Full wwPDB EM Validation Report ⓘ

Jul 9, 2024 – 11:01 pm BST

PDB ID	:	7PTY
EMDB ID	:	EMD-13643
Title	:	Delta-latroinsectotoxin dimer
Authors	:	Chen, M.; Gatsogiannis, C.
Deposited on	:	2021-09-27
Resolution	:	4.63 Å(reported)

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

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

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

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

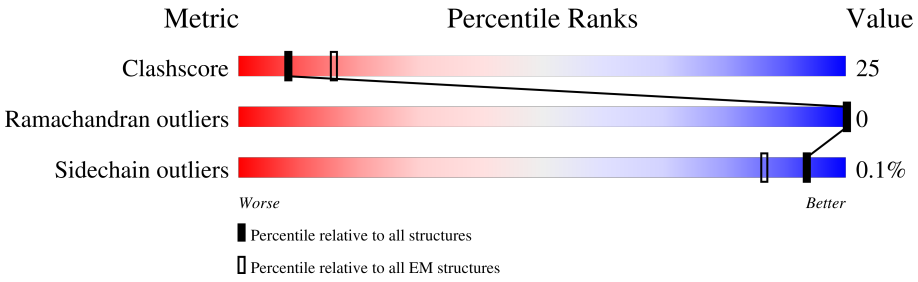
EMDB validation analysis	:	0.0.1.dev92
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 4.63 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	1296	17% 36% 29% 34%
1	B	1296	10% 35% 32% 33%

2 Entry composition (i)

There is only 1 type of molecule in this entry. The entry contains 13433 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 Delta-latroinsectotoxin-Lt1a.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	850	Total 6663	C 4229	N 1125	O 1293	S 16	0	0
1	B	865	Total 6770	C 4293	N 1142	O 1318	S 17	0	0

There are 164 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-62	MET	-	initiating methionine	UNP Q25338
A	-61	LYS	-	expression tag	UNP Q25338
A	-60	PHE	-	expression tag	UNP Q25338
A	-59	LEU	-	expression tag	UNP Q25338
A	-58	VAL	-	expression tag	UNP Q25338
A	-57	ASN	-	expression tag	UNP Q25338
A	-56	VAL	-	expression tag	UNP Q25338
A	-55	ALA	-	expression tag	UNP Q25338
A	-54	LEU	-	expression tag	UNP Q25338
A	-53	VAL	-	expression tag	UNP Q25338
A	-52	PHE	-	expression tag	UNP Q25338
A	-51	MET	-	expression tag	UNP Q25338
A	-50	VAL	-	expression tag	UNP Q25338
A	-49	VAL	-	expression tag	UNP Q25338
A	-48	TYR	-	expression tag	UNP Q25338
A	-47	ILE	-	expression tag	UNP Q25338
A	-46	SER	-	expression tag	UNP Q25338
A	-45	TYR	-	expression tag	UNP Q25338
A	-44	ILE	-	expression tag	UNP Q25338
A	-43	TYR	-	expression tag	UNP Q25338
A	-42	ALA	-	expression tag	UNP Q25338
A	-41	MET	-	expression tag	UNP Q25338
A	-40	TRP	-	expression tag	UNP Q25338
A	-39	SER	-	expression tag	UNP Q25338
A	-38	HIS	-	expression tag	UNP Q25338
A	-37	PRO	-	expression tag	UNP Q25338

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Chain	Residue	Modelled	Actual	Comment	Reference
A	-36	GLN	-	expression tag	UNP Q25338
A	-35	PHE	-	expression tag	UNP Q25338
A	-34	GLU	-	expression tag	UNP Q25338
A	-33	LYS	-	expression tag	UNP Q25338
A	-32	GLY	-	expression tag	UNP Q25338
A	-31	SER	-	expression tag	UNP Q25338
A	-30	ALA	-	expression tag	UNP Q25338
A	-29	GLY	-	expression tag	UNP Q25338
A	-28	SER	-	expression tag	UNP Q25338
A	-27	ALA	-	expression tag	UNP Q25338
A	-26	ALA	-	expression tag	UNP Q25338
A	-25	GLY	-	expression tag	UNP Q25338
A	-24	SER	-	expression tag	UNP Q25338
A	-23	GLY	-	expression tag	UNP Q25338
A	-22	ALA	-	expression tag	UNP Q25338
A	-21	GLY	-	expression tag	UNP Q25338
A	-20	TRP	-	expression tag	UNP Q25338
A	-19	SER	-	expression tag	UNP Q25338
A	-18	HIS	-	expression tag	UNP Q25338
A	-17	PRO	-	expression tag	UNP Q25338
A	-16	GLN	-	expression tag	UNP Q25338
A	-15	PHE	-	expression tag	UNP Q25338
A	-14	GLU	-	expression tag	UNP Q25338
A	-13	LYS	-	expression tag	UNP Q25338
A	-12	GLY	-	expression tag	UNP Q25338
A	-11	ALA	-	expression tag	UNP Q25338
A	-10	GLY	-	expression tag	UNP Q25338
A	-9	LEU	-	expression tag	UNP Q25338
A	-8	GLU	-	expression tag	UNP Q25338
A	-7	VAL	-	expression tag	UNP Q25338
A	-6	LEU	-	expression tag	UNP Q25338
A	-5	PHE	-	expression tag	UNP Q25338
A	-4	GLN	-	expression tag	UNP Q25338
A	-3	GLY	-	expression tag	UNP Q25338
A	-2	PRO	-	expression tag	UNP Q25338
A	-1	PRO	-	expression tag	UNP Q25338
A	0	TRP	-	expression tag	UNP Q25338
A	1215	LEU	-	expression tag	UNP Q25338
A	1216	GLU	-	expression tag	UNP Q25338
A	1217	SER	-	expression tag	UNP Q25338
A	1218	SER	-	expression tag	UNP Q25338
A	1219	GLY	-	expression tag	UNP Q25338

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1220	LEU	-	expression tag	UNP Q25338
A	1221	VAL	-	expression tag	UNP Q25338
A	1222	PRO	-	expression tag	UNP Q25338
A	1223	ARG	-	expression tag	UNP Q25338
A	1224	GLY	-	expression tag	UNP Q25338
A	1225	SER	-	expression tag	UNP Q25338
A	1226	HIS	-	expression tag	UNP Q25338
A	1227	HIS	-	expression tag	UNP Q25338
A	1228	HIS	-	expression tag	UNP Q25338
A	1229	HIS	-	expression tag	UNP Q25338
A	1230	HIS	-	expression tag	UNP Q25338
A	1231	HIS	-	expression tag	UNP Q25338
A	1232	HIS	-	expression tag	UNP Q25338
A	1233	HIS	-	expression tag	UNP Q25338
B	-62	MET	-	initiating methionine	UNP Q25338
B	-61	LYS	-	expression tag	UNP Q25338
B	-60	PHE	-	expression tag	UNP Q25338
B	-59	LEU	-	expression tag	UNP Q25338
B	-58	VAL	-	expression tag	UNP Q25338
B	-57	ASN	-	expression tag	UNP Q25338
B	-56	VAL	-	expression tag	UNP Q25338
B	-55	ALA	-	expression tag	UNP Q25338
B	-54	LEU	-	expression tag	UNP Q25338
B	-53	VAL	-	expression tag	UNP Q25338
B	-52	PHE	-	expression tag	UNP Q25338
B	-51	MET	-	expression tag	UNP Q25338
B	-50	VAL	-	expression tag	UNP Q25338
B	-49	VAL	-	expression tag	UNP Q25338
B	-48	TYR	-	expression tag	UNP Q25338
B	-47	ILE	-	expression tag	UNP Q25338
B	-46	SER	-	expression tag	UNP Q25338
B	-45	TYR	-	expression tag	UNP Q25338
B	-44	ILE	-	expression tag	UNP Q25338
B	-43	TYR	-	expression tag	UNP Q25338
B	-42	ALA	-	expression tag	UNP Q25338
B	-41	MET	-	expression tag	UNP Q25338
B	-40	TRP	-	expression tag	UNP Q25338
B	-39	SER	-	expression tag	UNP Q25338
B	-38	HIS	-	expression tag	UNP Q25338
B	-37	PRO	-	expression tag	UNP Q25338
B	-36	GLN	-	expression tag	UNP Q25338
B	-35	PHE	-	expression tag	UNP Q25338

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Chain	Residue	Modelled	Actual	Comment	Reference
B	-34	GLU	-	expression tag	UNP Q25338
B	-33	LYS	-	expression tag	UNP Q25338
B	-32	GLY	-	expression tag	UNP Q25338
B	-31	SER	-	expression tag	UNP Q25338
B	-30	ALA	-	expression tag	UNP Q25338
B	-29	GLY	-	expression tag	UNP Q25338
B	-28	SER	-	expression tag	UNP Q25338
B	-27	ALA	-	expression tag	UNP Q25338
B	-26	ALA	-	expression tag	UNP Q25338
B	-25	GLY	-	expression tag	UNP Q25338
B	-24	SER	-	expression tag	UNP Q25338
B	-23	GLY	-	expression tag	UNP Q25338
B	-22	ALA	-	expression tag	UNP Q25338
B	-21	GLY	-	expression tag	UNP Q25338
B	-20	TRP	-	expression tag	UNP Q25338
B	-19	SER	-	expression tag	UNP Q25338
B	-18	HIS	-	expression tag	UNP Q25338
B	-17	PRO	-	expression tag	UNP Q25338
B	-16	GLN	-	expression tag	UNP Q25338
B	-15	PHE	-	expression tag	UNP Q25338
B	-14	GLU	-	expression tag	UNP Q25338
B	-13	LYS	-	expression tag	UNP Q25338
B	-12	GLY	-	expression tag	UNP Q25338
B	-11	ALA	-	expression tag	UNP Q25338
B	-10	GLY	-	expression tag	UNP Q25338
B	-9	LEU	-	expression tag	UNP Q25338
B	-8	GLU	-	expression tag	UNP Q25338
B	-7	VAL	-	expression tag	UNP Q25338
B	-6	LEU	-	expression tag	UNP Q25338
B	-5	PHE	-	expression tag	UNP Q25338
B	-4	GLN	-	expression tag	UNP Q25338
B	-3	GLY	-	expression tag	UNP Q25338
B	-2	PRO	-	expression tag	UNP Q25338
B	-1	PRO	-	expression tag	UNP Q25338
B	0	TRP	-	expression tag	UNP Q25338
B	1215	LEU	-	expression tag	UNP Q25338
B	1216	GLU	-	expression tag	UNP Q25338
B	1217	SER	-	expression tag	UNP Q25338
B	1218	SER	-	expression tag	UNP Q25338
B	1219	GLY	-	expression tag	UNP Q25338
B	1220	LEU	-	expression tag	UNP Q25338
B	1221	VAL	-	expression tag	UNP Q25338

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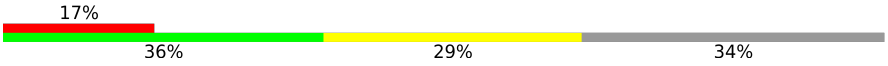
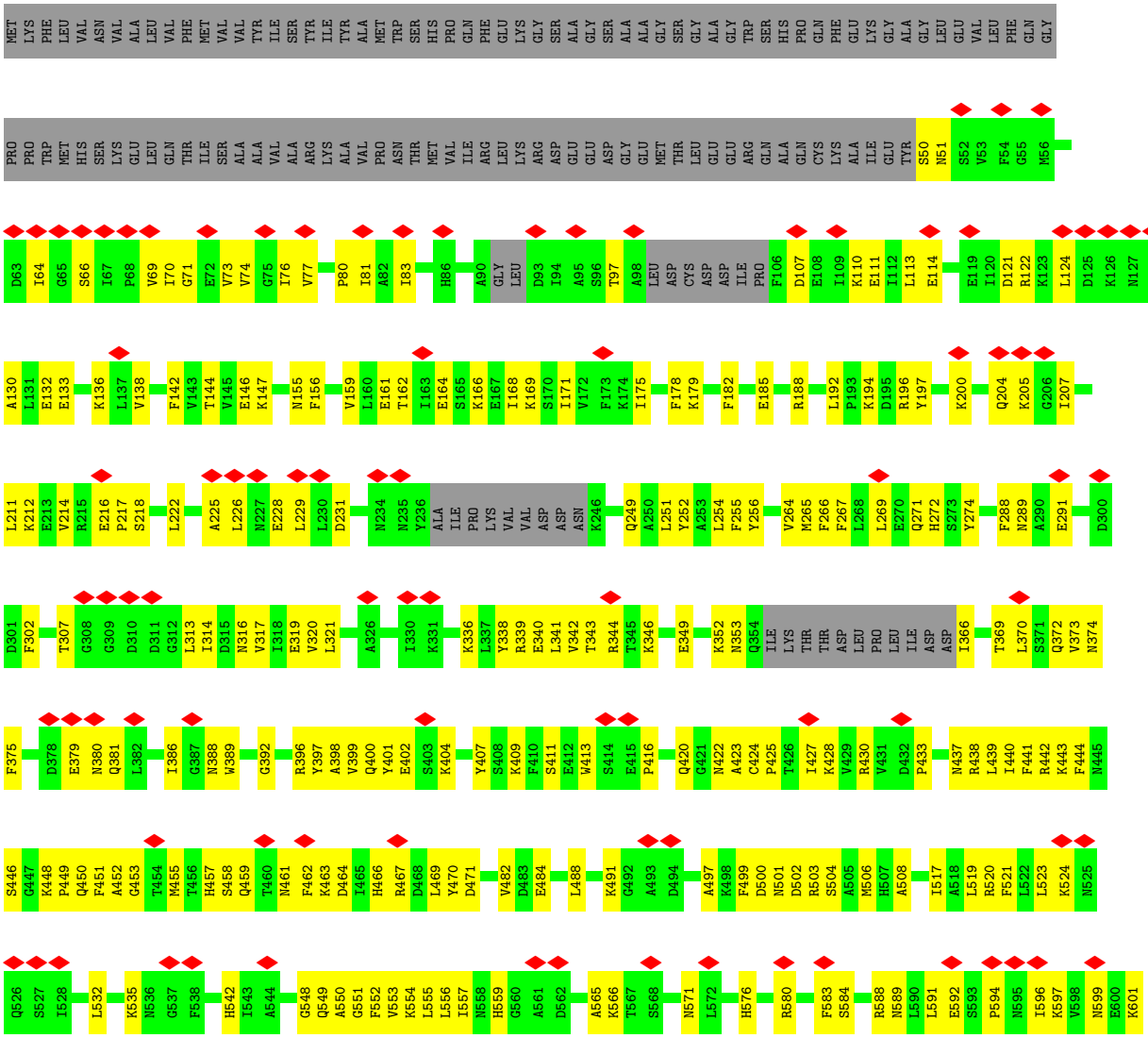
Chain	Residue	Modelled	Actual	Comment	Reference
B	1222	PRO	-	expression tag	UNP Q25338
B	1223	ARG	-	expression tag	UNP Q25338
B	1224	GLY	-	expression tag	UNP Q25338
B	1225	SER	-	expression tag	UNP Q25338
B	1226	HIS	-	expression tag	UNP Q25338
B	1227	HIS	-	expression tag	UNP Q25338
B	1228	HIS	-	expression tag	UNP Q25338
B	1229	HIS	-	expression tag	UNP Q25338
B	1230	HIS	-	expression tag	UNP Q25338
B	1231	HIS	-	expression tag	UNP Q25338
B	1232	HIS	-	expression tag	UNP Q25338
B	1233	HIS	-	expression tag	UNP Q25338

