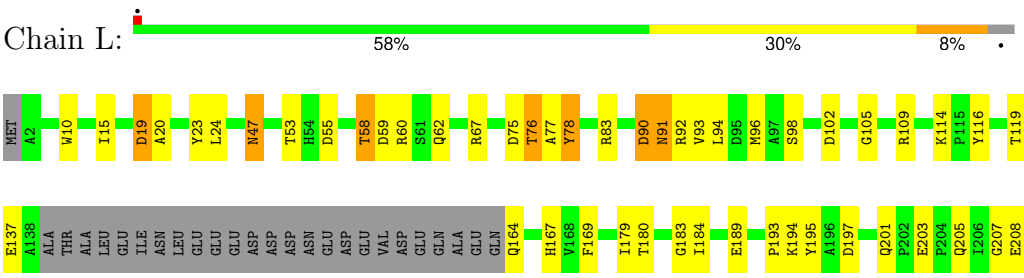
• Molecule 1: Hexon protein

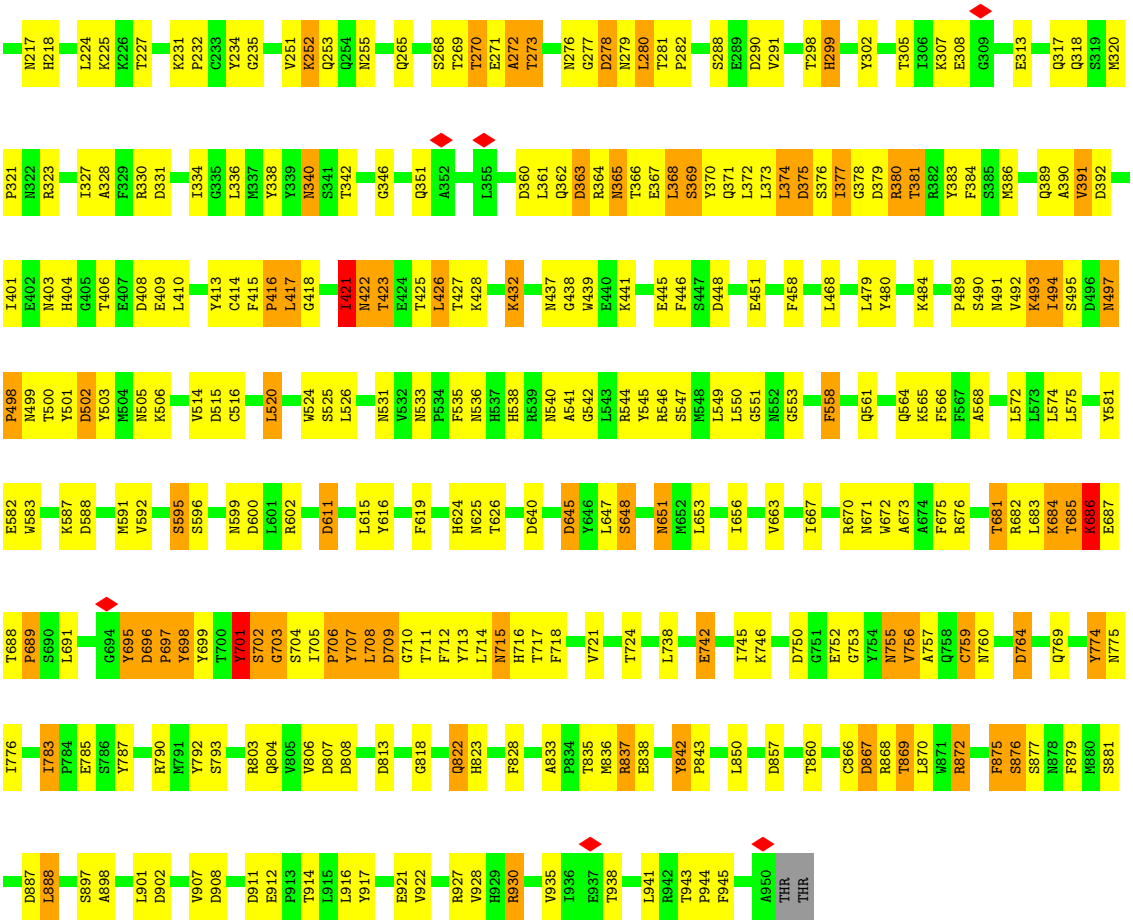
Chain K:



• Molecule 1: Hexon protein

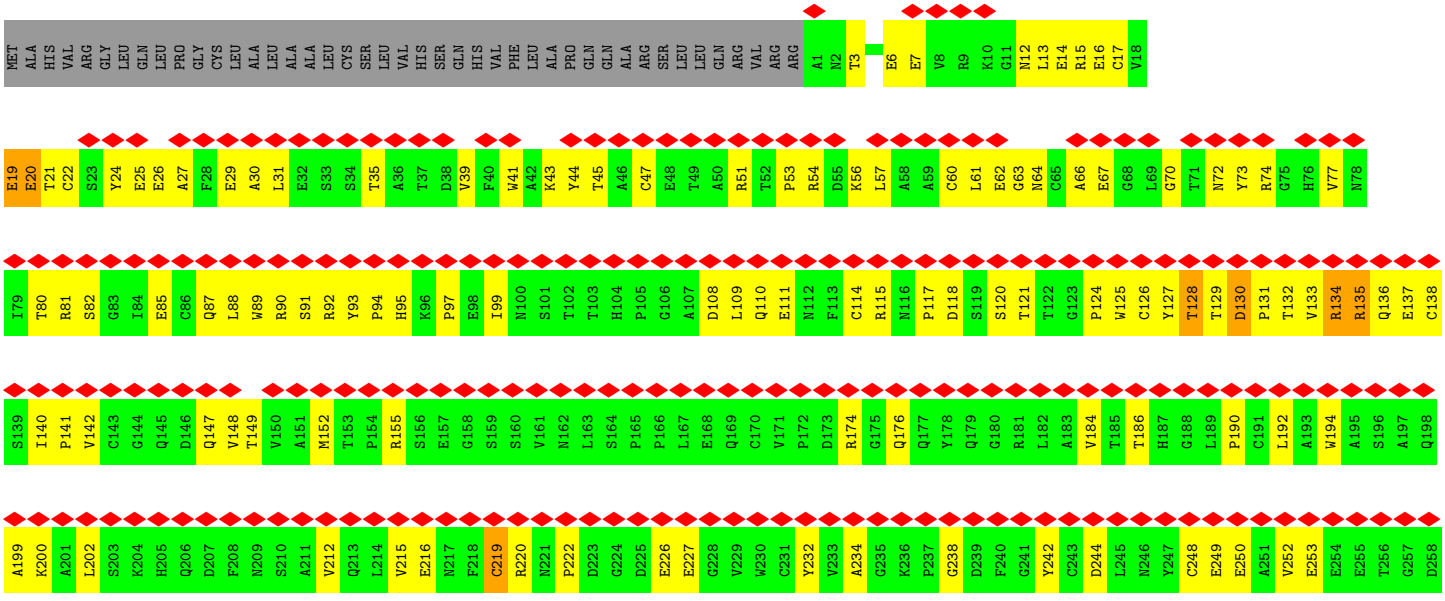
Chain L:

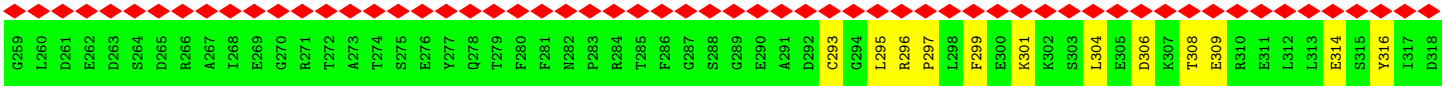


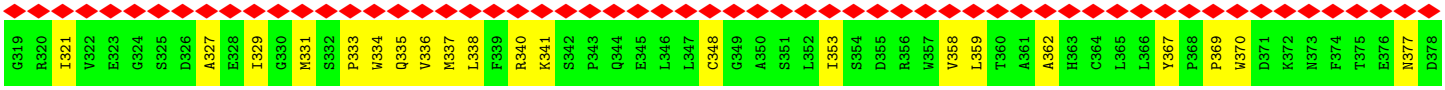


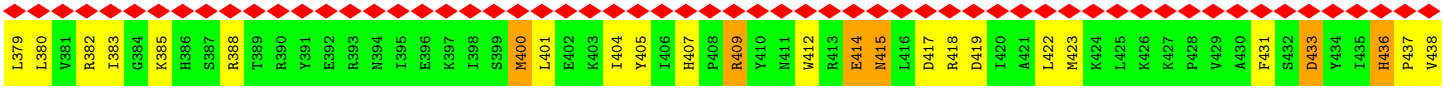
• Molecule 2: Prothrombin

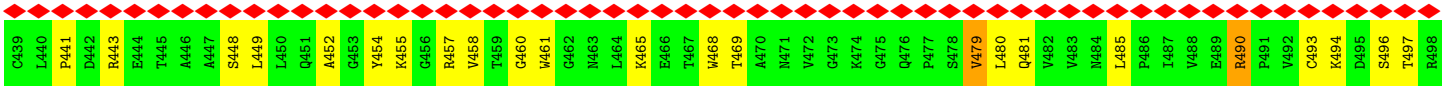
Chain Z:

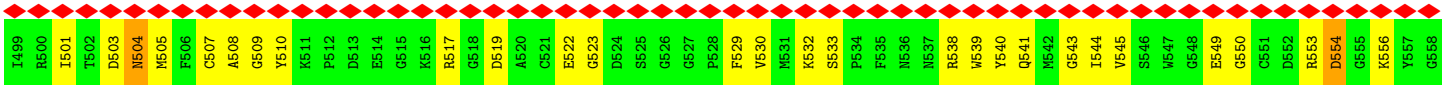


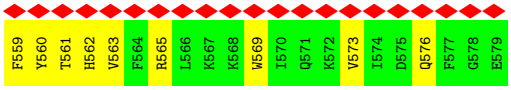

G259 L260 D261 E262 D263 S264 D265 R266 A267 I268 E269 G270 R271 T272 A273 T274 S275 E276 Y277 Q278 T279 F280 F281 N282 P283 R284 T285 F286 G287 S288 G289 E290 A291 D292 C293 G294 L295 R296 P297 L298 F299 E300 K301 K302 S303 L304 E305 D306 K307 T308 E309 R310 E311 L312 L313 E314 S315 Y316 I317 D318


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	2324	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	0.113	Depositor
Minimum map value	-0.066	Depositor
Average map value	0.002	Depositor
Map value standard deviation	0.011	Depositor
Recommended contour level	0.015	Depositor
Map size (Å)	129.536, 211.2, 111.232	wwPDB
Map dimensions	150, 79, 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	1/7600 (0.0%)	0.54	0/10336
1	K	0.43	0/7580	0.50	0/10307
1	L	0.47	0/7593	0.55	1/10326 (0.0%)
2	Z	0.24	0/4597	0.43	0/6220
All	All	0.43	1/27370 (0.0%)	0.51	1/37189 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	J	476	ASN	C-O	5.21	1.33	1.23

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	L	502	ASP	C-N-CA	-5.13	108.86	121.70

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	J	7401	0	7105	303	0
1	K	7382	0	7084	250	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	L	7394	0	7098	349	0
2	Z	4615	0	4343	183	0
3	K	1	0	0	0	0
3	Z	6	0	0	0	0
All	All	26799	0	25630	1026	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 20.

