Full wwPDB EM Validation Report ⓘ

Mar 4, 2024 – 08:36 AM EST

PDB ID	:	6CRJ
EMDB ID	:	EMD-7564
Title	:	Mouse norovirus model using the crystal structure of MNV P domain and the Norwalkvirus shell domain
Authors	:	Smith, T.J.
Deposited on	:	2018-03-19
Resolution	:	8.00 Å(reported)

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

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

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

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

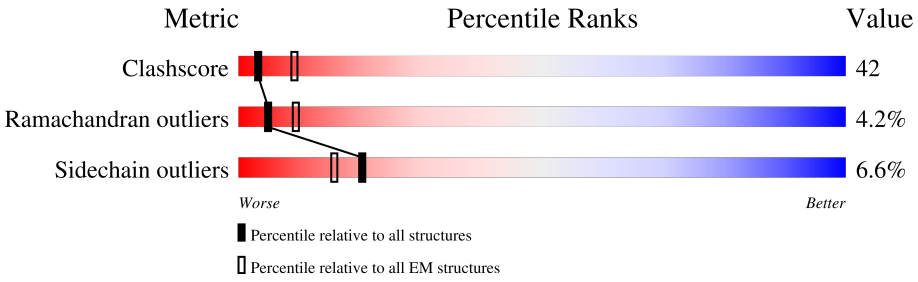
EMDB validation analysis	:	0.0.1.dev70
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

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 8.00 Å.

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



Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826

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

Mol	Chain	Length	Quality of chain
1	A	531	65% 58% 30% 6%
1	B	531	64% 63% 28% 6%
1	C	531	60% 64% 26%

2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 11749 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 Norwalk virus, MNV-1 capsid protein chimera.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	B	527	Total	C	N	O	S	0	0
			3997	2555	672	752	18		
1	A	508	Total	C	N	O	S	0	0
			3876	2484	651	723	18		
1	C	508	Total	C	N	O	S	0	0
			3876	2484	651	723	18		

There are 18 discrepancies between the modelled and reference sequences:

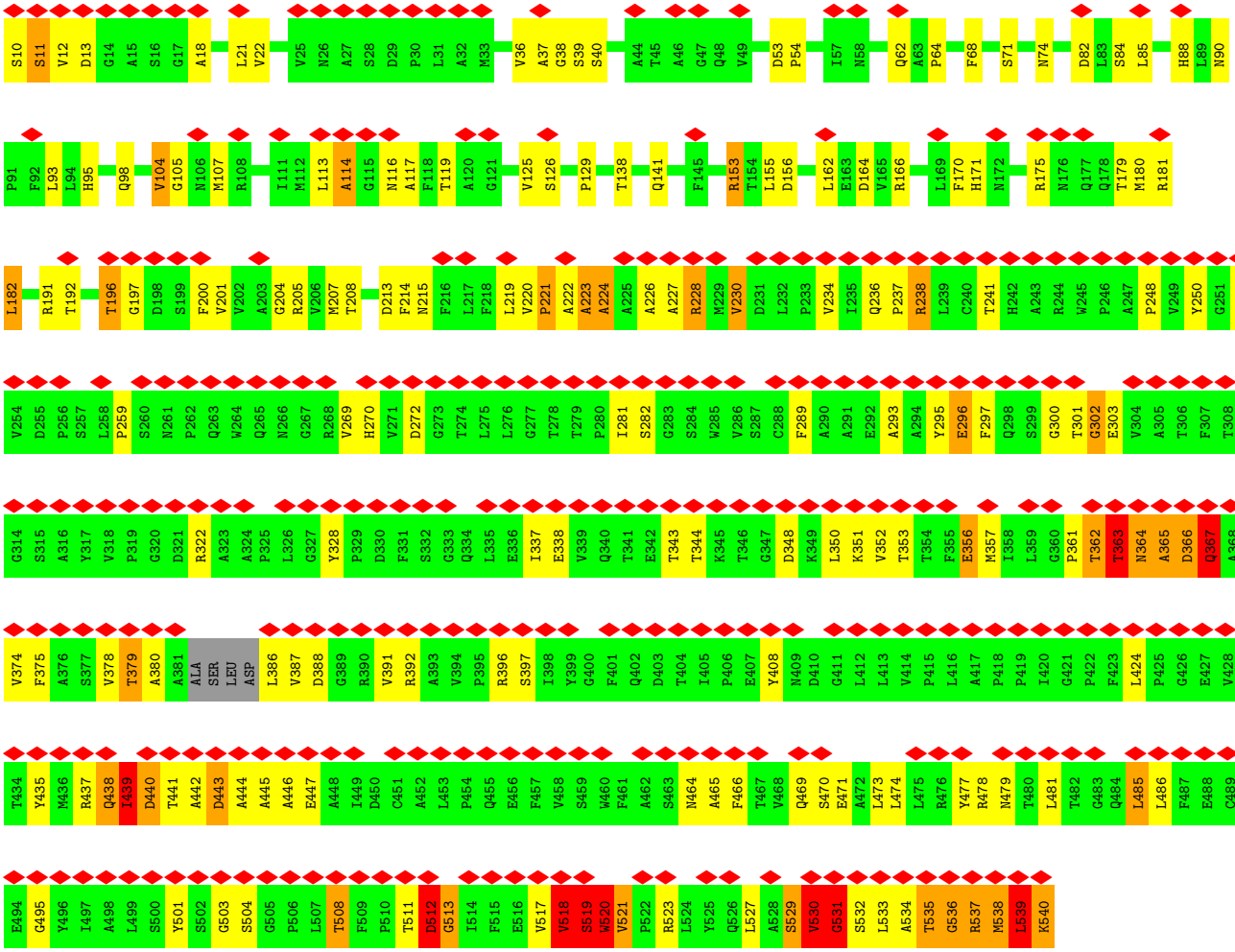
Chain	Residue	Modelled	Actual	Comment	Reference
B	222	ALA	-	linker	UNP Q83884
B	223	ALA	-	linker	UNP Q83884
B	224	ALA	-	linker	UNP Q83884
B	225	ALA	-	linker	UNP Q83884
B	226	ALA	-	linker	UNP Q83884
B	227	ALA	-	linker	UNP Q83884
A	222	ALA	-	linker	UNP Q83884
A	223	ALA	-	linker	UNP Q83884
A	224	ALA	-	linker	UNP Q83884
A	225	ALA	-	linker	UNP Q83884
A	226	ALA	-	linker	UNP Q83884
A	227	ALA	-	linker	UNP Q83884
C	222	ALA	-	linker	UNP Q83884
C	223	ALA	-	linker	UNP Q83884
C	224	ALA	-	linker	UNP Q83884
C	225	ALA	-	linker	UNP Q83884
C	226	ALA	-	linker	UNP Q83884
C	227	ALA	-	linker	UNP Q83884

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.

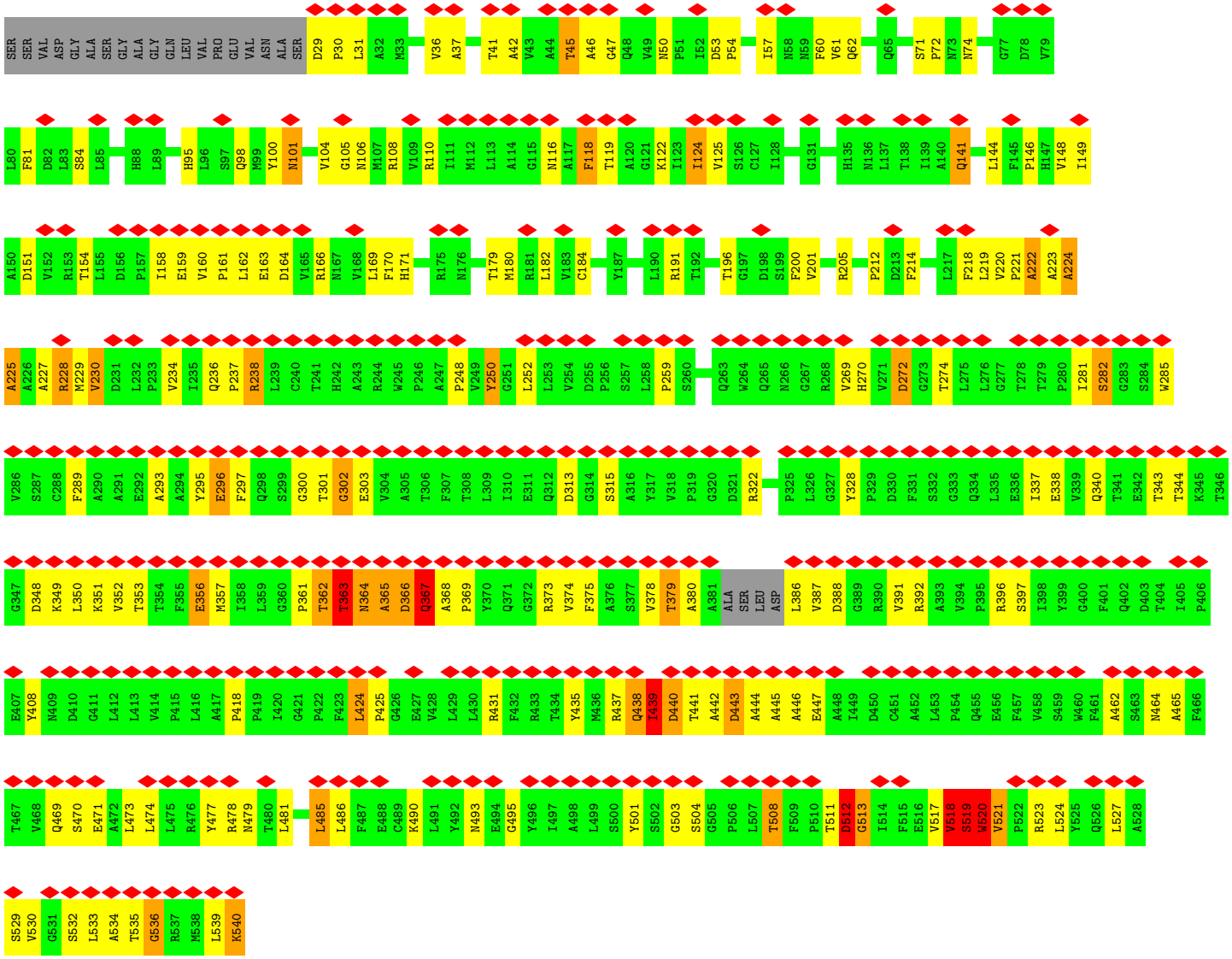
• Molecule 1: Norwalk virus, MNV-1 capsid protein chimera

Chain B:



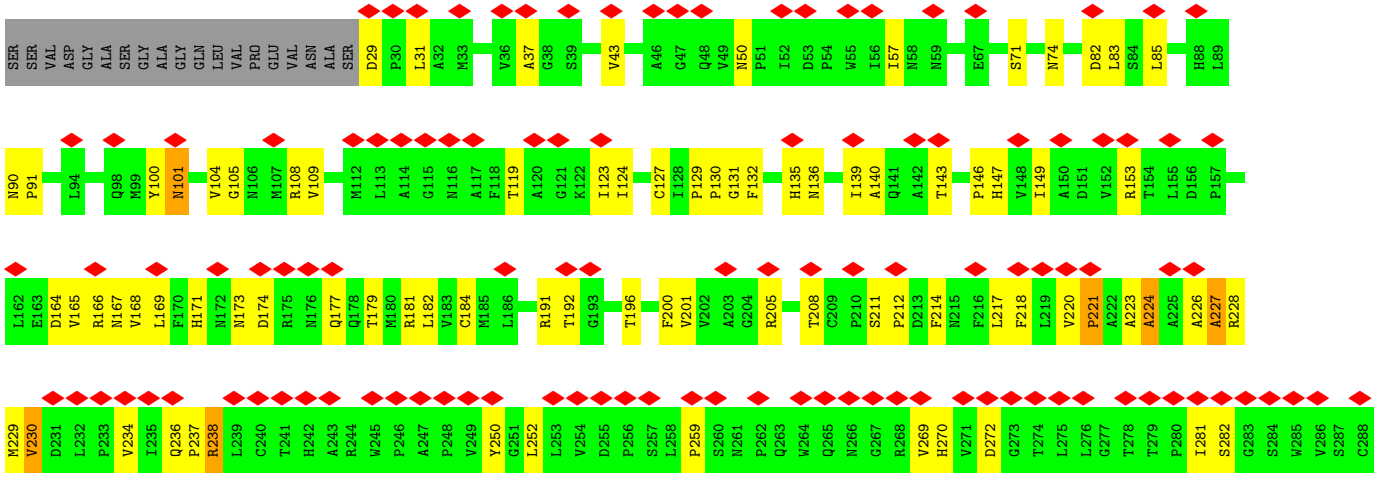
• Molecule 1: Norwalk virus, MNV-1 capsid protein chimera

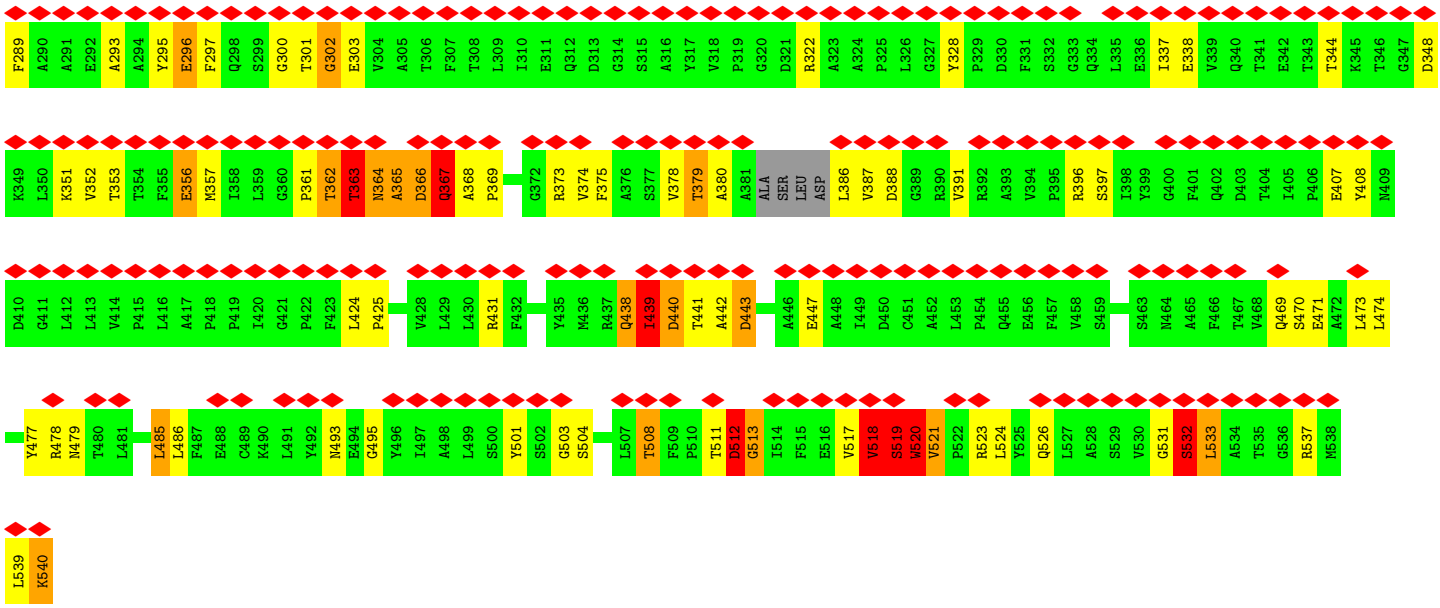
Chain A:



• Molecule 1: Norwalk virus, MNV-1 capsid protein chimera

Chain C:




F289 A290 A291 E292 A293 A294 Y295 E296 F297 Q298 S299 G300 T301 G302 E303 V304 A305 T306 F307 T308 L309 I310 E311 Q312 D313 G314 S315 A316 Y317 V318 P319 G320 D321 R322 A323 A324 P325 L326 G327 Y328 P329 D330 F331 S332 G333 Q334 L335 E336 I337 E338 V339 Q340 T341 E342 T343 T344 K345 T346 G347 D348
K349 L350 K351 V352 T353 T354 F355 E356 M357 I358 L359 G360 P361 T362 T363 N364 A365 D366 Q367 A368 P369 G372 R373 V374 F375 A376 S377 V378 T379 A380 A381 ALA SER LEU ASP L386 V387 D388 G389 R390 V391 R392 A393 V394 P395 R396 S397 I398 Y399 G400 F401 Q402 D403 T404 I405 P406 E407 Y408 N409
D410 G411 L412 L413 V414 P415 L416 A417 P418 P419 I420 G421 P422 F423 L424 P425 V428 L429 L430 R431 F432 Y435 M436 R437 Q438 T439 D440 T441 A442 D443 A446 E447 A448 I449 D450 C451 A452 L453 P454 Q455 E456 F457 V458 S459 S463 N464 A465 F466 T467 V468 Q469 S470 E471 A472 L473 L474
Y477 R478 N479 T480 L481 L485 L486 F487 E488 C489 K490 L491 Y492 N493 E494 G495 Y496 I497 A498 L499 S500 Y501 S502 G503 S504 L507 T508 F509 P510 T511 D512 G513 I514 F515 E516 V517 V518 S519 W520 V521 P522 R523 L524 Y525 Q526 L527 A528 S529 V530 G531 S532 L533 A534 T535 G536 R537 M538
L539 K540

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	20425	Depositor
Resolution determination method	FSC 0.5 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TECNAI F20	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/Å^2$)	10	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI EAGLE (2k x 2k)	Depositor
Maximum map value	14.876	Depositor
Minimum map value	-11.954	Depositor
Average map value	-0.000	Depositor
Map value standard deviation	0.934	Depositor
Recommended contour level	2.5	Depositor
Map size (Å)	599.0016, 599.0016, 599.0016	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.5598999, 1.5598999, 1.5598999	Depositor

