Full wwPDB EM Validation Report

Oct 6, 2024 – 01:54 pm BST

PDB ID	:	7QDG
EMDB ID	:	EMD-13916
Title	:	SARS-CoV-2 S protein S:A222V + S:D614G mutant 1-up
Authors	:	Ginex, T.; Marco-Marin, C.; Wieczor, M.; Mata, C.P.; Krieger, J.; Lopez-Redondo, M.L.; Frances-Gomez, C.; Ruiz-Rodriguez, P.; Melero, R.; Sanchez-Sorzano, C.O.; Martinez, M.; Gougeard, N.; Forcada-Nadal, A.; Zamora-Caballero, S.; Gozalbo-Rovira, R.; Sanz-Frasquet, C.; Bravo, J.; Rubio, V.; Marina, A.; Geller, R.; Comas, I.; Gil, C.; Coscolla, M.; Orozco, M.; LLacer, J.L.; Carazo, J.M.
Deposited on	:	2021-11-27
Resolution	:	3.40 Å(reported)
Based on initial model	:	7BNN

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

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

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

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

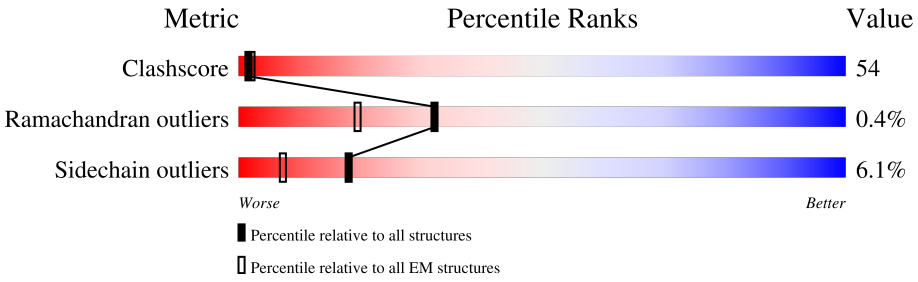
EMDB validation analysis	:	0.0.1.dev113
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	4.02b-467
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)

1 Overall quality at a glance

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

The reported resolution of this entry is 3.40 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	1250	6% 45% 36% · 14%
1	B	1250	13% 46% 34% · 16%
1	C	1250	8% 42% 40% 5% 14%
2	E	2	100%
2	G	2	100%
2	I	2	100%
2	J	2	50% 50%

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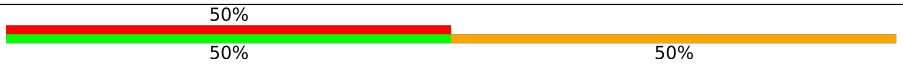
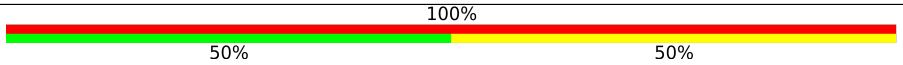
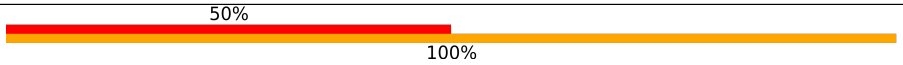
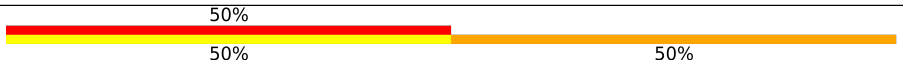
Mol	Chain	Length	Quality of chain
2	K	2	
2	L	2	
2	M	2	
2	N	2	
2	O	2	
2	P	2	
3	Q	2	

2 Entry composition (i)

There are 4 unique types of molecules in this entry. The entry contains 25570 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 Spike glycoprotein,Fibritin.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	1070	Total	C	N	O	S	0	0
			8356	5334	1392	1592	38		
1	B	1049	Total	C	N	O	S	0	0
			8191	5230	1365	1560	36		
1	C	1074	Total	C	N	O	S	0	0
			8365	5342	1393	1592	38		

There are 99 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	222	VAL	ALA	conflict	UNP P0DTC2
A	614	GLY	ASP	conflict	UNP P0DTC2
A	?	-	ARG	deletion	UNP P0DTC2
A	?	-	ARG	deletion	UNP P0DTC2
A	?	-	ALA	deletion	UNP P0DTC2
A	685	ALA	ARG	conflict	UNP P0DTC2
A	986	PRO	LYS	conflict	UNP P0DTC2
A	987	PRO	VAL	conflict	UNP P0DTC2
A	1214	LEU	-	linker	UNP P0DTC2
A	1215	VAL	-	linker	UNP P0DTC2
A	1216	PRO	-	linker	UNP P0DTC2
A	1217	ARG	-	linker	UNP P0DTC2
A	1218	GLY	-	linker	UNP P0DTC2
A	1219	SER	-	linker	UNP P0DTC2
A	1249	HIS	-	expression tag	UNP P10104
A	1250	HIS	-	expression tag	UNP P10104
A	1251	HIS	-	expression tag	UNP P10104
A	1252	HIS	-	expression tag	UNP P10104
A	1253	HIS	-	expression tag	UNP P10104
A	1254	HIS	-	expression tag	UNP P10104
A	1255	HIS	-	expression tag	UNP P10104
A	1256	HIS	-	expression tag	UNP P10104
A	1257	HIS	-	expression tag	UNP P10104
A	1258	GLU	-	expression tag	UNP P10104

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Chain	Residue	Modelled	Actual	Comment	Reference
A	1259	GLN	-	expression tag	UNP P10104
A	1260	LYS	-	expression tag	UNP P10104
A	1261	LEU	-	expression tag	UNP P10104
A	1262	ILE	-	expression tag	UNP P10104
A	1263	SER	-	expression tag	UNP P10104
A	1264	GLU	-	expression tag	UNP P10104
A	1265	GLU	-	expression tag	UNP P10104
A	1266	ASP	-	expression tag	UNP P10104
A	1267	LEU	-	expression tag	UNP P10104
B	222	VAL	ALA	conflict	UNP P0DTC2
B	614	GLY	ASP	conflict	UNP P0DTC2
B	?	-	ARG	deletion	UNP P0DTC2
B	?	-	ARG	deletion	UNP P0DTC2
B	?	-	ALA	deletion	UNP P0DTC2
B	685	ALA	ARG	conflict	UNP P0DTC2
B	986	PRO	LYS	conflict	UNP P0DTC2
B	987	PRO	VAL	conflict	UNP P0DTC2
B	1214	LEU	-	linker	UNP P0DTC2
B	1215	VAL	-	linker	UNP P0DTC2
B	1216	PRO	-	linker	UNP P0DTC2
B	1217	ARG	-	linker	UNP P0DTC2
B	1218	GLY	-	linker	UNP P0DTC2
B	1219	SER	-	linker	UNP P0DTC2
B	1249	HIS	-	expression tag	UNP P10104
B	1250	HIS	-	expression tag	UNP P10104
B	1251	HIS	-	expression tag	UNP P10104
B	1252	HIS	-	expression tag	UNP P10104
B	1253	HIS	-	expression tag	UNP P10104
B	1254	HIS	-	expression tag	UNP P10104
B	1255	HIS	-	expression tag	UNP P10104
B	1256	HIS	-	expression tag	UNP P10104
B	1257	HIS	-	expression tag	UNP P10104
B	1258	GLU	-	expression tag	UNP P10104
B	1259	GLN	-	expression tag	UNP P10104
B	1260	LYS	-	expression tag	UNP P10104
B	1261	LEU	-	expression tag	UNP P10104
B	1262	ILE	-	expression tag	UNP P10104
B	1263	SER	-	expression tag	UNP P10104
B	1264	GLU	-	expression tag	UNP P10104
B	1265	GLU	-	expression tag	UNP P10104
B	1266	ASP	-	expression tag	UNP P10104
B	1267	LEU	-	expression tag	UNP P10104

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Chain	Residue	Modelled	Actual	Comment	Reference
C	222	VAL	ALA	conflict	UNP P0DTC2
C	614	GLY	ASP	conflict	UNP P0DTC2
C	?	-	ARG	deletion	UNP P0DTC2
C	?	-	ARG	deletion	UNP P0DTC2
C	?	-	ALA	deletion	UNP P0DTC2
C	685	ALA	ARG	conflict	UNP P0DTC2
C	986	PRO	LYS	conflict	UNP P0DTC2
C	987	PRO	VAL	conflict	UNP P0DTC2
C	1214	LEU	-	linker	UNP P0DTC2
C	1215	VAL	-	linker	UNP P0DTC2
C	1216	PRO	-	linker	UNP P0DTC2
C	1217	ARG	-	linker	UNP P0DTC2
C	1218	GLY	-	linker	UNP P0DTC2
C	1219	SER	-	linker	UNP P0DTC2
C	1249	HIS	-	expression tag	UNP P10104
C	1250	HIS	-	expression tag	UNP P10104
C	1251	HIS	-	expression tag	UNP P10104
C	1252	HIS	-	expression tag	UNP P10104
C	1253	HIS	-	expression tag	UNP P10104
C	1254	HIS	-	expression tag	UNP P10104
C	1255	HIS	-	expression tag	UNP P10104
C	1256	HIS	-	expression tag	UNP P10104
C	1257	HIS	-	expression tag	UNP P10104
C	1258	GLU	-	expression tag	UNP P10104
C	1259	GLN	-	expression tag	UNP P10104
C	1260	LYS	-	expression tag	UNP P10104
C	1261	LEU	-	expression tag	UNP P10104
C	1262	ILE	-	expression tag	UNP P10104
C	1263	SER	-	expression tag	UNP P10104
C	1264	GLU	-	expression tag	UNP P10104
C	1265	GLU	-	expression tag	UNP P10104
C	1266	ASP	-	expression tag	UNP P10104
C	1267	LEU	-	expression tag	UNP P10104

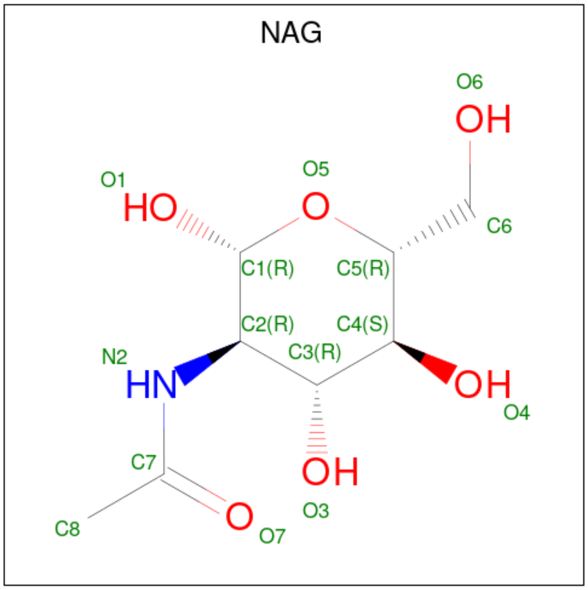
- Molecule 2 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.

Mol	Chain	Residues	Atoms				AltConf	Trace
2	E	2	Total	C	N	O	0	0
			28	16	2	10		
2	J	2	Total	C	N	O	0	0
			28	16	2	10		
2	K	2	Total	C	N	O	0	0
			28	16	2	10		
2	G	2	Total	C	N	O	0	0
			28	16	2	10		
2	L	2	Total	C	N	O	0	0
			28	16	2	10		
2	M	2	Total	C	N	O	0	0
			28	16	2	10		
2	N	2	Total	C	N	O	0	0
			28	16	2	10		
2	O	2	Total	C	N	O	0	0
			28	16	2	10		
2	I	2	Total	C	N	O	0	0
			28	16	2	10		
2	P	2	Total	C	N	O	0	0
			28	16	2	10		

- Molecule 3 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-alpha-D-glucopyranose.

Mol	Chain	Residues	Atoms				AltConf	Trace
3	Q	2	Total	C	N	O	0	0
			28	16	2	10		

- Molecule 4 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).



Mol	Chain	Residues	Atoms	AltConf
4	A	1	Total C N O 14 8 1 5	0
4	A	1	Total C N O 14 8 1 5	0
4	A	1	Total C N O 14 8 1 5	0
4	A	1	Total C N O 14 8 1 5	0
4	A	1	Total C N O 14 8 1 5	0
4	A	1	Total C N O 14 8 1 5	0
4	A	1	Total C N O 14 8 1 5	0
4	A	1	Total C N O 14 8 1 5	0
4	A	1	Total C N O 14 8 1 5	0
4	A	1	Total C N O 14 8 1 5	0
4	B	1	Total C N O 14 8 1 5	0
4	B	1	Total C N O 14 8 1 5	0
4	B	1	Total C N O 14 8 1 5	0
4	B	1	Total C N O 14 8 1 5	0

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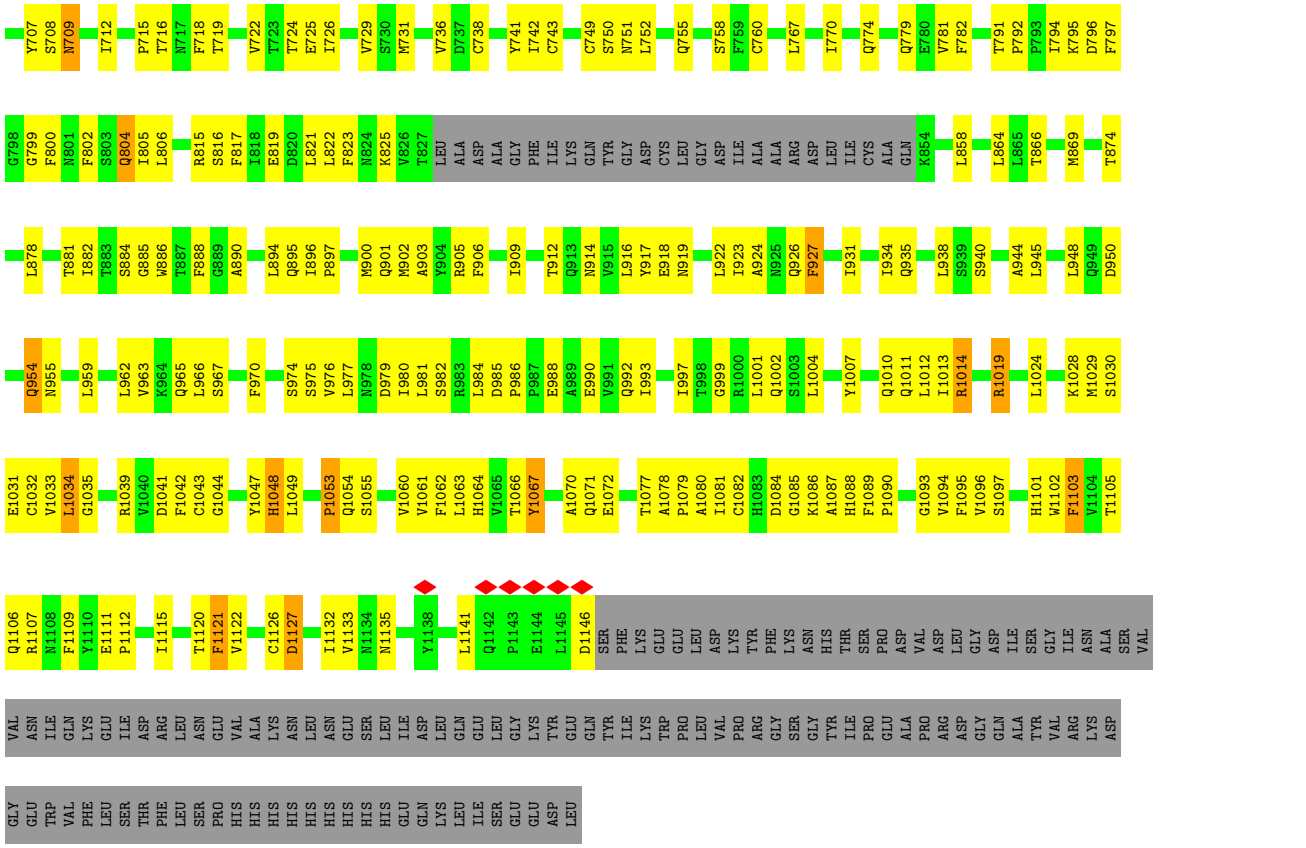
Mol	Chain	Residues	Atoms	AltConf
4	B	1	Total C N O 14 8 1 5	0
4	B	1	Total C N O 14 8 1 5	0
4	B	1	Total C N O 14 8 1 5	0
4	B	1	Total C N O 14 8 1 5	0
4	C	1	Total C N O 14 8 1 5	0
4	C	1	Total C N O 14 8 1 5	0
4	C	1	Total C N O 14 8 1 5	0
4	C	1	Total C N O 14 8 1 5	0
4	C	1	Total C N O 14 8 1 5	0
4	C	1	Total C N O 14 8 1 5	0
4	C	1	Total C N O 14 8 1 5	0

3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

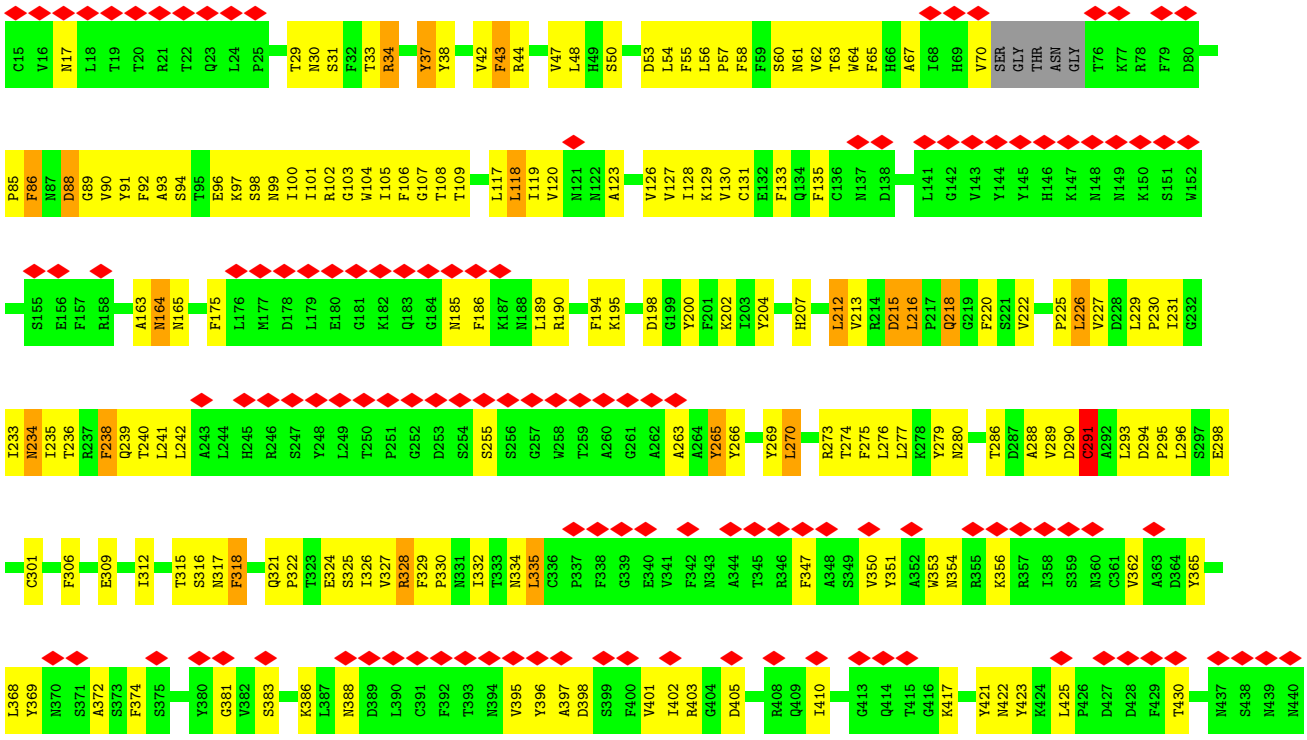
- Molecule 1: Spike glycoprotein,Fibritin

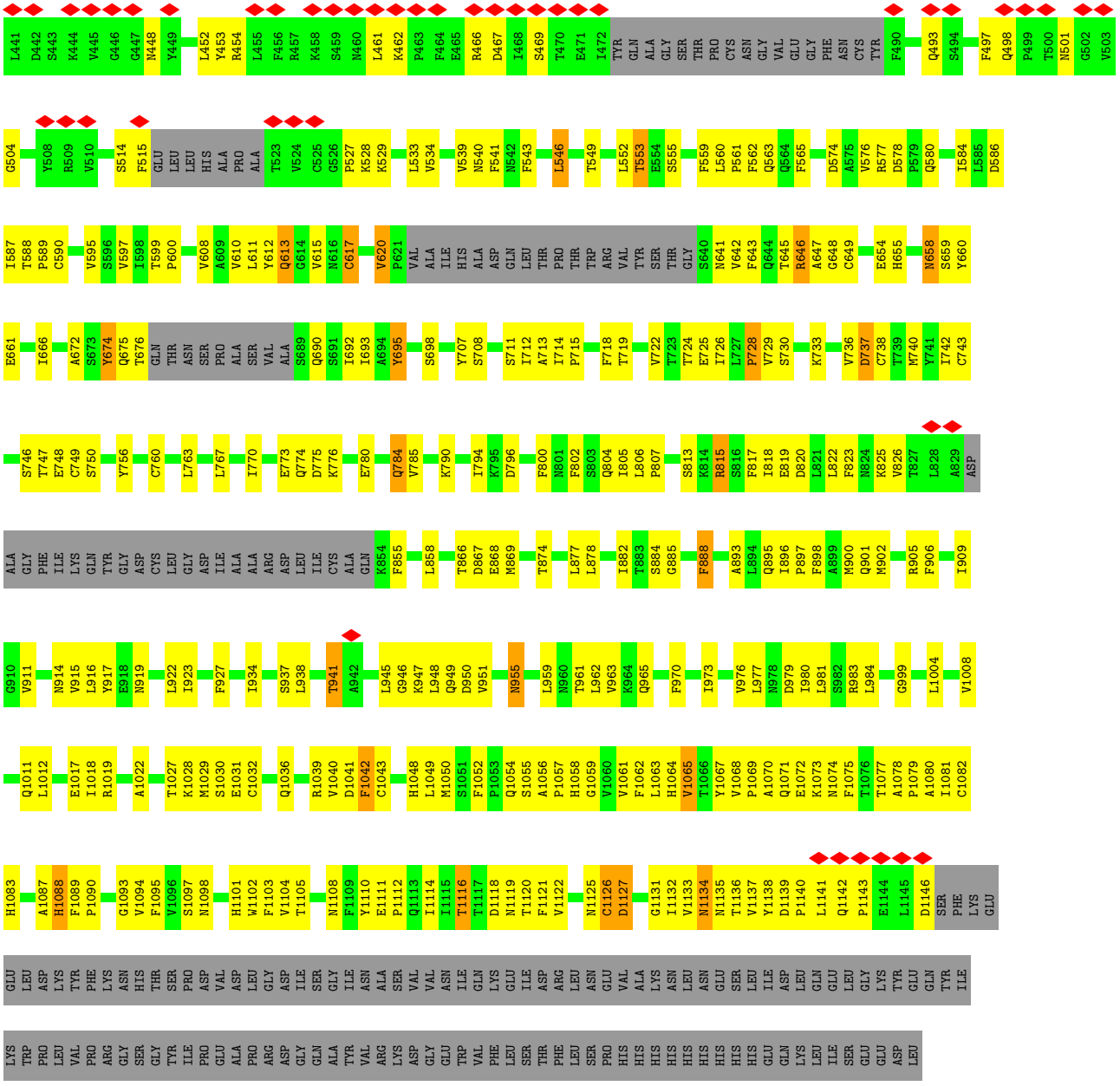
Chain A:



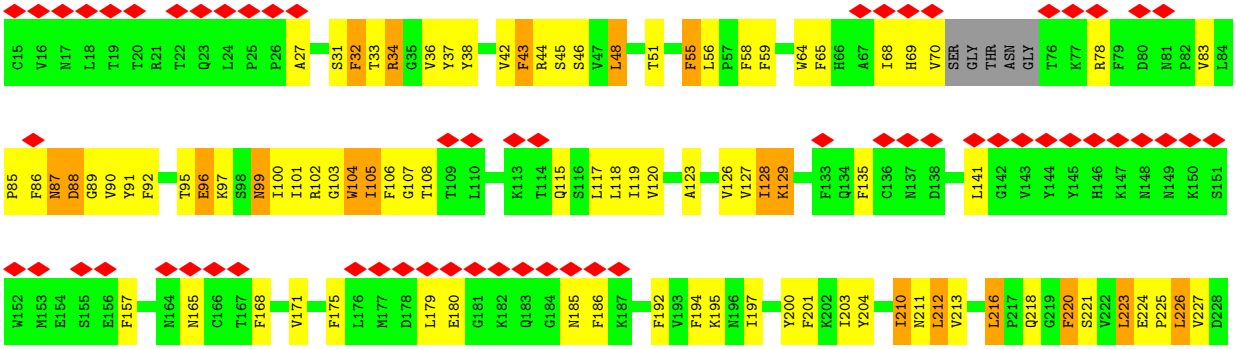
• Molecule 1: Spike glycoprotein,Fibritin

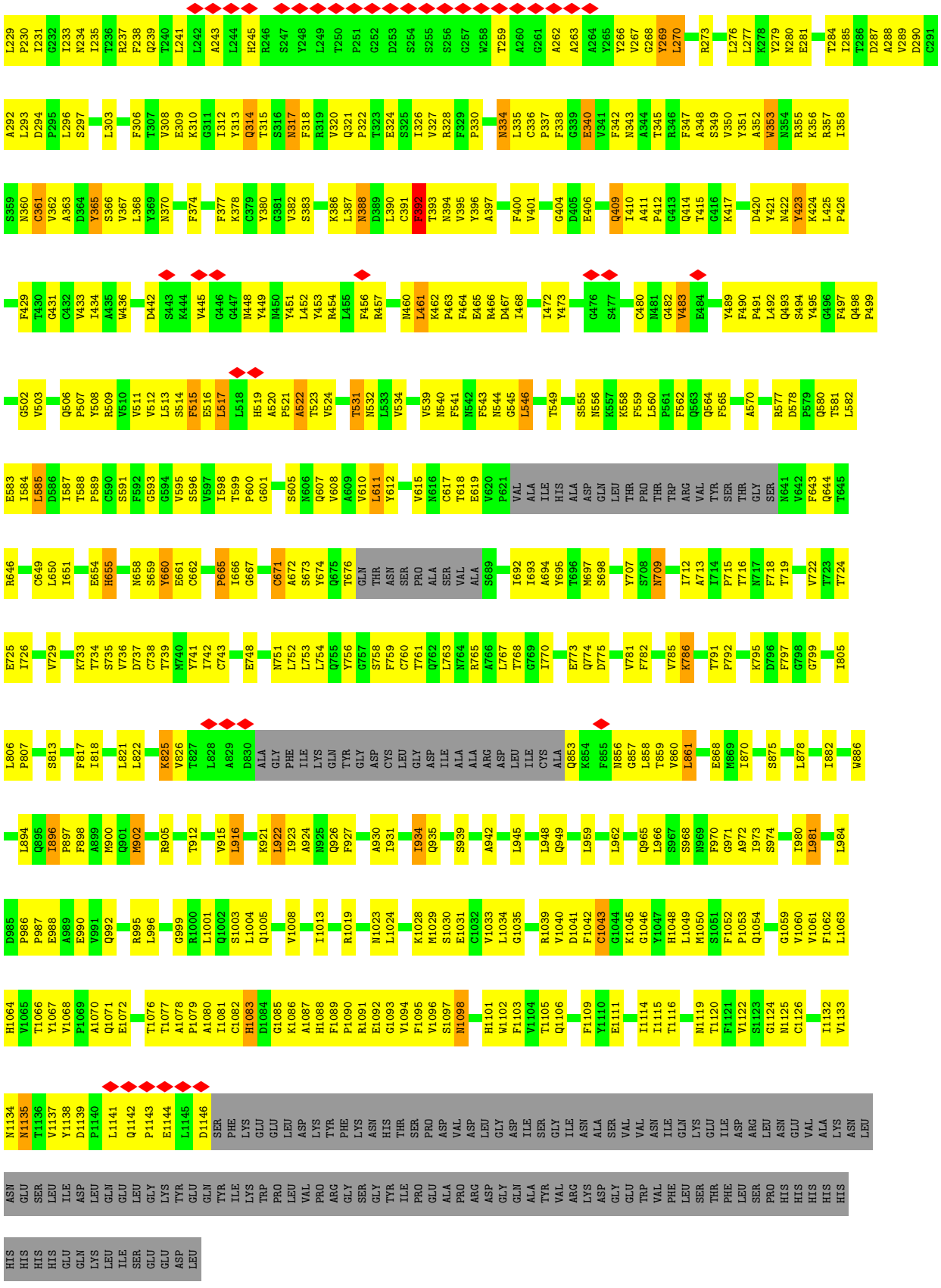
Chain B:





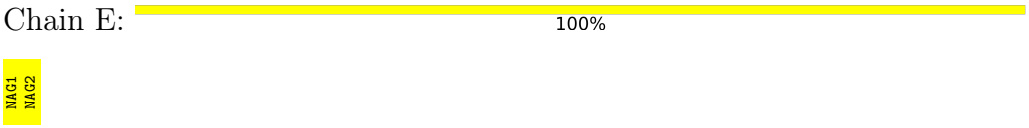
• Molecule 1: Spike glycoprotein,Fibritin