All (1026) 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)
2:Z:130:ASP:OD2	2:Z:133:VAL:CG2	1.73	1.36
1:K:276:ASN:HA	1:K:279:ASN:HB3	1.46	0.97
2:Z:130:ASP:OD2	2:Z:133:VAL:HG23	0.79	0.95
1:L:683:LEU:CD1	1:L:707:TYR:HB2	1.97	0.93
1:L:340:ASN:HD21	1:L:366:THR:H	1.13	0.92
1:K:421:ILE:HD12	1:K:422:ASN:H	1.40	0.87
1:J:127:LYS:HE3	1:J:234:TYR:CE2	2.10	0.86
1:K:269:THR:HA	1:L:426:LEU:HD21	1.57	0.86
2:Z:130:ASP:CG	2:Z:133:VAL:HG23	1.97	0.86
1:K:759:CYS:SG	1:K:760:ASN:N	2.49	0.85
1:L:683:LEU:HD13	1:L:707:TYR:HB2	1.57	0.84
1:J:759:CYS:SG	1:J:760:ASN:N	2.51	0.84
1:J:484:LYS:O	1:J:485:LEU:HD23	1.77	0.83
1:L:340:ASN:ND2	1:L:366:THR:H	1.76	0.83
1:L:759:CYS:SG	1:L:760:ASN:N	2.52	0.82
1:L:365:ASN:HD21	1:L:368:LEU:HB2	1.42	0.82
1:L:421:ILE:HD11	1:L:458:PHE:HB3	1.63	0.80
1:K:276:ASN:CA	1:K:279:ASN:HB3	2.11	0.80
1:L:492:VAL:HG12	1:L:493:LYS:H	1.46	0.80
2:Z:120:SER:HB2	2:Z:135:ARG:HH22	1.47	0.79
1:J:111:PRO:HD2	1:J:112:THR:HG22	1.64	0.79
1:J:537:HIS:CG	1:J:538:HIS:H	2.00	0.79
1:L:717:THR:HB	1:L:908:ASP:HB2	1.66	0.78
1:L:364:ARG:HA	1:L:651:ASN:HD21	1.47	0.77
1:L:683:LEU:HD11	1:L:707:TYR:HB2	1.66	0.77
2:Z:67:GLU:HB3	2:Z:72:ASN:HD21	1.49	0.77
1:J:804:GLN:HE22	1:K:551:GLY:HA3	1.49	0.77
1:J:109:ARG:HE	1:J:327:ILE:HG22	1.49	0.77
1:J:474:TYR:O	1:J:475:SER:C	2.18	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:65:THR:HG22	1:J:618:THR:HG22	1.66	0.76
1:K:276:ASN:HA	1:K:279:ASN:CB	2.16	0.75
1:K:453:ARG:NH1	1:K:454:VAL:O	2.19	0.75
1:J:775:ASN:HD21	1:J:881:SER:HB3	1.49	0.75
1:K:269:THR:HG22	1:K:271:GLU:H	1.52	0.75
1:J:333:PHE:HE1	1:J:388:ASN:HB3	1.52	0.75
1:J:551:GLY:HA3	1:L:804:GLN:HE22	1.48	0.75
1:J:116:TYR:CD2	1:L:520:LEU:HD13	2.23	0.74
1:L:490:SER:O	1:L:492:VAL:HG23	1.87	0.74
2:Z:90:ARG:HH22	2:Z:111:GLU:HB3	1.54	0.73
1:J:483:ASP:C	1:J:485:LEU:H	1.93	0.72
1:K:131:ASN:ND2	1:K:231:LYS:O	2.23	0.72
1:L:340:ASN:HD21	1:L:366:THR:N	1.86	0.72
1:L:701:TYR:CG	1:L:702:SER:N	2.58	0.72
1:L:269:THR:HG22	1:L:272:ALA:H	1.52	0.72
1:J:392:ASP:OD1	1:J:392:ASP:N	2.13	0.72
2:Z:60:CYS:SG	2:Z:72:ASN:ND2	2.62	0.72
1:L:704:SER:O	1:L:705:ILE:C	2.27	0.72
1:K:314:LEU:O	1:K:315:MET:C	2.27	0.71
2:Z:124:PRO:HB2	2:Z:140:ILE:HG13	1.72	0.71
1:J:478:ALA:O	1:J:480:TYR:N	2.23	0.71
1:L:687:GLU:HG2	1:L:701:TYR:CZ	2.25	0.71
1:L:764:ASP:OD1	1:L:764:ASP:N	2.22	0.71
2:Z:460:GLY:HA3	2:Z:523:GLY:HA2	1.71	0.71
1:K:497:ASN:ND2	1:K:500:THR:OG1	2.23	0.71
1:L:705:ILE:HD12	1:L:705:ILE:H	1.55	0.71
1:J:111:PRO:HD2	1:J:604:ASP:HB3	1.71	0.70
1:J:333:PHE:HE2	1:J:560:ILE:HD12	1.55	0.70
2:Z:73:TYR:O	2:Z:74:ARG:NH1	2.24	0.70
1:K:363:ASP:O	1:K:651:ASN:ND2	2.23	0.70
1:K:100:TYR:HE1	1:K:616:TYR:HB2	1.55	0.70
1:K:276:ASN:O	1:K:278:ASP:N	2.24	0.70
1:K:356:ASN:ND2	1:K:358:VAL:O	2.25	0.70
1:J:269:THR:HB	1:J:272:ALA:HB2	1.73	0.70
1:J:231:LYS:HA	1:J:317:GLN:OE1	1.91	0.70
1:J:824:ASN:OD1	1:J:825:ASN:ND2	2.25	0.70
1:L:701:TYR:CZ	1:L:703:GLY:N	2.60	0.70
1:J:867:ASP:N	1:J:867:ASP:OD1	2.25	0.70
1:K:411:PRO:HB2	1:K:413:TYR:CE1	2.26	0.70
1:J:273:THR:HG22	1:J:280:LEU:HD21	1.74	0.69
1:L:807:ASP:OD1	1:L:808:ASP:N	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Z:39:VAL:HG12	2:Z:43:LYS:HE3	1.74	0.69
1:L:533:ASN:HB2	1:L:713:TYR:CE2	2.28	0.69
2:Z:90:ARG:NH1	2:Z:111:GLU:OE1	2.23	0.69
1:L:707:TYR:CG	1:L:707:TYR:O	2.45	0.69
1:L:179:ILE:HG13	1:L:218:HIS:HD2	1.56	0.69
1:L:538:HIS:O	1:L:544:ARG:NH2	2.26	0.69
1:J:268:SER:HB2	1:J:282:PRO:HA	1.75	0.68
1:J:233:CYS:O	1:J:235:GLY:N	2.27	0.68
2:Z:15:ARG:NH2	2:Z:16:CGU:OE22	2.26	0.68
1:L:685:THR:O	1:L:687:GLU:N	2.27	0.68
1:J:653:LEU:HD21	1:J:917:TYR:HD1	1.58	0.68
2:Z:109:LEU:HA	2:Z:115:ARG:HG3	1.75	0.67
2:Z:458:VAL:HG21	2:Z:485:LEU:HD12	1.75	0.67
1:J:273:THR:O	1:J:274:ALA:C	2.30	0.67
1:J:613:ILE:HG22	1:J:614:CYS:H	1.58	0.67
1:L:701:TYR:OH	1:L:703:GLY:HA3	1.93	0.67
2:Z:192:LEU:HD11	2:Z:234:ALA:HB2	1.77	0.67
1:K:83:ARG:NH1	1:K:582:GLU:OE1	2.27	0.67
1:J:331:ASP:OD2	1:J:371:GLN:NE2	2.28	0.67
1:L:121:TYR:HB2	1:L:235:GLY:HA2	1.76	0.67
1:L:480:TYR:HH	1:L:538:HIS:HD1	1.41	0.67
1:L:588:ASP:OD2	1:L:602:ARG:NH2	2.28	0.67
2:Z:219:CYS:O	2:Z:220:ARG:NH1	2.28	0.67
1:J:234:TYR:HB3	1:J:319:SER:OG	1.95	0.67
1:J:837:ARG:HB3	1:L:413:TYR:CE2	2.30	0.67
1:L:364:ARG:HA	1:L:651:ASN:ND2	2.09	0.67
1:L:497:ASN:O	1:L:499:ASN:N	2.27	0.67
1:K:750:ASP:OD2	1:K:754:TYR:N	2.28	0.66
1:J:483:ASP:O	1:J:485:LEU:N	2.27	0.66
1:K:276:ASN:HA	1:K:279:ASN:ND2	2.10	0.66
1:J:897:SER:OG	1:J:898:ALA:N	2.29	0.66
1:L:384:PHE:CE2	1:L:386:MET:HB3	2.31	0.66
1:L:83:ARG:NH1	1:L:582:GLU:OE1	2.28	0.66
2:Z:400:MET:SD	2:Z:400:MET:N	2.69	0.66
1:J:232:PRO:HG3	1:J:317:GLN:HG3	1.76	0.66
1:J:356:ASN:ND2	1:J:358:VAL:O	2.30	0.65
2:Z:401:LEU:HD22	2:Z:423:MET:HB3	1.79	0.65
1:J:471:ASN:ND2	1:L:410:LEU:HB2	2.10	0.65
1:L:706:PRO:O	1:L:708:LEU:N	2.29	0.65
1:J:269:THR:O	1:J:273:THR:HG23	1.97	0.65
1:J:804:GLN:HG3	1:J:860:THR:HG22	1.78	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:384:PHE:HB3	1:L:389:GLN:HB3	1.79	0.65
1:J:360:ASP:OD1	1:J:364:ARG:NH1	2.29	0.65
1:J:757:ALA:H	1:K:561:GLN:HE22	1.43	0.65
1:K:280:LEU:HB2	1:L:439:TRP:HB3	1.78	0.65
1:J:242:ASN:ND2	1:J:246:GLY:O	2.29	0.65
1:K:76:THR:O	1:K:587:LYS:NZ	2.30	0.64
1:K:267:PHE:HB3	1:L:426:LEU:CD1	2.27	0.64
1:K:379:ASP:OD1	1:K:380:ARG:N	2.29	0.64
1:K:392:ASP:OD1	1:K:392:ASP:N	2.30	0.64
1:J:333:PHE:CE1	1:J:388:ASN:HB3	2.32	0.64
1:L:131:ASN:ND2	1:L:231:LYS:O	2.30	0.64
1:J:72:ASP:OD1	1:J:73:ARG:N	2.30	0.64
1:J:554:ARG:NH2	1:J:555:TYR:OH	2.30	0.64
1:L:364:ARG:CA	1:L:651:ASN:HD21	2.10	0.64
1:K:432:LYS:NZ	1:K:440:GLU:OE1	2.30	0.64
1:J:471:ASN:HD21	1:L:410:LEU:HB2	1.61	0.64
1:K:230:MET:HE3	1:K:315:MET:HG2	1.78	0.64
1:K:340:ASN:ND2	1:K:364:ARG:O	2.30	0.64
1:L:715:ASN:ND2	1:L:869:THR:O	2.31	0.64
1:K:311:SER:O	1:K:312:ARG:C	2.34	0.64
1:K:536:ASN:HD21	1:K:704:SER:H	1.46	0.64
1:J:134:GLU:CD	1:J:168:VAL:HG22	2.17	0.64
1:J:80:TYR:CE2	1:J:613:ILE:HD11	2.33	0.63
1:K:111:PRO:HD3	1:K:554:ARG:HH11	1.63	0.63
1:L:367:GLU:C	1:L:369:SER:N	2.45	0.63
1:K:311:SER:OG	1:K:313:GLU:HB2	1.98	0.63
2:Z:91:SER:HA	2:Z:469:THR:HA	1.80	0.63
1:L:276:ASN:C	1:L:278:ASP:H	2.02	0.63
1:J:230:MET:SD	1:J:315:MET:HG2	2.38	0.63
1:J:121:TYR:HE2	1:J:296:PRO:HG3	1.62	0.63
1:L:697:PRO:O	1:L:699:TYR:N	2.32	0.63
1:J:131:ASN:O	1:J:132:PRO:C	2.35	0.63
1:L:374:LEU:O	1:L:375:ASP:C	2.35	0.63
1:L:625:ASN:OD1	1:L:626:THR:N	2.31	0.63
2:Z:194:TRP:N	2:Z:216:GLU:O	2.26	0.63
2:Z:479:VAL:O	2:Z:481:GLN:NE2	2.32	0.63
1:K:463:ASN:O	1:K:467:ASN:ND2	2.27	0.62
1:J:415:PHE:CE2	1:K:828:PHE:HD1	2.17	0.62
1:K:279:ASN:OD1	1:K:280:LEU:N	2.31	0.62
1:J:277:GLY:O	1:J:279:ASN:N	2.31	0.62
2:Z:73:TYR:O	2:Z:115:ARG:NH1	2.33	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:80:TYR:HE2	1:J:613:ILE:HD11	1.63	0.62
1:J:217:ASN:OD1	1:J:217:ASN:N	2.30	0.62
1:J:359:VAL:H	1:J:940:TYR:HE2	1.47	0.62
1:L:701:TYR:CZ	1:L:703:GLY:HA3	2.35	0.62
1:J:208:GLU:OE2	1:J:210:GLN:NE2	2.27	0.62
1:J:340:ASN:ND2	1:J:364:ARG:O	2.32	0.62
1:K:53:THR:O	1:K:54:HIS:ND1	2.33	0.62
1:K:867:ASP:OD1	1:K:867:ASP:N	2.32	0.62
1:L:210:GLN:OE1	1:L:210:GLN:N	2.29	0.62
1:L:365:ASN:ND2	1:L:368:LEU:HB2	2.14	0.62
1:L:706:PRO:C	1:L:708:LEU:H	2.02	0.62
1:J:332:ASN:OD1	1:J:371:GLN:NE2	2.33	0.62
1:L:367:GLU:C	1:L:369:SER:H	2.03	0.62
2:Z:422:LEU:HD23	2:Z:573:VAL:HG11	1.81	0.62
1:J:483:ASP:C	1:J:485:LEU:N	2.51	0.61
1:L:536:ASN:HD21	1:L:703:GLY:C	2.04	0.61
1:K:393:SER:OG	1:K:394:TYR:N	2.33	0.61
1:J:503:TYR:OH	1:J:507:ARG:NH2	2.34	0.61
1:J:537:HIS:CG	1:J:538:HIS:N	2.64	0.61
1:J:726:ASP:HA	1:J:900:ALA:HB3	1.82	0.61
1:K:299:HIS:NE2	1:K:320:MET:SD	2.73	0.61
1:L:705:ILE:CG2	1:L:708:LEU:HB2	2.31	0.61
2:Z:3:THR:O	2:Z:6:CGU:N	2.32	0.61
1:L:595:SER:OG	1:L:596:SER:N	2.29	0.61
1:J:104:ARG:HG2	1:J:559:HIS:HB2	1.82	0.61
1:L:364:ARG:CA	1:L:651:ASN:ND2	2.63	0.61
1:K:114:LYS:NZ	1:K:116:TYR:O	2.33	0.61
1:K:314:LEU:O	1:K:316:GLY:N	2.34	0.61
1:L:409:GLU:OE1	1:L:409:GLU:N	2.34	0.61
2:Z:517:ARG:NH1	2:Z:550:GLY:O	2.32	0.61
1:J:642:SER:OG	1:K:46:ARG:N	2.34	0.61
1:L:714:LEU:C	1:L:716:HIS:H	2.04	0.61
1:K:185:GLN:HG3	1:K:193:PRO:HB3	1.84	0.60
1:K:422:ASN:O	1:K:453:ARG:HD3	2.01	0.60
1:K:684:LYS:NZ	1:K:912:GLU:OE1	2.31	0.60
1:L:383:TYR:HD1	1:L:390:ALA:HA	1.66	0.60
1:J:271:GLU:HA	1:J:274:ALA:HB2	1.83	0.60
1:K:709:ASP:OD1	1:K:710:GLY:N	2.35	0.60
1:J:335:GLY:O	1:J:586:ARG:NH1	2.33	0.60
1:K:804:GLN:HE22	1:L:551:GLY:HA3	1.65	0.60
1:L:90:ASP:OD1	1:L:90:ASP:N	2.34	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:709:ASP:OD1	1:L:710:GLY:N	2.34	0.60
1:L:714:LEU:O	1:L:716:HIS:N	2.34	0.60
1:J:620:PHE:O	1:J:621:PRO:C	2.37	0.60
1:L:671:ASN:OD1	1:L:672:TRP:N	2.35	0.60
1:J:109:ARG:O	1:J:606:ALA:HB2	2.01	0.60
1:J:604:ASP:OD1	1:J:604:ASP:N	2.33	0.60
1:L:813:ASP:N	1:L:813:ASP:OD1	2.35	0.60
2:Z:43:LYS:HB3	2:Z:61:LEU:HD22	1.82	0.60
1:J:111:PRO:CD	1:J:604:ASP:HB3	2.31	0.60
1:J:120:ALA:O	1:J:121:TYR:CG	2.54	0.60
1:L:750:ASP:OD1	1:L:753:GLY:N	2.35	0.60
2:Z:109:LEU:HD21	2:Z:117:PRO:HG3	1.83	0.60
1:J:298:THR:HG22	1:J:321:PRO:HA	1.84	0.59
1:J:539:ARG:O	1:J:541:ALA:N	2.35	0.59
1:K:267:PHE:HB3	1:L:426:LEU:HD12	1.83	0.59
1:L:213:GLU:N	1:L:213:GLU:OE1	2.33	0.59
1:L:717:THR:HB	1:L:908:ASP:CB	2.32	0.59
1:J:130:PRO:HG3	1:J:315:MET:CE	2.32	0.59
1:L:203:GLU:OE1	1:L:205:GLN:NE2	2.35	0.59
1:K:409:GLU:N	1:K:409:GLU:OE1	2.33	0.59
1:K:842:TYR:CE1	1:L:224:LEU:HD21	2.37	0.59
1:L:887:ASP:OD1	1:L:888:LEU:N	2.35	0.59
2:Z:382:ARG:HB2	2:Z:385:LYS:HD2	1.84	0.59
1:J:179:ILE:HG13	1:J:218:HIS:HD2	1.67	0.59
1:J:242:ASN:OD1	1:J:245:GLY:N	2.35	0.59
2:Z:250:GLU:O	2:Z:565:ARG:NH2	2.35	0.59
1:J:415:PHE:CZ	1:K:828:PHE:HD1	2.20	0.59
1:J:131:ASN:O	1:J:133:CYS:N	2.36	0.59
1:J:322:ASN:OD1	1:J:505:ASN:ND2	2.35	0.59
1:K:515:ASP:OD1	1:K:516:CYS:N	2.34	0.59
1:J:344:ASN:O	1:J:584:ASN:ND2	2.35	0.59
1:L:270:THR:O	1:L:273:THR:N	2.35	0.59
1:L:497:ASN:HD21	1:L:499:ASN:HB2	1.68	0.59
1:J:540:ASN:O	1:J:543:LEU:N	2.36	0.58
1:L:667:ILE:HB	1:L:901:LEU:HB3	1.85	0.58
1:L:271:GLU:C	1:L:273:THR:H	2.07	0.58
1:K:100:TYR:CE1	1:K:616:TYR:HB2	2.38	0.58
1:K:175:SER:HB2	1:K:216:ILE:HD13	1.84	0.58
1:K:272:ALA:O	1:K:273:THR:C	2.40	0.58
1:J:472:PHE:O	1:J:473:LEU:C	2.40	0.58
1:K:564:GLN:OE1	1:K:565:LYS:N	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:205:GLN:N	1:L:205:GLN:OE1	2.35	0.58
1:L:367:GLU:HB2	1:L:708:LEU:HD23	1.85	0.58
1:L:535:PHE:O	1:L:540:ASN:ND2	2.37	0.58
2:Z:19:CGU:OE11	2:Z:54:ARG:HB3	2.02	0.58
1:J:575:LEU:HG	1:J:930:ARG:HH21	1.69	0.58
2:Z:297:PRO:HA	2:Z:301:LYS:HB2	1.85	0.58
1:J:269:THR:O	1:J:272:ALA:HB3	2.03	0.58
1:J:435:GLN:NE2	1:J:436:GLU:O	2.37	0.58
1:J:635:ARG:HH22	1:J:933:ARG:HA	1.68	0.58
1:K:641:GLN:HG3	1:K:930:ARG:HH22	1.68	0.58
1:K:37:THR:OG1	1:K:38:TYR:N	2.37	0.58
1:K:358:VAL:HG13	1:K:566:PHE:HE2	1.68	0.58
2:Z:309:GLU:OE2	2:Z:532:LYS:NZ	2.30	0.58
1:K:53:THR:O	1:K:53:THR:OG1	2.18	0.58
1:L:367:GLU:O	1:L:369:SER:N	2.37	0.58
1:K:230:MET:SD	1:K:315:MET:SD	3.02	0.57
1:J:297:ASP:OD1	1:J:297:ASP:N	2.36	0.57
1:J:473:LEU:O	1:J:474:TYR:O	2.23	0.57
1:K:887:ASP:N	1:K:887:ASP:OD1	2.23	0.57
2:Z:293:CYS:O	2:Z:538:ARG:NH1	2.34	0.57
1:K:8:PRO:HG2	1:K:11:SER:HB3	1.86	0.57
1:K:257:LYS:H	1:K:257:LYS:HD3	1.69	0.57
1:L:372:LEU:O	1:L:375:ASP:HB3	2.04	0.57
1:L:842:TYR:HD1	1:L:843:PRO:HD2	1.68	0.57
2:Z:108:ASP:O	2:Z:115:ARG:NH2	2.35	0.57
1:L:189:GLU:HB2	1:L:194:LYS:HD2	1.86	0.57
2:Z:12:ASN:OD1	2:Z:13:LEU:N	2.37	0.57
1:K:922:VAL:HB	1:K:943:THR:O	2.04	0.57
1:L:340:ASN:N	1:L:340:ASN:OD1	2.38	0.57
1:J:379:ASP:OD1	1:J:380:ARG:N	2.38	0.57
1:L:58:THR:OG1	1:L:59:ASP:N	2.38	0.57
1:L:365:ASN:N	1:L:651:ASN:ND2	2.53	0.57
2:Z:85:GLU:OE2	2:Z:553:ARG:NH2	2.37	0.57
1:J:332:ASN:HD21	1:J:389:GLN:HG3	1.70	0.57
1:L:367:GLU:O	1:L:368:LEU:C	2.42	0.57
2:Z:131:PRO:HB3	2:Z:367:TYR:OH	2.04	0.57
1:K:311:SER:O	1:K:313:GLU:N	2.38	0.57
1:K:690:SER:N	1:K:696:ASP:OD2	2.35	0.57
1:L:564:GLN:OE1	1:L:565:LYS:N	2.38	0.57
1:L:701:TYR:CZ	1:L:703:GLY:CA	2.88	0.57
2:Z:125:TRP:CZ3	2:Z:135:ARG:HG2	2.40	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:501:TYR:CE1	1:L:505:ASN:HB2	2.40	0.56
1:J:715:ASN:OD1	1:J:871:TRP:NE1	2.39	0.56
1:K:230:MET:HG3	1:K:310:ASN:HD21	1.70	0.56
2:Z:132:THR:HG22	2:Z:412:TRP:HZ3	1.69	0.56
2:Z:174:ARG:NH1	2:Z:250:GLU:OE1	2.34	0.56
1:K:415:PHE:HB3	1:K:416:PRO:HD2	1.87	0.56
1:K:527:ASP:OD1	1:K:863:LYS:NZ	2.38	0.56
2:Z:433:ASP:OD1	2:Z:433:ASP:N	2.36	0.56
2:Z:550:GLY:HA2	2:Z:556:LYS:HB2	1.86	0.56
1:J:121:TYR:HE2	1:J:296:PRO:CG	2.16	0.56
1:J:305:THR:HG22	1:J:307:LYS:H	1.70	0.56
1:J:823:HIS:O	1:J:823:HIS:ND1	2.38	0.56
1:K:208:GLU:OE1	1:K:209:SER:N	2.39	0.56
1:K:683:LEU:HD21	1:K:706:PRO:HB2	1.88	0.56
1:K:905:PHE:CD2	1:K:916:LEU:HD21	2.40	0.56
2:Z:308:THR:OG1	2:Z:457:ARG:NH2	2.39	0.56
2:Z:388:ARG:HH21	2:Z:461:TRP:HD1	1.54	0.56
1:L:363:ASP:O	1:L:651:ASN:ND2	2.39	0.56
1:J:755:ASN:O	1:J:763:LYS:NZ	2.38	0.56
1:K:702:SER:O	1:K:702:SER:OG	2.23	0.56
1:L:114:LYS:NZ	1:L:116:TYR:O	2.39	0.56
1:L:897:SER:OG	1:L:898:ALA:N	2.38	0.56
1:J:116:TYR:HD1	1:J:116:TYR:O	1.89	0.56
1:J:608:ILE:HD11	1:J:610:PHE:CE1	2.41	0.56
1:L:432:LYS:H	1:L:438:GLY:HA3	1.71	0.56
2:Z:252:VAL:HG23	2:Z:443:ARG:HG3	1.88	0.56
1:K:62:GLN:OE1	1:K:92:ARG:NE	2.39	0.56
1:L:416:PRO:O	1:L:417:LEU:C	2.43	0.56
1:L:867:ASP:OD1	1:L:867:ASP:N	2.37	0.56
1:J:478:ALA:C	1:J:480:TYR:H	2.08	0.55
2:Z:226:GLU:HB2	2:Z:565:ARG:HB3	1.86	0.55
2:Z:296:ARG:NH2	2:Z:306:ASP:OD1	2.37	0.55
1:L:340:ASN:ND2	1:L:364:ARG:O	2.38	0.55
1:L:376:SER:O	1:L:378:GLY:N	2.38	0.55
1:L:298:THR:HG22	1:L:321:PRO:HA	1.88	0.55
2:Z:90:ARG:HH12	2:Z:111:GLU:HA	1.71	0.55
1:J:757:ALA:H	1:K:561:GLN:NE2	2.05	0.55
1:L:330:ARG:HH12	1:L:705:ILE:HD13	1.72	0.55
1:L:365:ASN:H	1:L:651:ASN:ND2	2.04	0.55
1:L:421:ILE:HD11	1:L:458:PHE:CB	2.34	0.55
1:J:892:LEU:HA	1:J:895:ALA:HB3	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:67:ARG:HB2	1:K:616:TYR:HE1	1.70	0.55
1:K:328:ALA:HB2	1:K:547:SER:HA	1.89	0.55
1:J:409:GLU:OE1	1:J:409:GLU:N	2.35	0.55
1:K:268:SER:OG	1:K:282:PRO:HA	2.07	0.55
2:Z:43:LYS:O	2:Z:47:CYS:N	2.39	0.55
1:K:878:ASN:HD22	1:K:880:MET:HG3	1.71	0.55
1:L:369:SER:OG	1:L:370:TYR:N	2.37	0.55
1:L:683:LEU:HD21	1:L:712:PHE:HE1	1.72	0.55
1:J:822:GLN:HA	1:J:845:ASN:HD21	1.72	0.55
1:L:428:LYS:HD2	1:L:446:PHE:HD2	1.72	0.55
2:Z:51:ARG:HA	2:Z:57:LEU:HD13	1.89	0.55
1:J:365:ASN:H	1:J:651:ASN:HD21	1.54	0.54
1:J:432:LYS:HE2	1:J:438:GLY:HA3	1.89	0.54
1:J:470:ARG:O	1:J:471:ASN:C	2.43	0.54
1:K:178:ASN:OD1	1:K:179:ILE:N	2.40	0.54
1:K:179:ILE:HD13	1:K:285:VAL:HG23	1.88	0.54
1:J:47:ASN:OD1	1:J:47:ASN:N	2.40	0.54
1:J:338:TYR:OH	1:J:694:GLY:O	2.26	0.54
1:L:684:LYS:O	1:L:685:THR:C	2.44	0.54
1:L:685:THR:HG22	1:L:686:LYS:N	2.22	0.54
2:Z:80:THR:HB	2:Z:136:GLN:HB3	1.88	0.54
1:K:90:ASP:OD1	1:K:90:ASP:N	2.40	0.54
1:L:408:ASP:OD1	1:L:408:ASP:N	2.38	0.54
1:J:208:GLU:O	1:K:456:ASN:ND2	2.41	0.54
2:Z:13:LEU:O	2:Z:17:CYS:HB2	2.06	0.54
2:Z:497:THR:HG21	2:Z:549:GLU:HG3	1.89	0.54
2:Z:545:VAL:HA	2:Z:560:TYR:HD1	1.72	0.54
1:J:676:ARG:NH1	1:J:922:VAL:O	2.40	0.54