5 Model quality

5.1 Standard geometry

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	#$\|Z\|$ >5	RMSZ	#$\|Z\|$ >5
1	A	0.97	5/3979 (0.1%)	1.06	14/5449 (0.3%)
1	B	0.97	5/4101 (0.1%)	1.12	26/5616 (0.5%)
1	C	0.97	5/3979 (0.1%)	1.11	20/5449 (0.4%)
All	All	0.97	15/12059 (0.1%)	1.10	60/16514 (0.4%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	2	4
1	B	2	4
1	C	2	4
All	All	6	12

All (15) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	282	SER	CB-OG	6.95	1.51	1.42
1	C	282	SER	CB-OG	6.93	1.51	1.42
1	B	282	SER	CB-OG	6.93	1.51	1.42
1	C	513	GLY	N-CA	-6.36	1.36	1.46
1	B	513	GLY	N-CA	-6.34	1.36	1.46
1	A	513	GLY	N-CA	-6.33	1.36	1.46
1	C	250	TYR	CD1-CE1	5.41	1.47	1.39
1	B	250	TYR	CD1-CE1	5.38	1.47	1.39
1	A	250	TYR	CD1-CE1	5.37	1.47	1.39
1	C	447	GLU	CG-CD	5.25	1.59	1.51
1	B	447	GLU	CG-CD	5.24	1.59	1.51
1	B	408	TYR	CD1-CE1	5.20	1.47	1.39
1	A	447	GLU	CG-CD	5.17	1.59	1.51
1	C	408	TYR	CD1-CE1	5.16	1.47	1.39

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	408	TYR	CD1-CE1	5.13	1.47	1.39

All (60) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	532	SER	C-N-CA	-15.40	83.19	121.70
1	B	530	VAL	CB-CA-C	-15.10	82.72	111.40
1	B	539	LEU	C-N-CA	-9.85	97.08	121.70
1	A	272	ASP	CB-CG-OD1	9.77	127.09	118.30
1	B	272	ASP	CB-CG-OD1	9.72	127.05	118.30
1	C	272	ASP	CB-CG-OD1	9.70	127.03	118.30
1	C	532	SER	CA-C-N	9.04	137.09	117.20
1	A	517	VAL	C-N-CA	8.64	143.29	121.70
1	B	517	VAL	C-N-CA	8.63	143.28	121.70
1	C	517	VAL	C-N-CA	8.63	143.29	121.70
1	B	531	GLY	C-N-CA	-8.40	100.71	121.70
1	C	532	SER	CB-CA-C	-8.15	94.61	110.10
1	B	539	LEU	CB-CA-C	-8.05	94.90	110.20
1	B	538	MET	CB-CA-C	-7.87	94.66	110.40
1	A	520	TRP	C-N-CA	7.54	140.54	121.70
1	C	520	TRP	C-N-CA	7.53	140.52	121.70
1	B	520	TRP	C-N-CA	7.52	140.49	121.70
1	C	532	SER	O-C-N	-7.18	111.20	122.70
1	C	521	VAL	N-CA-C	7.16	130.34	111.00
1	A	521	VAL	N-CA-C	7.16	130.32	111.00
1	B	521	VAL	N-CA-C	7.15	130.32	111.00
1	B	529	SER	C-N-CA	-7.04	104.09	121.70
1	A	322	ARG	NE-CZ-NH1	6.76	123.68	120.30
1	B	322	ARG	NE-CZ-NH1	6.69	123.64	120.30
1	C	518	VAL	C-N-CA	6.66	138.36	121.70
1	B	518	VAL	C-N-CA	6.66	138.35	121.70
1	A	518	VAL	C-N-CA	6.65	138.32	121.70
1	C	322	ARG	NE-CZ-NH1	6.62	123.61	120.30
1	C	518	VAL	CA-C-N	6.43	131.35	117.20
1	A	518	VAL	CA-C-N	6.43	131.34	117.20
1	B	518	VAL	CA-C-N	6.40	131.29	117.20
1	B	539	LEU	CA-CB-CG	-5.93	101.66	115.30
1	C	531	GLY	N-CA-C	-5.93	98.28	113.10
1	A	272	ASP	CB-CG-OD2	-5.88	113.01	118.30
1	B	272	ASP	CB-CG-OD2	-5.82	113.06	118.30
1	C	272	ASP	CB-CG-OD2	-5.80	113.08	118.30
1	B	538	MET	C-N-CA	-5.69	107.47	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	535	THR	C-N-CA	5.66	134.18	122.30
1	A	508	THR	N-CA-CB	-5.56	99.74	110.30
1	C	508	THR	N-CA-CB	-5.54	99.78	110.30
1	C	512	ASP	CA-C-N	5.53	127.27	116.20
1	B	512	ASP	CA-C-N	5.53	127.26	116.20
1	A	512	ASP	CA-C-N	5.51	127.23	116.20
1	B	508	THR	N-CA-CB	-5.51	99.83	110.30
1	C	431	ARG	NE-CZ-NH2	-5.50	117.55	120.30
1	A	517	VAL	CA-C-N	5.47	129.25	117.20
1	B	517	VAL	CA-C-N	5.45	129.19	117.20
1	A	431	ARG	NE-CZ-NH2	-5.45	117.58	120.30
1	B	431	ARG	NE-CZ-NH2	-5.44	117.58	120.30
1	C	517	VAL	CA-C-N	5.44	129.17	117.20
1	B	197	GLY	N-CA-C	-5.30	99.86	113.10
1	A	504	SER	N-CA-C	5.25	125.18	111.00
1	C	504	SER	N-CA-C	5.24	125.14	111.00
1	B	504	SER	N-CA-C	5.24	125.14	111.00
1	B	530	VAL	C-N-CA	5.16	133.15	122.30
1	A	252	LEU	CB-CG-CD2	5.09	119.65	111.00
1	B	252	LEU	CB-CG-CD2	5.06	119.61	111.00
1	C	252	LEU	CB-CG-CD2	5.05	119.58	111.00
1	C	504	SER	CA-C-N	5.02	126.24	116.20
1	B	504	SER	CA-C-N	5.01	126.23	116.20

All (6) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
1	B	518	VAL	CA
1	B	521	VAL	CA
1	A	518	VAL	CA
1	A	521	VAL	CA
1	C	518	VAL	CA
1	C	521	VAL	CA

All (12) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	438	GLN	Peptide
1	A	512	ASP	Peptide
1	A	518	VAL	Peptide
1	A	519	SER	Peptide
1	B	438	GLN	Peptide

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Mol	Chain	Res	Type	Group
1	B	512	ASP	Peptide
1	B	518	VAL	Peptide
1	B	519	SER	Peptide
1	C	438	GLN	Peptide
1	C	512	ASP	Peptide
1	C	518	VAL	Peptide
1	C	519	SER	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3876	0	3810	501	0
1	B	3997	0	3923	427	0
1	C	3876	0	3814	382	0
All	All	11749	0	11547	973	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 42.

All (973) 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:B:445:ALA:CA	1:A:350:LEU:HB2	1.24	1.67
1:A:169:LEU:HD12	1:C:168:VAL:CA	1.30	1.62
1:A:425:PRO:HD3	1:C:425:PRO:CG	1.25	1.61
1:B:445:ALA:HA	1:A:350:LEU:CB	1.28	1.57
1:B:446:ALA:CB	1:A:350:LEU:HD21	1.29	1.53
1:A:274:THR:CG2	1:C:537:ARG:CB	1.85	1.52
1:A:274:THR:CG2	1:C:537:ARG:HB2	1.05	1.51
1:A:169:LEU:CD1	1:C:168:VAL:CA	1.85	1.50
1:B:373:ARG:NH1	1:B:375:PHE:HZ	1.00	1.50
1:C:373:ARG:NH1	1:C:375:PHE:HZ	1.00	1.47
1:B:343:THR:HG21	1:A:435:TYR:CB	1.43	1.46
1:C:356:GLU:CG	1:C:379:THR:HG22	1.46	1.46
1:B:539:LEU:HG	1:B:540:LYS:CD	1.42	1.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:539:LEU:CG	1:B:540:LYS:HD2	1.47	1.45
1:B:62:GLN:CD	1:C:140:ALA:HB2	1.37	1.45
1:B:364:ASN:N	1:B:365:ALA:HB2	1.27	1.45
1:A:45:THR:HG22	1:C:166:ARG:CB	1.47	1.44
1:A:169:LEU:CG	1:C:168:VAL:HA	1.45	1.44
1:A:356:GLU:CG	1:A:379:THR:HG22	1.46	1.44
1:B:446:ALA:CB	1:A:343:THR:HG22	1.48	1.44
1:C:364:ASN:N	1:C:365:ALA:HB2	1.27	1.44
1:A:274:THR:HG23	1:C:537:ARG:CB	1.44	1.43
1:B:343:THR:HB	1:A:435:TYR:CG	1.49	1.43
1:B:343:THR:CB	1:A:435:TYR:CD2	2.01	1.43
1:B:343:THR:HB	1:A:435:TYR:CD2	1.54	1.42
1:B:356:GLU:CG	1:B:379:THR:HG22	1.46	1.42
1:A:373:ARG:NH1	1:A:375:PHE:HZ	1.00	1.42
1:A:373:ARG:NH1	1:A:375:PHE:CZ	1.87	1.41
1:A:523:ARG:NH1	1:C:526:GLN:HE22	1.17	1.41
1:A:364:ASN:N	1:A:365:ALA:HB2	1.27	1.41
1:B:373:ARG:NH1	1:B:375:PHE:CZ	1.87	1.40
1:A:169:LEU:HD11	1:C:168:VAL:C	1.38	1.40
1:A:169:LEU:CD1	1:C:168:VAL:C	1.89	1.39
1:A:425:PRO:CD	1:C:425:PRO:CG	2.01	1.39
1:C:373:ARG:NH1	1:C:375:PHE:CZ	1.87	1.39
1:A:101:ASN:HD22	1:C:131:GLY:C	1.27	1.37
1:B:62:GLN:NE2	1:C:140:ALA:CB	1.87	1.37
1:B:445:ALA:HA	1:A:350:LEU:CA	1.55	1.35
1:C:220:VAL:CG1	1:C:221:PRO:HD2	1.56	1.35
1:B:62:GLN:CD	1:C:140:ALA:CB	1.94	1.34
1:A:169:LEU:CD1	1:C:168:VAL:HA	1.50	1.33
1:A:227:ALA:HB1	1:A:228:ARG:NH1	1.44	1.33
1:A:425:PRO:CD	1:C:425:PRO:HG3	1.56	1.33
1:A:425:PRO:HD3	1:C:425:PRO:CB	1.56	1.32
1:A:523:ARG:HD3	1:C:526:GLN:NE2	1.43	1.32
1:C:227:ALA:CB	1:C:228:ARG:HA	1.43	1.32
1:B:445:ALA:CA	1:A:350:LEU:CB	1.91	1.31
1:C:363:THR:C	1:C:365:ALA:HB2	1.49	1.30
1:B:363:THR:C	1:B:365:ALA:HB2	1.49	1.30
1:A:363:THR:C	1:A:365:ALA:HB2	1.49	1.30
1:B:343:THR:CB	1:A:435:TYR:CG	2.10	1.29
1:B:207:MET:CE	1:C:143:THR:HG21	1.61	1.29
1:B:446:ALA:HB1	1:A:343:THR:CG2	1.59	1.29
1:C:227:ALA:HB1	1:C:228:ARG:CA	1.57	1.29

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:392:ARG:CD	1:A:250:TYR:OH	1.78	1.28
1:A:378:VAL:O	1:A:380:ALA:N	1.66	1.28
1:A:462:ALA:HB1	1:C:540:LYS:NZ	1.47	1.28
1:B:226:ALA:HB1	1:B:228:ARG:CZ	1.63	1.27
1:A:523:ARG:NH1	1:C:526:GLN:NE2	1.78	1.27
1:A:101:ASN:ND2	1:C:131:GLY:C	1.88	1.27
1:B:62:GLN:NE2	1:C:140:ALA:HB2	0.94	1.26
1:B:378:VAL:O	1:B:380:ALA:N	1.66	1.26
1:A:169:LEU:HD12	1:C:168:VAL:N	1.48	1.26
1:B:446:ALA:HB2	1:A:350:LEU:CD2	1.59	1.25
1:B:446:ALA:CB	1:A:350:LEU:CD2	2.03	1.25
1:A:45:THR:O	1:C:166:ARG:N	1.68	1.25
1:A:220:VAL:CG1	1:C:132:PHE:CE1	2.19	1.25
1:C:378:VAL:O	1:C:380:ALA:N	1.66	1.24
1:C:532:SER:C	1:C:533:LEU:HD22	1.53	1.24
1:B:343:THR:HG22	1:A:446:ALA:CB	1.67	1.24
1:B:437:ARG:HH21	1:A:352:VAL:CG1	1.48	1.24
1:A:535:THR:O	1:A:536:GLY:O	1.54	1.24
1:B:437:ARG:NE	1:A:352:VAL:HG21	1.50	1.23
1:A:98:GLN:O	1:A:222:ALA:O	1.56	1.22
1:B:350:LEU:HB2	1:A:445:ALA:CA	1.65	1.22
1:A:227:ALA:HB1	1:A:228:ARG:CZ	1.70	1.21
1:A:220:VAL:HG13	1:C:132:PHE:CE1	1.74	1.21
1:B:350:LEU:CB	1:A:445:ALA:HA	1.63	1.20
1:A:523:ARG:CZ	1:C:526:GLN:HE22	1.54	1.20
1:A:523:ARG:CD	1:C:526:GLN:NE2	2.01	1.20
1:B:350:LEU:HD21	1:A:446:ALA:CB	1.72	1.20
1:A:45:THR:HB	1:C:166:ARG:O	1.32	1.20
1:B:11:SER:OG	1:C:29:ASP:OD2	1.59	1.19
1:A:274:THR:HG21	1:C:537:ARG:CB	1.60	1.18
1:A:362:THR:HA	1:A:363:THR:CG2	1.72	1.18
1:B:343:THR:OG1	1:A:435:TYR:CD2	1.88	1.18
1:C:362:THR:HA	1:C:363:THR:CG2	1.72	1.18
1:B:362:THR:HA	1:B:363:THR:CG2	1.72	1.18
1:C:364:ASN:N	1:C:365:ALA:CB	2.07	1.17
1:A:485:LEU:HD12	1:A:485:LEU:N	1.39	1.17
1:A:220:VAL:CG1	1:C:132:PHE:HE1	1.57	1.16
1:B:485:LEU:N	1:B:485:LEU:HD12	1.39	1.16
1:B:350:LEU:HD21	1:A:446:ALA:HB2	1.26	1.16
1:B:364:ASN:N	1:B:365:ALA:CB	2.07	1.16
1:A:169:LEU:HD11	1:C:169:LEU:N	1.58	1.16