L229 P230 I231 G232 I233 N234 I235 T236 R237 F238 Q239 T240 L241 L242 A243 L244 H245 R246 S247 Y248 L249 T250 P251 G252 D253 S254 S255 S256 G257 W258 T259 A260 G261 A262 A263 A264 Y265 Y266 V267 G268 Y269 L270 R273 L276 L277 K278 Y279 N280 E281 T284 I285 T286 D287 A288 V289 D290 C291
A292 L293 D294 P295 L296 S297 L303 F306 T307 V308 E309 K310 G311 I312 Y313 Q314 T315 S316 N317 F318 R319 V320 Q321 P322 T323 E324 S325 I326 V327 R328 F329 P330 N334 L335 C336 P337 F338 G339 E340 V341 F342 N343 A344 T345 R346 F347 A348 S349 V350 Y351 A352 W353 N354 R355 K356 R357 I358
S359 N360 C361 V362 A363 D364 Y365 S366 V367 L368 Y369 N370 F374 F377 K378 C379 Y380 G381 V382 S383 K386 L387 N388 D389 L390 C391 F392 T393 N394 V395 Y396 A397 F400 V401 G404 D405 E406 Q409 I410 A411 P412 G413 Q414 T415 G416 K417 D420 Y421 N422 Y423 K424 L425 P426
F429 T430 G431 C432 V433 I434 A435 W436 D442 S443 K444 V445 G446 G447 N448 Y449 N450 Y451 L452 Y453 R454 L455 F456 R457 N460 L461 K462 P463 F464 E465 R466 D467 I468 T472 Y473 G476 S477 C480 W481 G482 V483 E484 Y489 F490 P491 L492 Q493 S494 Y495 G496 F497 Q498 P499
G502 V503 Q506 P507 Y508 R509 V510 V511 V512 L513 S514 F515 E516 L517 L518 H519 A520 P521 A522 T523 V524 T531 N532 L533 V534 V539 N540 F541 N542 F543 N544 G545 L546 T549 S555 N556 K557 K558 F559 L560 P561 F562 Q563 Q564 F565 A570 R577 D578 P579 Q580 T581 L582
E583 I584 L585 D586 I587 T588 P589 C590 S591 F592 G593 G594 V595 S596 V597 I598 T599 P600 G601 S605 N606 Q607 V608 A609 V610 L611 Y612 V615 N616 C617 T618 E619 V620 P621 VAL ALA ILE HIS ALA ASP GLN LEU THR PRO THR TRP ARG VAL TYR SER THR GLY SER N641 V642 F643 Q644 T645
R646 C649 L650 I651 E654 H655 N658 S659 Y660 E661 C662 P665 I666 C667 C671 A672 S673 Y674 R675 T676 GLN THR ASN SER PRO ALA SER VAL ALA S689 I692 I693 A694 Y695 T696 M697 S698 Y707 S708 N709 I712 A713 I714 P715 T716 N717 F718 T719 V722 T723 T724
E725 I726 V729 K733 T734 S735 V736 D737 C738 T739 M740 Y741 I742 C743 E748 N751 L752 L753 L754 Q755 Y756 G757 S758 F759 C760 T761 Q762 L763 W764 R765 A766 L767 T768 G769 I770 E773 Q774 D775 V781 F782 V785 K786 T791 P792 K795 D796 F797 G798 G799 I805
L806 P807 S813 F817 I818 L821 L822 K825 V826 T827 L828 A829 D830 ALA GLY PHE ILE LYS GLN TYR GLY ASP CYS LEU GLY ASP ILE ALA ALA ARG ASP LEU ILE CYS ALA Q853 K854 F855 N856 G857 L858 T859 V860 L861 E868 M869 I870 S875 L878 I882 W886
L894 Q895 I896 P897 F898 A899 M900 Q901 N902 R905 T912 V915 L916 K921 L922 I923 A924 N925 Q926 F927 A930 I931 I934 Q935 S939 A942 L945 L948 Q949 L959 L962 Q965 L966 S967 S968 N969 F970 G971 A972 I973 S974 I980 L981 L984
D985 P986 P987 E988 A989 E990 V991 Q992 R995 L996 G999 R1000 L1001 Q1002 S1003 L1004 Q1005 V1008 I1013 R1019 N1023 L1024 K1028 M1029 S1030 E1031 C1032 V1033 L1034 G1035 R1039 V1040 D1041 F1042 C1043 G1044 K1045 G1046 Y1047 H1048 L1049 M1050 S1051 F1052 P1053 Q1054 G1059 V1060 V1061 F1062 L1063
H1064 V1065 T1066 Y1067 V1068 P1069 A1070 Q1071 E1072 T1076 T1077 A1078 P1079 A1080 I1081 C1082 H1083 D1084 G1085 K1086 A1087 H1088 F1089 P1090 R1091 E1092 G1093 V1094 F1095 V1096 S1097 N1098 H1101 W1102 F1103 V1104 T1105 Q1106 F1109 Y1110 E1111 I1114 I1115 T1116 N1119 T1120 F1121 V1122 S1123 G1124 N1125 C1126 I1132 V1133
N1134 N1135 T1136 V1137 Y1138 D1139 P1140 L1141 Q1142 P1143 E1144 L1145 D1146 SER PHE LYS GLU GLU LEU ASP LYS TYR PHE LYS ASN HIS THR SER PRO ASP VAL ASP LEU GLY ASP ILE SER GLY ILE ASN ALA SER VAL VAL ASN ILE GLN LYS GLU ILE ASP ARG LEU ASN GLU VAL ALA LYS ASN LEU
ASN GLU SER LEU ILE ASP LEU GLN GLU LEU GLY LYS TYR GLU GLN TYR ILE LYS TRP PRO LEU VAL PRO ARG GLY SER GLY TYR ILE PRO GLU ALA PRO ARG ASP GLY GLN ALA TYR VAL ARG LYS ASP GLY GLU TRP VAL PHE LEU SER THR PHE LEU SER PRO HIS HIS HIS HIS
HIS HIS HIS HIS GLU GLN LYS LEU ILE SER GLU GLU ASP LEU

• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain E:

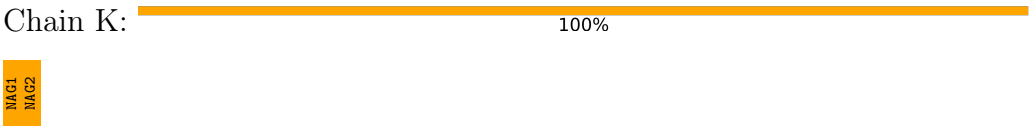


• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain J:

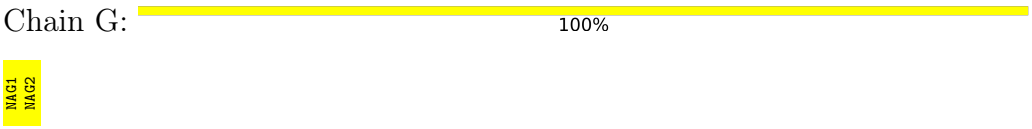
• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain K:



• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain G:

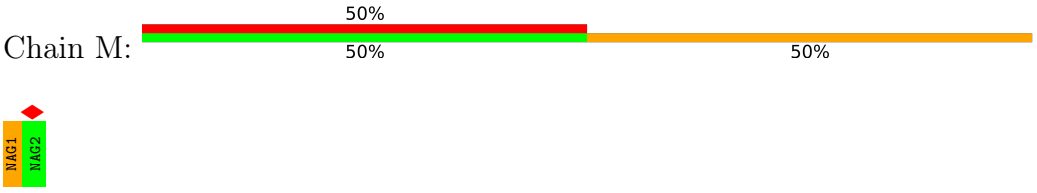


• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain L:

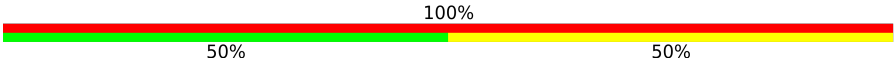
• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain M:



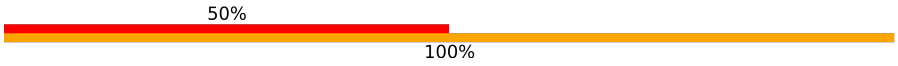
• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain N:



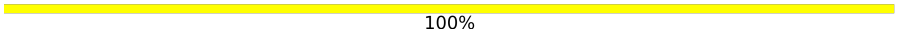
• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain O:



• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain I:



• Molecule 2: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain P:

• Molecule 3: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-alpha-D-glucopyranose

Chain Q:

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C1	Depositor
Number of particles used	145681	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TALOS ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ($e^-/Å^2$)	32.4	Depositor
Minimum defocus (nm)	300	Depositor
Maximum defocus (nm)	3500	Depositor
Magnification	120000	Depositor
Image detector	FEI FALCON III (4k x 4k)	Depositor
Maximum map value	1.176	Depositor
Minimum map value	-0.002	Depositor
Average map value	0.001	Depositor
Map value standard deviation	0.017	Depositor
Recommended contour level	0.048	Depositor
Map size (Å)	420.0, 420.0, 420.0	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.4, 1.4, 1.4	Depositor

5 Model quality

5.1 Standard geometry

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

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	0.54	2/8552 (0.0%)	0.71	7/11644 (0.1%)
1	B	0.55	5/8379 (0.1%)	0.67	6/11404 (0.1%)
1	C	0.63	9/8561 (0.1%)	0.71	9/11658 (0.1%)
All	All	0.57	16/25492 (0.1%)	0.70	22/34706 (0.1%)

All (16) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	C	1146	ASP	C-O	-21.21	0.83	1.23
1	B	1146	ASP	C-O	-13.83	0.97	1.23
1	B	815	ARG	CZ-NH1	-8.44	1.22	1.33
1	C	70	VAL	C-O	-7.37	1.09	1.23
1	C	1043	CYS	CB-SG	-6.82	1.70	1.82
1	B	70	VAL	C-O	-6.60	1.10	1.23
1	C	392	PHE	CE2-CZ	-6.42	1.25	1.37
1	A	1032	CYS	CB-SG	5.88	1.92	1.82
1	A	940	SER	C-O	-5.79	1.12	1.23
1	C	676	THR	C-O	-5.50	1.12	1.23
1	C	522	ALA	CA-CB	-5.36	1.41	1.52
1	C	423	TYR	CD1-CE1	-5.32	1.31	1.39
1	B	1042	PHE	CG-CD2	-5.22	1.30	1.38
1	C	129	LYS	N-CA	-5.21	1.35	1.46
1	B	1126	CYS	CB-SG	-5.14	1.73	1.81
1	C	361	CYS	CB-SG	-5.00	1.73	1.81

All (22) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	825	LYS	CD-CE-NZ	-9.60	89.62	111.70
1	A	1032	CYS	CA-CB-SG	-8.76	98.24	114.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	C	1043	CYS	CA-CB-SG	-7.71	100.12	114.00
1	B	815	ARG	NE-CZ-NH2	7.44	124.02	120.30
1	B	291	CYS	CA-CB-SG	6.78	126.20	114.00
1	B	1146	ASP	CA-C-O	-6.61	106.21	120.10
1	A	1146	ASP	CA-C-O	-6.41	106.64	120.10
1	B	34	ARG	NE-CZ-NH2	-6.37	117.12	120.30
1	C	34	ARG	NE-CZ-NH1	6.29	123.44	120.30
1	B	1032	CYS	CA-CB-SG	6.29	125.31	114.00
1	C	165	ASN	CB-CA-C	6.21	122.81	110.40
1	A	361	CYS	CA-CB-SG	-6.06	103.09	114.00
1	B	118	LEU	CB-CG-CD2	5.92	121.07	111.00
1	C	70	VAL	CA-C-O	-5.85	107.81	120.10
1	A	1014	ARG	NE-CZ-NH1	5.70	123.15	120.30
1	A	118	LEU	CB-CG-CD2	5.61	120.53	111.00
1	C	128	ILE	CB-CA-C	-5.47	100.66	111.60
1	C	522	ALA	CB-CA-C	-5.33	102.10	110.10
1	C	522	ALA	N-CA-CB	-5.24	102.76	110.10
1	C	646	ARG	NE-CZ-NH2	-5.14	117.73	120.30
1	A	301	CYS	CA-CB-SG	-5.13	104.76	114.00
1	A	662	CYS	CA-CB-SG	5.09	123.16	114.00

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	8356	0	8129	922	0
1	B	8191	0	7974	740	0
1	C	8365	0	8121	1102	0
2	E	28	0	25	0	0
2	G	28	0	25	0	0
2	I	28	0	25	0	0
2	J	28	0	25	4	0
2	K	28	0	25	4	0
2	L	28	0	25	1	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	M	28	0	25	1	0
2	N	28	0	25	0	0
2	O	28	0	25	3	0
2	P	28	0	25	2	0
3	Q	28	0	24	2	0
4	A	140	0	129	6	0
4	B	112	0	103	1	0
4	C	98	0	91	2	0
All	All	25570	0	24821	2698	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 54.

All (2698) 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:C:118:LEU:HD22	1:C:135:PHE:CZ	1.27	1.67
1:A:87:ASN:ND2	1:A:269:TYR:CD2	1.69	1.55
1:A:33:THR:HG22	1:A:58:PHE:CD2	1.47	1.49
1:B:718:PHE:HB2	1:B:1067:TYR:CE1	1.46	1.49
1:B:1104:VAL:CG1	1:B:1119:ASN:HD21	1.27	1.48
1:B:1104:VAL:CG1	1:B:1119:ASN:ND2	1.75	1.46
1:B:599:THR:HG22	1:B:608:VAL:CG1	1.50	1.42
1:C:825:LYS:NZ	1:C:942:ALA:HB2	1.32	1.42
1:B:57:PRO:CB	1:B:273:ARG:HH12	1.33	1.38
1:C:516:GLU:HG3	1:C:519:HIS:NE2	1.35	1.38
1:B:1104:VAL:HG11	1:B:1119:ASN:ND2	1.16	1.38
1:A:89:GLY:HA3	1:A:270:LEU:N	1.38	1.37
1:C:118:LEU:CD2	1:C:135:PHE:CZ	2.04	1.37
1:A:353:TRP:CD1	1:A:466:ARG:HD3	1.57	1.36
1:A:107:GLY:CA	1:A:235:ILE:HG22	1.52	1.35
1:C:378:LYS:CG	1:C:433:VAL:HG12	1.55	1.35
1:C:87:ASN:OD1	1:C:269:TYR:CE2	1.79	1.35
1:A:885:GLY:HA2	1:A:901:GLN:NE2	1.35	1.35
1:C:453:TYR:HD1	1:C:495:TYR:CE1	1.42	1.34
1:C:36:VAL:O	1:C:223:LEU:HD21	1.27	1.34
1:C:37:TYR:CE1	1:C:55:PHE:CE1	2.15	1.33
1:C:453:TYR:CD1	1:C:495:TYR:HE1	1.46	1.33
1:A:452:LEU:HD13	1:A:493:GLN:O	1.25	1.32
1:A:797:PHE:CE1	1:A:882:ILE:HG21	1.64	1.32
1:C:289:VAL:HG23	1:C:306:PHE:CZ	1.65	1.32

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:454:ARG:NH2	1:C:467:ASP:OD2	1.59	1.31
1:C:328:ARG:NE	1:C:578:ASP:OD2	1.59	1.31
1:A:552:LEU:HD22	1:A:587:ILE:CD1	1.61	1.30
1:B:1088:HIS:CD2	1:B:1137:VAL:HG11	1.66	1.30
1:A:33:THR:HG22	1:A:58:PHE:CE2	1.64	1.29
1:A:83:VAL:HG21	1:A:237:ARG:CD	1.60	1.29
1:A:743:CYS:SG	1:A:749:CYS:C	2.12	1.27
1:A:726:ILE:HD12	1:A:944:ALA:O	1.33	1.27
1:C:220:PHE:CZ	1:C:288:ALA:N	2.02	1.27
1:A:34:ARG:NH1	1:A:217:PRO:HG2	1.49	1.27
1:C:970:PHE:CD2	1:C:999:GLY:HA3	1.67	1.26
1:A:353:TRP:CG	1:A:466:ARG:HD3	1.68	1.26
1:B:885:GLY:HA2	1:B:901:GLN:NE2	1.46	1.26
1:C:37:TYR:HE1	1:C:55:PHE:CE1	1.52	1.26
1:A:310:LYS:HB2	1:A:600:PRO:O	1.34	1.26
1:C:33:THR:HG22	1:C:58:PHE:CE2	1.70	1.26
1:B:718:PHE:CB	1:B:1067:TYR:HE1	1.50	1.24
1:A:1102:TRP:HB2	1:A:1135:ASN:ND2	1.51	1.23
1:B:118:LEU:HD22	1:B:135:PHE:CZ	1.72	1.23
1:C:607:GLN:NE2	1:C:674:TYR:OH	1.72	1.22
1:A:797:PHE:HE1	1:A:882:ILE:CG2	1.53	1.22
1:C:420:ASP:O	1:C:460:ASN:OD1	1.58	1.22
1:B:57:PRO:HB3	1:B:273:ARG:NH1	1.55	1.21
1:B:107:GLY:O	1:B:235:ILE:HG23	1.40	1.21
1:C:456:PHE:HB3	1:C:473:TYR:CE1	1.75	1.21
1:A:83:VAL:CG2	1:A:237:ARG:CD	2.19	1.21
1:A:497:PHE:CE2	1:A:507:PRO:HB3	1.74	1.21
1:A:87:ASN:ND2	1:A:269:TYR:CE2	2.07	1.21
1:A:87:ASN:ND2	1:A:269:TYR:HD2	1.11	1.21
1:A:118:LEU:HD22	1:A:135:PHE:CZ	1.75	1.20
1:C:36:VAL:O	1:C:223:LEU:CD2	1.88	1.20
1:C:360:ASN:HA	1:C:523:THR:CG2	1.70	1.20
1:A:90:VAL:HG23	1:A:238:PHE:CE2	1.75	1.20
1:C:725:GLU:OE2	1:C:1028:LYS:NZ	1.74	1.20
1:A:53:ASP:O	1:A:55:PHE:CD2	1.95	1.19
1:B:599:THR:HG22	1:B:608:VAL:HG11	1.22	1.19
1:A:353:TRP:HZ2	1:A:465:GLU:C	1.46	1.19
1:A:308:VAL:O	1:A:602:THR:HG22	1.41	1.19
1:A:905:ARG:HD3	1:A:1049:LEU:O	1.41	1.19
1:A:797:PHE:CE1	1:A:882:ILE:CG2	2.26	1.18
1:B:1039:ARG:CZ	1:B:1042:PHE:CE2	2.25	1.18

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:330:PRO:HD3	1:C:544:ASN:ND2	1.57	1.18
1:C:393:THR:OG1	1:C:522:ALA:HB2	1.43	1.18
1:C:106:PHE:HB3	1:C:235:ILE:HD13	1.19	1.18
1:C:37:TYR:CE1	1:C:55:PHE:HE1	1.55	1.17
1:C:598:ILE:HD11	1:C:666:ILE:CD1	1.75	1.17
1:B:372:ALA:HB1	1:B:374:PHE:CE2	1.79	1.17
1:A:64:TRP:NE1	1:A:266:TYR:CE2	2.13	1.16
1:A:724:THR:HG22	1:A:1063:LEU:HD23	1.27	1.16
1:A:34:ARG:CZ	1:A:217:PRO:HG2	1.76	1.16
1:C:393:THR:OG1	1:C:522:ALA:CB	1.93	1.16
1:A:1084:ASP:HB2	1:A:1086:LYS:HZ2	1.05	1.15
1:A:34:ARG:NH1	1:A:217:PRO:CG	2.08	1.15
1:C:105:ILE:HD11	1:C:241:LEU:CD1	1.74	1.15
1:C:615:VAL:CG2	1:C:649:CYS:HB2	1.77	1.15
1:C:1090:PRO:CA	1:C:1120:THR:HG22	1.74	1.15
1:C:462:LYS:HA	1:C:462:LYS:HE2	1.27	1.15
1:B:322:PRO:HG3	1:B:540:ASN:OD1	1.47	1.14
1:B:718:PHE:CB	1:B:1067:TYR:CE1	2.26	1.14
1:C:1090:PRO:HA	1:C:1120:THR:CG2	1.77	1.14
1:A:33:THR:CG2	1:A:58:PHE:CE2	2.29	1.14
1:C:662:CYS:SG	1:C:697:MET:HB3	1.86	1.14
1:A:453:TYR:CE2	1:A:493:GLN:HG2	1.83	1.14
1:B:298:GLU:HG2	1:B:315:THR:HG21	1.24	1.14
1:C:87:ASN:OD1	1:C:269:TYR:CD2	2.01	1.14
1:A:83:VAL:CG2	1:A:237:ARG:HD2	1.74	1.13
1:C:671:CYS:SG	1:C:697:MET:HB3	1.88	1.13
1:C:38:TYR:CE1	1:C:285:ILE:HG13	1.83	1.13
1:A:289:VAL:HG23	1:A:306:PHE:HE1	1.10	1.12
1:A:83:VAL:HG22	1:A:237:ARG:HD3	1.30	1.12
1:B:56:LEU:HD12	1:B:57:PRO:HD2	1.32	1.11
1:B:329:PHE:CE2	1:B:528:LYS:HB3	1.84	1.11
1:B:1104:VAL:HG13	1:B:1119:ASN:HD21	0.98	1.11
1:C:200:TYR:CD2	1:C:230:PRO:HA	1.83	1.11
1:C:426:PRO:HG2	1:C:464:PHE:CE2	1.83	1.11
1:C:97:LYS:NZ	1:C:180:GLU:OE1	1.83	1.11
1:C:378:LYS:CG	1:C:433:VAL:CG1	2.28	1.11
1:A:64:TRP:CD1	1:A:266:TYR:CD2	2.38	1.10
1:B:743:CYS:SG	1:B:750:SER:N	2.23	1.10
1:C:921:LYS:HE2	1:C:921:LYS:HA	1.33	1.10
1:B:826:VAL:HG23	1:B:945:LEU:HD12	1.33	1.10
1:A:299:THR:OG1	1:A:597:VAL:HG21	1.49	1.10

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:200:TYR:HD2	1:C:230:PRO:HA	1.06	1.10
1:C:210:ILE:HG12	1:C:212:LEU:HD21	1.30	1.10
1:C:378:LYS:HG3	1:C:433:VAL:HG12	1.17	1.10
1:A:1088:HIS:ND1	1:A:1122:VAL:CG1	2.15	1.09
1:B:770:ILE:HD11	1:B:1012:LEU:CD1	1.82	1.09
1:A:353:TRP:HZ2	1:A:465:GLU:O	1.34	1.09
1:C:353:TRP:NE1	1:C:466:ARG:HB3	1.68	1.09
1:C:337:PRO:HD2	1:C:358:ILE:HD11	1.34	1.09
1:C:1089:PHE:O	1:C:1120:THR:HB	1.53	1.09
1:B:615:VAL:HG11	1:B:620:VAL:CG1	1.82	1.09
1:C:360:ASN:HA	1:C:523:THR:HG23	1.33	1.09
1:C:87:ASN:CG	1:C:269:TYR:CD2	2.26	1.09
1:A:303:LEU:HD23	1:A:308:VAL:HG12	1.33	1.08
1:C:502:GLY:O	1:C:506:GLN:HG3	1.53	1.08
1:A:617:CYS:SG	1:A:644:GLN:HB2	1.93	1.08
1:B:599:THR:CG2	1:B:608:VAL:HG11	1.82	1.08
1:C:453:TYR:CD1	1:C:495:TYR:CE1	2.29	1.08
1:C:615:VAL:CG2	1:C:649:CYS:CB	2.31	1.08
1:C:741:TYR:CE1	1:C:966:LEU:HD21	1.88	1.08
1:A:107:GLY:N	1:A:235:ILE:CG2	2.16	1.08
1:A:105:ILE:HG13	1:A:118:LEU:HD13	1.33	1.08
1:C:289:VAL:HG23	1:C:306:PHE:CE2	1.89	1.08
1:A:90:VAL:HG12	1:A:194:PHE:O	1.54	1.08
1:A:552:LEU:HD22	1:A:587:ILE:HD13	1.09	1.08
1:B:57:PRO:HB3	1:B:273:ARG:HH12	0.91	1.08
1:B:599:THR:CG2	1:B:608:VAL:CG1	2.32	1.08
1:C:1102:TRP:HB2	1:C:1135:ASN:OD1	1.53	1.08
1:A:107:GLY:N	1:A:235:ILE:HG22	1.67	1.07
1:B:204:TYR:CE1	1:B:225:PRO:HB3	1.89	1.07
1:C:85:PRO:HG2	1:C:269:TYR:OH	1.54	1.07
1:A:89:GLY:O	1:A:269:TYR:HA	1.53	1.07
1:A:204:TYR:CD1	1:A:225:PRO:HA	1.90	1.07
1:B:1088:HIS:CE1	1:B:1122:VAL:HG23	1.89	1.07
1:C:350:VAL:HG12	1:C:422:ASN:HB3	1.33	1.07
1:A:90:VAL:HG23	1:A:238:PHE:HE2	0.96	1.07
1:C:615:VAL:HG21	1:C:649:CYS:HB3	1.37	1.07
1:B:1039:ARG:NH1	1:B:1042:PHE:CE2	2.22	1.06
1:C:186:PHE:O	1:C:211:ASN:HB3	1.53	1.06
1:C:490:PHE:HE2	1:C:492:LEU:HB2	1.17	1.06
1:C:89:GLY:C	1:C:270:LEU:HD13	1.76	1.06
1:C:581:THR:HG21	1:C:583:GLU:OE2	1.55	1.06