1:K:420:VAL:HG21	1:K:453:ARG:HG2	1.89	0.54
1:K:665:ILE:HG13	1:K:903:MET:HB2	1.89	0.54
1:K:719:LYS:HB3	1:K:906:GLU:HG2	1.88	0.54
1:L:599:ASN:OD1	1:L:599:ASN:N	2.39	0.54
1:L:707:TYR:HE1	1:L:917:TYR:HE2	1.56	0.54
1:L:365:ASN:H	1:L:651:ASN:HD21	1.56	0.54
1:J:414:CYS:O	1:J:415:PHE:CG	2.61	0.54
1:J:474:TYR:O	1:J:475:SER:O	2.25	0.54
1:L:502:ASP:CG	1:L:506:LYS:HE3	2.27	0.54
2:Z:15:ARG:HH21	2:Z:16:CGU:CD2	2.20	0.54
2:Z:141:PRO:HA	2:Z:148:VAL:HA	1.90	0.54
1:J:69:ILE:O	1:J:71:VAL:N	2.40	0.54
1:J:111:PRO:HD3	1:J:604:ASP:O	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:130:PRO:HG3	1:J:315:MET:HE3	1.88	0.54
1:J:620:PHE:CD1	1:J:620:PHE:C	2.78	0.54
1:J:887:ASP:OD1	1:J:888:LEU:N	2.41	0.54
1:L:515:ASP:OD1	1:L:516:CYS:N	2.35	0.54
2:Z:529:PHE:N	2:Z:543:GLY:O	2.38	0.54
1:J:220:ALA:HA	1:J:285:VAL:O	2.08	0.54
1:J:311:SER:OG	1:J:312:ARG:N	2.41	0.54
1:K:312:ARG:O	1:K:313:GLU:C	2.45	0.54
1:K:360:ASP:HA	1:K:364:ARG:HH22	1.73	0.54
1:K:448:ASP:N	1:K:448:ASP:OD1	2.40	0.54
1:L:775:ASN:HD21	1:L:881:SER:HB3	1.72	0.54
2:Z:138:CYS:O	2:Z:149:THR:OG1	2.26	0.54
1:J:103:ILE:HG12	1:J:613:ILE:HG23	1.90	0.54
1:L:94:LEU:HD13	1:L:619:PHE:HE1	1.72	0.54
1:L:318:GLN:OE1	1:L:836:MET:HB2	2.08	0.54
1:L:367:GLU:HB2	1:L:708:LEU:CD2	2.38	0.54
2:Z:89:TRP:CZ2	2:Z:126:CYS:HA	2.43	0.54
1:J:273:THR:OG1	1:J:274:ALA:N	2.41	0.53
2:Z:43:LYS:HE2	2:Z:61:LEU:O	2.08	0.53
1:J:564:GLN:OE1	1:J:565:LYS:N	2.41	0.53
1:K:599:ASN:OD1	1:K:599:ASN:N	2.36	0.53
1:J:94:LEU:HD22	1:J:619:PHE:HE1	1.73	0.53
1:K:333:PHE:HB3	1:K:336:LEU:HD12	1.89	0.53
1:J:828:PHE:HD1	1:L:415:PHE:CE1	2.25	0.53
1:K:133:CYS:SG	1:K:315:MET:SD	3.03	0.53
1:K:134:GLU:HG2	1:K:168:VAL:HG13	1.91	0.53
2:Z:253:GLU:OE2	2:Z:490:ARG:NH1	2.41	0.53
1:J:496:ASP:OD1	1:J:496:ASP:N	2.40	0.53
1:K:91:ASN:OD1	1:K:91:ASN:N	2.41	0.53
1:K:774:TYR:OH	1:K:789:ASP:OD1	2.26	0.53
1:K:838:GLU:OE1	1:L:207:GLY:N	2.41	0.53
1:L:685:THR:O	1:L:686:LYS:C	2.46	0.53
1:K:764:ASP:N	1:K:764:ASP:OD1	2.42	0.53
1:K:841:ALA:O	1:K:842:TYR:HB2	2.08	0.53
2:Z:16:CGU:HA	2:Z:20:CGU:HB3	1.91	0.53
1:J:109:ARG:NE	1:J:327:ILE:HG22	2.21	0.53
1:J:269:THR:HB	1:J:272:ALA:CB	2.38	0.53
1:L:365:ASN:N	1:L:651:ASN:HD21	2.07	0.53
1:K:715:ASN:ND2	1:K:869:THR:O	2.28	0.53
1:J:233:CYS:O	1:J:234:TYR:C	2.47	0.53
1:K:68:PHE:HB2	1:K:615:LEU:HB3	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:734:ASN:OD1	1:K:734:ASN:N	2.40	0.53
1:L:705:ILE:HG22	1:L:708:LEU:HB2	1.91	0.53
1:J:127:LYS:HE3	1:J:234:TYR:CZ	2.43	0.52
1:J:267:PHE:O	1:J:283:LYS:N	2.41	0.52
1:J:723:ILE:HG22	1:J:903:MET:HG2	1.90	0.52
1:L:818:GLY:O	1:L:822:GLN:NE2	2.39	0.52
1:L:432:LYS:HG2	1:L:438:GLY:HA2	1.92	0.52
1:K:208:GLU:OE2	1:K:210:GLN:NE2	2.43	0.52
1:L:769:GLN:HE22	1:L:872:ARG:H	1.57	0.52
1:J:55:ASP:N	1:J:55:ASP:OD1	2.43	0.52
2:Z:336:VAL:HG22	2:Z:383:ILE:HG23	1.90	0.52
1:J:559:HIS:O	1:J:559:HIS:ND1	2.41	0.52
2:Z:125:TRP:CE3	2:Z:135:ARG:HB3	2.44	0.52
1:J:272:ALA:O	1:J:273:THR:C	2.46	0.52
1:J:538:HIS:O	1:J:538:HIS:CD2	2.63	0.52
1:K:135:TRP:NE1	1:K:137:GLU:OE2	2.38	0.52
1:K:276:ASN:HA	1:K:279:ASN:HD22	1.75	0.52
1:L:611:ASP:OD1	1:L:611:ASP:N	2.43	0.52
1:J:179:ILE:HG13	1:J:218:HIS:CD2	2.44	0.52
1:K:536:ASN:OD1	1:K:701:TYR:OH	2.28	0.52
1:K:680:PHE:CE1	1:K:871:TRP:HB2	2.45	0.52
2:Z:17:CYS:O	2:Z:44:TYR:OH	2.28	0.52
2:Z:417:ASP:OD2	2:Z:418:ARG:NH1	2.41	0.52
2:Z:554:ASP:N	2:Z:554:ASP:OD1	2.43	0.52
1:J:273:THR:O	1:J:275:GLY:N	2.43	0.52
1:K:928:VAL:HG22	1:K:938:THR:HG22	1.91	0.52
2:Z:362:ALA:N	2:Z:419:ASP:OD1	2.42	0.52
1:J:412:ASN:ND2	1:J:464:LEU:HD12	2.25	0.52
1:L:707:TYR:CE1	1:L:917:TYR:HE2	2.28	0.52
2:Z:66:ALA:N	2:Z:141:PRO:O	2.36	0.52
2:Z:184:VAL:HA	2:Z:190:PRO:HA	1.92	0.52
2:Z:114:CYS:SG	2:Z:126:CYS:HB3	2.50	0.51
1:L:705:ILE:H	1:L:705:ILE:CD1	2.22	0.51
1:J:69:ILE:O	1:J:70:PRO:C	2.47	0.51
1:J:91:ASN:OD1	1:J:91:ASN:N	2.43	0.51
1:K:467:ASN:O	1:K:471:ASN:ND2	2.33	0.51
1:K:515:ASP:HB3	1:K:517:TYR:CE2	2.45	0.51
1:J:922:VAL:HB	1:J:943:THR:O	2.10	0.51
1:L:427:THR:OG1	1:L:448:ASP:O	2.22	0.51
1:J:57:THR:HG21	1:L:877:SER:HB2	1.91	0.51
1:J:473:LEU:O	1:J:474:TYR:C	2.49	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:575:LEU:HG	1:K:930:ARG:HE	1.74	0.51
1:L:823:HIS:O	1:L:823:HIS:ND1	2.42	0.51
2:Z:81:ARG:N	2:Z:137:GLU:O	2.43	0.51
1:J:37:THR:OG1	1:J:38:TYR:N	2.43	0.51
1:K:276:ASN:N	1:K:279:ASN:HB3	2.25	0.51
1:J:807:ASP:OD2	1:J:809:THR:OG1	2.23	0.51
1:K:669:SER:HA	1:K:899:HIS:O	2.11	0.51
1:J:70:PRO:O	1:J:71:VAL:C	2.48	0.51
1:J:535:PHE:O	1:J:540:ASN:ND2	2.44	0.51
1:L:75:ASP:OD1	1:L:76:THR:N	2.44	0.51
1:L:675:PHE:HB3	1:L:875:PHE:HD2	1.76	0.51
2:Z:16:CGU:C	2:Z:22:CYS:HB3	2.41	0.51
1:K:19:ASP:N	1:K:19:ASP:OD1	2.44	0.51
1:L:330:ARG:NH1	1:L:705:ILE:HD13	2.25	0.51
1:J:328:ALA:HB2	1:J:547:SER:HA	1.92	0.50
1:J:514:VAL:HG13	1:J:518:ILE:HD13	1.92	0.50
1:J:791:MET:SD	1:J:868:ARG:NH2	2.84	0.50
1:K:476:ASN:OD1	1:K:539:ARG:NH2	2.37	0.50
1:K:520:LEU:HD13	1:L:116:TYR:CD2	2.46	0.50
1:K:744:GLU:O	1:K:762:THR:OG1	2.27	0.50
1:L:253:GLN:OE1	1:L:255:ASN:N	2.44	0.50
1:L:361:LEU:H	1:L:364:ARG:HH12	1.59	0.50
2:Z:335:GLN:HG2	2:Z:461:TRP:HZ3	1.76	0.50
1:J:236:SER:HB2	1:L:843:PRO:HB3	1.92	0.50
1:K:191:GLN:N	1:K:191:GLN:OE1	2.44	0.50
1:K:276:ASN:HA	1:K:279:ASN:CG	2.31	0.50
1:K:361:LEU:H	1:K:364:ARG:NH2	2.10	0.50
1:L:313:GLU:OE1	1:L:313:GLU:N	2.39	0.50
1:L:330:ARG:HH12	1:L:705:ILE:CD1	2.24	0.50
1:J:333:PHE:HD2	1:J:336:LEU:HD12	1.75	0.50
1:J:681:THR:HG22	1:J:682:ARG:H	1.76	0.50
1:K:361:LEU:HG	1:K:364:ARG:HH21	1.77	0.50
1:K:413:TYR:CD2	1:L:837:ARG:HG2	2.46	0.50
1:L:710:GLY:O	1:L:711:THR:C	2.47	0.50
2:Z:95:HIS:HB3	2:Z:134:ARG:NH1	2.25	0.50
2:Z:545:VAL:HA	2:Z:560:TYR:CD1	2.45	0.50
1:J:113:PHE:CG	1:J:113:PHE:O	2.62	0.50
1:J:677:GLY:O	1:J:921:GLU:HG3	2.11	0.50
1:K:843:PRO:HD3	1:L:131:ASN:OD1	2.11	0.50
1:L:384:PHE:CZ	1:L:386:MET:HB3	2.46	0.50
1:L:697:PRO:O	1:L:698:TYR:C	2.49	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:109:ARG:HG2	1:J:327:ILE:CG2	2.41	0.50
1:J:669:SER:HA	1:J:899:HIS:O	2.11	0.50
1:J:797:ASN:HD21	1:J:868:ARG:HD3	1.77	0.50
1:K:58:THR:OG1	1:K:59:ASP:N	2.44	0.50
2:Z:99:ILE:HG21	2:Z:118:ASP:HB3	1.93	0.50
1:K:653:LEU:HD21	1:K:917:TYR:HD1	1.77	0.50
1:L:369:SER:O	1:L:370:TYR:C	2.47	0.50
1:L:413:TYR:HB2	1:L:415:PHE:CZ	2.45	0.50
2:Z:95:HIS:CG	2:Z:369:PRO:HB3	2.47	0.50
2:Z:97:PRO:HB3	2:Z:127:TYR:CE2	2.47	0.50
2:Z:573:VAL:HA	2:Z:576:GLN:HE21	1.77	0.50
1:L:179:ILE:HG13	1:L:218:HIS:CD2	2.41	0.50
1:L:645:ASP:OD1	1:L:647:LEU:N	2.45	0.50
2:Z:485:LEU:HD13	2:Z:509:GLY:HA2	1.93	0.50
2:Z:6:CGU:OE22	2:Z:15:ARG:NH1	2.45	0.50
1:J:671:ASN:OD1	1:J:672:TRP:N	2.45	0.49
1:L:91:ASN:N	1:L:91:ASN:OD1	2.42	0.49
1:L:501:TYR:O	1:L:505:ASN:N	2.42	0.49
1:J:380:ARG:HH12	1:J:389:GLN:HG2	1.76	0.49
1:J:414:CYS:SG	1:K:460:MET:HE2	2.53	0.49
1:J:475:SER:O	1:J:479:LEU:HG	2.13	0.49
1:J:491:ASN:O	1:J:491:ASN:ND2	2.45	0.49
1:L:670:ARG:NH2	1:L:945:PHE:HA	2.28	0.49
1:L:705:ILE:HG21	1:L:708:LEU:HB2	1.94	0.49
1:L:706:PRO:C	1:L:708:LEU:N	2.65	0.49
1:J:482:PRO:CD	1:J:528:TYR:HB3	2.43	0.49
1:J:484:LYS:C	1:J:485:LEU:HD23	2.33	0.49
2:Z:124:PRO:HD2	2:Z:149:THR:HG21	1.94	0.49
1:K:491:ASN:OD1	1:K:491:ASN:N	2.44	0.49
1:K:524:TRP:CE3	1:K:803:ARG:HB3	2.47	0.49
2:Z:238:GLY:HA3	2:Z:576:GLN:HG2	1.93	0.49
1:J:80:TYR:CE1	1:J:585:PHE:HB2	2.47	0.49
1:J:119:THR:OG1	1:J:120:ALA:N	2.44	0.49
1:J:837:ARG:O	1:J:837:ARG:NH1	2.44	0.49
1:K:311:SER:HG	1:K:313:GLU:HB2	1.76	0.49
1:K:645:ASP:OD1	1:K:648:SER:N	2.43	0.49
1:L:276:ASN:C	1:L:278:ASP:N	2.66	0.49
1:L:380:ARG:HG3	1:L:391:VAL:HB	1.95	0.49
2:Z:110:GLN:HG2	2:Z:115:ARG:NH2	2.28	0.49
1:J:640:ASP:OD2	1:J:927:ARG:NE	2.37	0.49
1:L:531:ASN:HA	1:L:714:LEU:HD21	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:714:LEU:C	1:L:716:HIS:N	2.66	0.49
2:Z:15:ARG:HE	2:Z:16:CGU:HG	1.78	0.49
2:Z:82:SER:O	2:Z:155:ARG:N	2.46	0.49
2:Z:299:PHE:O	2:Z:304:LEU:N	2.43	0.49
2:Z:338:LEU:HD21	2:Z:379:LEU:HD13	1.95	0.49
2:Z:414:GLU:OE2	2:Z:415:ASN:ND2	2.45	0.49
1:J:790:ARG:N	1:J:793:SER:OG	2.46	0.49
1:L:305:THR:HG22	1:L:307:LYS:H	1.78	0.49
1:L:615:LEU:HD12	1:L:616:TYR:H	1.78	0.49
2:Z:27:ALA:HA	2:Z:30:ALA:HB3	1.95	0.49
1:J:651:ASN:OD1	1:J:651:ASN:N	2.45	0.49
1:J:869:THR:OG1	1:J:870:LEU:N	2.45	0.49
2:Z:13:LEU:HB2	2:Z:30:ALA:O	2.13	0.49
2:Z:338:LEU:HD11	2:Z:379:LEU:HB3	1.95	0.49
2:Z:341:LYS:HG3	2:Z:377:ASN:O	2.13	0.49
1:J:804:GLN:OE1	1:K:552:ASN:N	2.38	0.49
1:K:804:GLN:OE1	1:L:553:GLY:N	2.38	0.49
1:L:707:TYR:CE1	1:L:917:TYR:CE2	3.01	0.49
1:L:197:ASP:N	1:L:201:GLN:OE1	2.32	0.48
1:L:362:GLN:HG3	1:L:362:GLN:O	2.13	0.48
2:Z:73:TYR:OH	2:Z:77:VAL:N	2.46	0.48
2:Z:94:PRO:HG3	2:Z:129:THR:C	2.33	0.48
1:J:252:LYS:HA	1:J:257:LYS:HA	1.94	0.48
1:K:209:SER:OG	1:K:210:GLN:OE1	2.31	0.48
1:K:853:LYS:HG3	1:K:854:THR:HG23	1.95	0.48
1:L:62:GLN:HE22	1:L:92:ARG:HG2	1.78	0.48
1:L:76:THR:HG22	1:L:77:ALA:H	1.78	0.48
1:L:109:ARG:NH2	1:L:550:LEU:HB2	2.28	0.48
1:L:307:LYS:NZ	1:L:313:GLU:OE2	2.43	0.48
1:L:320:MET:HG3	1:L:321:PRO:HD2	1.95	0.48
1:K:305:THR:HB	1:K:306:ILE:H	1.46	0.48
1:K:679:ALA:HB1	1:K:870:LEU:HD12	1.95	0.48
1:L:60:ARG:HD2	1:L:624:HIS:CE1	2.48	0.48
1:L:361:LEU:H	1:L:364:ARG:NH1	2.11	0.48
1:L:774:TYR:HB2	1:L:776:ILE:HG13	1.94	0.48
1:J:134:GLU:O	1:J:135:TRP:HB3	2.11	0.48
1:L:492:VAL:HG12	1:L:493:LYS:N	2.20	0.48
1:J:58:THR:OG1	1:J:59:ASP:N	2.45	0.48
1:J:112:THR:O	1:J:325:ASN:ND2	2.46	0.48
1:J:130:PRO:HB2	1:J:315:MET:SD	2.54	0.48
1:J:484:LYS:HB3	1:J:484:LYS:HE2	1.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:639:ASN:HD21	1:K:25:SER:HB3	1.79	0.48
1:K:166:THR:HB	1:L:446:PHE:CD1	2.48	0.48
1:K:252:LYS:HA	1:K:258:LEU:HA	1.94	0.48
1:K:470:ARG:NH1	1:K:829:VAL:HG21	2.28	0.48
1:L:868:ARG:O	1:L:869:THR:HB	2.14	0.48
2:Z:186:THR:HG21	2:Z:409:ARG:HD3	1.96	0.48
1:J:90:ASP:OD1	1:J:933:ARG:NH1	2.47	0.48
1:L:373:LEU:HD11	1:L:377:ILE:HD13	1.96	0.48
2:Z:53:PRO:HD2	2:Z:56:LYS:HD2	1.96	0.48
1:J:360:ASP:OD1	1:J:361:LEU:N	2.45	0.48
1:J:731:TRP:CG	1:J:732:PRO:HA	2.49	0.48
1:L:501:TYR:CD1	1:L:505:ASN:HB2	2.49	0.48
1:J:474:TYR:CE2	1:J:479:LEU:HD21	2.49	0.48
1:J:554:ARG:HD3	1:J:555:TYR:CE1	2.48	0.48
1:L:20:ALA:HA	1:L:23:TYR:CE2	2.49	0.48
1:L:137:GLU:OE1	1:L:167:HIS:NE2	2.47	0.48
1:L:421:ILE:O	1:L:422:ASN:C	2.51	0.48
1:L:421:ILE:O	1:L:423:THR:N	2.47	0.48
1:L:681:THR:HG22	1:L:682:ARG:H	1.78	0.48
1:L:695:TYR:CD2	1:L:695:TYR:C	2.87	0.48
2:Z:212:VAL:HG21	2:Z:222:PRO:HA	1.96	0.48
2:Z:227:GLU:OE2	2:Z:407:HIS:NE2	2.47	0.48
1:J:112:THR:O	1:J:112:THR:OG1	2.32	0.47
1:J:735:ASP:N	1:J:735:ASP:OD1	2.47	0.47
1:K:302:TYR:O	1:K:304:PRO:HD3	2.14	0.47
1:L:217:ASN:HB2	1:L:218:HIS:CE1	2.49	0.47
1:L:497:ASN:ND2	1:L:499:ASN:HD22	2.12	0.47
1:J:613:ILE:O	1:J:614:CYS:SG	2.71	0.47
1:K:415:PHE:CE2	1:L:828:PHE:HD2	2.31	0.47
1:L:232:PRO:HD3	1:L:317:GLN:NE2	2.28	0.47
1:L:276:ASN:O	1:L:278:ASP:N	2.47	0.47
1:L:653:LEU:HD21	1:L:917:TYR:HD2	1.79	0.47
1:L:790:ARG:N	1:L:793:SER:OG	2.47	0.47
2:Z:87:GLN:NE2	2:Z:95:HIS:O	2.39	0.47
2:Z:95:HIS:ND1	2:Z:134:ARG:HD2	2.29	0.47
2:Z:186:THR:HG22	2:Z:244:ASP:H	1.79	0.47
2:Z:337:MET:HB2	2:Z:385:LYS:HD3	1.96	0.47
2:Z:418:ARG:NH1	2:Z:504:ASN:HB2	2.29	0.47
1:J:114:LYS:O	1:J:325:ASN:N	2.34	0.47
1:J:588:ASP:OD2	1:J:602:ARG:NH2	2.30	0.47
1:J:833:ALA:HB1	1:J:835:THR:HG23	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Z:461:TRP:CH2	2:Z:480:LEU:HD13	2.50	0.47
1:J:356:ASN:OD1	1:J:357:ALA:N	2.48	0.47
1:K:520:LEU:HD13	1:L:116:TYR:CG	2.49	0.47
1:L:299:HIS:HE1	1:L:320:MET:HG2	1.78	0.47
2:Z:128:THR:OG1	2:Z:133:VAL:HB	2.14	0.47
1:J:472:PHE:HE1	1:J:476:ASN:ND2	2.13	0.47
1:J:804:GLN:OE1	1:K:553:GLY:N	2.47	0.47
1:L:656:ILE:HD11	1:L:916:LEU:HB2	1.95	0.47
1:L:718:PHE:CD1	1:L:907:VAL:HG12	2.49	0.47
2:Z:13:LEU:HD22	2:Z:31:LEU:HD21	1.96	0.47
2:Z:35:THR:O	2:Z:39:VAL:HG23	2.14	0.47
1:J:270:THR:O	1:J:272:ALA:N	2.48	0.47
1:J:734:ASN:OD1	1:K:61:SER:OG	2.28	0.47
1:J:826:SER:OG	1:J:840:GLN:O	2.26	0.47
1:J:857:ASP:N	1:J:857:ASP:OD1	2.46	0.47
1:K:222:ARG:NE	1:K:289:GLU:OE2	2.34	0.47
1:K:230:MET:CE	1:K:310:ASN:HD22	2.28	0.47
1:K:303:MET:O	1:K:304:PRO:C	2.53	0.47
1:K:636:ASN:OD1	1:K:636:ASN:N	2.48	0.47
1:L:137:GLU:O	1:L:164:GLN:HA	2.15	0.47
1:J:561:GLN:HE22	1:L:757:ALA:H	1.62	0.47
1:L:279:ASN:C	1:L:281:THR:N	2.68	0.47
1:L:502:ASP:OD1	1:L:506:LYS:HE3	2.14	0.47
2:Z:90:ARG:NH1	2:Z:111:GLU:HA	2.30	0.47
2:Z:457:ARG:HB3	2:Z:530:VAL:HG22	1.95	0.47
1:L:684:LYS:HA	1:L:914:THR:HG22	1.97	0.47
1:L:704:SER:O	1:L:706:PRO:N	2.48	0.47
1:L:785:GLU:OE1	1:L:785:GLU:N	2.44	0.47
1:L:876:SER:OG	1:L:879:PHE:N	2.46	0.47
1:L:368:LEU:HD12	1:L:368:LEU:O	2.15	0.47
1:K:645:ASP:O	1:K:648:SER:OG	2.33	0.46
1:L:697:PRO:HG2	1:L:698:TYR:HD1	1.79	0.46
2:Z:504:ASN:O	2:Z:562:HIS:N	2.31	0.46
2:Z:573:VAL:O	2:Z:576:GLN:HB2	2.15	0.46
1:J:121:TYR:CE2	1:J:296:PRO:HG3	2.47	0.46
1:J:838:GLU:OE1	1:K:207:GLY:N	2.49	0.46
1:K:353:SER:HB2	1:K:355:LEU:HD12	1.97	0.46
1:K:356:ASN:OD1	1:K:357:ALA:N	2.49	0.46
1:L:194:LYS:HE3	1:L:194:LYS:HB3	1.78	0.46
1:L:566:PHE:HD1	1:L:568:ALA:H	1.61	0.46
1:L:922:VAL:HB	1:L:943:THR:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Z:505:MET:HG2	2:Z:561:THR:HA	1.95	0.46
1:J:715:ASN:ND2	1:J:869:THR:O	2.48	0.46
1:K:112:THR:O	1:K:112:THR:OG1	2.26	0.46
1:L:271:GLU:C	1:L:273:THR:N	2.68	0.46
1:L:328:ALA:HB2	1:L:547:SER:HA	1.98	0.46
1:L:428:LYS:HD2	1:L:446:PHE:CD2	2.51	0.46
2:Z:333:PRO:HB2	2:Z:436:HIS:N	2.31	0.46
2:Z:465:LYS:HE2	2:Z:517:ARG:HH21	1.80	0.46
1:J:473:LEU:HD13	1:J:518:ILE:HD11	1.97	0.46
1:J:490:SER:O	1:J:492:VAL:HG23	2.15	0.46
1:L:695:TYR:CG	1:L:696:ASP:N	2.83	0.46
2:Z:41:TRP:O	2:Z:45:THR:OG1	2.27	0.46
1:J:758:GLN:HE21	1:K:560:ILE:HG22	1.81	0.46
1:J:774:TYR:CE2	1:J:784:PRO:HG3	2.50	0.46
1:K:399:ARG:HE	1:K:865:LEU:HD21	1.80	0.46
1:L:346:GLY:HA3	1:L:583:TRP:CE3	2.50	0.46
2:Z:74:ARG:HA	2:Z:115:ARG:HH12	1.81	0.46
1:J:64:LEU:HD13	1:J:621:PRO:HD3	1.97	0.46
1:K:363:ASP:OD1	1:K:363:ASP:N	2.49	0.46
1:K:857:ASP:OD1	1:K:857:ASP:N	2.46	0.46
1:L:370:TYR:CD1	1:L:565:LYS:HG2	2.50	0.46
1:L:421:ILE:CD1	1:L:422:ASN:H	2.29	0.46
1:L:842:TYR:HD1	1:L:843:PRO:CD	2.29	0.46
1:J:475:SER:O	1:J:476:ASN:C	2.54	0.46
1:K:348:LEU:HD23	1:K:569:ILE:HG21	1.98	0.46
1:L:701:TYR:CD2	1:L:702:SER:N	2.83	0.46
2:Z:544:ILE:HG13	2:Z:563:VAL:HG11	1.98	0.46
1:J:116:TYR:O	1:J:116:TYR:CD1	2.69	0.46
1:K:67:ARG:HB2	1:K:616:TYR:CE1	2.50	0.46
1:K:268:SER:HG	1:K:282:PRO:HA	1.81	0.46
1:K:558:PHE:HD1	1:K:558:PHE:H	1.64	0.46
1:L:98:SER:O	1:L:98:SER:OG	2.29	0.46
1:L:595:SER:HB3	1:L:702:SER:OG	2.16	0.46
2:Z:60:CYS:HB2	2:Z:67:GLU:HG2	1.97	0.46
1:J:247:GLN:H	1:J:247:GLN:HG2	1.51	0.46
1:L:494:ILE:HD11	1:L:502:ASP:O	2.16	0.46
1:L:755:ASN:N	1:L:755:ASN:OD1	2.47	0.46
2:Z:404:ILE:HG12	2:Z:423:MET:HG2	1.97	0.46
1:L:676:ARG:HB2	1:L:921:GLU:HB2	1.98	0.46
1:L:705:ILE:HD12	1:L:705:ILE:N	2.26	0.46
1:J:702:SER:O	1:J:702:SER:OG	2.28	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:707:TYR:O	1:L:707:TYR:CD2	2.69	0.45
1:L:713:TYR:CD1	1:L:713:TYR:O	2.69	0.45
1:L:718:PHE:HD1	1:L:907:VAL:HG12	1.80	0.45
2:Z:63:GLY:HA3	2:Z:74:ARG:HG2	1.98	0.45
