Full wwPDB EM Validation Report ⓘ

Dec 17, 2023 – 02:14 AM EST

PDB ID	:	2NSU
EMDB ID	:	EMD-1288
Title	:	Crystal structure of the ectodomain of human transferrin receptor fitted into a cryo-EM reconstruction of canine parvovirus and feline transferrin receptor complex
Authors	:	Hafenstein, S.; Kostyuchenko, V.A.; Rossmann, M.G.
Deposited on	:	2006-11-06
Resolution	:	27.00 Å(reported)
Based on initial model	:	1CX8

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:

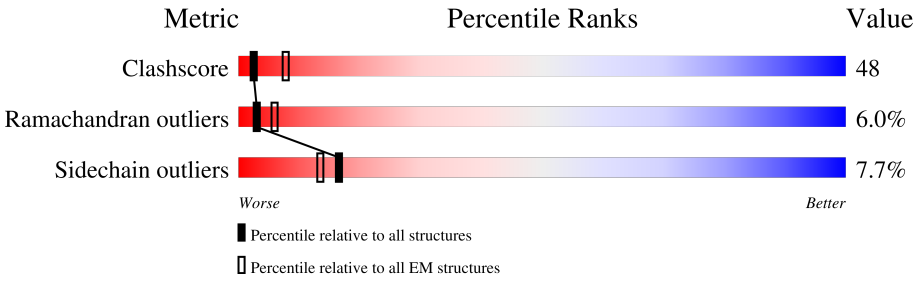
EMDB validation analysis	:	0.0.1.dev70
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

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 27.00 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	639	9% 40% 49% 9%
1	B	639	41% 49% 10%

2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 10112 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 Transferrin receptor protein 1.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	639	Total	C	N	O	S	0	0
			5056	3244	846	952	14		
1	B	639	Total	C	N	O	S	0	0
			5056	3244	846	952	14		

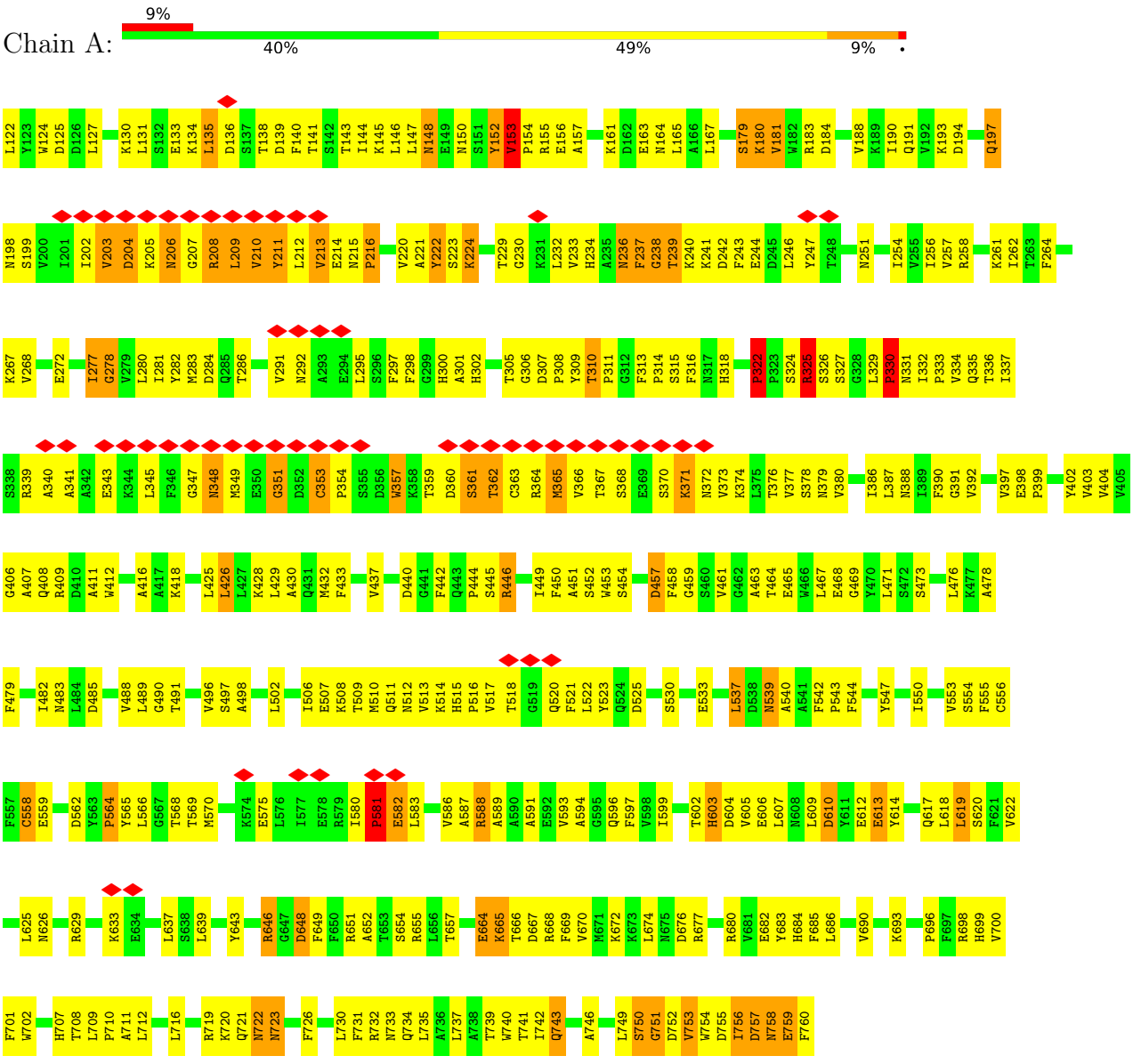
There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	142	SER	GLY	variant	UNP P02786
A	172	GLU	GLN	SEE REMARK 999	UNP P02786
A	613	GLU	ARG	SEE REMARK 999	UNP P02786
B	142	SER	GLY	variant	UNP P02786
B	172	GLU	GLN	SEE REMARK 999	UNP P02786
B	613	GLU	ARG	SEE REMARK 999	UNP P02786

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.

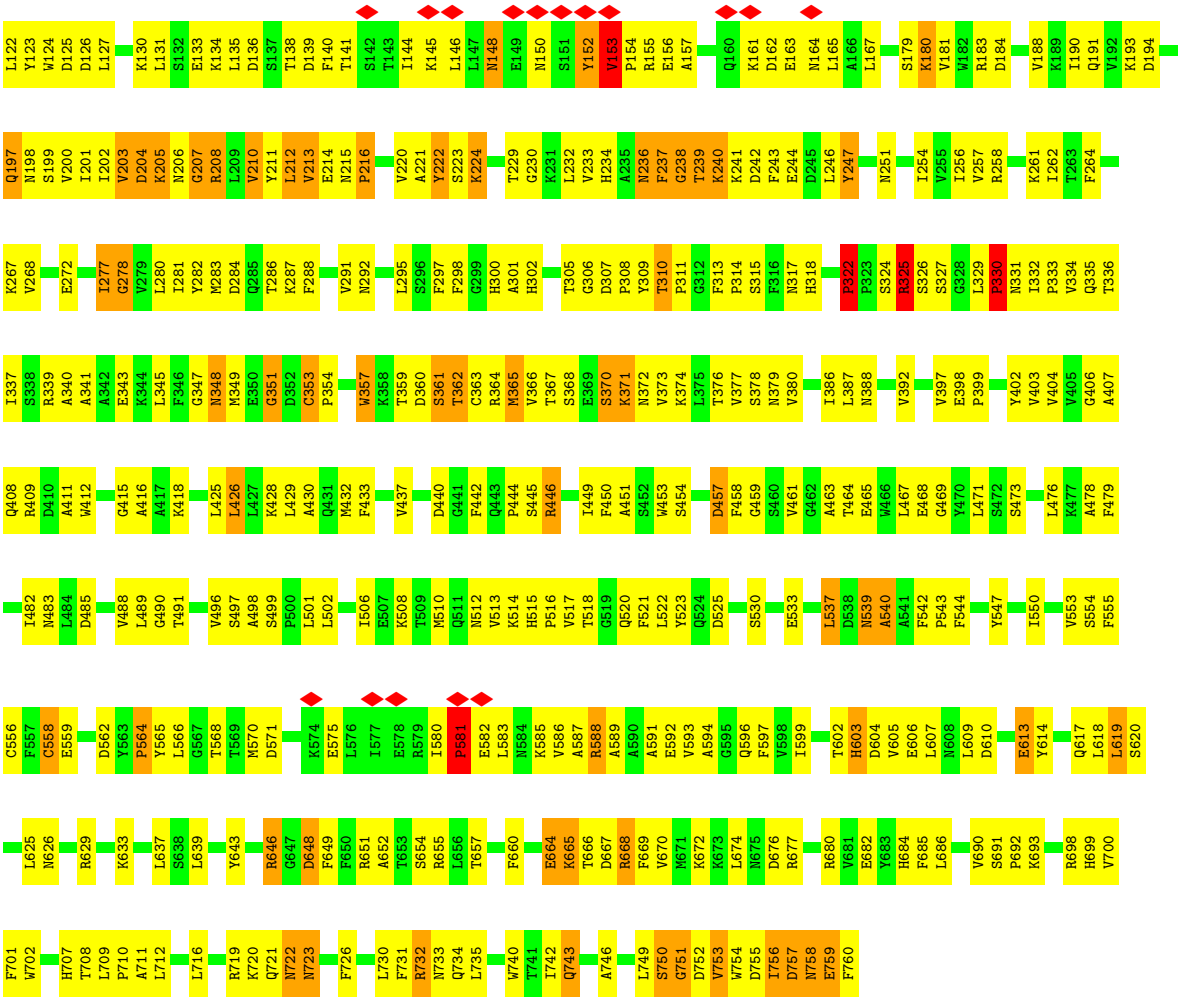
• Molecule 1: Transferrin receptor protein 1



• Molecule 1: Transferrin receptor protein 1

Chain B:


41%
49%
10%


L122 Y123 W124 D125 D126 L127 K130 L131 S132 E133 K134 L135 D136 S137 T138 D139 F140 T141 S142 T143 I144 K145 L146 L147 N148 E149 N150 S151 Y152 V153 P154 R155 E156 A157 Q160 K161 D162 E163 N164 L165 A166 L167 S179 K180 V181 W182 R183 D184 V188 K189 I190 Q191 V192 K193 D194
Q197 N198 S199 V200 I201 I202 V203 D204 K205 N206 G207 R208 L209 V210 Y211 L212 V213 E214 N215 P216 V220 A221 Y222 S223 K224 T229 G230 K231 L232 V233 H234 A235 N236 F237 G238 T239 K240 K241 D242 F243 E244 D245 L246 Y247 N251 I254 W255 I256 V257 R258 K261 I262 T263 F264
K267 V268 E272 I277 G278 V279 L280 I281 Y282 M283 D284 Q285 T286 K287 F288 V291 N292 L295 S296 F297 F298 G299 H300 A301 H302 T305 G306 D307 P308 Y309 T310 P311 G312 F313 P314 S315 F316 N317 H318 P322 P323 S324 R325 S326 S327 G328 L329 P330 N331 I332 P333 V334 Q335 T336
I337 S338 R339 A340 A341 A342 E343 K344 L345 F346 G347 N348 M349 E350 G351 D352 C353 P354 W357 K358 T359 D360 S361 T362 C363 R364 M365 V366 T367 S368 E369 S370 K371 N372 V373 K374 L375 T376 V377 S378 N379 V380 I386 L387 N388 V392 V397 E398 P399 Y402 V403 V404 Y405 G406 A407
Q408 R409 D410 A411 W412 G415 A416 A417 K418 L425 L426 L427 K428 L429 A430 Q431 M432 F433 V437 D440 G441 F442 Q443 P444 S445 R446 I449 F450 A451 S452 W453 S454 D457 F458 G459 S460 V461 G462 A463 T464 E465 W466 L467 E468 G469 Y470 L471 S472 S473 L476 K477 A478 F479
I482 N483 L484 D485 V488 L489 G490 T491 V496 S497 A498 S499 P500 L501 L502 I506 E507 K508 T509 M510 Q511 N512 V513 K514 H515 P516 V517 T518 G519 Q520 F521 L522 Y523 Q524 D525 S530 E533 L537 D538 N539 A540 A541 F542 P543 F544 Y547 I550 V553 S554 F555
C556 F557 C558 E559 D562 Y563 P564 Y565 L566 G567 T568 T569 M570 D571 K574 E575 L576 I577 E578 R579 I580 P581 E582 L583 N584 K585 V586 A587 R588 A589 A590 A591 E592 V593 A594 G595 Q596 F597 V598 I599 T602 H603 D604 V605 E606 L607 N608 L609 D610 E613 Y614 Q617 L618 L619 S620
L625 N626 R629 K633 L637 S638 I639 Y643 R646 G647 D648 F649 F650 R651 A652 T653 S654 R655 L656 T657 F660 E664 K665 T666 D667 R668 F669 V670 M671 K672 K673 L674 N675 D676 R677 R680 V681 E682 Y683 H684 F685 L686 V690 S691 P692 K693 R698 H699 V700
F701 W702 H707 T708 L709 P710 A711 L712 L716 R719 K720 Q721 N722 N723 F726 L730 F731 R732 N733 Q734 L735 W740 T741 I742 Q743 A746 L749 S750 G751 D752 V753 W754 D755 I756 D757 N758 E759 F760

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C2	Depositor
Number of particles used	8566	Depositor
Resolution determination method	Not provided	
CTF correction method	CTF correction of each particle	Depositor
Microscope	FEI/PHILIPS CM200FEG	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/Å^2$)	25.96	Depositor
Minimum defocus (nm)	1700	Depositor
Maximum defocus (nm)	3900	Depositor
Magnification	54000	Depositor
Image detector	KODAK SO-163 FILM	Depositor
Maximum map value	9.013	Depositor
Minimum map value	-3.048	Depositor
Average map value	0.000	Depositor
Map value standard deviation	1.000	Depositor
Recommended contour level	1.5	Depositor
Map size (Å)	665.6, 665.6, 665.6	wwPDB
Map dimensions	256, 256, 256	wwPDB
Map angles (°)	90, 90, 90	wwPDB
Pixel spacing (Å)	2.6, 2.6, 2.6	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	0.38	0/5177	0.61	1/7021 (0.0%)
1	B	0.38	0/5177	0.61	1/7021 (0.0%)
All	All	0.38	0/10354	0.61	2/14042 (0.0%)

There are no bond length outliers.

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	B	751	GLY	N-CA-C	-5.19	100.12	113.10
1	A	751	GLY	N-CA-C	-5.14	100.25	113.10

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	A	5056	0	4982	506	0
1	B	5056	0	4982	481	0
All	All	10112	0	9964	970	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 48.