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:364:ASN:N	1:A:365:ALA:CB	2.07	1.16
1:B:343:THR:CG2	1:A:435:TYR:CB	2.24	1.16
1:C:485:LEU:N	1:C:485:LEU:HD12	1.39	1.16
1:B:352:VAL:CG1	1:A:437:ARG:HH21	1.59	1.15
1:B:343:THR:HG22	1:A:446:ALA:HB1	1.15	1.15
1:B:530:VAL:CG2	1:B:531:GLY:N	1.89	1.15
1:A:45:THR:CG2	1:C:166:ARG:HB2	1.77	1.15
1:A:532:SER:O	1:A:534:ALA:N	1.78	1.14
1:C:366:ASP:O	1:C:367:GLN:HB2	1.44	1.14
1:A:523:ARG:HH11	1:C:526:GLN:NE2	1.36	1.13
1:B:366:ASP:O	1:B:367:GLN:HB2	1.44	1.13
1:A:45:THR:CG2	1:C:166:ARG:CB	2.28	1.12
1:A:356:GLU:HG2	1:A:379:THR:HG22	1.14	1.12
1:C:356:GLU:HG2	1:C:379:THR:CG2	1.80	1.12
1:A:462:ALA:CB	1:C:540:LYS:NZ	2.13	1.12
1:B:356:GLU:HG2	1:B:379:THR:CG2	1.80	1.11
1:C:220:VAL:O	1:C:221:PRO:O	1.68	1.11
1:A:169:LEU:HG	1:C:168:VAL:HA	1.15	1.11
1:B:200:PHE:CE1	1:C:191:ARG:HD2	1.87	1.10
1:B:226:ALA:CB	1:B:228:ARG:CZ	2.30	1.10
1:B:350:LEU:CD2	1:A:446:ALA:HB2	1.78	1.09
1:A:356:GLU:HG2	1:A:379:THR:CG2	1.80	1.09
1:B:446:ALA:HB3	1:A:350:LEU:HD21	1.10	1.09
1:B:362:THR:CA	1:B:363:THR:HG23	1.82	1.09
1:A:45:THR:HG21	1:C:168:VAL:O	1.48	1.09
1:B:435:TYR:CE2	1:A:343:THR:O	2.05	1.08
1:C:220:VAL:HG13	1:C:221:PRO:HD2	1.17	1.08
1:B:392:ARG:HD2	1:A:250:TYR:HH	0.98	1.08
1:A:220:VAL:HG11	1:C:132:PHE:CD1	1.87	1.08
1:B:392:ARG:HD2	1:A:250:TYR:OH	1.41	1.08
1:B:220:VAL:HG13	1:B:221:PRO:HD2	1.12	1.08
1:A:362:THR:CA	1:A:363:THR:HG23	1.82	1.08
1:C:362:THR:CA	1:C:363:THR:HG23	1.82	1.08
1:B:530:VAL:HG23	1:B:531:GLY:N	1.48	1.08
1:B:356:GLU:HG2	1:B:379:THR:HG22	1.14	1.07
1:B:445:ALA:CB	1:A:350:LEU:H	1.67	1.07
1:A:45:THR:C	1:C:166:ARG:O	1.92	1.07
1:A:366:ASP:O	1:A:367:GLN:HB2	1.44	1.07
1:B:226:ALA:HA	1:B:228:ARG:HH12	1.16	1.07
1:C:356:GLU:HG2	1:C:379:THR:HG22	1.14	1.07
1:C:356:GLU:HG3	1:C:379:THR:HG22	1.34	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:356:GLU:HG3	1:B:379:THR:HG22	1.34	1.06
1:B:350:LEU:HB2	1:A:445:ALA:HA	1.08	1.06
1:B:485:LEU:N	1:B:485:LEU:CD1	2.18	1.06
1:B:485:LEU:H	1:B:485:LEU:CD1	1.68	1.06
1:A:485:LEU:H	1:A:485:LEU:CD1	1.68	1.06
1:C:485:LEU:H	1:C:485:LEU:CD1	1.68	1.06
1:C:532:SER:CA	1:C:533:LEU:HD22	1.84	1.06
1:A:485:LEU:N	1:A:485:LEU:CD1	2.18	1.06
1:B:207:MET:HE3	1:C:143:THR:HG21	1.33	1.05
1:C:485:LEU:N	1:C:485:LEU:CD1	2.18	1.05
1:B:343:THR:HG21	1:A:435:TYR:HB3	1.07	1.04
1:B:352:VAL:HG11	1:A:437:ARG:HH21	1.20	1.04
1:A:45:THR:HB	1:C:166:ARG:C	1.76	1.03
1:A:220:VAL:HG11	1:C:132:PHE:CE1	1.89	1.03
1:B:444:ALA:HB3	1:A:352:VAL:HG12	1.37	1.03
1:B:445:ALA:HA	1:A:350:LEU:N	1.72	1.03
1:A:101:ASN:ND2	1:C:131:GLY:O	1.88	1.03
1:A:356:GLU:HG3	1:A:379:THR:HG22	1.34	1.03
1:B:539:LEU:HA	1:B:540:LYS:HE3	1.38	1.03
1:B:248:PRO:HD3	1:A:392:ARG:NH2	1.74	1.02
1:B:446:ALA:HB2	1:A:350:LEU:HD21	1.15	1.02
1:B:228:ARG:HD3	1:B:228:ARG:N	1.72	1.02
1:A:356:GLU:CG	1:A:379:THR:CG2	2.37	1.02
1:A:523:ARG:HD3	1:C:526:GLN:HE21	0.90	1.02
1:B:343:THR:HG21	1:A:435:TYR:HB2	1.38	1.02
1:C:227:ALA:HB3	1:C:228:ARG:NE	1.72	1.02
1:B:226:ALA:HA	1:B:228:ARG:NH1	1.74	1.02
1:B:343:THR:CG2	1:A:446:ALA:HB1	1.90	1.01
1:C:296:GLU:O	1:C:297:PHE:HD2	1.43	1.01
1:A:523:ARG:CZ	1:C:526:GLN:NE2	2.18	1.01
1:B:445:ALA:C	1:A:350:LEU:HB2	1.75	1.01
1:C:442:ALA:O	1:C:443:ASP:HB2	1.61	1.01
1:C:532:SER:C	1:C:533:LEU:CD2	2.28	1.01
1:C:229:MET:HG3	1:C:230:VAL:H	1.25	1.01
1:B:442:ALA:O	1:B:443:ASP:HB2	1.60	1.01
1:B:296:GLU:O	1:B:297:PHE:HD2	1.43	1.00
1:A:229:MET:HG3	1:A:230:VAL:N	1.73	1.00
1:B:238:ARG:HB2	1:A:313:ASP:HB2	1.40	1.00
1:C:220:VAL:HG12	1:C:221:PRO:HD2	1.40	1.00
1:B:343:THR:OG1	1:A:435:TYR:HD2	1.32	1.00
1:B:535:THR:O	1:B:537:ARG:HD3	1.61	0.99