2:Z:63:GLY:C	2:Z:74:ARG:H	2.15	0.45
1:J:279:ASN:N	1:J:279:ASN:OD1	2.48	0.45
1:K:681:THR:HG21	1:K:712:PHE:CD2	2.52	0.45
1:L:78:TYR:HA	1:L:587:LYS:HB2	1.98	0.45
1:L:119:THR:OG1	1:L:120:ALA:N	2.50	0.45
1:L:376:SER:C	1:L:378:GLY:H	2.19	0.45
2:Z:62:GLU:OE2	2:Z:64:ASN:ND2	2.48	0.45
1:K:588:ASP:OD1	1:K:602:ARG:NH2	2.39	0.45
1:K:602:ARG:HH12	1:K:697:PRO:HA	1.82	0.45
1:L:833:ALA:HB1	1:L:835:THR:HG23	1.97	0.45
2:Z:87:GLN:HB2	2:Z:94:PRO:HD2	1.98	0.45
1:J:441:LYS:HD3	1:L:273:THR:HG21	1.98	0.45
1:J:927:ARG:NH1	1:K:14:HIS:HE1	2.15	0.45
1:K:230:MET:HE2	1:K:310:ASN:HD22	1.81	0.45
1:L:270:THR:O	1:L:271:GLU:C	2.53	0.45
1:L:370:TYR:CG	1:L:565:LYS:HD2	2.52	0.45
2:Z:70:GLY:HA3	2:Z:124:PRO:HG3	1.98	0.45
2:Z:72:ASN:HA	2:Z:74:ARG:NH2	2.31	0.45
2:Z:92:ARG:O	2:Z:370:TRP:NE1	2.49	0.45
2:Z:115:ARG:N	2:Z:125:TRP:O	2.47	0.45
2:Z:353:ILE:HD13	2:Z:359:LEU:HB2	1.97	0.45
1:J:460:MET:HG3	1:K:460:MET:HE1	1.99	0.45
1:K:360:ASP:OD1	1:K:364:ARG:NH1	2.50	0.45
1:L:432:LYS:N	1:L:438:GLY:O	2.49	0.45
2:Z:142:VAL:N	2:Z:147:GLN:O	2.32	0.45
1:J:540:ASN:O	1:J:541:ALA:C	2.54	0.45
1:K:412:ASN:OD1	1:K:412:ASN:N	2.50	0.45
1:L:524:TRP:NE1	1:L:525:SER:O	2.50	0.45
2:Z:415:ASN:OD1	2:Z:415:ASN:N	2.50	0.45
1:J:100:TYR:CE1	1:J:616:TYR:HB2	2.52	0.45
1:J:133:CYS:SG	1:J:135:TRP:CE3	3.10	0.45
1:J:178:ASN:OD1	1:J:179:ILE:N	2.49	0.45
1:J:745:ILE:O	1:J:762:THR:OG1	2.35	0.45
1:K:14:HIS:CD2	1:K:23:TYR:CZ	3.04	0.45
1:L:232:PRO:HG3	1:L:317:GLN:HG3	1.99	0.45
1:L:377:ILE:O	1:L:377:ILE:HG13	2.15	0.45
1:J:193:PRO:HB2	1:J:195:TYR:CE1	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Z:74:ARG:HD3	2:Z:115:ARG:NH2	2.32	0.45
2:Z:407:HIS:CE1	2:Z:409:ARG:HB2	2.51	0.45
2:Z:549:GLU:HB2	2:Z:559:PHE:HE1	1.82	0.45
1:L:501:TYR:O	1:L:502:ASP:C	2.53	0.45
2:Z:295:LEU:HB3	2:Z:301:LYS:HE2	1.99	0.45
1:J:338:TYR:CE2	1:J:586:ARG:HG2	2.52	0.45
1:J:635:ARG:HH12	1:J:932:HIS:C	2.20	0.45
1:K:327:ILE:HA	1:K:594:GLN:O	2.17	0.45
1:K:625:ASN:OD1	1:K:626:THR:N	2.50	0.45
1:L:268:SER:OG	1:L:282:PRO:HA	2.17	0.45
1:L:277:GLY:O	1:L:279:ASN:N	2.50	0.45
1:J:109:ARG:HG2	1:J:327:ILE:HG21	1.98	0.44
1:J:404:HIS:HE1	1:K:544:ARG:HD3	1.82	0.44
1:K:411:PRO:HB2	1:K:413:TYR:HE1	1.81	0.44
2:Z:327:ALA:HB1	2:Z:331:MET:SD	2.57	0.44
1:J:62:GLN:OE1	1:J:92:ARG:NE	2.48	0.44
1:J:410:LEU:HD13	1:K:470:ARG:NH2	2.32	0.44
1:J:550:LEU:HD23	1:J:550:LEU:HA	1.78	0.44
1:J:942:ARG:HH21	1:J:945:PHE:HB3	1.82	0.44
1:K:303:MET:O	1:K:305:THR:N	2.50	0.44
1:L:323:ARG:CZ	1:L:479:LEU:HD22	2.47	0.44
1:L:713:TYR:O	1:L:714:LEU:HD23	2.16	0.44
2:Z:80:THR:HA	2:Z:138:CYS:HA	1.99	0.44
1:J:375:ASP:OD1	1:J:790:ARG:HB3	2.17	0.44
1:J:544:ARG:HD3	1:L:404:HIS:NE2	2.32	0.44
1:K:399:ARG:HH21	1:K:865:LEU:HD11	1.80	0.44
1:K:399:ARG:CZ	1:K:534:PRO:HG3	2.47	0.44
1:K:823:HIS:CE1	1:K:844:ALA:HA	2.52	0.44
1:L:670:ARG:NH2	1:L:944:PRO:O	2.40	0.44
1:J:414:CYS:SG	1:J:460:MET:HB2	2.58	0.44
1:K:701:TYR:CZ	1:K:703:GLY:HA3	2.53	0.44
1:L:392:ASP:N	1:L:392:ASP:OD1	2.50	0.44
1:L:645:ASP:OD1	1:L:648:SER:N	2.50	0.44
1:J:538:HIS:O	1:J:538:HIS:HD2	2.01	0.44
1:L:271:GLU:O	1:L:273:THR:N	2.51	0.44
1:L:280:LEU:O	1:L:281:THR:C	2.55	0.44
1:L:370:TYR:CE1	1:L:565:LYS:HG2	2.53	0.44
1:L:707:TYR:HE1	1:L:917:TYR:CE2	2.34	0.44
1:J:231:LYS:CA	1:J:317:GLN:OE1	2.62	0.44
1:J:432:LYS:HB3	1:J:438:GLY:HA3	2.00	0.44
1:J:448:ASP:OD1	1:J:449:LYS:N	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:656:ILE:HD11	1:J:916:LEU:HB2	2.00	0.44
1:L:524:TRP:CE2	1:L:803:ARG:HD3	2.53	0.44
1:L:685:THR:H	1:L:914:THR:HA	1.83	0.44
1:K:58:THR:HB	1:K:623:ALA:HA	1.99	0.44
1:L:279:ASN:O	1:L:280:LEU:C	2.54	0.44
1:J:797:ASN:ND2	1:J:867:ASP:O	2.46	0.44
1:J:828:PHE:HD1	1:L:415:PHE:CD1	2.36	0.44
1:J:828:PHE:HD1	1:L:415:PHE:CZ	2.36	0.44
1:K:322:ASN:CG	1:K:505:ASN:HD21	2.21	0.44
1:K:745:ILE:H	1:K:745:ILE:HG13	1.55	0.44
1:L:535:PHE:CD1	1:L:711:THR:HB	2.53	0.44
1:J:75:ASP:OD1	1:J:76:THR:N	2.50	0.44
1:J:138:ALA:HA	1:J:164:GLN:HB3	2.00	0.44
1:J:224:LEU:HD21	1:L:842:TYR:HE1	1.82	0.44
1:K:241:THR:OG1	1:K:246:GLY:O	2.21	0.44
1:K:270:THR:C	1:K:272:ALA:N	2.68	0.44
1:K:333:PHE:O	1:K:336:LEU:HB2	2.18	0.44
1:K:408:ASP:N	1:K:408:ASP:OD1	2.50	0.44
1:K:808:ASP:OD1	1:K:809:THR:N	2.51	0.44
1:L:211:TRP:CZ3	1:L:418:GLY:HA3	2.53	0.44
1:L:484:LYS:HB2	1:L:484:LYS:HE3	1.73	0.44
1:L:675:PHE:HB3	1:L:875:PHE:CD2	2.52	0.44
1:L:783:ILE:H	1:L:783:ILE:HG12	1.56	0.44
1:J:481:LEU:O	1:J:482:PRO:C	2.55	0.43
1:J:599:ASN:OD1	1:J:599:ASN:N	2.51	0.43
1:K:75:ASP:OD1	1:K:76:THR:N	2.51	0.43
1:L:497:ASN:O	1:L:497:ASN:CG	2.54	0.43
1:L:558:PHE:HD1	1:L:558:PHE:H	1.65	0.43
2:Z:194:TRP:CE3	2:Z:199:ALA:HB1	2.53	0.43
1:J:230:MET:HB2	1:J:310:ASN:OD1	2.18	0.43
1:J:736:ARG:O	1:K:64:LEU:HB2	2.19	0.43
1:K:276:ASN:C	1:K:279:ASN:H	2.21	0.43
1:K:311:SER:C	1:K:313:GLU:N	2.67	0.43
1:K:356:ASN:CG	1:K:358:VAL:H	2.21	0.43
1:K:739:THR:HG21	1:K:744:GLU:HG3	2.00	0.43
1:K:876:SER:OG	1:K:879:PHE:N	2.51	0.43
1:J:101:PHE:O	1:J:561:GLN:HA	2.18	0.43
1:J:270:THR:C	1:J:272:ALA:N	2.69	0.43
1:J:469:TRP:NE1	1:J:473:LEU:HG	2.33	0.43
1:J:520:LEU:HD13	1:K:116:TYR:CG	2.53	0.43
1:L:330:ARG:NE	1:L:591:MET:O	2.30	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:437:ASN:O	1:L:439:TRP:N	2.51	0.43
1:L:724:THR:OG1	1:L:902:ASP:HB2	2.18	0.43
1:J:66:LEU:HD23	1:J:66:LEU:HA	1.76	0.43
1:J:70:PRO:HD3	1:J:84:PHE:HE2	1.84	0.43
1:K:550:LEU:HD23	1:K:550:LEU:HA	1.88	0.43
1:K:601:LEU:HD12	1:K:606:ALA:HB2	2.00	0.43
1:L:401:ILE:HG22	1:L:403:ASN:HB2	1.99	0.43
1:J:134:GLU:C	1:J:135:TRP:HE3	2.22	0.43
1:L:367:GLU:HG3	1:L:708:LEU:HD21	2.01	0.43
2:Z:334:TRP:CE3	2:Z:438:VAL:HB	2.53	0.43
2:Z:340:ARG:HA	2:Z:379:LEU:HD23	2.01	0.43
2:Z:493:CYS:O	2:Z:496:SER:OG	2.30	0.43
1:L:96:MET:HG2	1:L:572:LEU:O	2.18	0.43
1:L:867:ASP:O	1:L:868:ARG:HB2	2.19	0.43
2:Z:249:GLU:HA	2:Z:503:ASP:HB3	2.01	0.43
1:J:20:ALA:HA	1:J:23:TYR:CZ	2.53	0.43
2:Z:449:LEU:HD11	2:Z:533:SER:HB2	2.01	0.43
1:J:280:LEU:HD12	1:J:280:LEU:HA	1.81	0.43
2:Z:194:TRP:O	2:Z:200:LYS:HG3	2.19	0.43
2:Z:382:ARG:CB	2:Z:385:LYS:HD2	2.48	0.43
1:J:409:GLU:OE2	1:K:475:SER:OG	2.33	0.43
1:L:105:GLY:HA2	1:L:611:ASP:OD1	2.18	0.43
1:L:367:GLU:CB	1:L:708:LEU:CD2	2.96	0.43
1:L:545:TYR:HE1	1:L:549:LEU:HD22	1.84	0.43
1:L:718:PHE:O	1:L:746:LYS:HE2	2.19	0.43
2:Z:93:TYR:CG	2:Z:94:PRO:HA	2.54	0.43
2:Z:436:HIS:ND1	2:Z:437:PRO:HD2	2.33	0.43
2:Z:485:LEU:HD22	2:Z:509:GLY:HA2	2.00	0.43
1:J:675:PHE:HB3	1:J:875:PHE:CD2	2.53	0.43
1:K:269:THR:HG22	1:K:271:GLU:N	2.27	0.43
1:K:756:VAL:HG21	1:K:763:LYS:HA	2.00	0.43
1:L:19:ASP:OD1	1:L:19:ASP:N	2.47	0.43
1:L:653:LEU:HD21	1:L:917:TYR:CD2	2.54	0.43
1:L:701:TYR:OH	1:L:703:GLY:CA	2.65	0.43
2:Z:341:LYS:HA	2:Z:380:LEU:HD23	2.00	0.43
1:J:331:ASP:O	1:J:334:ILE:HG13	2.18	0.42
1:J:535:PHE:C	1:J:537:HIS:H	2.22	0.42
1:K:198:LYS:HD2	1:K:262:VAL:HB	2.01	0.42
1:K:820:LEU:HB2	1:K:821:HIS:CE1	2.53	0.42
1:L:421:ILE:HD12	1:L:421:ILE:H	1.83	0.42
1:L:684:LYS:HE2	1:L:912:GLU:OE2	2.18	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:J:270:THR:HB	1:J:271:GLU:H	1.66	0.42
1:L:277:GLY:C	1:L:279:ASN:N	2.71	0.42
1:L:928:VAL:HG22	1:L:938:THR:HG22	2.01	0.42
2:Z:92:ARG:N	2:Z:468:TRP:O	2.51	0.42
2:Z:132:THR:HG22	2:Z:412:TRP:CZ3	2.52	0.42
1:K:683:LEU:HD23	1:K:683:LEU:HA	1.78	0.42
1:L:498:PRO:HA	1:L:503:TYR:CD2	2.54	0.42
2:Z:94:PRO:HG3	2:Z:129:THR:O	2.18	0.42
2:Z:227:GLU:OE1	2:Z:242:TYR:OH	2.35	0.42
2:Z:508:ALA:HB3	2:Z:560:TYR:CE2	2.54	0.42
1:J:136:ASP:OD1	1:J:136:ASP:N	2.51	0.42
1:K:564:GLN:OE1	1:K:566:PHE:N	2.30	0.42
1:K:737:LEU:HD23	1:K:737:LEU:HA	1.89	0.42
1:K:774:TYR:O	1:K:776:ILE:HG13	2.18	0.42
1:L:746:LYS:NZ	1:L:908:ASP:OD2	2.38	0.42
2:Z:22:CYS:SG	2:Z:27:ALA:HB2	2.58	0.42
2:Z:541:GLN:HG2	2:Z:563:VAL:HG21	2.00	0.42
1:J:470:ARG:HH12	1:J:829:VAL:HG21	1.83	0.42
1:K:276:ASN:O	1:K:279:ASN:N	2.52	0.42
1:L:62:GLN:CD	1:L:92:ARG:HE	2.22	0.42
1:L:180:THR:HG23	1:L:183:GLY:H	1.84	0.42
1:L:252:LYS:HZ2	1:L:252:LYS:HB3	1.85	0.42
1:L:656:ILE:HG12	1:L:663:VAL:HG21	2.01	0.42
2:Z:295:LEU:HG	2:Z:538:ARG:HG2	2.01	0.42
2:Z:448:SER:O	2:Z:452:ALA:N	2.52	0.42
1:L:331:ASP:O	1:L:334:ILE:HG13	2.19	0.42
1:L:685:THR:C	1:L:687:GLU:N	2.73	0.42
2:Z:441:PRO:HD3	2:Z:540:TYR:HB3	2.01	0.42
2:Z:457:ARG:HD2	2:Z:539:TRP:HZ3	1.85	0.42
1:J:13:MET:HG3	1:L:941:LEU:HD23	2.01	0.42
1:J:24:LEU:HD23	1:J:24:LEU:HA	1.90	0.42
1:J:574:LEU:HD23	1:J:574:LEU:HA	1.85	0.42
1:J:824:ASN:OD1	1:J:825:ASN:N	2.53	0.42
1:K:639:ASN:OD1	1:L:24:LEU:HD22	2.19	0.42
1:L:526:LEU:HD23	1:L:526:LEU:HA	1.92	0.42
1:L:673:ALA:O	1:L:944:PRO:HG3	2.20	0.42
2:Z:321:ILE:HA	2:Z:510:TYR:CZ	2.54	0.42
1:J:209:SER:HB2	1:L:302:TYR:HE2	1.85	0.42
1:J:719:LYS:HB2	1:J:906:GLU:O	2.19	0.42
1:J:865:LEU:HD12	1:J:865:LEU:HA	1.83	0.42
1:K:14:HIS:O	1:K:48:PRO:HB3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:758:GLN:HE21	1:K:758:GLN:HB2	1.61	0.42
1:L:47:ASN:OD1	1:L:47:ASN:N	2.51	0.42
1:L:441:LYS:HE2	1:L:441:LYS:HB3	1.92	0.42
1:L:493:LYS:HE3	1:L:493:LYS:HB3	1.61	0.42
1:L:808:ASP:N	1:L:808:ASP:OD1	2.53	0.42
1:L:818:GLY:C	1:L:822:GLN:HE21	2.22	0.42
1:J:112:THR:HG21	1:J:604:ASP:OD2	2.19	0.42
1:J:611:ASP:HB3	1:J:612:SER:H	1.74	0.42
1:L:67:ARG:HD2	1:L:616:TYR:OH	2.19	0.42
1:L:426:LEU:HD23	1:L:426:LEU:HA	1.66	0.42
1:L:468:LEU:HD23	1:L:468:LEU:HA	1.88	0.42
2:Z:66:ALA:HB2	2:Z:140:ILE:HG22	2.02	0.42
2:Z:95:HIS:HB3	2:Z:134:ARG:HH11	1.85	0.42
2:Z:358:VAL:O	2:Z:422:LEU:HD12	2.19	0.42
2:Z:422:LEU:HB2	2:Z:569:TRP:HH2	1.84	0.42
2:Z:508:ALA:HB3	2:Z:560:TYR:HE2	1.84	0.42
1:J:207:GLY:HA3	1:L:838:GLU:HB2	2.01	0.42
1:J:917:TYR:CZ	1:J:919:LEU:HD21	2.54	0.42
1:K:929:HIS:CD2	1:K:931:PRO:HD3	2.55	0.42
1:L:212:TYR:HD1	1:L:212:TYR:H	1.67	0.42
1:L:217:ASN:HB2	1:L:218:HIS:ND1	2.35	0.42
1:L:375:ASP:CG	1:L:376:SER:N	2.70	0.42
1:L:415:PHE:CD2	1:L:415:PHE:N	2.88	0.42
1:L:520:LEU:HD23	1:L:520:LEU:HA	1.75	0.42
1:L:866:CYS:O	1:L:869:THR:HG22	2.20	0.42
2:Z:573:VAL:HA	2:Z:576:GLN:NE2	2.34	0.42
1:J:121:TYR:HD1	1:J:121:TYR:HA	1.73	0.41
1:J:680:PHE:CE1	1:J:871:TRP:HB2	2.55	0.41
1:J:807:ASP:OD1	1:J:810:LYS:N	2.53	0.41
1:K:886:THR:OG1	1:K:889:GLY:N	2.50	0.41
1:L:10:TRP:CD1	1:L:15:ILE:HD12	2.55	0.41
1:L:850:LEU:HA	1:L:850:LEU:HD23	1.81	0.41
2:Z:95:HIS:CG	2:Z:134:ARG:HA	2.54	0.41
1:J:121:TYR:CE2	1:J:296:PRO:CG	3.01	0.41
1:J:271:GLU:O	1:J:274:ALA:HB2	2.20	0.41
1:K:203:GLU:HB2	1:K:206:ILE:HG13	2.02	0.41
1:K:252:LYS:N	1:K:258:LEU:HD13	2.35	0.41
1:K:503:TYR:OH	1:K:507:ARG:NH2	2.52	0.41
1:J:178:ASN:HA	1:J:218:HIS:CD2	2.56	0.41
1:J:645:ASP:OD1	1:J:646:TYR:N	2.54	0.41
1:K:615:LEU:HD12	1:K:616:TYR:H	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:743:PHE:HE2	1:K:873:ILE:HD13	1.85	0.41
1:L:53:THR:O	1:L:53:THR:OG1	2.30	0.41
1:L:531:ASN:OD1	1:L:531:ASN:N	2.54	0.41
1:L:717:THR:HB	1:L:908:ASP:CG	2.41	0.41
1:L:775:ASN:OD1	1:L:881:SER:N	2.53	0.41
1:J:416:PRO:HG3	1:J:458:PHE:HB3	2.02	0.41
1:K:76:THR:HG22	1:K:77:ALA:H	1.85	0.41
1:K:210:GLN:H	1:K:210:GLN:CD	2.20	0.41
1:K:302:TYR:C	1:K:302:TYR:CD1	2.92	0.41
1:K:833:ALA:HB1	1:K:835:THR:HG23	2.02	0.41
1:K:926:VAL:HG22	1:K:940:TYR:HD1	1.85	0.41
1:L:684:LYS:HG2	1:L:912:GLU:OE2	2.20	0.41
1:L:687:GLU:HG2	1:L:701:TYR:OH	2.21	0.41
1:L:721:VAL:O	1:L:742:GLU:HB2	2.21	0.41
1:J:410:LEU:HD23	1:J:410:LEU:HA	1.93	0.41
1:J:665:ILE:HG13	1:J:903:MET:HB2	2.03	0.41
1:K:435:GLN:O	1:K:436:GLU:HB3	2.20	0.41
1:L:225:LYS:HE2	1:L:288:SER:OG	2.20	0.41
1:L:714:LEU:HD23	1:L:714:LEU:HA	1.86	0.41
2:Z:16:CGU:O	2:Z:22:CYS:N	2.53	0.41
1:J:340:ASN:OD1	1:J:340:ASN:N	2.50	0.41
1:J:673:ALA:O	1:J:944:PRO:HG3	2.21	0.41
1:K:675:PHE:HD2	1:K:875:PHE:CD2	2.39	0.41
1:L:750:ASP:OD1	1:L:752:GLU:N	2.40	0.41
2:Z:72:ASN:OD1	2:Z:72:ASN:N	2.52	0.41
2:Z:176:GLN:O	2:Z:212:VAL:HG13	2.20	0.41
1:J:128:GLY:O	1:J:129:ALA:C	2.54	0.41
1:J:231:LYS:HA	1:J:231:LYS:HD3	1.80	0.41
1:J:428:LYS:HE2	1:L:265:GLN:HG3	2.02	0.41
1:J:615:LEU:HD12	1:J:616:TYR:N	2.35	0.41
1:K:111:PRO:CD	1:K:554:ARG:HH11	2.31	0.41
1:K:257:LYS:HB2	1:K:257:LYS:HE2	1.70	0.41
1:K:842:TYR:O	1:K:843:PRO:C	2.59	0.41
1:L:373:LEU:O	1:L:377:ILE:HG12	2.20	0.41
1:L:541:ALA:HA	1:L:544:ARG:HG2	2.03	0.41
2:Z:457:ARG:HD2	2:Z:539:TRP:CZ3	2.56	0.41
1:K:119:THR:OG1	1:K:120:ALA:N	2.53	0.41
1:K:333:PHE:CD2	1:K:562:VAL:HG22	2.56	0.41
1:K:750:ASP:OD1	1:K:753:GLY:N	2.53	0.41
1:L:373:LEU:O	1:L:373:LEU:HD12	2.20	0.41
1:L:869:THR:C	1:L:870:LEU:HD23	2.40	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:Z:20:CGU:HB2	2:Z:21:THR:H	1.64	0.41
1:J:133:CYS:HB3	1:J:315:MET:SD	2.60	0.41
1:J:134:GLU:CG	1:J:168:VAL:HG22	2.50	0.41
1:J:242:ASN:HD21	1:J:246:GLY:H	1.68	0.41
1:J:515:ASP:HB3	1:J:517:TYR:CE2	2.56	0.41
1:J:797:ASN:O	1:J:866:CYS:HA	2.21	0.41
1:K:302:TYR:CE1	1:K:304:PRO:HA	2.56	0.41
1:K:374:LEU:HD23	1:K:374:LEU:HA	1.80	0.41
1:K:804:GLN:CD	1:L:553:GLY:H	2.21	0.41
1:L:375:ASP:HB2	1:L:792:TYR:CD1	2.56	0.41
1:L:640:ASP:OD2	1:L:927:ARG:NE	2.44	0.41
1:L:683:LEU:HD21	1:L:712:PHE:CE1	2.55	0.41
1:L:684:LYS:HB3	1:L:687:GLU:OE1	2.20	0.41
1:L:686:LYS:HB2	1:L:686:LYS:HZ3	1.85	0.41
1:L:688:THR:HA	1:L:689:PRO:HD3	1.87	0.41
1:L:701:TYR:CE2	1:L:703:GLY:N	2.88	0.41
1:L:911:ASP:OD1	1:L:911:ASP:N	2.49	0.41
2:Z:314:GLU:HA	2:Z:455:LYS:HE3	2.02	0.41
1:J:133:CYS:SG	1:J:315:MET:SD	3.19	0.41
1:J:271:GLU:O	1:J:274:ALA:CB	2.69	0.41
1:J:538:HIS:CD2	1:J:538:HIS:C	2.94	0.41
1:K:362:GLN:HE21	1:K:692:GLY:HA3	1.86	0.41
1:K:380:ARG:HD2	1:K:380:ARG:HA	1.70	0.41
1:K:415:PHE:CZ	1:L:828:PHE:HB3	2.56	0.41
1:L:371:GLN:OE1	1:L:380:ARG:NH2	2.48	0.41
1:L:379:ASP:OD1	1:L:381:THR:HG23	2.21	0.41
1:L:542:GLY:O	1:L:546:ARG:HG3	2.21	0.41
1:K:645:ASP:OD1	1:K:647:LEU:N	2.55	0.40
2:Z:63:GLY:O	2:Z:74:ARG:N	2.29	0.40
2:Z:519:ASP:HB3	2:Z:522:GLU:HG3	2.03	0.40
1:J:914:THR:O	1:J:915:LEU:HD23	2.22	0.40
1:K:211:TRP:CZ3	1:K:418:GLY:HA3	2.56	0.40
1:K:230:MET:HE2	1:K:310:ASN:ND2	2.36	0.40
1:L:372:LEU:N	1:L:372:LEU:HD23	2.36	0.40
1:L:432:LYS:H	1:L:438:GLY:CA	2.32	0.40
2:Z:127:TYR:HE1	2:Z:134:ARG:NE	2.18	0.40
1:J:414:CYS:SG	1:K:460:MET:CE	3.09	0.40
1:J:561:GLN:NE2	1:L:756:VAL:HA	2.35	0.40
1:K:43:ASN:OD1	1:K:43:ASN:N	2.54	0.40
1:K:358:VAL:HG13	1:K:566:PHE:CE2	2.51	0.40
1:K:370:TYR:HE1	1:K:374:LEU:HD12	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:430:LYS:HE3	1:K:440:GLU:HG3	2.03	0.40
1:K:840:GLN:HE21	1:K:840:GLN:HB2	1.79	0.40
1:L:575:LEU:HB2	1:L:930:ARG:HD2	2.03	0.40
2:Z:494:LYS:HG2	2:Z:501:ILE:HG13	2.03	0.40
1:J:741:ASN:HB3	1:J:742:GLU:OE1	2.21	0.40
1:J:926:VAL:HG22	1:J:940:TYR:CD1	2.56	0.40
1:L:193:PRO:HB2	1:L:195:TYR:CZ	2.57	0.40
1:J:415:PHE:CE2	1:K:828:PHE:CD1	3.05	0.40
1:K:667:ILE:HB	1:K:901:LEU:HB3	2.04	0.40
1:L:806:VAL:HG22	1:L:807:ASP:O	2.21	0.40
2:Z:120:SER:HB3	2:Z:125:TRP:CD1	2.56	0.40
2:Z:202:LEU:HD13	2:Z:232:TYR:CG	2.56	0.40
2:Z:297:PRO:HA	2:Z:301:LYS:HD2	2.02	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	921/952 (97%)	807 (88%)	96 (10%)	18 (2%)	6 34
1	K	918/952 (96%)	818 (89%)	90 (10%)	10 (1%)	12 45
1	L	920/952 (97%)	798 (87%)	98 (11%)	24 (3%)	4 29
2	Z	567/622 (91%)	525 (93%)	42 (7%)	0	100 100
All	All	3326/3478 (96%)	2948 (89%)	326 (10%)	52 (2%)	10 38