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:273:ARG:NH1	1:C:292:ALA:HB3	1.69	1.06
1:C:748:GLU:OE1	1:C:981:LEU:HG	1.56	1.06
1:B:85:PRO:HG2	1:B:269:TYR:OH	1.56	1.05
1:B:715:PRO:HA	1:B:1071:GLN:O	1.56	1.05
1:A:353:TRP:CD1	1:A:466:ARG:CD	2.39	1.05
1:A:896:ILE:HD13	1:C:712:ILE:HG13	1.32	1.05
1:C:395:VAL:HG21	1:C:524:VAL:HG11	1.33	1.05
1:A:90:VAL:HG11	1:A:194:PHE:HB2	1.37	1.05
1:A:736:VAL:HG22	1:A:858:LEU:HD22	1.37	1.05
1:C:617:CYS:SG	1:C:644:GLN:NE2	2.30	1.05
1:A:620:VAL:HB	1:A:621:PRO:HD3	1.08	1.05
1:A:353:TRP:H	1:A:466:ARG:HD2	1.13	1.05
1:B:1081:ILE:O	1:B:1088:HIS:HB2	1.58	1.04
1:B:204:TYR:HE1	1:B:225:PRO:HB3	1.19	1.04
1:B:718:PHE:CD2	1:B:1067:TYR:CE1	2.45	1.04
1:A:83:VAL:CG2	1:A:237:ARG:HD3	1.85	1.04
1:B:1043:CYS:HB2	1:B:1048:HIS:HD2	1.21	1.04
1:C:1087:ALA:O	1:C:1122:VAL:HG23	1.57	1.04
1:A:1088:HIS:ND1	1:A:1122:VAL:HG13	1.71	1.04
1:C:615:VAL:HG23	1:C:649:CYS:CB	1.87	1.04
1:A:289:VAL:HG23	1:A:306:PHE:CE1	1.92	1.03
1:C:37:TYR:CD1	1:C:55:PHE:HE1	1.75	1.03
1:A:67:ALA:HB3	1:A:263:ALA:HB3	1.40	1.03
1:A:379:CYS:HB2	1:A:384:PRO:HD3	1.40	1.03
1:B:718:PHE:CG	1:B:1067:TYR:HE1	1.76	1.03
1:A:164:ASN:ND2	2:K:1:NAG:O5	1.90	1.03
1:B:318:PHE:HE2	1:B:615:VAL:HG21	1.18	1.03
1:B:615:VAL:CG1	1:B:620:VAL:HG12	1.87	1.03
1:A:742:ILE:CD1	1:A:1001:LEU:HD23	1.88	1.03
1:B:743:CYS:O	1:B:977:LEU:HD12	1.57	1.03
1:B:105:ILE:HG13	1:B:118:LEU:HD13	1.36	1.03
1:B:1102:TRP:HB2	1:B:1135:ASN:HD22	1.19	1.03
1:A:970:PHE:CD2	1:A:999:GLY:HA3	1.92	1.02
1:B:298:GLU:CG	1:B:315:THR:HG21	1.88	1.02
1:C:598:ILE:HD11	1:C:666:ILE:HD12	1.39	1.02
1:C:490:PHE:CE2	1:C:492:LEU:HB2	1.94	1.02
1:C:615:VAL:HG23	1:C:649:CYS:HB2	1.06	1.02
1:A:90:VAL:CG1	1:A:194:PHE:HB2	1.89	1.02
1:A:328:ARG:HH22	1:A:533:LEU:HB2	1.23	1.02
1:B:92:PHE:CZ	1:B:265:TYR:HD2	1.77	1.02
1:C:87:ASN:CG	1:C:269:TYR:HD2	1.61	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:724:THR:HG22	1:B:1063:LEU:HD23	1.38	1.01
1:C:825:LYS:NZ	1:C:942:ALA:CB	2.21	1.01
1:B:298:GLU:HG2	1:B:315:THR:CG2	1.87	1.01
1:C:105:ILE:HG21	1:C:135:PHE:HE2	1.24	1.01
1:C:119:ILE:HG23	1:C:127:VAL:O	1.58	1.01
1:A:204:TYR:HD1	1:A:225:PRO:HA	1.23	1.01
1:B:826:VAL:HG23	1:B:945:LEU:CD1	1.90	1.01
1:C:516:GLU:CG	1:C:519:HIS:NE2	2.22	1.01
1:B:106:PHE:HB3	1:B:235:ILE:CD1	1.91	1.01
1:B:615:VAL:HG11	1:B:620:VAL:HG12	1.01	1.01
1:B:641:ASN:ND2	1:B:654:GLU:OE1	1.92	1.01
1:B:1039:ARG:CZ	1:B:1042:PHE:CD2	2.44	1.01
1:B:1104:VAL:HG11	1:B:1119:ASN:HD22	1.20	1.01
1:A:310:LYS:HG3	1:A:664:ILE:HD11	1.39	1.00
1:B:56:LEU:HD12	1:B:57:PRO:CD	1.90	1.00
1:B:85:PRO:O	1:B:269:TYR:OH	1.79	1.00
1:A:33:THR:CG2	1:A:58:PHE:CD2	2.44	1.00
1:A:107:GLY:HA2	1:A:235:ILE:HG22	1.41	1.00
1:C:105:ILE:HD11	1:C:241:LEU:HD11	1.43	1.00
1:C:118:LEU:HD22	1:C:135:PHE:CE2	1.94	1.00
1:A:353:TRP:CZ2	1:A:465:GLU:O	2.14	1.00
1:A:782:PHE:HE2	1:A:874:THR:CG2	1.75	1.00
1:C:712:ILE:CD1	1:C:1094:VAL:HG11	1.92	1.00
1:A:552:LEU:CD2	1:A:587:ILE:CD1	2.40	1.00
1:A:89:GLY:HA3	1:A:270:LEU:H	0.92	1.00
1:B:57:PRO:CB	1:B:273:ARG:NH1	2.15	1.00
1:B:576:VAL:HG12	1:B:587:ILE:HD11	1.42	1.00
1:A:715:PRO:HA	1:A:1071:GLN:O	1.62	0.99
1:C:321:GLN:OE1	1:C:322:PRO:HD3	1.60	0.99
1:C:454:ARG:CZ	1:C:467:ASP:OD2	2.09	0.99
1:C:726:ILE:HD12	1:C:1061:VAL:HG22	1.39	0.99
1:B:770:ILE:HD11	1:B:1012:LEU:HD12	1.00	0.99
1:C:220:PHE:CE2	1:C:288:ALA:N	2.22	0.99
1:A:90:VAL:CG2	1:A:238:PHE:CE2	2.44	0.99
1:A:620:VAL:HB	1:A:621:PRO:CD	1.91	0.99
1:B:559:PHE:CD1	1:B:584:ILE:HG12	1.98	0.99
1:A:620:VAL:CB	1:A:621:PRO:HD3	1.91	0.99
1:C:328:ARG:CZ	1:C:578:ASP:OD2	2.09	0.99
1:B:1043:CYS:HB2	1:B:1048:HIS:CD2	1.97	0.99
1:A:782:PHE:CE1	1:A:1060:VAL:HG22	1.97	0.99
1:B:107:GLY:N	1:B:235:ILE:HD13	1.78	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:662:CYS:SG	1:C:697:MET:CB	2.50	0.98
1:C:210:ILE:CG1	1:C:212:LEU:HD21	1.91	0.98
1:C:821:LEU:HD21	1:C:939:SER:HB3	1.45	0.98
1:C:429:PHE:HE1	1:C:431:GLY:O	1.47	0.98
1:A:885:GLY:CA	1:A:901:GLN:NE2	2.27	0.98
1:C:186:PHE:O	1:C:211:ASN:CB	2.11	0.98
1:C:378:LYS:HG2	1:C:433:VAL:HG12	1.44	0.98
1:C:223:LEU:N	1:C:223:LEU:HD23	1.78	0.98
1:C:612:TYR:O	1:C:615:VAL:HG22	1.64	0.98
1:A:89:GLY:CA	1:A:270:LEU:H	1.77	0.98
1:B:1102:TRP:HB2	1:B:1135:ASN:ND2	1.79	0.98
1:A:353:TRP:CZ2	1:A:465:GLU:C	2.36	0.97
1:B:533:LEU:HD11	1:B:552:LEU:HD13	1.46	0.97
1:C:220:PHE:CE2	1:C:287:ASP:HA	1.98	0.97
1:B:1081:ILE:HD12	1:B:1133:VAL:HG23	1.45	0.97
1:B:815:ARG:NH1	1:B:823:PHE:CE2	2.31	0.97
1:A:564:GLN:OE1	1:A:577:ARG:HD2	1.64	0.97
1:B:1088:HIS:HD2	1:B:1137:VAL:HG11	1.03	0.97
1:A:1102:TRP:HB2	1:A:1135:ASN:HD21	1.05	0.97
1:B:770:ILE:CD1	1:B:1012:LEU:HD12	1.95	0.97
1:C:378:LYS:HG2	1:C:433:VAL:CG1	1.93	0.96
1:C:472:ILE:HD11	1:C:482:GLY:H	1.30	0.96
1:C:220:PHE:HZ	1:C:288:ALA:CA	1.78	0.96
1:C:612:TYR:HB2	1:C:615:VAL:CG1	1.96	0.96
1:A:107:GLY:CA	1:A:235:ILE:CG2	2.44	0.96
1:A:324:GLU:O	1:A:539:VAL:HB	1.65	0.96
1:C:473:TYR:N	1:C:489:TYR:O	1.98	0.96
1:B:718:PHE:CD2	1:B:1067:TYR:HE1	1.83	0.96
1:A:797:PHE:HE1	1:A:882:ILE:HG22	1.30	0.96
1:A:1081:ILE:HG21	1:A:1135:ASN:HB3	1.44	0.96
1:C:350:VAL:CG1	1:C:422:ASN:HB3	1.95	0.96
1:A:204:TYR:HE1	1:A:225:PRO:HB3	1.31	0.96
1:C:33:THR:CG2	1:C:58:PHE:HE2	1.78	0.96
1:A:718:PHE:CD2	1:A:1109:PHE:HE2	1.84	0.96
1:A:101:ILE:HD11	1:A:263:ALA:HB1	1.44	0.96
1:A:64:TRP:CD1	1:A:266:TYR:CE2	2.54	0.95
1:B:784:GLN:HA	1:B:784:GLN:HE21	1.28	0.95
1:B:1080:ALA:O	1:B:1132:ILE:HG13	1.63	0.95
1:C:392:PHE:CE2	1:C:515:PHE:CZ	2.32	0.95
1:B:641:ASN:ND2	1:B:654:GLU:HA	1.80	0.95
1:C:392:PHE:HE2	1:C:515:PHE:CZ	1.49	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:726:ILE:CD1	1:C:1061:VAL:HG22	1.95	0.95
1:C:360:ASN:HA	1:C:523:THR:HG21	1.46	0.95
1:A:107:GLY:H	1:A:235:ILE:CG2	1.78	0.95
1:A:204:TYR:CE1	1:A:225:PRO:HB3	2.00	0.95
1:A:712:ILE:HB	1:A:1077:THR:HG21	1.47	0.95
1:C:328:ARG:HE	1:C:578:ASP:CG	1.70	0.95
1:B:57:PRO:CA	1:B:273:ARG:HH12	1.78	0.95
1:B:329:PHE:HB3	1:B:330:PRO:HD2	1.49	0.95
1:A:1084:ASP:HB2	1:A:1086:LYS:NZ	1.82	0.94
1:B:615:VAL:CG1	1:B:620:VAL:CG1	2.45	0.94
1:C:878:LEU:CD2	1:C:1053:PRO:HD2	1.97	0.94
1:B:96:GLU:OE1	1:B:101:ILE:N	2.00	0.94
1:B:119:ILE:HG12	1:B:128:ILE:HG12	1.48	0.94
1:A:278:LYS:HB2	1:A:306:PHE:CE2	2.02	0.94
1:C:33:THR:CG2	1:C:58:PHE:CE2	2.50	0.94
1:B:822:LEU:HD21	1:B:1061:VAL:HG21	1.47	0.94
1:A:96:GLU:OE1	1:A:101:ILE:N	1.99	0.94
1:A:743:CYS:SG	1:A:750:SER:N	2.40	0.94
1:C:33:THR:HG22	1:C:58:PHE:CD2	2.03	0.94
1:C:1095:PHE:CZ	1:C:1120:THR:HG21	2.02	0.94
1:C:856:ASN:O	1:C:858:LEU:HD13	1.66	0.94
1:B:322:PRO:CG	1:B:540:ASN:OD1	2.14	0.94
1:C:393:THR:CG2	1:C:522:ALA:CB	2.46	0.94
1:C:598:ILE:HD11	1:C:666:ILE:HD11	1.49	0.94
1:A:731:MET:HB2	1:A:955:ASN:HD21	1.32	0.93
1:C:220:PHE:HZ	1:C:288:ALA:N	1.56	0.93
1:C:360:ASN:CA	1:C:523:THR:HG23	1.98	0.93
1:A:822:LEU:HD22	1:A:945:LEU:HD21	1.49	0.93
1:B:91:TYR:CE1	1:B:93:ALA:HB2	2.03	0.93
1:C:581:THR:HG22	1:C:583:GLU:HG3	1.50	0.93
1:A:89:GLY:CA	1:A:270:LEU:HB2	1.97	0.93
1:A:308:VAL:N	1:A:602:THR:HG21	1.84	0.93
1:C:231:ILE:H	1:C:231:ILE:HD12	1.33	0.93
1:A:53:ASP:O	1:A:55:PHE:CE2	2.21	0.93
1:A:89:GLY:CA	1:A:270:LEU:CB	2.47	0.93
1:C:392:PHE:O	1:C:524:VAL:HB	1.68	0.93
1:C:289:VAL:CG2	1:C:306:PHE:CE2	2.52	0.93
1:C:289:VAL:CG2	1:C:306:PHE:CZ	2.51	0.93
1:C:495:TYR:HD2	1:C:497:PHE:HE2	1.13	0.93
1:B:106:PHE:HB3	1:B:235:ILE:HD13	1.48	0.93
1:B:906:PHE:CD2	1:B:916:LEU:HB2	2.03	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:374:PHE:HD2	1:C:436:TRP:CD1	1.86	0.93
1:B:1039:ARG:CZ	1:B:1042:PHE:HE2	1.74	0.93
1:C:210:ILE:CB	1:C:212:LEU:HD21	1.99	0.93
1:A:322:PRO:HG2	1:A:540:ASN:OD1	1.67	0.93
1:C:87:ASN:ND2	1:C:269:TYR:CD2	2.37	0.93
1:C:128:ILE:HG22	1:C:129:LYS:N	1.83	0.93
1:B:543:PHE:HE2	1:B:578:ASP:HB3	1.32	0.92
1:C:87:ASN:OD1	1:C:269:TYR:HE2	1.36	0.92
1:C:102:ARG:HD2	1:C:141:LEU:HD13	1.51	0.92
1:C:905:ARG:HE	1:C:1050:MET:HE2	1.33	0.92
1:C:342:PHE:HE1	1:C:511:VAL:HG11	1.33	0.92
1:C:33:THR:HG22	1:C:58:PHE:HE2	1.13	0.92
1:C:655:HIS:HB2	1:C:694:ALA:O	1.67	0.92
1:C:378:LYS:HD2	1:C:433:VAL:HG11	1.52	0.92
1:C:380:TYR:CE2	1:C:412:PRO:CD	2.52	0.92
1:A:310:LYS:CB	1:A:600:PRO:O	2.16	0.92
1:A:718:PHE:HD2	1:A:1109:PHE:HE2	1.16	0.92
1:A:885:GLY:HA2	1:A:901:GLN:HE22	1.28	0.92
1:C:102:ARG:CD	1:C:141:LEU:HD13	2.00	0.92
1:A:736:VAL:HG22	1:A:858:LEU:CD2	2.00	0.92
1:A:89:GLY:HA2	1:A:270:LEU:HB2	1.50	0.92
1:A:896:ILE:CD1	1:C:712:ILE:HG13	1.99	0.92
1:A:33:THR:CB	1:A:58:PHE:CE2	2.53	0.92
1:A:83:VAL:HG21	1:A:237:ARG:HD2	0.92	0.92
1:A:598:ILE:HG23	1:A:664:ILE:HG21	1.51	0.91
1:A:617:CYS:HA	1:A:649:CYS:SG	2.11	0.91
1:C:203:ILE:CG2	1:C:227:VAL:HG22	2.00	0.91
1:C:615:VAL:HG21	1:C:649:CYS:CB	1.97	0.91
1:A:452:LEU:CD1	1:A:493:GLN:O	2.18	0.91
1:B:725:GLU:OE1	1:B:1028:LYS:NZ	2.01	0.91
1:C:380:TYR:HE2	1:C:412:PRO:CD	1.83	0.91
1:C:490:PHE:CE2	1:C:492:LEU:HD23	2.05	0.91
1:A:278:LYS:HB2	1:A:306:PHE:HE2	1.34	0.91
1:B:1072:GLU:HG2	1:C:894:LEU:CD2	2.00	0.91
1:C:100:ILE:HD12	1:C:243:ALA:O	1.70	0.91
1:C:393:THR:HG23	1:C:522:ALA:CB	2.00	0.91
1:C:347:PHE:CD1	1:C:509:ARG:NH1	2.39	0.91
1:C:497:PHE:HD1	1:C:507:PRO:HD3	1.35	0.91
1:A:976:VAL:HG13	1:A:979:ASP:HB3	1.51	0.91
1:A:1096:VAL:HG21	1:A:1105:THR:HG22	1.48	0.91
1:A:231:ILE:HG22	1:A:233:ILE:H	1.34	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:970:PHE:CD2	1:C:999:GLY:CA	2.53	0.91
1:B:1095:PHE:CZ	1:B:1120:THR:HG21	2.06	0.91
1:C:367:VAL:HG23	1:C:368:LEU:HD12	1.53	0.91
1:C:404:GLY:HA2	1:C:508:TYR:HD2	1.34	0.91
1:C:107:GLY:O	1:C:235:ILE:HG23	1.71	0.91
1:C:970:PHE:HD2	1:C:999:GLY:HA3	1.06	0.91
1:C:1089:PHE:O	1:C:1120:THR:CB	2.17	0.91
1:A:330:PRO:HA	1:A:580:GLN:HE22	1.35	0.90
1:B:318:PHE:CE2	1:B:615:VAL:HG21	2.05	0.90
1:B:718:PHE:HD2	1:B:1067:TYR:CE1	1.84	0.90
1:B:1080:ALA:HB2	1:B:1089:PHE:CE1	2.07	0.90
1:C:825:LYS:HZ1	1:C:942:ALA:HB2	0.85	0.90
1:A:241:LEU:HD12	1:A:242:LEU:N	1.87	0.90
1:C:37:TYR:HE1	1:C:55:PHE:CD1	1.89	0.90
1:A:89:GLY:HA2	1:A:270:LEU:CB	2.01	0.90
1:A:736:VAL:CG2	1:A:858:LEU:HD22	1.99	0.90
1:B:773:GLU:OE2	1:B:1019:ARG:NH1	2.04	0.90
1:A:308:VAL:H	1:A:602:THR:HG21	1.35	0.90
1:A:552:LEU:CD2	1:A:587:ILE:HD13	1.97	0.90
1:B:1039:ARG:NH2	1:B:1042:PHE:HE2	1.70	0.90
1:A:128:ILE:HG22	1:A:129:LYS:N	1.86	0.90
1:B:826:VAL:HG13	1:B:949:GLN:OE1	1.71	0.90
1:C:366:SER:O	1:C:370:ASN:N	2.04	0.90
1:A:89:GLY:HA3	1:A:270:LEU:CA	2.00	0.90
1:A:204:TYR:HD1	1:A:225:PRO:CA	1.84	0.90
1:A:1087:ALA:HB2	1:A:1126:CYS:HB3	1.50	0.90
1:C:1090:PRO:HA	1:C:1120:THR:HG22	0.91	0.90
1:C:210:ILE:HB	1:C:212:LEU:HD21	1.50	0.90
1:A:453:TYR:CE2	1:A:493:GLN:CG	2.55	0.90
1:A:673:SER:O	1:A:693:ILE:HD13	1.72	0.90
1:A:119:ILE:HG12	1:A:128:ILE:HG12	1.52	0.90
1:A:353:TRP:H	1:A:466:ARG:CD	1.85	0.90
1:A:896:ILE:HD13	1:C:712:ILE:CG1	2.01	0.89
1:C:220:PHE:HZ	1:C:288:ALA:CB	1.83	0.89
1:C:970:PHE:HE2	1:C:999:GLY:C	1.75	0.89
1:A:805:ILE:O	1:A:816:SER:OG	1.90	0.89
1:A:541:PHE:CE2	1:A:587:ILE:HD12	2.07	0.89
1:B:190:ARG:HE	1:B:207:HIS:CE1	1.89	0.89
1:A:34:ARG:HH12	1:A:217:PRO:CG	1.79	0.89
1:B:128:ILE:HG22	1:B:129:LYS:N	1.87	0.89
1:B:599:THR:HG22	1:B:608:VAL:HG12	1.52	0.89