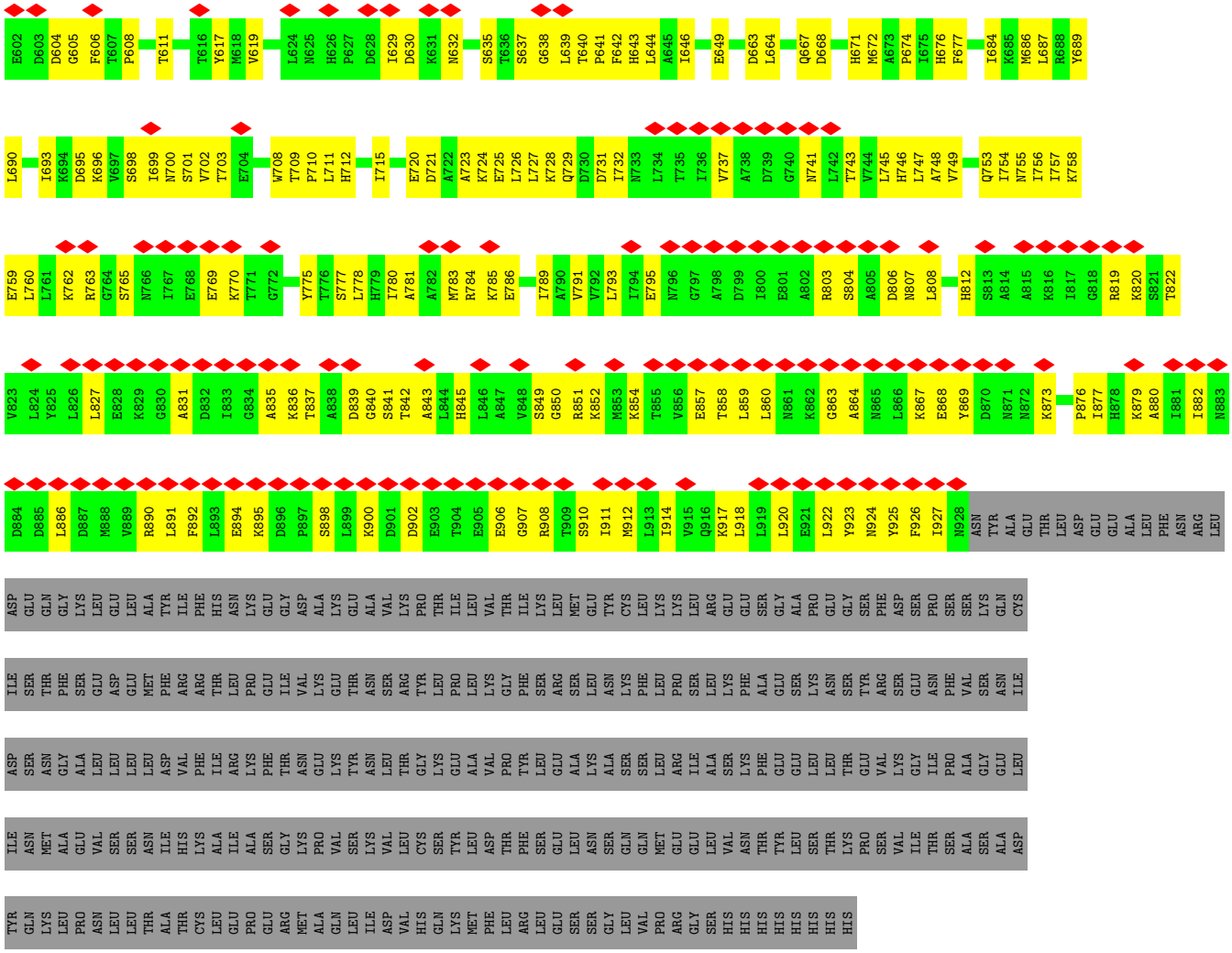
3 Residue-property plots (i)

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: Delta-latroinsectotoxin-Lt1a

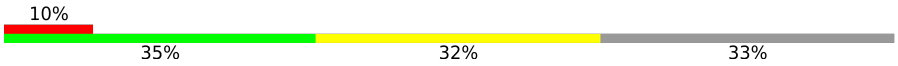
Chain A: 

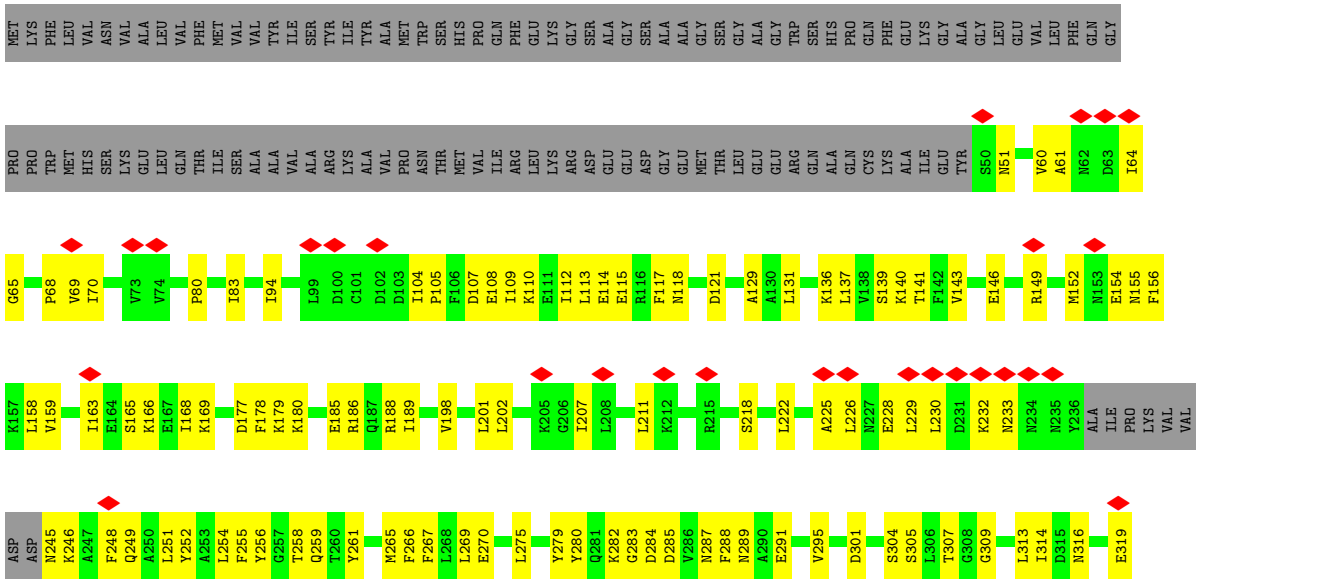


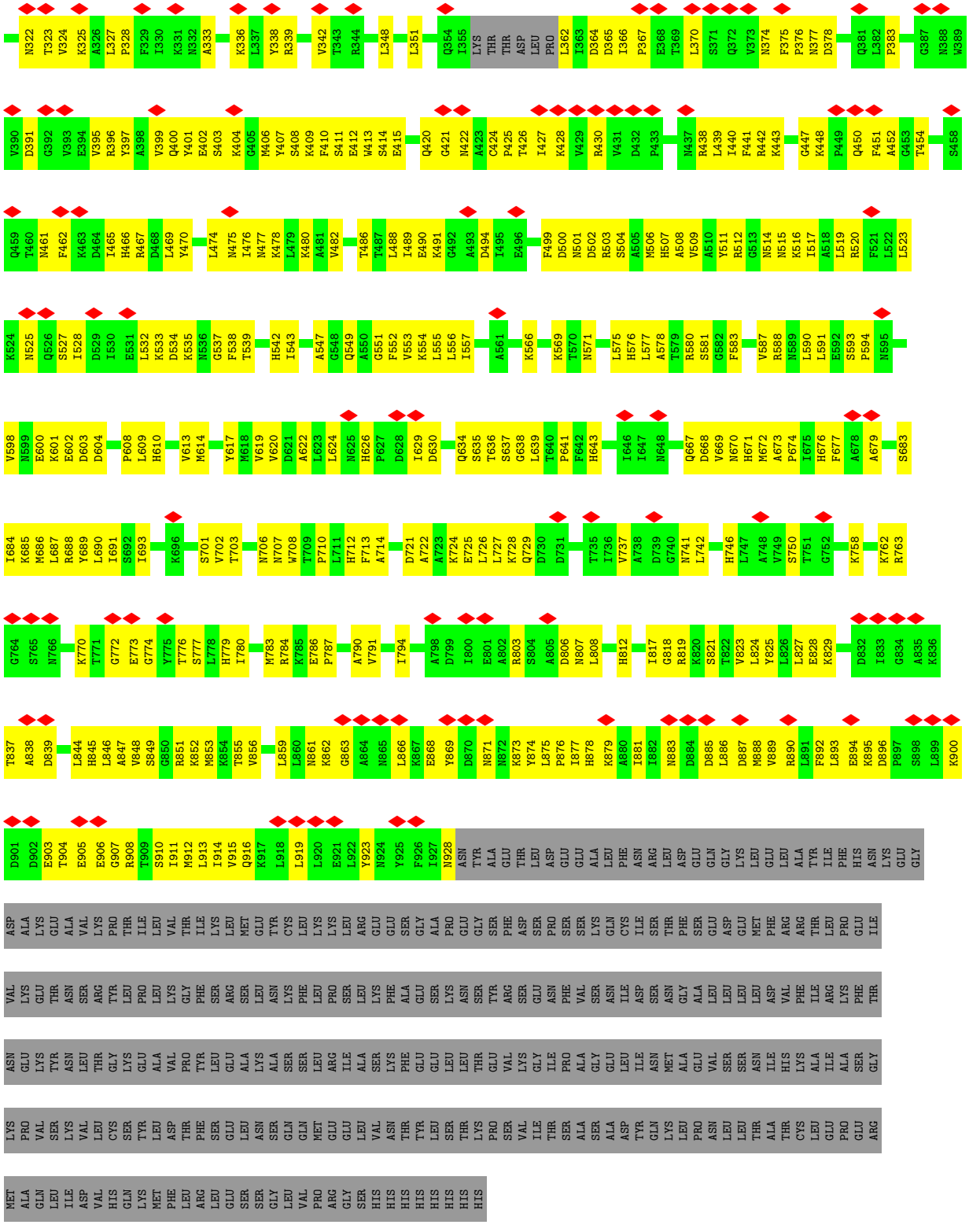


• Molecule 1: Delta-latroinsectotoxin-Lt1a

Chain B:






N322 T323 V324 K325 A326 L327 P328 F329 I330 K331 N332 A333 K336 L337 Y338 R339 V342 T343 R344 L348 L351 Q354 I355 LYS THR THR ASP LEU PRO L362 I363 D364 D365 I366 P367 E368 T369 L370 S371 Q372 V373 N374 F375 P376 N377 D378 Q381 L382 P383 G387 N388 W389
V390 D391 G392 V393 E394 V395 R396 Y397 A398 V399 Q400 Y401 E402 S403 K404 G405 M406 Y407 S408 K409 F410 S411 E412 W413 S414 E415 Q420 G421 N422 A423 C424 P425 T426 I427 K428 V429 R430 V431 D432 P433 N437 R438 L439 I440 F441 R442 K443 G447 K448 P449 Q450 F451 A452 G453 T454 S458
Q459 T460 N461 F462 K463 D464 I465 H466 R467 D468 L469 Y470 L474 N475 I476 N477 K478 L479 K480 A481 V482 T486 T487 L488 I489 E490 K491 G492 A493 D494 I495 E496 F499 D500 N501 D502 R503 S504 A505 M506 H507 A508 V509 A510 Y511 R512 G513 N514 N515 K516 I517 A518 L519 R520 F521 L522 L523
K524 N525 Q526 S527 I528 D529 I530 E531 L532 K533 D534 K535 N536 G537 F538 T539 H542 I543 A547 G548 Q549 A550 G551 F552 V553 K554 L555 L556 I557 A561 K566 K569 T570 N571 L575 H576 L577 A578 T579 R580 S581 G582 F583 V587 R588 N589 L590 L591 E592 S593 P594 N595
V598 N599 E600 K601 E602 D603 D604 P608 L609 H610 V613 M614 Y617 M618 V619 V620 D621 A622 L623 L624 N625 H626 P627 D628 I629 D630 Q634 S635 T636 S637 G638 L639 T640 P641 F642 H643 I646 I647 N648 Q667 D668 V669 N670 H671 M672 A673 P674 I675 H676 F677 A678 A679 S683
I684 K685 M686 L687 R688 Y689 L690 I691 S692 I693 K696 S701 V702 T703 N706 N707 W708 T709 P710 L711 H712 F713 A714 D721 A722 A723 K724 E725 L726 L727 K728 Q729 D730 D731 T735 I736 V737 A738 D739 G740 N741 L742 H746 L747 A748 V749 S750 T751 G752 K758 K762 R763
G764 S765 N766 K770 T771 G772 E773 G774 Y775 T776 S777 L778 H779 I780 M783 R784 K785 E786 P787 A790 V791 I794 A798 D799 I800 E801 A802 R803 S804 A805 D806 N807 L808 H812 I817 C818 R819 K820 S821 T822 V823 L824 Y825 L826 L827 E828 K829 D832 I833 G834 A835 K836
T837 A838 D839 L844 H845 L846 A847 V848 S849 G850 R851 K852 M853 K854 T855 V856 L859 L860 N861 K862 G863 A864 M865 L866 K867 E868 Y869 D870 N871 N872 K873 Y874 L875 P876 I877 H878 K879 A880 I881 I882 N883 D884 D885 L886 D887 M888 V889 R890 L891 F892 L893 E894 K895 D896 P897 S898 L899 K900
D901 D902 E903 T904 E905 E906 G907 R908 T909 S910 I911 M912 L913 I914 V915 Q916 K917 L918 L919 L920 E921 L922 Y923 N924 Y925 F926 I927 N928 ASN TYR ALA GLU THR LEU ASP GLU GLU ALA LEU PHE ASN ARG LEU ASP GLU GLN GLY LYS LEU GLU GLY GLY
ASP ALA LYS GLU ALA VAL LYS PRO THR ILE LEU LEU VAL THR ILE LYS LEU MET GLU TYR CYS LEU LYS LYS LEU ARG GLU GLU SER GLY ALA PRO GLU GLY SER PHE ASP SER PRO SER SER LYS GLN CYS ILE SER THR PHE SER GLU GLU ASP GLU MET PHE ARG ARG THR LEU PRO GLU ILE
VAL LYS GLU THR ASN SER ARG TYR LEU PRO LEU LEU LYS GLY PHE SER ARG SER LEU ASN LYS PHE LEU PRO SER LEU LYS PHE ALA GLU SER LYS ASN SER TYR ARG SER GLU ASN PHE VAL SER ASN ILE ASP SER ASN GLY ALA LEU LEU LEU LEU ASP VAL PHE ILE ARG LYS PHE THR
ASN GLU LYS TYR ASN LEU THR GLY LYS GLU ALA VAL PRO TYR LEU GLU ALA LYS SER SER LEU ARG ILE ALA SER LYS PHE GLU GLU LEU GLN LEU SER LEU THR GLU VAL LYS GLY ILE PRO ALA GLY GLU LEU ILE ASN MET ALA GLU VAL SER SER ASN ILE HIS LYS ALA ILE ALA SER GLY
LYS PRO VAL SER LYS VAL LEU CYS SER TYR LEU ASP THR PHE SER GLU LEU ASN SER GLN GLN MET GLU GLU LEU VAL ASN THR TYR LEU SER THR LYS PRO SER VAL ILE THR SER ALA SER ALA ASP TYR GLN LYS LEU PRO ASN LEU LEU LEU THR ALA THR CYS LEU GLU PRO GLU ARG
MET ALA GLN LEU ILE ASP VAL HIS GLN LYS MET PHE LEU ARG LEU GLU SER SER GLY LEU VAL PRO ARG GLY SER HIS HIS HIS HIS HIS HIS HIS HIS