All (52) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	J	70	PRO
1	J	111	PRO

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Mol	Chain	Res	Type
1	J	234	TYR
1	J	274	ALA
1	J	474	TYR
1	J	475	SER
1	K	277	GLY
1	K	315	MET
1	L	377	ILE
1	L	685	THR
1	L	697	PRO
1	L	698	TYR
1	L	707	TYR
1	L	715	ASN
1	J	112	THR
1	J	270	THR
1	J	278	ASP
1	J	476	ASN
1	J	479	LEU
1	J	484	LYS
1	J	540	ASN
1	K	272	ALA
1	K	274	ALA
1	K	310	ASN
1	K	314	LEU
1	L	272	ALA
1	L	416	PRO
1	L	495	SER
1	L	686	LYS
1	L	702	SER
1	L	703	GLY
1	L	709	ASP
1	K	275	GLY
1	L	363	ASP
1	L	422	ASN
1	L	701	TYR
1	L	869	THR
1	J	611	ASP
1	K	316	GLY
1	L	278	ASP
1	J	232	PRO
1	J	614	CYS
1	L	270	THR
1	L	489	PRO

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Mol	Chain	Res	Type
1	J	132	PRO
1	J	229	PRO
1	K	306	ILE
1	L	689	PRO
1	L	706	PRO
1	L	421	ILE
1	L	498	PRO
1	K	842	TYR