All (970) 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:A:153:VAL:HG13	1:A:154:PRO:HD3	1.20	1.17
1:B:153:VAL:HG13	1:B:154:PRO:HD3	1.21	1.09
1:B:210:VAL:HG13	1:B:211:TYR:H	1.22	1.05
1:B:359:THR:HG22	1:B:360:ASP:H	1.22	1.04
1:A:359:THR:HG22	1:A:360:ASP:H	1.25	0.99
1:B:348:ASN:HB3	1:B:371:LYS:HE3	1.47	0.96
1:A:203:VAL:HB	1:A:208:ARG:HA	1.49	0.94
1:B:306:GLY:HA2	1:B:461:VAL:HA	1.50	0.94
1:B:184:ASP:HB3	1:B:388:ASN:HB2	1.46	0.94
1:A:348:ASN:HB3	1:A:371:LYS:HE3	1.49	0.93
1:B:708:THR:HG22	1:B:711:ALA:H	1.31	0.93
1:A:209:LEU:HG	1:A:210:VAL:H	1.35	0.92
1:A:354:PRO:HD3	1:A:365:MET:SD	2.09	0.92
1:A:130:LYS:HE3	1:A:134:LYS:HD3	1.51	0.90
1:A:349:MET:HB2	1:A:364:ARG:HG3	1.54	0.90
1:A:140:PHE:HE1	1:A:588:ARG:HA	1.36	0.90
1:B:130:LYS:HE3	1:B:134:LYS:HD3	1.54	0.89
1:B:349:MET:HB2	1:B:364:ARG:HG3	1.54	0.89
1:A:161:LYS:HA	1:A:164:ASN:HD22	1.37	0.89
1:A:184:ASP:HB3	1:A:388:ASN:HB2	1.52	0.89
1:B:444:PRO:HB3	1:B:602:THR:HG21	1.56	0.88
1:A:153:VAL:HG13	1:A:154:PRO:CD	2.04	0.88
1:B:161:LYS:HA	1:B:164:ASN:HD22	1.39	0.88
1:B:300:HIS:HE1	1:B:302:HIS:HB3	1.39	0.88
1:A:239:THR:HB	1:A:244:GLU:HG2	1.55	0.88
1:B:354:PRO:HD3	1:B:365:MET:SD	2.14	0.87
1:B:153:VAL:CG1	1:B:154:PRO:HD3	2.05	0.87
1:A:353:CYS:HA	1:A:365:MET:SD	2.15	0.86
1:B:140:PHE:HE1	1:B:588:ARG:HA	1.38	0.86
1:B:667:ASP:HB3	1:B:670:VAL:HG22	1.57	0.86
1:A:708:THR:HG22	1:A:711:ALA:H	1.39	0.85
1:B:239:THR:HB	1:B:244:GLU:HG2	1.57	0.85
1:A:153:VAL:CG1	1:A:154:PRO:HD3	2.03	0.85
1:B:426:LEU:HD21	1:B:450:PHE:HB3	1.58	0.85
1:B:353:CYS:HA	1:B:365:MET:SD	2.16	0.84
1:B:708:THR:HG23	1:B:710:PRO:HD2	1.59	0.84
1:A:667:ASP:HB3	1:A:670:VAL:HG22	1.57	0.84
1:B:201:ILE:HD11	1:B:208:ARG:HB2	1.57	0.84
1:A:426:LEU:HD21	1:A:450:PHE:HB3	1.59	0.83
1:A:306:GLY:HA2	1:A:461:VAL:HA	1.59	0.83
1:A:442:PHE:CZ	1:A:444:PRO:HG3	2.13	0.83
1:A:708:THR:HG23	1:A:710:PRO:HD2	1.59	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:646:ARG:HG2	1:B:646:ARG:HH11	1.42	0.83
1:A:758:ASN:HB2	1:B:183:ARG:O	1.79	0.83
1:B:442:PHE:CZ	1:B:444:PRO:HG3	2.14	0.83
1:B:310:THR:OG1	1:B:468:GLU:OE1	1.96	0.82
1:A:465:GLU:OE2	1:A:468:GLU:CD	2.17	0.82
1:B:300:HIS:CE1	1:B:302:HIS:HB3	2.14	0.82
1:B:153:VAL:HG13	1:B:154:PRO:CD	2.06	0.82
1:A:300:HIS:CE1	1:A:302:HIS:HB3	2.14	0.81
1:B:280:LEU:HD12	1:B:337:ILE:HD13	1.61	0.81
1:A:300:HIS:HE1	1:A:302:HIS:HB3	1.42	0.81
1:B:465:GLU:OE2	1:B:468:GLU:CD	2.19	0.80
1:A:140:PHE:CE1	1:A:588:ARG:HA	2.17	0.80
1:A:310:THR:OG1	1:A:468:GLU:OE1	1.98	0.80
1:A:444:PRO:HB3	1:A:602:THR:HG21	1.64	0.80
1:B:150:ASN:HA	1:B:153:VAL:HG12	1.64	0.79
1:A:646:ARG:HH11	1:A:646:ARG:HG2	1.46	0.79
1:B:199:SER:HB2	1:B:212:LEU:HD11	1.63	0.79
1:B:310:THR:HG21	1:B:315:SER:HB3	1.63	0.79
1:A:465:GLU:OE2	1:A:468:GLU:OE2	2.01	0.79
1:B:210:VAL:HG13	1:B:211:TYR:N	1.97	0.79
1:B:685:PHE:O	1:B:700:VAL:HG22	1.84	0.78
1:B:465:GLU:OE2	1:B:468:GLU:OE1	2.01	0.78
1:A:208:ARG:HD2	1:A:208:ARG:O	1.83	0.78
1:B:309:TYR:HE2	1:B:325:ARG:HA	1.47	0.78
1:B:140:PHE:CE1	1:B:588:ARG:HA	2.18	0.78
1:A:310:THR:HG21	1:A:315:SER:HB3	1.66	0.77
1:B:496:VAL:HG11	1:B:506:ILE:HG21	1.65	0.77
1:A:496:VAL:HG11	1:A:506:ILE:HG21	1.65	0.77
1:A:188:VAL:CG2	1:A:386:ILE:HD11	2.14	0.76
1:A:280:LEU:HD12	1:A:337:ILE:HD13	1.65	0.76
1:B:238:GLY:HA3	1:B:267:LYS:HG2	1.67	0.76
1:B:191:GLN:HE22	1:B:223:SER:H	1.33	0.76
1:B:232:LEU:HD22	1:B:373:VAL:HG11	1.68	0.75
1:A:150:ASN:HA	1:A:153:VAL:HG12	1.68	0.75
1:A:310:THR:O	1:A:468:GLU:OE1	2.04	0.75
1:B:518:THR:HG22	1:B:520:GLN:H	1.50	0.75
1:A:309:TYR:HE2	1:A:325:ARG:HA	1.50	0.75
1:A:465:GLU:CD	1:A:468:GLU:OE2	2.25	0.75
1:A:220:VAL:HG21	1:A:334:VAL:HG12	1.69	0.75
1:A:278:GLY:H	1:A:332:ILE:HG23	1.53	0.74
1:B:278:GLY:H	1:B:332:ILE:HG23	1.53	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:318:HIS:O	1:B:322:PRO:HB3	1.88	0.73
1:A:183:ARG:O	1:B:758:ASN:HB2	1.87	0.73
1:A:188:VAL:HG21	1:A:386:ILE:HD11	1.70	0.73
1:A:191:GLN:HE22	1:A:223:SER:H	1.34	0.73
1:A:232:LEU:HD22	1:A:373:VAL:HG11	1.70	0.73
1:A:397:VAL:C	1:A:399:PRO:HD3	2.09	0.72
1:A:229:THR:HB	1:A:374:LYS:HG3	1.71	0.72
1:B:295:LEU:HD21	1:B:568:THR:HG21	1.70	0.72
1:B:398:GLU:HB2	1:B:446:ARG:HG2	1.72	0.72
1:A:310:THR:OG1	1:A:310:THR:O	2.00	0.72
1:B:183:ARG:NH1	1:B:387:LEU:HD21	2.04	0.72
1:B:310:THR:OG1	1:B:310:THR:O	2.03	0.72
1:A:740:TRP:CZ2	1:B:314:PRO:HB2	2.25	0.72
1:A:518:THR:HG22	1:A:520:GLN:H	1.54	0.72
1:B:407:ALA:HB3	1:B:426:LEU:HD12	1.70	0.72
1:B:305:THR:HG23	1:B:464:THR:HG21	1.71	0.72
1:A:685:PHE:O	1:A:700:VAL:HG22	1.90	0.71
1:A:407:ALA:HB3	1:A:426:LEU:HD12	1.72	0.71
1:B:465:GLU:CD	1:B:468:GLU:OE2	2.29	0.71
1:A:295:LEU:HD21	1:A:568:THR:HG21	1.70	0.71
1:B:359:THR:HG22	1:B:360:ASP:N	2.03	0.71
1:A:515:HIS:HD2	1:A:517:VAL:H	1.37	0.71
1:B:229:THR:HB	1:B:374:LYS:CG	2.21	0.71
1:B:188:VAL:CG2	1:B:386:ILE:HD11	2.21	0.70
1:A:212:LEU:HD21	1:A:215:ASN:HD21	1.55	0.70
1:B:229:THR:HB	1:B:374:LYS:HG3	1.70	0.70
1:B:341:ALA:O	1:B:345:LEU:HD23	1.91	0.70
1:A:318:HIS:O	1:A:322:PRO:HB3	1.90	0.70
1:A:130:LYS:HE2	1:A:440:ASP:OD1	1.92	0.70
1:A:229:THR:HB	1:A:374:LYS:CG	2.21	0.70
1:B:297:PHE:O	1:B:336:THR:HG21	1.90	0.70
1:B:238:GLY:HA3	1:B:267:LYS:CG	2.22	0.70
1:B:397:VAL:C	1:B:399:PRO:HD3	2.12	0.70
1:A:708:THR:CG2	1:A:710:PRO:HD2	2.21	0.70
1:B:625:LEU:HD21	1:B:639:LEU:HD11	1.73	0.70
1:B:732:ARG:HH11	1:B:732:ARG:HG3	1.55	0.70
1:A:239:THR:HB	1:A:244:GLU:CG	2.22	0.69
1:B:150:ASN:HA	1:B:153:VAL:CG1	2.22	0.69
1:A:626:ASN:HB3	1:A:629:ARG:HH21	1.58	0.69
1:B:204:ASP:C	1:B:206:ASN:H	1.95	0.69
1:A:183:ARG:NH1	1:A:387:LEU:HD21	2.08	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:732:ARG:HG3	1:A:732:ARG:HH11	1.58	0.69
1:A:349:MET:HG2	1:A:367:THR:HA	1.73	0.69
1:B:506:ILE:O	1:B:510:MET:HG3	1.93	0.69
1:A:214:GLU:O	1:A:216:PRO:HD3	1.94	0.68
1:B:330:PRO:O	1:B:331:ASN:HB3	1.94	0.68
1:B:515:HIS:HD2	1:B:517:VAL:H	1.38	0.68
1:B:213:VAL:HG11	1:B:345:LEU:HD21	1.74	0.68
1:B:307:ASP:HB3	1:B:465:GLU:OE1	1.94	0.68
1:A:398:GLU:HB2	1:A:446:ARG:HG2	1.75	0.68
1:B:220:VAL:HG21	1:B:334:VAL:HG12	1.75	0.68
1:B:239:THR:HB	1:B:244:GLU:CG	2.24	0.68
1:B:349:MET:HG2	1:B:367:THR:HA	1.76	0.68
1:B:351:GLY:O	1:B:364:ARG:HD3	1.93	0.68
1:B:208:ARG:HG2	1:B:208:ARG:O	1.93	0.68
1:A:297:PHE:O	1:A:336:THR:HG21	1.94	0.68
1:B:309:TYR:CE2	1:B:325:ARG:HA	2.28	0.68
1:B:254:ILE:HA	1:B:277:ILE:O	1.94	0.68
1:B:313:PHE:O	1:B:468:GLU:OE1	2.12	0.68
1:B:542:PHE:HB3	1:B:543:PRO:HD3	1.75	0.68
1:B:232:LEU:HB3	1:B:367:THR:HG23	1.76	0.67
1:B:310:THR:O	1:B:468:GLU:OE1	2.11	0.67
1:A:140:PHE:O	1:A:144:ILE:HG13	1.94	0.67
1:A:254:ILE:HA	1:A:277:ILE:O	1.95	0.67
1:B:167:LEU:HD22	1:B:183:ARG:HH22	1.58	0.67
1:B:337:ILE:HG23	1:B:341:ALA:HB3	1.77	0.67
1:A:490:GLY:HA3	1:A:559:GLU:HG2	1.76	0.67
1:A:359:THR:HG22	1:A:360:ASP:N	2.06	0.67
1:A:341:ALA:O	1:A:345:LEU:HD23	1.95	0.67
1:A:351:GLY:O	1:A:364:ARG:HD3	1.95	0.67
1:A:488:VAL:O	1:A:489:LEU:HD12	1.94	0.67
1:B:300:HIS:HE2	1:B:459:GLY:CA	2.07	0.67
1:A:330:PRO:O	1:A:331:ASN:HB3	1.93	0.66
1:B:188:VAL:HG21	1:B:386:ILE:HD11	1.76	0.66
1:B:465:GLU:OE2	1:B:468:GLU:OE2	2.11	0.66
1:A:309:TYR:CE2	1:A:325:ARG:HA	2.30	0.66
1:A:337:ILE:HG23	1:A:341:ALA:HB3	1.76	0.66
1:B:183:ARG:HH12	1:B:387:LEU:HD21	1.58	0.66
1:A:150:ASN:HA	1:A:153:VAL:CG1	2.26	0.66
1:A:311:PRO:O	1:A:693:LYS:HA	1.96	0.65
1:A:664:GLU:H	1:A:664:GLU:CD	2.00	0.65
1:A:209:LEU:CG	1:A:210:VAL:H	2.07	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:686:LEU:HD23	1:B:699:HIS:CA	2.26	0.65
1:A:246:LEU:HD12	1:A:247:TYR:N	2.12	0.65
1:B:140:PHE:O	1:B:144:ILE:HG13	1.96	0.65
1:A:155:ARG:HH21	1:A:165:LEU:HD22	1.60	0.65
1:A:686:LEU:HD23	1:A:699:HIS:CA	2.25	0.65
1:B:353:CYS:HB2	1:B:363:CYS:O	1.96	0.65
1:B:626:ASN:HB3	1:B:629:ARG:HH21	1.62	0.65
1:B:359:THR:CG2	1:B:360:ASP:H	2.02	0.65
1:B:349:MET:HB2	1:B:364:ARG:CG	2.27	0.65
1:A:238:GLY:HA3	1:A:267:LYS:HG2	1.80	0.64
1:A:353:CYS:HB2	1:A:363:CYS:O	1.97	0.64
1:B:664:GLU:CD	1:B:664:GLU:H	2.01	0.64
1:B:139:ASP:OD1	1:B:141:THR:HG22	1.97	0.64
1:B:229:THR:HB	1:B:374:LYS:CB	2.28	0.64
1:A:232:LEU:HD11	1:A:256:ILE:HG13	1.80	0.64
1:A:625:LEU:HD21	1:A:639:LEU:HD11	1.79	0.64
1:A:686:LEU:HD23	1:A:699:HIS:HA	1.79	0.64
1:A:758:ASN:N	1:A:758:ASN:HD22	1.96	0.64
1:B:238:GLY:O	1:B:240:LYS:N	2.31	0.64
1:B:191:GLN:NE2	1:B:223:SER:H	1.96	0.64
1:B:349:MET:HB3	1:B:366:VAL:O	1.98	0.64
1:A:542:PHE:HB3	1:A:543:PRO:HD3	1.80	0.64
1:A:654:SER:O	1:A:657:THR:HG22	1.98	0.64
1:B:716:LEU:HD13	1:B:731:PHE:CE1	2.33	0.64
1:A:238:GLY:O	1:A:240:LYS:N	2.29	0.63
1:A:488:VAL:C	1:A:489:LEU:HD12	2.18	0.63
1:B:220:VAL:CG1	1:B:301:ALA:HB2	2.28	0.63
1:A:183:ARG:HH12	1:A:387:LEU:HD21	1.61	0.63
1:B:625:LEU:CD2	1:B:639:LEU:HD11	2.28	0.63
1:B:155:ARG:HH21	1:B:165:LEU:HD22	1.64	0.63
1:A:232:LEU:HB3	1:A:367:THR:HG23	1.78	0.63
1:B:200:VAL:HG23	1:B:213:VAL:HB	1.79	0.63
1:B:646:ARG:HG2	1:B:646:ARG:NH1	2.11	0.63
1:B:156:GLU:HG2	1:B:157:ALA:H	1.64	0.63
1:A:130:LYS:HE2	1:A:440:ASP:CG	2.19	0.63
1:A:240:LYS:C	1:A:242:ASP:H	2.00	0.63
1:B:130:LYS:HE2	1:B:440:ASP:OD1	1.97	0.63
1:A:232:LEU:HD21	1:A:256:ILE:HD11	1.79	0.63
1:A:349:MET:HB2	1:A:364:ARG:CG	2.27	0.63
1:A:349:MET:HB3	1:A:366:VAL:O	1.99	0.63
1:B:446:ARG:HD2	1:B:479:PHE:CE2	2.34	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:167:LEU:HD22	1:A:183:ARG:HH22	1.63	0.63
1:A:465:GLU:OE2	1:A:468:GLU:OE1	2.16	0.63
1:B:324:SER:HB3	1:B:325:ARG:HE	1.64	0.63
1:B:488:VAL:O	1:B:489:LEU:HD12	1.99	0.63
1:B:690:VAL:HG23	1:B:698:ARG:HG2	1.81	0.63
1:A:555:PHE:CE2	1:A:593:VAL:HG23	2.34	0.62
1:A:664:GLU:OE1	1:A:667:ASP:HB2	1.98	0.62
1:B:152:TYR:HA	1:B:161:LYS:HE2	1.82	0.62
1:A:539:ASN:HD22	1:A:540:ALA:N	1.97	0.62
1:A:515:HIS:CD2	1:A:517:VAL:H	2.16	0.62
1:B:348:ASN:N	1:B:348:ASN:HD22	1.97	0.62
1:A:204:ASP:C	1:A:206:ASN:H	2.02	0.62
1:A:229:THR:HB	1:A:374:LYS:CB	2.30	0.62
1:B:191:GLN:HE22	1:B:223:SER:N	1.98	0.62
1:B:201:ILE:HD13	1:B:212:LEU:HA	1.80	0.62
1:A:278:GLY:H	1:A:332:ILE:CG2	2.12	0.62
1:A:506:ILE:O	1:A:510:MET:HG3	2.00	0.62
1:A:210:VAL:HG22	1:A:211:TYR:H	1.63	0.62
1:A:313:PHE:O	1:A:468:GLU:OE1	2.18	0.62
1:B:167:LEU:CD2	1:B:183:ARG:HH22	2.11	0.62
1:A:191:GLN:HE22	1:A:223:SER:N	1.98	0.62
1:B:708:THR:CG2	1:B:710:PRO:HD2	2.27	0.62
1:A:191:GLN:NE2	1:A:223:SER:H	1.97	0.62
1:A:446:ARG:HD2	1:A:479:PHE:CE2	2.34	0.62
1:B:664:GLU:OE1	1:B:667:ASP:HB2	1.99	0.62
1:A:156:GLU:HG2	1:A:157:ALA:H	1.64	0.61
1:B:278:GLY:HA2	1:B:333:PRO:O	2.00	0.61
1:A:238:GLY:HA3	1:A:267:LYS:CG	2.29	0.61
1:A:349:MET:HA	1:A:367:THR:HA	1.83	0.61
1:B:240:LYS:C	1:B:242:ASP:H	2.04	0.61
1:B:194:ASP:HB3	1:B:378:SER:O	2.00	0.61
1:B:238:GLY:C	1:B:240:LYS:H	2.02	0.61
1:B:246:LEU:HD12	1:B:247:TYR:N	2.16	0.61
1:B:490:GLY:HA3	1:B:559:GLU:HG2	1.82	0.61
1:A:446:ARG:H	1:A:602:THR:CG2	2.13	0.61
1:B:236:ASN:OD1	1:B:258:ARG:HD3	2.00	0.61
1:A:238:GLY:H	1:A:257:VAL:HB	1.65	0.61
1:B:686:LEU:HD23	1:B:699:HIS:HA	1.82	0.61
1:A:236:ASN:OD1	1:A:258:ARG:HD3	2.00	0.61
1:A:307:ASP:HB3	1:A:465:GLU:OE1	2.01	0.61
1:A:605:VAL:HG11	1:A:665:LYS:HB3	1.83	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:280:LEU:HD12	1:B:337:ILE:CD1	2.30	0.61
1:B:758:ASN:N	1:B:758:ASN:HD22	1.96	0.61
1:A:220:VAL:CG1	1:A:301:ALA:HB2	2.31	0.60
1:B:349:MET:HA	1:B:367:THR:HA	1.84	0.60
1:B:295:LEU:HD11	1:B:568:THR:OG1	2.01	0.60
1:B:368:SER:OG	1:B:371:LYS:HE2	2.01	0.60
1:A:139:ASP:OD1	1:A:141:THR:HG22	2.01	0.60
1:A:167:LEU:CD2	1:A:183:ARG:HH22	2.15	0.60
1:A:655:ARG:NH1	1:A:751:GLY:HA2	2.16	0.60
1:B:515:HIS:CD2	1:B:517:VAL:H	2.18	0.60
1:B:131:LEU:O	1:B:135:LEU:HD23	2.00	0.60
1:B:188:VAL:HG21	1:B:461:VAL:HG11	1.82	0.60
1:A:336:THR:O	1:A:337:ILE:HD12	2.01	0.60
1:B:654:SER:O	1:B:657:THR:HG22	2.01	0.60
1:A:152:TYR:HA	1:A:161:LYS:HE2	1.84	0.60
1:A:210:VAL:HG13	1:A:211:TYR:O	2.01	0.60
1:A:690:VAL:HG23	1:A:698:ARG:HG2	1.82	0.60
1:B:256:ILE:HD11	1:B:349:MET:HE1	1.82	0.60
1:A:220:VAL:HG12	1:A:301:ALA:HB2	1.82	0.59
1:B:488:VAL:C	1:B:489:LEU:HD12	2.23	0.59
1:B:130:LYS:O	1:B:134:LYS:HG2	2.02	0.59
1:B:310:THR:OG1	1:B:465:GLU:OE2	2.20	0.59
1:A:131:LEU:O	1:A:135:LEU:HD23	2.02	0.59
1:A:348:ASN:HD22	1:A:348:ASN:N	2.00	0.59
1:A:368:SER:OG	1:A:371:LYS:HE2	2.01	0.59
1:A:209:LEU:HG	1:A:210:VAL:N	2.11	0.59
1:A:314:PRO:HB2	1:B:740:TRP:CZ2	2.37	0.59
1:A:324:SER:HB3	1:A:325:ARG:HE	1.68	0.59
1:A:298:PHE:HB2	1:A:412:TRP:CD2	2.38	0.59
1:B:167:LEU:HD22	1:B:183:ARG:NH2	2.17	0.59
1:B:324:SER:CB	1:B:325:ARG:HE	2.15	0.59
1:A:237:PHE:CD2	1:A:258:ARG:HB2	2.38	0.59
1:A:345:LEU:O	1:A:349:MET:HG3	2.03	0.59
1:B:214:GLU:O	1:B:216:PRO:HD3	2.03	0.59
1:A:238:GLY:C	1:A:240:LYS:H	2.04	0.59
1:A:307:ASP:H	1:A:461:VAL:HG13	1.68	0.59
1:B:130:LYS:HE2	1:B:440:ASP:CG	2.23	0.59
1:A:719:ARG:HG3	1:A:719:ARG:HH11	1.68	0.59
1:B:588:ARG:HG3	1:B:588:ARG:HH11	1.67	0.59
1:A:515:HIS:CD2	1:A:516:PRO:HD2	2.38	0.58
1:B:664:GLU:C	1:B:666:THR:H	2.07	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:403:VAL:HG22	1:B:479:PHE:CZ	2.37	0.58
1:B:220:VAL:HG12	1:B:301:ALA:HB2	1.85	0.58
1:B:237:PHE:HB2	1:B:243:PHE:HE1	1.67	0.58
1:B:268:VAL:HG21	1:B:334:VAL:HG21	1.86	0.58
1:A:300:HIS:O	1:A:301:ALA:HB3	2.02	0.58
1:B:655:ARG:NH1	1:B:751:GLY:HA2	2.18	0.58
1:A:280:LEU:HD12	1:A:337:ILE:CD1	2.33	0.58
1:B:756:ILE:HG22	1:B:756:ILE:O	2.04	0.58
1:A:625:LEU:CD2	1:A:639:LEU:HD11	2.33	0.58
1:A:202:ILE:HB	1:A:210:VAL:HG11	1.86	0.58
1:B:238:GLY:O	1:B:262:ILE:HD11	2.04	0.58
1:B:278:GLY:H	1:B:332:ILE:CG2	2.16	0.58
1:A:264:PHE:CE2	1:A:281:ILE:HG21	2.39	0.57
1:A:446:ARG:H	1:A:602:THR:HG23	1.68	0.57
1:A:238:GLY:O	1:A:262:ILE:HD11	2.04	0.57
1:A:699:HIS:HD2	1:A:702:TRP:H	1.51	0.57
1:B:442:PHE:CE2	1:B:444:PRO:HG3	2.38	0.57
1:B:555:PHE:CE2	1:B:593:VAL:HG23	2.39	0.57
1:A:664:GLU:C	1:A:666:THR:H	2.08	0.57
1:A:749:LEU:O	1:A:750:SER:CB	2.53	0.57
1:B:719:ARG:HD3	1:B:726:PHE:CD2	2.40	0.57
1:A:433:PHE:O	1:A:437:VAL:HG23	2.04	0.57
1:A:672:LYS:HD3	1:A:676:ASP:OD2	2.05	0.57
1:A:670:VAL:O	1:A:674:LEU:HG	2.05	0.57
1:A:758:ASN:HD22	1:A:758:ASN:H	1.50	0.57
1:B:239:THR:C	1:B:241:LYS:H	2.08	0.57
1:A:453:TRP:CD2	1:A:463:ALA:HB2	2.40	0.57
1:B:272:GLU:OE2	1:B:330:PRO:O	2.23	0.57
1:B:426:LEU:CD2	1:B:450:PHE:HB3	2.31	0.57
1:A:496:VAL:HG11	1:A:506:ILE:CG2	2.35	0.57
1:A:403:VAL:HG22	1:A:479:PHE:CZ	2.40	0.57
1:A:298:PHE:HE2	1:A:457:ASP:HB3	1.70	0.57
1:B:336:THR:O	1:B:337:ILE:HD12	2.05	0.56
1:B:496:VAL:HG11	1:B:506:ILE:CG2	2.34	0.56