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:274:THR:HG21	1:C:537:ARG:HB3	1.41	0.99
1:B:437:ARG:HH21	1:A:352:VAL:HG13	1.26	0.99
1:A:296:GLU:O	1:A:297:PHE:HD2	1.43	0.99
1:C:123:ILE:HD11	1:C:184:CYS:SG	2.02	0.99
1:B:352:VAL:HG21	1:A:437:ARG:NE	1.77	0.99
1:B:445:ALA:N	1:A:350:LEU:HB2	1.77	0.99
1:B:437:ARG:CZ	1:A:352:VAL:HG21	1.92	0.98
1:B:248:PRO:CD	1:A:392:ARG:NH2	2.26	0.98
1:B:356:GLU:CG	1:B:379:THR:CG2	2.37	0.98
1:A:462:ALA:HB1	1:C:540:LYS:HZ2	1.07	0.98
1:B:437:ARG:HH21	1:A:352:VAL:HG11	1.28	0.97
1:A:442:ALA:O	1:A:443:ASP:CB	2.13	0.97
1:C:356:GLU:CG	1:C:379:THR:CG2	2.37	0.97
1:B:437:ARG:NH2	1:A:352:VAL:HG11	1.78	0.96
1:A:45:THR:CB	1:C:166:ARG:O	2.12	0.96
1:B:437:ARG:NH2	1:A:352:VAL:CG1	2.28	0.96
1:B:442:ALA:O	1:B:443:ASP:CB	2.13	0.96
1:A:442:ALA:O	1:A:443:ASP:HB2	1.61	0.96
1:B:220:VAL:HG13	1:B:221:PRO:CD	1.96	0.96
1:C:227:ALA:CB	1:C:228:ARG:CZ	2.43	0.96
1:A:425:PRO:HD3	1:C:425:PRO:HB3	1.43	0.96
1:A:425:PRO:HD3	1:C:425:PRO:HG3	1.19	0.96
1:C:442:ALA:O	1:C:443:ASP:CB	2.13	0.96
1:A:227:ALA:CB	1:A:228:ARG:CZ	2.44	0.96
1:C:220:VAL:CG1	1:C:221:PRO:CD	2.44	0.96
1:A:229:MET:HG3	1:A:230:VAL:H	1.27	0.95
1:B:200:PHE:CD1	1:C:191:ARG:HD2	2.02	0.95
1:A:362:THR:HA	1:A:363:THR:HG23	0.95	0.94
1:A:485:LEU:HD12	1:A:485:LEU:H	1.15	0.94
1:C:362:THR:HA	1:C:363:THR:HG23	0.95	0.94
1:C:477:TYR:CZ	1:C:513:GLY:HA2	2.03	0.94
1:B:531:GLY:O	1:B:533:LEU:N	2.00	0.94
1:C:303:GLU:O	1:C:378:VAL:HG23	1.68	0.94
1:B:227:ALA:H	1:B:228:ARG:NH1	1.64	0.93
1:A:477:TYR:CZ	1:A:513:GLY:HA2	2.03	0.93
1:C:363:THR:H	1:C:365:ALA:CB	1.81	0.93
1:B:62:GLN:HE22	1:C:140:ALA:HB2	1.28	0.93
1:B:226:ALA:CA	1:B:228:ARG:NH1	2.30	0.93
1:C:227:ALA:CB	1:C:228:ARG:NE	2.30	0.93
1:B:227:ALA:H	1:B:228:ARG:HH11	1.01	0.93
1:A:363:THR:H	1:A:365:ALA:CB	1.82	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:362:THR:HA	1:B:363:THR:HG23	0.95	0.93
1:B:226:ALA:CB	1:B:228:ARG:NH2	2.31	0.93
1:B:363:THR:H	1:B:365:ALA:CB	1.82	0.93
1:B:477:TYR:CZ	1:B:513:GLY:HA2	2.03	0.93
1:B:530:VAL:HG23	1:B:531:GLY:CA	1.99	0.92
1:A:303:GLU:O	1:A:378:VAL:HG23	1.68	0.92
1:A:425:PRO:HD3	1:C:425:PRO:HG2	1.51	0.92
1:B:352:VAL:HG11	1:A:437:ARG:NH2	1.83	0.92
1:B:18:ALA:CB	1:C:153:ARG:NH1	2.33	0.92
1:A:535:THR:O	1:A:536:GLY:C	2.02	0.91
1:B:303:GLU:O	1:B:378:VAL:HG23	1.68	0.91
1:A:440:ASP:HB2	1:A:443:ASP:O	1.70	0.91
1:B:220:VAL:CG1	1:B:221:PRO:HD2	1.97	0.91
1:B:207:MET:CE	1:C:143:THR:CG2	2.48	0.91
1:A:45:THR:CG2	1:C:166:ARG:HB3	1.98	0.91
1:C:485:LEU:HD12	1:C:485:LEU:H	1.15	0.91
1:B:440:ASP:HB2	1:B:443:ASP:O	1.70	0.91
1:C:220:VAL:HG13	1:C:221:PRO:CD	1.98	0.90
1:B:226:ALA:HB2	1:B:228:ARG:NH2	1.87	0.90
1:C:227:ALA:HB3	1:C:228:ARG:CZ	2.01	0.90
1:C:440:ASP:HB2	1:C:443:ASP:O	1.70	0.90
1:A:218:PHE:CE1	1:C:129:PRO:HB3	2.07	0.89
1:A:425:PRO:CD	1:C:425:PRO:HG2	2.02	0.89
1:B:446:ALA:HB2	1:A:350:LEU:HD22	1.53	0.89
1:C:473:LEU:HD23	1:C:520:TRP:H	1.38	0.89
1:A:169:LEU:HD12	1:C:168:VAL:C	1.71	0.89
1:A:425:PRO:CG	1:C:425:PRO:HG3	2.02	0.89
1:B:62:GLN:OE1	1:C:140:ALA:HA	1.71	0.89
1:B:437:ARG:NE	1:A:352:VAL:CG2	2.34	0.88
1:A:295:TYR:OH	1:A:387:VAL:O	1.92	0.88
1:A:473:LEU:HD23	1:A:520:TRP:H	1.38	0.88
1:B:138:THR:H	1:B:141:GLN:HG3	1.39	0.88
1:A:462:ALA:CB	1:C:540:LYS:HZ1	1.78	0.87
1:C:295:TYR:OH	1:C:387:VAL:O	1.92	0.87
1:C:532:SER:N	1:C:533:LEU:HD22	1.88	0.87
1:B:539:LEU:CA	1:B:540:LYS:HE3	2.04	0.87
1:B:485:LEU:HD12	1:B:485:LEU:H	1.15	0.87
1:B:62:GLN:CD	1:C:140:ALA:CA	2.43	0.86
1:B:350:LEU:HD21	1:A:446:ALA:HB3	1.57	0.86
1:B:392:ARG:HD3	1:A:250:TYR:OH	1.75	0.86
1:B:343:THR:CG2	1:A:435:TYR:HB3	1.97	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:473:LEU:HD23	1:B:520:TRP:H	1.38	0.86
1:A:227:ALA:CB	1:A:228:ARG:NH1	2.37	0.86
1:B:238:ARG:HB2	1:A:313:ASP:CB	2.04	0.86
1:B:535:THR:O	1:B:537:ARG:NH1	2.07	0.86
1:B:295:TYR:OH	1:B:387:VAL:O	1.92	0.86
1:B:435:TYR:CE2	1:A:343:THR:C	2.49	0.86
1:A:363:THR:CA	1:A:365:ALA:HB2	2.06	0.85
1:C:363:THR:CA	1:C:365:ALA:HB2	2.06	0.85
1:A:220:VAL:CG1	1:C:132:PHE:CD1	2.51	0.85
1:A:523:ARG:NE	1:C:526:GLN:NE2	2.23	0.85
1:B:529:SER:O	1:B:530:VAL:C	2.09	0.85
1:B:343:THR:CG2	1:A:435:TYR:CG	2.56	0.85
1:B:363:THR:CA	1:B:365:ALA:HB2	2.06	0.85
1:B:205:ARG:CZ	1:C:139:ILE:HD11	2.07	0.84
1:A:539:LEU:O	1:A:540:LYS:HB3	1.77	0.84
1:B:366:ASP:O	1:B:367:GLN:CB	2.24	0.84
1:B:445:ALA:CA	1:A:350:LEU:N	2.40	0.84
1:B:373:ARG:HH12	1:B:375:PHE:HZ	0.85	0.84
1:C:229:MET:HG3	1:C:230:VAL:N	1.91	0.84
1:C:373:ARG:HH12	1:C:375:PHE:HZ	0.85	0.84
1:B:437:ARG:HE	1:A:352:VAL:HG21	1.40	0.84
1:B:445:ALA:CB	1:A:350:LEU:N	2.41	0.84
1:A:274:THR:HG21	1:C:537:ARG:HB2	1.25	0.84
1:A:170:PHE:CE1	1:C:167:ASN:CG	2.48	0.84
1:C:532:SER:O	1:C:532:SER:OG	1.69	0.84
1:B:363:THR:N	1:B:365:ALA:CB	2.41	0.83
1:B:392:ARG:NH2	1:A:248:PRO:HD3	1.94	0.83
1:A:363:THR:N	1:A:365:ALA:CB	2.41	0.83
1:C:367:GLN:HE22	1:C:375:PHE:H	1.26	0.83
1:A:366:ASP:O	1:A:367:GLN:CB	2.24	0.83
1:B:228:ARG:HD3	1:B:228:ARG:H	1.41	0.82
1:B:228:ARG:N	1:B:228:ARG:CD	2.40	0.82
1:A:532:SER:C	1:A:534:ALA:H	1.82	0.82
1:C:227:ALA:HB2	1:C:228:ARG:CZ	2.09	0.82
1:B:62:GLN:OE1	1:C:140:ALA:CA	2.28	0.82
1:A:373:ARG:HH12	1:A:375:PHE:HZ	0.85	0.82
1:C:363:THR:N	1:C:365:ALA:CB	2.41	0.82
1:A:274:THR:HG23	1:C:537:ARG:CG	2.10	0.82
1:B:343:THR:HB	1:A:435:TYR:CD1	2.15	0.81
1:A:45:THR:HG22	1:C:166:ARG:HB2	0.83	0.81
1:B:129:PRO:HA	1:B:180:MET:HE2	1.60	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:531:GLY:O	1:B:532:SER:C	2.12	0.81
1:A:523:ARG:HH11	1:C:526:GLN:HE21	1.22	0.81
1:C:366:ASP:O	1:C:367:GLN:CB	2.24	0.81
1:B:437:ARG:HE	1:A:352:VAL:CB	1.92	0.81
1:A:101:ASN:ND2	1:C:131:GLY:CA	2.43	0.81
1:A:462:ALA:CB	1:C:540:LYS:HZ2	1.80	0.81
1:C:227:ALA:CB	1:C:228:ARG:CA	2.30	0.81
1:B:363:THR:N	1:B:365:ALA:HB1	1.96	0.81
1:A:169:LEU:HD12	1:C:167:ASN:C	1.97	0.81
1:A:220:VAL:HG11	1:C:132:PHE:HD1	1.46	0.81
1:A:524:LEU:HD13	1:C:524:LEU:HD22	1.63	0.81
1:C:229:MET:CG	1:C:230:VAL:H	1.94	0.81
1:A:363:THR:N	1:A:365:ALA:HB1	1.96	0.80
1:B:18:ALA:HB2	1:C:153:ARG:NH1	1.96	0.80
1:B:200:PHE:CD1	1:C:191:ARG:CD	2.64	0.80
1:C:363:THR:N	1:C:365:ALA:HB1	1.96	0.80
1:B:444:ALA:CB	1:A:352:VAL:HG12	2.11	0.80
1:A:367:GLN:HE22	1:A:375:PHE:H	1.26	0.80
1:A:477:TYR:OH	1:A:513:GLY:HA3	1.82	0.79
1:B:445:ALA:CA	1:A:350:LEU:H	1.94	0.79
1:C:477:TYR:OH	1:C:513:GLY:HA3	1.82	0.79
1:B:437:ARG:HE	1:A:352:VAL:CG2	1.93	0.79
1:B:352:VAL:HG13	1:A:437:ARG:HH21	1.45	0.79
1:A:425:PRO:HD2	1:C:425:PRO:CG	2.13	0.79
1:B:119:THR:HG22	1:B:192:THR:HG22	1.64	0.78
1:B:238:ARG:O	1:A:285:TRP:HZ2	1.65	0.78
1:B:477:TYR:OH	1:B:513:GLY:HA3	1.82	0.78
1:B:38:GLY:HA3	1:B:213:ASP:HB3	1.64	0.78
1:B:350:LEU:CA	1:A:445:ALA:HA	2.12	0.78
1:C:227:ALA:HB1	1:C:228:ARG:HD3	1.66	0.78
1:A:223:ALA:O	1:A:224:ALA:CB	2.31	0.78
1:B:227:ALA:N	1:B:228:ARG:NH1	2.30	0.78
1:B:367:GLN:HE22	1:B:375:PHE:H	1.26	0.78
1:A:47:GLY:N	1:C:165:VAL:HG13	1.98	0.78
1:A:169:LEU:HG	1:C:168:VAL:CA	2.08	0.78
1:A:425:PRO:CD	1:C:425:PRO:CB	2.52	0.77
1:A:220:VAL:HG13	1:C:132:PHE:HE1	1.17	0.77
1:B:18:ALA:CB	1:C:153:ARG:HH12	1.95	0.77
1:B:392:ARG:NH2	1:A:248:PRO:CD	2.48	0.77
1:B:18:ALA:HA	1:C:153:ARG:HH11	1.47	0.77
1:B:238:ARG:NH2	1:A:315:SER:HB3	2.00	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:477:TYR:CZ	1:C:513:GLY:CA	2.68	0.77
1:B:362:THR:HG22	1:B:363:THR:HG21	1.67	0.77
1:B:364:ASN:H	1:B:365:ALA:HB2	1.46	0.77
1:B:222:ALA:O	1:B:223:ALA:CB	2.32	0.77
1:B:362:THR:HG22	1:B:363:THR:CG2	2.16	0.76
1:C:362:THR:HG22	1:C:363:THR:CG2	2.16	0.76
1:B:98:GLN:O	1:B:222:ALA:HA	1.85	0.76
1:B:343:THR:HB	1:A:435:TYR:CE2	2.20	0.76
1:B:477:TYR:CZ	1:B:513:GLY:CA	2.68	0.76
1:A:362:THR:HG22	1:A:363:THR:HG21	1.67	0.76
1:C:362:THR:HG22	1:C:363:THR:HG21	1.67	0.76
1:C:363:THR:H	1:C:365:ALA:HB1	1.50	0.76
1:A:462:ALA:HB1	1:C:540:LYS:HZ1	1.34	0.76
1:A:477:TYR:CZ	1:A:513:GLY:CA	2.68	0.76
1:B:440:ASP:HA	1:B:441:THR:HB	1.69	0.75
1:C:539:LEU:O	1:C:540:LYS:HB3	1.86	0.75
1:B:248:PRO:HD3	1:A:392:ARG:HH21	1.49	0.75
1:B:352:VAL:HG21	1:A:437:ARG:CZ	2.16	0.75
1:B:352:VAL:HG12	1:A:444:ALA:HB3	1.68	0.75
1:A:227:ALA:HA	1:A:228:ARG:NH2	2.01	0.75
1:B:62:GLN:CG	1:C:140:ALA:HB1	2.15	0.75
1:A:424:LEU:HA	1:C:425:PRO:CB	2.16	0.75
1:C:364:ASN:H	1:C:365:ALA:HB2	1.47	0.75
1:B:538:MET:O	1:B:539:LEU:CB	2.25	0.75
1:A:296:GLU:O	1:A:297:PHE:CD2	2.35	0.75
1:A:362:THR:HG22	1:A:363:THR:CG2	2.16	0.75
1:A:440:ASP:HA	1:A:441:THR:HB	1.69	0.75
1:C:174:ASP:HB2	1:C:177:GLN:HG2	1.67	0.75
1:B:62:GLN:CG	1:C:140:ALA:CB	2.63	0.75
1:B:343:THR:CG2	1:A:435:TYR:HB2	2.03	0.74
1:C:227:ALA:CB	1:C:228:ARG:CD	2.65	0.74
1:C:440:ASP:HA	1:C:441:THR:HB	1.69	0.74
1:B:343:THR:HG22	1:A:446:ALA:HB2	1.65	0.74
1:B:18:ALA:HA	1:C:153:ARG:NH1	2.03	0.74
1:B:205:ARG:NH2	1:C:139:ILE:CD1	2.50	0.74
1:C:296:GLU:O	1:C:297:PHE:CD2	2.35	0.74
1:B:363:THR:H	1:B:365:ALA:HB1	1.51	0.74
1:B:18:ALA:CA	1:C:153:ARG:HH11	2.01	0.74
1:B:445:ALA:HB2	1:A:350:LEU:H	1.50	0.74
1:B:343:THR:CG2	1:A:446:ALA:CB	2.54	0.73
1:C:223:ALA:O	1:C:224:ALA:CB	2.36	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:533:LEU:CD2	1:C:533:LEU:N	2.47	0.73
1:C:223:ALA:O	1:C:224:ALA:HB3	1.88	0.72
1:B:227:ALA:N	1:B:228:ARG:HH11	1.83	0.72
1:A:524:LEU:CD1	1:C:524:LEU:HB3	2.18	0.72
1:C:344:THR:HB	1:C:348:ASP:OD2	1.90	0.72
1:A:364:ASN:H	1:A:365:ALA:HB2	1.46	0.72
1:C:227:ALA:HB2	1:C:228:ARG:NH1	2.04	0.72
1:A:344:THR:HB	1:A:348:ASP:OD2	1.90	0.72
1:C:127:CYS:HB2	1:C:146:PRO:HG2	1.72	0.72
1:A:229:MET:CG	1:A:230:VAL:H	2.03	0.72
1:B:238:ARG:CB	1:A:313:ASP:HB2	2.17	0.71
1:A:220:VAL:HG12	1:A:222:ALA:H	1.55	0.71
1:B:363:THR:C	1:B:365:ALA:CB	2.45	0.71
1:B:437:ARG:CZ	1:A:352:VAL:HG11	2.19	0.71
1:C:362:THR:HA	1:C:363:THR:CB	2.20	0.71
1:B:362:THR:HA	1:B:363:THR:CB	2.19	0.71
1:B:207:MET:HE1	1:C:143:THR:HG21	1.71	0.71
1:A:363:THR:C	1:A:365:ALA:CB	2.45	0.71
1:B:296:GLU:O	1:B:297:PHE:CD2	2.35	0.71
1:B:474:LEU:N	1:B:519:SER:O	2.23	0.71
1:A:289:PHE:HE1	1:A:357:MET:HE1	1.56	0.71
1:B:344:THR:HB	1:B:348:ASP:OD2	1.90	0.70
1:B:364:ASN:H	1:B:365:ALA:CB	2.03	0.70
1:C:378:VAL:C	1:C:380:ALA:H	1.89	0.70
1:A:45:THR:O	1:C:166:ARG:O	2.09	0.70
1:A:141:GLN:HA	1:A:144:LEU:HD12	1.74	0.70
1:A:227:ALA:CB	1:A:228:ARG:NH2	2.53	0.70
1:A:228:ARG:N	1:A:228:ARG:CD	2.55	0.69
1:A:474:LEU:N	1:A:519:SER:O	2.23	0.69
1:B:446:ALA:CB	1:A:343:THR:CG2	2.37	0.69
1:A:220:VAL:CG1	1:A:222:ALA:H	2.06	0.69
1:C:227:ALA:CB	1:C:228:ARG:HD3	2.23	0.69
1:A:462:ALA:HB2	1:C:540:LYS:HZ1	1.58	0.69
1:C:364:ASN:H	1:C:365:ALA:CB	2.03	0.69
1:B:352:VAL:CG1	1:A:437:ARG:NH2	2.42	0.69
1:A:363:THR:H	1:A:365:ALA:HB1	1.50	0.69
1:B:62:GLN:CD	1:C:140:ALA:HA	2.12	0.69
1:B:226:ALA:CB	1:B:228:ARG:NH1	2.54	0.69
1:B:222:ALA:O	1:B:223:ALA:HB2	1.93	0.69
1:B:289:PHE:HE1	1:B:357:MET:HE1	1.56	0.69
1:A:425:PRO:CD	1:C:425:PRO:HB3	2.17	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:350:LEU:N	1:A:445:ALA:HA	2.07	0.68
1:B:392:ARG:NE	1:A:250:TYR:OH	2.25	0.68
1:A:418:PRO:HB3	1:C:533:LEU:H	1.58	0.68
1:A:228:ARG:N	1:A:228:ARG:HD2	2.09	0.68
1:A:362:THR:HA	1:A:363:THR:CB	2.19	0.68
1:A:230:VAL:HG11	1:A:473:LEU:HD11	1.75	0.68
1:C:289:PHE:HE1	1:C:357:MET:HE1	1.56	0.68
1:B:18:ALA:CA	1:C:153:ARG:NH1	2.56	0.68
1:B:530:VAL:HG23	1:B:531:GLY:HA3	1.72	0.68
1:A:170:PHE:O	1:C:167:ASN:ND2	2.23	0.68
1:B:343:THR:CB	1:A:435:TYR:CB	2.61	0.68
1:B:205:ARG:NE	1:C:139:ILE:HD11	2.09	0.68
1:B:361:PRO:O	1:B:362:THR:C	2.32	0.67
1:A:535:THR:C	1:A:536:GLY:O	2.33	0.67
1:B:444:ALA:CB	1:A:352:VAL:CG1	2.72	0.67
1:C:361:PRO:O	1:C:362:THR:C	2.32	0.67
1:B:367:GLN:HE21	1:B:367:GLN:HA	1.59	0.67
1:A:272:ASP:OD2	1:C:537:ARG:CZ	2.43	0.67
1:C:474:LEU:N	1:C:519:SER:O	2.23	0.67
1:B:223:ALA:O	1:B:224:ALA:HB3	1.95	0.67
1:B:296:GLU:C	1:B:297:PHE:HD2	1.99	0.67
1:B:437:ARG:CZ	1:A:352:VAL:CG2	2.72	0.67
1:A:218:PHE:CZ	1:C:129:PRO:HB3	2.30	0.67
1:A:367:GLN:HA	1:A:367:GLN:HE21	1.59	0.67
1:C:477:TYR:OH	1:C:513:GLY:CA	2.43	0.67
1:A:523:ARG:CD	1:C:526:GLN:CD	2.62	0.66
1:B:119:THR:HG21	1:B:200:PHE:CE2	2.30	0.66
1:A:101:ASN:HD22	1:C:132:PHE:N	1.89	0.66
1:C:227:ALA:HB1	1:C:228:ARG:CD	2.24	0.66
1:C:367:GLN:HE21	1:C:367:GLN:HA	1.59	0.66
1:B:205:ARG:NH2	1:C:139:ILE:HD11	2.09	0.66
1:C:296:GLU:C	1:C:297:PHE:HD2	1.99	0.66
1:A:170:PHE:C	1:C:167:ASN:HD21	1.98	0.66
1:B:530:VAL:CG2	1:B:531:GLY:CA	2.66	0.66
1:B:205:ARG:HH21	1:C:139:ILE:CD1	2.07	0.66
1:B:248:PRO:CD	1:A:392:ARG:CZ	2.74	0.66
1:B:536:GLY:O	1:B:537:ARG:HB3	1.94	0.66
1:A:440:ASP:HA	1:A:441:THR:CB	2.26	0.66
1:B:62:GLN:HE21	1:C:140:ALA:HB2	1.46	0.66
1:B:230:VAL:HB	1:B:466:PHE:CG	2.30	0.66
1:B:248:PRO:CG	1:A:392:ARG:NH2	2.58	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:350:LEU:CB	1:A:445:ALA:CA	2.40	0.66
1:A:361:PRO:O	1:A:362:THR:C	2.32	0.66
1:A:296:GLU:C	1:A:297:PHE:HD2	1.99	0.66
1:C:297:PHE:HB3	1:C:300:GLY:HA2	1.78	0.66
1:B:297:PHE:HB3	1:B:300:GLY:HA2	1.78	0.65
1:B:477:TYR:OH	1:B:513:GLY:CA	2.43	0.65
1:A:477:TYR:OH	1:A:513:GLY:CA	2.43	0.65
1:A:116:ASN:ND2	1:A:200:PHE:CE1	2.65	0.65
1:A:356:GLU:HG3	1:A:379:THR:CG2	2.18	0.65
1:B:205:ARG:HE	1:C:139:ILE:HD12	1.62	0.65
1:C:440:ASP:HA	1:C:441:THR:CB	2.26	0.65
1:B:116:ASN:HD22	1:B:200:PHE:HE1	1.45	0.65
1:A:221:PRO:O	1:A:223:ALA:N	2.30	0.65
1:B:485:LEU:H	1:B:485:LEU:HD13	1.61	0.65
1:B:535:THR:O	1:B:537:ARG:CD	2.42	0.65
1:C:220:VAL:HG12	1:C:221:PRO:CD	2.19	0.65
1:B:440:ASP:HA	1:B:441:THR:CB	2.26	0.65
1:C:378:VAL:C	1:C:380:ALA:N	2.48	0.65
1:A:378:VAL:C	1:A:380:ALA:N	2.48	0.65
1:C:532:SER:N	1:C:533:LEU:CD2	2.60	0.65
1:A:45:THR:O	1:C:166:ARG:CA	2.44	0.64
1:B:62:GLN:HB3	1:C:140:ALA:HB1	1.78	0.64
1:B:129:PRO:HA	1:B:180:MET:CE	2.27	0.64
1:B:205:ARG:NE	1:C:139:ILE:CD1	2.60	0.64
1:B:445:ALA:HB1	1:A:349:LYS:HA	1.79	0.64
1:A:297:PHE:HB3	1:A:300:GLY:HA2	1.78	0.64
1:B:437:ARG:HA	1:A:340:GLN:OE1	1.98	0.63
1:B:539:LEU:CA	1:B:540:LYS:CE	2.77	0.63
1:A:229:MET:CG	1:A:230:VAL:N	2.54	0.63
1:C:101:ASN:HB3	1:C:220:VAL:HG21	1.81	0.63
1:B:248:PRO:HG2	1:A:392:ARG:CZ	2.29	0.63
1:B:392:ARG:HH21	1:A:248:PRO:HD3	1.64	0.63
1:A:223:ALA:O	1:A:224:ALA:HB2	1.98	0.63
1:A:227:ALA:CA	1:A:228:ARG:CZ	2.77	0.63
1:B:445:ALA:C	1:A:350:LEU:CB	2.15	0.62
1:C:485:LEU:H	1:C:485:LEU:HD13	1.61	0.62
1:B:356:GLU:HG3	1:B:379:THR:CG2	2.18	0.62
1:A:228:ARG:HD2	1:A:228:ARG:H	1.64	0.62
1:A:274:THR:HG23	1:C:537:ARG:HB2	0.62	0.62
1:B:352:VAL:HG21	1:A:437:ARG:HE	1.61	0.62
1:B:439:ILE:HA	1:B:440:ASP:O	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:207:MET:HE2	1:C:143:THR:HG21	1.71	0.61
1:B:446:ALA:HB1	1:A:343:THR:HG22	0.70	0.61
1:A:45:THR:CA	1:C:166:ARG:O	2.47	0.61
1:A:228:ARG:HD2	1:A:228:ARG:C	2.19	0.61
1:A:478:ARG:HG2	1:A:479:ASN:N	2.15	0.61
1:A:364:ASN:H	1:A:365:ALA:CB	2.03	0.61
1:C:362:THR:HB	1:C:363:THR:OG1	2.01	0.61
1:C:478:ARG:HG2	1:C:479:ASN:N	2.15	0.61
1:B:362:THR:HB	1:B:363:THR:OG1	2.01	0.61
1:A:424:LEU:HA	1:C:425:PRO:HB2	1.81	0.61
1:C:367:GLN:NE2	1:C:375:PHE:H	1.98	0.61
1:B:248:PRO:HG2	1:A:392:ARG:NH1	2.16	0.61
1:B:392:ARG:CD	1:A:250:TYR:HH	1.75	0.61
1:A:425:PRO:HD2	1:C:425:PRO:HG2	1.79	0.61
1:B:18:ALA:CB	1:C:153:ARG:HH11	2.14	0.61
1:A:362:THR:HB	1:A:363:THR:OG1	2.01	0.61
1:B:478:ARG:HG2	1:B:479:ASN:N	2.15	0.61
1:C:356:GLU:HG3	1:C:379:THR:CG2	2.18	0.61
1:A:439:ILE:HA	1:A:440:ASP:O	2.00	0.61
1:C:100:TYR:HA	1:C:218:PHE:O	2.01	0.61
1:B:437:ARG:NE	1:A:352:VAL:HG11	2.15	0.61
1:C:363:THR:C	1:C:365:ALA:CB	2.45	0.61
1:A:170:PHE:N	1:C:167:ASN:OD1	2.28	0.60
1:C:363:THR:CA	1:C:365:ALA:CB	2.79	0.60
1:C:439:ILE:HA	1:C:440:ASP:O	2.00	0.60
1:A:170:PHE:CE1	1:C:167:ASN:CB	2.60	0.60
1:B:226:ALA:HB1	1:B:228:ARG:NE	2.14	0.60
1:B:207:MET:HE1	1:C:143:THR:CG2	2.27	0.60
1:B:352:VAL:HG11	1:A:437:ARG:CZ	2.31	0.60
1:B:367:GLN:NE2	1:B:375:PHE:H	1.98	0.60
1:A:101:ASN:HD21	1:C:131:GLY:CA	2.13	0.60
1:A:227:ALA:CA	1:A:228:ARG:NH2	2.64	0.60
1:C:71:SER:H	1:C:74:ASN:ND2	2.00	0.60
1:B:269:VAL:HG22	1:B:270:HIS:N	2.17	0.60
1:C:269:VAL:HG22	1:C:270:HIS:N	2.17	0.60
1:B:435:TYR:OH	1:A:344:THR:C	2.40	0.60
1:A:269:VAL:HG22	1:A:270:HIS:N	2.17	0.60
1:B:205:ARG:CZ	1:C:139:ILE:CD1	2.78	0.59
1:A:119:THR:HG21	1:A:200:PHE:HE2	1.67	0.59
1:B:71:SER:H	1:B:74:ASN:HD22	1.51	0.59
1:B:192:THR:OG1	1:B:196:THR:HG23	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:485:LEU:H	1:A:485:LEU:HD13	1.61	0.59
1:C:477:TYR:CE1	1:C:513:GLY:HA2	2.38	0.59
1:A:101:ASN:HB2	1:C:131:GLY:O	2.01	0.59
1:A:148:VAL:HG21	1:A:160:VAL:HG22	1.84	0.59
1:B:62:GLN:CB	1:C:140:ALA:HB1	2.32	0.59
1:B:53:ASP:OD2	1:A:219:LEU:HD11	2.02	0.59
1:B:437:ARG:CB	1:A:340:GLN:OE1	2.51	0.59
1:A:220:VAL:HG21	1:C:132:PHE:CD1	2.38	0.59
1:B:238:ARG:HH21	1:A:315:SER:HB3	1.67	0.58
1:A:57:ILE:HD12	1:A:212:PRO:HA	1.85	0.58
1:A:477:TYR:CE1	1:A:513:GLY:HA2	2.38	0.58
1:C:533:LEU:N	1:C:533:LEU:HD23	2.18	0.58
1:A:281:ILE:HD11	1:C:540:LYS:NZ	2.19	0.58
1:C:338:GLU:HB2	1:C:396:ARG:HD2	1.84	0.58
1:C:363:THR:N	1:C:365:ALA:HB2	2.15	0.58
1:A:220:VAL:HG12	1:A:222:ALA:CB	2.33	0.58
1:B:477:TYR:CE1	1:B:513:GLY:HA2	2.38	0.58
1:B:352:VAL:CG2	1:A:437:ARG:NE	2.62	0.58
1:B:105:GLY:HA3	1:B:214:PHE:HA	1.85	0.58
1:B:338:GLU:HB2	1:B:396:ARG:HD2	1.84	0.58
1:B:367:GLN:HE22	1:B:375:PHE:N	2.01	0.57
1:A:71:SER:HB3	1:A:201:VAL:HG12	1.87	0.57
1:A:524:LEU:HD13	1:C:524:LEU:CD2	2.33	0.57
1:C:105:GLY:O	1:C:164:ASP:HB2	2.04	0.57
1:B:205:ARG:HE	1:C:139:ILE:CD1	2.17	0.57
1:A:218:PHE:CD2	1:C:129:PRO:HG3	2.39	0.57
1:A:289:PHE:CE1	1:A:357:MET:HE1	2.39	0.57
1:A:338:GLU:HB2	1:A:396:ARG:HD2	1.84	0.57
1:C:295:TYR:N	1:C:295:TYR:CD2	2.72	0.57
1:B:18:ALA:HB1	1:C:153:ARG:HH12	1.68	0.57
1:A:125:VAL:HG12	1:A:182:LEU:HD22	1.87	0.57
1:A:295:TYR:N	1:A:295:TYR:CD2	2.72	0.57