5.3.2 Protein sidechains

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	J	805/829 (97%)	707 (88%)	98 (12%)	4 18
1	K	803/829 (97%)	720 (90%)	83 (10%)	6 22
1	L	804/829 (97%)	707 (88%)	97 (12%)	4 18
2	Z	486/521 (93%)	458 (94%)	28 (6%)	17 40
All	All	2898/3008 (96%)	2592 (89%)	306 (11%)	8 21

All (306) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	J	6	MET
1	J	14	HIS
1	J	23	TYR
1	J	45	PHE
1	J	55	ASP
1	J	58	THR
1	J	59	ASP
1	J	63	ARG
1	J	64	LEU
1	J	65	THR
1	J	66	LEU
1	J	67	ARG
1	J	69	ILE

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Mol	Chain	Res	Type
1	J	76	THR
1	J	91	ASN
1	J	109	ARG
1	J	112	THR
1	J	116	TYR
1	J	121	TYR
1	J	133	CYS
1	J	136	ASP
1	J	166	THR
1	J	180	THR
1	J	184	ILE
1	J	188	VAL
1	J	213	GLU
1	J	217	ASN
1	J	236	SER
1	J	237	TYR
1	J	244	ASN
1	J	252	LYS
1	J	259	GLU
1	J	271	GLU
1	J	278	ASP
1	J	279	ASN
1	J	305	THR
1	J	313	GLU
1	J	327	ILE
1	J	336	LEU
1	J	338	TYR
1	J	344	ASN
1	J	358	VAL
1	J	372	LEU
1	J	374	LEU
1	J	375	ASP
1	J	377	ILE
1	J	392	ASP
1	J	420	VAL
1	J	425	THR
1	J	440	GLU
1	J	451	GLU
1	J	458	PHE
1	J	471	ASN
1	J	473	LEU
1	J	479	LEU

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Mol	Chain	Res	Type
1	J	481	LEU
1	J	483	ASP
1	J	484	LYS
1	J	500	THR
1	J	509	VAL
1	J	519	ASN
1	J	520	LEU
1	J	538	HIS
1	J	558	PHE
1	J	559	HIS
1	J	566	PHE
1	J	573	LEU
1	J	600	ASP
1	J	604	ASP
1	J	608	ILE
1	J	609	LYS
1	J	613	ILE
1	J	620	PHE
1	J	641	GLN
1	J	648	SER
1	J	651	ASN
1	J	662	ASN
1	J	669	SER
1	J	681	THR
1	J	691	LEU
1	J	705	ILE
1	J	723	ILE
1	J	728	SER
1	J	750	ASP
1	J	762	THR
1	J	807	ASP
1	J	837	ARG
1	J	840	GLN
1	J	857	ASP
1	J	867	ASP
1	J	869	THR
1	J	870	LEU
1	J	872	ARG
1	J	875	PHE
1	J	893	LEU
1	J	921	GLU
1	J	925	VAL

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Mol	Chain	Res	Type
1	J	943	THR
1	K	12	TYR
1	K	19	ASP
1	K	25	SER
1	K	37	THR
1	K	53	THR
1	K	58	THR
1	K	74	GLU
1	K	76	THR
1	K	90	ASP
1	K	91	ASN
1	K	100	TYR
1	K	106	VAL
1	K	112	THR
1	K	184	ILE
1	K	185	GLN
1	K	188	VAL
1	K	212	TYR
1	K	224	LEU
1	K	228	THR
1	K	243	GLU
1	K	252	LYS
1	K	257	LYS
1	K	270	THR
1	K	301	SER
1	K	303	MET
1	K	306	ILE
1	K	307	LYS
1	K	308	GLU
1	K	310	ASN
1	K	336	LEU
1	K	340	ASN
1	K	355	LEU
1	K	366	THR
1	K	374	LEU
1	K	375	ASP
1	K	388	ASN
1	K	392	ASP
1	K	412	ASN
1	K	420	VAL
1	K	421	ILE
1	K	423	THR

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Mol	Chain	Res	Type
1	K	425	THR
1	K	448	ASP
1	K	462	ILE
1	K	481	LEU
1	K	490	SER
1	K	491	ASN
1	K	500	THR
1	K	502	ASP
1	K	509	VAL
1	K	520	LEU
1	K	558	PHE
1	K	559	HIS
1	K	561	GLN
1	K	564	GLN
1	K	566	PHE
1	K	567	PHE
1	K	572	LEU
1	K	574	LEU
1	K	581	TYR
1	K	592	VAL
1	K	596	SER
1	K	603	VAL
1	K	634	LEU
1	K	636	ASN
1	K	638	THR
1	K	648	SER
1	K	665	ILE
1	K	676	ARG
1	K	681	THR
1	K	734	ASN
1	K	745	ILE
1	K	756	VAL
1	K	759	CYS
1	K	829	VAL
1	K	837	ARG
1	K	869	THR
1	K	870	LEU
1	K	872	ARG
1	K	876	SER
1	K	886	THR
1	K	887	ASP
1	K	943	THR

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Mol	Chain	Res	Type
1	L	19	ASP
1	L	47	ASN
1	L	55	ASP
1	L	58	THR
1	L	76	THR
1	L	78	TYR
1	L	90	ASP
1	L	91	ASN
1	L	93	VAL
1	L	102	ASP
1	L	169	PHE
1	L	184	ILE
1	L	208	GLU
1	L	212	TYR
1	L	227	THR
1	L	234	TYR
1	L	251	VAL
1	L	252	LYS
1	L	273	THR
1	L	280	LEU
1	L	290	ASP
1	L	291	VAL
1	L	299	HIS
1	L	308	GLU
1	L	327	ILE
1	L	336	LEU
1	L	338	TYR
1	L	340	ASN
1	L	342	THR
1	L	351	GLN
1	L	360	ASP
1	L	365	ASN
1	L	368	LEU
1	L	369	SER
1	L	374	LEU
1	L	375	ASP
1	L	380	ARG
1	L	381	THR
1	L	391	VAL
1	L	406	THR
1	L	414	CYS
1	L	417	LEU

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Mol	Chain	Res	Type
1	L	421	ILE
1	L	423	THR
1	L	425	THR
1	L	426	LEU
1	L	432	LYS
1	L	445	GLU
1	L	451	GLU
1	L	491	ASN
1	L	493	LYS
1	L	494	ILE
1	L	497	ASN
1	L	500	THR
1	L	514	VAL
1	L	520	LEU
1	L	558	PHE
1	L	561	GLN
1	L	574	LEU
1	L	581	TYR
1	L	592	VAL
1	L	595	SER
1	L	600	ASP
1	L	611	ASP
1	L	645	ASP
1	L	648	SER
1	L	651	ASN
1	L	681	THR
1	L	684	LYS
1	L	686	LYS
1	L	691	LEU
1	L	695	TYR
1	L	696	ASP
1	L	701	TYR
1	L	708	LEU
1	L	738	LEU
1	L	742	GLU
1	L	745	ILE
1	L	755	ASN
1	L	756	VAL
1	L	759	CYS
1	L	764	ASP
1	L	774	TYR
1	L	783	ILE