1:A:194:ASP:HB3	1:A:378:SER:O	2.05	0.56
1:B:758:ASN:HD22	1:B:758:ASN:H	1.52	0.56
1:A:167:LEU:HD22	1:A:183:ARG:NH2	2.20	0.56
1:A:256:ILE:HD11	1:A:349:MET:HE1	1.87	0.56
1:A:272:GLU:OE2	1:A:330:PRO:O	2.23	0.56
1:B:237:PHE:CD2	1:B:258:ARG:HB2	2.40	0.56
1:B:680:ARG:HB3	1:B:684:HIS:HD2	1.71	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:237:PHE:HB2	1:A:243:PHE:HE1	1.69	0.56
1:A:339:ARG:O	1:A:343:GLU:HG2	2.05	0.56
1:A:398:GLU:N	1:A:399:PRO:HD3	2.21	0.56
1:B:345:LEU:O	1:B:349:MET:HG3	2.04	0.56
1:A:238:GLY:N	1:A:257:VAL:HB	2.20	0.56
1:A:453:TRP:CG	1:A:463:ALA:HB2	2.41	0.56
1:A:719:ARG:HD3	1:A:726:PHE:CD2	2.41	0.56
1:B:286:THR:CG2	1:B:360:ASP:HB2	2.35	0.56
1:B:300:HIS:O	1:B:301:ALA:HB3	2.06	0.56
1:B:719:ARG:HG3	1:B:719:ARG:HH11	1.70	0.56
1:A:300:HIS:HE2	1:A:459:GLY:CA	2.18	0.56
1:A:442:PHE:CE2	1:A:444:PRO:HG3	2.40	0.56
1:B:232:LEU:HB3	1:B:367:THR:CG2	2.35	0.56
1:B:618:LEU:HD11	1:B:742:ILE:HD13	1.87	0.56
1:B:756:ILE:H	1:B:756:ILE:HD12	1.71	0.56
1:A:539:ASN:O	1:A:542:PHE:N	2.38	0.56
1:A:680:ARG:HB3	1:A:684:HIS:HD2	1.71	0.56
1:A:286:THR:CG2	1:A:360:ASP:HB2	2.36	0.55
1:B:539:ASN:HD22	1:B:540:ALA:N	2.04	0.55
1:B:676:ASP:O	1:B:680:ARG:HG3	2.06	0.55
1:B:759:GLU:HG3	1:B:760:PHE:N	2.21	0.55
1:A:654:SER:HA	1:A:657:THR:HG22	1.89	0.55
1:A:756:ILE:HG22	1:A:756:ILE:O	2.05	0.55
1:B:565:TYR:CE1	1:B:575:GLU:HB3	2.41	0.55
1:A:426:LEU:CD2	1:A:450:PHE:HB3	2.34	0.55
1:A:565:TYR:CE1	1:A:575:GLU:HB3	2.42	0.55
1:A:607:LEU:CD1	1:A:609:LEU:HG	2.37	0.55
1:B:446:ARG:H	1:B:602:THR:HG23	1.70	0.55
1:B:752:ASP:O	1:B:753:VAL:HB	2.06	0.55
1:B:709:LEU:HB3	1:B:710:PRO:HD3	1.88	0.55
1:A:156:GLU:HG2	1:A:157:ALA:N	2.22	0.55
1:B:398:GLU:N	1:B:399:PRO:HD3	2.22	0.55
1:A:237:PHE:CD1	1:A:261:LYS:HG3	2.42	0.55
1:A:619:LEU:HD23	1:A:620:SER:N	2.22	0.55
1:B:699:HIS:HD2	1:B:702:TRP:H	1.55	0.55
1:A:306:GLY:HA2	1:A:461:VAL:CA	2.34	0.55
1:A:471:LEU:HD13	1:A:547:TYR:OH	2.07	0.55
1:A:324:SER:CB	1:A:325:ARG:HE	2.19	0.54
1:B:618:LEU:HD13	1:B:701:PHE:HZ	1.72	0.54
1:A:232:LEU:HB3	1:A:367:THR:CG2	2.36	0.54
1:A:425:LEU:HD22	1:A:591:ALA:HB2	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:197:GLN:HE21	1:B:215:ASN:HB3	1.71	0.54
1:B:446:ARG:H	1:B:602:THR:CG2	2.20	0.54
1:B:222:TYR:HB3	1:B:329:LEU:HD23	1.89	0.54
1:A:335:GLN:NE2	1:A:336:THR:HG22	2.23	0.54
1:A:155:ARG:HA	1:A:161:LYS:HB2	1.90	0.54
1:A:268:VAL:HG21	1:A:334:VAL:HG21	1.87	0.54
1:A:347:GLY:C	1:A:348:ASN:HD22	2.11	0.54
1:B:190:ILE:HG13	1:B:458:PHE:CD2	2.43	0.54
1:B:238:GLY:H	1:B:257:VAL:HB	1.72	0.54
1:B:502:LEU:O	1:B:506:ILE:HG13	2.08	0.54
1:B:135:LEU:HD22	1:B:432:MET:SD	2.47	0.54
1:A:278:GLY:HA2	1:A:333:PRO:O	2.07	0.54
1:A:488:VAL:HG13	1:A:586:VAL:HG11	1.90	0.54
1:A:758:ASN:CB	1:B:183:ARG:O	2.55	0.54
1:B:232:LEU:HD11	1:B:256:ILE:HG13	1.90	0.54
1:A:654:SER:C	1:A:657:THR:HG22	2.28	0.54
1:B:237:PHE:CD1	1:B:261:LYS:HG3	2.43	0.54
1:B:471:LEU:HD13	1:B:547:TYR:OH	2.08	0.54
1:B:515:HIS:CD2	1:B:516:PRO:HD2	2.43	0.54
1:B:672:LYS:HD3	1:B:676:ASP:OD2	2.08	0.54
1:A:212:LEU:HD21	1:A:215:ASN:ND2	2.23	0.53
1:A:540:ALA:O	1:A:543:PRO:HD2	2.08	0.53
1:A:588:ARG:HG3	1:A:588:ARG:HH11	1.73	0.53
1:B:311:PRO:O	1:B:693:LYS:HA	2.08	0.53
1:B:749:LEU:O	1:B:750:SER:CB	2.55	0.53
1:A:131:LEU:HD22	1:A:599:ILE:HD11	1.89	0.53
1:A:513:VAL:HG21	1:A:593:VAL:HG12	1.89	0.53
1:B:756:ILE:HD12	1:B:756:ILE:N	2.23	0.53
1:A:667:ASP:OD1	1:A:669:PHE:HB3	2.09	0.53
1:B:156:GLU:HG2	1:B:157:ALA:N	2.22	0.53
1:B:201:ILE:HB	1:B:212:LEU:HD12	1.90	0.53
1:B:654:SER:HA	1:B:657:THR:HG22	1.89	0.53
1:A:496:VAL:CG1	1:A:506:ILE:HD13	2.39	0.53
1:A:646:ARG:HG2	1:A:646:ARG:NH1	2.17	0.53
1:A:743:GLN:O	1:A:746:ALA:HB3	2.08	0.53
1:A:709:LEU:HB3	1:A:710:PRO:HD3	1.91	0.53
1:A:239:THR:C	1:A:241:LYS:H	2.11	0.53
1:A:232:LEU:CD2	1:A:256:ILE:HD11	2.38	0.53
1:B:240:LYS:HA	1:B:262:ILE:HD13	1.90	0.53
1:A:236:ASN:HB2	1:A:357:TRP:CD1	2.44	0.53
1:B:236:ASN:HB2	1:B:357:TRP:CD1	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:719:ARG:HH11	1:B:719:ARG:CG	2.22	0.53
1:A:197:GLN:HE21	1:A:215:ASN:HB3	1.74	0.52
1:A:295:LEU:HD11	1:A:568:THR:OG1	2.08	0.52
1:A:719:ARG:HH11	1:A:719:ARG:CG	2.22	0.52
1:A:145:LYS:O	1:A:148:ASN:HB2	2.09	0.52
1:A:256:ILE:CD1	1:A:349:MET:HE1	2.38	0.52
1:A:361:SER:O	1:A:362:THR:CB	2.58	0.52
1:A:135:LEU:HD22	1:A:432:MET:SD	2.49	0.52
1:B:199:SER:CB	1:B:212:LEU:HD11	2.38	0.52
1:B:212:LEU:O	1:B:213:VAL:C	2.47	0.52
1:B:540:ALA:O	1:B:543:PRO:HD2	2.10	0.52
1:B:619:LEU:HD23	1:B:620:SER:N	2.23	0.52
1:A:515:HIS:CD2	1:A:516:PRO:CD	2.92	0.52
1:B:206:ASN:O	1:B:207:GLY:O	2.26	0.52
1:B:347:GLY:C	1:B:348:ASN:HD22	2.11	0.52
1:B:580:ILE:HG23	1:B:580:ILE:O	2.08	0.52
1:B:698:ARG:HA	1:B:707:HIS:NE2	2.24	0.52
1:A:473:SER:O	1:A:476:LEU:HB2	2.09	0.52
1:B:201:ILE:HD12	1:B:202:ILE:N	2.25	0.52
1:B:298:PHE:HE2	1:B:457:ASP:HB3	1.74	0.52
1:B:523:TYR:HE1	1:B:530:SER:OG	1.91	0.52
1:A:648:ASP:OD2	1:A:757:ASP:OD2	2.28	0.52
1:A:752:ASP:O	1:A:753:VAL:HB	2.09	0.52
1:B:201:ILE:HD13	1:B:212:LEU:CA	2.40	0.52
1:A:212:LEU:CD2	1:A:215:ASN:HD21	2.21	0.52
1:A:618:LEU:HD11	1:A:742:ILE:HD13	1.92	0.52
1:A:668:ARG:HD2	1:B:669:PHE:CD2	2.45	0.52
1:B:339:ARG:O	1:B:343:GLU:HG2	2.09	0.52
1:B:433:PHE:O	1:B:437:VAL:HG23	2.09	0.52
1:B:498:ALA:HB2	1:B:553:VAL:HA	1.91	0.52
1:A:124:TRP:HH2	1:A:596:GLN:HG2	1.75	0.52
1:A:163:GLU:O	1:A:167:LEU:HG	2.10	0.52
1:A:188:VAL:HG21	1:A:461:VAL:HG11	1.92	0.52
1:B:409:ARG:NH2	1:B:454:SER:HB2	2.24	0.52
1:B:553:VAL:HG22	1:B:554:SER:N	2.25	0.52
1:B:564:PRO:HG2	1:B:565:TYR:H	1.74	0.52
1:A:453:TRP:CE3	1:A:463:ALA:HA	2.44	0.52
1:B:146:LEU:HD23	1:B:146:LEU:O	2.10	0.52
1:B:335:GLN:NE2	1:B:336:THR:HG22	2.25	0.52
1:A:188:VAL:HG22	1:A:386:ILE:HD11	1.90	0.51
1:B:513:VAL:HG21	1:B:593:VAL:HG12	1.90	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:676:ASP:O	1:A:680:ARG:HG3	2.10	0.51
1:B:198:ASN:OD1	1:B:378:SER:N	2.43	0.51
1:B:232:LEU:HD21	1:B:256:ILE:HD11	1.91	0.51
1:A:502:LEU:O	1:A:506:ILE:HG13	2.10	0.51
1:B:453:TRP:CG	1:B:463:ALA:HB2	2.45	0.51
1:B:607:LEU:CD1	1:B:609:LEU:HG	2.40	0.51
1:B:238:GLY:HA3	1:B:267:LYS:CD	2.41	0.51
1:B:238:GLY:N	1:B:257:VAL:HB	2.26	0.51
1:B:282:TYR:HE1	1:B:284:ASP:HB3	1.76	0.51
1:B:286:THR:HG21	1:B:360:ASP:HB2	1.93	0.51
1:A:210:VAL:HG22	1:A:211:TYR:N	2.25	0.51
1:A:498:ALA:HB2	1:A:553:VAL:HA	1.92	0.51
1:B:127:LEU:N	1:B:127:LEU:HD22	2.25	0.51
1:B:749:LEU:O	1:B:750:SER:HB3	2.11	0.51
1:A:199:SER:O	1:A:376:THR:HG22	2.11	0.51
1:A:232:LEU:HD11	1:A:256:ILE:CG1	2.40	0.51
1:A:349:MET:HA	1:A:368:SER:N	2.26	0.51
1:A:483:ASN:HD21	1:A:540:ALA:HB3	1.75	0.51
1:B:155:ARG:HA	1:B:161:LYS:HB2	1.91	0.51
1:B:750:SER:OG	1:B:751:GLY:N	2.42	0.51
1:A:130:LYS:O	1:A:134:LYS:HG2	2.10	0.51
1:A:300:HIS:HE2	1:A:459:GLY:N	2.09	0.51
1:B:256:ILE:CD1	1:B:349:MET:HE1	2.40	0.51
1:A:316:PHE:CZ	1:B:740:TRP:NE1	2.75	0.51
1:A:425:LEU:O	1:A:429:LEU:HB2	2.11	0.51
1:A:618:LEU:HD21	1:A:742:ILE:HG23	1.92	0.51
1:A:716:LEU:HD13	1:A:731:PHE:CE1	2.46	0.51
1:B:204:ASP:C	1:B:206:ASN:N	2.63	0.51
1:B:605:VAL:HG11	1:B:665:LYS:HB3	1.92	0.51
1:A:669:PHE:CD2	1:B:668:ARG:HD2	2.46	0.51
1:B:199:SER:O	1:B:376:THR:HG22	2.11	0.51
1:B:239:THR:C	1:B:241:LYS:N	2.64	0.51
1:A:700:VAL:HG23	1:A:701:PHE:CD1	2.46	0.51
1:B:145:LYS:O	1:B:148:ASN:HB2	2.11	0.51
1:B:307:ASP:H	1:B:461:VAL:HG13	1.76	0.51
1:B:361:SER:O	1:B:362:THR:CB	2.59	0.51
1:B:667:ASP:OD1	1:B:669:PHE:HB3	2.12	0.51
1:B:682:GLU:OE2	1:B:699:HIS:CE1	2.64	0.50
1:A:537:LEU:HD22	1:A:542:PHE:CE2	2.46	0.50
1:A:539:ASN:HD22	1:A:539:ASN:C	2.15	0.50
1:A:759:GLU:O	1:A:760:PHE:C	2.49	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:539:ASN:O	1:B:542:PHE:N	2.39	0.50
1:B:655:ARG:HH11	1:B:751:GLY:HA2	1.77	0.50
1:A:446:ARG:HH12	1:A:602:THR:HA	1.76	0.50
1:A:677:ARG:NE	1:A:750:SER:HB2	2.26	0.50
1:B:278:GLY:HA2	1:B:333:PRO:HG2	1.93	0.50
1:A:224:LYS:HE3	1:A:224:LYS:HA	1.94	0.50
1:A:553:VAL:HG22	1:A:554:SER:N	2.27	0.50
1:B:349:MET:HA	1:B:368:SER:N	2.26	0.50
1:B:568:THR:HG23	1:B:570:MET:H	1.76	0.50
1:A:240:LYS:O	1:A:240:LYS:HG2	2.12	0.50
1:B:291:VAL:HG13	1:B:292:ASN:N	2.27	0.50
1:B:453:TRP:CD2	1:B:463:ALA:HB2	2.47	0.50
1:B:648:ASP:OD2	1:B:757:ASP:OD2	2.29	0.50
1:A:238:GLY:HA3	1:A:267:LYS:HD3	1.94	0.50
1:A:307:ASP:N	1:A:461:VAL:HG13	2.26	0.50
1:A:392:VAL:HG12	1:A:449:ILE:HB	1.94	0.50
1:B:197:GLN:NE2	1:B:215:ASN:HB3	2.27	0.50
1:B:565:TYR:HE1	1:B:575:GLU:HB3	1.75	0.50
1:B:654:SER:C	1:B:657:THR:HG22	2.32	0.50
1:A:222:TYR:HB3	1:A:329:LEU:HD23	1.93	0.50
1:A:282:TYR:HE1	1:A:284:ASP:HB3	1.77	0.50
1:A:238:GLY:HA3	1:A:267:LYS:CD	2.42	0.50
1:A:483:ASN:ND2	1:A:540:ALA:HB3	2.27	0.50
1:A:655:ARG:HH11	1:A:751:GLY:HA2	1.76	0.50
1:A:667:ASP:HB3	1:A:670:VAL:CG2	2.36	0.50
1:B:224:LYS:HE3	1:B:224:LYS:HA	1.93	0.50
1:A:239:THR:HB	1:A:244:GLU:CD	2.33	0.49
1:A:305:THR:HG23	1:A:464:THR:HG21	1.93	0.49
1:A:553:VAL:HG21	1:A:597:PHE:CE2	2.46	0.49
1:B:300:HIS:HE2	1:B:459:GLY:N	2.10	0.49
1:B:667:ASP:HB3	1:B:670:VAL:CG2	2.37	0.49
1:A:239:THR:C	1:A:241:LYS:N	2.65	0.49
1:A:278:GLY:HA2	1:A:333:PRO:HG2	1.94	0.49
1:A:408:GLN:HB3	1:A:485:ASP:OD1	2.12	0.49
1:A:409:ARG:HB2	1:A:452:SER:OG	2.11	0.49
1:A:618:LEU:HD13	1:A:701:PHE:HZ	1.76	0.49
1:A:759:GLU:HG3	1:A:760:PHE:N	2.27	0.49
1:A:496:VAL:HG11	1:A:506:ILE:HD13	1.94	0.49
1:A:238:GLY:HA2	1:A:257:VAL:HG11	1.95	0.49
1:A:286:THR:HG21	1:A:360:ASP:HB2	1.94	0.49
1:A:682:GLU:OE2	1:A:699:HIS:CE1	2.65	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:496:VAL:CG1	1:B:506:ILE:HD13	2.42	0.49
1:B:618:LEU:HD21	1:B:742:ILE:HG23	1.94	0.49
1:B:670:VAL:O	1:B:674:LEU:HG	2.12	0.49
1:A:180:LYS:HD2	1:A:180:LYS:N	2.28	0.49
1:A:213:VAL:O	1:A:214:GLU:HB2	2.13	0.49
1:A:523:TYR:HE1	1:A:530:SER:OG	1.95	0.49
1:B:210:VAL:CG1	1:B:211:TYR:N	2.69	0.49
1:B:411:ALA:HA	1:B:457:ASP:OD2	2.13	0.49
1:A:197:GLN:NE2	1:A:215:ASN:HB3	2.28	0.49
1:A:240:LYS:HA	1:A:262:ILE:HD13	1.95	0.49
1:A:756:ILE:N	1:A:756:ILE:HD12	2.27	0.49
1:B:497:SER:OG	1:B:533:GLU:HB3	2.12	0.49
1:A:568:THR:HG23	1:A:570:MET:H	1.77	0.49
1:A:756:ILE:HD12	1:A:756:ILE:H	1.77	0.49
1:B:146:LEU:HD23	1:B:146:LEU:C	2.32	0.49
1:A:209:LEU:O	1:A:210:VAL:HG12	2.13	0.49
1:A:297:PHE:N	1:A:297:PHE:CD1	2.81	0.49
1:A:580:ILE:HG23	1:A:580:ILE:O	2.13	0.49
1:B:237:PHE:HB2	1:B:243:PHE:CE1	2.46	0.49
1:B:361:SER:O	1:B:362:THR:HB	2.13	0.49
1:A:467:LEU:HD21	1:A:544:PHE:CZ	2.48	0.49
1:A:361:SER:O	1:A:362:THR:HB	2.12	0.48
1:B:264:PHE:CE2	1:B:281:ILE:HG21	2.47	0.48
1:A:237:PHE:HB2	1:A:243:PHE:CE1	2.47	0.48
1:B:163:GLU:O	1:B:167:LEU:HG	2.12	0.48
1:B:240:LYS:O	1:B:241:LYS:HB3	2.13	0.48
1:B:325:ARG:HG2	1:B:326:SER:N	2.28	0.48
1:B:680:ARG:HB3	1:B:684:HIS:CD2	2.47	0.48
1:A:240:LYS:O	1:A:241:LYS:HB3	2.13	0.48
1:B:677:ARG:NE	1:B:750:SER:HB2	2.27	0.48
1:B:712:LEU:C	1:B:712:LEU:HD23	2.34	0.48
1:A:133:GLU:HA	1:A:136:ASP:HB2	1.96	0.48
1:A:203:VAL:HG23	1:A:206:ASN:O	2.14	0.48
1:A:749:LEU:O	1:A:750:SER:HB3	2.14	0.48
1:B:232:LEU:HD13	1:B:254:ILE:HG22	1.96	0.48
1:B:359:THR:CG2	1:B:360:ASP:N	2.72	0.48
1:A:131:LEU:HD22	1:A:599:ILE:CD1	2.43	0.48
1:A:680:ARG:HB3	1:A:684:HIS:CD2	2.48	0.48
1:A:699:HIS:CD2	1:A:701:PHE:HB2	2.49	0.48
1:A:700:VAL:HG23	1:A:701:PHE:HD1	1.79	0.48
1:B:386:ILE:CG2	1:B:454:SER:HB3	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:408:GLN:HB3	1:B:485:ASP:OD1	2.14	0.48
1:A:153:VAL:HG22	1:A:154:PRO:CD	2.43	0.48
1:A:198:ASN:OD1	1:A:378:SER:N	2.44	0.48
1:A:232:LEU:HB2	1:A:373:VAL:CG1	2.44	0.48
1:A:305:THR:HG23	1:A:305:THR:O	2.13	0.48
1:A:430:ALA:HA	1:A:450:PHE:CZ	2.49	0.48
1:B:305:THR:HG23	1:B:305:THR:O	2.13	0.48
1:B:753:VAL:HG12	1:B:754:TRP:CG	2.48	0.48
1:A:237:PHE:HD2	1:A:258:ARG:HB2	1.78	0.48
1:A:677:ARG:HE	1:A:750:SER:HB2	1.78	0.48
1:A:712:LEU:HD23	1:A:712:LEU:C	2.33	0.48
1:B:152:TYR:HA	1:B:161:LYS:HB3	1.95	0.48
1:B:211:TYR:CG	1:B:212:LEU:N	2.81	0.48
1:B:297:PHE:N	1:B:297:PHE:CD1	2.82	0.48
1:A:236:ASN:O	1:A:243:PHE:HD1	1.97	0.48
1:B:343:GLU:OE2	1:B:362:THR:HG21	2.14	0.48
1:B:425:LEU:HD22	1:B:591:ALA:HB2	1.96	0.48
1:B:453:TRP:CE3	1:B:463:ALA:HA	2.49	0.48
1:B:537:LEU:HD22	1:B:542:PHE:CE2	2.48	0.48
1:A:386:ILE:CG2	1:A:454:SER:HB3	2.44	0.48
1:A:565:TYR:HE1	1:A:575:GLU:HB3	1.78	0.48
1:B:230:GLY:O	1:B:372:ASN:HB2	2.13	0.48
1:B:306:GLY:HA2	1:B:461:VAL:CA	2.32	0.48
1:B:515:HIS:CD2	1:B:516:PRO:CD	2.97	0.48
1:B:161:LYS:O	1:B:164:ASN:HB2	2.14	0.47
1:B:425:LEU:O	1:B:429:LEU:HB2	2.12	0.47
1:A:161:LYS:O	1:A:164:ASN:HB2	2.14	0.47
1:B:244:GLU:HA	1:B:244:GLU:OE1	2.14	0.47
1:A:180:LYS:HD2	1:A:180:LYS:H	1.80	0.47
1:A:357:TRP:O	1:A:359:THR:N	2.43	0.47
1:B:239:THR:HB	1:B:244:GLU:CD	2.34	0.47
1:B:409:ARG:HG2	1:B:409:ARG:HH11	1.79	0.47
1:B:698:ARG:HA	1:B:707:HIS:HE2	1.78	0.47
1:B:759:GLU:O	1:B:760:PHE:C	2.52	0.47
1:A:213:VAL:HG11	1:A:345:LEU:CD2	2.44	0.47
1:B:430:ALA:HA	1:B:450:PHE:CZ	2.50	0.47
1:B:651:ARG:HH11	1:B:651:ARG:HG2	1.79	0.47
1:A:152:TYR:HA	1:A:161:LYS:HB3	1.96	0.47
1:A:478:ALA:O	1:A:550:ILE:HD12	2.14	0.47
1:B:222:TYR:CE2	1:B:308:PRO:HG3	2.50	0.47
1:B:239:THR:O	1:B:243:PHE:HB2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:239:THR:O	1:A:243:PHE:HB2	2.15	0.47
1:A:409:ARG:HG2	1:A:409:ARG:HH11	1.78	0.47
1:B:180:LYS:HD2	1:B:180:LYS:N	2.30	0.47
1:A:280:LEU:C	1:A:281:ILE:HD12	2.35	0.47
1:A:324:SER:O	1:A:325:ARG:HB3	2.14	0.47
1:A:465:GLU:HA	1:A:468:GLU:HB2	1.95	0.47
1:A:497:SER:OG	1:A:533:GLU:HB3	2.14	0.47
1:B:203:VAL:HB	1:B:208:ARG:HA	1.97	0.47
1:B:236:ASN:O	1:B:243:PHE:HD1	1.96	0.47
1:B:330:PRO:O	1:B:331:ASN:CB	2.62	0.47
1:B:754:TRP:O	1:B:755:ASP:C	2.53	0.47
1:B:153:VAL:HG22	1:B:154:PRO:CD	2.45	0.47
1:B:759:GLU:HG3	1:B:760:PHE:H	1.80	0.47
1:A:183:ARG:O	1:B:758:ASN:CB	2.58	0.47
1:A:359:THR:CG2	1:A:360:ASP:N	2.74	0.47
1:A:683:TYR:CD1	1:A:686:LEU:HD12	2.50	0.47
1:A:244:GLU:OE1	1:A:244:GLU:HA	2.15	0.47
1:A:446:ARG:NH1	1:A:602:THR:HA	2.30	0.47
1:A:553:VAL:HG21	1:A:597:PHE:HE2	1.79	0.47
1:B:188:VAL:HG22	1:B:386:ILE:HD11	1.97	0.47
1:B:473:SER:O	1:B:476:LEU:HB2	2.15	0.47
1:A:353:CYS:HA	1:A:354:PRO:HD3	1.75	0.46
1:A:564:PRO:HG2	1:A:565:TYR:H	1.80	0.46
1:B:239:THR:O	1:B:241:LYS:N	2.48	0.46
1:B:639:LEU:HD23	1:B:643:TYR:HE1	1.80	0.46
1:A:134:LYS:O	1:A:138:THR:HG23	2.14	0.46
1:A:188:VAL:HG23	1:A:190:ILE:HD13	1.98	0.46
1:A:491:THR:HB	1:A:517:VAL:HG21	1.98	0.46
1:B:240:LYS:O	1:B:240:LYS:HG2	2.15	0.46
1:B:553:VAL:HG21	1:B:597:PHE:CE2	2.51	0.46
1:B:743:GLN:O	1:B:746:ALA:HB3	2.15	0.46