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	81192	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	78.7	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.010	Depositor
Minimum map value	-0.003	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.000	Depositor
Recommended contour level	0.003	Depositor
Map size (Å)	324.0, 324.0, 324.0	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	0.9, 0.9, 0.9	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	0.28	0/6769	0.49	0/9147
1	B	0.27	0/6878	0.49	0/9300
All	All	0.27	0/13647	0.49	0/18447

There are no bond length outliers.

There are no bond angle outliers.

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	6663	0	6706	329	0
1	B	6770	0	6807	337	0
All	All	13433	0	13513	663	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 25.

All (663) 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:288:PHE:CE1	1:A:409:LYS:HD2	1.37	1.58
1:A:288:PHE:CE1	1:A:409:LYS:CD	2.25	1.19

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:288:PHE:CD1	1:A:409:LYS:HD2	1.89	1.07
1:A:407:TYR:CE2	1:A:409:LYS:HE3	1.91	1.04
1:A:130:ALA:HB3	1:A:409:LYS:HZ1	1.27	0.98
1:A:130:ALA:HB3	1:A:409:LYS:NZ	1.86	0.91
1:A:640:THR:HG21	1:A:664:LEU:HB3	1.57	0.86
1:B:452:ALA:HA	1:B:467:ARG:HD2	1.56	0.85
1:A:430:ARG:HD3	1:A:458:SER:HB2	1.58	0.85
1:A:288:PHE:HE1	1:A:409:LYS:HD2	1.36	0.83
1:A:400:GLN:HG2	1:A:409:LYS:HA	1.62	0.82
1:A:407:TYR:HE2	1:A:409:LYS:HE3	1.41	0.82
1:A:444:PHE:H	1:A:448:LYS:HG3	1.46	0.80
1:B:94:ILE:HG12	1:B:783:MET:HE3	1.64	0.79
1:A:549:GLN:HB3	1:A:552:PHE:HD2	1.46	0.79
1:A:80:PRO:HA	1:A:83:ILE:HG12	1.64	0.79
1:A:372:GLN:HB2	1:B:512:ARG:HA	1.65	0.79
1:B:245:ASN:HB3	1:B:248:PHE:HB2	1.63	0.78
1:A:255:PHE:HB2	1:A:338:TYR:HE1	1.50	0.77
1:A:288:PHE:CD1	1:A:409:LYS:CD	2.62	0.76
1:A:748:ALA:HB1	1:A:757:ILE:HG12	1.67	0.76
1:B:587:VAL:HG11	1:B:619:VAL:HG23	1.66	0.76
1:B:441:PHE:HA	1:B:452:ALA:HB3	1.67	0.76
1:A:860:LEU:HA	1:A:864:ALA:HA	1.67	0.76
1:A:226:LEU:HD13	1:A:254:LEU:HD22	1.68	0.76
1:A:820:LYS:HD2	1:A:854:LYS:HB3	1.68	0.76
1:A:130:ALA:CB	1:A:409:LYS:HZ1	2.00	0.75
1:A:288:PHE:CZ	1:A:409:LYS:CE	2.70	0.75
1:B:474:LEU:HA	1:B:512:ARG:HG3	1.67	0.75
1:A:164:GLU:H	1:A:169:LYS:HD2	1.51	0.74
1:A:467:ARG:HA	1:A:470:TYR:CE1	2.21	0.74
1:A:715:ILE:HG21	1:A:747:LEU:HB3	1.70	0.74
1:B:511:TYR:O	1:B:549:GLN:NE2	2.20	0.74
1:B:741:ASN:HB3	1:B:772:GLY:H	1.54	0.72
1:A:891:LEU:HA	1:A:895:LYS:HB3	1.72	0.72
1:B:634:GLN:HG3	1:B:638:GLY:HA2	1.70	0.72
1:A:321:LEU:HD22	1:A:342:VAL:HG11	1.72	0.71
1:B:462:PHE:O	1:B:466:HIS:ND1	2.21	0.71
1:A:521:PHE:O	1:A:524:LYS:NZ	2.23	0.71
1:B:401:TYR:HB3	1:B:408:SER:HB3	1.72	0.70
1:A:640:THR:HG22	1:A:642:PHE:H	1.54	0.70
1:A:711:LEU:HD13	1:A:726:LEU:HD11	1.73	0.70
1:A:381:GLN:O	1:A:491:LYS:NZ	2.25	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:502:ASP:OD1	1:A:503:ARG:N	2.25	0.70
1:A:920:LEU:HB3	1:A:923:TYR:HB2	1.75	0.69
1:B:812:HIS:HB3	1:B:846:LEU:HD12	1.74	0.69
1:B:900:LYS:HD2	1:B:928:ASN:HB2	1.74	0.69
1:A:375:PHE:HB2	1:A:424:CYS:HB3	1.76	0.68
1:B:279:TYR:HA	1:B:283:GLY:HA3	1.74	0.68
1:B:598:VAL:HG11	1:B:629:ILE:HA	1.75	0.68
1:A:667:GLN:HE22	1:A:703:THR:HA	1.58	0.68
1:A:469:LEU:HD13	1:A:488:LEU:HD11	1.73	0.68
1:A:121:ASP:O	1:A:194:LYS:NZ	2.24	0.68
1:A:556:LEU:O	1:A:559:HIS:ND1	2.27	0.68
1:A:185:GLU:OE1	1:A:188:ARG:NH2	2.27	0.68
1:A:188:ARG:O	1:A:200:LYS:NZ	2.27	0.67
1:B:679:ALA:HB1	1:B:714:ALA:HB2	1.75	0.67
1:B:365:ASP:HA	1:B:438:ARG:HH12	1.59	0.67
1:A:638:GLY:HA3	1:A:668:ASP:HB2	1.77	0.66
1:A:693:ILE:HG22	1:A:695:ASP:H	1.59	0.66
1:A:803:ARG:NH1	1:A:804:SER:O	2.28	0.66
1:B:448:LYS:HG3	1:B:450:GLN:H	1.61	0.66
1:A:542:HIS:NE2	1:A:565:ALA:O	2.27	0.66
1:B:322:ASN:OD1	1:B:325:LYS:NZ	2.28	0.66
1:A:695:ASP:OD1	1:A:696:LYS:NZ	2.28	0.66
1:B:910:SER:O	1:B:914:ILE:HD12	1.96	0.65
1:A:83:ILE:HG21	1:A:677:PHE:HE1	1.62	0.65
1:B:726:LEU:HA	1:B:729:GLN:HG2	1.78	0.65
1:B:601:LYS:NZ	1:B:634:GLN:O	2.30	0.65
1:B:370:LEU:HD22	1:B:442:ARG:HH12	1.61	0.65
1:A:849:SER:O	1:A:851:ARG:NH2	2.29	0.65
1:B:156:PHE:HA	1:B:159:VAL:HB	1.77	0.65
1:B:784:ARG:HG3	1:B:786:GLU:H	1.61	0.65
1:A:430:ARG:HE	1:B:583:PHE:HE1	1.45	0.65
1:A:159:VAL:HG13	1:A:249:GLN:HB3	1.78	0.64
1:A:482:VAL:HA	1:A:517:ILE:HD11	1.79	0.64
1:A:803:ARG:NH1	1:A:807:ASN:OD1	2.29	0.64
1:B:787:PRO:HB2	1:B:825:TYR:HE2	1.63	0.64
1:A:640:THR:HG23	1:A:641:PRO:HD2	1.80	0.64
1:B:725:GLU:O	1:B:729:GLN:NE2	2.20	0.64
1:B:908:ARG:O	1:B:912:MET:N	2.27	0.64
1:B:503:ARG:NE	1:B:533:LYS:O	2.31	0.64
1:B:702:VAL:HB	1:B:707:ASN:HA	1.79	0.64
1:B:289:ASN:OD1	1:B:411:SER:N	2.31	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:266:PHE:HA	1:B:269:LEU:HD12	1.79	0.63
1:B:551:GLY:HA2	1:B:554:LYS:HE2	1.79	0.63
1:A:122:ARG:HA	1:A:194:LYS:HG2	1.80	0.63
1:A:396:ARG:HB3	1:A:413:TRP:CD1	2.34	0.63
1:B:776:THR:OG1	1:B:779:HIS:ND1	2.29	0.63
1:B:916:GLN:HE21	1:B:919:LEU:HD21	1.62	0.63
1:B:402:GLU:HB2	1:B:407:TYR:HD1	1.63	0.63
1:A:130:ALA:CB	1:A:409:LYS:NZ	2.61	0.63
1:A:107:ASP:OD1	1:A:110:LYS:NZ	2.31	0.62
1:B:163:ILE:HD12	1:B:169:LYS:HG2	1.81	0.62
1:B:478:LYS:HA	1:B:514:ASN:HD21	1.64	0.62
1:A:727:LEU:O	1:A:763:ARG:NH2	2.31	0.62
1:B:779:HIS:NE2	1:B:808:LEU:O	2.22	0.62
1:A:205:LYS:NZ	1:A:291:GLU:OE2	2.32	0.62
1:B:622:ALA:O	1:B:626:HIS:ND1	2.32	0.62
1:A:908:ARG:O	1:A:912:MET:N	2.30	0.62
1:B:576:HIS:O	1:B:580:ARG:NH1	2.32	0.62
1:A:902:ASP:HA	1:A:907:GLY:HA3	1.80	0.62
1:A:910:SER:O	1:A:914:ILE:HG12	2.00	0.62
1:A:920:LEU:HG	1:A:922:LEU:H	1.63	0.62
1:A:729:GLN:O	1:A:763:ARG:NH2	2.32	0.61
1:A:265:MET:SD	1:A:302:PHE:HB2	2.40	0.61
1:A:869:TYR:HB2	1:A:873:LYS:HA	1.82	0.61
1:B:737:VAL:HG13	1:B:741:ASN:HA	1.82	0.61
1:B:779:HIS:HE1	1:B:803:ARG:HA	1.65	0.61
1:B:887:ASP:OD1	1:B:888:MET:N	2.33	0.61
1:B:910:SER:HA	1:B:913:LEU:HD12	1.83	0.61
1:A:640:THR:CG2	1:A:641:PRO:HD2	2.30	0.61
1:B:143:VAL:O	1:B:146:GLU:HG2	1.99	0.61
1:A:396:ARG:HD3	1:A:416:PRO:HB2	1.82	0.60
1:A:155:ASN:HB2	1:A:252:TYR:OH	2.00	0.60
1:A:427:ILE:HD11	1:A:459:GLN:HB3	1.83	0.60
1:A:138:VAL:HG13	1:A:266:PHE:HD1	1.66	0.60
1:A:288:PHE:CE1	1:A:409:LYS:CE	2.82	0.60
1:A:288:PHE:CZ	1:A:409:LYS:HE2	2.36	0.60
1:B:186:ARG:HA	1:B:189:ILE:HD12	1.83	0.60
1:A:372:GLN:OE1	1:A:372:GLN:N	2.34	0.60
1:A:785:LYS:HG2	1:A:819:ARG:HH21	1.66	0.60
1:B:178:PHE:HE1	1:B:211:LEU:HD22	1.66	0.60
1:A:852:LYS:HE3	1:A:854:LYS:HG3	1.82	0.60
1:A:381:GLN:O	1:A:422:ASN:ND2	2.35	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:640:THR:HG23	1:A:664:LEU:HD23	1.84	0.60
1:B:685:LYS:HG3	1:B:686:MET:SD	2.42	0.60
1:A:255:PHE:CZ	1:A:341:LEU:HB3	2.37	0.60
1:A:924:ASN:OD1	1:A:925:TYR:N	2.34	0.60
1:A:601:LYS:NZ	1:A:605:GLY:O	2.29	0.60
1:B:874:TYR:O	1:B:879:LYS:NZ	2.35	0.60
1:A:50:SER:OG	1:A:51:ASN:N	2.32	0.59
1:A:806:ASP:HB3	1:A:808:LEU:HG	1.84	0.59
1:B:285:ASP:O	1:B:409:LYS:NZ	2.35	0.59
1:B:364:ASP:O	1:B:438:ARG:NH1	2.35	0.59
1:A:519:LEU:HD11	1:A:555:LEU:HB3	1.83	0.59
1:A:455:MET:SD	1:A:457:HIS:N	2.70	0.59
1:A:721:ASP:HA	1:A:724:LYS:HE3	1.85	0.59
1:B:267:PHE:HA	1:B:270:GLU:OE2	2.03	0.59
1:B:501:ASN:HB3	1:B:535:LYS:HD3	1.84	0.59
1:A:837:THR:HG22	1:A:841:SER:H	1.68	0.59
1:B:185:GLU:OE1	1:B:188:ARG:NH2	2.36	0.59
1:B:528:ILE:HG23	1:B:532:LEU:HD22	1.83	0.59
1:B:784:ARG:NE	1:B:786:GLU:OE1	2.35	0.59
1:A:440:ILE:HG23	1:A:452:ALA:HB3	1.85	0.58
1:B:571:ASN:N	1:B:603:ASP:OD2	2.36	0.58
1:A:302:PHE:HZ	1:A:352:LYS:HB2	1.67	0.58
1:A:375:PHE:N	1:A:424:CYS:O	2.28	0.58
1:A:778:LEU:HD13	1:A:793:LEU:HD22	1.86	0.58
1:B:533:LYS:HB3	1:B:537:GLY:HA2	1.85	0.58
1:B:684:ILE:HG22	1:B:688:ARG:HH21	1.67	0.58