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:366:SER:O	1:C:370:ASN:CB	2.21	0.89
1:C:1082:CYS:HG	1:C:1126:CYS:HG	0.91	0.89
1:C:1095:PHE:HZ	1:C:1120:THR:HG21	1.38	0.89
1:A:89:GLY:HA2	1:A:270:LEU:CG	2.03	0.89
1:C:971:GLY:O	1:C:995:ARG:HD2	1.73	0.89
1:A:105:ILE:HG13	1:A:118:LEU:CD1	2.02	0.89
1:A:729:VAL:HG21	1:A:1060:VAL:HG23	1.54	0.89
1:C:763:LEU:HD22	1:C:1008:VAL:HG21	1.53	0.89
1:A:64:TRP:HD1	1:A:266:TYR:CD2	1.87	0.89
1:C:456:PHE:HB3	1:C:473:TYR:CD1	2.07	0.89
1:B:906:PHE:CE2	1:B:916:LEU:HB2	2.08	0.88
1:B:559:PHE:CE1	1:B:584:ILE:HG21	2.08	0.88
1:C:612:TYR:CB	1:C:615:VAL:CG1	2.51	0.88
1:A:742:ILE:HD13	1:A:1001:LEU:CD2	2.02	0.88
1:B:53:ASP:HB3	1:B:55:PHE:CE2	2.09	0.88
1:B:885:GLY:HA2	1:B:901:GLN:HE21	1.14	0.88
1:C:107:GLY:H	1:C:235:ILE:HG23	1.38	0.88
1:C:365:TYR:HA	1:C:368:LEU:HD13	1.56	0.88
1:A:328:ARG:HD3	1:A:531:THR:O	1.73	0.88
1:B:105:ILE:HG13	1:B:118:LEU:CD1	2.02	0.88
1:B:324:GLU:O	1:B:539:VAL:CG2	2.21	0.88
1:B:767:LEU:HD21	1:B:1008:VAL:HG22	1.55	0.88
1:C:611:LEU:HB2	1:C:650:LEU:HD13	1.55	0.88
1:B:1039:ARG:NH2	1:B:1042:PHE:CE2	2.41	0.88
1:B:718:PHE:HZ	1:B:923:ILE:HD11	1.39	0.88
1:B:776:LYS:HZ2	1:B:780:GLU:HG2	1.39	0.88
1:B:574:ASP:O	1:B:587:ILE:HB	1.74	0.88
1:C:89:GLY:C	1:C:270:LEU:CD1	2.41	0.88
1:C:115:GLN:O	1:C:233:ILE:HD11	1.73	0.88
1:C:119:ILE:CG1	1:C:128:ILE:HG12	2.04	0.88
1:C:495:TYR:HD2	1:C:497:PHE:CE2	1.91	0.88
1:A:742:ILE:HD13	1:A:1001:LEU:HD23	1.56	0.87
1:B:738:CYS:SG	1:B:760:CYS:O	2.31	0.87
1:A:420:ASP:HB3	1:A:460:ASN:OD1	1.74	0.87
1:C:490:PHE:HE2	1:C:492:LEU:CB	1.87	0.87
1:C:763:LEU:HD13	1:C:1004:LEU:HD22	1.56	0.87
1:C:712:ILE:HD13	1:C:1094:VAL:HG11	1.53	0.87
1:A:204:TYR:CD1	1:A:225:PRO:CA	2.57	0.87
1:B:1079:PRO:HG2	1:B:1131:GLY:O	1.74	0.87
1:C:290:ASP:O	1:C:297:SER:HB3	1.74	0.87
1:A:1080:ALA:O	1:A:1132:ILE:HG13	1.75	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:815:ARG:NH1	1:B:823:PHE:CD2	2.40	0.87
1:C:105:ILE:HG21	1:C:135:PHE:CE2	2.09	0.87
1:C:383:SER:HB3	1:C:386:LYS:HB2	1.56	0.87
1:C:395:VAL:CG2	1:C:524:VAL:HG11	2.04	0.87
1:A:718:PHE:HD2	1:A:1109:PHE:CE2	1.91	0.87
1:C:503:VAL:HA	1:C:506:GLN:CD	1.95	0.87
1:C:748:GLU:HG3	1:C:981:LEU:HD21	1.57	0.86
1:A:379:CYS:CB	1:A:384:PRO:HD3	2.04	0.86
1:C:336:CYS:SG	1:C:361:CYS:C	2.53	0.86
1:B:204:TYR:CD1	1:B:225:PRO:HA	2.10	0.86
1:C:612:TYR:CB	1:C:615:VAL:HG13	2.05	0.86
1:B:815:ARG:NH1	1:B:823:PHE:CZ	2.43	0.86
1:C:756:TYR:HB3	1:C:759:PHE:CD2	2.11	0.86
1:A:90:VAL:CG1	1:A:194:PHE:O	2.23	0.86
1:A:642:VAL:HG13	1:A:651:ILE:HG12	1.55	0.86
1:A:1102:TRP:CB	1:A:1135:ASN:ND2	2.37	0.86
1:B:800:PHE:HD2	1:B:927:PHE:CD2	1.93	0.86
1:C:342:PHE:CE1	1:C:511:VAL:HG11	2.10	0.86
1:C:392:PHE:HE2	1:C:515:PHE:CE1	1.93	0.86
1:B:719:THR:CG2	1:B:1070:ALA:HB2	2.06	0.86
1:B:1095:PHE:HZ	1:B:1120:THR:HG21	1.41	0.86
1:B:970:PHE:CD2	1:B:999:GLY:HA3	2.11	0.86
1:A:453:TYR:CZ	1:A:493:GLN:HG3	2.10	0.85
1:A:104:TRP:O	1:A:118:LEU:HD12	1.76	0.85
1:B:57:PRO:HB3	1:B:273:ARG:CZ	2.06	0.85
1:A:782:PHE:CE2	1:A:874:THR:CG2	2.59	0.85
1:C:350:VAL:HG12	1:C:422:ASN:CB	2.06	0.85
1:C:433:VAL:HG23	1:C:512:VAL:HG22	1.58	0.85
1:C:128:ILE:CG2	1:C:129:LYS:N	2.40	0.85
1:C:210:ILE:HB	1:C:212:LEU:CD2	2.06	0.85
1:C:1081:ILE:O	1:C:1088:HIS:HB2	1.77	0.85
1:A:724:THR:CG2	1:A:1063:LEU:HD23	2.06	0.85
1:B:89:GLY:C	1:B:270:LEU:CD1	2.45	0.85
1:A:66:HIS:HD2	1:A:68:ILE:CG2	1.90	0.85
1:A:742:ILE:HD11	1:A:1001:LEU:HD23	1.55	0.85
1:C:878:LEU:HD23	1:C:1053:PRO:HD2	1.57	0.85
1:C:825:LYS:HZ1	1:C:942:ALA:CB	1.81	0.85
1:C:748:GLU:CD	1:C:981:LEU:HG	1.97	0.84
1:A:43:PHE:HE2	1:A:282:ASN:O	1.59	0.84
1:A:895:GLN:NE2	1:C:713:ALA:HB2	1.91	0.84
1:B:37:TYR:OH	1:B:195:LYS:NZ	2.10	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:104:TRP:O	1:B:118:LEU:HD12	1.77	0.84
1:C:220:PHE:CZ	1:C:288:ALA:CB	2.60	0.84
1:C:328:ARG:NH2	1:C:578:ASP:OD2	2.10	0.84
1:C:429:PHE:CE1	1:C:431:GLY:N	2.43	0.84
1:B:1090:PRO:HA	1:B:1120:THR:HG22	1.57	0.84
1:C:1115:ILE:HD12	1:C:1115:ILE:H	1.42	0.84
1:B:1081:ILE:HD12	1:B:1133:VAL:CG2	2.07	0.84
1:B:675:GLN:HE21	1:B:675:GLN:HA	1.41	0.84
1:C:916:LEU:HD13	1:C:923:ILE:CD1	2.08	0.84
1:C:921:LYS:HA	1:C:921:LYS:CE	2.08	0.84
1:A:724:THR:HG22	1:A:1063:LEU:CD2	2.06	0.84
1:A:1088:HIS:CE1	1:A:1122:VAL:CG1	2.61	0.84
1:B:599:THR:HG22	1:B:608:VAL:CB	2.06	0.84
1:B:275:PHE:CD1	1:B:290:ASP:HA	2.13	0.84
1:A:712:ILE:HB	1:A:1077:THR:CG2	2.07	0.83
1:C:393:THR:CG2	1:C:522:ALA:HB2	2.08	0.83
1:C:426:PRO:HG2	1:C:464:PHE:CD2	2.12	0.83
1:C:741:TYR:CZ	1:C:966:LEU:HD21	2.13	0.83
1:A:34:ARG:NH2	1:A:217:PRO:HG2	1.93	0.83
1:B:713:ALA:HA	1:B:1073:LYS:O	1.78	0.83
1:A:308:VAL:H	1:A:602:THR:CG2	1.89	0.83
1:A:815:ARG:NH1	1:A:823:PHE:CD1	2.45	0.83
1:A:895:GLN:OE1	1:A:895:GLN:N	2.11	0.83
1:C:599:THR:HB	1:C:608:VAL:HG12	1.60	0.83
1:A:92:PHE:CE1	1:A:94:SER:HB3	2.13	0.83
1:B:719:THR:HG23	1:B:1070:ALA:HB2	1.59	0.83
1:C:612:TYR:HB3	1:C:615:VAL:HG13	1.60	0.83
1:C:452:LEU:HD23	1:C:492:LEU:HB3	1.58	0.83
1:A:620:VAL:HG23	1:A:621:PRO:HD2	1.61	0.83
1:B:107:GLY:H	1:B:235:ILE:CG2	1.90	0.83
1:C:495:TYR:CD2	1:C:497:PHE:CE2	2.67	0.83
1:C:972:ALA:HB3	1:C:996:LEU:HD11	1.57	0.83
1:A:620:VAL:CB	1:A:621:PRO:CD	2.55	0.83
1:C:328:ARG:NH2	1:C:581:THR:OG1	2.12	0.83
1:C:350:VAL:CG1	1:C:422:ASN:CB	2.56	0.83
1:A:391:CYS:HA	1:A:525:CYS:HB3	1.59	0.83
1:B:715:PRO:CA	1:B:1071:GLN:O	2.27	0.83
1:B:718:PHE:HB2	1:B:1067:TYR:CZ	2.12	0.83
1:C:210:ILE:C	1:C:212:LEU:HD22	1.98	0.83
1:C:581:THR:HG21	1:C:583:GLU:CD	1.98	0.83
1:A:31:SER:CB	1:A:216:LEU:HD22	2.08	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:90:VAL:CG2	1:A:238:PHE:HE2	1.82	0.82
1:A:107:GLY:C	1:A:235:ILE:HG22	1.99	0.82
1:A:290:ASP:O	1:A:297:SER:HB3	1.79	0.82
1:A:1096:VAL:CG2	1:A:1105:THR:HG22	2.09	0.82
1:B:726:ILE:HD12	1:B:1061:VAL:HG22	1.61	0.82
1:B:885:GLY:CA	1:B:901:GLN:HE21	1.91	0.82
1:C:1103:PHE:HE1	1:C:1114:ILE:CD1	1.92	0.82
1:B:327:VAL:HG11	1:B:529:LYS:O	1.78	0.82
1:B:805:ILE:HG22	1:B:878:LEU:HD13	1.61	0.82
1:C:273:ARG:NH1	1:C:292:ALA:CB	2.41	0.82
1:C:273:ARG:HH11	1:C:292:ALA:HB3	1.43	0.82
1:B:204:TYR:HD1	1:B:225:PRO:HA	1.42	0.82
1:C:87:ASN:CG	1:C:269:TYR:CE2	2.50	0.82
1:A:128:ILE:CG2	1:A:129:LYS:N	2.42	0.82
1:C:393:THR:HG23	1:C:522:ALA:HB1	1.57	0.82
1:C:204:TYR:CD1	1:C:225:PRO:HB3	2.14	0.82
1:C:326:ILE:HG21	1:C:534:VAL:HG12	1.62	0.82
1:A:985:ASP:OD1	1:A:986:PRO:CD	2.26	0.82
1:B:1142:GLN:HA	1:B:1142:GLN:HE21	1.42	0.82
1:A:299:THR:OG1	1:A:597:VAL:CG2	2.27	0.82
1:C:773:GLU:OE2	1:C:1019:ARG:HD2	1.80	0.82
1:C:105:ILE:HG13	1:C:118:LEU:HD13	1.59	0.82
1:C:429:PHE:CE1	1:C:431:GLY:O	2.32	0.82
1:A:353:TRP:CE2	1:A:466:ARG:HB2	2.14	0.82
1:A:357:ARG:HG2	1:A:357:ARG:HH11	1.44	0.82
1:C:1102:TRP:O	1:C:1115:ILE:CD1	2.28	0.82
1:A:353:TRP:CD2	1:A:466:ARG:HD3	2.15	0.82
1:B:885:GLY:CA	1:B:901:GLN:NE2	2.39	0.82
1:C:581:THR:CG2	1:C:583:GLU:OE2	2.27	0.82
1:C:612:TYR:HB2	1:C:615:VAL:HG11	1.61	0.82
1:A:55:PHE:HB3	1:A:275:PHE:CE2	2.15	0.81
1:A:600:PRO:HD3	1:A:692:ILE:HD11	1.61	0.81
1:A:985:ASP:OD1	1:A:986:PRO:HD2	1.80	0.81
1:B:1088:HIS:ND1	1:B:1122:VAL:HG23	1.93	0.81
1:C:555:SER:OG	1:C:584:ILE:HG22	1.79	0.81
1:C:353:TRP:HE1	1:C:466:ARG:HB3	1.45	0.81
1:C:970:PHE:CE2	1:C:999:GLY:C	2.53	0.81
1:A:31:SER:HB2	1:A:216:LEU:HD22	1.61	0.81
1:A:350:VAL:HG12	1:A:452:LEU:O	1.79	0.81
1:A:675:GLN:HA	1:A:675:GLN:HE21	1.45	0.81
1:B:128:ILE:CG2	1:B:129:LYS:N	2.43	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:317:ASN:HD22	1:C:737:ASP:HB2	1.46	0.81
1:A:782:PHE:HE1	1:A:1060:VAL:HG22	1.45	0.81
1:B:902:MET:HB3	1:B:916:LEU:HD21	1.62	0.81
1:C:48:LEU:HD12	1:C:48:LEU:H	1.44	0.81
1:C:330:PRO:HD3	1:C:544:ASN:HD21	1.45	0.81
1:C:1102:TRP:O	1:C:1115:ILE:HD11	1.80	0.81
1:A:1078:ALA:N	1:A:1102:TRP:HH2	1.78	0.81
1:C:128:ILE:O	1:C:129:LYS:HG2	1.81	0.81
1:C:456:PHE:CB	1:C:473:TYR:CD1	2.64	0.81
1:C:497:PHE:CD1	1:C:507:PRO:HD3	2.15	0.81
1:C:128:ILE:CG2	1:C:129:LYS:H	1.93	0.81
1:C:970:PHE:CE2	1:C:999:GLY:CA	2.63	0.81
1:B:617:CYS:HG	1:B:649:CYS:HG	0.83	0.81
1:C:393:THR:CB	1:C:522:ALA:HB2	2.11	0.81
1:C:970:PHE:HE2	1:C:999:GLY:O	1.64	0.81
1:A:308:VAL:HG22	1:A:602:THR:HB	1.61	0.81
1:C:825:LYS:CE	1:C:942:ALA:HB2	2.11	0.81
1:C:905:ARG:HD3	1:C:1049:LEU:O	1.81	0.81
1:C:922:LEU:HD11	1:C:926:GLN:HE21	1.44	0.81
1:A:984:LEU:HD13	1:A:988:GLU:HG3	1.64	0.80
1:C:340:GLU:OE2	1:C:356:LYS:NZ	2.14	0.80
1:A:825:LYS:HB2	1:A:945:LEU:CD1	2.11	0.80
1:C:85:PRO:HG2	1:C:269:TYR:HH	1.45	0.80
1:C:105:ILE:HG13	1:C:118:LEU:CD1	2.11	0.80
1:C:931:ILE:O	1:C:934:ILE:HG23	1.81	0.80
1:A:33:THR:HB	1:A:58:PHE:CE2	2.17	0.80
1:C:203:ILE:CG2	1:C:227:VAL:CG2	2.59	0.80
1:C:1031:GLU:O	1:C:1035:GLY:O	2.00	0.80
1:C:119:ILE:HG12	1:C:128:ILE:HG12	1.62	0.80
1:C:654:GLU:OE1	1:C:654:GLU:N	2.14	0.80
1:B:1116:THR:HG22	1:B:1140:PRO:HD3	1.63	0.80
1:A:1088:HIS:CE1	1:A:1122:VAL:HG11	2.17	0.80
1:C:118:LEU:HD23	1:C:135:PHE:CZ	2.14	0.80
1:C:36:VAL:C	1:C:223:LEU:HD21	2.02	0.80
1:C:393:THR:CB	1:C:522:ALA:CB	2.59	0.79
1:A:118:LEU:CD2	1:A:135:PHE:CZ	2.62	0.79
1:A:954:GLN:HG2	1:A:1014:ARG:NH1	1.97	0.79
1:B:563:GLN:NE2	1:C:43:PHE:HB2	1.97	0.79
1:A:107:GLY:N	1:A:235:ILE:HG21	1.95	0.79
1:C:324:GLU:O	1:C:539:VAL:HB	1.82	0.79
1:C:462:LYS:HA	1:C:462:LYS:CE	2.12	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:118:LEU:CD2	1:C:135:PHE:HZ	1.60	0.79
1:A:353:TRP:CZ2	1:A:466:ARG:HB2	2.16	0.79
1:C:1033:VAL:CG2	1:C:1062:PHE:HE1	1.95	0.79
1:A:403:ARG:HG3	1:A:495:TYR:OH	1.83	0.79
1:C:34:ARG:CZ	1:C:221:SER:OG	2.30	0.79
1:A:106:PHE:HZ	1:A:194:PHE:CD2	2.01	0.79
1:B:555:SER:CB	1:B:586:ASP:OD1	2.30	0.79
1:B:555:SER:HB2	1:B:586:ASP:OD1	1.83	0.79
1:C:611:LEU:HB2	1:C:650:LEU:CD1	2.12	0.79
1:B:546:LEU:HD22	1:B:565:PHE:CE2	2.17	0.78
1:B:597:VAL:HG22	1:B:610:VAL:HG12	1.65	0.78
1:B:718:PHE:CZ	1:B:923:ILE:HD11	2.18	0.78
1:C:791:THR:HG22	1:C:792:PRO:HD2	1.65	0.78
1:A:453:TYR:CZ	1:A:493:GLN:CG	2.67	0.78
1:B:576:VAL:CG1	1:B:587:ILE:HD11	2.13	0.78
1:B:1088:HIS:CE1	1:B:1122:VAL:CG2	2.64	0.78
1:C:380:TYR:HE2	1:C:412:PRO:HD3	1.47	0.78
1:A:235:ILE:H	1:A:235:ILE:HD12	1.46	0.78
1:C:599:THR:CB	1:C:608:VAL:HG12	2.12	0.78
1:A:552:LEU:HD22	1:A:587:ILE:HD11	1.60	0.78
1:A:697:MET:CE	1:B:869:MET:SD	2.71	0.78
1:A:718:PHE:CD2	1:A:1109:PHE:CE2	2.68	0.78
1:B:800:PHE:CD2	1:B:927:PHE:HD2	2.02	0.78
1:A:89:GLY:CA	1:A:270:LEU:N	2.34	0.78
1:A:885:GLY:HA2	1:A:901:GLN:CD	2.03	0.78
1:B:106:PHE:HZ	1:B:194:PHE:CD2	2.01	0.78
1:B:324:GLU:O	1:B:539:VAL:HG22	1.83	0.78
1:B:324:GLU:O	1:B:539:VAL:HG23	1.83	0.78
1:C:692:ILE:HD12	1:C:692:ILE:H	1.49	0.78
1:A:970:PHE:HE1	1:B:756:TYR:O	1.66	0.78
1:B:763:LEU:HD22	1:B:1008:VAL:HG21	1.65	0.78
1:C:203:ILE:HG21	1:C:227:VAL:HG22	1.63	0.78
1:C:220:PHE:CZ	1:C:288:ALA:HB3	2.17	0.78
1:C:456:PHE:CB	1:C:473:TYR:CE1	2.61	0.78
1:C:517:LEU:H	1:C:517:LEU:HD12	1.49	0.78
1:C:970:PHE:CE2	1:C:999:GLY:HA3	2.17	0.78
1:B:190:ARG:HE	1:B:207:HIS:HE1	1.28	0.78
1:C:1072:GLU:OE1	1:C:1072:GLU:N	2.17	0.78
1:A:328:ARG:HH22	1:A:533:LEU:CB	1.97	0.78
1:A:570:ALA:HB1	1:B:963:VAL:HG11	1.64	0.78
1:C:210:ILE:O	1:C:212:LEU:CD2	2.32	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:374:PHE:CD2	1:C:436:TRP:CD1	2.72	0.78
1:C:36:VAL:O	1:C:223:LEU:HD23	1.82	0.77
1:C:360:ASN:CA	1:C:523:THR:CG2	2.55	0.77
1:A:89:GLY:HA3	1:A:270:LEU:CB	2.13	0.77
1:A:617:CYS:SG	1:A:644:GLN:CB	2.72	0.77
1:B:118:LEU:CD2	1:B:135:PHE:CZ	2.62	0.77
1:B:736:VAL:HG13	1:B:858:LEU:HD23	1.65	0.77
1:C:726:ILE:HD12	1:C:1061:VAL:CG2	2.13	0.77
1:A:85:PRO:HG2	1:A:269:TYR:OH	1.83	0.77
1:B:1080:ALA:HB2	1:B:1089:PHE:HE1	1.46	0.77
1:A:85:PRO:O	1:A:269:TYR:OH	2.01	0.77
1:A:712:ILE:CD1	1:A:1094:VAL:HG21	2.15	0.77
1:B:767:LEU:CD2	1:B:1008:VAL:HG22	2.15	0.77
1:A:557:LYS:NZ	1:A:574:ASP:OD2	2.17	0.77
1:B:351:TYR:HB3	1:B:422:ASN:ND2	2.00	0.77
1:A:743:CYS:SG	1:A:749:CYS:O	2.42	0.77
1:C:878:LEU:HD21	1:C:1053:PRO:HD2	1.66	0.77
1:A:203:ILE:HG22	1:A:227:VAL:HG23	1.65	0.77
1:B:200:TYR:HB3	1:B:230:PRO:HA	1.67	0.77
1:B:107:GLY:O	1:B:235:ILE:CG2	2.29	0.77
1:B:902:MET:HB3	1:B:916:LEU:CD2	2.15	0.77
1:C:118:LEU:CD2	1:C:135:PHE:CE1	2.67	0.77
1:C:203:ILE:HG22	1:C:227:VAL:CG2	2.15	0.77
1:A:353:TRP:NE1	1:A:466:ARG:HD3	1.98	0.76
1:A:742:ILE:CD1	1:A:1001:LEU:CD2	2.61	0.76
1:A:1048:HIS:ND1	1:A:1048:HIS:O	2.19	0.76
1:B:351:TYR:HB3	1:B:422:ASN:HD22	1.51	0.76
1:C:495:TYR:CD2	1:C:497:PHE:HE2	1.99	0.76
1:C:729:VAL:H	1:C:1059:GLY:HA2	1.49	0.76
1:A:321:GLN:HA	1:A:321:GLN:HE21	1.50	0.76
1:A:1089:PHE:HB2	1:A:1121:PHE:CE1	2.20	0.76
1:B:746:SER:O	1:B:749:CYS:SG	2.42	0.76
1:B:1089:PHE:O	1:B:1120:THR:HB	1.85	0.76
1:C:105:ILE:CG2	1:C:135:PHE:HE2	1.95	0.76
1:B:743:CYS:SG	1:B:749:CYS:C	2.63	0.76
1:B:725:GLU:CD	1:B:1028:LYS:NZ	2.39	0.76
1:B:1088:HIS:CD2	1:B:1137:VAL:CG1	2.61	0.76
1:A:308:VAL:N	1:A:602:THR:CG2	2.48	0.76
1:A:403:ARG:CG	1:A:495:TYR:CE1	2.68	0.76
1:A:1081:ILE:CG2	1:A:1135:ASN:HB3	2.16	0.76
1:B:543:PHE:CE2	1:B:578:ASP:HB3	2.18	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:605:SER:OG	1:C:607:GLN:HG2	1.86	0.76
1:A:119:ILE:CG1	1:A:128:ILE:HG12	2.15	0.76
1:A:1096:VAL:HG21	1:A:1105:THR:CG2	2.15	0.76
1:B:204:TYR:HD1	1:B:225:PRO:CA	1.99	0.76
1:C:229:LEU:HB3	1:C:231:ILE:HD13	1.66	0.76
1:A:353:TRP:NE1	1:A:466:ARG:CG	2.48	0.76
1:C:118:LEU:C	1:C:119:ILE:HD12	2.06	0.76
1:C:599:THR:HB	1:C:608:VAL:CG1	2.15	0.76
1:A:34:ARG:HH12	1:A:217:PRO:HG2	1.37	0.76
1:C:822:LEU:HD11	1:C:1061:VAL:HG21	1.68	0.76
1:A:220:PHE:HZ	1:A:288:ALA:HB3	1.51	0.75
1:B:92:PHE:CZ	1:B:265:TYR:CD2	2.69	0.75
1:B:106:PHE:HB3	1:B:235:ILE:HD12	1.68	0.75
1:B:800:PHE:CD2	1:B:927:PHE:CD2	2.74	0.75
1:C:38:TYR:OH	1:C:284:THR:HA	1.84	0.75
1:C:168:PHE:CZ	1:C:231:ILE:HD11	2.21	0.75
1:C:546:LEU:CD1	1:C:565:PHE:HE1	1.99	0.75
1:A:976:VAL:HG13	1:A:979:ASP:CB	2.16	0.75
1:B:805:ILE:HG22	1:B:878:LEU:CD1	2.16	0.75
1:C:101:ILE:HD11	1:C:263:ALA:HB1	1.68	0.75
1:A:673:SER:O	1:A:693:ILE:CD1	2.35	0.75
1:C:281:GLU:HB3	2:P:1:NAG:H82	1.67	0.75
1:C:1103:PHE:HE1	1:C:1114:ILE:HD13	1.52	0.75
1:B:565:PHE:HB2	1:C:42:VAL:HG12	1.66	0.75
1:C:37:TYR:HB3	1:C:223:LEU:HD11	1.69	0.75
1:C:204:TYR:CE1	1:C:225:PRO:HB3	2.21	0.75
1:C:320:VAL:HG21	1:C:619:GLU:OE2	1.86	0.75
1:C:1083:HIS:HB2	1:C:1137:VAL:CG2	2.16	0.75
1:C:715:PRO:HA	1:C:1071:GLN:O	1.85	0.75
1:C:330:PRO:CD	1:C:544:ASN:ND2	2.46	0.75
1:A:34:ARG:HH12	1:A:217:PRO:HG3	1.52	0.75
1:A:222:VAL:HG21	1:A:285:ILE:HB	1.66	0.75
1:C:34:ARG:NH1	1:C:221:SER:OG	2.20	0.75
1:A:289:VAL:CG2	1:A:306:PHE:CE1	2.70	0.75
1:C:294:ASP:OD2	1:C:296:LEU:HB3	1.87	0.75
1:C:1080:ALA:O	1:C:1132:ILE:HG13	1.87	0.75
1:B:89:GLY:O	1:B:270:LEU:CD1	2.34	0.74
1:B:316:SER:O	1:B:595:VAL:HG22	1.87	0.74
1:B:577:ARG:HB2	1:B:584:ILE:HG13	1.69	0.74
1:B:730:SER:O	1:B:1058:HIS:HB3	1.87	0.74
1:C:426:PRO:CG	1:C:464:PHE:CE2	2.67	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:128:ILE:CG2	1:B:129:LYS:H	2.01	0.74
1:B:388:ASN:ND2	1:B:527:PRO:HG2	2.02	0.74
1:A:128:ILE:CG2	1:A:129:LYS:H	2.00	0.74
1:A:782:PHE:CE2	1:A:874:THR:HG22	2.22	0.74
1:C:643:PHE:HZ	1:C:655:HIS:ND1	1.84	0.74
1:C:825:LYS:CE	1:C:942:ALA:CB	2.65	0.74
1:B:119:ILE:CG1	1:B:128:ILE:HG12	2.15	0.74
1:B:743:CYS:SG	1:B:750:SER:CA	2.75	0.74
1:B:1090:PRO:HD3	1:B:1095:PHE:HE1	1.50	0.74
1:C:88:ASP:OD1	1:C:88:ASP:N	2.15	0.74
1:C:498:GLN:CG	1:C:499:PRO:HD2	2.17	0.74
1:C:756:TYR:HB3	1:C:759:PHE:HD2	1.49	0.74
1:C:200:TYR:HD2	1:C:230:PRO:CA	1.95	0.74
1:C:414:GLN:HE21	1:C:414:GLN:HA	1.52	0.74
1:C:105:ILE:CG1	1:C:118:LEU:HD13	2.17	0.74
1:C:612:TYR:CB	1:C:615:VAL:HG11	2.17	0.74
1:C:643:PHE:CE1	1:C:655:HIS:CG	2.75	0.74
1:C:791:THR:CG2	1:C:792:PRO:HD2	2.16	0.74
1:A:758:SER:OG	1:C:965:GLN:OE1	2.06	0.74
1:B:584:ILE:H	1:B:584:ILE:HD12	1.51	0.74
1:B:718:PHE:HD2	1:B:1067:TYR:CD1	2.05	0.74
1:C:220:PHE:HE2	1:C:288:ALA:H	1.27	0.74
1:B:270:LEU:H	1:B:270:LEU:HD12	1.51	0.74
1:A:55:PHE:CB	1:A:275:PHE:CE2	2.71	0.74
1:A:299:THR:HG1	1:A:597:VAL:HG21	1.50	0.74
1:C:973:ILE:HG13	1:C:980:ILE:HD12	1.69	0.74
1:A:89:GLY:CA	1:A:270:LEU:HG	2.18	0.74
1:C:97:LYS:HB2	1:C:186:PHE:HA	1.69	0.74
1:C:105:ILE:HG23	1:C:118:LEU:HD13	1.69	0.74
1:C:822:LEU:HD21	1:C:945:LEU:HD22	1.70	0.74
1:A:497:PHE:CD2	1:A:507:PRO:HB3	2.23	0.73
1:A:1082:CYS:HB2	1:A:1132:ILE:CD1	2.18	0.73
1:B:534:VAL:O	1:B:552:LEU:HD12	1.88	0.73
1:C:490:PHE:CG	1:C:491:PRO:HD2	2.23	0.73
1:B:91:TYR:HE1	1:B:93:ALA:HB2	1.52	0.73
1:B:329:PHE:CZ	1:B:528:LYS:HB3	2.22	0.73
1:B:645:THR:O	1:B:648:GLY:N	2.21	0.73
1:B:1031:GLU:OE2	1:B:1039:ARG:HD3	1.87	0.73
1:C:83:VAL:HG11	1:C:237:ARG:HH21	1.52	0.73
1:C:118:LEU:HD22	1:C:135:PHE:HZ	1.05	0.73
1:C:916:LEU:CD1	1:C:923:ILE:HD12	2.18	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:204:TYR:CE1	1:A:225:PRO:CB	2.71	0.73
1:A:308:VAL:C	1:A:602:THR:HG22	2.07	0.73
1:B:89:GLY:C	1:B:270:LEU:HD13	2.08	0.73
1:C:497:PHE:CE1	1:C:507:PRO:HA	2.24	0.73
1:C:560:LEU:HD12	1:C:562:PHE:CZ	2.23	0.73
1:C:822:LEU:HD21	1:C:945:LEU:CD2	2.19	0.73
1:B:1082:CYS:SG	1:B:1087:ALA:HA	2.29	0.73
1:C:598:ILE:CD1	1:C:666:ILE:HD11	2.18	0.73
1:C:825:LYS:HZ3	1:C:942:ALA:HB2	1.49	0.73
1:A:193:VAL:HG13	1:A:270:LEU:HD11	1.69	0.73
1:A:497:PHE:CZ	1:A:507:PRO:HB3	2.23	0.73
1:C:643:PHE:CZ	1:C:655:HIS:CG	2.77	0.73
1:C:644:GLN:NE2	1:C:644:GLN:HA	2.02	0.73
1:A:555:SER:HB2	1:A:586:ASP:HB2	1.69	0.73
1:B:599:THR:CB	1:B:608:VAL:HG12	2.19	0.73
1:B:1081:ILE:CD1	1:B:1133:VAL:CG2	2.67	0.73
1:A:88:ASP:OD1	1:A:88:ASP:N	2.16	0.73
1:A:92:PHE:CZ	1:A:94:SER:HB3	2.23	0.73
1:A:782:PHE:CE1	1:A:1060:VAL:CG2	2.70	0.73
1:B:718:PHE:HZ	1:B:923:ILE:CD1	2.01	0.73
1:C:210:ILE:C	1:C:212:LEU:CD2	2.57	0.73
1:A:108:THR:OG1	1:A:234:ASN:O	2.08	0.72
1:A:131:CYS:HG	1:A:166:CYS:HG	1.34	0.72
1:A:353:TRP:CG	1:A:466:ARG:CD	2.63	0.72
1:A:782:PHE:CZ	1:A:1060:VAL:HG22	2.25	0.72
1:C:555:SER:OG	1:C:584:ILE:C	2.27	0.72
1:C:610:VAL:O	1:C:651:ILE:HG12	1.89	0.72
1:C:660:TYR:HB2	1:C:695:TYR:CE2	2.24	0.72
1:C:1029:MET:O	1:C:1033:VAL:HB	1.90	0.72
1:A:326:ILE:HG21	1:A:534:VAL:HG22	1.70	0.72
1:C:231:ILE:HD12	1:C:231:ILE:N	2.05	0.72
1:C:294:ASP:OD1	1:C:297:SER:N	2.19	0.72
1:C:380:TYR:CE2	1:C:412:PRO:HD2	2.24	0.72
1:C:426:PRO:CG	1:C:464:PHE:CD2	2.73	0.72
1:C:429:PHE:CZ	1:C:431:GLY:CA	2.73	0.72
2:O:2:NAG:O7	2:O:2:NAG:O3	2.07	0.72
1:C:337:PRO:CD	1:C:358:ILE:HD11	2.17	0.72