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Mol	Chain	Res	Type
1	L	787	TYR
1	L	822	GLN
1	L	837	ARG
1	L	842	TYR
1	L	857	ASP
1	L	860	THR
1	L	867	ASP
1	L	872	ARG
1	L	875	PHE
1	L	876	SER
1	L	888	LEU
1	L	930	ARG
1	L	935	VAL
2	Z	24	TYR
2	Z	88	LEU
2	Z	121	THR
2	Z	128	THR
2	Z	130	ASP
2	Z	134	ARG
2	Z	135	ARG
2	Z	152	MET
2	Z	215	VAL
2	Z	219	CYS
2	Z	248	CYS
2	Z	316	TYR
2	Z	329	ILE
2	Z	348	CYS
2	Z	400	MET
2	Z	405	TYR
2	Z	409	ARG
2	Z	414	GLU
2	Z	415	ASN
2	Z	431	PHE
2	Z	433	ASP
2	Z	436	HIS
2	Z	454	TYR
2	Z	479	VAL
2	Z	490	ARG
2	Z	504	ASN
2	Z	507	CYS
2	Z	554	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (18)

such sidechains are listed below:

Mol	Chain	Res	Type
1	J	332	ASN
1	J	371	GLN
1	J	404	HIS
1	J	471	ASN
1	J	538	HIS
1	J	561	GLN
1	J	651	ASN
1	J	758	GLN
1	K	131	ASN
1	K	310	ASN
1	K	422	ASN
1	K	505	ASN
1	K	561	GLN
1	L	218	HIS
1	L	279	ASN
1	L	491	ASN
1	L	499	ASN
1	L	651	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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	14	3,2	9,11,12	1.48	1 (11%)	10,14,16	0.83	0
2	CGU	Z	6	3,2	9,11,12	1.31	0	10,14,16	0.84	0
2	CGU	Z	19	2	9,11,12	1.49	1 (11%)	10,14,16	0.82	0
2	CGU	Z	32	2	9,11,12	1.46	0	10,14,16	0.88	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	CGU	Z	25	3,2	9,11,12	1.46	1 (11%)	10,14,16	0.84	0
2	CGU	Z	26	3,2	9,11,12	1.50	1 (11%)	10,14,16	0.81	0
2	CGU	Z	7	3,2	9,11,12	1.47	1 (11%)	10,14,16	0.82	0
2	CGU	Z	16	3,2	9,11,12	1.14	0	10,14,16	0.85	0
2	CGU	Z	20	3,2	9,11,12	1.45	1 (11%)	10,14,16	0.86	0
2	CGU	Z	29	3,2	9,11,12	1.47	1 (11%)	10,14,16	1.00	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	14	3,2	-	8/13/14/16	-
2	CGU	Z	6	3,2	-	3/13/14/16	-
2	CGU	Z	19	2	-	3/13/14/16	-
2	CGU	Z	32	2	-	3/13/14/16	-
2	CGU	Z	25	3,2	-	4/13/14/16	-
2	CGU	Z	26	3,2	-	3/13/14/16	-
2	CGU	Z	7	3,2	-	2/13/14/16	-
2	CGU	Z	16	3,2	-	1/13/14/16	-
2	CGU	Z	20	3,2	-	2/13/14/16	-
2	CGU	Z	29	3,2	-	3/13/14/16	-

All (7) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	Z	14	CGU	CG-CD2	2.33	1.55	1.52
2	Z	20	CGU	CG-CD2	2.33	1.55	1.52
2	Z	19	CGU	CG-CD1	2.28	1.55	1.52
2	Z	26	CGU	CG-CD2	2.21	1.54	1.52
2	Z	7	CGU	CG-CD2	2.14	1.54	1.52
2	Z	25	CGU	CG-CD2	2.11	1.54	1.52
2	Z	29	CGU	CG-CD2	2.05	1.54	1.52

There are no bond angle outliers.

There are no chirality outliers.

All (32) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	Z	7	CGU	N-CA-CB-CG
2	Z	7	CGU	C-CA-CB-CG
2	Z	14	CGU	C-CA-CB-CG
2	Z	14	CGU	CA-CB-CG-CD1
2	Z	14	CGU	CA-CB-CG-CD2
2	Z	20	CGU	O-C-CA-CB
2	Z	20	CGU	CA-CB-CG-CD1
2	Z	25	CGU	CA-CB-CG-CD2
2	Z	29	CGU	CA-CB-CG-CD1
2	Z	19	CGU	N-CA-CB-CG
2	Z	29	CGU	N-CA-CB-CG
2	Z	14	CGU	OE11-CD1-CG-CB
2	Z	25	CGU	OE11-CD1-CG-CB
2	Z	25	CGU	OE12-CD1-CG-CB
2	Z	26	CGU	OE11-CD1-CG-CB
2	Z	26	CGU	OE12-CD1-CG-CB
2	Z	29	CGU	CA-CB-CG-CD2
2	Z	14	CGU	N-CA-CB-CG
2	Z	6	CGU	OE21-CD2-CG-CB
2	Z	6	CGU	OE22-CD2-CG-CB
2	Z	14	CGU	OE12-CD1-CG-CB
2	Z	16	CGU	OE12-CD1-CG-CB
2	Z	32	CGU	OE21-CD2-CG-CB
2	Z	32	CGU	OE22-CD2-CG-CB
2	Z	6	CGU	OE11-CD1-CG-CD2
2	Z	14	CGU	OE11-CD1-CG-CD2
2	Z	14	CGU	OE21-CD2-CG-CD1
2	Z	19	CGU	OE21-CD2-CG-CD1
2	Z	19	CGU	OE22-CD2-CG-CD1
2	Z	25	CGU	OE12-CD1-CG-CD2
2	Z	26	CGU	OE21-CD2-CG-CD1
2	Z	32	CGU	OE11-CD1-CG-CD2

There are no ring outliers.

4 monomers are involved in 10 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	Z	6	CGU	2	0
2	Z	19	CGU	1	0
2	Z	16	CGU	6	0
2	Z	20	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.

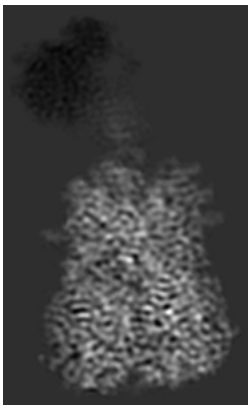
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-45726. These allow visual inspection of the internal detail of the map and identification of artifacts.

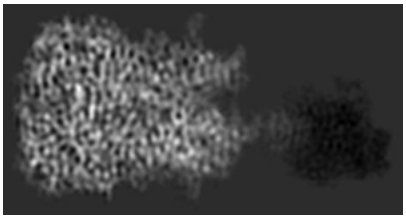
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

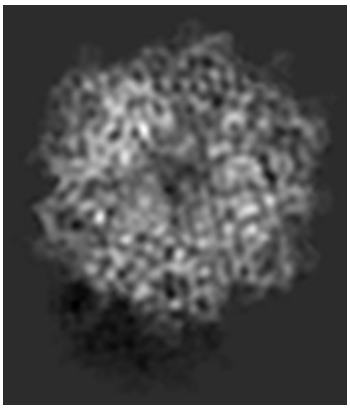
6.1.1 Primary map



X

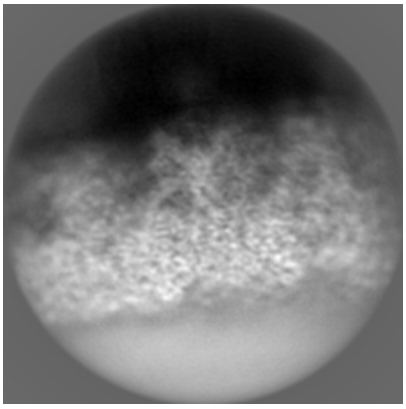


Y

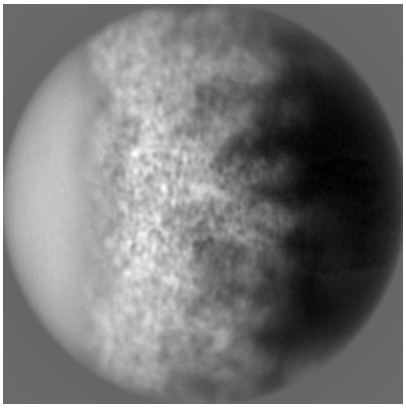


Z

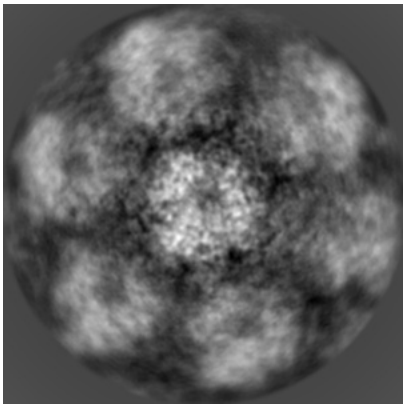
6.1.2 Raw map



X



Y

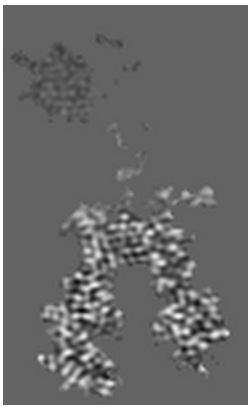


Z

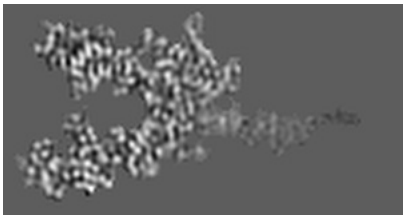
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

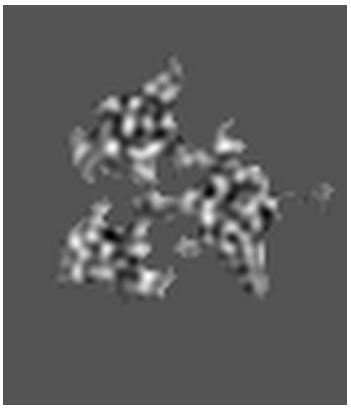
6.2.1 Primary map



X Index: 39

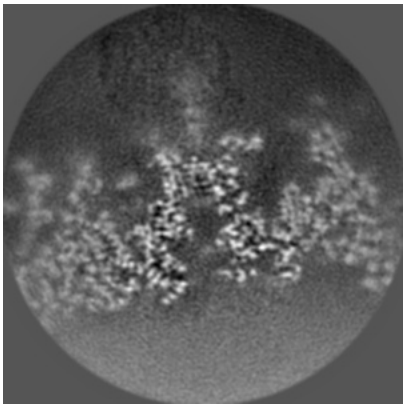


Y Index: 46

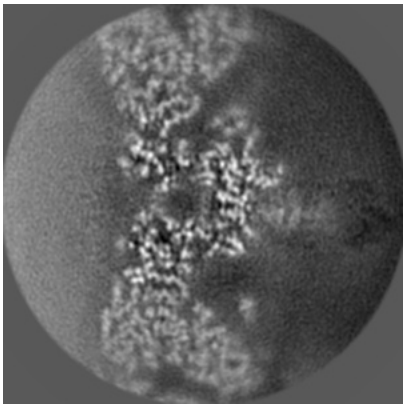


Z Index: 75

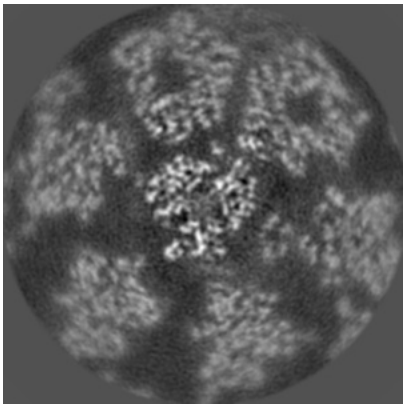
6.2.2 Raw map



X Index: 100



Y Index: 100

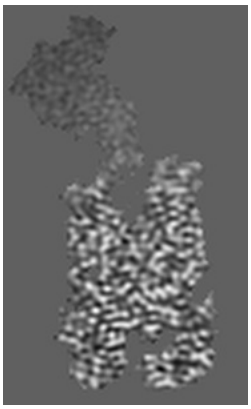


Z Index: 100

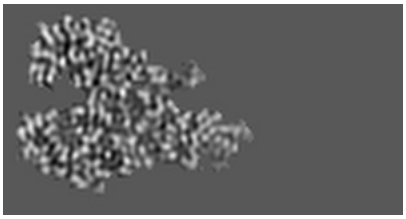
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

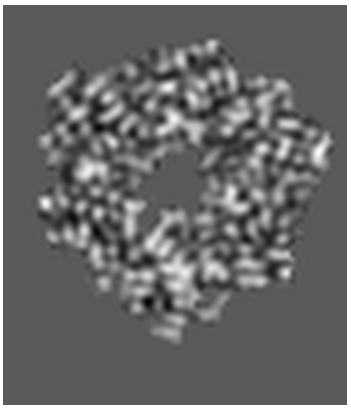
6.3.1 Primary map



X Index: 28

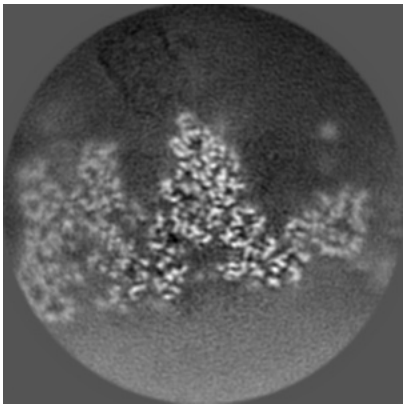


Y Index: 64

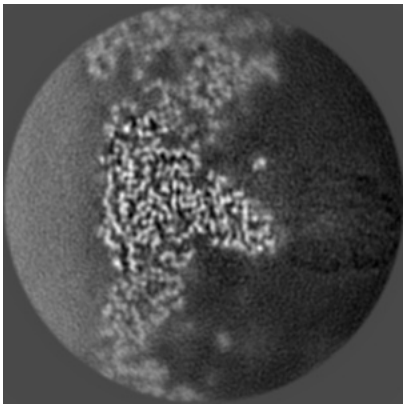


Z Index: 33

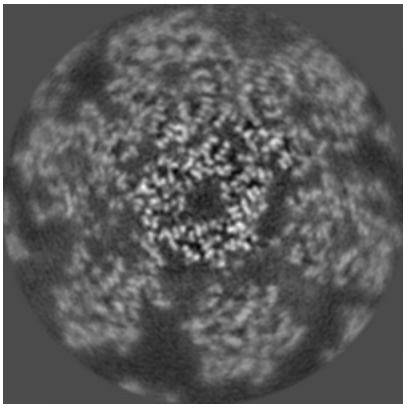
6.3.2 Raw map



X Index: 112



Y Index: 81

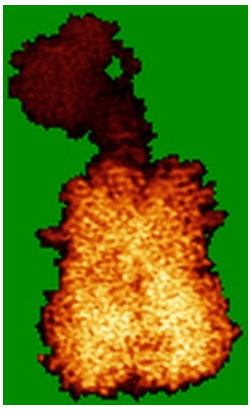


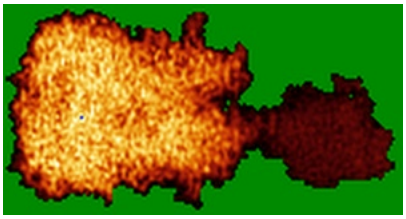
Z Index: 91

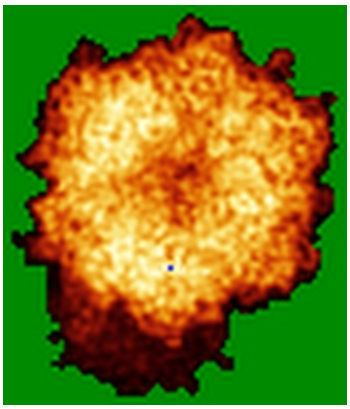
The images above show the largest variance slices of the map in three orthogonal directions.

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

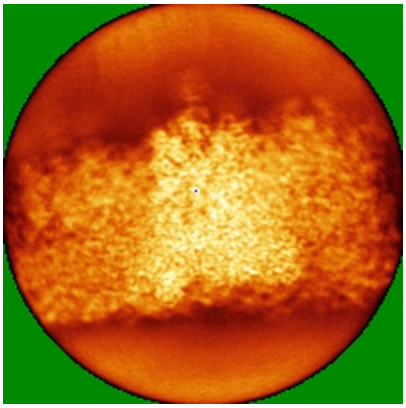
6.4.1 Primary map

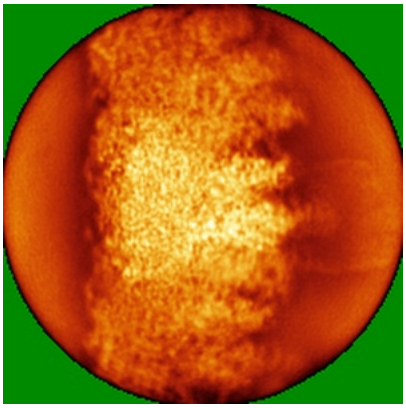

X

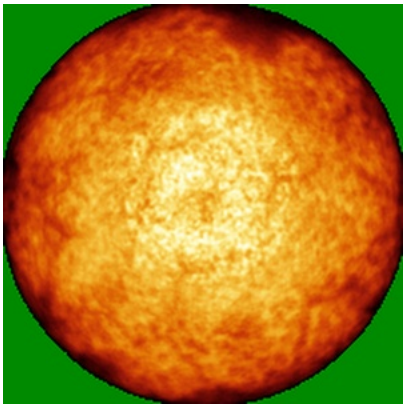

Y


Z

6.4.2 Raw map


X

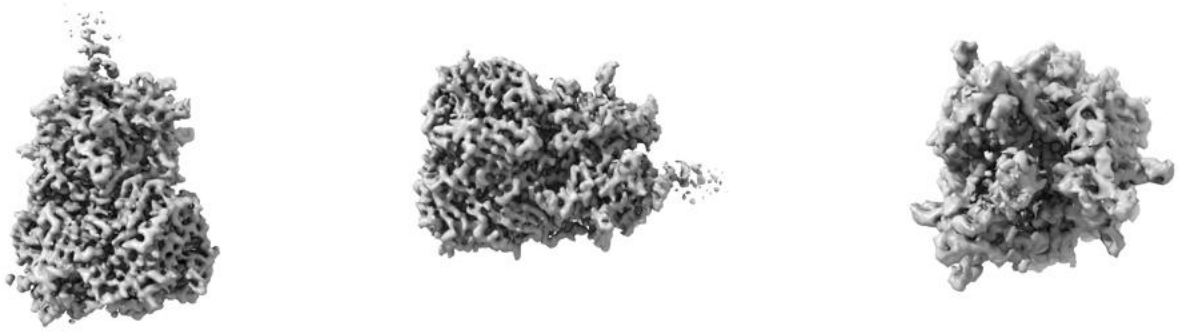

Y


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 0.015. 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.