1:A:325:ARG:HG2	1:A:326:SER:N	2.29	0.46
1:A:580:ILE:N	1:A:581:PRO:HD3	2.31	0.46
1:A:730:LEU:HG	1:A:734:GLN:OE1	2.15	0.46
1:B:194:ASP:HB2	1:B:380:VAL:HG13	1.96	0.46
1:B:229:THR:HB	1:B:374:LYS:HB2	1.96	0.46
1:B:357:TRP:HE1	1:B:365:MET:CE	2.28	0.46
1:A:281:ILE:HD12	1:A:281:ILE:N	2.30	0.46
1:A:582:GLU:CD	1:A:582:GLU:H	2.18	0.46
1:A:654:SER:CA	1:A:657:THR:HG22	2.45	0.46
1:A:753:VAL:HG11	1:B:402:TYR:CE1	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:238:GLY:HA3	1:B:267:LYS:HD3	1.98	0.46
1:B:446:ARG:HH12	1:B:602:THR:HA	1.80	0.46
1:A:146:LEU:C	1:A:146:LEU:HD23	2.36	0.46
1:A:190:ILE:HG13	1:A:458:PHE:CD2	2.50	0.46
1:B:307:ASP:N	1:B:461:VAL:HG13	2.30	0.46
1:B:580:ILE:N	1:B:581:PRO:HD3	2.30	0.46
1:B:700:VAL:HG23	1:B:701:PHE:CD1	2.51	0.46
1:B:198:ASN:OD1	1:B:377:VAL:HA	2.16	0.46
1:A:190:ILE:CG2	1:A:191:GLN:N	2.78	0.46
1:A:232:LEU:CD1	1:A:256:ILE:HG13	2.45	0.46
1:A:409:ARG:NH2	1:A:454:SER:HB2	2.31	0.46
1:A:618:LEU:O	1:A:622:VAL:HG23	2.16	0.46
1:A:340:ALA:O	1:A:343:GLU:HB2	2.16	0.46
1:A:127:LEU:N	1:A:127:LEU:HD22	2.31	0.46
1:A:348:ASN:HB3	1:A:371:LYS:CE	2.35	0.46
1:A:508:LYS:O	1:A:512:ASN:ND2	2.49	0.46
1:A:698:ARG:HA	1:A:707:HIS:NE2	2.31	0.46
1:B:134:LYS:O	1:B:138:THR:HG23	2.16	0.46
1:A:553:VAL:HG11	1:A:597:PHE:CD2	2.51	0.45
1:A:664:GLU:CD	1:A:664:GLU:N	2.69	0.45
1:B:122:LEU:HD12	1:B:122:LEU:N	2.30	0.45
1:B:445:SER:N	1:B:602:THR:HG22	2.31	0.45
1:B:732:ARG:HG3	1:B:732:ARG:NH1	2.27	0.45
1:B:348:ASN:HB3	1:B:371:LYS:CE	2.33	0.45
1:A:555:PHE:HZ	1:A:594:ALA:HB2	1.81	0.45
1:A:731:PHE:O	1:A:732:ARG:C	2.54	0.45
1:A:750:SER:OG	1:A:751:GLY:N	2.48	0.45
1:A:607:LEU:HD11	1:A:609:LEU:HG	1.98	0.45
1:A:639:LEU:HD23	1:A:643:TYR:HE1	1.79	0.45
1:B:124:TRP:HH2	1:B:596:GLN:HG2	1.82	0.45
1:B:224:LYS:HB3	1:B:332:ILE:C	2.37	0.45
1:B:232:LEU:HB2	1:B:373:VAL:CG1	2.47	0.45
1:B:237:PHE:HD2	1:B:258:ARG:HB2	1.81	0.45
1:A:233:VAL:HG12	1:A:234:HIS:N	2.32	0.45
1:A:699:HIS:CD2	1:A:702:TRP:H	2.32	0.45
1:B:496:VAL:HG11	1:B:506:ILE:HD13	1.99	0.45
1:A:224:LYS:HB3	1:A:332:ILE:C	2.37	0.45
1:A:390:PHE:CD2	1:A:449:ILE:HD11	2.51	0.45
1:B:664:GLU:O	1:B:666:THR:N	2.50	0.45
1:A:291:VAL:HG13	1:A:292:ASN:N	2.31	0.45
1:A:754:TRP:O	1:A:755:ASP:C	2.55	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:357:TRP:O	1:B:359:THR:N	2.43	0.45
1:B:556:CYS:C	1:B:558:CYS:H	2.19	0.45
1:B:588:ARG:HG3	1:B:588:ARG:NH1	2.31	0.45
1:A:753:VAL:HG12	1:A:754:TRP:CG	2.51	0.45
1:B:428:LYS:HA	1:B:428:LYS:HD3	1.79	0.45
1:A:700:VAL:HG11	1:A:741:THR:HG21	1.97	0.45
1:A:721:GLN:O	1:A:723:ASN:N	2.50	0.45
1:B:211:TYR:CE1	1:B:212:LEU:O	2.69	0.45
1:A:161:LYS:HA	1:A:164:ASN:ND2	2.19	0.45
1:A:194:ASP:HB2	1:A:380:VAL:HG13	1.99	0.45
1:A:740:TRP:CD2	1:B:314:PRO:HD2	2.52	0.45
1:B:465:GLU:HA	1:B:468:GLU:HB2	1.99	0.45
1:B:539:ASN:HD22	1:B:539:ASN:C	2.19	0.45
1:A:238:GLY:C	1:A:240:LYS:N	2.70	0.44
1:A:646:ARG:HH11	1:A:646:ARG:CG	2.24	0.44
1:B:193:LYS:HA	1:B:379:ASN:OD1	2.17	0.44
1:B:197:GLN:OE1	1:B:197:GLN:HA	2.16	0.44
1:B:201:ILE:HD13	1:B:212:LEU:N	2.32	0.44
1:B:699:HIS:CD2	1:B:702:TRP:CD1	3.05	0.44
1:A:197:GLN:HA	1:A:197:GLN:OE1	2.17	0.44
1:A:221:ALA:O	1:A:223:SER:N	2.50	0.44
1:A:238:GLY:HA2	1:A:257:VAL:HB	1.99	0.44
1:A:690:VAL:CG2	1:A:698:ARG:HG2	2.47	0.44
1:B:340:ALA:O	1:B:343:GLU:HB2	2.17	0.44
1:B:610:ASP:HB3	1:B:613:GLU:CG	2.47	0.44
1:A:143:THR:O	1:A:147:LEU:HG	2.17	0.44
1:A:307:ASP:OD1	1:A:309:TYR:N	2.48	0.44
1:B:348:ASN:N	1:B:348:ASN:ND2	2.65	0.44
1:A:349:MET:CG	1:A:367:THR:HA	2.45	0.44
1:A:547:TYR:HD1	1:A:696:PRO:O	1.99	0.44
1:A:580:ILE:HG23	1:A:583:LEU:HB2	1.99	0.44
1:B:233:VAL:HG12	1:B:234:HIS:N	2.33	0.44
1:B:677:ARG:HE	1:B:750:SER:HB2	1.83	0.44
1:B:733:ASN:O	1:B:734:GLN:C	2.56	0.44
1:A:122:LEU:N	1:A:122:LEU:HD12	2.32	0.44
1:A:306:GLY:HA2	1:A:461:VAL:HG22	1.99	0.44
1:A:612:GLU:O	1:A:614:TYR:N	2.50	0.44
1:B:281:ILE:HD12	1:B:281:ILE:N	2.32	0.44
1:B:404:VAL:HA	1:B:449:ILE:HG23	2.00	0.44
1:B:664:GLU:CD	1:B:664:GLU:N	2.70	0.44
1:A:262:ILE:HD11	1:A:267:LYS:HG2	1.98	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:357:TRP:HE1	1:A:365:MET:CE	2.31	0.44
1:A:556:CYS:C	1:A:558:CYS:H	2.21	0.44
1:A:733:ASN:O	1:A:734:GLN:C	2.55	0.44
1:B:392:VAL:HG12	1:B:449:ILE:HG13	1.99	0.44
1:B:654:SER:CA	1:B:657:THR:HG22	2.47	0.44
1:A:229:THR:HB	1:A:374:LYS:HB2	1.99	0.44
1:A:343:GLU:OE2	1:A:362:THR:HG21	2.18	0.44
1:A:349:MET:HG2	1:A:367:THR:HG22	2.00	0.44
1:A:637:LEU:CD1	1:A:731:PHE:HE2	2.31	0.44
1:B:133:GLU:HA	1:B:136:ASP:HB2	2.00	0.44
1:B:508:LYS:O	1:B:512:ASN:ND2	2.51	0.44
1:B:690:VAL:CG2	1:B:698:ARG:HG2	2.47	0.44
1:A:146:LEU:HD23	1:A:146:LEU:O	2.17	0.44
1:A:300:HIS:O	1:A:301:ALA:CB	2.66	0.44
1:A:488:VAL:HG21	1:A:587:ALA:HA	2.00	0.44
1:B:309:TYR:HE2	1:B:325:ARG:CA	2.21	0.44
1:A:603:HIS:CD2	1:A:603:HIS:C	2.91	0.44
1:A:651:ARG:HG2	1:A:651:ARG:HH11	1.83	0.44
1:B:633:LYS:O	1:B:633:LYS:HD3	2.18	0.44
1:B:637:LEU:CD1	1:B:731:PHE:HE2	2.30	0.44
1:B:731:PHE:O	1:B:732:ARG:C	2.56	0.44
1:A:222:TYR:CE2	1:A:308:PRO:HG3	2.53	0.43
1:A:392:VAL:HG12	1:A:449:ILE:CB	2.49	0.43
1:A:614:TYR:HA	1:A:617:GLN:HB2	1.99	0.43
1:A:603:HIS:ND1	1:A:604:ASP:OD1	2.52	0.43
1:A:654:SER:HA	1:A:657:THR:CG2	2.48	0.43
1:A:735:LEU:HD23	1:A:735:LEU:C	2.38	0.43
1:B:180:LYS:HD2	1:B:180:LYS:H	1.83	0.43
1:B:188:VAL:HB	1:B:307:ASP:HB2	2.00	0.43
1:B:478:ALA:O	1:B:550:ILE:HD12	2.19	0.43
1:A:488:VAL:HG13	1:A:586:VAL:CG1	2.49	0.43
1:A:633:LYS:O	1:A:633:LYS:HD3	2.18	0.43
1:B:499:SER:O	1:B:501:LEU:N	2.50	0.43
1:B:565:TYR:HB3	1:B:570:MET:HB3	1.99	0.43
1:A:190:ILE:HG23	1:A:191:GLN:N	2.32	0.43
1:A:209:LEU:CG	1:A:210:VAL:N	2.76	0.43
1:A:482:ILE:HG22	1:A:483:ASN:N	2.33	0.43
1:A:721:GLN:C	1:A:723:ASN:H	2.22	0.43
1:B:238:GLY:C	1:B:240:LYS:N	2.69	0.43
1:B:513:VAL:HB	1:B:522:LEU:HD12	2.00	0.43
1:A:239:THR:O	1:A:241:LYS:N	2.51	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:402:TYR:HB3	1:B:449:ILE:HG22	2.00	0.43
1:B:513:VAL:HG22	1:B:592:GLU:HG2	2.00	0.43
1:B:582:GLU:CD	1:B:582:GLU:H	2.21	0.43
1:B:699:HIS:CD2	1:B:701:PHE:HB2	2.53	0.43
1:B:732:ARG:NH1	1:B:732:ARG:CG	2.82	0.43
1:B:735:LEU:C	1:B:735:LEU:HD23	2.38	0.43
1:A:146:LEU:C	1:A:148:ASN:H	2.22	0.43
1:A:212:LEU:O	1:A:213:VAL:C	2.55	0.43
1:A:240:LYS:C	1:A:242:ASP:N	2.69	0.43
1:A:330:PRO:O	1:A:331:ASN:CB	2.62	0.43
1:A:359:THR:CG2	1:A:360:ASP:H	2.04	0.43
1:A:564:PRO:HG2	1:A:565:TYR:CD2	2.54	0.43
1:B:146:LEU:C	1:B:148:ASN:H	2.22	0.43
1:B:204:ASP:OD2	1:B:370:SER:O	2.36	0.43
1:B:565:TYR:N	1:B:565:TYR:CD2	2.83	0.43
1:A:392:VAL:HG12	1:A:449:ILE:HG13	2.00	0.43
1:B:467:LEU:HD21	1:B:544:PHE:CZ	2.54	0.43
1:A:124:TRP:CH2	1:A:596:GLN:HG2	2.54	0.43
1:A:737:LEU:HD11	1:B:693:LYS:HE2	2.00	0.43
1:B:221:ALA:O	1:B:301:ALA:HB3	2.19	0.43
1:A:327:SER:N	1:A:329:LEU:HD12	2.34	0.43
1:A:565:TYR:CD2	1:A:565:TYR:N	2.86	0.43
1:B:201:ILE:HD12	1:B:202:ILE:H	1.81	0.43
1:B:283:MET:HG3	1:B:297:PHE:CE1	2.54	0.43
1:B:324:SER:O	1:B:325:ARG:HB3	2.19	0.43
1:A:639:LEU:O	1:A:643:TYR:CD1	2.72	0.43
1:B:488:VAL:HG13	1:B:586:VAL:HG11	2.01	0.43
1:B:603:HIS:ND1	1:B:604:ASP:OD1	2.52	0.43
1:A:610:ASP:HB3	1:A:613:GLU:CG	2.49	0.42
1:A:749:LEU:O	1:A:749:LEU:HG	2.19	0.42
1:B:232:LEU:CD2	1:B:256:ILE:HD11	2.49	0.42
1:B:730:LEU:HG	1:B:734:GLN:OE1	2.19	0.42
1:A:179:SER:O	1:A:180:LYS:C	2.58	0.42
1:A:181:VAL:HA	1:A:391:GLY:HA2	2.00	0.42
1:A:214:GLU:OE1	1:A:341:ALA:HB2	2.19	0.42
1:A:221:ALA:O	1:A:301:ALA:HB3	2.18	0.42
1:A:230:GLY:O	1:A:372:ASN:HB2	2.19	0.42
1:A:309:TYR:HE2	1:A:325:ARG:CA	2.24	0.42
1:A:348:ASN:N	1:A:348:ASN:ND2	2.67	0.42
1:A:376:THR:HG23	1:A:376:THR:O	2.18	0.42
1:B:588:ARG:HD3	1:B:589:ALA:N	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:646:ARG:NH1	1:B:646:ARG:CG	2.77	0.42
1:A:402:TYR:CD1	1:A:402:TYR:N	2.87	0.42
1:A:720:LYS:C	1:A:722:ASN:H	2.22	0.42
1:B:131:LEU:HD22	1:B:599:ILE:HD11	2.01	0.42
1:B:308:PRO:HB2	1:B:329:LEU:HD11	2.01	0.42
1:B:482:ILE:HG22	1:B:483:ASN:N	2.34	0.42
1:B:716:LEU:HD13	1:B:731:PHE:CZ	2.54	0.42
1:A:238:GLY:HA2	1:A:257:VAL:CG1	2.49	0.42
1:A:283:MET:HG3	1:A:297:PHE:CE1	2.55	0.42
1:A:467:LEU:C	1:A:469:GLY:N	2.70	0.42
1:A:588:ARG:HD3	1:A:589:ALA:N	2.34	0.42
1:A:649:PHE:O	1:A:652:ALA:HB3	2.20	0.42
1:B:204:ASP:OD1	1:B:205:LYS:N	2.43	0.42
1:B:213:VAL:HG11	1:B:345:LEU:CD2	2.47	0.42
1:B:238:GLY:HA2	1:B:257:VAL:HB	2.01	0.42
1:B:317:ASN:HD22	1:B:317:ASN:HA	1.69	0.42
1:A:198:ASN:OD1	1:A:377:VAL:HA	2.19	0.42
1:A:202:ILE:HG13	1:A:213:VAL:HG21	2.01	0.42
1:A:406:GLY:HA2	1:A:451:ALA:O	2.19	0.42
1:A:513:VAL:HB	1:A:522:LEU:HD12	2.00	0.42
1:A:754:TRP:HE3	1:A:754:TRP:HA	1.84	0.42
1:B:201:ILE:HB	1:B:212:LEU:CD1	2.49	0.42
1:B:488:VAL:HG11	1:B:583:LEU:HD12	2.02	0.42
1:B:564:PRO:HG2	1:B:565:TYR:CD2	2.55	0.42
1:A:411:ALA:HA	1:A:457:ASP:OD2	2.19	0.42
1:A:428:LYS:HD3	1:A:428:LYS:HA	1.83	0.42
1:A:669:PHE:CE2	1:B:668:ARG:HD2	2.55	0.42
1:B:353:CYS:HA	1:B:354:PRO:HD3	1.75	0.42
1:B:402:TYR:N	1:B:402:TYR:CD1	2.88	0.42
1:A:213:VAL:HG11	1:A:345:LEU:HD21	2.01	0.42
1:A:300:HIS:NE2	1:A:458:PHE:C	2.73	0.42
1:A:619:LEU:HD23	1:A:619:LEU:C	2.40	0.42
1:A:759:GLU:HG3	1:A:760:PHE:H	1.85	0.42
1:B:721:GLN:O	1:B:723:ASN:N	2.53	0.42
1:A:193:LYS:HA	1:A:379:ASN:OD1	2.20	0.42
1:A:204:ASP:C	1:A:206:ASN:N	2.71	0.42
1:A:264:PHE:O	1:A:268:VAL:HG23	2.19	0.42
1:A:307:ASP:HB3	1:A:310:THR:HG23	2.01	0.42
1:A:326:SER:N	1:A:329:LEU:HD13	2.34	0.42
1:A:514:LYS:HA	1:A:521:PHE:HA	2.00	0.42
1:A:686:LEU:HD23	1:A:699:HIS:N	2.34	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:376:THR:HG23	1:B:376:THR:O	2.19	0.42
1:A:402:TYR:CE1	1:B:753:VAL:HG11	2.55	0.42
1:B:370:SER:OG	1:B:371:LYS:HG3	2.20	0.42
1:B:553:VAL:HG11	1:B:597:PHE:CD2	2.54	0.42
1:B:754:TRP:HA	1:B:754:TRP:HE3	1.84	0.42
1:A:335:GLN:NE2	1:A:336:THR:H	2.18	0.42
1:A:402:TYR:HB3	1:A:449:ILE:HG22	2.01	0.42
1:A:488:VAL:HG11	1:A:583:LEU:HD12	2.02	0.42
1:B:238:GLY:HA2	1:B:257:VAL:HG11	2.02	0.42
1:B:360:ASP:O	1:B:361:SER:O	2.38	0.42
1:B:406:GLY:HA2	1:B:451:ALA:O	2.20	0.42
1:A:145:LYS:O	1:A:148:ASN:N	2.52	0.41
1:A:232:LEU:HD13	1:A:254:ILE:HG22	2.00	0.41
1:A:614:TYR:O	1:A:618:LEU:HB2	2.20	0.41
1:A:723:ASN:N	1:A:723:ASN:HD22	2.17	0.41
1:B:193:LYS:NZ	1:B:193:LYS:HB2	2.35	0.41
1:B:349:MET:HB2	1:B:364:ARG:CB	2.50	0.41
1:A:237:PHE:O	1:A:238:GLY:C	2.59	0.41
1:A:349:MET:HB2	1:A:364:ARG:CB	2.51	0.41
1:A:349:MET:HA	1:A:367:THR:CA	2.50	0.41
1:A:555:PHE:CZ	1:A:594:ALA:HB2	2.55	0.41
1:A:568:THR:C	1:A:570:MET:H	2.23	0.41
1:A:754:TRP:NE1	1:B:449:ILE:HD12	2.35	0.41
1:B:123:TYR:O	1:B:126:ASP:HB2	2.20	0.41
1:B:221:ALA:O	1:B:223:SER:N	2.52	0.41
1:B:237:PHE:O	1:B:238:GLY:C	2.59	0.41
1:B:326:SER:N	1:B:329:LEU:HD13	2.35	0.41
1:B:667:ASP:O	1:B:669:PHE:N	2.54	0.41
1:B:699:HIS:CD2	1:B:702:TRP:H	2.36	0.41
1:A:148:ASN:HD21	1:A:416:ALA:HB2	1.86	0.41
1:A:308:PRO:HB2	1:A:329:LEU:HD11	2.01	0.41
1:B:327:SER:N	1:B:329:LEU:HD12	2.35	0.41
1:B:654:SER:HA	1:B:657:THR:CG2	2.50	0.41
1:B:721:GLN:C	1:B:723:ASN:H	2.23	0.41
1:A:180:LYS:H	1:A:180:LYS:CD	2.34	0.41
1:A:208:ARG:O	1:A:208:ARG:CD	2.63	0.41
1:A:565:TYR:HB3	1:A:570:MET:HB3	2.03	0.41
1:B:386:ILE:HG22	1:B:454:SER:HB3	2.02	0.41
1:B:415:GLY:HA2	1:B:571:ASP:CG	2.40	0.41
1:B:491:THR:HB	1:B:517:VAL:HG21	2.02	0.41
1:A:238:GLY:HA2	1:A:257:VAL:CB	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:308:PRO:HG3	1:A:329:LEU:HD21	2.03	0.41
1:B:686:LEU:HD23	1:B:699:HIS:N	2.35	0.41
1:A:668:ARG:HD2	1:B:669:PHE:CG	2.55	0.41
1:A:732:ARG:HG3	1:A:732:ARG:NH1	2.28	0.41
1:A:737:LEU:C	1:A:739:THR:N	2.74	0.41
1:B:153:VAL:O	1:B:155:ARG:N	2.50	0.41
1:B:664:GLU:C	1:B:666:THR:N	2.73	0.41
1:B:709:LEU:CB	1:B:710:PRO:HD3	2.51	0.41
1:A:278:GLY:N	1:A:332:ILE:CG2	2.82	0.41
1:A:398:GLU:N	1:A:399:PRO:CD	2.84	0.41
1:A:740:TRP:CH2	1:B:314:PRO:HB2	2.55	0.41
1:B:208:ARG:H	1:B:208:ARG:HD3	1.84	0.41
1:A:188:VAL:HB	1:A:307:ASP:HB2	2.03	0.41
1:A:730:LEU:O	1:A:734:GLN:HG3	2.21	0.41
1:B:262:ILE:HD11	1:B:267:LYS:HG2	2.02	0.41
1:B:720:LYS:C	1:B:722:ASN:H	2.24	0.41
1:A:310:THR:OG1	1:A:465:GLU:OE2	2.38	0.41
1:A:351:GLY:O	1:A:364:ARG:HB3	2.21	0.41
1:A:732:ARG:NH1	1:A:732:ARG:CG	2.84	0.41
1:A:753:VAL:HG12	1:A:754:TRP:N	2.35	0.41
1:B:156:GLU:O	1:B:162:ASP:HB2	2.21	0.41
1:B:188:VAL:HG23	1:B:190:ILE:HD13	2.02	0.41
1:B:201:ILE:HD13	1:B:211:TYR:C	2.41	0.41
1:B:222:TYR:CD2	1:B:308:PRO:HG3	2.56	0.41
1:B:287:LYS:HB3	1:B:288:PHE:CD1	2.56	0.41
1:B:377:VAL:O	1:B:377:VAL:HG23	2.21	0.41
1:B:398:GLU:N	1:B:399:PRO:CD	2.84	0.41
1:B:458:PHE:HB2	1:B:461:VAL:HG21	2.02	0.41
1:B:585:LYS:O	1:B:588:ARG:HB3	2.21	0.41
1:B:691:SER:HA	1:B:692:PRO:HD3	1.98	0.41
1:B:754:TRP:HA	1:B:754:TRP:CE3	2.56	0.41
1:A:238:GLY:CA	1:A:257:VAL:HB	2.51	0.41
1:A:306:GLY:N	1:A:459:GLY:O	2.53	0.41
1:B:240:LYS:C	1:B:242:ASP:N	2.72	0.41
1:B:498:ALA:CB	1:B:553:VAL:HA	2.50	0.41
1:B:649:PHE:O	1:B:652:ALA:HB3	2.21	0.41
1:A:360:ASP:O	1:A:361:SER:O	2.39	0.40
1:B:148:ASN:HD21	1:B:416:ALA:HB2	1.85	0.40
1:B:190:ILE:HG23	1:B:191:GLN:N	2.36	0.40
1:B:514:LYS:HA	1:B:521:PHE:HA	2.02	0.40
1:B:614:TYR:HA	1:B:617:GLN:HB2	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:509:THR:C	1:A:511:GLN:H	2.24	0.40
1:A:758:ASN:N	1:A:758:ASN:ND2	2.66	0.40
1:B:127:LEU:N	1:B:127:LEU:CD2	2.85	0.40
1:B:307:ASP:HB3	1:B:310:THR:HG23	2.02	0.40
1:B:444:PRO:CB	1:B:602:THR:HG21	2.37	0.40
1:B:488:VAL:HG21	1:B:587:ALA:HA	2.02	0.40
1:A:280:LEU:N	1:A:280:LEU:HD22	2.36	0.40
1:A:430:ALA:HA	1:A:450:PHE:CE2	2.56	0.40
1:A:516:PRO:HG3	1:A:586:VAL:HA	2.02	0.40
1:B:349:MET:CG	1:B:367:THR:HA	2.48	0.40
1:B:351:GLY:O	1:B:364:ARG:HB3	2.20	0.40
1:B:555:PHE:HZ	1:B:594:ALA:HB2	1.87	0.40
1:A:154:PRO:HD2	1:A:161:LYS:HZ3	1.85	0.40
1:A:335:GLN:NE2	1:A:336:THR:N	2.68	0.40
1:A:404:VAL:HA	1:A:449:ILE:HG23	2.03	0.40
1:A:637:LEU:HD21	1:A:732:ARG:HE	1.85	0.40
1:B:190:ILE:CG2	1:B:191:GLN:N	2.84	0.40
1:B:298:PHE:HB2	1:B:412:TRP:CD2	2.57	0.40
1:B:719:ARG:CG	1:B:719:ARG:NH1	2.80	0.40
1:B:723:ASN:N	1:B:723:ASN:HD22	2.19	0.40
1:A:445:SER:N	1:A:602:THR:HG22	2.36	0.40
1:A:648:ASP:CG	1:A:757:ASP:OD2	2.60	0.40
1:B:278:GLY:N	1:B:332:ILE:CG2	2.84	0.40
1:B:446:ARG:NH1	1:B:602:THR:HA	2.36	0.40
1:B:467:LEU:C	1:B:469:GLY:N	2.73	0.40
1:B:698:ARG:HA	1:B:707:HIS:CD2	2.56	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	637/639 (100%)	497 (78%)	102 (16%)	38 (6%)	1 17
1	B	637/639 (100%)	498 (78%)	100 (16%)	39 (6%)	1 17
All	All	1274/1278 (100%)	995 (78%)	202 (16%)	77 (6%)	3 17