1:B:228:GLU:HB3	1:B:232:LYS:HE3	1.85	0.58
1:A:341:LEU:HA	1:A:344:ARG:HE	1.68	0.58
1:A:906:GLU:HG3	1:A:908:ARG:HG2	1.86	0.58
1:A:64:ILE:HG22	1:A:66:SER:H	1.68	0.58
1:A:877:ILE:HD12	1:A:880:ALA:HB3	1.85	0.58
1:A:396:ARG:HA	1:A:416:PRO:HB3	1.86	0.58
1:A:617:TYR:HB3	1:A:619:VAL:HG12	1.86	0.58
1:B:407:TYR:CZ	1:B:409:LYS:HB2	2.39	0.57
1:A:288:PHE:CZ	1:A:409:LYS:NZ	2.71	0.57
1:A:501:ASN:HB3	1:A:535:LYS:HD3	1.86	0.57
1:A:130:ALA:HB2	1:A:407:TYR:HD2	1.70	0.57
1:A:741:ASN:ND2	1:A:770:LYS:O	2.38	0.57
1:B:477:ASN:HB3	1:B:480:LYS:HB2	1.85	0.57
1:A:388:ASN:ND2	1:A:471:ASP:OD2	2.37	0.57
1:B:849:SER:O	1:B:851:ARG:NH1	2.37	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:706:ASN:HB2	1:B:708:TRP:NE1	2.20	0.57
1:A:254:LEU:HD21	1:A:317:VAL:HG12	1.86	0.57
1:A:462:PHE:HB3	1:A:466:HIS:CE1	2.40	0.57
1:A:422:ASN:OD1	1:A:423:ALA:N	2.37	0.57
1:A:725:GLU:HA	1:A:728:LYS:HD2	1.86	0.57
1:B:904:THR:H	1:B:907:GLY:HA2	1.69	0.57
1:A:451:PHE:HB3	1:A:499:PHE:CE1	2.39	0.56
1:B:539:THR:OG1	1:B:542:HIS:ND1	2.27	0.56
1:A:836:LYS:HD3	1:A:840:GLY:HA2	1.88	0.56
1:B:114:GLU:O	1:B:118:ASN:ND2	2.38	0.56
1:B:469:LEU:HG	1:B:488:LEU:HD22	1.87	0.56
1:B:233:ASN:HD22	1:B:323:THR:HG21	1.70	0.56
1:A:923:TYR:HA	1:A:926:PHE:HD2	1.70	0.56
1:B:750:SER:O	1:B:784:ARG:NH1	2.37	0.56
1:A:138:VAL:HG21	1:A:269:LEU:HD22	1.88	0.56
1:A:594:PRO:HB2	1:A:596:ILE:HG22	1.87	0.56
1:A:316:ASN:O	1:A:319:GLU:HG3	2.05	0.56
1:B:839:ASP:O	1:B:871:ASN:ND2	2.38	0.56
1:B:875:LEU:HD12	1:B:877:ILE:HD11	1.88	0.56
1:A:255:PHE:HB2	1:A:338:TYR:CE1	2.36	0.55
1:A:754:ILE:HA	1:A:757:ILE:HD12	1.89	0.55
1:A:827:LEU:HD23	1:A:831:ALA:HB3	1.87	0.55
1:B:427:ILE:HD11	1:B:442:ARG:HH21	1.70	0.55
1:B:533:LYS:NZ	1:B:566:LYS:O	2.31	0.55
1:A:144:THR:HA	1:A:147:LYS:HD3	1.89	0.55
1:A:554:LYS:HA	1:A:557:ILE:HG22	1.88	0.55
1:B:114:GLU:HA	1:B:117:PHE:CD2	2.42	0.55
1:B:338:TYR:O	1:B:342:VAL:HG23	2.07	0.55
1:B:156:PHE:CZ	1:B:256:TYR:HB2	2.42	0.55
1:A:444:PHE:N	1:A:448:LYS:HG3	2.21	0.54
1:B:107:ASP:OD1	1:B:108:GLU:N	2.40	0.54
1:A:424:CYS:N	1:A:425:PRO:HD3	2.22	0.54
1:A:700:ASN:ND2	1:A:731:ASP:O	2.31	0.54
1:B:149:ARG:HH22	1:B:179:LYS:HD3	1.72	0.54
1:A:668:ASP:OD1	1:A:671:HIS:N	2.40	0.54
1:A:759:GLU:HA	1:A:762:LYS:HE3	1.89	0.54
1:A:401:TYR:OH	1:A:404:LYS:HB2	2.07	0.54
1:A:484:GLU:HG2	1:A:488:LEU:HD23	1.90	0.54
1:B:502:ASP:HB2	1:B:535:LYS:HZ3	1.73	0.54
1:B:859:LEU:O	1:B:863:GLY:N	2.40	0.54
1:B:255:PHE:O	1:B:258:THR:OG1	2.24	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:786:GLU:OE1	1:B:786:GLU:N	2.41	0.54
1:A:349:GLU:OE2	1:A:353:ASN:ND2	2.41	0.54
1:B:668:ASP:OD1	1:B:672:MET:N	2.29	0.53
1:B:547:ALA:HB1	1:B:549:GLN:HE22	1.74	0.53
1:B:577:LEU:HD12	1:B:580:ARG:HH22	1.73	0.53
1:A:162:THR:O	1:A:169:LYS:NZ	2.27	0.53
1:A:407:TYR:CD2	1:A:409:LYS:NZ	2.77	0.53
1:B:552:PHE:HA	1:B:555:LEU:HB2	1.89	0.53
1:B:875:LEU:HG	1:B:878:HIS:CE1	2.43	0.53
1:B:482:VAL:HG22	1:B:517:ILE:HG21	1.89	0.53
1:A:640:THR:CG2	1:A:664:LEU:HB3	2.32	0.53
1:A:886:LEU:HD12	1:A:890:ARG:HH11	1.74	0.53
1:B:670:ASN:HB2	1:B:672:MET:HE2	1.91	0.53
1:B:397:TYR:OH	1:B:414:SER:OG	2.26	0.53
1:B:721:ASP:OD1	1:B:722:ALA:N	2.40	0.53
1:B:226:LEU:O	1:B:230:LEU:HG	2.09	0.53
1:B:517:ILE:HA	1:B:520:ARG:HG2	1.90	0.53
1:B:806:ASP:O	1:B:837:THR:OG1	2.24	0.53
1:B:401:TYR:CE1	1:B:403:SER:HB3	2.44	0.52
1:B:549:GLN:HB3	1:B:552:PHE:HD2	1.74	0.52
1:B:233:ASN:OD1	1:B:245:ASN:ND2	2.43	0.52
1:A:441:PHE:HB2	1:A:450:GLN:C	2.29	0.52
1:B:787:PRO:HB2	1:B:825:TYR:CE2	2.45	0.52
1:B:879:LYS:O	1:B:883:ASN:ND2	2.36	0.52
1:A:396:ARG:HB3	1:A:413:TRP:HD1	1.74	0.52
1:B:399:VAL:HA	1:B:440:ILE:HA	1.92	0.52
1:A:444:PHE:H	1:A:448:LYS:CG	2.19	0.52
1:B:847:ALA:O	1:B:851:ARG:N	2.35	0.52
1:A:576:HIS:HE2	1:A:608:PRO:HG3	1.74	0.52
1:B:578:ALA:O	1:B:581:SER:OG	2.24	0.52
1:B:706:ASN:HB2	1:B:708:TRP:HE1	1.75	0.52
1:A:218:SER:O	1:A:222:LEU:HB2	2.10	0.52
1:A:401:TYR:O	1:A:407:TYR:HD1	1.93	0.51
1:A:402:GLU:HG3	1:A:407:TYR:HB2	1.92	0.51
1:B:80:PRO:HA	1:B:83:ILE:HG12	1.92	0.51
1:B:309:GLY:O	1:B:313:LEU:HG	2.10	0.51
1:A:746:HIS:NE2	1:A:769:GLU:O	2.42	0.51
1:A:911:ILE:HA	1:A:914:ILE:HG12	1.92	0.51
1:B:159:VAL:HG13	1:B:249:GLN:HE21	1.74	0.51
1:B:448:LYS:O	1:B:450:GLN:HG3	2.10	0.51
1:B:903:GLU:HG2	1:B:904:THR:HG23	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:179:LYS:HE2	1:A:256:TYR:HE2	1.76	0.51
1:A:413:TRP:NE1	1:A:443:LYS:HE3	2.25	0.51
1:B:366:ILE:N	1:B:367:PRO:HD3	2.26	0.51
1:B:600:GLU:O	1:B:608:PRO:HD3	2.10	0.51
1:B:701:SER:OG	1:B:702:VAL:N	2.40	0.51
1:A:556:LEU:HD12	1:A:557:ILE:N	2.25	0.51
1:A:702:VAL:HG12	1:A:709:THR:HG22	1.92	0.51
1:A:860:LEU:HD21	1:A:892:PHE:HE1	1.76	0.51
1:A:225:ALA:O	1:A:229:LEU:HD13	2.10	0.51
1:A:321:LEU:HD11	1:A:339:ARG:HD2	1.93	0.51
1:A:566:LYS:HD3	1:A:571:ASN:HB3	1.92	0.51
1:A:708:TRP:HE3	1:A:712:HIS:HB3	1.76	0.51
1:A:854:LYS:O	1:A:857:GLU:HG3	2.10	0.51
1:B:149:ARG:HA	1:B:152:MET:HE2	1.93	0.51
1:A:466:HIS:CD2	1:A:497:ALA:HB3	2.46	0.51
1:B:375:PHE:H	1:B:425:PRO:HG3	1.76	0.51
1:B:819:ARG:HH21	1:B:821:SER:H	1.58	0.50
1:A:786:GLU:HG2	1:A:789:ILE:HG12	1.94	0.50
1:A:588:ARG:O	1:A:592:GLU:HG3	2.11	0.50
1:B:207:ILE:O	1:B:211:LEU:HG	2.11	0.50
1:B:291:GLU:O	1:B:295:VAL:HG13	2.11	0.50
1:B:819:ARG:HE	1:B:821:SER:H	1.58	0.50
1:A:69:VAL:HG12	1:A:71:GLY:H	1.76	0.50
1:A:302:PHE:CZ	1:A:352:LYS:HB2	2.46	0.50
1:A:366:ILE:HG12	1:A:438:ARG:HH21	1.77	0.50
1:B:424:CYS:HA	1:B:461:ASN:HB2	1.93	0.50
1:B:534:ASP:H	1:B:538:PHE:H	1.56	0.50
1:A:554:LYS:NZ	1:A:589:ASN:OD1	2.27	0.50
1:A:370:LEU:HG	1:A:373:VAL:HG23	1.93	0.50
1:A:467:ARG:HA	1:A:470:TYR:HE1	1.71	0.50
1:B:365:ASP:HB3	1:B:400:GLN:HA	1.93	0.50
1:A:81:ILE:HG13	1:A:113:LEU:HG	1.93	0.50
1:B:818:GLY:HA2	1:B:855:THR:HG21	1.92	0.50
1:B:576:HIS:CE1	1:B:608:PRO:HG3	2.47	0.50
1:B:609:LEU:HD23	1:B:641:PRO:HG2	1.94	0.50
1:A:197:TYR:OH	1:A:271:GLN:NE2	2.35	0.49
1:A:251:LEU:O	1:A:254:LEU:HB3	2.12	0.49
1:A:179:LYS:HE2	1:A:256:TYR:CE2	2.47	0.49
1:A:552:PHE:HA	1:A:555:LEU:HB2	1.94	0.49
1:A:386:ILE:HG22	1:A:389:TRP:H	1.78	0.49
1:A:604:ASP:HB2	1:A:606:PHE:CE2	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:892:PHE:O	1:A:898:SER:N	2.45	0.49
1:B:201:LEU:HD21	1:B:275:LEU:HD22	1.94	0.49
1:B:370:LEU:HB2	1:B:442:ARG:HH22	1.78	0.49
1:A:754:ILE:HG22	1:A:758:LYS:HZ3	1.77	0.49
1:B:426:THR:HG21	1:B:430:ARG:NH2	2.27	0.49
1:B:866:LEU:HB2	1:B:868:GLU:HG2	1.93	0.49
1:A:407:TYR:CD2	1:A:409:LYS:HE3	2.44	0.49
1:B:502:ASP:OD1	1:B:503:ARG:N	2.45	0.49
1:B:913:LEU:HB2	1:B:923:TYR:OH	2.13	0.49
1:B:109:ILE:O	1:B:113:LEU:HG	2.13	0.49
1:B:261:TYR:O	1:B:265:MET:HG3	2.13	0.49
1:A:424:CYS:HA	1:A:461:ASN:ND2	2.27	0.49
1:B:588:ARG:HA	1:B:591:LEU:HD12	1.95	0.49
1:B:486:THR:O	1:B:490:GLU:HG3	2.13	0.49
1:B:779:HIS:CE1	1:B:803:ARG:HA	2.45	0.49
1:B:507:HIS:HB3	1:B:543:ILE:HG13	1.94	0.49
1:A:178:PHE:HE1	1:A:211:LEU:HD11	1.78	0.48
1:A:379:GLU:OE2	1:A:380:ASN:ND2	2.46	0.48
1:A:606:PHE:CD1	1:A:635:SER:OG	2.53	0.48
1:A:166:LYS:HE3	1:A:168:ILE:H	1.77	0.48
1:A:462:PHE:HB3	1:A:466:HIS:HE1	1.76	0.48
1:A:850:GLY:O	1:A:851:ARG:HG2	2.13	0.48
1:B:370:LEU:HD23	1:B:397:TYR:HB3	1.95	0.48
1:B:794:ILE:HG13	1:B:829:LYS:HE2	1.94	0.48
1:A:430:ARG:HH11	1:A:458:SER:HA	1.77	0.48
1:A:637:SER:HB2	1:A:639:LEU:HD13	1.94	0.48
1:B:365:ASP:HA	1:B:438:ARG:HH22	1.79	0.48
1:B:154:GLU:O	1:B:158:LEU:HG	2.14	0.48
1:B:229:LEU:HA	1:B:232:LYS:HB2	1.95	0.48
1:B:676:HIS:HA	1:B:710:PRO:HB3	1.95	0.48
1:B:218:SER:O	1:B:222:LEU:HG	2.13	0.48
1:B:609:LEU:O	1:B:613:VAL:HG23	2.12	0.48
1:A:430:ARG:O	1:A:433:PRO:HD3	2.13	0.48
1:A:503:ARG:HB3	1:A:506:MET:HE2	1.95	0.48