1:A:56:LEU:HD12	1:A:57:PRO:HD2	1.72	0.72
1:A:729:VAL:CG2	1:A:1060:VAL:HG23	2.19	0.72
1:B:327:VAL:HG11	1:B:329:PHE:CE2	2.24	0.72
1:C:916:LEU:HD13	1:C:923:ILE:HD12	1.72	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1004:LEU:O	1:C:1004:LEU:HD23	1.90	0.72
1:A:912:THR:OG1	1:A:914:ASN:OD1	2.03	0.72
1:B:99:ASN:O	1:B:102:ARG:NE	2.20	0.72
1:B:204:TYR:CD1	1:B:225:PRO:CA	2.72	0.72
1:B:559:PHE:HA	1:B:563:GLN:OE1	1.89	0.72
1:C:395:VAL:HG23	1:C:524:VAL:HG21	1.70	0.72
1:C:411:ALA:C	1:C:425:LEU:HD12	2.10	0.72
1:A:204:TYR:HE1	1:A:225:PRO:CB	2.01	0.72
1:B:53:ASP:O	1:B:55:PHE:CD2	2.42	0.72
1:A:34:ARG:NH1	1:A:217:PRO:HG3	1.99	0.72
1:B:329:PHE:CD2	1:B:528:LYS:HB3	2.23	0.72
1:B:1090:PRO:CD	1:B:1095:PHE:HE1	2.03	0.72
1:C:46:SER:HA	1:C:279:TYR:O	1.90	0.72
1:C:328:ARG:NE	1:C:578:ASP:CG	2.34	0.72
1:C:729:VAL:HG23	1:C:1059:GLY:HA2	1.72	0.72
1:A:731:MET:HB2	1:A:955:ASN:ND2	2.04	0.71
1:A:556:ASN:OD1	1:A:556:ASN:N	2.24	0.71
1:B:1118:ASP:OD1	1:B:1119:ASN:N	2.24	0.71
1:B:712:ILE:O	1:B:1075:PHE:N	2.21	0.71
1:C:33:THR:HA	1:C:58:PHE:CE2	2.25	0.71
1:C:343:ASN:HD21	3:Q:1:NDG:C1	2.03	0.71
1:C:429:PHE:CE1	1:C:431:GLY:CA	2.73	0.71
1:A:693:ILE:HD13	1:A:693:ILE:H	1.54	0.71
1:A:1089:PHE:HB2	1:A:1121:PHE:HE1	1.54	0.71
1:B:335:LEU:H	1:B:335:LEU:HD12	1.56	0.71
1:C:200:TYR:CD2	1:C:230:PRO:CA	2.69	0.71
1:B:55:PHE:CB	1:B:275:PHE:HE2	2.03	0.71
1:C:37:TYR:CD1	1:C:55:PHE:CE1	2.65	0.71
1:C:37:TYR:HB3	1:C:223:LEU:CD1	2.20	0.71
1:C:1030:SER:O	1:C:1034:LEU:HB2	1.90	0.71
1:A:896:ILE:HD13	1:C:712:ILE:CD1	2.21	0.71
1:B:89:GLY:O	1:B:270:LEU:HD12	1.91	0.71
1:C:220:PHE:HE2	1:C:287:ASP:OD1	1.72	0.71
1:C:296:LEU:O	1:C:296:LEU:HD12	1.91	0.71
1:C:366:SER:O	1:C:370:ASN:HB3	1.89	0.71
1:C:429:PHE:CE1	1:C:431:GLY:C	2.64	0.71
1:C:503:VAL:HA	1:C:506:GLN:OE1	1.90	0.71
1:C:516:GLU:HG3	1:C:519:HIS:CD2	2.25	0.71
1:A:55:PHE:CG	1:A:275:PHE:CE2	2.79	0.71
1:B:200:TYR:CB	1:B:230:PRO:HA	2.20	0.71
1:B:461:LEU:HD21	1:B:467:ASP:HB2	1.73	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:800:PHE:HD2	1:B:927:PHE:HD2	1.34	0.71
1:B:1090:PRO:CB	1:B:1093:GLY:O	2.39	0.71
1:C:337:PRO:HD2	1:C:358:ILE:CD1	2.18	0.71
1:A:53:ASP:O	1:A:55:PHE:HD2	1.73	0.70
1:A:203:ILE:CG2	1:A:227:VAL:HG23	2.20	0.70
1:C:916:LEU:HD13	1:C:923:ILE:HD13	1.73	0.70
1:A:29:THR:O	1:A:62:VAL:CG1	2.39	0.70
1:A:597:VAL:HG12	1:A:610:VAL:HG22	1.74	0.70
1:A:1095:PHE:HB3	1:A:1102:TRP:CZ3	2.26	0.70
1:B:85:PRO:CG	1:B:269:TYR:OH	2.36	0.70
1:C:426:PRO:HG2	1:C:464:PHE:HE2	1.55	0.70
1:A:266:TYR:N	1:A:266:TYR:CD1	2.60	0.70
1:A:570:ALA:HB3	1:B:855:PHE:CZ	2.26	0.70
1:A:617:CYS:SG	1:A:644:GLN:OE1	2.50	0.70
1:B:533:LEU:CD1	1:B:552:LEU:HD13	2.20	0.70
1:C:378:LYS:CD	1:C:433:VAL:HG11	2.21	0.70
1:C:654:GLU:OE1	1:C:692:ILE:O	2.08	0.70
1:A:66:HIS:CD2	1:A:68:ILE:CG2	2.75	0.70
1:A:89:GLY:CA	1:A:270:LEU:CG	2.68	0.70
1:A:353:TRP:NE1	1:A:466:ARG:HG3	2.07	0.70
1:A:675:GLN:HA	1:A:675:GLN:NE2	2.07	0.70
1:B:878:LEU:HD21	1:B:1052:PHE:HB3	1.73	0.70
1:C:380:TYR:CE2	1:C:412:PRO:HD3	2.24	0.70
1:C:393:THR:CG2	1:C:522:ALA:HB1	2.18	0.70
1:C:799:GLY:O	1:C:924:ALA:HB1	1.91	0.70
1:A:896:ILE:CD1	1:C:712:ILE:CG1	2.64	0.70
1:B:388:ASN:OD1	1:B:527:PRO:O	2.08	0.70
1:B:641:ASN:HD22	1:B:654:GLU:HA	1.57	0.70
1:B:724:THR:HG22	1:B:1063:LEU:CD2	2.17	0.70
1:B:742:ILE:HD11	1:B:1004:LEU:HD12	1.73	0.70
1:B:1142:GLN:HA	1:B:1142:GLN:NE2	2.05	0.70
1:C:32:PHE:HB3	1:C:59:PHE:CD2	2.26	0.70
1:A:67:ALA:HB3	1:A:263:ALA:CB	2.19	0.70
1:C:497:PHE:CE1	1:C:507:PRO:CA	2.75	0.70
1:C:643:PHE:CZ	1:C:655:HIS:ND1	2.60	0.70
1:A:774:GLN:HE21	1:A:774:GLN:HA	1.56	0.70
1:B:654:GLU:O	1:B:693:ILE:HA	1.92	0.70
1:B:1105:THR:HB	1:B:1111:GLU:O	1.92	0.70
1:C:404:GLY:HA2	1:C:508:TYR:CD2	2.23	0.70
1:A:552:LEU:N	1:A:552:LEU:HD23	2.06	0.69
1:C:100:ILE:HA	1:C:243:ALA:HB3	1.71	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:914:ASN:OD1	1:B:915:VAL:N	2.25	0.69
1:C:378:LYS:CD	1:C:433:VAL:CG1	2.70	0.69
1:C:546:LEU:CD1	1:C:565:PHE:CE1	2.76	0.69
1:C:733:LYS:HD3	1:C:775:ASP:OD1	1.92	0.69
1:A:33:THR:CG2	1:A:58:PHE:HE2	2.05	0.69
1:A:342:PHE:CE1	1:A:511:VAL:HG11	2.27	0.69
1:C:105:ILE:HD11	1:C:241:LEU:HD13	1.70	0.69
1:C:414:GLN:HA	1:C:414:GLN:NE2	2.07	0.69
1:C:931:ILE:O	1:C:934:ILE:CG2	2.40	0.69
1:A:551:VAL:C	1:A:552:LEU:HD23	2.12	0.69
1:A:774:GLN:HA	1:A:774:GLN:NE2	2.07	0.69
1:C:33:THR:CB	1:C:58:PHE:CE2	2.75	0.69
1:A:33:THR:HG22	1:A:58:PHE:HD2	1.48	0.69
1:A:1094:VAL:HG23	1:B:900:MET:CE	2.22	0.69
1:B:815:ARG:NH1	1:B:823:PHE:CG	2.60	0.69
1:B:1039:ARG:NH1	1:B:1042:PHE:HE2	1.76	0.69
1:C:607:GLN:NE2	1:C:674:TYR:CZ	2.55	0.69
1:B:599:THR:CG2	1:B:608:VAL:HG12	2.15	0.69
1:C:86:PHE:CD2	1:C:90:VAL:HG21	2.28	0.69
1:C:374:PHE:HA	1:C:436:TRP:HB3	1.74	0.69
1:C:351:TYR:O	1:C:467:ASP:O	2.10	0.69
1:C:490:PHE:CD1	1:C:491:PRO:HD2	2.28	0.69
1:C:662:CYS:SG	1:C:697:MET:HB2	2.32	0.69
1:A:220:PHE:HE2	1:A:288:ALA:H	1.36	0.69
1:A:643:PHE:CD2	1:A:655:HIS:HB2	2.28	0.69
1:B:50:SER:HA	1:B:275:PHE:O	1.92	0.69
1:B:275:PHE:HD1	1:B:290:ASP:HA	1.58	0.69
1:B:289:VAL:HG23	1:B:306:PHE:CE2	2.28	0.69
1:B:298:GLU:CD	1:B:315:THR:HG21	2.13	0.69
1:C:107:GLY:N	1:C:235:ILE:HG23	2.05	0.69
1:C:348:ALA:O	1:C:400:PHE:HA	1.92	0.69
1:C:490:PHE:CZ	1:C:492:LEU:HD23	2.27	0.69
1:C:692:ILE:HD12	1:C:692:ILE:N	2.07	0.69
1:C:1115:ILE:HD12	1:C:1115:ILE:N	2.06	0.69
1:C:360:ASN:N	1:C:523:THR:HG23	2.07	0.69
1:A:329:PHE:CE2	1:A:391:CYS:SG	2.86	0.69
1:C:409:GLN:HG3	1:C:415:THR:O	1.92	0.69
1:A:403:ARG:HD3	1:A:495:TYR:HE1	1.55	0.68
1:B:641:ASN:HD21	1:B:654:GLU:HA	1.56	0.68
1:A:220:PHE:CZ	1:A:288:ALA:HB3	2.27	0.68
1:A:280:ASN:ND2	1:A:286:THR:HG21	2.08	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1127:ASP:N	1:B:1127:ASP:OD1	2.26	0.68
1:B:882:ILE:HG23	1:B:898:PHE:CD2	2.28	0.68
1:C:102:ARG:HD3	1:C:141:LEU:HD13	1.74	0.68
1:C:718:PHE:HZ	1:C:923:ILE:CG1	2.06	0.68
1:C:1093:GLY:HA3	1:C:1105:THR:O	1.94	0.68
1:C:380:TYR:HE2	1:C:412:PRO:HD2	1.57	0.68
1:A:797:PHE:CD1	1:A:882:ILE:HG21	2.26	0.68
1:B:372:ALA:CB	1:B:374:PHE:CE2	2.68	0.68
1:C:48:LEU:HD12	1:C:48:LEU:N	2.08	0.68
1:C:223:LEU:HD23	1:C:223:LEU:H	1.58	0.68
1:A:357:ARG:HG3	1:A:396:TYR:CE1	2.28	0.68
1:A:817:PHE:HE2	1:A:935:GLN:HG3	1.56	0.68
1:B:666:ILE:HD11	1:B:672:ALA:HB2	1.74	0.68
1:C:203:ILE:HG22	1:C:227:VAL:HG23	1.73	0.68
1:C:347:PHE:CZ	1:C:509:ARG:HD3	2.27	0.68
1:C:555:SER:OG	1:C:584:ILE:O	2.10	0.68
1:A:664:ILE:HB	1:A:672:ALA:O	1.94	0.68
1:B:1105:THR:CB	1:B:1111:GLU:O	2.42	0.68
1:C:203:ILE:HG21	1:C:227:VAL:CG2	2.24	0.68
1:C:825:LYS:HE2	1:C:942:ALA:HA	1.76	0.68
1:A:659:SER:CB	1:A:698:SER:HB3	2.23	0.68
1:A:817:PHE:CE2	1:A:935:GLN:CD	2.68	0.68
1:A:1033:VAL:HG12	1:A:1034:LEU:HD23	1.76	0.68
1:C:87:ASN:OD1	1:C:87:ASN:N	2.24	0.68
1:A:220:PHE:CE2	1:A:288:ALA:N	2.62	0.68
1:B:372:ALA:HB1	1:B:374:PHE:CD2	2.28	0.68
1:C:581:THR:CG2	1:C:583:GLU:HG3	2.23	0.68
1:A:90:VAL:HG13	1:A:194:PHE:HB2	1.74	0.68
1:B:326:ILE:HD11	1:B:552:LEU:HD11	1.74	0.68
1:B:743:CYS:O	1:B:749:CYS:SG	2.52	0.68
1:C:90:VAL:N	1:C:270:LEU:HD13	2.09	0.68
1:C:218:GLN:OE1	1:C:218:GLN:N	2.23	0.68
1:C:541:PHE:HZ	1:C:587:ILE:HD13	1.59	0.68
1:B:275:PHE:CE1	1:B:290:ASP:HA	2.29	0.67
1:C:220:PHE:CE2	1:C:287:ASP:CA	2.77	0.67
1:C:541:PHE:CZ	1:C:587:ILE:HD13	2.29	0.67
1:A:1081:ILE:HG21	1:A:1135:ASN:CB	2.22	0.67
1:B:118:LEU:HD22	1:B:135:PHE:CE1	2.27	0.67
1:C:741:TYR:CE1	1:C:966:LEU:CD2	2.72	0.67
1:C:611:LEU:O	1:C:611:LEU:HD23	1.94	0.67
1:C:786:LYS:N	1:C:786:LYS:HE3	2.10	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:724:THR:CG2	1:A:1063:LEU:CD2	2.70	0.67
1:A:970:PHE:CE1	1:B:756:TYR:O	2.48	0.67
1:A:992:GLN:HA	1:A:992:GLN:NE2	2.10	0.67
1:B:909:ILE:HD13	1:B:1049:LEU:HD21	1.76	0.67
1:C:100:ILE:HG23	1:C:243:ALA:H	1.59	0.67
1:C:334:ASN:N	1:C:334:ASN:OD1	2.25	0.67
1:C:387:LEU:HD23	1:C:390:LEU:HD11	1.76	0.67
1:C:503:VAL:HA	1:C:506:GLN:CG	2.25	0.67
1:A:86:PHE:HB3	1:A:237:ARG:HA	1.75	0.67
1:A:97:LYS:HD3	1:A:98:SER:OG	1.94	0.67
1:A:321:GLN:HA	1:A:321:GLN:NE2	2.09	0.67
1:C:659:SER:HB3	1:C:698:SER:HB3	1.76	0.67
1:C:1089:PHE:C	1:C:1120:THR:HB	2.14	0.67
1:A:726:ILE:CD1	1:A:944:ALA:O	2.27	0.67
1:B:1039:ARG:NE	1:B:1042:PHE:CD2	2.63	0.67
1:C:115:GLN:C	1:C:233:ILE:HD11	2.15	0.67
1:C:226:LEU:HG	1:C:227:VAL:HG13	1.75	0.67
1:C:448:ASN:O	1:C:449:TYR:CD1	2.47	0.67
1:C:497:PHE:CD1	1:C:507:PRO:CD	2.77	0.67
1:A:203:ILE:CG2	1:A:227:VAL:CG2	2.73	0.67
1:A:329:PHE:O	1:A:580:GLN:NE2	2.27	0.67
1:A:1105:THR:CB	1:A:1111:GLU:O	2.43	0.67
1:B:56:LEU:CD1	1:B:57:PRO:HD2	2.17	0.67
1:B:737:ASP:N	1:B:737:ASP:OD1	2.28	0.67
1:C:43:PHE:CD1	1:C:43:PHE:C	2.67	0.67
1:C:126:VAL:HG13	1:C:175:PHE:CZ	2.30	0.67
1:A:403:ARG:HG3	1:A:495:TYR:CZ	2.30	0.67
1:A:817:PHE:HE2	1:A:935:GLN:CD	1.98	0.67
1:B:91:TYR:HE1	1:B:93:ALA:CB	2.07	0.67
1:C:118:LEU:HD12	1:C:119:ILE:H	1.58	0.67
1:B:388:ASN:CG	1:B:527:PRO:HG2	2.15	0.67
1:C:90:VAL:N	1:C:270:LEU:CD1	2.58	0.67
1:C:429:PHE:CZ	1:C:431:GLY:HA3	2.30	0.67
1:C:462:LYS:HE2	1:C:462:LYS:CA	2.16	0.67
1:A:66:HIS:HD2	1:A:68:ILE:HG22	1.61	0.66
1:A:797:PHE:CE1	1:A:882:ILE:HG22	2.13	0.66
1:B:57:PRO:CA	1:B:273:ARG:NH1	2.51	0.66
1:C:392:PHE:CE2	1:C:515:PHE:CE1	2.75	0.66
1:C:660:TYR:O	1:C:695:TYR:HE2	1.79	0.66
1:C:709:ASN:OD1	1:C:709:ASN:N	2.25	0.66
1:C:765:ARG:HA	1:C:768:THR:HG22	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:66:HIS:CD2	1:A:68:ILE:HG22	2.31	0.66
1:A:642:VAL:CG1	1:A:651:ILE:HG12	2.25	0.66
1:A:895:GLN:HE22	1:C:713:ALA:HB2	1.59	0.66
1:C:321:GLN:OE1	1:C:322:PRO:CD	2.40	0.66
1:A:782:PHE:HE1	1:A:1060:VAL:CG2	2.06	0.66
1:A:1031:GLU:OE1	1:C:1039:ARG:NE	2.22	0.66
1:B:97:LYS:HD3	1:B:98:SER:OG	1.94	0.66
1:B:584:ILE:HD12	1:B:584:ILE:N	2.10	0.66
1:C:48:LEU:HB3	1:C:276:LEU:HD21	1.77	0.66
1:C:673:SER:O	1:C:693:ILE:HG12	1.95	0.66
1:A:117:LEU:HD13	1:A:201:PHE:CE2	2.30	0.66
1:A:1090:PRO:CB	1:A:1093:GLY:O	2.43	0.66
1:B:919:ASN:N	1:B:919:ASN:OD1	2.28	0.66
1:C:95:THR:HG23	1:C:186:PHE:CD2	2.30	0.66
1:C:896:ILE:HG13	1:C:897:PRO:HD2	1.76	0.66
1:C:83:VAL:HG21	1:C:237:ARG:NH2	2.10	0.66
1:C:972:ALA:CB	1:C:996:LEU:CD1	2.73	0.66
1:B:106:PHE:HB2	1:B:117:LEU:HB3	1.76	0.66
1:A:817:PHE:HE2	1:A:935:GLN:CG	2.09	0.66
1:B:726:ILE:HG21	1:B:948:LEU:HG	1.78	0.66
1:C:972:ALA:CB	1:C:996:LEU:HD11	2.25	0.66
1:A:201:PHE:HD1	1:A:202:LYS:N	1.93	0.66
1:A:328:ARG:NH1	1:A:578:ASP:OD2	2.29	0.66
1:C:922:LEU:HD12	1:C:922:LEU:O	1.95	0.66
1:A:1002:GLN:HA	1:A:1002:GLN:NE2	2.11	0.66
1:A:1102:TRP:CB	1:A:1135:ASN:HD21	1.96	0.66
1:A:29:THR:O	1:A:62:VAL:HG12	1.96	0.66
1:C:770:ILE:O	1:C:774:GLN:HG2	1.96	0.66
1:A:118:LEU:HD22	1:A:135:PHE:CE1	2.29	0.65
1:C:472:ILE:CD1	1:C:482:GLY:H	2.07	0.65
1:A:353:TRP:CE2	1:A:466:ARG:HD3	2.31	0.65
1:A:1095:PHE:HB3	1:A:1102:TRP:HZ3	1.60	0.65
1:A:1127:ASP:OD1	1:A:1127:ASP:N	2.27	0.65
1:B:611:LEU:HD22	1:B:666:ILE:HG23	1.76	0.65
1:B:1043:CYS:CB	1:B:1048:HIS:CD2	2.76	0.65
1:C:210:ILE:H	1:C:210:ILE:CD1	2.09	0.65
1:A:888:PHE:CZ	1:A:1034:LEU:HD22	2.31	0.65
1:A:1078:ALA:N	1:A:1102:TRP:CH2	2.63	0.65
1:B:658:ASN:OD1	1:B:658:ASN:N	2.22	0.65
1:C:210:ILE:HG12	1:C:212:LEU:CD2	2.19	0.65
1:C:805:ILE:HG22	1:C:878:LEU:HD13	1.79	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1024:LEU:HD12	1:C:1024:LEU:O	1.95	0.65
1:A:336:CYS:N	1:A:361:CYS:HB2	2.12	0.65
1:B:204:TYR:CE1	1:B:225:PRO:CB	2.75	0.65
1:B:280:ASN:HB3	1:B:286:THR:HG23	1.77	0.65
1:B:776:LYS:NZ	1:B:780:GLU:HG2	2.11	0.65
1:B:877:LEU:HD13	1:B:1029:MET:SD	2.36	0.65
1:C:210:ILE:H	1:C:210:ILE:HD13	1.61	0.65
1:A:424:LYS:O	1:A:463:PRO:HA	1.97	0.65
1:A:659:SER:HB3	1:A:698:SER:HB3	1.78	0.65
1:C:224:GLU:N	1:C:224:GLU:OE1	2.29	0.65
1:C:718:PHE:HD2	1:C:1109:PHE:HE1	1.44	0.65
1:C:912:THR:HG23	1:C:1106:GLN:OE1	1.97	0.65
1:A:729:VAL:HG21	1:A:1060:VAL:CG2	2.25	0.65
1:B:1090:PRO:HD3	1:B:1095:PHE:CE1	2.31	0.65
1:B:718:PHE:CG	1:B:1067:TYR:CE1	2.65	0.65
1:A:96:GLU:OE2	1:A:101:ILE:O	2.14	0.64
1:A:541:PHE:HE2	1:A:587:ILE:HD12	1.59	0.64
1:A:743:CYS:O	1:A:977:LEU:CD2	2.45	0.64
1:B:784:GLN:HA	1:B:784:GLN:NE2	2.07	0.64
1:C:87:ASN:ND2	1:C:269:TYR:CE2	2.65	0.64
1:C:352:ALA:CB	1:C:468:ILE:HG22	2.27	0.64
1:A:1044:GLY:N	1:A:1064:HIS:ND1	2.45	0.64
1:B:726:ILE:CD1	1:B:1061:VAL:HG22	2.27	0.64
1:B:1011:GLN:HE21	1:B:1011:GLN:HA	1.61	0.64
1:C:581:THR:O	1:C:582:LEU:HB3	1.96	0.64
1:C:718:PHE:CZ	1:C:923:ILE:HG12	2.33	0.64
1:A:1082:CYS:HB2	1:A:1132:ILE:HD11	1.80	0.64
1:B:980:ILE:HD11	1:B:984:LEU:HD12	1.78	0.64
1:C:314:GLN:O	1:C:314:GLN:HG3	1.96	0.64
1:C:1091:ARG:HB2	1:C:1119:ASN:O	1.97	0.64
1:A:1088:HIS:HB3	1:A:1120:THR:HB	1.80	0.64
1:B:748:GLU:CD	1:B:981:LEU:HD11	2.18	0.64
1:C:55:PHE:O	1:C:270:LEU:HB3	1.98	0.64
1:C:168:PHE:CZ	1:C:229:LEU:HD12	2.32	0.64
1:C:326:ILE:HG13	1:C:326:ILE:O	1.96	0.64
1:A:1141:LEU:HD13	1:C:1141:LEU:HD11	1.79	0.64
1:A:322:PRO:HB3	1:A:539:VAL:HA	1.80	0.64
1:A:371:SER:HA	2:J:2:NAG:H82	1.80	0.64
1:B:107:GLY:H	1:B:235:ILE:HG21	1.62	0.64
1:B:1102:TRP:CB	1:B:1135:ASN:HD22	2.03	0.64
1:C:453:TYR:CD1	1:C:495:TYR:CD1	2.86	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:318:PHE:CZ	1:A:620:VAL:HG21	2.32	0.64
1:B:335:LEU:HD12	1:B:335:LEU:N	2.12	0.64
1:B:422:ASN:HD21	1:B:454:ARG:H	1.46	0.64
1:B:613:GLN:HG2	1:C:861:LEU:HD12	1.79	0.64
1:C:287:ASP:OD2	1:C:306:PHE:CE2	2.51	0.64
1:C:347:PHE:CE1	1:C:509:ARG:HD3	2.33	0.64
1:C:502:GLY:C	1:C:506:GLN:HG3	2.17	0.64
1:A:106:PHE:HB2	1:A:117:LEU:HB3	1.79	0.64
1:A:452:LEU:HD13	1:A:493:GLN:C	2.14	0.64
1:B:617:CYS:SG	1:B:642:VAL:HG12	2.38	0.64
1:C:461:LEU:HD21	1:C:465:GLU:OE1	1.98	0.64
1:B:119:ILE:HG23	1:B:127:VAL:O	1.98	0.63
1:B:725:GLU:CD	1:B:1028:LYS:HZ2	2.00	0.63
1:B:776:LYS:NZ	1:B:780:GLU:CG	2.61	0.63
1:B:909:ILE:HG23	1:B:1036:GLN:HE22	1.63	0.63
1:C:106:PHE:HZ	1:C:194:PHE:CD2	2.16	0.63
1:C:758:SER:HB2	1:C:761:THR:HB	1.81	0.63
1:B:57:PRO:HB3	1:B:273:ARG:NH2	2.13	0.63
1:C:498:GLN:HG2	1:C:499:PRO:HD2	1.80	0.63
1:A:620:VAL:HG23	1:A:621:PRO:CD	2.28	0.63
1:A:1078:ALA:HB3	1:A:1102:TRP:CH2	2.34	0.63
1:B:107:GLY:H	1:B:235:ILE:HD13	1.58	0.63
1:B:128:ILE:O	1:B:129:LYS:HG2	1.98	0.63
1:C:83:VAL:HG21	1:C:237:ARG:CZ	2.29	0.63
1:C:560:LEU:HD12	1:C:562:PHE:HZ	1.62	0.63
1:C:1029:MET:SD	1:C:1033:VAL:HG21	2.39	0.63
1:A:89:GLY:HA2	1:A:270:LEU:HG	1.74	0.63
1:A:620:VAL:CG2	1:A:621:PRO:CD	2.77	0.63
1:B:563:GLN:HE22	1:C:43:PHE:HB2	1.63	0.63
1:B:909:ILE:CG2	1:B:1036:GLN:NE2	2.61	0.63
1:B:1102:TRP:CZ2	1:B:1133:VAL:HG21	2.33	0.63
1:C:558:LYS:N	1:C:558:LYS:HD2	2.12	0.63
1:C:857:GLY:O	1:C:858:LEU:HD12	1.98	0.63
1:B:216:LEU:HD12	1:B:216:LEU:O	1.99	0.63
1:B:804:GLN:HB3	1:B:818:ILE:HG13	1.78	0.63
1:C:411:ALA:CA	1:C:425:LEU:HD12	2.28	0.63
1:A:985:ASP:OD1	1:A:986:PRO:HD3	1.96	0.63
1:A:1081:ILE:CG2	1:A:1135:ASN:CB	2.76	0.63
1:B:905:ARG:NH1	1:B:1049:LEU:O	2.32	0.63
1:C:1033:VAL:HG23	1:C:1062:PHE:HE1	1.62	0.63
1:C:1103:PHE:CE1	1:C:1114:ILE:HD13	2.31	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:107:GLY:H	1:B:235:ILE:HG23	1.62	0.63
1:B:675:GLN:HA	1:B:675:GLN:NE2	2.12	0.63
1:B:815:ARG:NH1	1:B:823:PHE:CE1	2.64	0.63
1:A:238:PHE:CD1	1:A:238:PHE:C	2.72	0.63
1:B:33:THR:HA	1:B:58:PHE:CE2	2.34	0.63
1:B:53:ASP:HB3	1:B:55:PHE:HE2	1.62	0.63
1:C:91:TYR:N	1:C:268:GLY:O	2.27	0.63
1:C:368:LEU:HD12	1:C:368:LEU:H	1.63	0.63
1:A:119:ILE:HG23	1:A:127:VAL:O	1.99	0.63
1:A:277:LEU:HD23	1:A:288:ALA:CB	2.28	0.63
1:A:453:TYR:HE2	1:A:493:GLN:HG2	1.59	0.63
1:B:826:VAL:CG2	1:B:945:LEU:CD1	2.73	0.63
1:C:393:THR:CB	1:C:522:ALA:HB1	2.28	0.63
1:C:472:ILE:HA	1:C:491:PRO:HD3	1.80	0.63
1:A:319:ARG:NH2	1:A:319:ARG:HB3	2.14	0.62
1:A:417:LYS:NZ	1:A:455:LEU:O	2.30	0.62
4:A:1307:NAG:C1	4:A:1307:NAG:C8	2.77	0.62
1:B:825:LYS:NZ	1:B:938:LEU:O	2.31	0.62
1:B:1011:GLN:HA	1:B:1011:GLN:NE2	2.14	0.62
1:C:293:LEU:HD12	1:C:293:LEU:O	1.99	0.62
1:A:90:VAL:CG1	1:A:194:PHE:CB	2.72	0.62
1:C:343:ASN:ND2	3:Q:1:NDG:C1	2.63	0.62
1:C:671:CYS:SG	1:C:697:MET:CB	2.80	0.62
1:A:675:GLN:HE21	1:A:675:GLN:CA	2.12	0.62
1:B:654:GLU:HB3	1:B:693:ILE:HG22	1.81	0.62
1:C:119:ILE:HG13	1:C:128:ILE:HG12	1.81	0.62
1:C:128:ILE:C	1:C:129:LYS:CG	2.66	0.62
1:A:289:VAL:HG11	1:A:300:LYS:HD2	1.81	0.62
1:A:982:SER:O	1:C:386:LYS:HE2	1.98	0.62
1:B:826:VAL:HG23	1:B:945:LEU:HD13	1.80	0.62
1:C:89:GLY:O	1:C:270:LEU:HD12	2.00	0.62
1:C:411:ALA:HB1	1:C:412:PRO:HD2	1.81	0.62
1:A:55:PHE:CG	1:A:275:PHE:CD2	2.87	0.62
1:C:86:PHE:CE2	1:C:106:PHE:CE2	2.88	0.62
1:C:748:GLU:OE1	1:C:981:LEU:CG	2.42	0.62
1:A:54:LEU:H	1:A:54:LEU:HD12	1.63	0.62
1:B:560:LEU:H	1:B:563:GLN:CD	2.03	0.62
1:C:472:ILE:HD13	1:C:482:GLY:HA2	1.82	0.62
1:A:697:MET:HE2	1:B:869:MET:SD	2.40	0.62
1:A:817:PHE:O	1:A:821:LEU:HD13	1.99	0.62
1:A:329:PHE:CD2	1:A:391:CYS:SG	2.93	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:353:TRP:CE2	1:A:466:ARG:CB	2.82	0.62
1:A:675:GLN:O	1:A:693:ILE:CD1	2.48	0.62
1:A:886:TRP:HB2	1:A:1035:GLY:HA2	1.81	0.62
1:B:96:GLU:OE2	1:B:101:ILE:O	2.16	0.62
1:B:658:ASN:HB2	1:B:660:TYR:CE1	2.34	0.62
1:B:1122:VAL:O	1:B:1122:VAL:HG22	2.00	0.62
1:C:89:GLY:CA	1:C:270:LEU:HD13	2.29	0.62
1:C:461:LEU:CD2	1:C:465:GLU:OE1	2.48	0.62
1:C:905:ARG:NE	1:C:1050:MET:HE2	2.10	0.62
1:B:53:ASP:O	1:B:55:PHE:HD2	1.83	0.62
1:B:574:ASP:O	1:B:587:ILE:CB	2.47	0.62
1:C:220:PHE:HZ	1:C:288:ALA:HB3	1.53	0.62
1:A:231:ILE:CG2	1:A:233:ILE:HG23	2.30	0.62
1:A:371:SER:CB	2:J:2:NAG:H82	2.30	0.62
1:B:275:PHE:HE1	1:B:290:ASP:CB	2.13	0.62
1:B:533:LEU:HD11	1:B:552:LEU:CD1	2.26	0.62
1:C:229:LEU:HB3	1:C:231:ILE:CD1	2.30	0.62
1:C:584:ILE:C	1:C:585:LEU:HD23	2.19	0.62
1:A:90:VAL:CG2	1:A:238:PHE:CD2	2.83	0.61
1:B:106:PHE:CB	1:B:235:ILE:HD13	2.24	0.61
1:C:194:PHE:CD1	1:C:203:ILE:HG13	2.34	0.61
1:C:735:SER:HB3	1:C:861:LEU:HD21	1.82	0.61
1:A:567:ARG:HE	1:B:42:VAL:HG11	1.65	0.61
1:A:611:LEU:HD22	1:A:666:ILE:HG23	1.81	0.61
1:A:660:TYR:O	1:A:695:TYR:CE2	2.53	0.61
1:A:707:TYR:CD1	1:A:708:SER:N	2.67	0.61
1:B:54:LEU:HD12	1:B:54:LEU:H	1.65	0.61
1:B:165:ASN:HD21	4:B:1305:NAG:C7	2.13	0.61
1:C:231:ILE:H	1:C:231:ILE:CD1	2.09	0.61
1:C:454:ARG:HD3	1:C:457:ARG:HB2	1.82	0.61
1:C:738:CYS:SG	1:C:760:CYS:O	2.58	0.61
1:C:739:THR:N	1:C:760:CYS:SG	2.73	0.61
1:A:404:GLY:HA2	1:A:508:TYR:CD2	2.34	0.61
1:A:471:GLU:OE1	1:A:471:GLU:HA	2.00	0.61
1:B:57:PRO:CG	1:B:273:ARG:NH1	2.64	0.61
1:C:534:VAL:CG1	1:C:539:VAL:HG21	2.30	0.61