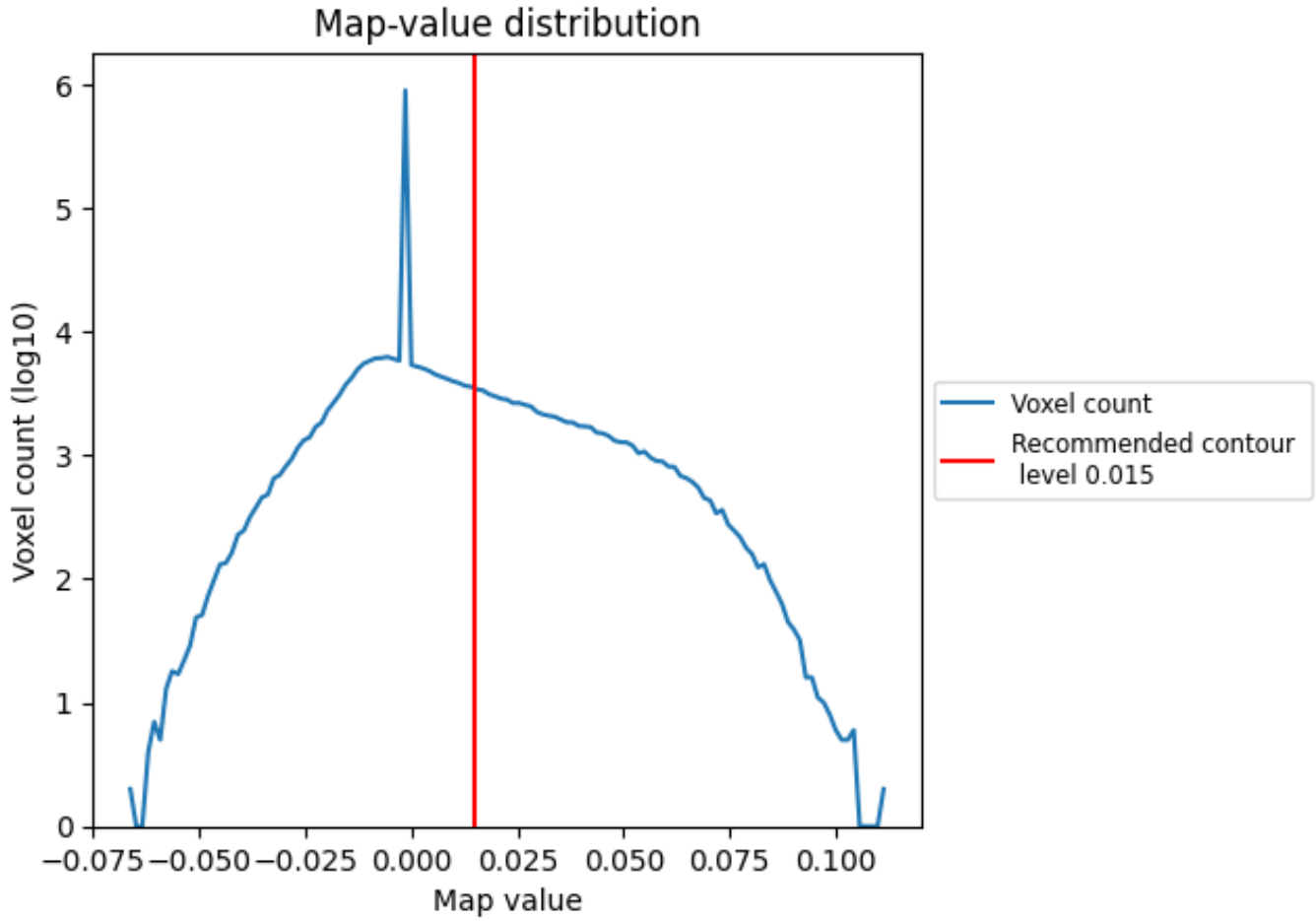
6.6 Mask visualisation (i)

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

7 Map analysis

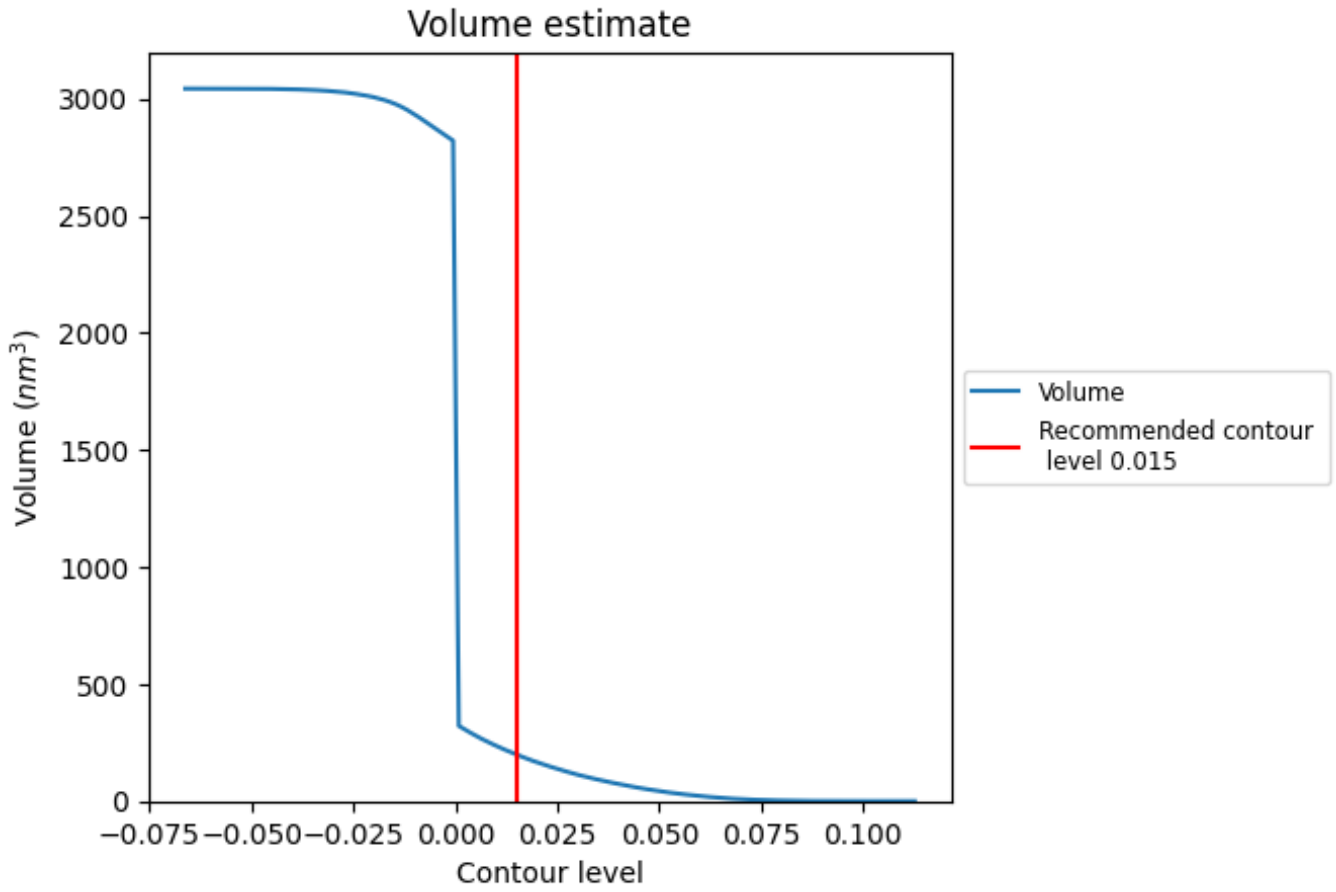
This section contains the results of statistical analysis of the map.

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 199 nm^3; this corresponds to an approximate mass of 180 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.

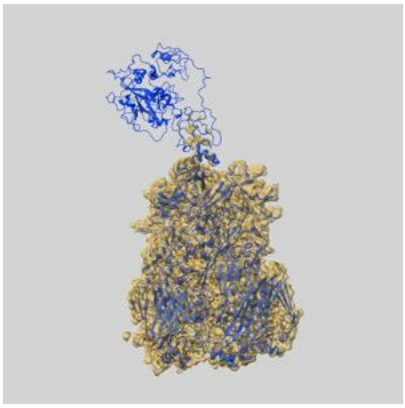
8 Fourier-Shell correlation (i)

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

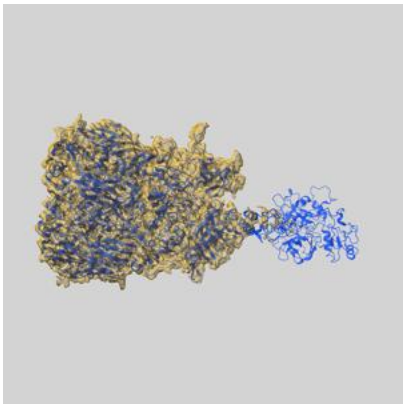
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-45726 and PDB model 9CLN. Per-residue inclusion information can be found in section 3 on page 4.

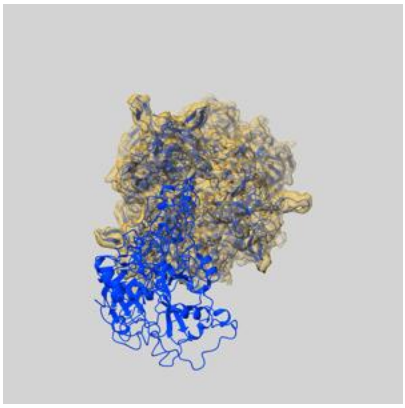
9.1 Map-model overlay



X



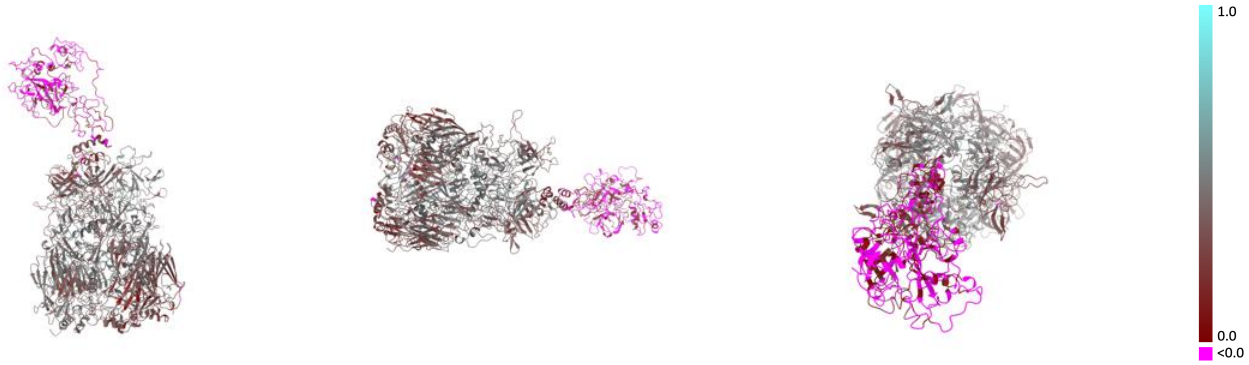
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.015 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.

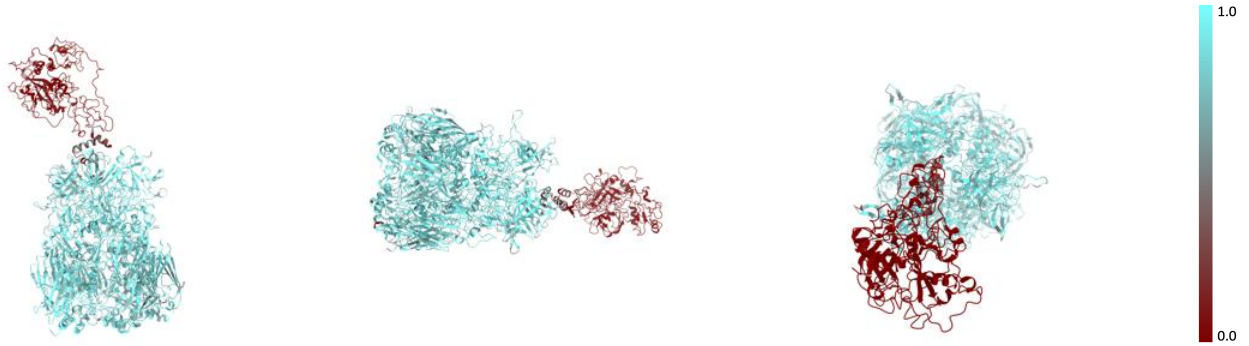
9.2 Q-score mapped to coordinate model (i)



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.

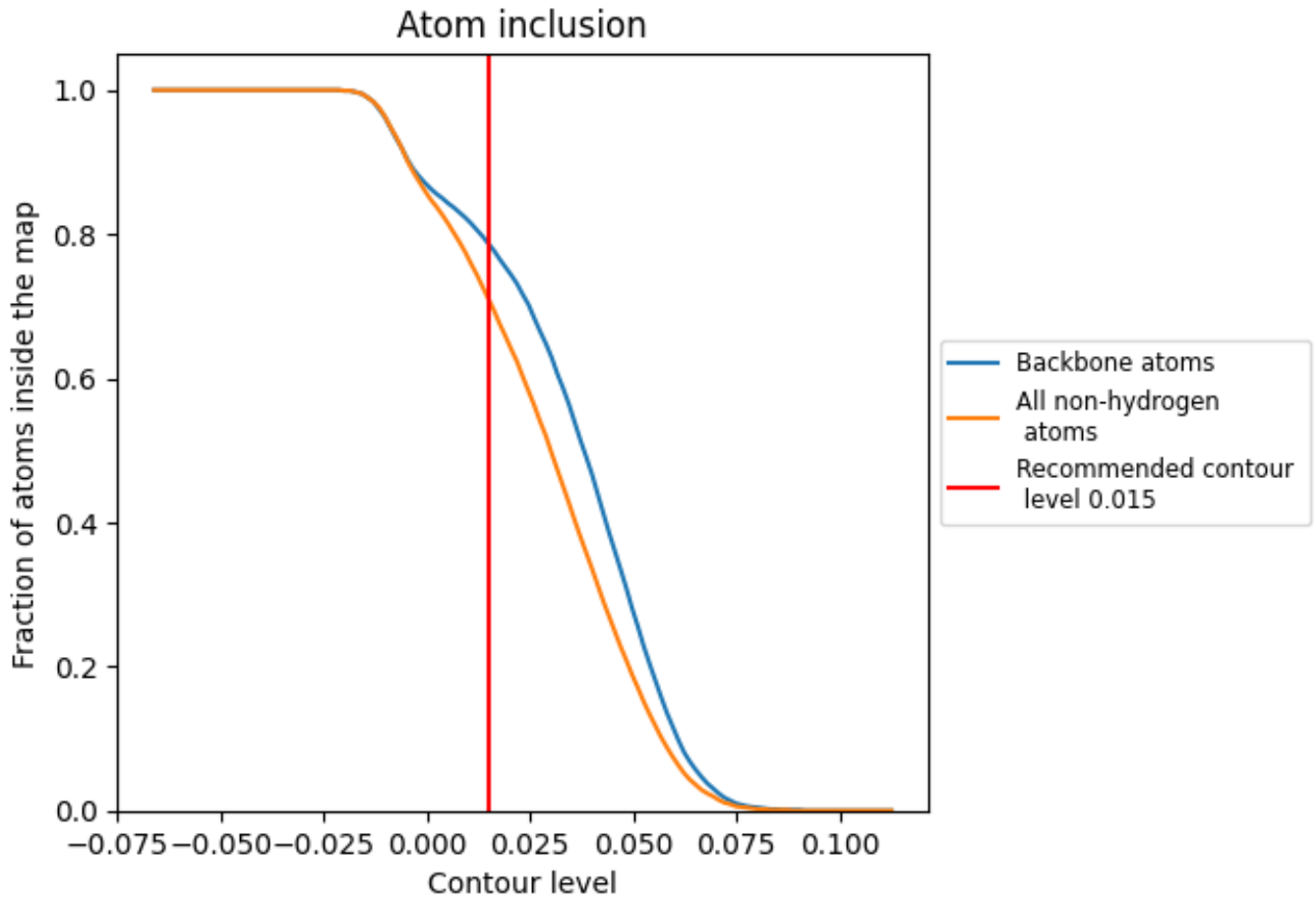
9.3 Atom inclusion mapped to coordinate model (i)



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 (0.015).

9.4 Atom inclusion (i)



At the recommended contour level, 79% of all backbone atoms, 71% 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 (0.015) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7090	0.3350
J	0.8560	0.4210
K	0.8360	0.3920
L	0.8480	0.4040
Z	0.0470	-0.0040