1:A:890:ARG:O	1:A:895:LYS:N	2.40	0.48
1:B:885:ASP:HB3	1:B:888:MET:HB2	1.95	0.48
1:A:428:LYS:HA	1:A:430:ARG:NH2	2.28	0.48
1:B:490:GLU:OE1	1:B:491:LYS:NZ	2.46	0.48
1:B:503:ARG:HB2	1:B:507:HIS:CE1	2.48	0.48
1:B:620:VAL:O	1:B:624:LEU:HG	2.13	0.48
1:B:869:TYR:HB2	1:B:873:LYS:HA	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:878:HIS:HA	1:B:881:ILE:HD12	1.95	0.48
1:A:517:ILE:HA	1:A:520:ARG:HB3	1.95	0.48
1:A:819:ARG:O	1:A:822:THR:OG1	2.31	0.48
1:B:667:GLN:HB3	1:B:671:HIS:HA	1.96	0.48
1:A:374:ASN:HB2	1:B:476:ILE:HD12	1.96	0.48
1:A:519:LEU:O	1:A:523:LEU:HB2	2.13	0.48
1:B:177:ASP:O	1:B:180:LYS:HG2	2.13	0.48
1:A:877:ILE:HA	1:A:880:ALA:HB3	1.96	0.47
1:A:443:LYS:HG2	1:A:448:LYS:HG2	1.97	0.47
1:A:548:GLY:HA3	1:A:583:PHE:CG	2.49	0.47
1:A:920:LEU:HG	1:A:922:LEU:N	2.29	0.47
1:B:443:LYS:HA	1:B:448:LYS:HD3	1.95	0.47
1:A:142:PHE:HE1	1:A:267:PHE:HB2	1.78	0.47
1:B:791:VAL:O	1:B:794:ILE:HB	2.15	0.47
1:A:97:THR:O	1:A:784:ARG:NH1	2.46	0.47
1:A:640:THR:HG22	1:A:641:PRO:N	2.30	0.47
1:A:689:TYR:CZ	1:A:693:ILE:HD11	2.50	0.47
1:A:698:SER:HB2	1:A:701:SER:HB2	1.96	0.47
1:B:376:PRO:O	1:B:422:ASN:ND2	2.45	0.47
1:B:397:TYR:OH	1:B:412:GLU:OE2	2.26	0.47
1:B:136:LYS:O	1:B:140:LYS:HG2	2.15	0.47
1:B:198:VAL:O	1:B:202:LEU:HG	2.15	0.47
1:B:706:ASN:HB2	1:B:708:TRP:CD1	2.50	0.47
1:A:550:ALA:HB1	1:A:589:ASN:OD1	2.14	0.47
1:A:684:ILE:HA	1:A:687:LEU:HB3	1.97	0.47
1:B:362:LEU:N	1:B:408:SER:HG	2.12	0.47
1:B:397:TYR:HA	1:B:442:ARG:HG2	1.96	0.47
1:B:519:LEU:HD22	1:B:523:LEU:HD13	1.96	0.47
1:B:588:ARG:HA	1:B:591:LEU:HB2	1.97	0.47
1:B:912:MET:HA	1:B:915:VAL:HG12	1.96	0.47
1:B:362:LEU:HD22	1:B:410:PHE:HD1	1.78	0.47
1:B:383:PRO:HG3	1:B:421:GLY:HA2	1.97	0.47
1:A:338:TYR:HA	1:A:341:LEU:HD12	1.97	0.47
1:A:453:GLY:HA3	1:A:463:LYS:NZ	2.29	0.47
1:B:251:LEU:O	1:B:254:LEU:HG	2.15	0.47
1:A:77:VAL:O	1:A:81:ILE:HG12	2.14	0.47
1:A:211:LEU:HA	1:A:214:VAL:HB	1.97	0.47
1:A:307:THR:HG22	1:A:352:LYS:HE3	1.97	0.47
1:A:632:ASN:HB3	1:A:664:LEU:HD13	1.97	0.47
1:B:370:LEU:HD21	1:B:415:GLU:O	2.15	0.47
1:B:426:THR:HG22	1:B:428:LYS:H	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:549:GLN:HB3	1:B:552:PHE:HB2	1.96	0.47
1:B:602:GLU:HG2	1:B:604:ASP:H	1.80	0.47
1:B:853:MET:SD	1:B:853:MET:N	2.88	0.47
1:A:640:THR:CG2	1:A:641:PRO:CD	2.93	0.46
1:B:186:ARG:HG3	1:B:267:PHE:CZ	2.49	0.46
1:B:475:ASN:OD1	1:B:476:ILE:N	2.48	0.46
1:B:502:ASP:HA	1:B:534:ASP:HB2	1.97	0.46
1:A:914:ILE:HD12	1:A:927:ILE:HG12	1.97	0.46
1:A:182:PHE:CE1	1:A:264:VAL:HG22	2.50	0.46
1:B:504:SER:O	1:B:508:ALA:HB3	2.15	0.46
1:B:824:LEU:O	1:B:828:GLU:OE1	2.34	0.46
1:A:369:THR:HG23	1:A:397:TYR:CE1	2.50	0.46
1:A:917:LYS:HG3	1:A:918:LEU:H	1.80	0.46
1:B:104:ILE:HB	1:B:105:PRO:HD3	1.96	0.46
1:B:482:VAL:HG22	1:B:517:ILE:HD13	1.96	0.46
1:A:430:ARG:HD3	1:A:458:SER:CB	2.37	0.46
1:B:258:THR:OG1	1:B:259:GLN:NE2	2.48	0.46
1:B:284:ASP:HB3	1:B:287:ASN:HB2	1.98	0.46
1:A:720:GLU:HA	1:A:756:ILE:HD11	1.97	0.46
1:B:65:GLY:O	1:B:68:PRO:HD2	2.16	0.46
1:B:519:LEU:HD12	1:B:555:LEU:HD12	1.97	0.46
1:B:691:ILE:HG21	1:B:729:GLN:OE1	2.15	0.46
1:B:790:ALA:O	1:B:794:ILE:HG12	2.15	0.46
1:B:905:GLU:O	1:B:906:GLU:HG2	2.15	0.46
1:A:448:LYS:HB3	1:A:449:PRO:HD2	1.97	0.46
1:A:503:ARG:HG2	1:A:532:LEU:HD11	1.97	0.46
1:B:107:ASP:HB2	1:B:110:LYS:NZ	2.31	0.46
1:B:506:MET:HA	1:B:509:VAL:HG12	1.98	0.46
1:A:342:VAL:O	1:A:346:LYS:HG2	2.16	0.46
1:B:504:SER:O	1:B:508:ALA:CB	2.64	0.46
1:B:280:TYR:HE1	1:B:407:TYR:HH	1.63	0.46
1:B:289:ASN:ND2	1:B:409:LYS:O	2.49	0.46
1:B:534:ASP:OD1	1:B:537:GLY:N	2.49	0.46
1:B:825:TYR:O	1:B:829:LYS:HD2	2.16	0.46
1:A:461:ASN:ND2	1:A:464:ASP:OD2	2.43	0.45
1:B:304:SER:O	1:B:307:THR:OG1	2.25	0.45
1:B:874:TYR:HB3	1:B:878:HIS:HB2	1.98	0.45
1:A:743:THR:HG21	1:A:769:GLU:HG2	1.97	0.45
1:B:201:LEU:HD11	1:B:275:LEU:HB2	1.97	0.45
1:A:708:TRP:CE3	1:A:712:HIS:HB3	2.52	0.45
1:B:374:ASN:HA	1:B:425:PRO:HB3	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:908:ARG:HB2	1:A:911:ILE:HB	1.99	0.45
1:B:288:PHE:CE1	1:B:409:LYS:HB3	2.51	0.45
1:B:391:ASP:HB3	1:B:420:GLN:HG3	1.97	0.45
1:B:636:THR:HG23	1:B:637:SER:N	2.32	0.45
1:A:249:GLN:OE1	1:A:249:GLN:N	2.37	0.45
1:A:879:LYS:HE2	1:A:882:ILE:HD12	1.97	0.45
1:B:115:GLU:HA	1:B:118:ASN:HD21	1.81	0.45
1:B:395:VAL:O	1:B:395:VAL:HG13	2.16	0.45
1:B:635:SER:H	1:B:639:LEU:H	1.64	0.45
1:B:451:PHE:CE2	1:B:499:PHE:HA	2.52	0.45
1:A:520:ARG:O	1:A:520:ARG:NH1	2.37	0.45
1:A:923:TYR:O	1:A:927:ILE:HG13	2.16	0.45
1:B:617:TYR:O	1:B:620:VAL:HG22	2.16	0.45
1:B:673:ALA:H	1:B:676:HIS:CE1	2.34	0.45
1:B:687:LEU:HD21	1:B:726:LEU:HG	1.98	0.45
1:A:313:LEU:O	1:A:317:VAL:HG13	2.16	0.45
1:A:709:THR:HG23	1:A:712:HIS:CE1	2.52	0.45
1:A:721:ASP:OD1	1:A:721:ASP:N	2.50	0.45
1:A:749:VAL:HG21	1:A:777:SER:HB3	1.99	0.45
1:B:643:HIS:CD2	1:B:674:PRO:HG3	2.51	0.45
1:B:780:ILE:O	1:B:784:ARG:N	2.48	0.45
1:A:668:ASP:OD1	1:A:672:MET:HG3	2.17	0.45
1:A:869:TYR:CD2	1:A:873:LYS:HD2	2.52	0.45
1:B:443:LYS:HD2	1:B:447:GLY:HA2	1.99	0.45
1:B:535:LYS:O	1:B:569:LYS:NZ	2.40	0.45
1:B:602:GLU:HG2	1:B:603:ASP:N	2.31	0.45
1:A:503:ARG:N	1:A:503:ARG:HD2	2.32	0.45
1:A:591:LEU:O	1:A:594:PRO:HD3	2.17	0.45
1:B:549:GLN:O	1:B:553:VAL:N	2.47	0.45
1:B:856:VAL:HA	1:B:859:LEU:HB2	1.99	0.45
1:A:226:LEU:HD11	1:A:320:VAL:HG21	1.99	0.44
1:A:343:THR:HA	1:A:346:LYS:HE2	1.99	0.44
1:A:837:THR:HG23	1:A:839:ASP:H	1.81	0.44
1:B:448:LYS:HZ1	1:B:452:ALA:N	2.15	0.44
1:B:823:VAL:O	1:B:827:LEU:HD23	2.17	0.44
1:A:407:TYR:CE2	1:A:409:LYS:CE	2.81	0.44
1:A:724:LYS:HG3	1:A:728:LYS:HZ2	1.82	0.44
1:B:424:CYS:N	1:B:425:PRO:HD2	2.31	0.44
1:B:549:GLN:O	1:B:553:VAL:HG23	2.17	0.44
1:A:222:LEU:HD11	1:A:254:LEU:HA	1.99	0.44
1:A:366:ILE:HD13	1:A:438:ARG:HE	1.83	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:482:VAL:HG13	1:A:517:ILE:HD13	1.97	0.44
1:A:859:LEU:O	1:A:863:GLY:N	2.49	0.44
1:A:868:GLU:O	1:A:876:PRO:HD3	2.17	0.44
1:B:69:VAL:HG13	1:B:69:VAL:O	2.18	0.44
1:B:139:SER:O	1:B:143:VAL:HG23	2.17	0.44
1:B:152:MET:HA	1:B:155:ASN:HB3	1.98	0.44
1:B:333:ALA:HA	1:B:336:LYS:HD3	2.00	0.44
1:B:439:LEU:HG	1:B:454:THR:HA	1.99	0.44
1:A:551:GLY:O	1:A:555:LEU:HD23	2.17	0.44
1:A:745:LEU:HD13	1:A:760:LEU:HD22	1.99	0.44
1:B:600:GLU:OE1	1:B:601:LYS:N	2.51	0.44
1:A:166:LYS:HG3	1:A:168:ILE:HG22	1.99	0.44
1:A:446:SER:O	1:A:448:LYS:HG2	2.18	0.44
1:B:159:VAL:HG13	1:B:249:GLN:NE2	2.33	0.44
1:B:177:ASP:HA	1:B:180:LYS:HG2	1.99	0.44
1:B:683:SER:OG	1:B:686:MET:HB2	2.17	0.44
1:A:73:VAL:HG12	1:A:74:VAL:H	1.83	0.44
1:A:255:PHE:CE2	1:A:341:LEU:HB3	2.53	0.44
1:A:396:ARG:HA	1:A:416:PRO:CB	2.48	0.44
1:A:500:ASP:C	1:A:502:ASP:H	2.21	0.44
1:A:608:PRO:O	1:A:611:THR:OG1	2.29	0.44
1:B:222:LEU:O	1:B:226:LEU:HG	2.17	0.44
1:B:514:ASN:HB3	1:B:517:ILE:HG12	2.00	0.44
1:A:204:GLN:HA	1:A:207:ILE:HD13	2.00	0.44
1:A:373:VAL:HG21	1:A:428:LYS:HD3	2.00	0.44
1:B:365:ASP:O	1:B:438:ARG:NH2	2.48	0.44
1:B:461:ASN:O	1:B:465:ILE:HG12	2.17	0.44
1:B:819:ARG:NH2	1:B:821:SER:OG	2.51	0.44
1:A:166:LYS:HG3	1:A:168:ILE:H	1.83	0.44
1:A:389:TRP:CE2	1:A:423:ALA:HB2	2.53	0.44
1:A:820:LYS:HE3	1:A:858:THR:OG1	2.18	0.44
1:B:710:PRO:HA	1:B:713:PHE:HD2	1.82	0.44
1:A:132:GLU:OE2	1:A:133:GLU:HG2	2.18	0.44
1:A:192:LEU:HB3	1:A:196:ARG:HB2	2.00	0.44
1:A:399:VAL:HG23	1:A:439:LEU:C	2.38	0.43
1:B:400:GLN:HB2	1:B:408:SER:O	2.18	0.43
1:B:466:HIS:NE2	1:B:494:ASP:HB3	2.32	0.43
1:B:889:VAL:O	1:B:893:LEU:HG	2.17	0.43
1:A:908:ARG:HA	1:A:911:ILE:HD13	2.00	0.43
1:B:577:LEU:HD12	1:B:580:ARG:NH2	2.33	0.43
1:A:289:ASN:OD1	1:A:411:SER:HB2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:448:LYS:HD3	1:A:448:LYS:HA	1.73	0.43