1:C:1043:CYS:HB2	1:C:1048:HIS:CD2	2.35	0.61
1:A:335:LEU:HD12	1:A:335:LEU:O	2.00	0.61
1:A:403:ARG:HG3	1:A:495:TYR:CE1	2.35	0.61
1:A:895:GLN:O	1:C:712:ILE:HA	2.00	0.61
1:A:1029:MET:HB2	1:A:1062:PHE:CZ	2.35	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:33:THR:CA	1:C:58:PHE:CE2	2.84	0.61
1:C:194:PHE:HD1	1:C:203:ILE:HG13	1.66	0.61
1:C:321:GLN:OE1	1:C:321:GLN:HA	2.01	0.61
1:A:741:TYR:OH	1:A:962:LEU:HD12	2.01	0.61
1:B:55:PHE:HB2	1:B:275:PHE:HE2	1.65	0.61
1:B:327:VAL:CG1	1:B:529:LYS:O	2.49	0.61
1:C:327:VAL:H	1:C:531:THR:CG2	2.13	0.61
1:A:437:ASN:HA	1:A:508:TYR:CD1	2.35	0.61
1:B:55:PHE:HB2	1:B:275:PHE:CE2	2.36	0.61
1:B:1050:MET:O	1:B:1065:VAL:HG23	2.00	0.61
1:C:334:ASN:O	1:C:361:CYS:HB2	2.00	0.61
1:C:916:LEU:CD1	1:C:923:ILE:CD1	2.78	0.61
1:A:92:PHE:CE1	1:A:94:SER:CB	2.84	0.61
1:A:1105:THR:HB	1:A:1111:GLU:O	2.00	0.61
1:B:130:VAL:HG21	1:B:231:ILE:CD1	2.30	0.61
1:B:676:THR:HA	1:B:690:GLN:HA	1.83	0.61
1:B:976:VAL:O	1:B:980:ILE:HG22	2.01	0.61
1:C:120:VAL:HG21	1:C:157:PHE:HZ	1.64	0.61
1:A:33:THR:HB	1:A:58:PHE:CZ	2.34	0.61
1:A:353:TRP:N	1:A:466:ARG:HD2	1.99	0.61
1:A:725:GLU:OE2	1:A:1028:LYS:NZ	2.33	0.61
1:A:954:GLN:HG2	1:A:1014:ARG:CZ	2.31	0.61
1:C:722:VAL:HA	1:C:1064:HIS:O	2.00	0.61
1:A:770:ILE:HD11	1:A:1012:LEU:HG	1.82	0.61
1:B:718:PHE:CB	1:B:1067:TYR:CZ	2.78	0.61
1:C:107:GLY:H	1:C:235:ILE:CG2	2.13	0.61
1:C:318:PHE:CE2	1:C:612:TYR:CD1	2.89	0.61
1:C:456:PHE:HB2	1:C:473:TYR:CD1	2.36	0.61
1:A:749:CYS:SG	1:A:977:LEU:HD21	2.41	0.60
1:A:1002:GLN:HA	1:A:1002:GLN:HE21	1.66	0.60
1:C:497:PHE:HE1	1:C:507:PRO:HA	1.64	0.60
1:A:335:LEU:HD12	1:A:335:LEU:C	2.20	0.60
1:B:553:THR:HG23	1:B:586:ASP:HB2	1.83	0.60
1:C:194:PHE:HE1	1:C:203:ILE:HD11	1.66	0.60
1:B:317:ASN:ND2	1:C:737:ASP:HB2	2.13	0.60
1:B:329:PHE:CE2	1:B:528:LYS:CB	2.75	0.60
1:C:106:PHE:CB	1:C:235:ILE:HD13	2.13	0.60
1:C:107:GLY:O	1:C:235:ILE:CG2	2.48	0.60
1:A:715:PRO:CA	1:A:1071:GLN:O	2.43	0.60
1:C:102:ARG:HH12	1:C:179:LEU:HD22	1.65	0.60
1:C:393:THR:HG1	1:C:522:ALA:HB2	1.60	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:54:LEU:H	1:A:54:LEU:CD1	2.14	0.60
1:A:128:ILE:O	1:A:129:LYS:HG2	2.01	0.60
1:B:332:ILE:HG22	1:B:334:ASN:OD1	2.02	0.60
1:C:377:PHE:CD1	1:C:434:ILE:HG13	2.36	0.60
1:C:453:TYR:O	1:C:493:GLN:HB3	2.01	0.60
1:C:965:GLN:HG2	1:C:1003:SER:OG	2.01	0.60
4:C:1305:NAG:O7	4:C:1305:NAG:H3	2.00	0.60
1:B:802:PHE:HE1	1:B:1052:PHE:CE2	2.19	0.60
1:C:106:PHE:HB3	1:C:235:ILE:CD1	2.12	0.60
1:A:318:PHE:CE1	1:A:620:VAL:HG11	2.36	0.60
1:A:1012:LEU:HB3	1:C:1013:ILE:HD13	1.82	0.60
1:B:164:ASN:OD1	1:B:165:ASN:CG	2.39	0.60
1:B:597:VAL:HG12	1:B:599:THR:HG23	1.82	0.60
1:C:105:ILE:HD12	1:C:105:ILE:N	2.16	0.60
1:C:309:GLU:OE1	1:C:309:GLU:HA	2.02	0.60
1:C:378:LYS:HD2	1:C:433:VAL:CG1	2.25	0.60
1:C:423:TYR:CE2	1:C:425:LEU:HD21	2.36	0.60
1:A:128:ILE:C	1:A:129:LYS:CG	2.70	0.60
1:A:709:ASN:OD1	1:A:709:ASN:N	2.34	0.60
1:B:1088:HIS:NE2	1:B:1137:VAL:HG21	2.16	0.60
1:A:330:PRO:CA	1:A:580:GLN:HE22	2.13	0.60
1:A:612:TYR:HB3	1:A:615:VAL:CG2	2.31	0.60
1:A:1082:CYS:HB2	1:A:1132:ILE:HD13	1.83	0.60
1:A:330:PRO:HA	1:A:580:GLN:NE2	2.12	0.60
1:A:896:ILE:CD1	1:C:712:ILE:CD1	2.80	0.60
1:B:738:CYS:SG	1:B:760:CYS:C	2.80	0.60
1:B:1139:ASP:OD1	1:B:1141:LEU:HB3	2.01	0.60
1:C:86:PHE:CE2	1:C:106:PHE:HE2	2.20	0.60
1:C:774:GLN:OE1	1:C:774:GLN:HA	2.02	0.60
1:A:31:SER:HB3	1:A:216:LEU:HD22	1.82	0.59
1:A:353:TRP:HZ2	1:A:466:ARG:N	1.99	0.59
1:A:919:ASN:O	1:A:923:ILE:HG13	2.02	0.59
1:C:366:SER:O	1:C:370:ASN:HB2	2.01	0.59
1:A:369:TYR:OH	1:A:384:PRO:HB2	2.02	0.59
1:B:128:ILE:C	1:B:129:LYS:CG	2.70	0.59
1:B:327:VAL:CG1	1:B:329:PHE:CE2	2.84	0.59
1:B:676:THR:HA	1:B:690:GLN:HG2	1.84	0.59
1:C:105:ILE:CG2	1:C:118:LEU:HD13	2.31	0.59
1:C:546:LEU:HD12	1:C:565:PHE:CE1	2.36	0.59
1:A:403:ARG:HD3	1:A:495:TYR:CE1	2.37	0.59
1:A:403:ARG:CD	1:A:495:TYR:HE1	2.14	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:718:PHE:HZ	1:B:923:ILE:CG1	2.14	0.59
1:B:722:VAL:HG12	1:B:934:ILE:HG13	1.83	0.59
1:C:273:ARG:HH12	1:C:292:ALA:CB	2.13	0.59
1:C:610:VAL:HB	1:C:651:ILE:HD11	1.83	0.59
1:A:104:TRP:O	1:A:118:LEU:CD1	2.49	0.59
1:A:203:ILE:HG21	1:A:227:VAL:CG2	2.33	0.59
1:C:741:TYR:CZ	1:C:966:LEU:CD2	2.84	0.59
1:A:755:GLN:O	1:C:968:SER:OG	2.20	0.59
1:A:800:PHE:CE2	1:A:927:PHE:HD2	2.21	0.59
1:C:95:THR:OG1	1:C:186:PHE:HB3	2.03	0.59
1:C:118:LEU:CA	1:C:119:ILE:HD12	2.32	0.59
1:C:718:PHE:HZ	1:C:923:ILE:HG12	1.68	0.59
1:C:718:PHE:HD2	1:C:1109:PHE:CE1	2.20	0.59
1:C:729:VAL:HG21	1:C:782:PHE:HE1	1.67	0.59
1:C:856:ASN:O	1:C:858:LEU:CD1	2.48	0.59
1:A:825:LYS:HB2	1:A:945:LEU:HD12	1.83	0.59
1:B:226:LEU:CD1	1:B:227:VAL:HG13	2.33	0.59
1:C:103:GLY:HA2	1:C:104:TRP:CE3	2.37	0.59
1:A:93:ALA:O	1:A:266:TYR:HD1	1.85	0.59
1:A:314:GLN:HG3	1:A:314:GLN:O	2.03	0.59
1:A:900:MET:CE	1:C:1094:VAL:HG23	2.33	0.59
1:B:106:PHE:C	1:B:235:ILE:HD13	2.23	0.59
1:C:119:ILE:HG13	1:C:128:ILE:HA	1.85	0.59
1:C:716:THR:N	1:C:1071:GLN:O	2.36	0.59
1:A:1043:CYS:HA	1:A:1064:HIS:HE1	1.68	0.59
1:B:275:PHE:HE1	1:B:290:ASP:HB2	1.68	0.59
1:B:584:ILE:H	1:B:584:ILE:CD1	2.16	0.59
1:C:37:TYR:CB	1:C:223:LEU:HG	2.32	0.59
1:C:382:VAL:HG13	1:C:390:LEU:HD21	1.85	0.59
1:A:541:PHE:CE2	1:A:587:ILE:CD1	2.84	0.59
1:A:598:ILE:HD12	1:A:598:ILE:N	2.17	0.59
1:C:123:ALA:O	1:C:175:PHE:O	2.21	0.59
1:A:107:GLY:HA2	1:A:235:ILE:CG2	2.19	0.59
1:A:437:ASN:HA	1:A:508:TYR:HD1	1.68	0.59
1:B:654:GLU:OE1	1:B:654:GLU:HA	2.02	0.59
1:C:726:ILE:HD13	1:C:1061:VAL:HG22	1.82	0.59
1:A:322:PRO:HB3	1:A:539:VAL:CA	2.33	0.58
1:B:822:LEU:HD23	1:B:1056:ALA:HB2	1.84	0.58
1:C:43:PHE:HE1	1:C:45:SER:HB3	1.67	0.58
1:C:186:PHE:O	1:C:211:ASN:ND2	2.36	0.58
1:C:360:ASN:H	1:C:523:THR:HG23	1.68	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:805:ILE:HD11	1:C:1063:LEU:HD12	1.84	0.58
4:A:1308:NAG:O7	4:A:1308:NAG:O3	2.20	0.58
1:B:1054:GLN:OE1	1:B:1054:GLN:HA	2.03	0.58
1:C:442:ASP:OD2	1:C:507:PRO:HB2	2.03	0.58
1:A:117:LEU:HD13	1:A:201:PHE:CD2	2.39	0.58
1:A:552:LEU:CD2	1:A:587:ILE:HD11	2.25	0.58
1:A:981:LEU:HD21	1:A:993:ILE:HD11	1.84	0.58
1:B:104:TRP:O	1:B:118:LEU:CD1	2.49	0.58
1:B:645:THR:O	1:B:646:ARG:C	2.42	0.58
1:B:708:SER:HB2	1:B:711:SER:OG	2.02	0.58
1:C:404:GLY:CA	1:C:508:TYR:HD2	2.11	0.58
1:A:741:TYR:CE2	1:A:962:LEU:HG	2.38	0.58
1:A:970:PHE:CD2	1:A:999:GLY:CA	2.79	0.58
1:B:85:PRO:O	1:B:269:TYR:CZ	2.56	0.58
1:B:599:THR:HA	1:B:608:VAL:HG12	1.84	0.58
1:B:1080:ALA:O	1:B:1132:ILE:CG1	2.46	0.58
1:C:497:PHE:CE1	1:C:507:PRO:HB3	2.39	0.58
1:A:791:THR:CG2	1:A:792:PRO:HD2	2.34	0.58
1:B:356:LYS:HB3	1:B:397:ALA:HB3	1.86	0.58
1:C:401:VAL:HG22	1:C:509:ARG:HA	1.86	0.58
1:C:490:PHE:CE2	1:C:492:LEU:CD2	2.84	0.58
1:C:805:ILE:CG2	1:C:878:LEU:HD13	2.34	0.58
1:A:353:TRP:CD1	1:A:466:ARG:CG	2.87	0.58
1:A:1054:GLN:OE1	1:A:1054:GLN:HA	2.04	0.58
1:A:1102:TRP:CZ2	1:A:1133:VAL:HG21	2.38	0.58
1:B:277:LEU:HD23	1:B:288:ALA:CB	2.34	0.58
1:B:559:PHE:CG	1:B:584:ILE:HG12	2.39	0.58
1:A:29:THR:O	1:A:62:VAL:HG13	2.03	0.58
1:A:804:GLN:OE1	1:A:931:ILE:HG22	2.03	0.58
1:B:58:PHE:CD1	1:B:290:ASP:HB2	2.38	0.58
1:B:1126:CYS:SG	1:B:1132:ILE:HD13	2.44	0.58
1:C:37:TYR:CD2	1:C:204:TYR:CE2	2.91	0.58
1:C:360:ASN:HD22	1:C:523:THR:CG2	2.16	0.58
1:C:409:GLN:HE21	1:C:409:GLN:H	1.51	0.58
1:A:123:ALA:O	1:A:175:PHE:O	2.20	0.58
1:A:536:ASN:HD22	1:A:536:ASN:N	2.02	0.58
1:A:612:TYR:HB3	1:A:615:VAL:HG22	1.86	0.58
1:A:695:TYR:H	1:A:695:TYR:HD1	1.47	0.58
1:A:1101:HIS:HB2	1:A:1103:PHE:CZ	2.39	0.58
1:C:220:PHE:CD2	1:C:287:ASP:HA	2.38	0.58
1:C:352:ALA:HB1	1:C:468:ILE:HG22	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:521:PRO:HG3	1:C:564:GLN:HG3	1.83	0.58
1:A:931:ILE:O	1:A:934:ILE:CG2	2.51	0.58
1:B:321:GLN:CD	1:B:321:GLN:H	2.08	0.58
1:B:329:PHE:CD2	1:B:528:LYS:CB	2.86	0.58
1:B:600:PRO:HD3	1:B:692:ILE:HD11	1.86	0.58
1:C:210:ILE:O	1:C:212:LEU:HD23	2.02	0.58
1:C:417:LYS:O	1:C:421:TYR:HB2	2.03	0.58
1:C:1115:ILE:H	1:C:1115:ILE:CD1	2.14	0.58
1:A:55:PHE:HB3	1:A:275:PHE:HE2	1.67	0.58
1:A:216:LEU:HD12	1:A:216:LEU:N	2.18	0.58
1:B:123:ALA:O	1:B:175:PHE:O	2.20	0.58
1:B:1104:VAL:CG1	1:B:1119:ASN:HD22	1.83	0.58
1:C:615:VAL:CG2	1:C:649:CYS:H	2.16	0.58
1:C:1102:TRP:CB	1:C:1135:ASN:OD1	2.42	0.58
1:B:119:ILE:CG2	1:B:120:VAL:N	2.66	0.57
1:B:555:SER:HB2	1:B:586:ASP:N	2.19	0.57
1:B:922:LEU:HD12	1:B:922:LEU:O	2.04	0.57
1:C:534:VAL:HG11	1:C:539:VAL:HG21	1.86	0.57
1:A:927:PHE:O	1:A:927:PHE:HD1	1.86	0.57
1:B:274:THR:O	1:B:291:CYS:HB2	2.04	0.57
1:B:1072:GLU:HG2	1:C:894:LEU:HD22	1.83	0.57
1:C:97:LYS:C	1:C:97:LYS:HD3	2.23	0.57
1:C:106:PHE:CZ	1:C:194:PHE:CD2	2.92	0.57
1:C:210:ILE:CB	1:C:212:LEU:CD2	2.72	0.57
1:A:86:PHE:CE1	1:A:235:ILE:HD13	2.39	0.57
1:A:985:ASP:CG	1:A:986:PRO:HD2	2.24	0.57
1:B:718:PHE:HB3	1:B:1067:TYR:OH	2.04	0.57
1:B:1142:GLN:HB3	1:B:1143:PRO:HD3	1.87	0.57
1:C:185:ASN:ND2	1:C:211:ASN:HD21	2.01	0.57
1:A:357:ARG:HG2	1:A:357:ARG:NH1	2.19	0.57
1:A:487:ASN:HA	1:A:489:TYR:HE1	1.68	0.57
1:A:914:ASN:O	1:A:918:GLU:HG3	2.04	0.57
1:A:1029:MET:HE1	1:A:1053:PRO:HG3	1.87	0.57
1:C:453:TYR:OH	1:C:493:GLN:NE2	2.38	0.57
1:B:1081:ILE:CD1	1:B:1133:VAL:HG23	2.25	0.57
1:C:390:LEU:HD12	1:C:390:LEU:O	2.04	0.57
1:A:87:ASN:ND2	1:A:269:TYR:HE2	1.92	0.57
1:A:896:ILE:HD12	1:A:897:PRO:CD	2.34	0.57
1:B:560:LEU:N	1:B:563:GLN:OE1	2.34	0.57
1:C:318:PHE:HZ	1:C:615:VAL:HG12	1.70	0.57
2:O:1:NAG:H2	2:O:1:NAG:O6	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:119:ILE:CG2	1:A:120:VAL:N	2.67	0.57
1:C:328:ARG:HH21	1:C:578:ASP:CG	2.07	0.57
1:C:498:GLN:HG3	1:C:499:PRO:HD2	1.85	0.57
1:A:329:PHE:HB3	1:A:330:PRO:HD2	1.86	0.57
1:A:421:TYR:HB3	1:A:454:ARG:HD2	1.86	0.57
1:B:119:ILE:HG22	1:B:120:VAL:N	2.20	0.57
1:B:805:ILE:CG2	1:B:878:LEU:CD1	2.82	0.57
1:B:815:ARG:NH1	1:B:823:PHE:CD1	2.73	0.57
1:C:523:THR:HG23	1:C:523:THR:O	2.04	0.57
1:C:817:PHE:CE1	1:C:935:GLN:HG3	2.39	0.57
1:A:36:VAL:HG21	1:A:220:PHE:CE1	2.40	0.57
1:A:619:GLU:OE1	1:A:619:GLU:HA	2.05	0.57
1:B:277:LEU:HD23	1:B:288:ALA:HB2	1.87	0.57
1:B:325:SER:HA	1:B:540:ASN:O	2.04	0.57
1:B:533:LEU:CD1	1:B:552:LEU:CD1	2.83	0.57
1:B:770:ILE:CD1	1:B:1012:LEU:CD1	2.71	0.57
1:B:826:VAL:CG2	1:B:945:LEU:HD13	2.34	0.57
1:C:212:LEU:HD22	1:C:212:LEU:N	2.19	0.57
1:C:490:PHE:CE2	1:C:492:LEU:CB	2.73	0.57
1:A:472:ILE:HA	1:A:491:PRO:HD3	1.85	0.57
1:B:422:ASN:HD21	1:B:453:TYR:HA	1.69	0.57
1:C:391:CYS:HB3	1:C:545:GLY:HA3	1.87	0.57
1:A:277:LEU:HD23	1:A:288:ALA:HB1	1.86	0.56
1:A:886:TRP:HB2	1:A:1035:GLY:N	2.20	0.56
1:A:993:ILE:O	1:A:997:ILE:HG13	2.05	0.56
1:B:776:LYS:HZ2	1:B:780:GLU:CG	2.12	0.56
1:B:909:ILE:CG2	1:B:1036:GLN:HE22	2.18	0.56
1:C:276:LEU:HD23	1:C:276:LEU:C	2.25	0.56
1:C:429:PHE:HE2	1:C:514:SER:HB2	1.70	0.56
1:C:1078:ALA:N	1:C:1102:TRP:HH2	2.02	0.56
1:A:353:TRP:NE1	1:A:466:ARG:CD	2.61	0.56
1:A:890:ALA:HA	1:C:1046:GLY:CA	2.35	0.56
1:B:57:PRO:HA	1:B:273:ARG:NH1	2.18	0.56
1:B:1094:VAL:HG23	1:C:900:MET:HE2	1.87	0.56
1:C:36:VAL:HG21	1:C:220:PHE:HE1	1.69	0.56
1:C:472:ILE:HD11	1:C:482:GLY:N	2.12	0.56
1:A:119:ILE:HG22	1:A:120:VAL:N	2.21	0.56
1:A:408:ARG:O	1:A:414:GLN:NE2	2.38	0.56
1:A:611:LEU:HB2	1:A:650:LEU:HD12	1.85	0.56
1:A:741:TYR:OH	1:A:962:LEU:CD1	2.53	0.56
1:A:797:PHE:CD1	1:A:882:ILE:CG2	2.85	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:800:PHE:HE2	1:A:927:PHE:HD2	1.53	0.56
1:A:864:LEU:HD13	1:C:665:PRO:HB2	1.87	0.56
1:C:37:TYR:CE2	1:C:204:TYR:CE2	2.93	0.56
1:C:434:ILE:N	1:C:434:ILE:HD12	2.21	0.56
1:A:800:PHE:CD2	1:A:927:PHE:CD2	2.93	0.56
1:B:103:GLY:H	1:B:241:LEU:HB2	1.70	0.56
1:B:273:ARG:HH11	1:B:273:ARG:HG3	1.70	0.56
1:B:804:GLN:OE1	1:B:804:GLN:N	2.37	0.56
1:B:900:MET:HG2	1:B:917:TYR:OH	2.06	0.56
1:C:204:TYR:HD1	1:C:225:PRO:HB3	1.65	0.56
1:A:164:ASN:ND2	2:K:1:NAG:C6	2.69	0.56
1:A:203:ILE:HG22	1:A:227:VAL:CG2	2.32	0.56
1:A:238:PHE:C	1:A:238:PHE:HD1	2.09	0.56
1:A:825:LYS:CB	1:A:945:LEU:HD12	2.36	0.56
1:A:905:ARG:CD	1:A:1049:LEU:O	2.35	0.56
1:B:645:THR:O	1:B:647:ALA:N	2.38	0.56
1:B:714:ILE:CG2	1:B:1110:TYR:HB2	2.35	0.56
1:B:1039:ARG:NH2	1:B:1042:PHE:CD2	2.70	0.56
1:C:393:THR:HG23	1:C:522:ALA:CA	2.35	0.56
1:C:1090:PRO:HD3	1:C:1095:PHE:CE2	2.40	0.56
1:B:44:ARG:NH1	1:B:279:TYR:OH	2.38	0.56
1:A:611:LEU:HG	1:A:611:LEU:O	2.06	0.56
1:A:1081:ILE:HD12	1:A:1133:VAL:HG23	1.88	0.56
1:B:1090:PRO:HB2	1:B:1093:GLY:O	2.04	0.56
1:C:882:ILE:HA	1:C:898:PHE:HE1	1.71	0.56
1:A:353:TRP:CZ2	1:A:466:ARG:N	2.73	0.56
1:A:697:MET:HE3	1:B:869:MET:SD	2.45	0.56
1:A:896:ILE:CD1	1:C:712:ILE:HD12	2.36	0.56
1:B:31:SER:OG	1:B:60:SER:O	2.16	0.56
1:C:817:PHE:HE1	1:C:935:GLN:CG	2.18	0.56
1:A:402:ILE:HD11	1:A:418:ILE:HG21	1.87	0.56
1:A:890:ALA:HA	1:C:1046:GLY:HA3	1.87	0.56
1:B:422:ASN:ND2	1:B:454:ARG:H	2.03	0.56
1:B:1088:HIS:HE1	1:B:1122:VAL:CG2	2.18	0.56
1:C:581:THR:HG22	1:C:583:GLU:CG	2.31	0.56
1:C:817:PHE:HE1	1:C:935:GLN:HG3	1.71	0.56
1:C:1103:PHE:HE1	1:C:1114:ILE:HD12	1.66	0.56
1:A:141:LEU:N	1:A:241:LEU:HD11	2.20	0.55
1:A:654:GLU:HG3	1:A:693:ILE:HG22	1.87	0.55
1:C:452:LEU:HD22	1:C:492:LEU:HD12	1.87	0.55
1:C:988:GLU:HA	1:C:988:GLU:OE2	2.06	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:675:GLN:O	1:A:693:ILE:HD12	2.05	0.55
1:A:690:GLN:OE1	1:A:690:GLN:HA	2.06	0.55
1:A:725:GLU:OE2	1:A:1028:LYS:CE	2.54	0.55
1:B:240:THR:HG22	1:B:241:LEU:N	2.20	0.55
1:B:909:ILE:HG22	1:B:1036:GLN:NE2	2.20	0.55
1:A:296:LEU:HD12	1:A:296:LEU:O	2.06	0.55
1:A:324:GLU:H	1:A:539:VAL:HG12	1.71	0.55
1:A:976:VAL:CG1	1:A:979:ASP:CB	2.84	0.55
1:C:230:PRO:HD2	1:C:231:ILE:HD12	1.88	0.55
1:C:330:PRO:CD	1:C:544:ASN:HD21	2.15	0.55
1:C:1028:LYS:HG2	1:C:1042:PHE:CE2	2.41	0.55
1:A:90:VAL:CG1	1:A:194:PHE:C	2.75	0.55
1:A:1081:ILE:HG23	1:A:1133:VAL:O	2.06	0.55
1:A:1085:GLY:C	1:A:1126:CYS:SG	2.84	0.55
1:B:726:ILE:HD13	1:B:1061:VAL:HG13	1.87	0.55
1:B:743:CYS:SG	1:B:750:SER:HA	2.46	0.55
1:C:270:LEU:HD12	1:C:270:LEU:N	2.20	0.55
1:A:43:PHE:CE2	1:A:282:ASN:O	2.51	0.55
1:A:92:PHE:HE1	1:A:94:SER:CB	2.19	0.55
1:C:128:ILE:C	1:C:129:LYS:HG2	2.26	0.55
1:C:558:LYS:HD2	1:C:558:LYS:H	1.72	0.55
1:C:733:LYS:CD	1:C:775:ASP:OD1	2.55	0.55
1:C:931:ILE:HA	1:C:934:ILE:CG2	2.36	0.55
1:C:1091:ARG:CB	1:C:1119:ASN:O	2.54	0.55
1:A:296:LEU:HB2	1:A:608:VAL:HG11	1.89	0.55
1:B:64:TRP:HD1	1:B:65:PHE:H	1.52	0.55
1:C:451:TYR:C	1:C:452:LEU:HD12	2.26	0.55
1:C:1102:TRP:C	1:C:1115:ILE:HD11	2.27	0.55
1:A:201:PHE:CD1	1:A:202:LYS:N	2.73	0.55
1:A:318:PHE:HE1	1:A:620:VAL:HG11	1.70	0.55
1:A:886:TRP:HB2	1:A:1035:GLY:H	1.72	0.55
1:B:34:ARG:HH12	1:B:189:LEU:HD21	1.72	0.55
1:B:773:GLU:OE2	1:B:1019:ARG:CZ	2.54	0.55
1:B:1102:TRP:CH2	1:B:1133:VAL:HG21	2.41	0.55
1:C:992:GLN:OE1	1:C:992:GLN:HA	2.07	0.55
1:A:322:PRO:HG3	1:A:549:THR:CG2	2.37	0.55
1:A:697:MET:O	1:A:697:MET:HG2	2.05	0.55
1:A:741:TYR:CZ	1:A:966:LEU:HD21	2.42	0.55
1:A:822:LEU:CD2	1:A:945:LEU:HD21	2.29	0.55
1:B:1039:ARG:NE	1:C:1031:GLU:OE2	2.36	0.55
1:C:33:THR:CB	1:C:58:PHE:HE2	2.15	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:34:ARG:O	1:C:56:LEU:HD23	2.05	0.55
1:C:644:GLN:HA	1:C:644:GLN:HE21	1.69	0.55
1:A:802:PHE:CD2	1:A:882:ILE:HD13	2.42	0.55
1:A:902:MET:HG3	1:A:916:LEU:HD11	1.88	0.55
1:C:741:TYR:OH	1:C:962:LEU:HD12	2.07	0.55
1:A:471:GLU:O	1:A:491:PRO:HG3	2.06	0.55
1:A:535:LYS:C	1:A:536:ASN:HD22	2.10	0.55
1:A:886:TRP:HB2	1:A:1035:GLY:CA	2.37	0.55
1:A:962:LEU:O	1:A:965:GLN:HB2	2.07	0.55
1:A:1047:TYR:HD1	1:A:1067:TYR:O	1.90	0.55
1:B:64:TRP:HD1	1:B:65:PHE:N	2.05	0.55
1:C:101:ILE:HD12	1:C:101:ILE:N	2.22	0.55
1:C:102:ARG:NE	1:C:141:LEU:HD22	2.22	0.55
1:C:905:ARG:HD2	1:C:1050:MET:HE3	1.88	0.55
1:A:34:ARG:CZ	1:A:217:PRO:CG	2.66	0.54
1:A:90:VAL:HG13	1:A:194:PHE:CB	2.34	0.54
1:A:381:GLY:O	1:B:983:ARG:NH1	2.40	0.54
1:B:560:LEU:O	1:B:563:GLN:HG2	2.06	0.54
1:C:89:GLY:O	1:C:270:LEU:CD1	2.52	0.54
1:C:277:LEU:HD22	1:C:285:ILE:HG21	1.89	0.54
1:C:423:TYR:CE2	1:C:425:LEU:CD2	2.90	0.54
1:A:663:ASP:N	1:A:695:TYR:OH	2.41	0.54
1:A:963:VAL:CG1	1:C:570:ALA:HB1	2.37	0.54
1:C:454:ARG:NH2	1:C:467:ASP:CG	2.51	0.54
1:C:581:THR:CG2	1:C:583:GLU:CD	2.72	0.54
1:C:915:VAL:HG23	1:C:1111:GLU:OE2	2.08	0.54
1:C:1001:LEU:O	1:C:1001:LEU:HD13	2.07	0.54
1:A:546:LEU:CD2	1:A:565:PHE:CE1	2.91	0.54
1:B:107:GLY:C	1:B:235:ILE:HG23	2.24	0.54
1:B:240:THR:CG2	1:B:241:LEU:N	2.70	0.54
1:B:905:ARG:HD2	1:B:1049:LEU:O	2.08	0.54
1:C:328:ARG:HB2	1:C:543:PHE:HD1	1.71	0.54
1:C:972:ALA:HB3	1:C:996:LEU:CD1	2.29	0.54
1:A:302:THR:HG21	1:A:315:THR:HA	1.89	0.54
1:A:804:GLN:O	1:A:816:SER:HB3	2.08	0.54
1:A:931:ILE:O	1:A:934:ILE:HG23	2.07	0.54
1:B:226:LEU:HG	1:B:227:VAL:HG22	1.88	0.54
1:B:454:ARG:NH1	1:B:469:SER:OG	2.40	0.54
1:B:866:THR:HG22	1:B:869:MET:SD	2.48	0.54
1:B:882:ILE:HG23	1:B:898:PHE:HD2	1.72	0.54
1:B:1140:PRO:C	1:B:1143:PRO:HD2	2.28	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1141:LEU:HD23	1:B:1141:LEU:C	2.28	0.54
1:C:643:PHE:HE1	1:C:655:HIS:CD2	2.26	0.54
1:A:357:ARG:HG3	1:A:396:TYR:HE1	1.71	0.54
1:B:718:PHE:CZ	1:B:923:ILE:HG12	2.43	0.54
1:B:874:THR:HG21	1:B:1055:SER:HB3	1.89	0.54
1:C:741:TYR:CZ	1:C:962:LEU:HD11	2.43	0.54
1:C:896:ILE:HG13	1:C:897:PRO:CD	2.37	0.54
1:A:101:ILE:HG13	1:A:242:LEU:HD13	1.90	0.54
1:A:1102:TRP:CE2	1:A:1133:VAL:HG21	2.42	0.54
1:C:490:PHE:HE2	1:C:492:LEU:CG	2.19	0.54
1:C:497:PHE:CE1	1:C:507:PRO:CB	2.91	0.54
1:C:560:LEU:CD1	1:C:562:PHE:CZ	2.89	0.54
1:A:235:ILE:HD12	1:A:235:ILE:N	2.18	0.54
1:A:1029:MET:HB2	1:A:1062:PHE:CE2	2.43	0.54
1:C:725:GLU:CD	1:C:1028:LYS:NZ	2.60	0.54
1:A:229:LEU:HD12	1:A:229:LEU:N	2.23	0.54
1:A:659:SER:HB2	1:A:698:SER:HB3	1.89	0.54
1:A:712:ILE:HD13	1:A:1094:VAL:HG21	1.90	0.54
1:A:726:ILE:CG2	1:A:948:LEU:HG	2.38	0.54
1:A:1081:ILE:HG13	1:A:1095:PHE:CE2	2.43	0.54
1:B:1090:PRO:N	1:B:1095:PHE:HE1	2.05	0.54
1:B:1125:ASN:OD1	1:B:1125:ASN:N	2.41	0.54
1:C:353:TRP:CD1	1:C:466:ARG:HB3	2.41	0.54
1:C:480:CYS:HA	1:C:483:VAL:HG12	1.89	0.54
1:C:1054:GLN:OE1	1:C:1054:GLN:HA	2.08	0.54
1:A:661:GLU:O	1:A:695:TYR:CE2	2.61	0.54
1:A:1090:PRO:HG3	1:A:1093:GLY:O	2.08	0.54
1:B:318:PHE:HE2	1:B:615:VAL:CG2	2.04	0.54
1:B:882:ILE:HG23	1:B:898:PHE:CE2	2.42	0.54
1:C:692:ILE:H	1:C:692:ILE:CD1	2.19	0.54
1:C:930:ALA:O	1:C:934:ILE:HG22	2.08	0.54
1:B:774:GLN:OE1	1:B:774:GLN:HA	2.08	0.54
1:C:404:GLY:CA	1:C:508:TYR:CD2	2.90	0.54
1:C:409:GLN:H	1:C:409:GLN:NE2	2.05	0.54