1:A:367:GLN:HE22	1:A:375:PHE:N	2.00	0.57
1:B:200:PHE:HE1	1:C:191:ARG:HD2	1.63	0.57
1:B:295:TYR:N	1:B:295:TYR:CD2	2.72	0.57
1:B:387:VAL:HG21	1:B:391:VAL:HG12	1.86	0.57
1:B:392:ARG:CZ	1:A:248:PRO:HG2	2.35	0.57
1:C:361:PRO:O	1:C:362:THR:O	2.23	0.57
1:C:474:LEU:HB3	1:C:518:VAL:HB	1.86	0.57
1:B:445:ALA:HB1	1:A:350:LEU:N	2.20	0.57
1:B:361:PRO:O	1:B:362:THR:O	2.23	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:226:ALA:HB1	1:B:228:ARG:NH1	2.11	0.56
1:B:162:LEU:HD13	1:B:182:LEU:HG	1.86	0.56
1:B:435:TYR:HE2	1:A:343:THR:O	1.77	0.56
1:A:60:PHE:HZ	1:A:108:ARG:HD3	1.70	0.56
1:A:367:GLN:NE2	1:A:375:PHE:H	1.98	0.56
1:C:289:PHE:CE1	1:C:357:MET:HE1	2.38	0.56
1:C:532:SER:CA	1:C:533:LEU:CD2	2.72	0.56
1:B:363:THR:CA	1:B:365:ALA:CB	2.78	0.56
1:A:387:VAL:HG21	1:A:391:VAL:HG12	1.86	0.56
1:A:474:LEU:HB3	1:A:518:VAL:HB	1.86	0.56
1:C:367:GLN:HE22	1:C:375:PHE:N	2.00	0.56
1:C:387:VAL:HG21	1:C:391:VAL:HG12	1.86	0.56
1:B:363:THR:N	1:B:365:ALA:HB2	2.15	0.56
1:A:523:ARG:HD3	1:C:526:GLN:CD	2.20	0.56
1:C:230:VAL:HG11	1:C:473:LEU:HD11	1.87	0.56
1:B:364:ASN:CA	1:B:365:ALA:CB	2.84	0.56
1:A:37:ALA:O	1:A:166:ARG:NH2	2.38	0.56
1:A:363:THR:CA	1:A:365:ALA:CB	2.79	0.56
1:A:169:LEU:CD1	1:C:167:ASN:C	2.72	0.56
1:A:220:VAL:HG12	1:A:222:ALA:N	2.21	0.56
1:A:164:ASP:OD1	1:A:171:HIS:HE1	1.89	0.56
1:B:313:ASP:HB2	1:A:238:ARG:HB2	1.86	0.56
1:A:364:ASN:CA	1:A:365:ALA:CB	2.84	0.56
1:A:122:LYS:NZ	1:A:151:ASP:HB2	2.20	0.56
1:A:218:PHE:CD1	1:C:129:PRO:HB3	2.41	0.55
1:A:361:PRO:O	1:A:362:THR:O	2.23	0.55
1:A:228:ARG:N	1:A:228:ARG:NE	2.54	0.55
1:A:418:PRO:HB3	1:C:533:LEU:N	2.20	0.55
1:C:364:ASN:CA	1:C:365:ALA:CB	2.84	0.55
1:B:539:LEU:HG	1:B:540:LYS:CE	2.29	0.55
1:B:219:LEU:HD11	1:A:53:ASP:OD2	2.06	0.55
1:B:474:LEU:HB3	1:B:518:VAL:HB	1.86	0.55
1:A:524:LEU:HD13	1:C:524:LEU:HB3	1.88	0.55
1:B:538:MET:O	1:B:539:LEU:HB2	2.07	0.55
1:A:122:LYS:HD2	1:A:151:ASP:HA	1.89	0.55
1:A:462:ALA:HB2	1:C:540:LYS:NZ	2.12	0.55
1:C:234:VAL:HG23	1:C:234:VAL:O	2.07	0.55
1:B:352:VAL:CB	1:A:437:ARG:HE	2.19	0.54
1:B:350:LEU:HB2	1:A:445:ALA:N	2.19	0.54
1:A:106:ASN:HD22	1:A:163:GLU:HA	1.72	0.54
1:A:424:LEU:HA	1:C:425:PRO:HB3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:392:ARG:NH2	1:A:248:PRO:CG	2.70	0.54
1:A:222:ALA:HB2	1:C:132:PHE:CE1	2.41	0.54
1:C:220:VAL:C	1:C:221:PRO:O	2.41	0.54
1:B:205:ARG:HH21	1:C:139:ILE:HD13	1.70	0.54
1:B:437:ARG:NH2	1:A:352:VAL:CG2	2.70	0.54
1:B:437:ARG:HE	1:A:352:VAL:CG1	2.19	0.54
1:B:113:LEU:O	1:B:114:ALA:HB2	2.07	0.54
1:A:234:VAL:HG23	1:A:234:VAL:O	2.07	0.54
1:A:104:VAL:HG22	1:A:170:PHE:HB2	1.90	0.54
1:A:227:ALA:HB1	1:A:228:ARG:HH12	1.58	0.54
1:B:236:GLN:HA	1:B:513:GLY:O	2.08	0.54
1:B:378:VAL:C	1:B:380:ALA:N	2.48	0.53
1:A:236:GLN:HA	1:A:513:GLY:O	2.08	0.53
1:B:435:TYR:CD2	1:A:343:THR:O	2.59	0.53
1:C:236:GLN:HA	1:C:513:GLY:O	2.08	0.53
1:B:352:VAL:HG11	1:A:437:ARG:HE	1.72	0.53
1:A:71:SER:H	1:A:74:ASN:HD22	1.55	0.53
1:C:227:ALA:HB1	1:C:228:ARG:HA	0.61	0.53
1:B:470:SER:O	1:B:493:ASN:ND2	2.37	0.53
1:A:220:VAL:CG2	1:C:132:PHE:CD1	2.92	0.53
1:B:207:MET:HE3	1:C:143:THR:CG2	2.23	0.53
1:B:234:VAL:O	1:B:234:VAL:HG23	2.07	0.53
1:B:238:ARG:O	1:A:285:TRP:CZ2	2.54	0.53
1:B:350:LEU:H	1:A:445:ALA:HA	1.70	0.53
1:A:45:THR:HG21	1:C:166:ARG:HB3	1.83	0.53
1:A:105:GLY:HA3	1:A:214:PHE:HA	1.90	0.53
1:B:535:THR:C	1:B:537:ARG:HH11	2.09	0.53
1:B:352:VAL:HG11	1:A:437:ARG:NE	2.23	0.53
1:B:523:ARG:O	1:B:523:ARG:HG2	2.07	0.53
1:A:523:ARG:NH2	1:C:425:PRO:O	2.36	0.53
1:A:470:SER:O	1:A:493:ASN:ND2	2.37	0.52
1:C:470:SER:O	1:C:493:ASN:ND2	2.37	0.52
1:B:289:PHE:CE1	1:B:357:MET:HE1	2.39	0.52
1:B:437:ARG:HE	1:A:352:VAL:HG11	1.73	0.52
1:A:50:ASN:HD22	1:A:100:TYR:HE2	1.58	0.52
1:A:363:THR:N	1:A:365:ALA:HB2	2.15	0.52
1:C:37:ALA:O	1:C:166:ARG:NH2	2.42	0.52
1:C:85:LEU:HB3	1:C:179:THR:HB	1.90	0.52
1:B:164:ASP:OD2	1:B:171:HIS:HE1	1.93	0.52
1:A:119:THR:HG21	1:A:200:PHE:CE2	2.45	0.52
1:C:387:VAL:CG2	1:C:391:VAL:CG1	2.88	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:440:ASP:CB	1:B:443:ASP:O	2.53	0.52
1:C:523:ARG:O	1:C:523:ARG:HG2	2.07	0.52
1:C:440:ASP:CB	1:C:443:ASP:O	2.53	0.52
1:A:387:VAL:CG2	1:A:388:ASP:N	2.73	0.52
1:C:387:VAL:HG22	1:C:391:VAL:CG1	2.40	0.52
1:A:356:GLU:HG2	1:A:379:THR:HG21	1.85	0.51
1:A:477:TYR:CE1	1:A:513:GLY:CA	2.93	0.51
1:C:211:SER:HB2	1:C:212:PRO:HD2	1.91	0.51
1:A:116:ASN:HB3	1:A:118:PHE:H	1.75	0.51
1:C:220:VAL:O	1:C:221:PRO:C	2.44	0.51
1:C:477:TYR:CE1	1:C:513:GLY:CA	2.93	0.51
1:A:36:VAL:HB	1:A:106:ASN:HD21	1.75	0.51
1:B:437:ARG:CA	1:A:340:GLN:OE1	2.58	0.51
1:B:442:ALA:O	1:B:443:ASP:HB3	2.06	0.51
1:B:446:ALA:HB2	1:A:343:THR:HG22	1.75	0.51
1:C:442:ALA:O	1:C:443:ASP:HB3	2.06	0.51
1:B:437:ARG:NH2	1:A:352:VAL:HG13	2.10	0.51
1:A:387:VAL:HG22	1:A:391:VAL:CG1	2.40	0.51
1:A:524:LEU:HD12	1:C:524:LEU:HB3	1.91	0.51
1:B:343:THR:O	1:A:435:TYR:CE2	2.64	0.51
1:B:477:TYR:CE1	1:B:513:GLY:CA	2.93	0.51
1:A:387:VAL:CG2	1:A:391:VAL:CG1	2.88	0.51
1:B:387:VAL:CG2	1:B:388:ASP:N	2.73	0.51
1:A:46:ALA:N	1:C:166:ARG:O	2.42	0.51
1:B:68:PHE:CZ	1:B:204:GLY:HA3	2.46	0.51
1:B:248:PRO:CG	1:A:392:ARG:CZ	2.89	0.51
1:B:387:VAL:CG2	1:B:391:VAL:CG1	2.88	0.51
1:B:387:VAL:HG22	1:B:391:VAL:CG1	2.40	0.50
1:B:153:ARG:HB2	1:B:153:ARG:HH11	1.76	0.50
1:B:356:GLU:HG2	1:B:379:THR:HG21	1.85	0.50
1:C:105:GLY:HA3	1:C:214:PHE:HA	1.94	0.50
1:A:169:LEU:CG	1:C:168:VAL:CA	2.37	0.50
1:A:362:THR:CA	1:A:363:THR:CB	2.89	0.50
1:C:362:THR:CG2	1:C:363:THR:CG2	2.89	0.50
1:C:387:VAL:CG2	1:C:388:ASP:N	2.73	0.50
1:C:532:SER:O	1:C:533:LEU:HD22	2.04	0.50
1:B:486:LEU:HD12	1:B:486:LEU:N	2.26	0.50
1:B:356:GLU:CD	1:B:379:THR:HG22	2.27	0.50
1:A:45:THR:CB	1:C:166:ARG:C	2.65	0.50
1:B:129:PRO:CA	1:B:180:MET:HE2	2.36	0.50
1:B:191:ARG:HG2	1:B:191:ARG:HH11	1.77	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:437:ARG:HB2	1:A:340:GLN:OE1	2.12	0.50
1:A:170:PHE:CE1	1:C:167:ASN:HB2	2.07	0.50
1:A:220:VAL:CG1	1:A:222:ALA:CB	2.90	0.50
1:B:352:VAL:CG2	1:A:437:ARG:HE	2.22	0.50
1:B:367:GLN:HE21	1:B:367:GLN:CA	2.24	0.50
1:A:101:ASN:CG	1:C:131:GLY:O	2.48	0.50
1:B:362:THR:CG2	1:B:363:THR:HG23	2.42	0.49
1:A:29:ASP:HB3	1:A:30:PRO:HD2	1.94	0.49
1:A:124:ILE:HG12	1:A:149:ILE:HG12	1.94	0.49
1:A:356:GLU:CD	1:A:379:THR:HG22	2.26	0.49
1:C:362:THR:CG2	1:C:363:THR:HG23	2.42	0.49
1:A:118:PHE:CD1	1:A:118:PHE:N	2.81	0.49
1:B:343:THR:CB	1:A:435:TYR:HB2	2.39	0.49
1:A:220:VAL:HG12	1:A:222:ALA:HB3	1.93	0.49
1:A:486:LEU:N	1:A:486:LEU:HD12	2.26	0.49
1:C:50:ASN:ND2	1:C:217:LEU:O	2.46	0.49
1:C:362:THR:CA	1:C:363:THR:CB	2.89	0.49
1:A:362:THR:CG2	1:A:363:THR:HG23	2.42	0.49
1:C:486:LEU:HD12	1:C:486:LEU:N	2.26	0.49
1:C:519:SER:HB3	1:C:520:TRP:O	2.13	0.49
1:A:110:ARG:HA	1:A:158:ILE:O	2.13	0.49
1:A:351:LYS:HD2	1:A:386:LEU:HB3	1.94	0.49
1:C:362:THR:CA	1:C:363:THR:CG2	2.63	0.49
1:B:220:VAL:CG1	1:B:221:PRO:CD	2.75	0.49
1:B:351:LYS:HD2	1:B:386:LEU:HB3	1.94	0.49
1:B:519:SER:HB3	1:B:520:TRP:O	2.12	0.49
1:C:474:LEU:O	1:C:518:VAL:HA	2.12	0.49
1:A:281:ILE:HD11	1:C:540:LYS:HZ3	1.76	0.49
1:A:442:ALA:O	1:A:443:ASP:HB3	2.06	0.49
1:A:474:LEU:O	1:A:518:VAL:HA	2.12	0.49
1:B:125:VAL:HG12	1:B:182:LEU:HD22	1.95	0.48
1:B:474:LEU:O	1:B:518:VAL:HA	2.12	0.48
1:A:519:SER:HB3	1:A:520:TRP:O	2.12	0.48
1:C:123:ILE:CD1	1:C:184:CYS:SG	2.90	0.48
1:C:119:THR:HG22	1:C:192:THR:HG22	1.95	0.48
1:C:164:ASP:OD1	1:C:171:HIS:HE1	1.96	0.48
1:A:223:ALA:O	1:A:224:ALA:HB3	2.11	0.48
1:A:238:ARG:HD2	1:A:511:THR:OG1	2.14	0.48
1:C:238:ARG:HD2	1:C:511:THR:OG1	2.14	0.48
1:C:367:GLN:HE21	1:C:367:GLN:CA	2.24	0.48
1:B:387:VAL:CG2	1:B:391:VAL:HG12	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:362:THR:CA	1:B:363:THR:CG2	2.64	0.48
1:A:473:LEU:HD23	1:A:520:TRP:N	2.19	0.48
1:B:337:ILE:HD13	1:B:357:MET:HE2	1.96	0.48
1:A:353:THR:OG1	1:A:387:VAL:HG12	2.14	0.48
1:A:490:LYS:HG3	1:A:527:LEU:HD21	1.96	0.48
1:B:12:VAL:HB	1:C:149:ILE:O	2.14	0.48
1:B:85:LEU:HB3	1:B:179:THR:HB	1.96	0.48
1:B:125:VAL:CG1	1:B:182:LEU:HD22	2.43	0.48
1:A:170:PHE:CD1	1:C:167:ASN:ND2	2.74	0.47
1:C:123:ILE:HG12	1:C:124:ILE:N	2.28	0.47
1:B:353:THR:OG1	1:B:387:VAL:HG12	2.14	0.47
1:B:362:THR:CA	1:B:363:THR:CB	2.89	0.47
1:C:351:LYS:HD2	1:C:386:LEU:HB3	1.94	0.47
1:B:238:ARG:HD2	1:B:511:THR:OG1	2.14	0.47
1:A:45:THR:O	1:C:166:ARG:C	2.52	0.47
1:A:47:GLY:N	1:C:165:VAL:CG1	2.74	0.47
1:A:105:GLY:O	1:A:164:ASP:HB2	2.14	0.47
1:A:118:PHE:N	1:A:118:PHE:HD1	2.12	0.47
1:A:337:ILE:HD13	1:A:357:MET:HE2	1.96	0.47
1:A:425:PRO:HD2	1:C:425:PRO:HG3	1.73	0.47
1:A:523:ARG:O	1:A:523:ARG:HG2	2.07	0.47
1:B:223:ALA:O	1:B:224:ALA:CB	2.60	0.47
1:B:296:GLU:C	1:B:297:PHE:CD2	2.85	0.47
1:B:18:ALA:HB2	1:C:153:ARG:HH12	1.67	0.47
1:A:387:VAL:CG2	1:A:391:VAL:HG12	2.44	0.47
1:C:82:ASP:O	1:C:83:LEU:HD23	2.15	0.47
1:A:101:ASN:CB	1:C:131:GLY:O	2.62	0.47
1:A:220:VAL:HG13	1:A:221:PRO:HD2	1.97	0.47
1:C:364:ASN:N	1:C:365:ALA:HB3	2.20	0.47
1:B:337:ILE:HD13	1:B:357:MET:CE	2.45	0.47
1:B:392:ARG:CZ	1:A:248:PRO:CD	2.93	0.47
1:A:337:ILE:HD13	1:A:357:MET:CE	2.45	0.47
1:C:353:THR:OG1	1:C:387:VAL:HG12	2.14	0.47
1:B:445:ALA:CA	1:A:350:LEU:CG	2.45	0.47
1:C:297:PHE:CE2	1:C:302:GLY:HA3	2.50	0.47
1:B:191:ARG:HG2	1:B:191:ARG:NH1	2.30	0.47
1:B:367:GLN:NE2	1:B:375:PHE:HD2	2.13	0.47
1:C:387:VAL:CG2	1:C:391:VAL:HG12	2.44	0.47
1:B:10:SER:HA	1:C:147:HIS:O	2.15	0.46
1:B:98:GLN:HB2	1:A:95:HIS:CE1	2.50	0.46
1:A:297:PHE:CE2	1:A:302:GLY:HA3	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:220:VAL:CG1	1:A:222:ALA:HB2	2.46	0.46
1:A:367:GLN:NE2	1:A:375:PHE:HD2	2.14	0.46
1:A:162:LEU:HD13	1:A:182:LEU:HG	1.97	0.46
1:A:230:VAL:CG1	1:A:473:LEU:HD11	2.43	0.46
1:C:337:ILE:HD13	1:C:357:MET:CE	2.45	0.46
1:C:71:SER:HA	1:C:201:VAL:HG12	1.97	0.46
1:B:238:ARG:NH1	1:B:512:ASP:HB3	2.31	0.46
1:C:440:ASP:HB3	1:C:441:THR:C	2.36	0.46
1:B:297:PHE:CE2	1:B:302:GLY:HA3	2.50	0.46
1:A:397:SER:HB2	1:A:439:ILE:CG2	2.46	0.46
1:C:238:ARG:NH1	1:C:512:ASP:HB3	2.31	0.46
1:A:110:ARG:NH1	1:A:159:GLU:OE1	2.49	0.45
1:A:238:ARG:H	1:A:238:ARG:HG2	1.63	0.45
1:A:440:ASP:HB3	1:A:441:THR:C	2.36	0.45
1:C:297:PHE:CE2	1:C:302:GLY:CA	3.00	0.45
1:B:364:ASN:N	1:B:365:ALA:HB3	2.20	0.45
1:A:71:SER:HB2	1:A:72:PRO:HD2	1.98	0.45
1:A:539:LEU:HD12	1:A:539:LEU:HA	1.69	0.45
1:C:229:MET:CG	1:C:230:VAL:N	2.59	0.45
1:C:367:GLN:NE2	1:C:375:PHE:HD2	2.14	0.45
1:A:101:ASN:ND2	1:C:131:GLY:HA3	2.28	0.45
1:A:296:GLU:C	1:A:297:PHE:CD2	2.85	0.45
1:B:18:ALA:HB2	1:C:153:ARG:HH11	1.79	0.45
1:B:104:VAL:HG13	1:B:170:PHE:HA	1.99	0.45
1:B:297:PHE:CE2	1:B:302:GLY:CA	3.00	0.45
1:B:352:VAL:HG13	1:B:352:VAL:O	2.17	0.45
1:B:397:SER:HB2	1:B:439:ILE:CG2	2.46	0.45
1:B:440:ASP:HB3	1:B:441:THR:C	2.36	0.45
1:A:297:PHE:CE2	1:A:302:GLY:CA	3.00	0.45
1:B:241:THR:CB	1:A:282:SER:HG	2.26	0.45
1:B:350:LEU:H	1:A:445:ALA:CB	2.30	0.45
1:A:101:ASN:HD21	1:C:130:PRO:C	2.18	0.45
1:C:352:VAL:HG13	1:C:352:VAL:O	2.17	0.45
1:B:437:ARG:HE	1:A:352:VAL:HB	1.77	0.45
1:A:169:LEU:CD1	1:C:168:VAL:O	2.52	0.45
1:A:224:ALA:O	1:A:225:ALA:HB2	2.17	0.45
1:B:269:VAL:CG2	1:B:270:HIS:N	2.80	0.45
1:B:352:VAL:CG1	1:A:437:ARG:HE	2.30	0.45
1:A:367:GLN:HE21	1:A:367:GLN:CA	2.24	0.45
1:C:397:SER:HB2	1:C:439:ILE:CG2	2.46	0.45
1:A:227:ALA:HA	1:A:228:ARG:CZ	2.45	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:352:VAL:HG13	1:A:352:VAL:O	2.17	0.45
1:B:62:GLN:HB3	1:C:140:ALA:CB	2.47	0.44
1:B:90:ASN:HB3	1:B:93:LEU:HD12	1.98	0.44
1:C:192:THR:HG21	1:C:200:PHE:CD2	2.53	0.44
1:B:37:ALA:O	1:B:166:ARG:NH2	2.51	0.44
1:B:226:ALA:C	1:B:228:ARG:NH1	2.71	0.44
1:B:530:VAL:HB	1:B:531:GLY:H	0.78	0.44
1:B:62:GLN:CB	1:C:140:ALA:HA	2.48	0.44
1:B:107:MET:CE	1:B:208:THR:HB	2.46	0.44
1:A:31:LEU:HD12	1:A:161:PRO:HG2	1.98	0.44
1:A:71:SER:H	1:A:74:ASN:ND2	2.14	0.44
1:A:238:ARG:NH1	1:A:512:ASP:HB3	2.31	0.44
1:B:362:THR:CB	1:B:363:THR:OG1	2.66	0.44
1:B:473:LEU:HD23	1:B:520:TRP:N	2.19	0.44
1:A:440:ASP:CB	1:A:443:ASP:O	2.53	0.44
1:C:337:ILE:HD13	1:C:357:MET:HE2	1.98	0.44
1:A:362:THR:CG2	1:A:363:THR:CG2	2.89	0.44
1:A:481:LEU:HD12	1:A:481:LEU:HA	1.82	0.44
1:C:297:PHE:CB	1:C:300:GLY:HA2	2.48	0.44
1:C:362:THR:CB	1:C:363:THR:OG1	2.66	0.44
1:B:13:ASP:HB2	1:B:155:LEU:HD22	2.00	0.44
1:B:392:ARG:NH1	1:A:248:PRO:HG2	2.32	0.44
1:B:446:ALA:HB3	1:A:350:LEU:CD2	2.03	0.44
1:A:122:LYS:HZ2	1:A:151:ASP:HB2	1.83	0.44
1:A:328:TYR:OH	1:A:374:VAL:HG11	2.18	0.44
1:A:424:LEU:HD12	1:C:425:PRO:HB2	1.98	0.44
1:A:523:ARG:CD	1:C:526:GLN:HE21	1.78	0.44
1:A:540:LYS:HB3	1:A:540:LYS:HE3	1.71	0.44
1:C:269:VAL:HG22	1:C:270:HIS:O	2.18	0.44
1:C:328:TYR:OH	1:C:374:VAL:HG11	2.18	0.44
1:B:200:PHE:HD1	1:C:191:ARG:CD	2.27	0.44
1:B:269:VAL:HG22	1:B:270:HIS:O	2.18	0.44
1:B:343:THR:OG1	1:A:435:TYR:HB2	2.18	0.44
1:C:296:GLU:C	1:C:297:PHE:CD2	2.85	0.44
1:A:182:LEU:HD23	1:A:182:LEU:HA	1.78	0.44
1:A:169:LEU:HD21	1:C:169:LEU:HG	2.00	0.43
1:A:269:VAL:CG2	1:A:270:HIS:N	2.80	0.43
1:C:356:GLU:CD	1:C:379:THR:HG22	2.26	0.43
1:B:226:ALA:HB1	1:B:228:ARG:NH2	2.05	0.43
1:B:538:MET:HB3	1:B:539:LEU:H	1.52	0.43
1:A:100:TYR:HA	1:A:218:PHE:O	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:21:LEU:HB3	1:B:117:ALA:HB1	2.00	0.43
1:B:62:GLN:CB	1:C:140:ALA:CB	2.96	0.43
1:B:490:LYS:HG3	1:B:527:LEU:HD21	2.00	0.43
1:B:22:VAL:HG12	1:B:153:ARG:HD2	1.99	0.43
1:B:328:TYR:OH	1:B:374:VAL:HG11	2.18	0.43
1:A:439:ILE:HB	1:A:440:ASP:O	2.19	0.43
1:A:269:VAL:HG22	1:A:270:HIS:O	2.18	0.43
1:A:362:THR:CB	1:A:363:THR:OG1	2.66	0.43
1:B:64:PRO:HG3	1:B:88:HIS:O	2.19	0.43
1:A:297:PHE:CB	1:A:300:GLY:HA2	2.48	0.43
1:C:182:LEU:HD23	1:C:182:LEU:HA	1.79	0.43
1:C:238:ARG:H	1:C:238:ARG:HG2	1.63	0.43
1:B:82:ASP:OD1	1:B:181:ARG:HD2	2.18	0.43
1:B:219:LEU:HD23	1:B:219:LEU:HA	1.92	0.43
1:B:439:ILE:HB	1:B:440:ASP:O	2.19	0.43
1:C:226:ALA:O	1:C:227:ALA:HB2	2.19	0.43
1:C:439:ILE:HB	1:C:440:ASP:O	2.19	0.43
1:B:53:ASP:HA	1:B:54:PRO:HD2	1.89	0.43
1:A:45:THR:CB	1:C:166:ARG:CB	2.94	0.43
1:A:61:VAL:HG12	1:A:62:GLN:N	2.33	0.43
1:A:501:TYR:CZ	1:A:503:GLY:HA3	2.54	0.42
1:B:357:MET:HE3	1:B:357:MET:HB3	1.78	0.42
1:A:357:MET:HE3	1:A:357:MET:HB3	1.78	0.42
1:C:109:VAL:HG22	1:C:208:THR:HG22	2.02	0.42
1:C:469:GLN:O	1:C:470:SER:HB2	2.20	0.42
1:C:501:TYR:CZ	1:C:503:GLY:HA3	2.54	0.42
1:B:39:SER:OG	1:B:215:ASN:HB2	2.19	0.42
1:B:248:PRO:HD2	1:A:392:ARG:CZ	2.46	0.42
1:A:31:LEU:HD22	1:A:146:PRO:HB2	2.01	0.42
1:C:90:ASN:HA	1:C:91:PRO:HD2	1.79	0.42
1:C:269:VAL:CG2	1:C:270:HIS:N	2.80	0.42
1:B:293:ALA:HB3	1:B:388:ASP:HA	2.02	0.42
1:B:352:VAL:CG1	1:A:444:ALA:HB3	2.42	0.42
1:B:501:TYR:CZ	1:B:503:GLY:HA3	2.54	0.42
1:A:42:ALA:HB2	1:A:170:PHE:HB3	2.02	0.42
1:A:438:GLN:O	1:A:438:GLN:HG2	2.20	0.42
1:C:357:MET:HE3	1:C:357:MET:HB3	1.83	0.42
1:B:469:GLN:O	1:B:470:SER:HB2	2.20	0.42
1:A:281:ILE:HD12	1:A:281:ILE:HG23	1.74	0.42
1:C:539:LEU:HD12	1:C:539:LEU:HA	1.79	0.42
1:C:438:GLN:O	1:C:438:GLN:HG2	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:119:THR:CG2	1:A:200:PHE:CE2	3.03	0.42
1:B:71:SER:N	1:B:74:ASN:HD22	2.16	0.42
1:B:532:SER:C	1:B:534:ALA:H	2.22	0.42
1:A:220:VAL:HG13	1:A:222:ALA:H	1.84	0.42
1:B:438:GLN:O	1:B:438:GLN:HG2	2.20	0.41
1:A:368:ALA:HA	1:A:369:PRO:HD2	1.80	0.41
1:A:474:LEU:O	1:A:518:VAL:CB	2.68	0.41
1:B:36:VAL:HG11	1:B:164:ASP:O	2.21	0.41
1:B:297:PHE:CB	1:B:300:GLY:HA2	2.48	0.41
1:A:218:PHE:CD1	1:C:129:PRO:CB	3.04	0.41
1:A:269:VAL:O	1:A:495:GLY:HA3	2.21	0.41
1:B:230:VAL:HB	1:B:466:PHE:CD2	2.55	0.41
1:B:392:ARG:CZ	1:A:248:PRO:CG	2.99	0.41
1:B:444:ALA:CB	1:A:352:VAL:HG11	2.51	0.41
1:C:83:LEU:O	1:C:181:ARG:HA	2.20	0.41
1:B:303:GLU:O	1:B:378:VAL:CG2	2.55	0.41
1:B:474:LEU:O	1:B:518:VAL:CB	2.68	0.41
1:A:295:TYR:HE2	1:A:388:ASP:HB3	1.85	0.41
1:B:281:ILE:HD12	1:B:281:ILE:HG23	1.74	0.41
1:A:122:LYS:HZ3	1:A:151:ASP:HB2	1.85	0.41
1:A:220:VAL:HG21	1:C:132:PHE:HD1	1.82	0.41
1:A:387:VAL:HG22	1:A:388:ASP:N	2.36	0.41
1:C:387:VAL:HG22	1:C:388:ASP:N	2.36	0.41
1:C:474:LEU:O	1:C:518:VAL:HB	2.21	0.41
1:B:71:SER:HB2	1:B:201:VAL:HG12	2.02	0.41
1:B:175:ARG:O	1:B:175:ARG:HG2	2.20	0.41
1:B:269:VAL:O	1:B:495:GLY:HA3	2.20	0.41
1:A:170:PHE:CD2	1:C:167:ASN:O	2.74	0.41
1:A:474:LEU:O	1:A:518:VAL:HB	2.21	0.41
1:A:293:ALA:HB3	1:A:388:ASP:HA	2.02	0.41
1:A:440:ASP:OD2	1:A:441:THR:HB	2.21	0.41
1:A:469:GLN:O	1:A:470:SER:HB2	2.20	0.41
1:C:269:VAL:O	1:C:495:GLY:HA3	2.21	0.41
1:C:356:GLU:HG2	1:C:379:THR:HG21	1.85	0.41
1:C:368:ALA:HA	1:C:369:PRO:HD2	1.80	0.41
1:C:474:LEU:O	1:C:518:VAL:CB	2.68	0.41
1:B:474:LEU:O	1:B:518:VAL:HB	2.21	0.41
1:A:53:ASP:HA	1:A:54:PRO:HD2	1.88	0.41
1:C:293:ALA:HB3	1:C:388:ASP:HA	2.02	0.41
1:B:200:PHE:CD1	1:C:191:ARG:HD3	2.54	0.40
1:B:387:VAL:HG22	1:B:391:VAL:HG11	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:445:ALA:HA	1:A:350:LEU:H	1.55	0.40
1:A:272:ASP:CG	1:C:537:ARG:CZ	2.89	0.40
1:A:301:THR:O	1:A:303:GLU:N	2.54	0.40
1:A:464:ASN:O	1:A:465:ALA:C	2.59	0.40
1:C:295:TYR:HE2	1:C:388:ASP:HB3	1.85	0.40
1:C:361:PRO:HA	1:C:407:GLU:HB2	2.03	0.40
1:B:182:LEU:HD23	1:B:182:LEU:HA	1.78	0.40
1:B:538:MET:O	1:B:539:LEU:HB3	2.17	0.40
1:A:81:PHE:CZ	1:A:184:CYS:HB2	2.57	0.40
1:A:387:VAL:HG22	1:A:391:VAL:HG11	2.03	0.40
1:C:301:THR:O	1:C:303:GLU:N	2.54	0.40
1:B:95:HIS:HE1	1:A:95:HIS:O	2.04	0.40
1:B:301:THR:O	1:B:303:GLU:N	2.54	0.40
1:B:464:ASN:O	1:B:465:ALA:C	2.59	0.40
1:B:481:LEU:HA	1:B:481:LEU:HD12	1.82	0.40
1:C:281:ILE:HG23	1:C:281:ILE:HD12	1.74	0.40
1:A:31:LEU:HD23	1:A:31:LEU:HA	1.94	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	504/531 (95%)	446 (88%)	38 (8%)	20 (4%)	3 23
1	B	523/531 (98%)	458 (88%)	41 (8%)	24 (5%)	2 21
1	C	504/531 (95%)	446 (88%)	38 (8%)	20 (4%)	3 23
All	All	1531/1593 (96%)	1350 (88%)	117 (8%)	64 (4%)	5 22