All (77) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	206	ASN
1	A	210	VAL
1	A	251	ASN
1	A	330	PRO
1	A	361	SER
1	A	362	THR
1	A	722	ASN
1	A	750	SER
1	A	753	VAL
1	A	759	GLU
1	B	179	SER
1	B	207	GLY
1	B	210	VAL
1	B	251	ASN
1	B	361	SER
1	B	362	THR
1	B	722	ASN
1	B	750	SER
1	B	753	VAL
1	B	759	GLU
1	A	179	SER
1	A	207	GLY
1	A	209	LEU
1	A	222	TYR
1	A	236	ASN
1	A	613	GLU
1	B	213	VAL
1	B	222	TYR
1	B	236	ASN
1	B	238	GLY
1	B	278	GLY
1	B	330	PRO
1	B	665	LYS
1	A	208	ARG
1	A	237	PHE

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Mol	Chain	Res	Type
1	A	238	GLY
1	A	239	THR
1	A	278	GLY
1	A	322	PRO
1	A	325	ARG
1	A	370	SER
1	A	558	CYS
1	A	581	PRO
1	A	665	LYS
1	B	237	PHE
1	B	322	PRO
1	B	325	ARG
1	B	581	PRO
1	A	180	LYS
1	A	566	LEU
1	B	212	LEU
1	B	239	THR
1	B	558	CYS
1	B	566	LEU
1	B	613	GLU
1	B	668	ARG
1	A	213	VAL
1	A	507	GLU
1	B	180	LYS
1	B	204	ASP
1	B	205	LYS
1	B	240	LYS
1	B	370	SER
1	B	540	ALA
1	A	153	VAL
1	A	205	LYS
1	A	569	THR
1	B	153	VAL
1	B	247	TYR
1	B	351	GLY
1	B	216	PRO
1	A	216	PRO
1	B	564	PRO
1	A	351	GLY
1	A	564	PRO
1	A	756	ILE
1	B	756	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	548/548 (100%)	505 (92%)	43 (8%)	12 36
1	B	548/548 (100%)	507 (92%)	41 (8%)	13 38
All	All	1096/1096 (100%)	1012 (92%)	84 (8%)	16 37