1:B:400:GLN:HB2	1:B:409:LYS:HA	2.00	0.43
1:B:593:SER:HB3	1:B:594:PRO:HD3	2.00	0.43
1:B:803:ARG:NE	1:B:807:ASN:OD1	2.35	0.43
1:B:892:PHE:O	1:B:896:ASP:HB3	2.18	0.43
1:B:908:ARG:HA	1:B:911:ILE:HD12	2.01	0.43
1:A:597:LYS:HD2	1:A:597:LYS:O	2.19	0.43
1:A:737:VAL:HG13	1:A:741:ASN:HA	1.99	0.43
1:A:812:HIS:HE2	1:A:835:ALA:HB3	1.84	0.43
1:B:327:LEU:HD12	1:B:328:PRO:HD2	2.00	0.43
1:B:396:ARG:HA	1:B:413:TRP:HB3	2.01	0.43
1:A:630:ASP:OD1	1:A:630:ASP:N	2.49	0.43
1:B:110:LYS:O	1:B:114:GLU:OE1	2.36	0.43
1:B:396:ARG:HB3	1:B:413:TRP:CD1	2.54	0.43
1:B:876:PRO:HA	1:B:879:LYS:HD3	2.00	0.43
1:B:894:GLU:HG2	1:B:895:LYS:N	2.33	0.43
1:A:443:LYS:HB2	1:A:450:GLN:HG2	2.01	0.43
1:A:699:ILE:HD11	1:A:731:ASP:HB3	2.01	0.43
1:A:900:LYS:HD2	1:A:900:LYS:HA	1.86	0.43
1:B:348:LEU:O	1:B:351:LEU:HB3	2.18	0.43
1:B:770:LYS:NZ	1:B:774:GLY:HA2	2.34	0.43
1:A:171:ILE:O	1:A:175:ILE:HG23	2.19	0.43
1:A:549:GLN:O	1:A:553:VAL:HG23	2.19	0.43
1:A:686:MET:O	1:A:690:LEU:HG	2.17	0.43
1:A:786:GLU:N	1:A:786:GLU:OE1	2.52	0.43
1:B:61:ALA:O	1:B:64:ILE:HB	2.18	0.43
1:B:903:GLU:HG2	1:B:904:THR:N	2.33	0.43
1:A:288:PHE:CD1	1:A:409:LYS:HD3	2.52	0.43
1:A:642:PHE:CE2	1:A:663:ASP:HA	2.53	0.43
1:A:676:HIS:HD2	1:A:710:PRO:HB3	1.84	0.43
1:B:316:ASN:O	1:B:319:GLU:HG3	2.18	0.43
1:B:427:ILE:HD11	1:B:442:ARG:NH2	2.32	0.43
1:B:534:ASP:OD1	1:B:538:PHE:N	2.52	0.43
1:B:556:LEU:HD12	1:B:557:ILE:N	2.34	0.43
1:B:137:LEU:O	1:B:141:THR:HG23	2.18	0.43
1:B:401:TYR:HE2	1:B:406:MET:HG3	1.83	0.43
1:B:667:GLN:HE22	1:B:703:THR:HA	1.83	0.43
1:A:124:LEU:HG	1:A:274:TYR:HE1	1.84	0.42
1:A:349:GLU:O	1:A:352:LYS:HG2	2.19	0.42
1:A:398:ALA:O	1:A:440:ILE:HG13	2.19	0.42
1:A:584:SER:OG	1:A:619:VAL:HB	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:168:ILE:HG12	1:B:225:ALA:HB2	2.01	0.42
1:B:400:GLN:HG3	1:B:409:LYS:HA	2.00	0.42
1:A:891:LEU:HD13	1:A:895:LYS:HD2	2.01	0.42
1:B:118:ASN:HA	1:B:121:ASP:OD2	2.18	0.42
1:B:703:THR:OG1	1:B:708:TRP:N	2.50	0.42
1:B:886:LEU:HD12	1:B:887:ASP:N	2.35	0.42
1:A:441:PHE:HB2	1:A:450:GLN:O	2.19	0.42
1:A:808:LEU:HA	1:A:812:HIS:ND1	2.34	0.42
1:A:837:THR:HG23	1:A:839:ASP:N	2.35	0.42
1:A:341:LEU:N	1:A:344:ARG:HH21	2.17	0.42
1:A:401:TYR:HE1	1:A:437:ASN:H	1.68	0.42
1:B:255:PHE:O	1:B:259:GLN:HG2	2.19	0.42
1:B:669:VAL:HG23	1:B:670:ASN:ND2	2.35	0.42
1:B:727:LEU:HD21	1:B:763:ARG:HG3	2.01	0.42
1:B:783:MET:HA	1:B:817:ILE:HD13	2.01	0.42
1:A:443:LYS:HG2	1:A:448:LYS:CG	2.50	0.42
1:A:504:SER:O	1:A:508:ALA:HB3	2.19	0.42
1:A:890:ARG:O	1:A:894:GLU:N	2.46	0.42
1:B:282:LYS:NZ	1:B:447:GLY:O	2.51	0.42
1:B:478:LYS:O	1:B:482:VAL:HG23	2.20	0.42
1:A:111:GLU:O	1:A:114:GLU:HG3	2.19	0.42
1:A:599:ASN:OD1	1:A:629:ILE:HA	2.19	0.42
1:B:441:PHE:HB2	1:B:448:LYS:NZ	2.35	0.42
1:B:516:LYS:HB2	1:B:520:ARG:HH22	1.84	0.42
1:A:200:LYS:O	1:A:204:GLN:HG2	2.19	0.42
1:A:639:LEU:HD23	1:A:644:LEU:HD21	2.02	0.42
1:A:723:ALA:O	1:A:726:LEU:HG	2.19	0.42
1:A:753:GLN:OE1	1:A:755:ASN:ND2	2.53	0.42
1:B:252:TYR:HA	1:B:338:TYR:CE1	2.55	0.42
1:B:377:ASN:OD1	1:B:378:ASP:N	2.53	0.42
1:B:441:PHE:HB2	1:B:448:LYS:HZ1	1.85	0.42
1:B:478:LYS:HG3	1:B:514:ASN:OD1	2.19	0.42
1:B:566:LYS:HB3	1:B:571:ASN:HB3	2.01	0.42
1:B:890:ARG:HA	1:B:893:LEU:HD12	2.01	0.42
1:A:142:PHE:O	1:A:146:GLU:HG2	2.19	0.42
1:A:754:ILE:HG22	1:A:758:LYS:NZ	2.35	0.42
1:A:760:LEU:HD21	1:A:765:SER:HB3	2.02	0.42
1:B:396:ARG:HB2	1:B:443:LYS:HB2	2.01	0.42
1:A:216:GLU:OE1	1:A:217:PRO:HD3	2.19	0.42
1:A:336:LYS:O	1:A:340:GLU:OE1	2.38	0.42
1:B:776:THR:O	1:B:780:ILE:HG13	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:852:LYS:HB2	1:B:855:THR:OG1	2.20	0.42
1:A:73:VAL:H	1:A:76:ILE:HB	1.85	0.42
1:A:212:LYS:HE3	1:A:212:LYS:HB3	1.86	0.42
1:A:775:TYR:HD2	1:A:780:ILE:HD11	1.84	0.42
1:B:179:LYS:HE2	1:B:256:TYR:CE2	2.54	0.42
1:B:525:ASN:OD1	1:B:527:SER:OG	2.23	0.42
1:B:587:VAL:O	1:B:590:LEU:HG	2.19	0.42
1:B:624:LEU:O	1:B:629:ILE:HG21	2.20	0.42
1:A:147:LYS:HB2	1:A:147:LYS:HE2	1.84	0.41
1:A:392:GLY:C	1:A:420:GLN:HE21	2.23	0.41
1:B:70:ILE:HD11	1:B:580:ARG:NE	2.35	0.41
1:B:149:ARG:NH2	1:B:179:LYS:HD3	2.34	0.41
1:B:165:SER:OG	1:B:246:LYS:HE2	2.20	0.41
1:B:370:LEU:HD23	1:B:397:TYR:CD1	2.55	0.41
1:B:470:TYR:O	1:B:474:LEU:HG	2.20	0.41
1:B:516:LYS:HB2	1:B:520:ARG:NH2	2.34	0.41
1:B:581:SER:HB2	1:B:583:PHE:CE2	2.55	0.41
1:A:155:ASN:O	1:A:159:VAL:HG23	2.19	0.41
1:A:349:GLU:HA	1:A:352:LYS:HG2	2.01	0.41
1:A:407:TYR:HD2	1:A:409:LYS:NZ	2.16	0.41
1:A:780:ILE:HA	1:A:783:MET:HG3	2.01	0.41
1:B:689:TYR:CD2	1:B:690:LEU:HD22	2.55	0.41
1:B:845:HIS:HA	1:B:848:VAL:HG22	2.02	0.41
1:A:845:HIS:O	1:A:849:SER:OG	2.30	0.41
1:B:689:TYR:CZ	1:B:693:ILE:HD11	2.55	0.41
1:A:255:PHE:CE1	1:A:341:LEU:HD22	2.56	0.41
1:A:442:ARG:HH12	1:A:444:PHE:HD1	1.67	0.41
1:A:778:LEU:HA	1:A:781:ALA:HB3	2.01	0.41
1:B:819:ARG:O	1:B:823:VAL:HG23	2.21	0.41
1:A:205:LYS:HE3	1:A:272:HIS:NE2	2.36	0.41
1:A:407:TYR:CD2	1:A:409:LYS:CE	3.03	0.41
1:B:179:LYS:HE2	1:B:256:TYR:HE2	1.85	0.41
1:B:314:ILE:HD13	1:B:314:ILE:HA	1.89	0.41
1:B:742:LEU:HD21	1:B:773:GLU:HG3	2.01	0.41
1:B:894:GLU:N	1:B:894:GLU:OE1	2.54	0.41
1:B:515:ASN:HB3	1:B:552:PHE:CD1	2.56	0.41
1:B:581:SER:HB2	1:B:583:PHE:CD2	2.55	0.41
1:B:610:HIS:NE2	1:B:639:LEU:O	2.53	0.41
1:B:708:TRP:HE3	1:B:712:HIS:CG	2.38	0.41
1:B:855:THR:O	1:B:859:LEU:HD13	2.21	0.41
1:A:448:LYS:HB2	1:A:450:GLN:HG3	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:646:ILE:O	1:A:649:GLU:HG3	2.21	0.41
1:B:486:THR:HA	1:B:489:ILE:HG22	2.02	0.41
1:B:683:SER:O	1:B:687:LEU:HB2	2.21	0.41
1:A:413:TRP:HA	1:A:416:PRO:HD2	2.02	0.41
1:B:643:HIS:HD2	1:B:677:PHE:HE2	1.68	0.41
1:B:844:LEU:O	1:B:848:VAL:HG13	2.20	0.41
1:A:194:LYS:H	1:A:194:LYS:HG3	1.66	0.41
1:A:314:ILE:HA	1:A:317:VAL:HG22	2.02	0.41
1:A:676:HIS:CD2	1:A:676:HIS:N	2.89	0.41
1:A:842:THR:HG22	1:A:843:ALA:N	2.36	0.41
1:B:129:ALA:HB3	1:B:131:LEU:HD22	2.01	0.41
1:B:684:ILE:HG23	1:B:725:GLU:OE1	2.21	0.41
1:B:703:THR:HG21	1:B:713:PHE:HZ	1.85	0.41
1:A:136:LYS:HB3	1:A:136:LYS:HE2	1.80	0.41
1:A:727:LEU:HD23	1:A:732:ILE:HG21	2.03	0.41
1:B:60:VAL:O	1:B:64:ILE:HG12	2.21	0.41
1:B:166:LYS:HD2	1:B:166:LYS:HA	1.95	0.41
1:B:443:LYS:HG2	1:B:448:LYS:H	1.86	0.41
1:B:500:ASP:O	1:B:535:LYS:NZ	2.39	0.41
1:B:746:HIS:CD2	1:B:777:SER:HB3	2.56	0.41
1:B:112:ILE:HD12	1:B:112:ILE:H	1.86	0.40
1:B:324:VAL:HG22	1:B:339:ARG:HH21	1.86	0.40
1:B:375:PHE:H	1:B:425:PRO:CG	2.33	0.40
1:B:470:TYR:CZ	1:B:504:SER:HB2	2.56	0.40
1:B:724:LYS:HB3	1:B:728:LYS:NZ	2.36	0.40
1:A:70:ILE:HD12	1:A:70:ILE:HA	1.95	0.40
1:B:448:LYS:HE2	1:B:452:ALA:HB2	2.04	0.40
1:B:837:THR:OG1	1:B:838:ALA:N	2.54	0.40
1:A:867:LYS:HE2	1:A:876:PRO:HG2	2.03	0.40
1:B:51:ASN:N	1:B:51:ASN:OD1	2.53	0.40
1:B:301:ASP:O	1:B:305:SER:OG	2.32	0.40
1:B:575:LEU:CD2	1:B:608:PRO:HB3	2.51	0.40
1:B:676:HIS:CD2	1:B:710:PRO:HG3	2.57	0.40
1:B:758:LYS:O	1:B:762:LYS:HG2	2.21	0.40
1:A:156:PHE:N	1:A:252:TYR:HE2	2.20	0.40
1:A:228:GLU:O	1:A:231:ASP:HB2	2.22	0.40
1:A:640:THR:HB	1:A:643:HIS:ND1	2.37	0.40
1:A:712:HIS:O	1:A:715:ILE:HB	2.22	0.40
1:A:791:VAL:HG12	1:A:795:GLU:OE2	2.21	0.40
1:B:630:ASP:N	1:B:630:ASP:OD1	2.53	0.40
1:A:161:GLU:OE1	1:A:161:GLU:N	2.54	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:576:HIS:NE2	1:A:608:PRO:HG3	2.35	0.40
1:A:643:HIS:CE1	1:A:674:PRO:HG3	2.57	0.40
1:B:403:SER:OG	1:B:404:LYS:HG3	2.21	0.40
1:B:580:ARG:HG2	1:B:614:MET:HB2	2.02	0.40
1:B:861:ASN:O	1:B:862:LYS:HE2	2.22	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	840/1296 (65%)	761 (91%)	79 (9%)	0	100	100
1	B	859/1296 (66%)	753 (88%)	106 (12%)	0	100	100
All	All	1699/2592 (66%)	1514 (89%)	185 (11%)	0	100	100