All (64) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	114	ALA
1	B	223	ALA
1	B	302	GLY
1	B	362	THR
1	B	363	THR
1	B	365	ALA
1	B	367	GLN
1	B	379	THR
1	B	439	ILE
1	B	440	ASP
1	B	443	ASP
1	B	518	VAL
1	B	520	TRP
1	B	531	GLY
1	B	539	LEU
1	A	222	ALA
1	A	224	ALA
1	A	302	GLY
1	A	362	THR
1	A	363	THR
1	A	365	ALA
1	A	367	GLN
1	A	379	THR
1	A	439	ILE
1	A	440	ASP
1	A	443	ASP
1	A	518	VAL
1	A	520	TRP
1	A	530	VAL
1	A	533	LEU
1	A	536	GLY
1	C	221	PRO
1	C	224	ALA
1	C	302	GLY
1	C	362	THR
1	C	363	THR
1	C	365	ALA
1	C	367	GLN
1	C	379	THR
1	C	439	ILE
1	C	440	ASP
1	C	443	ASP
1	C	518	VAL

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Mol	Chain	Res	Type
1	C	520	TRP
1	B	224	ALA
1	B	536	GLY
1	A	196	THR
1	A	225	ALA
1	C	173	ASN
1	C	196	THR
1	C	227	ALA
1	B	40	SER
1	B	196	THR
1	B	537	ARG
1	B	530	VAL
1	C	43	VAL
1	B	519	SER
1	B	521	VAL
1	A	519	SER
1	A	521	VAL
1	C	519	SER
1	C	521	VAL
1	B	221	PRO
1	C	57	ILE