1:C:915:VAL:CG2	1:C:1111:GLU:OE2	2.56	0.54
1:C:1068:VAL:O	1:C:1068:VAL:HG23	2.08	0.54
1:A:426:PRO:HD2	1:A:429:PHE:HB2	1.88	0.53
1:A:662:CYS:SG	1:A:697:MET:SD	3.06	0.53
1:B:43:PHE:CD1	1:B:43:PHE:C	2.80	0.53
1:B:976:VAL:HB	1:B:979:ASP:HB3	1.90	0.53
1:B:1105:THR:OG1	1:B:1111:GLU:O	2.25	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:360:ASN:O	1:C:361:CYS:HB3	2.07	0.53
1:C:1033:VAL:CG2	1:C:1062:PHE:CE1	2.85	0.53
1:A:1043:CYS:CA	1:A:1064:HIS:CE1	2.91	0.53
1:B:280:ASN:HB3	1:B:286:THR:CG2	2.39	0.53
1:B:726:ILE:CG2	1:B:948:LEU:HG	2.37	0.53
1:C:861:LEU:HD22	1:C:861:LEU:H	1.74	0.53
1:A:693:ILE:CD1	1:A:693:ILE:H	2.19	0.53
1:B:48:LEU:HD12	1:B:48:LEU:N	2.24	0.53
1:C:365:TYR:HD2	1:C:387:LEU:HD13	1.73	0.53
1:C:429:PHE:CZ	1:C:431:GLY:C	2.82	0.53
1:C:857:GLY:C	1:C:858:LEU:HD12	2.29	0.53
1:B:289:VAL:HG23	1:B:306:PHE:HE2	1.70	0.53
1:B:722:VAL:CG1	1:B:934:ILE:HG13	2.38	0.53
1:C:410:ILE:O	1:C:410:ILE:HG22	2.08	0.53
1:C:742:ILE:HD12	1:C:753:LEU:HD21	1.89	0.53
1:B:712:ILE:HD12	1:C:896:ILE:HD12	1.90	0.53
1:B:885:GLY:HA2	1:B:901:GLN:HE22	1.64	0.53
1:C:104:TRP:CE3	1:C:104:TRP:N	2.77	0.53
1:C:168:PHE:CE2	1:C:231:ILE:HD11	2.43	0.53
1:B:29:THR:HG23	1:B:62:VAL:HG12	1.89	0.53
1:B:57:PRO:HB3	1:B:273:ARG:HH22	1.74	0.53
1:B:563:GLN:NE2	1:C:43:PHE:CB	2.71	0.53
1:B:1011:GLN:HE21	1:B:1011:GLN:CA	2.19	0.53
1:B:1078:ALA:CB	1:B:1133:VAL:HG22	2.38	0.53
1:C:612:TYR:HB2	1:C:615:VAL:HG13	1.74	0.53
1:C:660:TYR:N	1:C:660:TYR:CD1	2.77	0.53
1:B:707:TYR:HE1	1:C:897:PRO:HA	1.74	0.53
1:B:1039:ARG:CZ	1:B:1042:PHE:HD2	2.16	0.53
1:B:1072:GLU:HG2	1:C:894:LEU:HD21	1.87	0.53
1:A:712:ILE:HG13	1:B:896:ILE:HG13	1.90	0.53
1:C:524:VAL:O	1:C:524:VAL:HG12	2.09	0.53
1:C:729:VAL:HG13	1:C:781:VAL:HG21	1.91	0.53
1:A:67:ALA:CB	1:A:263:ALA:HB3	2.27	0.53
1:A:273:ARG:HH21	1:A:292:ALA:CB	2.22	0.53
1:A:357:ARG:HG3	1:A:396:TYR:CD1	2.44	0.53
1:B:353:TRP:O	1:B:466:ARG:NH2	2.42	0.53
1:C:185:ASN:ND2	1:C:211:ASN:ND2	2.56	0.53
1:C:452:LEU:CD2	1:C:492:LEU:HB3	2.34	0.53
1:C:494:SER:OG	1:C:495:TYR:N	2.41	0.53
1:C:611:LEU:HD23	1:C:611:LEU:C	2.28	0.53
1:A:570:ALA:HB1	1:B:963:VAL:CG1	2.36	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:817:PHE:CZ	1:A:935:GLN:NE2	2.77	0.53
1:A:922:LEU:HD11	1:A:926:GLN:HE21	1.72	0.53
1:C:353:TRP:CD1	1:C:466:ARG:HD3	2.43	0.53
1:C:442:ASP:OD2	1:C:507:PRO:CB	2.57	0.53
1:C:719:THR:HG23	1:C:1070:ALA:HB2	1.90	0.53
1:A:241:LEU:HD12	1:A:241:LEU:C	2.26	0.52
1:A:612:TYR:HE1	1:A:651:ILE:HD12	1.74	0.52
1:A:779:GLN:HE21	1:A:864:LEU:HD23	1.73	0.52
1:B:351:TYR:CE1	1:B:452:LEU:HB2	2.44	0.52
1:C:269:TYR:CD1	1:C:269:TYR:N	2.77	0.52
1:A:472:ILE:HG23	1:A:489:TYR:O	2.09	0.52
1:A:722:VAL:HA	1:A:1064:HIS:O	2.08	0.52
1:A:782:PHE:HE2	1:A:874:THR:HG21	1.71	0.52
1:A:895:GLN:H	1:A:895:GLN:CD	2.06	0.52
1:B:195:LYS:HG2	1:B:202:LYS:HB2	1.90	0.52
1:B:599:THR:HG22	1:B:608:VAL:HB	1.87	0.52
1:B:1101:HIS:HB3	1:B:1103:PHE:CZ	2.45	0.52
1:C:318:PHE:HE2	1:C:612:TYR:HB3	1.74	0.52
1:C:328:ARG:NH2	1:C:578:ASP:CG	2.62	0.52
1:C:355:ARG:NH2	1:C:396:TYR:CG	2.77	0.52
1:C:546:LEU:HD23	1:C:546:LEU:C	2.29	0.52
1:C:770:ILE:HG23	1:C:774:GLN:HE21	1.73	0.52
1:A:403:ARG:CG	1:A:495:TYR:HE1	2.22	0.52
1:A:799:GLY:O	1:A:924:ALA:HB1	2.10	0.52
1:B:599:THR:CA	1:B:608:VAL:HG12	2.39	0.52
1:B:733:LYS:HD3	1:B:775:ASP:OD1	2.10	0.52
1:B:1116:THR:CG2	1:B:1140:PRO:HD3	2.36	0.52
1:C:220:PHE:CE1	1:C:288:ALA:HB3	2.44	0.52
1:C:368:LEU:HD12	1:C:368:LEU:N	2.25	0.52
1:B:55:PHE:CB	1:B:275:PHE:CE2	2.88	0.52
1:B:1095:PHE:CZ	1:B:1120:THR:CG2	2.88	0.52
1:C:328:ARG:HB2	1:C:543:PHE:CD1	2.44	0.52
1:C:360:ASN:HD22	1:C:523:THR:HG22	1.75	0.52
1:A:582:LEU:HD22	1:A:582:LEU:N	2.24	0.52
1:A:800:PHE:CE2	1:A:927:PHE:CD2	2.98	0.52
1:A:922:LEU:CD1	1:A:926:GLN:HE21	2.22	0.52
1:A:1088:HIS:ND1	1:A:1122:VAL:HG12	2.19	0.52
1:B:63:THR:O	1:B:63:THR:OG1	2.27	0.52
1:B:1134:ASN:OD1	1:B:1134:ASN:N	2.42	0.52
1:C:388:ASN:HD22	1:C:388:ASN:N	2.07	0.52
1:C:490:PHE:CD2	1:C:492:LEU:N	2.76	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:660:TYR:HB2	1:C:695:TYR:CZ	2.44	0.52
1:C:660:TYR:H	1:C:695:TYR:HE2	1.54	0.52
1:C:661:GLU:OE1	1:C:661:GLU:N	2.25	0.52
1:A:712:ILE:CB	1:A:1077:THR:HG21	2.29	0.52
1:A:896:ILE:HD12	1:A:897:PRO:HD3	1.92	0.52
1:B:103:GLY:O	1:B:240:THR:HG23	2.09	0.52
1:B:204:TYR:HE1	1:B:225:PRO:CB	2.08	0.52
1:B:949:GLN:OE1	1:B:949:GLN:HA	2.10	0.52
1:C:87:ASN:ND2	1:C:269:TYR:HD2	1.92	0.52
1:C:360:ASN:N	1:C:360:ASN:HD22	2.05	0.52
1:C:718:PHE:CZ	1:C:923:ILE:CG1	2.89	0.52
1:A:318:PHE:CE1	1:A:620:VAL:HG21	2.45	0.52
1:A:805:ILE:O	1:A:816:SER:CB	2.57	0.52
1:B:763:LEU:HD22	1:B:1008:VAL:CG2	2.39	0.52
1:B:805:ILE:CG2	1:B:878:LEU:HD11	2.40	0.52
1:B:1090:PRO:HB3	1:B:1093:GLY:O	2.10	0.52
1:C:378:LYS:HG3	1:C:433:VAL:CG1	2.09	0.52
1:C:825:LYS:NZ	1:C:942:ALA:CA	2.73	0.52
1:C:1089:PHE:O	1:C:1120:THR:CA	2.57	0.52
1:A:106:PHE:CZ	1:A:194:PHE:CD2	2.90	0.52
1:A:273:ARG:NH2	1:A:292:ALA:CB	2.72	0.52
1:A:280:ASN:HB2	1:A:286:THR:HG23	1.91	0.52
1:A:521:PRO:HG3	1:A:564:GLN:CB	2.40	0.52
1:A:712:ILE:HD12	1:A:1094:VAL:HG21	1.90	0.52
1:A:1041:ASP:HB3	1:B:1030:SER:OG	2.09	0.52
1:B:65:PHE:HB2	1:B:265:TYR:CE1	2.45	0.52
1:B:265:TYR:N	1:B:265:TYR:HD1	2.08	0.52
1:B:749:CYS:HB3	1:B:977:LEU:HD13	1.92	0.52
1:C:393:THR:OG1	1:C:522:ALA:HB1	2.04	0.52
1:C:825:LYS:HZ3	1:C:942:ALA:CA	2.23	0.52
1:C:1033:VAL:HG23	1:C:1062:PHE:CE1	2.45	0.52
1:A:91:TYR:CE1	1:A:93:ALA:HB2	2.44	0.52
1:A:327:VAL:HG23	1:A:529:LYS:O	2.10	0.52
1:A:371:SER:CA	2:J:2:NAG:H82	2.40	0.52
1:B:37:TYR:CD1	1:B:37:TYR:C	2.83	0.52
1:B:107:GLY:N	1:B:235:ILE:CD1	2.62	0.52
1:B:718:PHE:CZ	1:B:923:ILE:CG1	2.93	0.52
1:C:119:ILE:CG2	1:C:120:VAL:N	2.73	0.52
1:C:226:LEU:CD1	1:C:227:VAL:HG13	2.40	0.52
1:C:380:TYR:CE2	1:C:412:PRO:CG	2.93	0.52
1:A:329:PHE:HE2	1:A:391:CYS:SG	2.33	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:600:PRO:CG	1:A:674:TYR:HD1	2.23	0.52
1:A:1079:PRO:HB3	1:B:917:TYR:CZ	2.45	0.52
1:A:1103:PHE:N	1:A:1103:PHE:CD1	2.77	0.52
1:B:369:TYR:HA	1:B:372:ALA:HB3	1.91	0.52
1:C:330:PRO:HD3	1:C:544:ASN:HD22	1.64	0.52
1:C:423:TYR:HE2	1:C:425:LEU:HD21	1.75	0.52
1:C:429:PHE:CE2	1:C:514:SER:HB2	2.44	0.52
1:C:577:ARG:HB2	1:C:584:ILE:HD13	1.92	0.52
1:C:581:THR:CG2	1:C:583:GLU:CG	2.87	0.52
1:C:654:GLU:OE2	1:C:693:ILE:HG22	2.10	0.52
1:C:718:PHE:CZ	1:C:923:ILE:HD11	2.45	0.52
1:A:643:PHE:CE2	1:A:655:HIS:HB2	2.45	0.51
1:B:617:CYS:SG	1:B:642:VAL:CG1	2.97	0.51
1:B:1078:ALA:HB3	1:B:1133:VAL:HG22	1.92	0.51
1:C:43:PHE:CE1	1:C:45:SER:HB3	2.46	0.51
1:C:280:ASN:OD1	1:C:284:THR:N	2.42	0.51
1:C:280:ASN:ND2	1:C:284:THR:OG1	2.43	0.51
1:C:813:SER:O	1:C:868:GLU:OE1	2.28	0.51
1:C:825:LYS:CE	1:C:942:ALA:HA	2.39	0.51
1:A:294:ASP:HB2	1:A:297:SER:OG	2.10	0.51
1:A:353:TRP:CD1	1:A:353:TRP:N	2.78	0.51
1:C:197:ILE:O	1:C:197:ILE:HG13	2.10	0.51
1:C:294:ASP:OD1	1:C:297:SER:OG	2.16	0.51
1:A:211:ASN:ND2	1:A:211:ASN:O	2.43	0.51
1:A:273:ARG:HH21	1:A:292:ALA:HB3	1.75	0.51
1:B:64:TRP:CD1	1:B:65:PHE:N	2.79	0.51
1:B:101:ILE:HD11	1:B:263:ALA:HB1	1.93	0.51
1:B:916:LEU:HD12	1:B:923:ILE:HD12	1.92	0.51
1:A:313:TYR:N	1:A:313:TYR:CD1	2.78	0.51
1:A:992:GLN:HA	1:A:992:GLN:HE21	1.76	0.51
1:B:106:PHE:CZ	1:B:194:PHE:CD2	2.91	0.51
1:B:293:LEU:O	1:B:293:LEU:HD12	2.11	0.51
1:C:220:PHE:CZ	1:C:288:ALA:CA	2.66	0.51
1:C:374:PHE:N	1:C:374:PHE:CD1	2.79	0.51
1:C:452:LEU:HG	1:C:494:SER:HA	1.92	0.51
1:C:515:PHE:CD1	1:C:515:PHE:N	2.79	0.51
1:C:974:SER:HB3	1:C:980:ILE:HD11	1.91	0.51
1:A:90:VAL:HG22	1:A:90:VAL:O	2.10	0.51
1:A:1102:TRP:HB2	1:A:1135:ASN:HD22	1.65	0.51
1:B:92:PHE:HZ	1:B:265:TYR:CD2	2.24	0.51
1:B:296:LEU:HD12	1:B:296:LEU:O	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:403:ARG:HG3	1:B:497:PHE:HE1	1.75	0.51
1:B:599:THR:CB	1:B:608:VAL:CG1	2.82	0.51
1:B:896:ILE:HG12	1:B:897:PRO:HD2	1.92	0.51
1:B:1142:GLN:N	1:B:1143:PRO:CD	2.74	0.51
1:C:126:VAL:HG13	1:C:175:PHE:HZ	1.74	0.51
1:C:377:PHE:CE1	1:C:434:ILE:HG13	2.45	0.51
1:C:454:ARG:HH22	1:C:467:ASP:CG	2.12	0.51
1:A:299:THR:HA	1:A:315:THR:HG21	1.92	0.51
1:A:317:ASN:HD21	1:B:737:ASP:HB3	1.75	0.51
1:A:894:LEU:HB3	1:C:713:ALA:HB3	1.91	0.51
1:A:903:ALA:HA	1:A:916:LEU:HD13	1.92	0.51
1:A:1029:MET:HE2	1:A:1062:PHE:CE2	2.46	0.51
1:A:1043:CYS:HA	1:A:1064:HIS:CE1	2.44	0.51
1:B:118:LEU:HD12	1:B:119:ILE:H	1.76	0.51
1:B:164:ASN:OD1	1:B:165:ASN:ND2	2.43	0.51
1:C:303:LEU:HD12	1:C:308:VAL:HG22	1.93	0.51
1:A:903:ALA:CA	1:A:916:LEU:HD13	2.40	0.51
1:A:950:ASP:OD1	1:A:954:GLN:NE2	2.43	0.51
1:A:1043:CYS:CB	1:A:1064:HIS:CE1	2.94	0.51
1:A:1094:VAL:HG23	1:B:900:MET:HE1	1.93	0.51
1:B:238:PHE:C	1:B:238:PHE:CD1	2.84	0.51
1:B:265:TYR:N	1:B:265:TYR:CD1	2.79	0.51
1:B:565:PHE:CB	1:C:42:VAL:HG12	2.37	0.51
1:B:1018:ILE:O	1:B:1022:ALA:N	2.34	0.51
1:B:1039:ARG:NE	1:B:1042:PHE:HD2	2.07	0.51
1:C:34:ARG:HG3	1:C:91:TYR:OH	2.09	0.51
1:C:226:LEU:CG	1:C:227:VAL:HG13	2.40	0.51
1:C:599:THR:OG1	1:C:608:VAL:HG12	2.11	0.51
1:C:695:TYR:N	1:C:695:TYR:CD1	2.76	0.51
1:A:1029:MET:HE2	1:A:1062:PHE:HE2	1.75	0.51
1:B:91:TYR:O	1:B:91:TYR:HD1	1.93	0.51
1:B:329:PHE:CE2	1:B:529:LYS:O	2.64	0.51
1:B:577:ARG:HA	1:B:584:ILE:HA	1.91	0.51
1:B:641:ASN:ND2	1:B:654:GLU:CA	2.64	0.51
1:B:915:VAL:O	1:B:919:ASN:OD1	2.28	0.51
1:C:100:ILE:CG2	1:C:243:ALA:H	2.23	0.51
1:C:366:SER:O	1:C:370:ASN:CA	2.59	0.51
1:A:273:ARG:NH2	1:A:292:ALA:HB1	2.26	0.51
1:A:1013:ILE:HD13	1:B:1012:LEU:HB3	1.93	0.51
1:A:1084:ASP:CB	1:A:1086:LYS:NZ	2.65	0.51
1:B:44:ARG:HB2	1:B:279:TYR:CD2	2.46	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:105:ILE:HD12	1:C:239:GLN:O	2.11	0.51
1:C:118:LEU:HD23	1:C:135:PHE:CE1	2.42	0.51
1:C:738:CYS:SG	1:C:760:CYS:C	2.86	0.51
1:C:1083:HIS:HB2	1:C:1137:VAL:HG23	1.92	0.51
1:A:403:ARG:HG2	1:A:495:TYR:CE1	2.44	0.51
1:A:521:PRO:HG3	1:A:564:GLN:HG2	1.93	0.51
1:A:560:LEU:HD12	1:A:560:LEU:N	2.26	0.51
1:B:718:PHE:CZ	1:B:923:ILE:CD1	2.84	0.51
1:B:1089:PHE:HB2	1:B:1121:PHE:CE1	2.46	0.51
1:C:735:SER:CB	1:C:861:LEU:HD21	2.40	0.51
1:C:791:THR:HG22	1:C:792:PRO:CD	2.38	0.51
1:A:118:LEU:HD12	1:A:119:ILE:H	1.77	0.50
1:A:241:LEU:HD12	1:A:242:LEU:H	1.69	0.50
1:A:490:PHE:CE2	1:A:492:LEU:HB2	2.47	0.50
1:B:324:GLU:HG3	1:B:539:VAL:HG23	1.93	0.50
1:C:90:VAL:C	1:C:270:LEU:HD11	2.31	0.50
1:C:204:TYR:HD1	1:C:225:PRO:CB	2.23	0.50
1:C:317:ASN:HB3	1:C:593:GLY:O	2.11	0.50
1:A:37:TYR:HD1	1:A:37:TYR:H	1.59	0.50
1:A:353:TRP:NE1	1:A:466:ARG:CB	2.74	0.50
1:A:671:CYS:O	1:A:694:ALA:HA	2.12	0.50
1:A:896:ILE:CD1	1:A:897:PRO:HD2	2.41	0.50
1:B:615:VAL:CG1	1:B:620:VAL:HG13	2.38	0.50
1:B:909:ILE:HG23	1:B:1036:GLN:NE2	2.25	0.50
1:B:1017:GLU:OE2	1:C:1019:ARG:NH1	2.44	0.50
1:C:655:HIS:CB	1:C:694:ALA:O	2.51	0.50
1:C:671:CYS:O	1:C:695:TYR:CD1	2.65	0.50
1:C:719:THR:OG1	1:C:1068:VAL:CG2	2.59	0.50
1:C:990:GLU:OE1	1:C:990:GLU:HA	2.11	0.50
1:A:93:ALA:O	1:A:266:TYR:CD1	2.65	0.50
1:A:521:PRO:HG3	1:A:564:GLN:HB3	1.93	0.50
1:A:743:CYS:SG	1:A:750:SER:CA	3.00	0.50
1:A:1090:PRO:CG	1:A:1093:GLY:O	2.58	0.50
1:B:712:ILE:HG12	1:B:713:ALA:N	2.26	0.50
1:B:776:LYS:NZ	1:B:780:GLU:OE2	2.31	0.50
1:B:1054:GLN:HB2	1:B:1061:VAL:O	2.11	0.50
1:C:119:ILE:HD12	1:C:119:ILE:N	2.26	0.50
1:A:64:TRP:NE1	1:A:266:TYR:CZ	2.44	0.50
1:A:817:PHE:CE2	1:A:935:GLN:HG3	2.43	0.50
1:A:1105:THR:OG1	1:A:1111:GLU:N	2.43	0.50
1:B:347:PHE:HB2	1:B:401:VAL:HG23	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:743:CYS:O	1:B:977:LEU:CD1	2.45	0.50
1:C:86:PHE:CD2	1:C:106:PHE:HE2	2.30	0.50
1:C:118:LEU:HD12	1:C:119:ILE:N	2.25	0.50
1:C:817:PHE:HD1	1:C:818:ILE:HD13	1.75	0.50
1:A:310:LYS:CG	1:A:664:ILE:HD11	2.28	0.50
1:A:885:GLY:CA	1:A:901:GLN:CD	2.73	0.50
1:B:164:ASN:OD1	1:B:165:ASN:OD1	2.29	0.50
1:B:229:LEU:N	1:B:229:LEU:HD22	2.26	0.50
1:B:675:GLN:HE21	1:B:675:GLN:CA	2.10	0.50
1:B:916:LEU:CD1	1:B:923:ILE:HD12	2.41	0.50
1:B:1040:VAL:HG12	1:B:1041:ASP:OD1	2.11	0.50
1:C:734:THR:O	1:C:767:LEU:HD12	2.11	0.50
1:A:927:PHE:HE1	1:A:931:ILE:CG1	2.24	0.50
1:C:365:TYR:N	1:C:365:TYR:HD1	2.10	0.50
1:C:462:LYS:HB3	1:C:463:PRO:HD2	1.94	0.50
1:C:612:TYR:HB2	1:C:615:VAL:CG2	2.41	0.50
1:A:200:TYR:OH	1:C:394:ASN:ND2	2.45	0.50
1:A:1030:SER:OG	1:C:1041:ASP:HB3	2.12	0.50
1:A:1043:CYS:C	1:A:1064:HIS:ND1	2.65	0.50
1:B:105:ILE:HB	1:B:239:GLN:HB3	1.93	0.50
1:B:332:ILE:CG2	1:B:334:ASN:OD1	2.60	0.50
1:B:714:ILE:HG22	1:B:1110:TYR:HB2	1.94	0.50
1:C:119:ILE:HG22	1:C:120:VAL:N	2.27	0.50
1:C:168:PHE:CD2	1:C:231:ILE:HG13	2.47	0.50
1:C:353:TRP:HD1	1:C:353:TRP:O	1.94	0.50
1:A:55:PHE:CD1	1:A:275:PHE:CD2	2.99	0.50
1:B:395:VAL:HG22	1:B:515:PHE:HB3	1.93	0.50
1:B:560:LEU:O	1:B:561:PRO:C	2.50	0.50
1:B:1056:ALA:HB1	1:B:1057:PRO:HD2	1.94	0.50
1:C:365:TYR:CD2	1:C:387:LEU:HD13	2.47	0.50
1:C:738:CYS:C	1:C:760:CYS:SG	2.89	0.50
1:A:33:THR:HA	1:A:58:PHE:CZ	2.46	0.50
1:A:64:TRP:HD1	1:A:266:TYR:CG	2.29	0.50
1:A:168:PHE:CE2	1:A:230:PRO:HD2	2.47	0.50
1:A:353:TRP:CZ2	1:A:466:ARG:CB	2.93	0.50
1:A:411:ALA:HB3	1:A:414:GLN:HE21	1.77	0.50
1:A:736:VAL:CG2	1:A:858:LEU:CD2	2.73	0.50
1:B:970:PHE:CD2	1:B:999:GLY:CA	2.90	0.50
1:B:1062:PHE:HB3	1:B:1064:HIS:CE1	2.47	0.50
1:C:204:TYR:CD1	1:C:225:PRO:CB	2.92	0.50
1:C:310:LYS:HB2	1:C:600:PRO:O	2.11	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:328:ARG:CZ	1:C:578:ASP:CG	2.79	0.50
1:C:560:LEU:HB3	1:C:562:PHE:CE1	2.47	0.50
1:C:612:TYR:CG	1:C:615:VAL:HG11	2.47	0.50
1:A:87:ASN:CG	1:A:269:TYR:CE2	2.84	0.49
1:B:126:VAL:HG13	1:B:175:PHE:CZ	2.47	0.49
1:B:914:ASN:OD1	1:B:915:VAL:HG23	2.11	0.49
1:C:37:TYR:HB3	1:C:223:LEU:HG	1.93	0.49
1:C:353:TRP:CH2	1:C:423:TYR:HA	2.47	0.49
1:C:825:LYS:HZ3	1:C:942:ALA:CB	2.14	0.49
1:A:278:LYS:HB3	1:A:287:ASP:O	2.12	0.49
1:A:741:TYR:CZ	1:A:962:LEU:HD11	2.47	0.49
1:B:273:ARG:NH1	1:B:273:ARG:HG3	2.26	0.49
1:B:277:LEU:CD2	1:B:288:ALA:HB2	2.42	0.49
1:B:294:ASP:HB3	1:B:295:PRO:HD2	1.94	0.49
1:B:1140:PRO:O	1:B:1143:PRO:HD2	2.11	0.49
1:C:68:ILE:HD12	1:C:262:ALA:CB	2.42	0.49
1:C:365:TYR:N	1:C:365:TYR:CD1	2.79	0.49
1:C:671:CYS:O	1:C:695:TYR:CE1	2.65	0.49
1:C:1083:HIS:HB3	1:C:1088:HIS:CE1	2.46	0.49
2:O:2:NAG:HO3	2:O:2:NAG:C7	2.15	0.49
1:C:355:ARG:HA	1:C:397:ALA:O	2.12	0.49
1:C:516:GLU:OE1	1:C:516:GLU:HA	2.12	0.49
1:C:585:LEU:HD23	1:C:585:LEU:N	2.26	0.49
1:C:973:ILE:HD11	1:C:980:ILE:HG23	1.93	0.49
1:A:430:THR:HG21	1:A:517:LEU:HG	1.94	0.49
1:C:336:CYS:SG	1:C:362:VAL:N	2.84	0.49
1:C:712:ILE:HG22	1:C:1077:THR:HB	1.95	0.49
1:A:126:VAL:HG13	1:A:175:PHE:CZ	2.48	0.49
1:B:107:GLY:HA2	1:B:235:ILE:HG12	1.95	0.49
1:B:1080:ALA:CB	1:B:1089:PHE:CE1	2.91	0.49
1:C:672:ALA:HA	1:C:693:ILE:O	2.12	0.49
1:B:350:VAL:HB	1:B:402:ILE:HG22	1.93	0.49
1:B:749:CYS:CB	1:B:977:LEU:HD13	2.42	0.49
1:C:763:LEU:HD22	1:C:1008:VAL:CG2	2.34	0.49
1:A:641:ASN:OD1	1:A:641:ASN:N	2.46	0.49
1:A:1078:ALA:CB	1:A:1102:TRP:CH2	2.96	0.49
1:B:57:PRO:HG3	1:B:273:ARG:NH1	2.26	0.49
1:B:1114:ILE:HD12	1:B:1114:ILE:N	2.28	0.49
1:C:230:PRO:HD2	1:C:231:ILE:CD1	2.43	0.49
1:C:868:GLU:OE1	1:C:868:GLU:HA	2.13	0.49
1:A:90:VAL:HG21	1:A:238:PHE:CD2	2.47	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:130:VAL:HG21	1:A:231:ILE:HD11	1.94	0.49
1:A:612:TYR:CE1	1:A:651:ILE:HD12	2.47	0.49
1:A:974:SER:OG	1:A:980:ILE:HG12	2.12	0.49
1:C:658:ASN:OD1	1:C:658:ASN:N	2.35	0.49
1:C:934:ILE:O	1:C:934:ILE:HD12	2.13	0.49
1:C:1095:PHE:CE1	1:C:1120:THR:HG21	2.44	0.49
1:A:89:GLY:HA2	1:A:270:LEU:CD1	2.43	0.49
1:A:403:ARG:CG	1:A:495:TYR:CZ	2.94	0.49
1:A:916:LEU:O	1:A:916:LEU:HD23	2.12	0.49
1:A:1039:ARG:CZ	1:A:1042:PHE:CD2	2.95	0.49
1:B:62:VAL:HG21	1:B:266:TYR:HB3	1.94	0.49
1:B:328:ARG:NH2	1:B:580:GLN:CB	2.75	0.49
1:C:287:ASP:CG	1:C:306:PHE:CE2	2.86	0.49
1:C:797:PHE:HE2	1:C:882:ILE:HB	1.78	0.49
1:A:1035:GLY:HA3	1:C:1040:VAL:HG21	1.94	0.49
1:B:317:ASN:HD22	1:C:737:ASP:CB	2.21	0.49
1:B:1078:ALA:CB	1:B:1102:TRP:CH2	2.95	0.49
1:C:424:LYS:O	1:C:463:PRO:HA	2.12	0.49
1:C:659:SER:CB	1:C:698:SER:HB3	2.43	0.49
1:B:615:VAL:HG12	1:B:620:VAL:HG13	1.95	0.48
1:C:368:LEU:H	1:C:368:LEU:CD1	2.26	0.48
1:C:822:LEU:HD21	1:C:945:LEU:HD21	1.95	0.48
1:C:1060:VAL:HG13	1:C:1060:VAL:O	2.13	0.48
1:A:33:THR:HA	1:A:58:PHE:CE1	2.48	0.48
1:A:805:ILE:HD12	1:A:878:LEU:HD11	1.96	0.48
1:A:57:PRO:HB3	1:A:273:ARG:HE	1.77	0.48
1:A:276:LEU:HD23	1:A:276:LEU:C	2.34	0.48
1:A:984:LEU:CD1	1:A:988:GLU:HG3	2.37	0.48
1:B:329:PHE:HB3	1:B:330:PRO:CD	2.32	0.48
1:C:281:GLU:CB	2:P:1:NAG:H82	2.42	0.48
1:A:455:LEU:HG	1:A:456:PHE:CD2	2.48	0.48
1:A:1080:ALA:C	1:A:1132:ILE:HG13	2.31	0.48
1:B:96:GLU:OE1	1:B:100:ILE:N	2.46	0.48
1:B:405:ASP:N	1:B:504:GLY:O	2.46	0.48
1:C:277:LEU:HD13	1:C:285:ILE:HD13	1.95	0.48
1:A:650:LEU:HD11	1:A:666:ILE:HD13	1.96	0.48
1:C:931:ILE:HA	1:C:934:ILE:HG22	1.95	0.48
1:C:1001:LEU:HD13	1:C:1001:LEU:C	2.34	0.48
1:A:96:GLU:OE1	1:A:100:ILE:N	2.46	0.48
1:A:204:TYR:CE1	1:A:225:PRO:CA	2.96	0.48
1:A:277:LEU:HD23	1:A:288:ALA:HB2	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:448:ASN:HB2	1:A:497:PHE:HB2	1.96	0.48
1:B:190:ARG:NE	1:B:207:HIS:HE1	2.05	0.48
1:C:241:LEU:CD1	1:C:241:LEU:N	2.76	0.48
1:C:555:SER:HG	1:C:584:ILE:C	2.07	0.48
1:C:661:GLU:O	1:C:695:TYR:OH	2.31	0.48
1:A:299:THR:HA	1:A:315:THR:CG2	2.44	0.48
1:A:903:ALA:HA	1:A:916:LEU:CD1	2.43	0.48
1:B:1088:HIS:HD1	1:B:1122:VAL:HG23	1.76	0.48
1:C:33:THR:HA	1:C:58:PHE:CZ	2.48	0.48
1:C:598:ILE:O	1:C:598:ILE:HG22	2.13	0.48
1:C:660:TYR:N	1:C:660:TYR:HD1	2.11	0.48
1:C:1090:PRO:CA	1:C:1120:THR:CG2	2.60	0.48
1:B:130:VAL:CG2	1:B:231:ILE:CD1	2.92	0.48
1:C:37:TYR:CD1	1:C:37:TYR:N	2.81	0.48
1:C:456:PHE:CD2	1:C:473:TYR:CE2	3.02	0.48
1:C:825:LYS:CE	1:C:942:ALA:CA	2.92	0.48
1:A:55:PHE:CD1	1:A:275:PHE:CE2	3.01	0.48
1:A:736:VAL:HG22	1:A:858:LEU:HD23	1.92	0.48
1:B:54:LEU:HD12	1:B:54:LEU:N	2.29	0.48
1:B:396:TYR:N	1:B:514:SER:O	2.43	0.48
1:B:1141:LEU:HD23	1:B:1141:LEU:O	2.14	0.48
1:C:453:TYR:CE2	1:C:493:GLN:CD	2.87	0.48
1:C:643:PHE:CE1	1:C:655:HIS:CD2	3.02	0.48
1:A:379:CYS:HB3	1:A:382:VAL:O	2.14	0.48
1:A:1031:GLU:OE2	1:A:1042:PHE:HE2	1.97	0.48
1:C:742:ILE:HG22	1:C:743:CYS:SG	2.54	0.48
1:A:353:TRP:N	1:A:466:ARG:CD	2.67	0.47
1:A:401:VAL:HG11	1:A:451:TYR:CE2	2.49	0.47
1:A:600:PRO:HG2	1:A:674:TYR:CD1	2.49	0.47
1:A:660:TYR:O	1:A:695:TYR:HE2	1.97	0.47
1:A:782:PHE:CE2	1:A:874:THR:HG23	2.49	0.47
1:A:886:TRP:HE3	1:A:886:TRP:O	1.97	0.47