There are no Ramachandran outliers to report.

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	732/1127 (65%)	731 (100%)	1 (0%)	93	96
1	B	745/1127 (66%)	745 (100%)	0	100	100
All	All	1477/2254 (66%)	1476 (100%)	1 (0%)	93	96

All (1) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	580	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (3) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	420	GLN
1	B	249	GLN
1	B	916	GLN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

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.

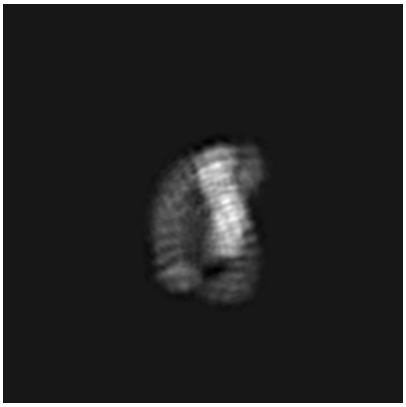
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-13643. These allow visual inspection of the internal detail of the map and identification of artifacts.

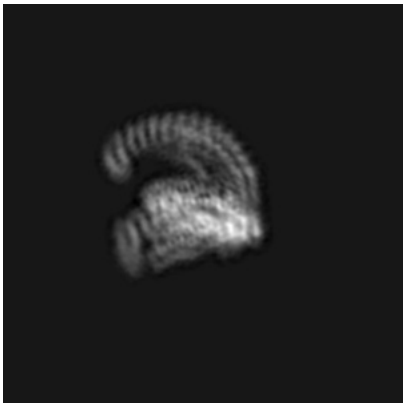
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

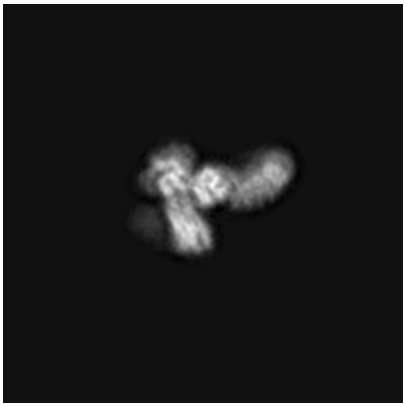
6.1.1 Primary map



X



Y

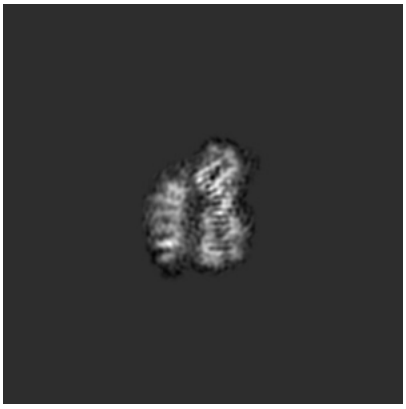


Z

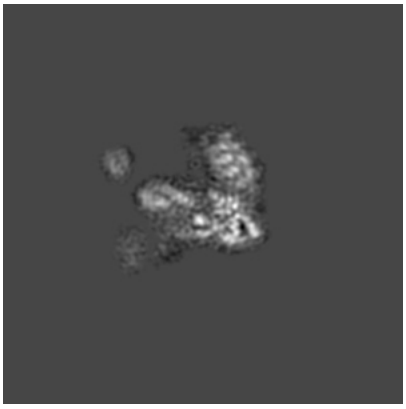
The images above show the map projected in three orthogonal directions.

6.2 Central slices

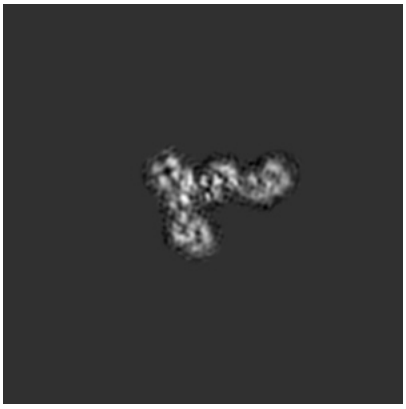
6.2.1 Primary map



X Index: 180



Y Index: 180



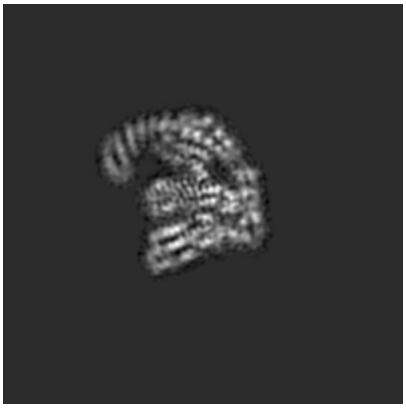
Z Index: 180

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

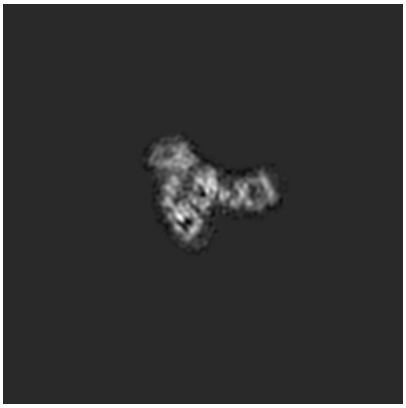
6.3 Largest variance slices (i)

6.3.1 Primary map

X Index: 157



Y Index: 202

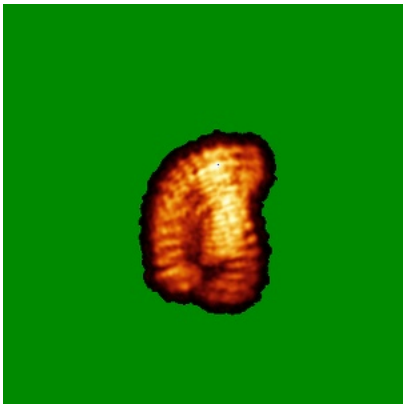


Z Index: 204

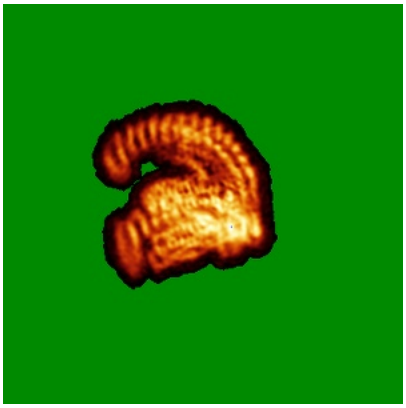
The images above show the largest variance slices of the map in three orthogonal directions.

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

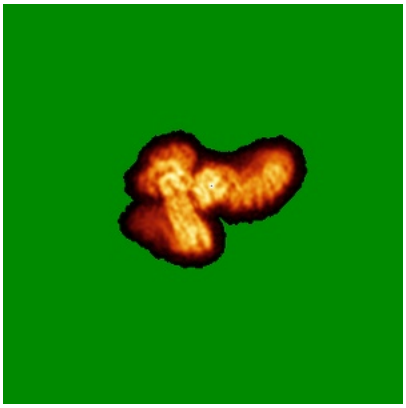
6.4.1 Primary map



X



Y

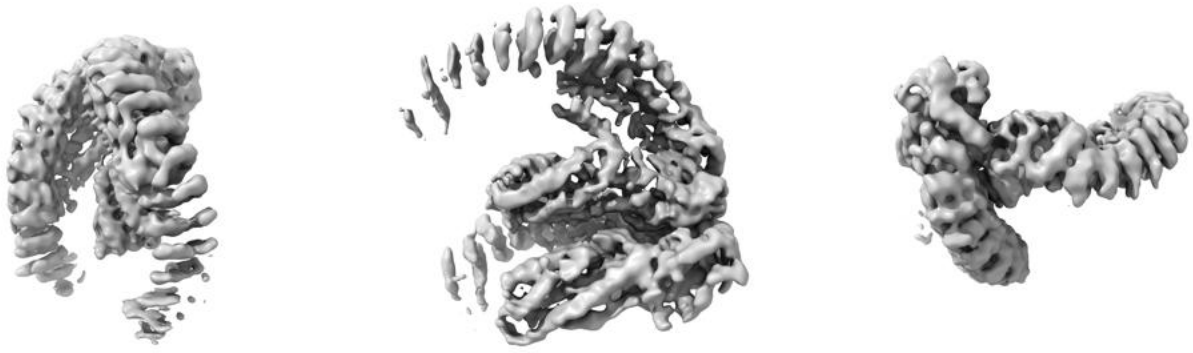


Z

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

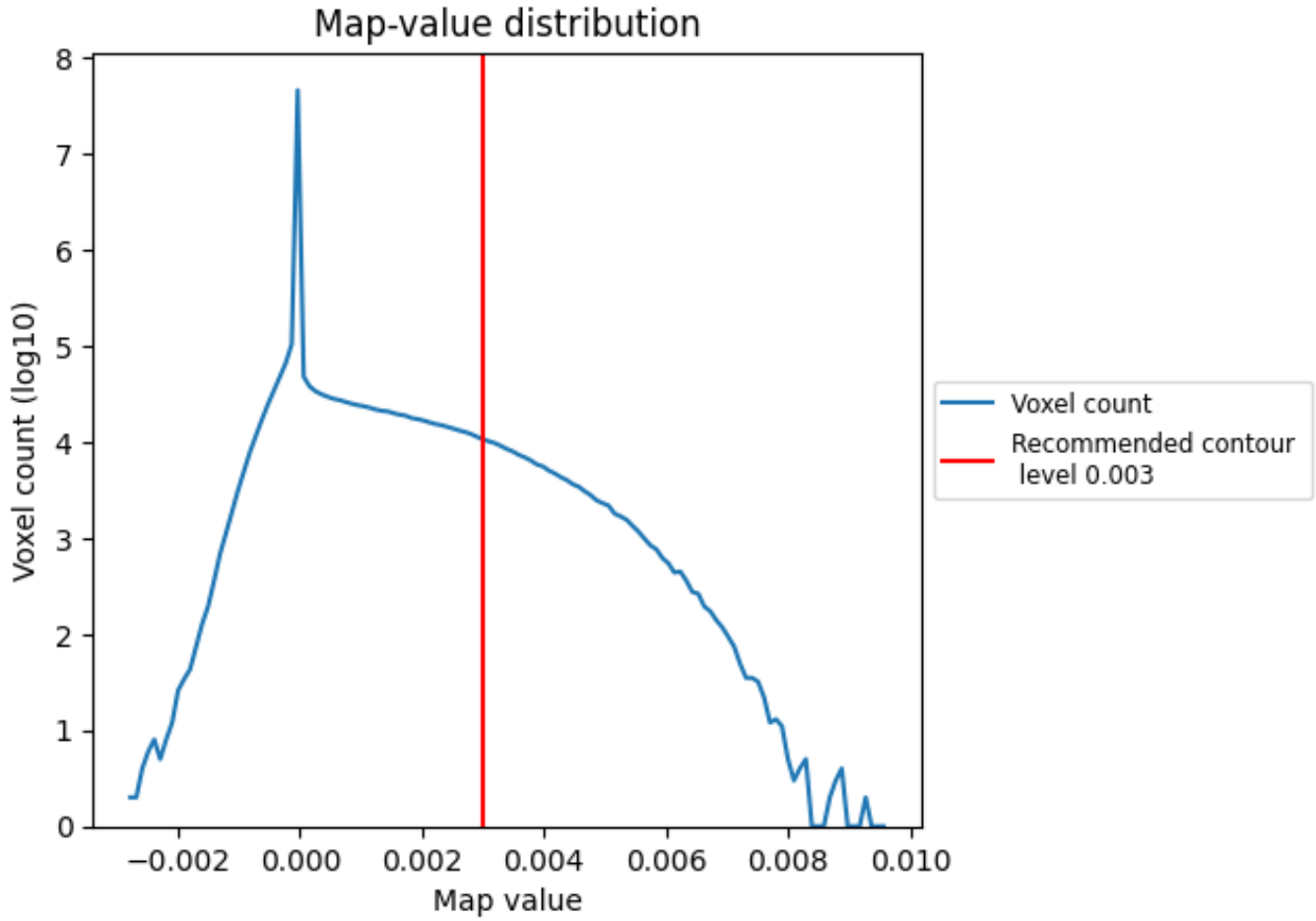
6.6 Mask visualisation (i)

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

7 Map analysis

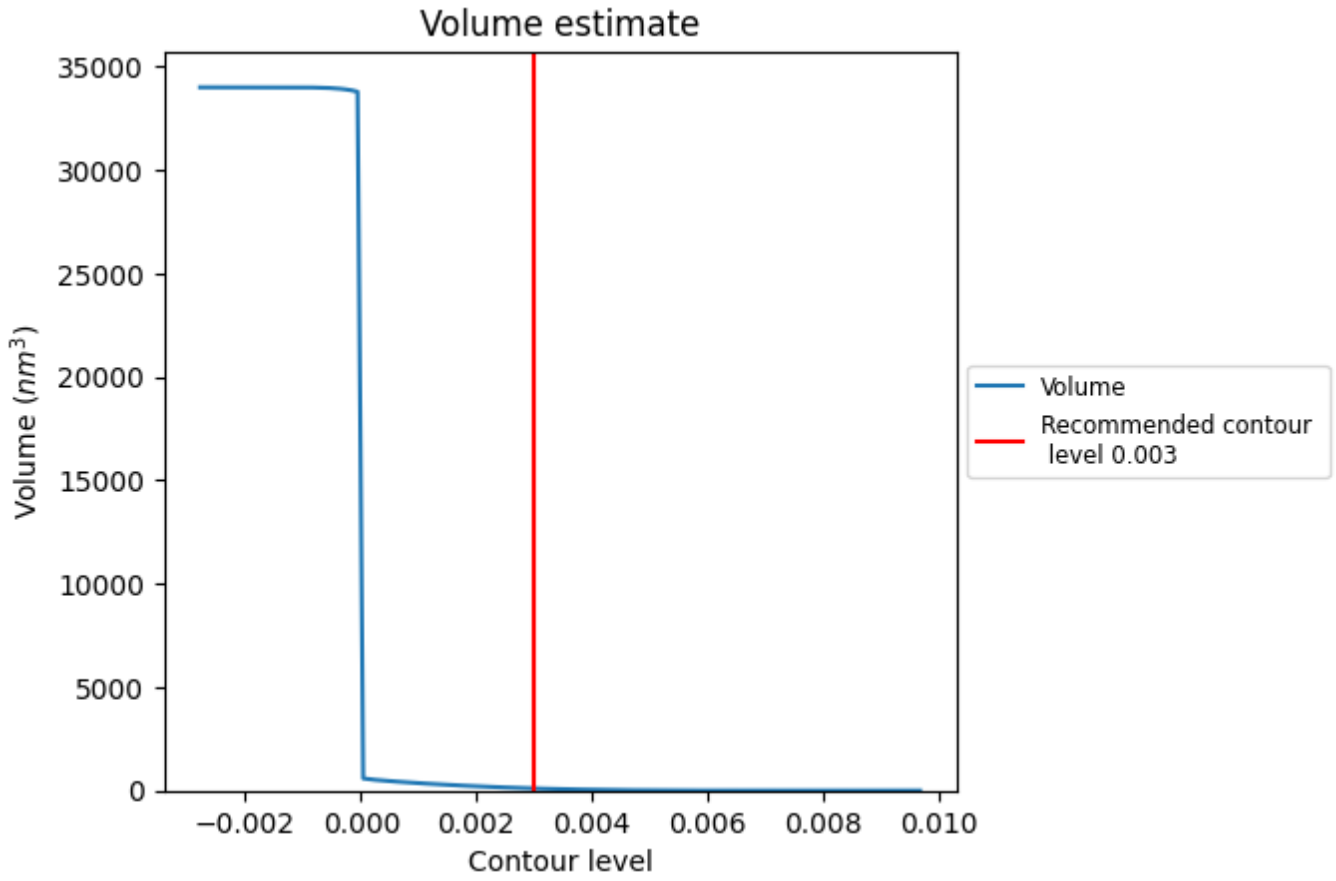
This section contains the results of statistical analysis of the map.