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	418/434 (96%)	387 (93%)	31 (7%)	13	38
1	B	431/434 (99%)	405 (94%)	26 (6%)	19	44
1	C	418/434 (96%)	392 (94%)	26 (6%)	18	43
All	All	1267/1302 (97%)	1184 (93%)	83 (7%)	20	41

All (83) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	11	SER

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Mol	Chain	Res	Type
1	B	84	SER
1	B	104	VAL
1	B	126	SER
1	B	153	ARG
1	B	156	ASP
1	B	182	LEU
1	B	228	ARG
1	B	230	VAL
1	B	237	PRO
1	B	238	ARG
1	B	259	PRO
1	B	296	GLU
1	B	356	GLU
1	B	363	THR
1	B	364	ASN
1	B	366	ASP
1	B	367	GLN
1	B	424	LEU
1	B	439	ILE
1	B	471	GLU
1	B	485	LEU
1	B	508	THR
1	B	518	VAL
1	B	539	LEU
1	B	540	LYS
1	A	41	THR
1	A	45	THR
1	A	84	SER
1	A	101	ASN
1	A	118	PHE
1	A	124	ILE
1	A	141	GLN
1	A	154	THR
1	A	179	THR
1	A	180	MET
1	A	191	ARG
1	A	205	ARG
1	A	228	ARG
1	A	230	VAL
1	A	237	PRO
1	A	238	ARG
1	A	259	PRO

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Mol	Chain	Res	Type
1	A	296	GLU
1	A	356	GLU
1	A	363	THR
1	A	364	ASN
1	A	366	ASP
1	A	367	GLN
1	A	424	LEU
1	A	439	ILE
1	A	471	GLU
1	A	485	LEU
1	A	508	THR
1	A	518	VAL
1	A	529	SER
1	A	540	LYS
1	C	31	LEU
1	C	101	ASN
1	C	104	VAL
1	C	108	ARG
1	C	135	HIS
1	C	136	ASN
1	C	205	ARG
1	C	230	VAL
1	C	237	PRO
1	C	238	ARG
1	C	259	PRO
1	C	296	GLU
1	C	356	GLU
1	C	363	THR
1	C	364	ASN
1	C	366	ASP
1	C	367	GLN
1	C	424	LEU
1	C	439	ILE
1	C	471	GLU
1	C	485	LEU
1	C	508	THR
1	C	518	VAL
1	C	532	SER
1	C	533	LEU
1	C	540	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (28) such sidechains are listed below:

Mol	Chain	Res	Type
1	B	74	ASN
1	B	95	HIS
1	B	116	ASN
1	B	171	HIS
1	B	263	GLN
1	B	364	ASN
1	B	367	GLN
1	B	469	GLN
1	A	74	ASN
1	A	95	HIS
1	A	101	ASN
1	A	106	ASN
1	A	116	ASN
1	A	171	HIS
1	A	263	GLN
1	A	364	ASN
1	A	367	GLN
1	A	469	GLN
1	C	50	ASN
1	C	59	ASN
1	C	74	ASN
1	C	171	HIS
1	C	177	GLN
1	C	263	GLN
1	C	364	ASN
1	C	367	GLN
1	C	469	GLN
1	C	526	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

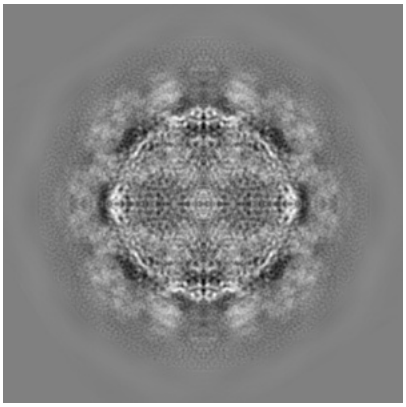
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-7564. These allow visual inspection of the internal detail of the map and identification of artifacts.

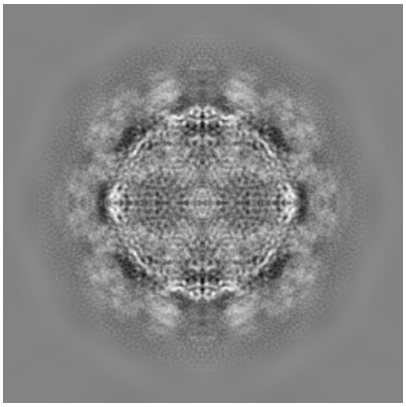
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

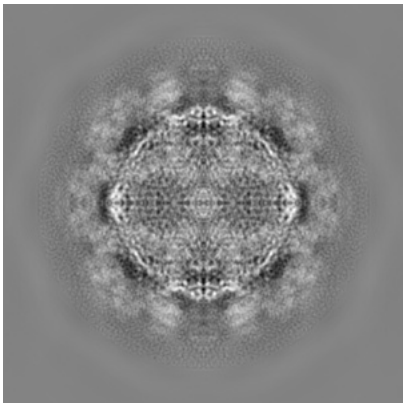
6.1.1 Primary map



X



Y

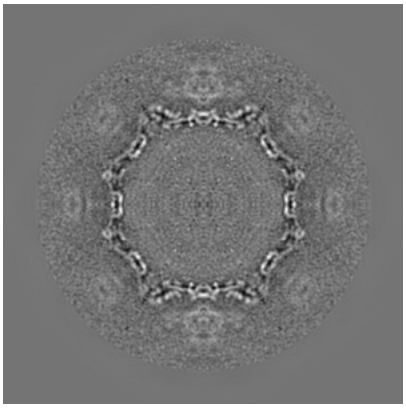


Z

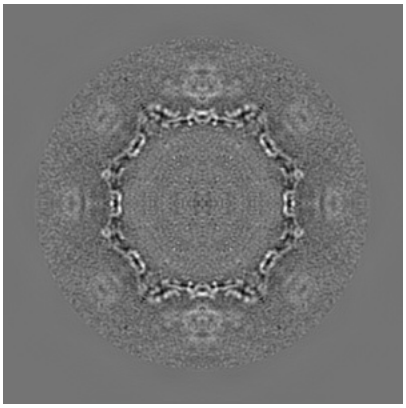
The images above show the map projected in three orthogonal directions.

6.2 Central slices

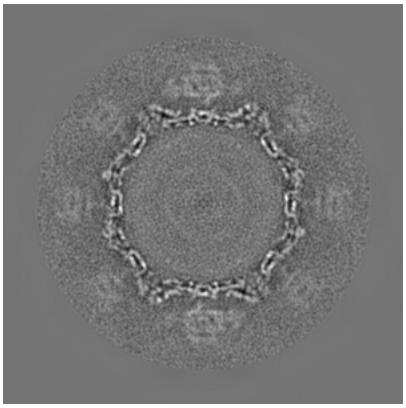
6.2.1 Primary map



X Index: 192



Y Index: 192

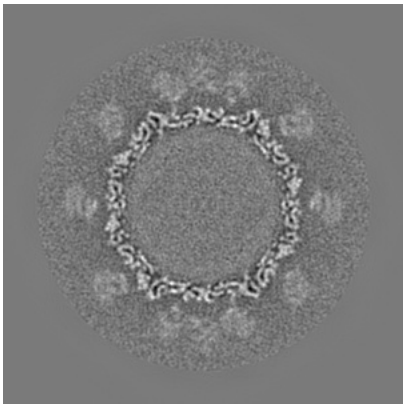


Z Index: 192

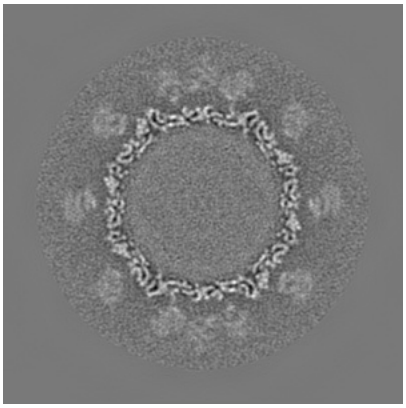
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

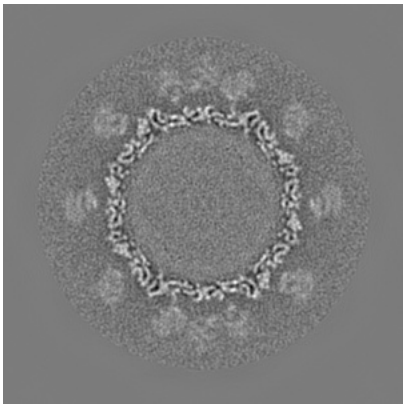
6.3.1 Primary map



X Index: 181



Y Index: 203

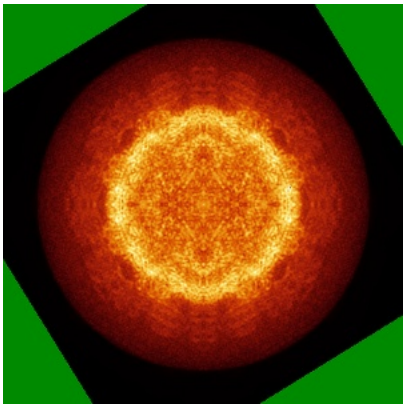


Z Index: 202

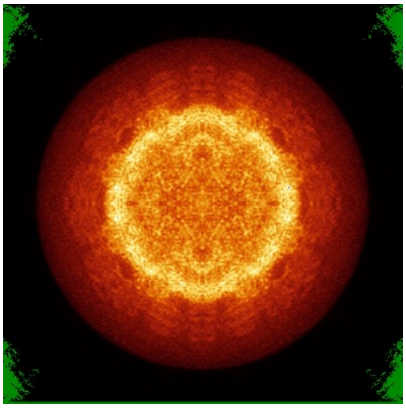
The images above show the largest variance slices of the map in three orthogonal directions.

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

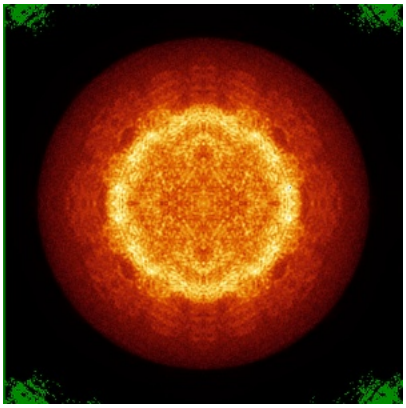
6.4.1 Primary map



X



Y

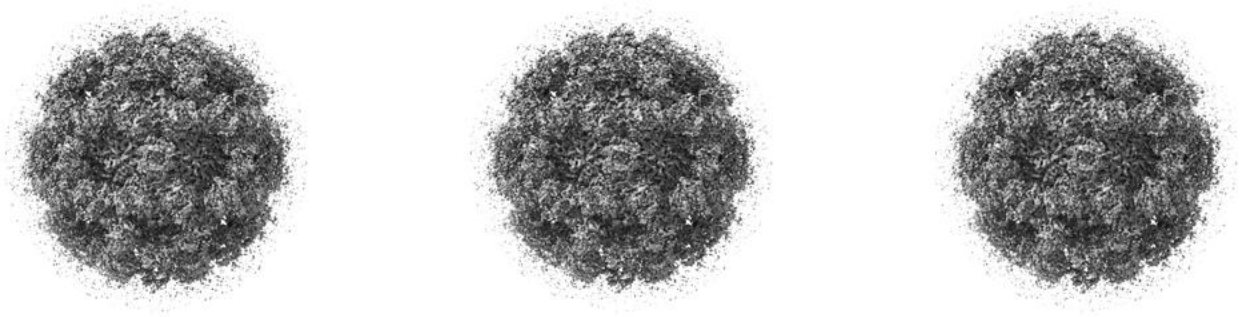


Z

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 2.5. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

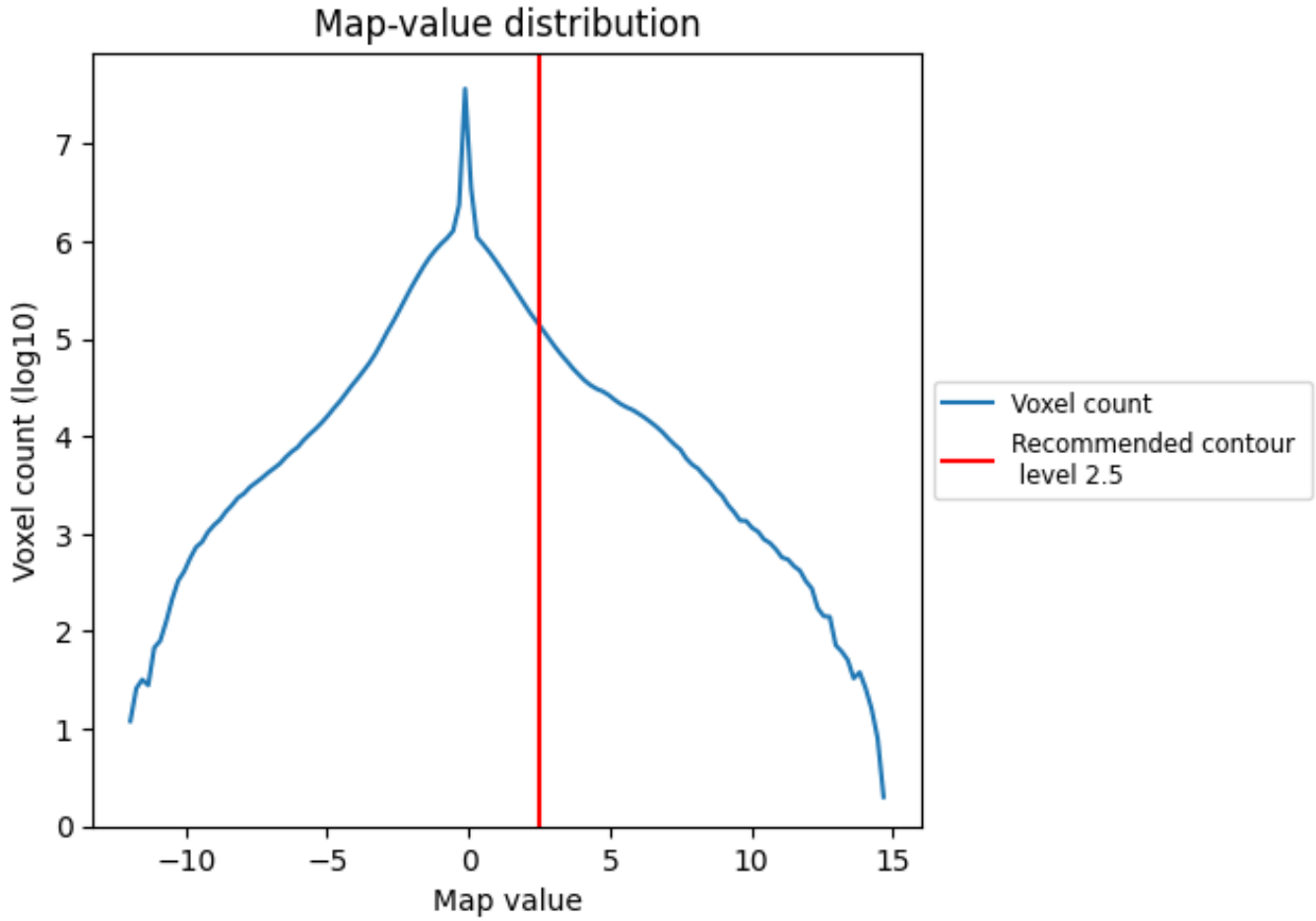
6.6 Mask visualisation (i)