All (84) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	125	ASP
1	A	135	LEU
1	A	148	ASN
1	A	152	TYR
1	A	153	VAL
1	A	181	VAL
1	A	197	GLN
1	A	203	VAL
1	A	204	ASP
1	A	211	TYR
1	A	224	LYS
1	A	277	ILE
1	A	310	THR
1	A	322	PRO
1	A	325	ARG
1	A	330	PRO
1	A	348	ASN
1	A	353	CYS
1	A	357	TRP
1	A	365	MET
1	A	371	LYS
1	A	418	LYS
1	A	426	LEU
1	A	446	ARG
1	A	457	ASP
1	A	525	ASP
1	A	537	LEU

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Mol	Chain	Res	Type
1	A	539	ASN
1	A	562	ASP
1	A	581	PRO
1	A	582	GLU
1	A	588	ARG
1	A	603	HIS
1	A	606	GLU
1	A	610	ASP
1	A	619	LEU
1	A	646	ARG
1	A	648	ASP
1	A	664	GLU
1	A	723	ASN
1	A	743	GLN
1	A	757	ASP
1	A	758	ASN
1	B	125	ASP
1	B	148	ASN
1	B	152	TYR
1	B	153	VAL
1	B	181	VAL
1	B	197	GLN
1	B	203	VAL
1	B	208	ARG
1	B	224	LYS
1	B	277	ILE
1	B	310	THR
1	B	322	PRO
1	B	325	ARG
1	B	330	PRO
1	B	348	ASN
1	B	353	CYS
1	B	357	TRP
1	B	365	MET
1	B	371	LYS
1	B	418	LYS
1	B	426	LEU
1	B	446	ARG
1	B	457	ASP
1	B	525	ASP
1	B	537	LEU
1	B	539	ASN