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.

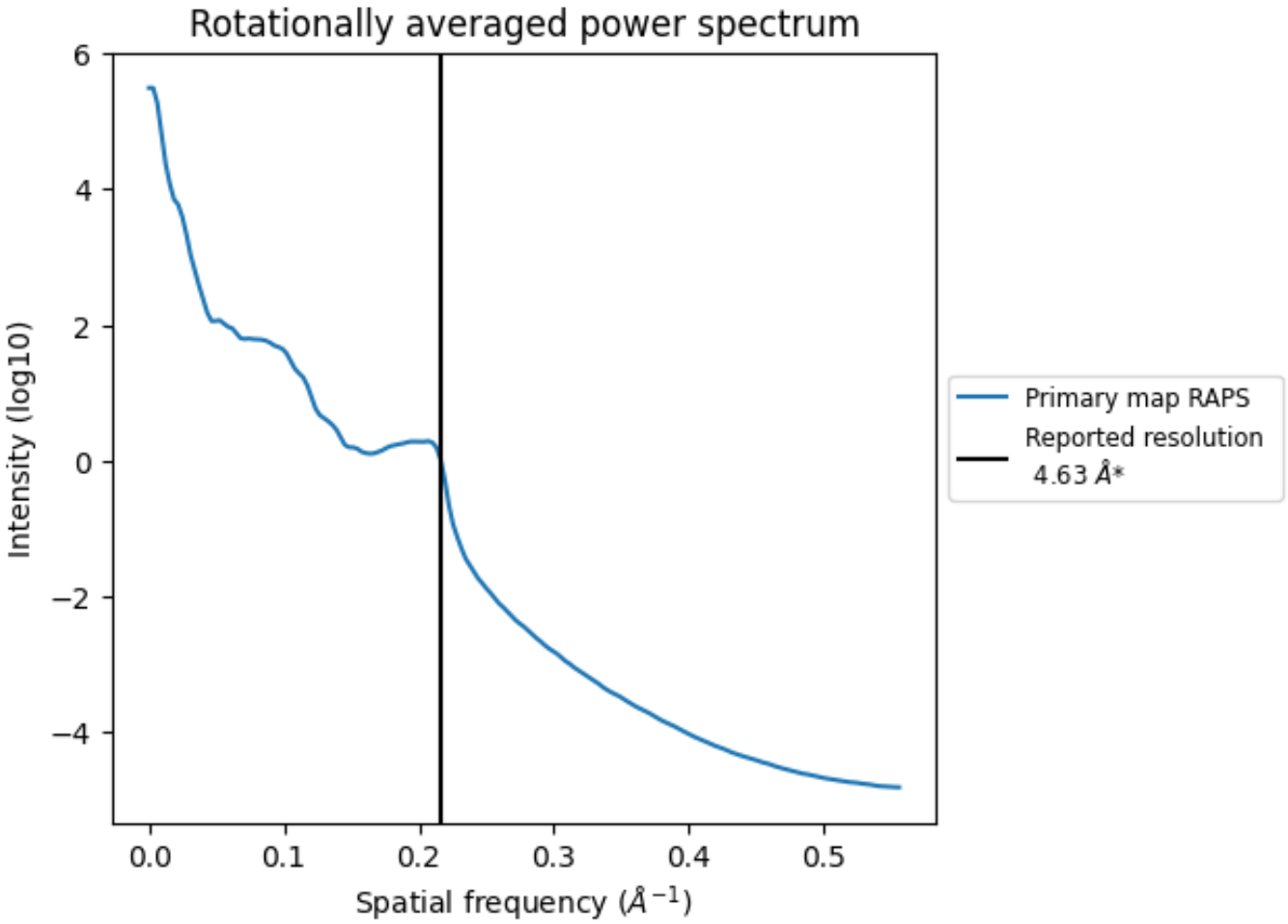
7.2 Volume estimate



The volume at the recommended contour level is 102 nm^3; this corresponds to an approximate mass of 92 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 0.216 $Å^{-1}$

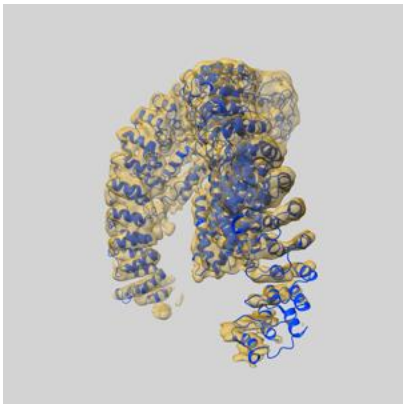
8 Fourier-Shell correlation (i)

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

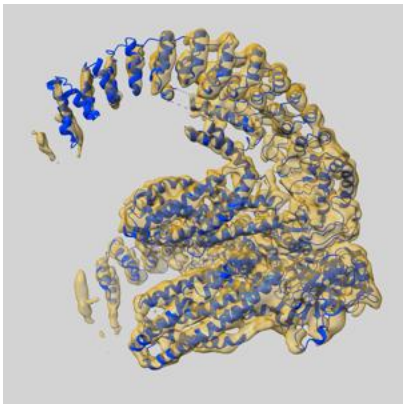
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-13643 and PDB model 7PTY. Per-residue inclusion information can be found in section 3 on page 8.

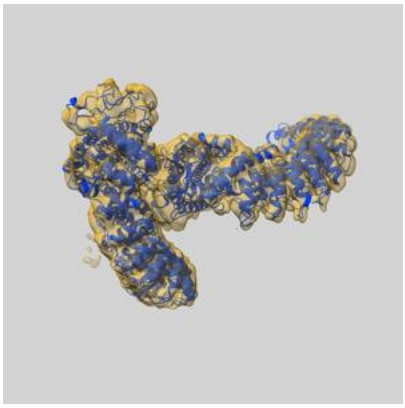
9.1 Map-model overlay



X



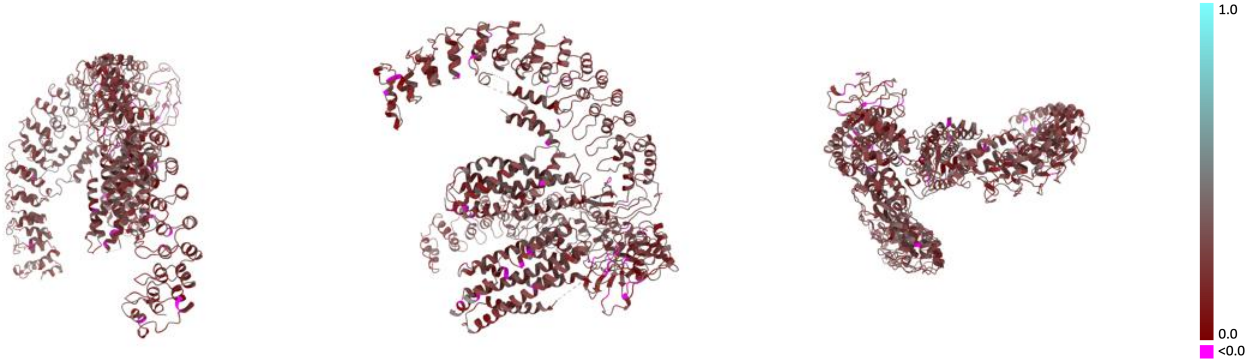
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.003 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

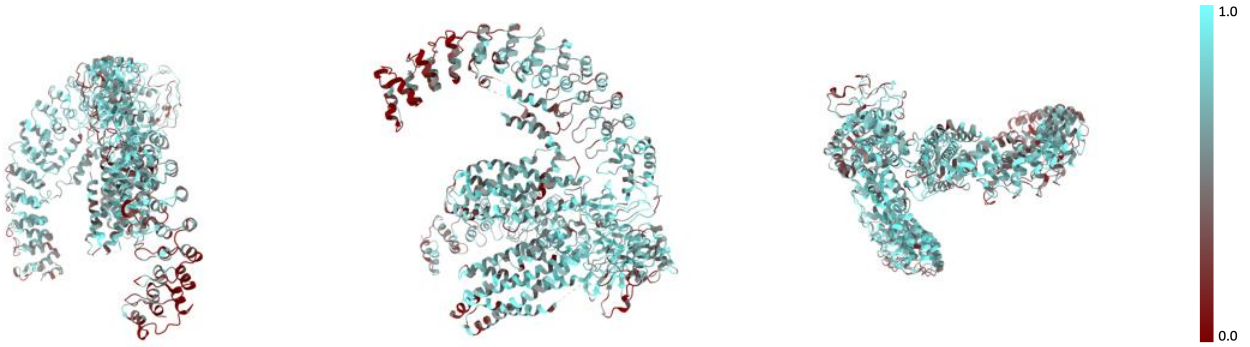
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

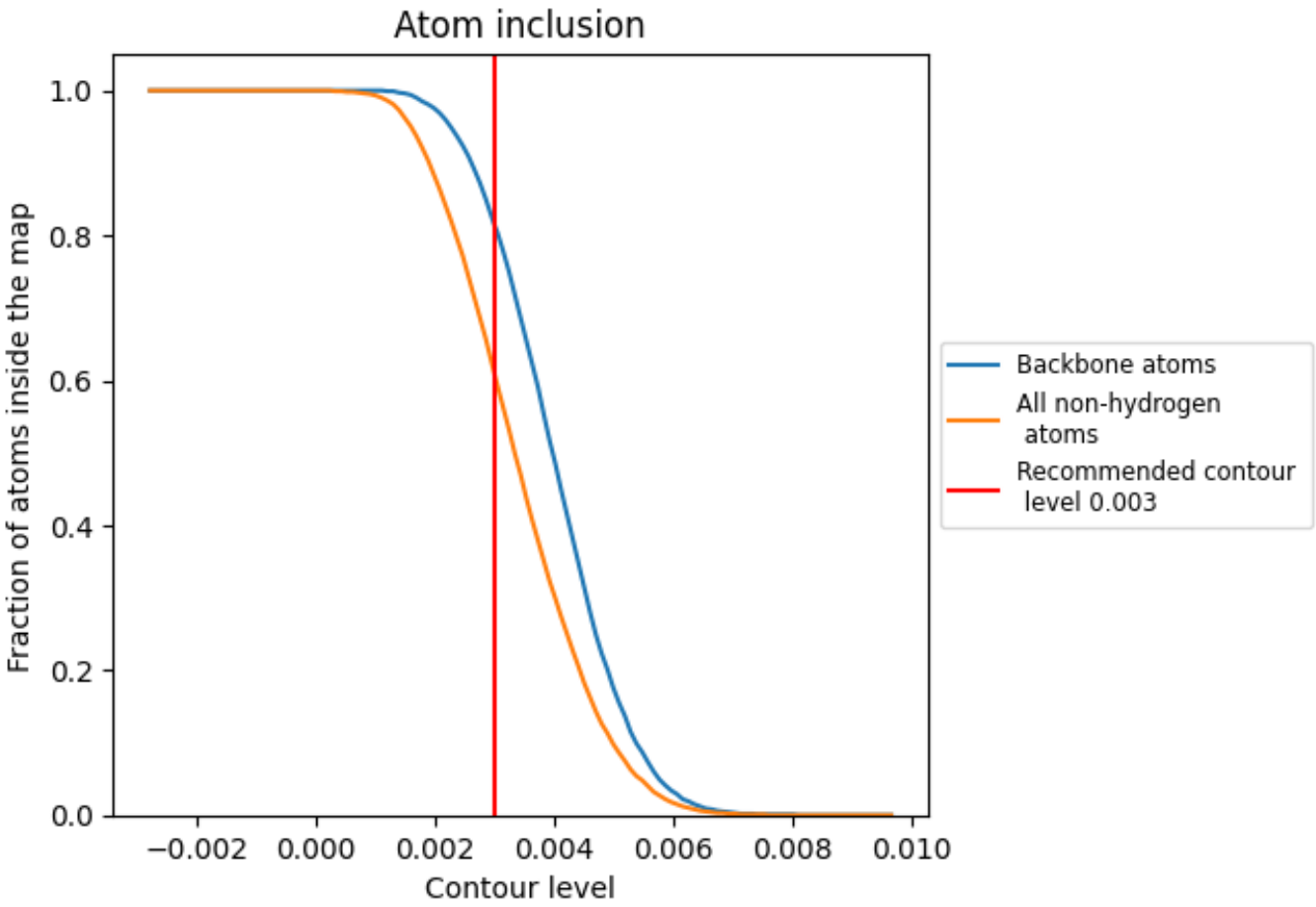
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.003).

9.4 Atom inclusion (i)



At the recommended contour level, 82% of all backbone atoms, 61% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.003) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.6100	0.2530
A	0.5670	0.2540
B	0.6530	0.2520