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

7 Map analysis

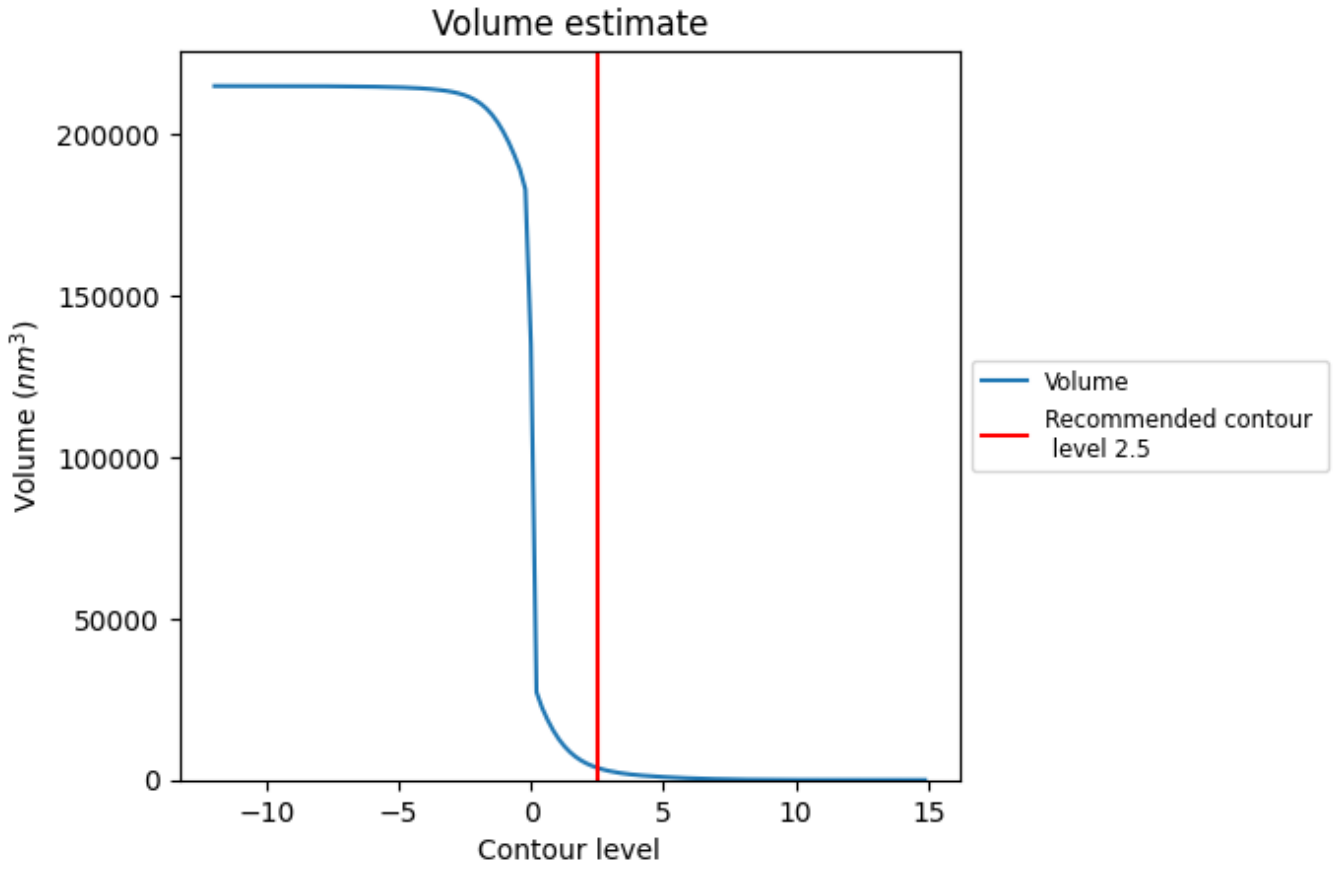
This section contains the results of statistical analysis of the map.

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.

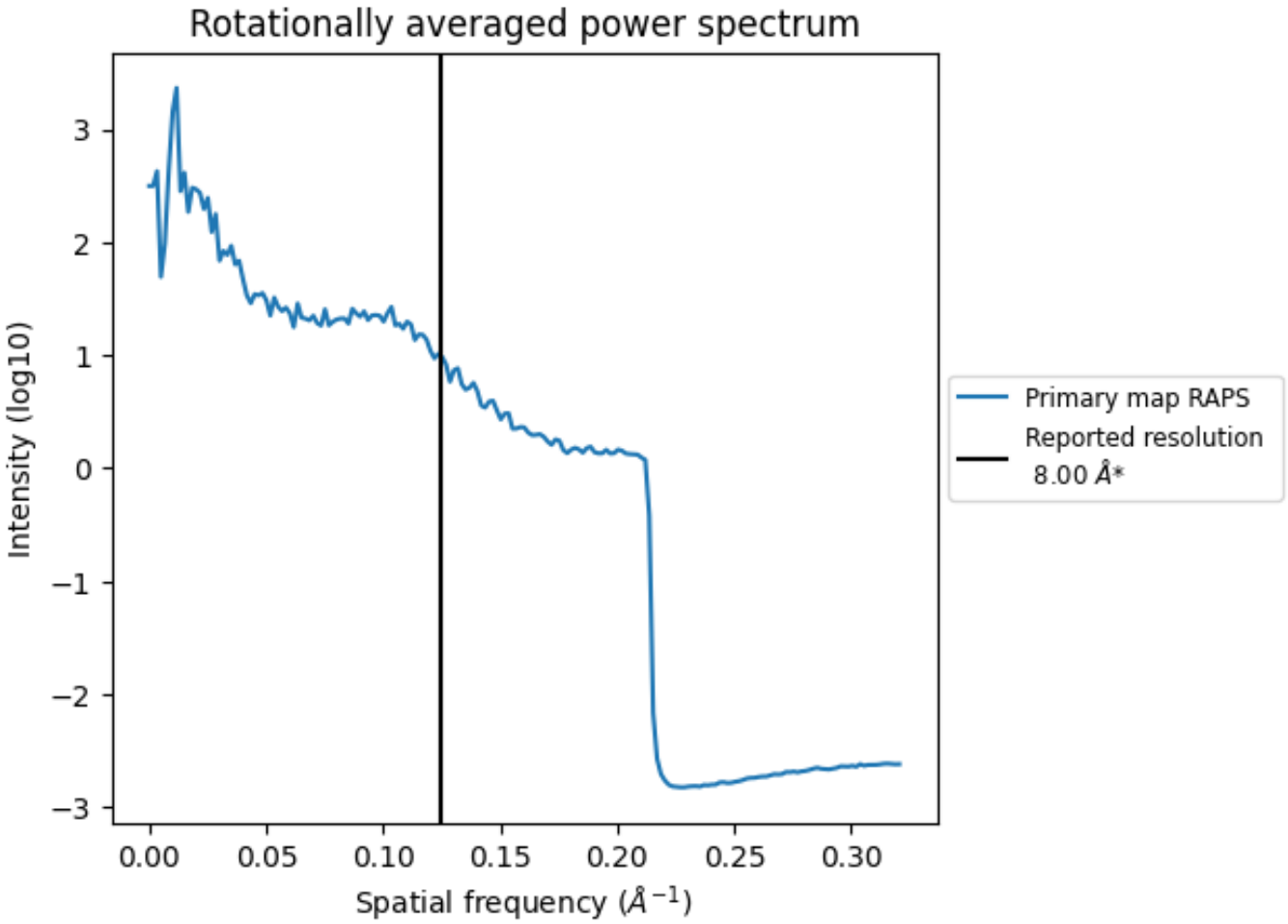
7.2 Volume estimate



The volume at the recommended contour level is 3779 nm^3; this corresponds to an approximate mass of 3414 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.125 Å^{-1}

8 Fourier-Shell correlation (i)

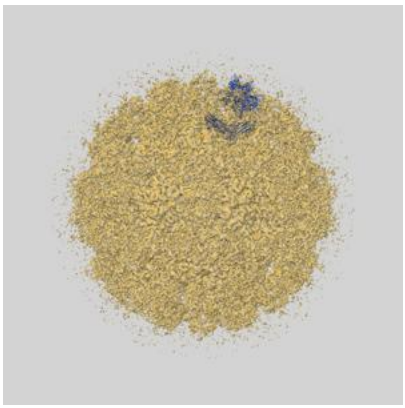
This section was not generated. No FSC curve or half-maps provided.

9 Map-model fit

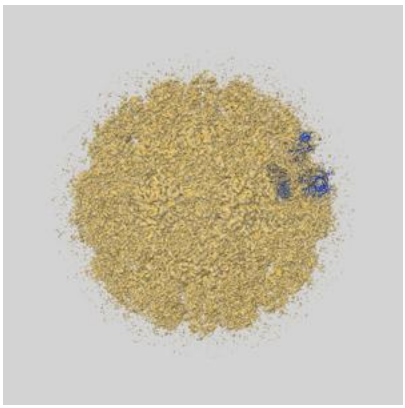
This section contains information regarding the fit between EMDB map EMD-7564 and PDB model 6CRJ. Per-residue inclusion information can be found in section 3 on page 4.

9.1 Map-model overlays

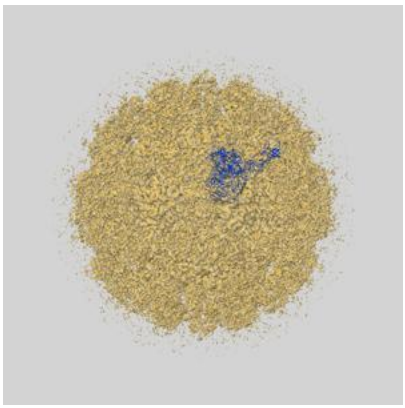
9.1.1 Map-model overlay



X

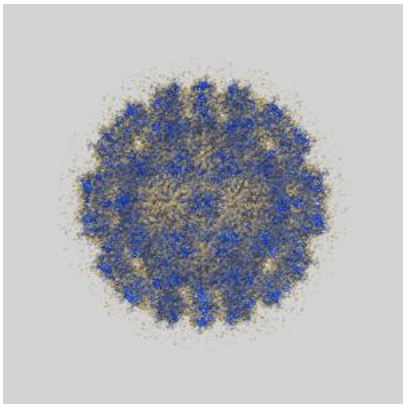


Y

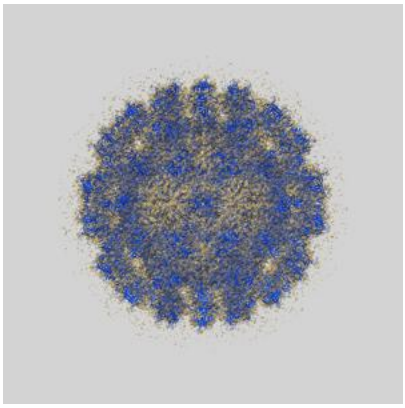


Z

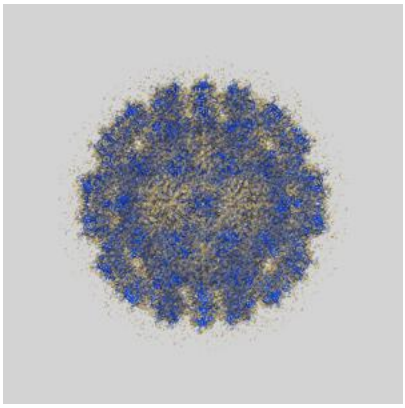
9.1.2 Map-model assembly overlay



X



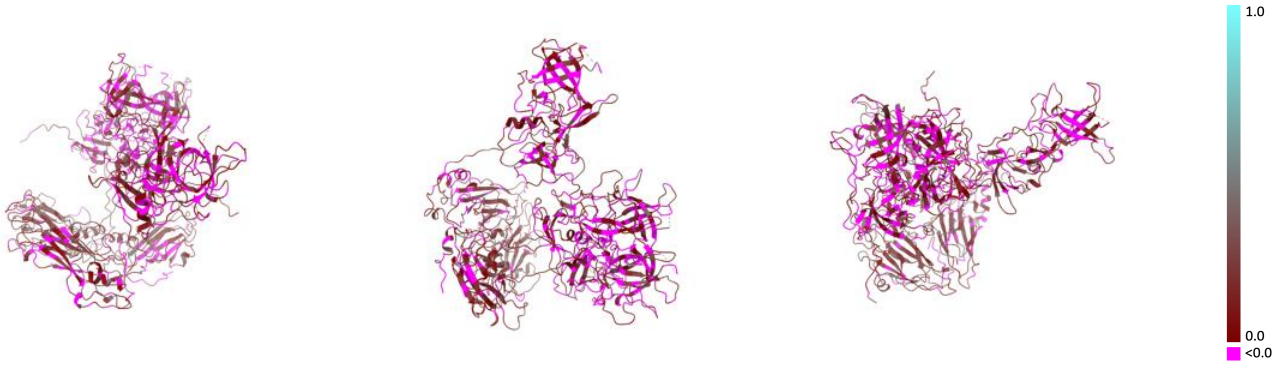
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 2.5 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.

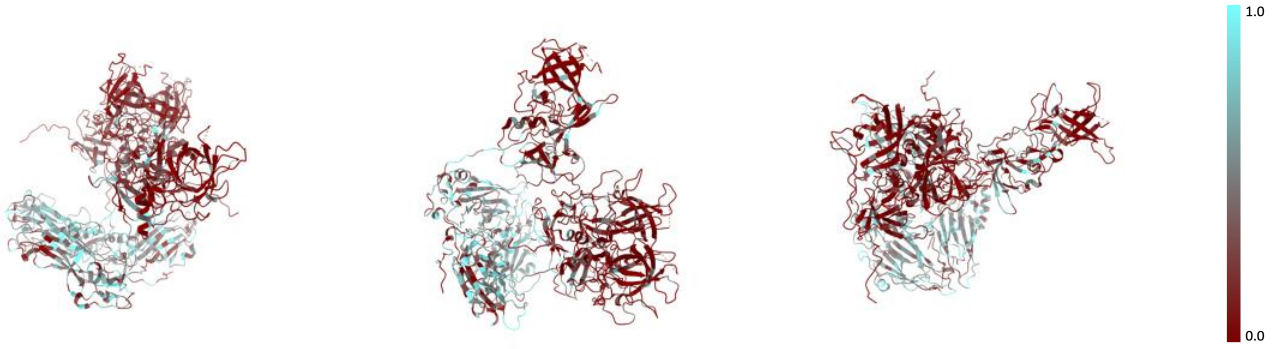
9.2 Q-score mapped to coordinate model (i)



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.

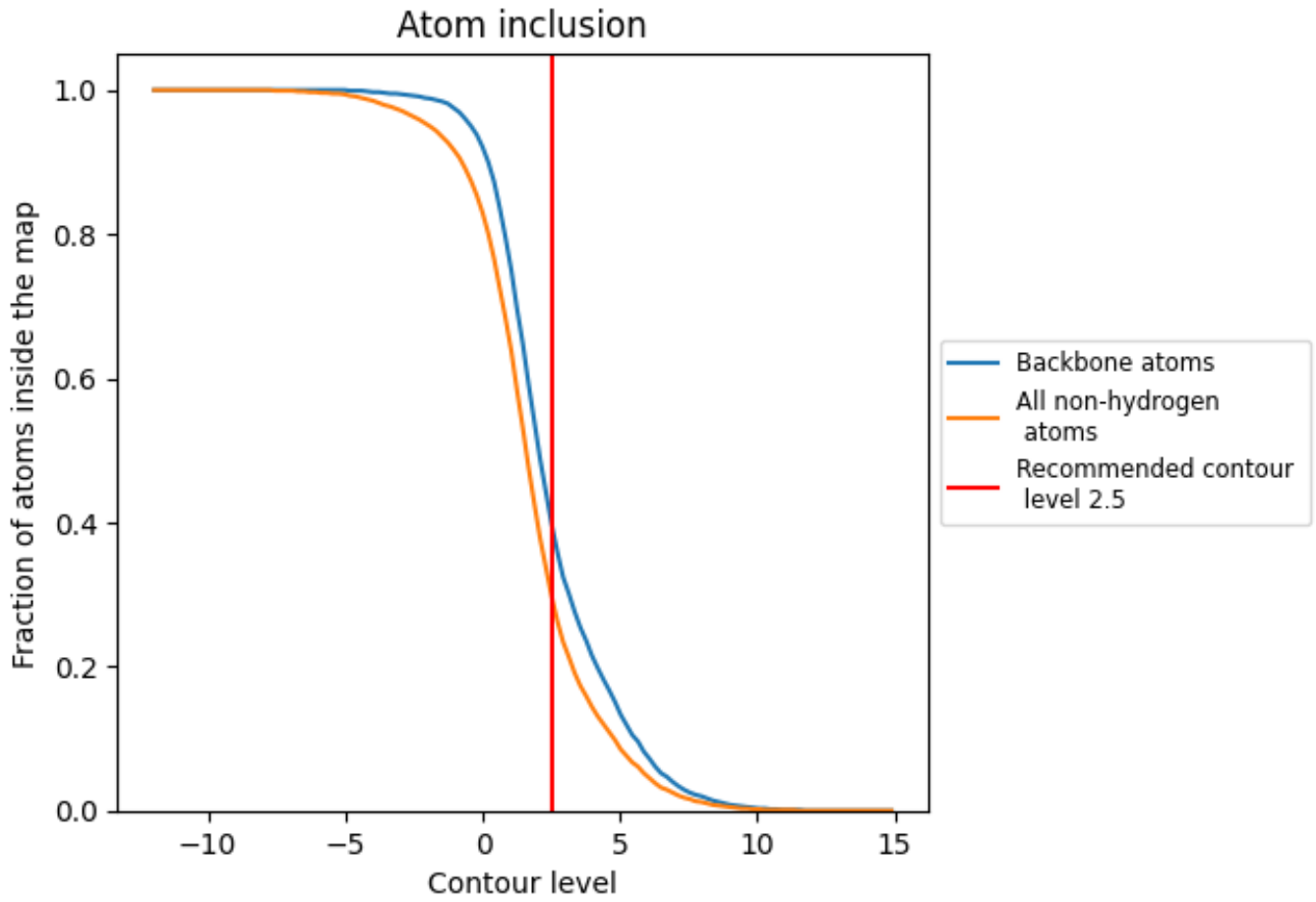
9.3 Atom inclusion mapped to coordinate model (i)



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 (2.5).

9.4 Atom inclusion (i)



At the recommended contour level, 40% of all backbone atoms, 30% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary (i)

The table lists the average atom inclusion at the recommended contour level (2.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.2980	0.0810
A	0.2850	0.0760
B	0.2860	0.0800
C	0.3250	0.0860