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Mol	Chain	Res	Type
1	B	562	ASP
1	B	581	PRO
1	B	588	ARG
1	B	603	HIS
1	B	606	GLU
1	B	619	LEU
1	B	646	ARG
1	B	648	ASP
1	B	660	PHE
1	B	664	GLU
1	B	723	ASN
1	B	732	ARG
1	B	743	GLN
1	B	757	ASP
1	B	758	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (35) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	148	ASN
1	A	160	GLN
1	A	164	ASN
1	A	191	GLN
1	A	215	ASN
1	A	275	ASN
1	A	317	ASN
1	A	335	GLN
1	A	348	ASN
1	A	408	GLN
1	A	515	HIS
1	A	539	ASN
1	A	603	HIS
1	A	662	ASN
1	A	684	HIS
1	A	699	HIS
1	A	723	ASN
1	A	758	ASN
1	B	148	ASN
1	B	160	GLN
1	B	164	ASN
1	B	191	GLN
1	B	270	ASN

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Mol	Chain	Res	Type
1	B	275	ASN
1	B	317	ASN
1	B	335	GLN
1	B	348	ASN
1	B	408	GLN
1	B	515	HIS
1	B	539	ASN
1	B	662	ASN
1	B	684	HIS
1	B	699	HIS
1	B	723	ASN
1	B	758	ASN

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

There are no ligands in this entry.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

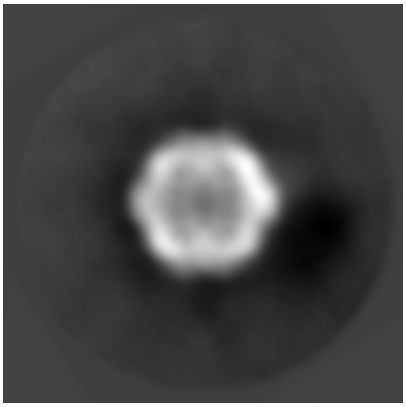
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-1288. These allow visual inspection of the internal detail of the map and identification of artifacts.

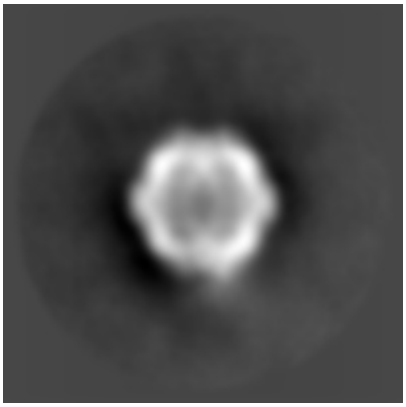
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

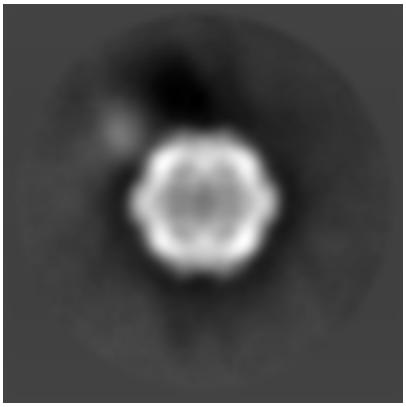
6.1.1 Primary map



X



Y

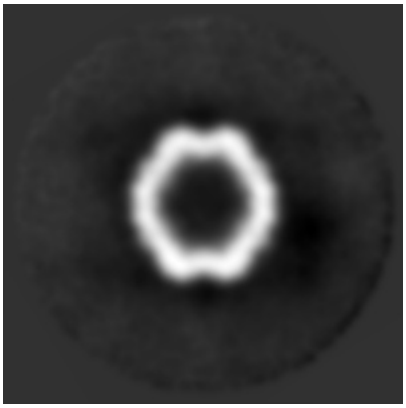


Z

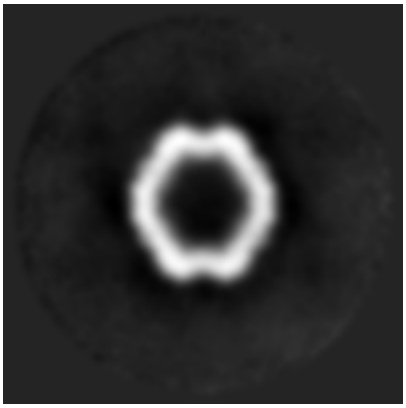
The images above show the map projected in three orthogonal directions.

6.2 Central slices

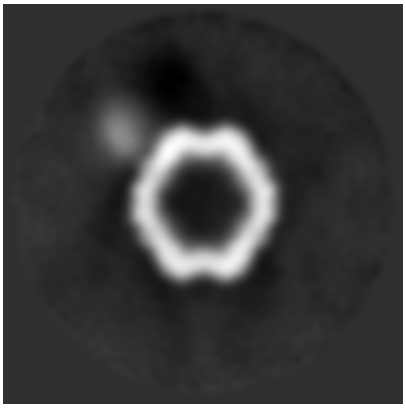
6.2.1 Primary map



X Index: 128



Y Index: 128

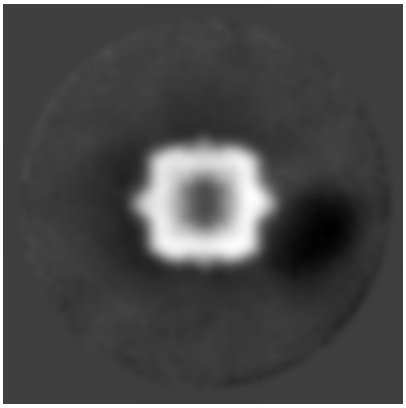


Z Index: 128

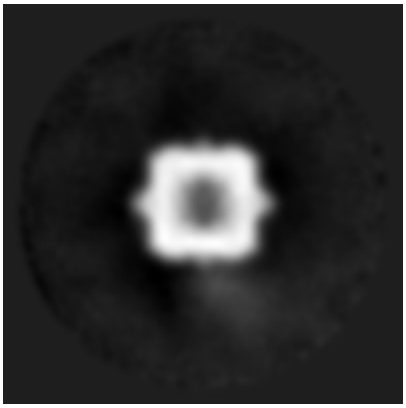
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

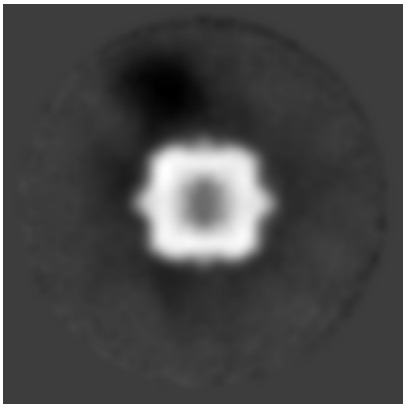
6.3.1 Primary map



X Index: 103



Y Index: 155

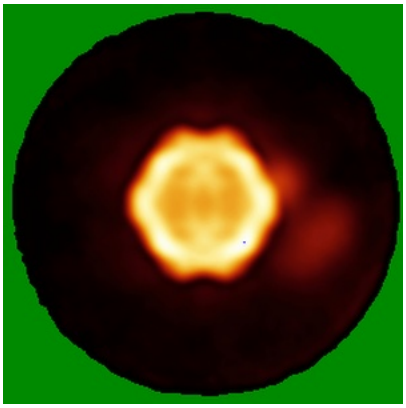


Z Index: 101

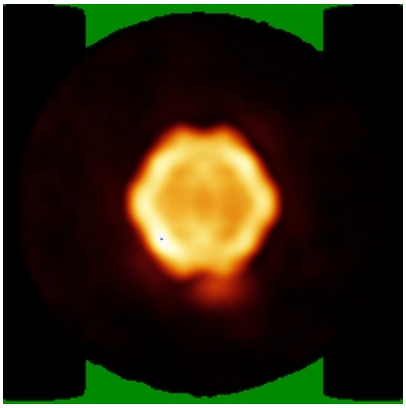
The images above show the largest variance slices of the map in three orthogonal directions.

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

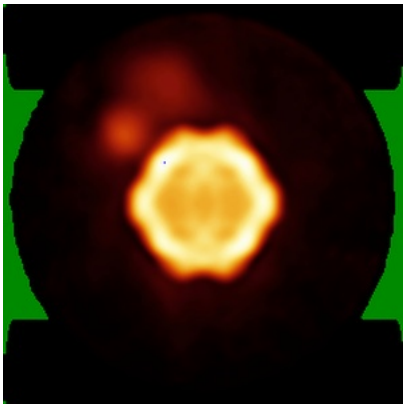
6.4.1 Primary map



X



Y

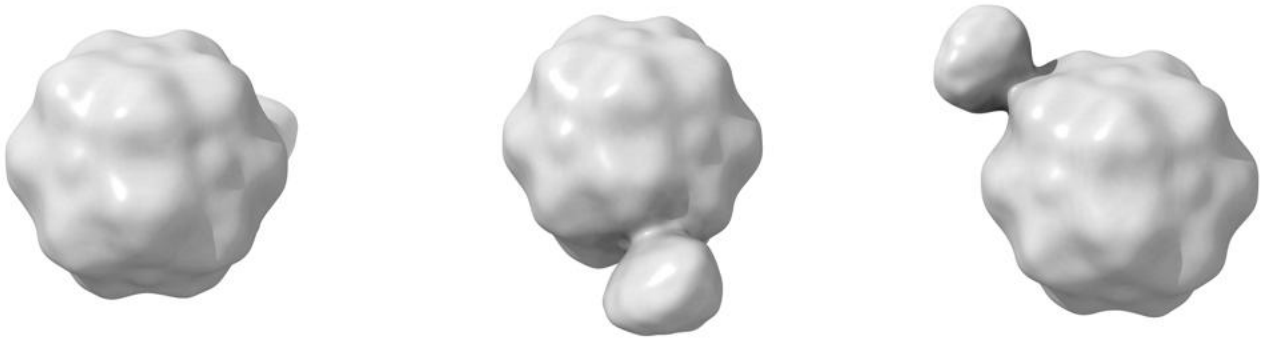


Z

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

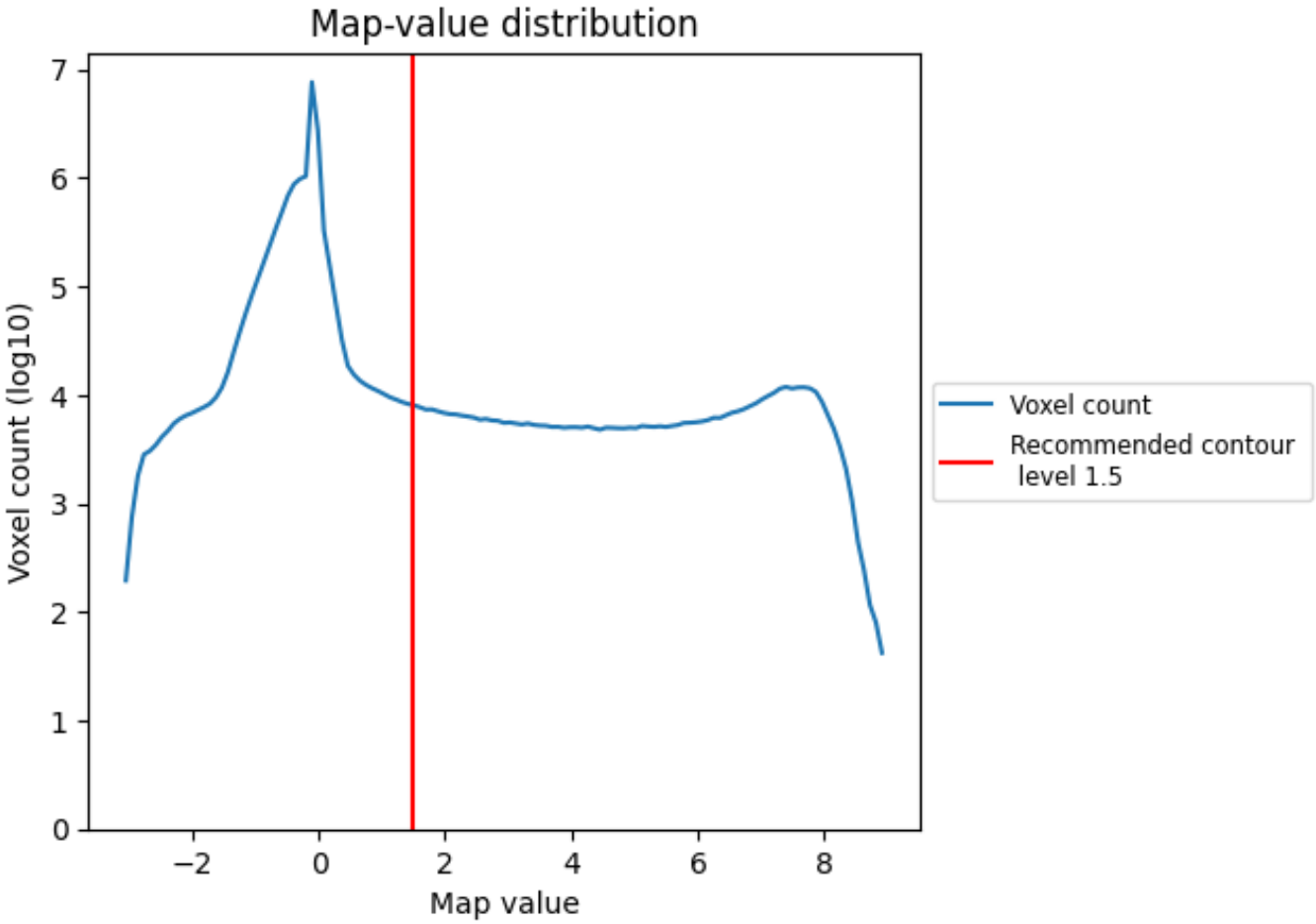
6.6 Mask visualisation (i)

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

7 Map analysis

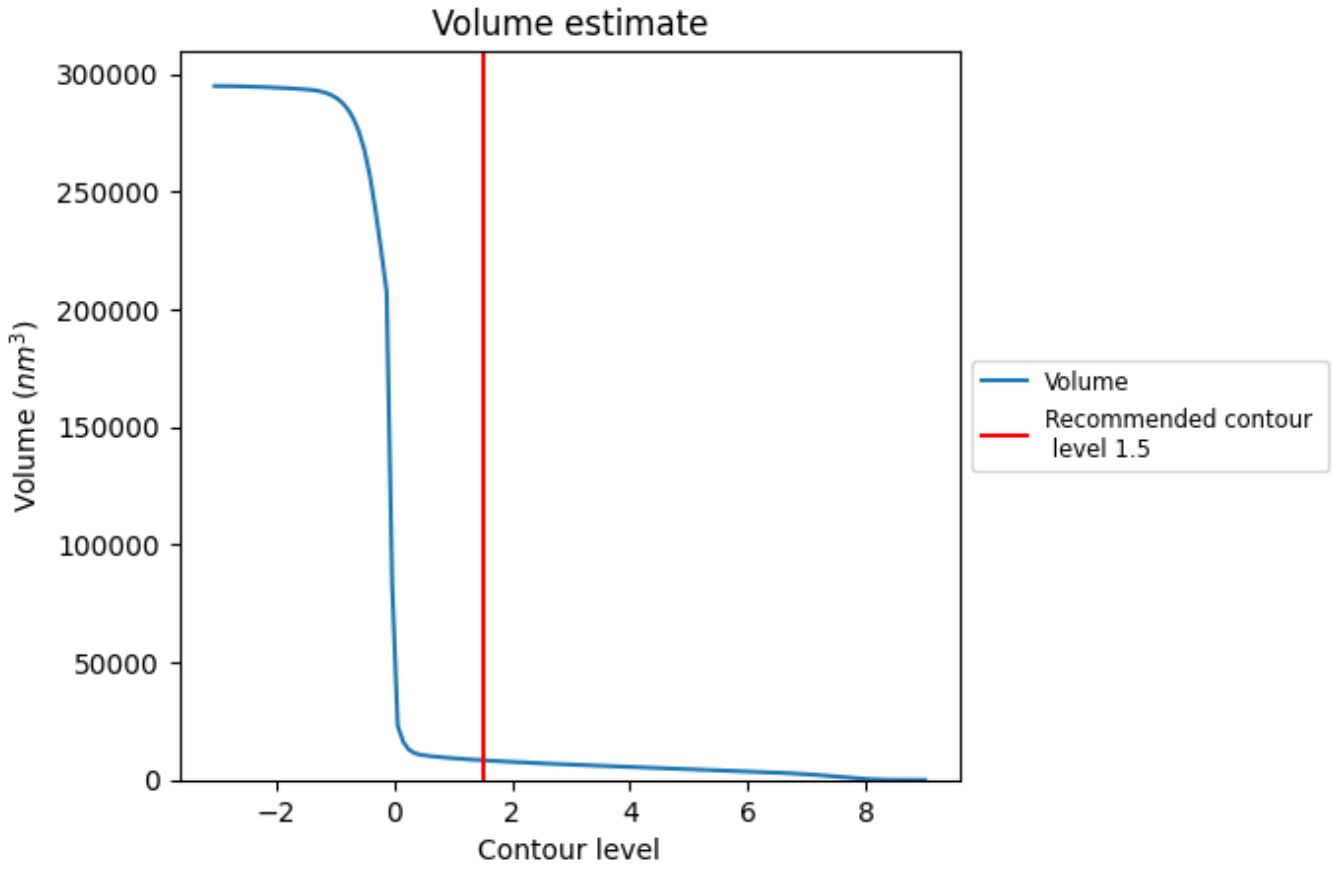
This section contains the results of statistical analysis of the map.

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.

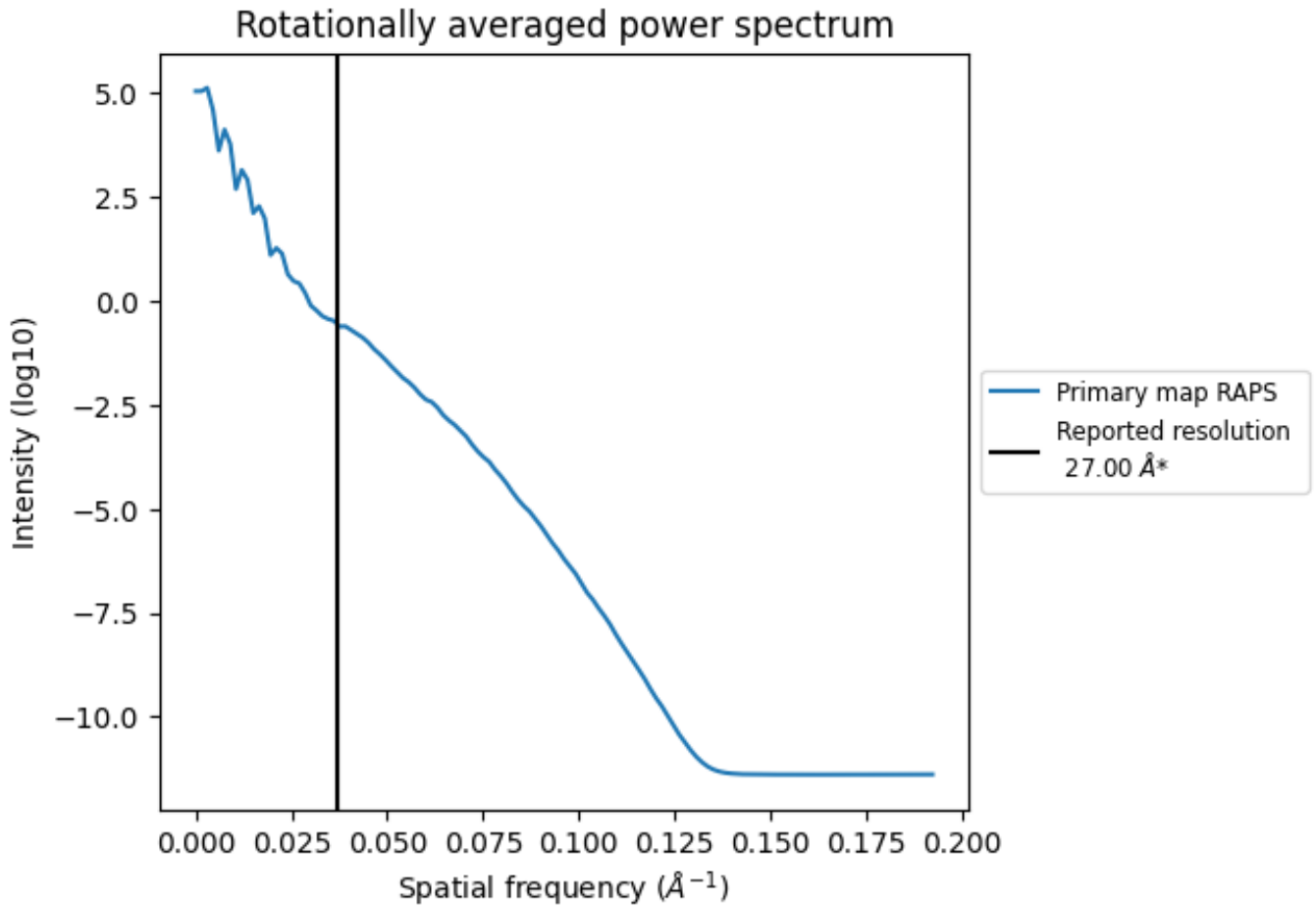
7.2 Volume estimate



The volume at the recommended contour level is 8371 nm^3; this corresponds to an approximate mass of 7561 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 0.037 $Å^{-1}$

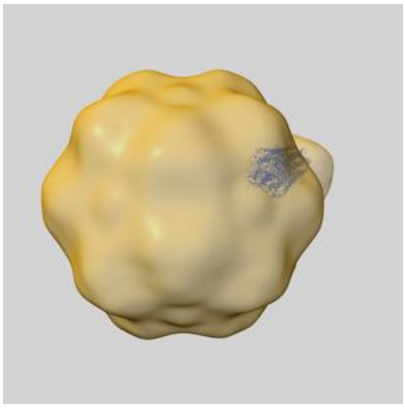
8 Fourier-Shell correlation

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

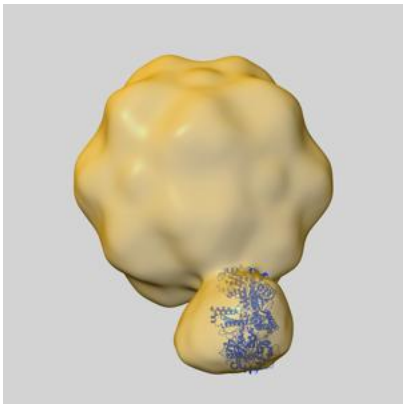
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-1288 and PDB model 2NSU. Per-residue inclusion information can be found in section 3 on page 4.

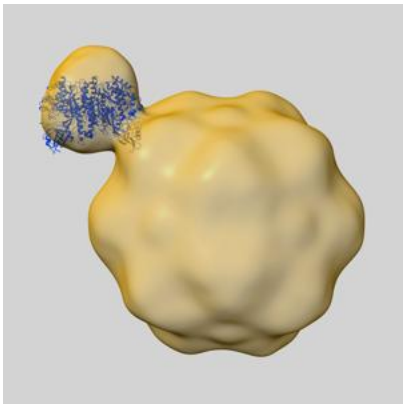
9.1 Map-model overlay



X



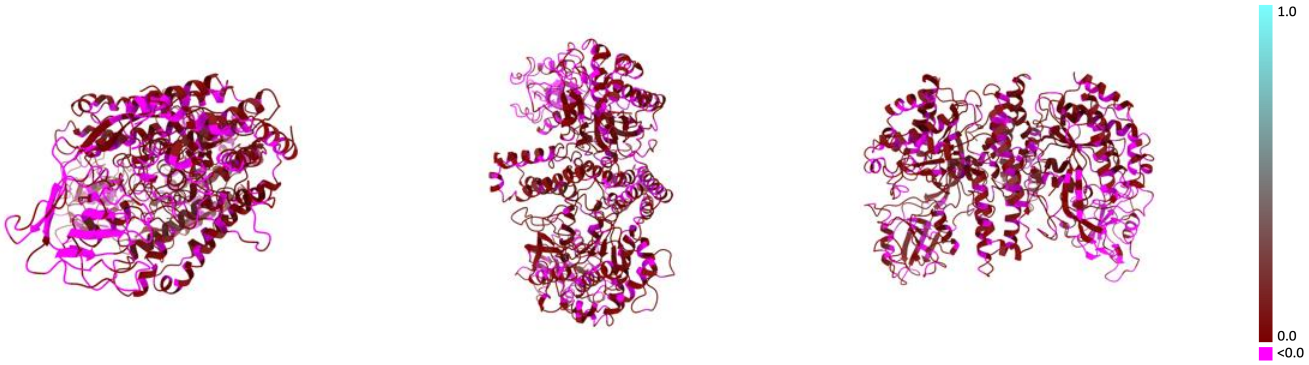
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 1.5 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.

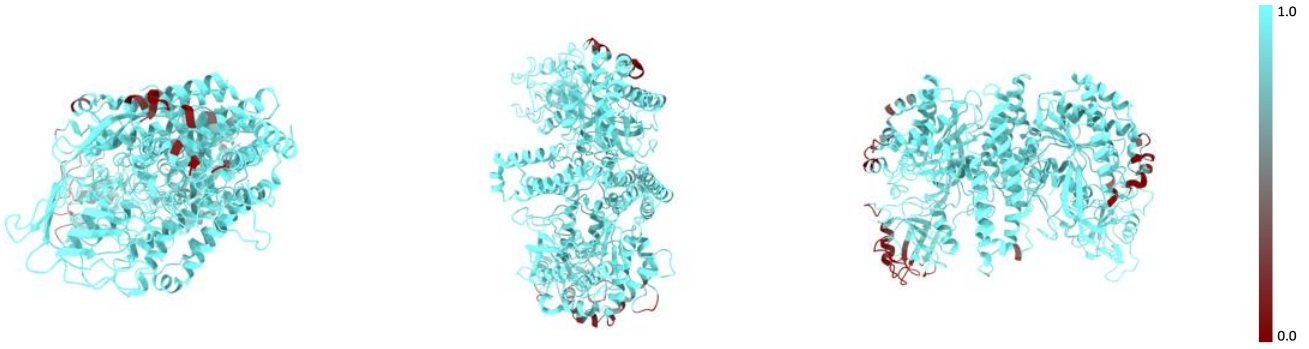
9.2 Q-score mapped to coordinate model



X Y Z

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

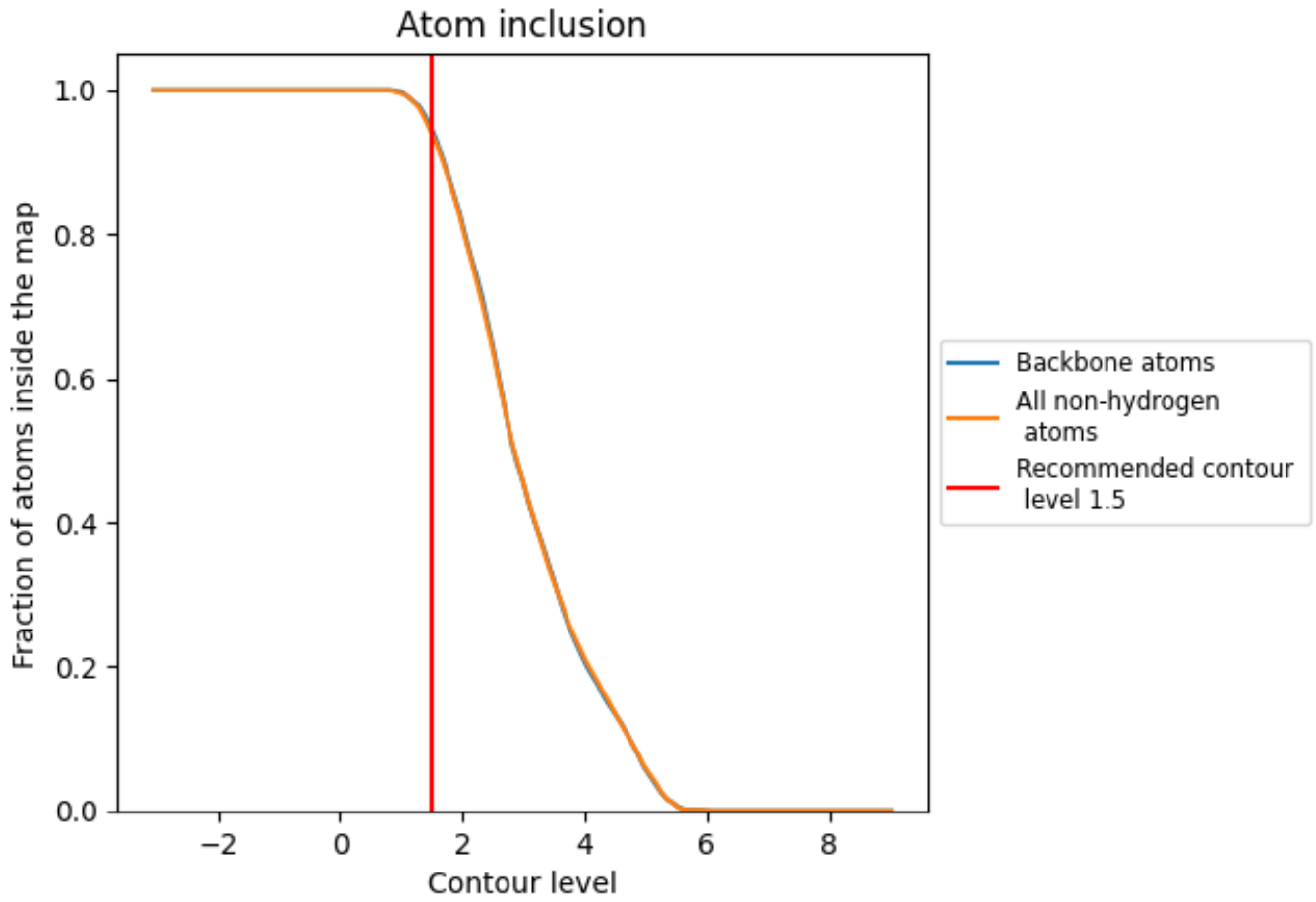
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (1.5).

9.4 Atom inclusion (i)



At the recommended contour level, 94% of all backbone atoms, 94% 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 (1.5) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9380	0.0280
A	0.9020	0.0330
B	0.9740	0.0230