1:B:902:MET:CB	1:B:916:LEU:HD21	2.39	0.47
1:B:1110:TYR:HD1	1:B:1111:GLU:N	2.11	0.47
1:C:32:PHE:CE1	1:C:218:GLN:HB3	2.49	0.47
1:C:69:HIS:HA	1:C:78:ARG:O	2.13	0.47
1:C:406:GLU:OE1	1:C:406:GLU:N	2.47	0.47
1:C:1001:LEU:HD13	1:C:1005:GLN:HG3	1.95	0.47
1:A:981:LEU:CD2	1:A:993:ILE:HD11	2.43	0.47
1:B:326:ILE:CD1	1:B:552:LEU:HD11	2.43	0.47
1:B:805:ILE:HD13	1:B:1052:PHE:CD2	2.49	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:211:ASN:N	1:C:211:ASN:OD1	2.47	0.47
1:C:517:LEU:HD12	1:C:517:LEU:N	2.14	0.47
1:C:532:ASN:HD22	1:C:532:ASN:N	2.11	0.47
1:C:1004:LEU:HD23	1:C:1004:LEU:C	2.34	0.47
1:C:1083:HIS:HB2	1:C:1137:VAL:HG21	1.95	0.47
1:A:225:PRO:HG2	1:C:562:PHE:CG	2.50	0.47
1:A:472:ILE:HD12	1:A:472:ILE:N	2.30	0.47
1:A:954:GLN:HG2	1:A:1014:ARG:HH12	1.74	0.47
1:A:963:VAL:HG11	1:C:570:ALA:HB1	1.94	0.47
1:C:100:ILE:HG23	1:C:243:ALA:N	2.26	0.47
1:C:392:PHE:CD1	1:C:392:PHE:N	2.82	0.47
1:A:914:ASN:OD1	1:A:914:ASN:N	2.45	0.47
1:B:97:LYS:HB2	1:B:186:PHE:HA	1.97	0.47
1:B:719:THR:O	1:B:1068:VAL:HG22	2.15	0.47
1:B:962:LEU:O	1:B:965:GLN:HB2	2.15	0.47
1:B:973:ILE:HD11	1:B:984:LEU:HD11	1.97	0.47
1:B:1110:TYR:CD1	1:B:1111:GLU:N	2.83	0.47
1:C:555:SER:OG	1:C:585:LEU:N	2.46	0.47
1:C:773:GLU:OE2	1:C:1019:ARG:CD	2.55	0.47
1:C:922:LEU:HD12	1:C:922:LEU:C	2.34	0.47
1:C:1033:VAL:HG21	1:C:1062:PHE:HE1	1.77	0.47
1:A:105:ILE:O	1:A:238:PHE:HB2	2.15	0.47
1:A:617:CYS:CA	1:A:649:CYS:SG	2.94	0.47
1:A:719:THR:HG23	1:A:1070:ALA:HB2	1.97	0.47
4:A:1307:NAG:N2	4:A:1307:NAG:H5	2.28	0.47
1:B:643:PHE:CZ	1:B:655:HIS:CG	3.03	0.47
1:B:1101:HIS:HB3	1:B:1103:PHE:CE2	2.48	0.47
1:C:905:ARG:CD	1:C:1049:LEU:O	2.59	0.47
1:A:37:TYR:O	1:A:38:TYR:C	2.52	0.47
1:A:521:PRO:HG3	1:A:564:GLN:CG	2.44	0.47
1:A:600:PRO:HG2	1:A:674:TYR:HD1	1.78	0.47
1:B:549:THR:HG22	1:B:590:CYS:SG	2.55	0.47
1:B:1083:HIS:CE1	1:B:1136:THR:OG1	2.67	0.47
1:C:195:LYS:HD2	1:C:204:TYR:CE2	2.50	0.47
1:C:336:CYS:HB2	1:C:363:ALA:HB2	1.97	0.47
1:C:607:GLN:NE2	1:C:674:TYR:CE1	2.83	0.47
1:C:662:CYS:SG	1:C:697:MET:CE	3.03	0.47
1:A:128:ILE:HG22	1:A:129:LYS:H	1.64	0.47
1:A:231:ILE:CG2	1:A:233:ILE:H	2.17	0.47
1:A:318:PHE:CZ	1:A:620:VAL:CG2	2.98	0.47
1:A:453:TYR:OH	1:A:493:GLN:HG3	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:38:TYR:CE1	1:B:222:VAL:HG12	2.50	0.47
1:B:91:TYR:CE1	1:B:93:ALA:CB	2.81	0.47
1:B:641:ASN:HD22	1:B:654:GLU:CA	2.26	0.47
1:B:712:ILE:O	1:B:1074:ASN:HA	2.14	0.47
1:B:822:LEU:HD13	1:B:938:LEU:HD13	1.97	0.47
1:C:37:TYR:HB3	1:C:223:LEU:CG	2.45	0.47
1:C:105:ILE:HD13	1:C:239:GLN:HB3	1.96	0.47
1:A:515:PHE:N	1:A:515:PHE:CD1	2.79	0.47
1:A:555:SER:O	1:A:584:ILE:CD1	2.63	0.47
1:B:89:GLY:CA	1:B:270:LEU:HD13	2.45	0.47
1:B:728:PRO:HB3	1:B:951:VAL:HG21	1.97	0.47
1:C:92:PHE:CD1	1:C:92:PHE:C	2.88	0.47
1:C:309:GLU:O	1:C:313:TYR:OH	2.21	0.47
1:C:326:ILE:HD13	1:C:534:VAL:HG12	1.96	0.47
1:C:615:VAL:HG23	1:C:649:CYS:H	1.80	0.47
1:C:741:TYR:CD1	1:C:966:LEU:HD21	2.44	0.47
1:A:353:TRP:CE2	1:A:466:ARG:CD	2.98	0.47
1:A:541:PHE:O	1:A:541:PHE:CD1	2.68	0.47
1:A:781:VAL:HG11	1:A:1060:VAL:HG21	1.97	0.47
1:A:1031:GLU:OE2	1:A:1042:PHE:CE2	2.68	0.47
1:C:99:ASN:N	1:C:99:ASN:ND2	2.62	0.47
1:C:707:TYR:C	1:C:707:TYR:CD1	2.88	0.47
1:C:1080:ALA:C	1:C:1132:ILE:HG13	2.34	0.47
1:A:97:LYS:HB2	1:A:186:PHE:HA	1.97	0.47
1:A:280:ASN:HD22	1:A:286:THR:HG21	1.80	0.47
1:C:55:PHE:C	1:C:270:LEU:HB3	2.34	0.47
1:C:541:PHE:C	1:C:541:PHE:CD1	2.87	0.47
1:C:724:THR:OG1	1:C:934:ILE:HD13	2.15	0.47
1:C:916:LEU:HD12	1:C:923:ILE:HD12	1.96	0.47
1:C:921:LYS:HE2	1:C:921:LYS:CA	2.22	0.47
1:A:90:VAL:HG13	1:A:194:PHE:CA	2.45	0.46
1:A:92:PHE:C	1:A:92:PHE:CD1	2.88	0.46
1:A:353:TRP:HE1	1:A:466:ARG:HG3	1.80	0.46
1:B:324:GLU:HG3	1:B:539:VAL:CG2	2.44	0.46
1:B:794:ILE:HG22	1:B:796:ASP:H	1.80	0.46
1:B:888:PHE:CD1	1:B:888:PHE:C	2.88	0.46
1:C:216:LEU:HD12	1:C:216:LEU:O	2.15	0.46
1:C:902:MET:HB3	1:C:916:LEU:HD21	1.97	0.46
1:A:164:ASN:HD21	2:K:1:NAG:C6	2.28	0.46
1:A:457:ARG:NH1	1:A:460:ASN:O	2.48	0.46
1:A:546:LEU:HD23	1:A:565:PHE:CE1	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:984:LEU:HD23	1:A:984:LEU:HA	1.75	0.46
1:B:130:VAL:HG21	1:B:231:ILE:HD11	1.98	0.46
1:B:396:TYR:HB2	1:B:514:SER:HB3	1.96	0.46
1:B:715:PRO:CB	1:B:1071:GLN:O	2.64	0.46
1:B:866:THR:HG23	1:B:869:MET:H	1.79	0.46
1:C:326:ILE:HG21	1:C:534:VAL:CG1	2.40	0.46
1:A:33:THR:CB	1:A:58:PHE:CZ	2.96	0.46
1:A:203:ILE:CG2	1:A:227:VAL:HG22	2.46	0.46
1:A:675:GLN:O	1:A:693:ILE:HD11	2.15	0.46
1:A:896:ILE:HD12	1:A:897:PRO:HD2	1.97	0.46
1:B:101:ILE:HG13	1:B:242:LEU:HD13	1.97	0.46
1:B:130:VAL:HG21	1:B:231:ILE:HD13	1.96	0.46
1:B:130:VAL:CG2	1:B:231:ILE:HD13	2.44	0.46
1:B:1111:GLU:O	1:B:1111:GLU:HG3	2.13	0.46
1:C:902:MET:HB3	1:C:916:LEU:CD2	2.46	0.46
1:A:58:PHE:HB2	1:A:293:LEU:HD22	1.97	0.46
1:A:353:TRP:CD1	1:A:466:ARG:HG3	2.49	0.46
1:C:337:PRO:HB2	1:C:340:GLU:CG	2.45	0.46
1:C:588:THR:HG22	1:C:589:PRO:HD2	1.96	0.46
1:A:489:TYR:N	1:A:489:TYR:CD1	2.83	0.46
1:C:210:ILE:CD1	1:C:210:ILE:N	2.78	0.46
1:C:540:ASN:HA	1:C:549:THR:HG23	1.96	0.46
1:C:555:SER:OG	1:C:585:LEU:CA	2.63	0.46
1:C:660:TYR:N	1:C:695:TYR:CE2	2.79	0.46
1:C:1045:LYS:H	1:C:1066:THR:HG21	1.81	0.46
1:A:403:ARG:CD	1:A:495:TYR:CE1	2.95	0.46
1:A:555:SER:OG	1:A:557:LYS:HG3	2.16	0.46
1:B:270:LEU:HD12	1:B:270:LEU:N	2.25	0.46
1:B:718:PHE:CB	1:B:1067:TYR:OH	2.63	0.46
1:C:204:TYR:HD1	1:C:225:PRO:HA	1.80	0.46
1:C:414:GLN:HE21	1:C:414:GLN:CA	2.16	0.46
1:C:886:TRP:CD1	1:C:886:TRP:C	2.88	0.46
1:C:949:GLN:OE1	1:C:949:GLN:HA	2.16	0.46
1:C:1122:VAL:HG13	1:C:1122:VAL:O	2.15	0.46
2:L:2:NAG:O7	2:L:2:NAG:O3	2.32	0.46
1:A:64:TRP:CD1	1:A:266:TYR:CG	3.02	0.46
1:A:131:CYS:HB2	1:A:133:PHE:CE2	2.50	0.46
1:A:569:ILE:HG12	1:B:47:VAL:CG1	2.46	0.46
1:A:1047:TYR:O	1:A:1066:THR:HA	2.16	0.46
1:B:1090:PRO:CD	1:B:1095:PHE:CE1	2.92	0.46
1:B:1097:SER:HB3	1:B:1102:TRP:CG	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:31:SER:O	1:C:59:PHE:HA	2.15	0.46
1:C:168:PHE:CG	1:C:231:ILE:HG12	2.51	0.46
1:C:825:LYS:HZ3	1:C:942:ALA:N	2.14	0.46
1:C:826:VAL:HG12	1:C:826:VAL:O	2.16	0.46
1:A:91:TYR:CZ	1:A:93:ALA:HB2	2.50	0.46
1:A:328:ARG:HH22	1:A:533:LEU:CA	2.28	0.46
1:A:497:PHE:CE2	1:A:507:PRO:CB	2.70	0.46
1:A:707:TYR:CD1	1:A:707:TYR:C	2.89	0.46
1:A:825:LYS:HD2	1:A:938:LEU:O	2.16	0.46
1:B:1137:VAL:HG23	1:B:1137:VAL:O	2.15	0.46
1:C:241:LEU:N	1:C:241:LEU:HD12	2.31	0.46
1:C:317:ASN:OD1	1:C:317:ASN:N	2.49	0.46
1:C:661:GLU:H	1:C:661:GLU:CD	2.13	0.46
1:A:490:PHE:HE2	1:A:492:LEU:HB2	1.80	0.46
1:A:1096:VAL:HG23	1:A:1096:VAL:O	2.16	0.46
1:B:86:PHE:C	1:B:86:PHE:CD1	2.88	0.46
1:B:562:PHE:CE1	1:C:224:GLU:HG3	2.51	0.46
1:B:659:SER:CB	1:B:698:SER:HB3	2.46	0.46
1:C:315:THR:O	1:C:595:VAL:HB	2.15	0.46
1:C:1067:TYR:CD1	1:C:1067:TYR:C	2.88	0.46
1:A:86:PHE:CD1	1:A:86:PHE:C	2.89	0.46
1:A:866:THR:H	1:A:869:MET:HE3	1.81	0.46
1:A:931:ILE:O	1:A:934:ILE:HG22	2.15	0.46
1:B:107:GLY:N	1:B:235:ILE:HG23	2.29	0.46
1:B:599:THR:HG21	1:B:608:VAL:HG11	1.85	0.46
1:B:784:GLN:HE21	1:B:784:GLN:CA	2.05	0.46
1:B:1027:THR:O	1:B:1031:GLU:HB2	2.16	0.46
1:B:1031:GLU:OE2	1:B:1039:ARG:CD	2.60	0.46
1:B:1077:THR:CG2	1:C:900:MET:SD	3.04	0.46
1:C:168:PHE:CE1	1:C:231:ILE:HD11	2.50	0.46
1:C:220:PHE:CE2	1:C:287:ASP:C	2.85	0.46
1:A:328:ARG:NH2	1:A:533:LEU:N	2.64	0.45
1:A:620:VAL:CG2	1:A:621:PRO:HD3	2.42	0.45
1:A:650:LEU:HD23	1:A:653:ALA:HB3	1.98	0.45
1:B:356:LYS:N	1:B:397:ALA:O	2.44	0.45
1:B:884:SER:CB	1:B:893:ALA:HB1	2.46	0.45
1:C:119:ILE:CG2	1:C:127:VAL:O	2.48	0.45
1:C:318:PHE:CD1	1:C:318:PHE:C	2.89	0.45
1:C:350:VAL:CG1	1:C:422:ASN:HB2	2.45	0.45
1:C:434:ILE:HB	1:C:511:VAL:CG1	2.46	0.45
1:C:763:LEU:HD21	1:C:1005:GLN:HG2	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:986:PRO:O	1:C:990:GLU:HG2	2.16	0.45
1:C:1085:GLY:C	1:C:1126:CYS:SG	2.94	0.45
1:C:1098:ASN:OD1	1:C:1098:ASN:N	2.48	0.45
1:A:819:GLU:OE2	1:A:1054:GLN:OE1	2.34	0.45
1:A:1010:GLN:OE1	1:A:1010:GLN:HA	2.15	0.45
1:B:298:GLU:HG2	1:B:315:THR:HG23	1.88	0.45
1:B:726:ILE:CD1	1:B:1061:VAL:HG13	2.46	0.45
1:C:392:PHE:O	1:C:524:VAL:CB	2.52	0.45
1:C:395:VAL:HG21	1:C:524:VAL:CG1	2.24	0.45
1:C:643:PHE:CE1	1:C:655:HIS:HB3	2.51	0.45
1:A:422:ASN:HD21	1:A:454:ARG:H	1.64	0.45
1:A:791:THR:HG21	1:A:806:LEU:HD11	1.99	0.45
1:A:1002:GLN:HE21	1:A:1002:GLN:CA	2.27	0.45
1:B:131:CYS:HB2	1:B:133:PHE:CE2	2.51	0.45
1:B:805:ILE:CD1	1:B:1052:PHE:CD2	2.99	0.45
1:B:822:LEU:HD11	1:B:945:LEU:HD21	1.97	0.45
1:C:318:PHE:CD2	1:C:612:TYR:CD1	3.04	0.45
1:C:350:VAL:HG11	1:C:422:ASN:CB	2.45	0.45
1:C:360:ASN:N	1:C:360:ASN:ND2	2.64	0.45
1:C:1076:THR:OG1	1:C:1097:SER:OG	2.33	0.45
1:C:1087:ALA:O	1:C:1122:VAL:CG2	2.48	0.45
1:A:976:VAL:CG1	1:A:979:ASP:HB2	2.46	0.45
1:A:37:TYR:HD2	1:A:204:TYR:CE2	2.34	0.45
1:A:695:TYR:CD1	1:A:695:TYR:N	2.76	0.45
1:A:1067:TYR:C	1:A:1067:TYR:CD1	2.89	0.45
1:B:200:TYR:HB2	1:B:230:PRO:HA	1.96	0.45
1:C:220:PHE:CE1	1:C:288:ALA:CB	2.99	0.45
1:C:409:GLN:NE2	1:C:409:GLN:N	2.65	0.45
1:C:422:ASN:O	1:C:461:LEU:HD13	2.17	0.45
1:C:555:SER:OG	1:C:585:LEU:HA	2.16	0.45
1:A:357:ARG:NH1	1:A:357:ARG:CG	2.80	0.45
1:B:55:PHE:HB3	1:B:275:PHE:HE2	1.78	0.45
1:B:448:ASN:HB3	1:B:497:PHE:HB2	1.97	0.45
1:B:729:VAL:H	1:B:1059:GLY:HA2	1.82	0.45
1:B:961:THR:O	1:B:965:GLN:HG2	2.16	0.45
1:B:1081:ILE:CD1	1:B:1133:VAL:HG22	2.43	0.45
1:C:353:TRP:HD1	1:C:466:ARG:HD3	1.80	0.45
1:C:358:ILE:HG22	1:C:395:VAL:HB	1.99	0.45
1:C:490:PHE:CD2	1:C:491:PRO:HD2	2.51	0.45
1:A:107:GLY:H	1:A:235:ILE:HG21	1.61	0.45
1:A:201:PHE:CD1	1:A:201:PHE:C	2.90	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:210:ILE:HG12	1:A:217:PRO:HB3	1.99	0.45
1:A:572:THR:HG1	1:B:855:PHE:HZ	1.62	0.45
1:A:1078:ALA:CB	1:A:1102:TRP:HH2	2.29	0.45
1:B:613:GLN:O	1:B:647:ALA:O	2.34	0.45
1:C:68:ILE:HD12	1:C:262:ALA:HB2	1.98	0.45
1:C:230:PRO:CD	1:C:231:ILE:HD12	2.47	0.45
1:C:320:VAL:HG23	1:C:591:SER:HB2	1.99	0.45
1:C:1089:PHE:O	1:C:1120:THR:CG2	2.64	0.45
1:A:128:ILE:C	1:A:129:LYS:HG3	2.37	0.45
1:A:815:ARG:NH1	1:A:823:PHE:CE1	2.71	0.45
1:A:902:MET:CG	1:A:916:LEU:HD11	2.47	0.45
1:A:970:PHE:HD2	1:A:999:GLY:HA3	1.65	0.45
1:B:92:PHE:HE1	1:B:94:SER:HB3	1.82	0.45
1:C:97:LYS:HD3	1:C:97:LYS:O	2.17	0.45
1:C:659:SER:C	1:C:660:TYR:CD1	2.91	0.45
1:A:204:TYR:HD1	1:A:225:PRO:N	2.13	0.45
1:A:216:LEU:HD12	1:A:216:LEU:H	1.82	0.45
1:A:1043:CYS:SG	1:A:1064:HIS:HE1	2.40	0.45
1:B:265:TYR:HD1	1:B:265:TYR:H	1.64	0.45
1:B:800:PHE:HD2	1:B:927:PHE:CE2	2.34	0.45
1:C:186:PHE:O	1:C:211:ASN:CG	2.55	0.45
1:C:294:ASP:OD1	1:C:297:SER:CB	2.64	0.45
1:C:655:HIS:CD2	1:C:655:HIS:C	2.90	0.45
1:A:413:GLY:HA2	1:C:987:PRO:HG3	1.98	0.45
1:A:752:LEU:HD11	1:A:990:GLU:HG3	1.99	0.45
1:A:791:THR:HG23	1:A:792:PRO:HD2	1.99	0.45
1:A:794:ILE:HG22	1:A:796:ASP:H	1.82	0.45
1:B:612:TYR:CD2	1:B:620:VAL:HG11	2.52	0.45
1:B:805:ILE:HG21	1:B:878:LEU:CD2	2.47	0.45
1:B:1138:TYR:O	1:B:1139:ASP:C	2.50	0.45
1:C:480:CYS:HB3	1:C:483:VAL:HG12	1.99	0.45
1:C:734:THR:HG23	1:C:767:LEU:CD1	2.47	0.45
1:A:302:THR:HG21	1:A:315:THR:CA	2.46	0.44
1:A:675:GLN:NE2	1:A:675:GLN:CA	2.74	0.44
1:A:896:ILE:HG13	1:A:897:PRO:HD2	1.99	0.44
1:B:617:CYS:HA	1:B:649:CYS:SG	2.57	0.44
1:B:785:VAL:HG13	1:B:877:LEU:HD21	1.99	0.44
1:C:453:TYR:CZ	1:C:493:GLN:NE2	2.85	0.44
1:C:497:PHE:CD1	1:C:507:PRO:CG	3.00	0.44
1:C:666:ILE:O	1:C:666:ILE:HG22	2.16	0.44
1:C:718:PHE:CD1	1:C:718:PHE:C	2.90	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:1043:CYS:CB	1:C:1048:HIS:CD2	2.99	0.44
1:C:1116:THR:HA	1:C:1138:TYR:O	2.16	0.44
2:J:2:NAG:O7	2:J:2:NAG:O3	2.29	0.44
1:A:303:LEU:CD2	1:A:308:VAL:HG12	2.24	0.44
1:A:741:TYR:HE2	1:A:962:LEU:HG	1.79	0.44
1:B:90:VAL:HG11	1:B:238:PHE:CE2	2.52	0.44
1:B:92:PHE:CE2	1:B:265:TYR:HD2	2.28	0.44
1:B:743:CYS:C	1:B:749:CYS:SG	2.96	0.44
1:C:328:ARG:NH1	1:C:580:GLN:OE1	2.50	0.44
1:C:709:ASN:HD22	4:C:1304:NAG:C7	2.28	0.44
1:C:729:VAL:HG23	1:C:1059:GLY:CA	2.45	0.44
1:C:1097:SER:HB3	1:C:1102:TRP:CD2	2.53	0.44
1:A:563:GLN:CD	1:B:43:PHE:HB2	2.37	0.44
1:A:600:PRO:CG	1:A:674:TYR:CD1	3.00	0.44
1:A:718:PHE:CD1	1:A:718:PHE:C	2.91	0.44
1:A:800:PHE:HD2	1:A:927:PHE:CD2	2.33	0.44
1:B:190:ARG:HG2	1:B:207:HIS:CE1	2.52	0.44
1:B:296:LEU:HB2	1:B:608:VAL:HG21	2.00	0.44
1:B:588:THR:CG2	1:B:589:PRO:HD2	2.47	0.44
1:C:44:ARG:O	1:C:279:TYR:HB3	2.18	0.44
1:C:97:LYS:H	1:C:186:PHE:HD1	1.64	0.44
1:C:238:PHE:HZ	1:C:267:VAL:HG21	1.83	0.44
1:C:392:PHE:CE2	1:C:515:PHE:CD1	2.94	0.44
1:C:521:PRO:CG	1:C:564:GLN:HG3	2.47	0.44
1:C:660:TYR:O	1:C:695:TYR:CE2	2.64	0.44
1:C:807:PRO:CG	1:C:875:SER:HB2	2.48	0.44
1:C:984:LEU:HD12	1:C:984:LEU:HA	1.82	0.44
1:A:612:TYR:CB	1:A:615:VAL:CG2	2.95	0.44
1:A:743:CYS:SG	1:A:750:SER:HA	2.57	0.44
1:A:963:VAL:HG11	1:C:570:ALA:CB	2.48	0.44
1:C:497:PHE:CD1	1:C:507:PRO:CB	3.01	0.44
1:C:503:VAL:HG22	1:C:506:GLN:OE1	2.18	0.44
1:C:660:TYR:C	1:C:695:TYR:HE2	2.20	0.44
1:A:56:LEU:HD11	1:A:60:SER:HB3	2.00	0.44
1:A:331:ASN:ND2	4:A:1306:NAG:O7	2.51	0.44
1:A:660:TYR:O	1:A:695:TYR:CD2	2.70	0.44
1:A:864:LEU:HA	1:C:667:GLY:HA2	1.99	0.44
1:A:906:PHE:O	1:A:909:ILE:HG12	2.17	0.44
1:A:1028:LYS:HG2	1:A:1042:PHE:CE1	2.52	0.44
1:B:30:ASN:HA	1:B:61:ASN:HA	1.99	0.44
1:B:133:PHE:CE1	1:B:163:ALA:HB2	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:866:THR:O	1:B:869:MET:N	2.50	0.44
1:C:27:ALA:HB3	1:C:64:TRP:HB3	1.98	0.44
1:C:38:TYR:HE1	1:C:285:ILE:HG13	1.67	0.44
1:C:194:PHE:HE1	1:C:203:ILE:CD1	2.29	0.44
1:C:338:PHE:CD2	1:C:363:ALA:HB1	2.53	0.44
1:A:37:TYR:CD2	1:A:204:TYR:CE2	3.05	0.44
1:A:84:LEU:O	1:A:237:ARG:HB2	2.18	0.44
1:A:617:CYS:HG	1:A:644:GLN:CD	2.17	0.44
1:A:1024:LEU:O	1:A:1024:LEU:HD12	2.18	0.44
1:B:38:TYR:CE1	1:B:222:VAL:CG1	3.01	0.44
1:C:285:ILE:HG22	1:C:285:ILE:O	2.18	0.44
1:C:491:PRO:HG2	1:C:492:LEU:CD2	2.48	0.44
1:C:712:ILE:HD12	1:C:1094:VAL:HG11	1.87	0.44
1:A:56:LEU:HD12	1:A:57:PRO:CD	2.44	0.44
1:A:89:GLY:N	1:A:270:LEU:HB2	2.32	0.44
1:A:200:TYR:CE1	1:A:230:PRO:HB3	2.52	0.44
1:A:379:CYS:HB2	1:A:384:PRO:CD	2.29	0.44
1:A:600:PRO:HB3	1:A:674:TYR:HB2	1.99	0.44
1:A:716:THR:N	1:A:1071:GLN:O	2.46	0.44
1:B:91:TYR:O	1:B:91:TYR:CD1	2.70	0.44
1:B:309:GLU:HA	1:B:309:GLU:OE2	2.18	0.44
1:B:1080:ALA:C	1:B:1132:ILE:HG13	2.32	0.44
1:C:64:TRP:HD1	1:C:65:PHE:H	1.64	0.44
1:C:411:ALA:HA	1:C:425:LEU:CD1	2.48	0.44
1:C:472:ILE:CD1	1:C:482:GLY:N	2.75	0.44
1:C:1019:ARG:O	1:C:1023:ASN:OD1	2.35	0.44
1:A:332:ILE:HD12	1:A:332:ILE:N	2.33	0.44
1:A:564:GLN:OE1	1:A:564:GLN:HA	2.18	0.44
1:A:895:GLN:CD	1:C:713:ALA:HB2	2.36	0.44
1:B:553:THR:O	1:B:586:ASP:N	2.51	0.44
1:B:728:PRO:CB	1:B:951:VAL:HG21	2.48	0.44
1:B:1110:TYR:CD1	1:B:1110:TYR:C	2.90	0.44
1:C:107:GLY:C	1:C:235:ILE:HG23	2.37	0.44
1:C:659:SER:C	1:C:660:TYR:HD1	2.20	0.44
1:A:54:LEU:HD12	1:A:54:LEU:N	2.30	0.44
1:A:130:VAL:HG21	1:A:231:ILE:CD1	2.48	0.44
1:A:752:LEU:HD23	1:A:752:LEU:HA	1.81	0.44
1:A:874:THR:HG21	1:A:1055:SER:HB3	2.00	0.44
1:B:38:TYR:N	1:B:38:TYR:CD1	2.86	0.44
1:B:236:THR:O	1:B:236:THR:HG22	2.17	0.44
1:B:884:SER:OG	1:B:888:PHE:HB3	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:1097:SER:HB3	1:B:1102:TRP:CD2	2.53	0.44
1:C:318:PHE:CZ	1:C:615:VAL:HG12	2.50	0.44
1:C:472:ILE:CD1	1:C:482:GLY:CA	2.96	0.44
1:C:541:PHE:CZ	1:C:587:ILE:CD1	2.99	0.44
1:C:741:TYR:OH	1:C:962:LEU:CD1	2.64	0.44
1:A:741:TYR:CD1	1:A:741:TYR:C	2.91	0.43
1:B:67:ALA:HB3	1:B:263:ALA:HB3	1.99	0.43
1:B:955:ASN:HD22	1:B:955:ASN:HA	1.61	0.43
1:C:96:GLU:HB3	1:C:99:ASN:HA	2.00	0.43
1:C:320:VAL:HG21	1:C:619:GLU:CG	2.48	0.43
1:C:643:PHE:HZ	1:C:655:HIS:CE1	2.36	0.43
1:C:795:LYS:HB3	1:C:797:PHE:HE1	1.82	0.43
1:C:962:LEU:HD12	1:C:962:LEU:O	2.18	0.43
1:C:1142:GLN:HB3	1:C:1143:PRO:HD3	1.99	0.43
1:A:231:ILE:HG22	1:A:232:GLY:N	2.34	0.43
1:A:909:ILE:HD13	1:A:1049:LEU:HD21	2.00	0.43
1:B:615:VAL:O	1:B:649:CYS:HB2	2.19	0.43
1:C:591:SER:OG	1:C:619:GLU:HG2	2.18	0.43
1:A:29:THR:HG23	1:A:62:VAL:CG1	2.48	0.43
1:A:375:SER:OG	1:A:435:ALA:O	2.36	0.43
1:A:528:LYS:HD3	1:A:528:LYS:HA	1.85	0.43
1:A:620:VAL:CG2	1:A:621:PRO:HD2	2.34	0.43
1:B:215:ASP:N	1:B:215:ASP:OD1	2.51	0.43
1:B:1041:ASP:HB2	1:C:1030:SER:HB3	2.01	0.43
1:B:1134:ASN:ND2	2:M:1:NAG:O7	2.51	0.43
1:C:210:ILE:HB	1:C:212:LEU:HD22	1.96	0.43
1:C:853:GLN:CB	1:C:859:THR:HG22	2.49	0.43
1:C:1094:VAL:HG13	1:C:1094:VAL:O	2.18	0.43
1:A:141:LEU:HB2	1:A:241:LEU:HD11	2.00	0.43
1:A:967:SER:O	1:A:975:SER:HB2	2.19	0.43
1:A:992:GLN:NE2	1:A:992:GLN:CA	2.76	0.43
1:B:714:ILE:HG23	1:B:715:PRO:HD2	1.99	0.43
1:C:564:GLN:OE1	1:C:564:GLN:HA	2.19	0.43
1:C:1081:ILE:HD13	1:C:1133:VAL:HG22	1.98	0.43
1:A:133:PHE:CE1	1:A:163:ALA:HB2	2.54	0.43
1:A:322:PRO:CG	1:A:540:ASN:OD1	2.54	0.43
1:A:438:SER:HB2	1:A:442:ASP:HB2	2.00	0.43
1:B:218:GLN:NE2	1:B:218:GLN:O	2.52	0.43
1:B:462:LYS:HA	1:B:462:LYS:HD2	1.85	0.43
1:B:555:SER:OG	1:B:586:ASP:OD1	2.37	0.43
1:B:748:GLU:OE2	1:B:981:LEU:HD11	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:805:ILE:HG21	1:B:878:LEU:HD21	2.00	0.43
1:B:945:LEU:O	1:B:947:LYS:N	2.50	0.43
1:C:328:ARG:HG3	1:C:543:PHE:HE1	1.84	0.43
1:C:461:LEU:HD23	1:C:465:GLU:OE1	2.19	0.43
1:A:118:LEU:CD2	1:A:135:PHE:CE1	2.99	0.43
1:A:128:ILE:O	1:A:129:LYS:CG	2.66	0.43
1:A:409:GLN:NE2	1:A:418:ILE:HG22	2.33	0.43
1:B:126:VAL:HG13	1:B:175:PHE:HZ	1.83	0.43
1:B:785:VAL:HG12	1:B:888:PHE:HE1	1.83	0.43
1:C:245:HIS:HB3	1:C:259:THR:O	2.18	0.43
1:C:453:TYR:CE1	1:C:495:TYR:CD1	3.07	0.43
1:A:126:VAL:HG13	1:A:175:PHE:HZ	1.84	0.43
1:B:353:TRP:CZ3	1:B:423:TYR:HD1	2.37	0.43
1:B:819:GLU:OE2	1:B:1054:GLN:OE1	2.37	0.43
1:B:965:GLN:NE2	1:B:965:GLN:HA	2.34	0.43
1:C:101:ILE:N	1:C:101:ILE:CD1	2.82	0.43
1:C:1102:TRP:O	1:C:1115:ILE:HD13	2.16	0.43
1:C:1124:GLY:C	1:C:1125:ASN:HD22	2.22	0.43
1:A:201:PHE:HD1	1:A:201:PHE:C	2.22	0.43
1:B:108:THR:OG1	1:B:234:ASN:O	2.34	0.43
1:B:541:PHE:CD1	1:B:541:PHE:C	2.92	0.43
1:B:1078:ALA:N	1:B:1102:TRP:HH2	2.17	0.43
1:C:223:LEU:CD2	1:C:223:LEU:N	2.59	0.43
1:C:916:LEU:HD12	1:C:916:LEU:O	2.19	0.43
1:A:600:PRO:CD	1:A:692:ILE:HD11	2.43	0.43
1:A:1090:PRO:HD3	1:A:1095:PHE:CE1	2.54	0.43
1:A:1102:TRP:CB	1:A:1135:ASN:HD22	2.25	0.43
1:B:108:THR:HG22	1:B:109:THR:HG23	2.00	0.43
1:C:411:ALA:CA	1:C:425:LEU:CD1	2.95	0.43
1:C:577:ARG:HB2	1:C:584:ILE:CD1	2.48	0.43
1:C:959:LEU:HA	1:C:959:LEU:HD12	1.76	0.43
1:C:1042:PHE:HD2	1:C:1043:CYS:SG	2.42	0.43
1:A:128:ILE:HG23	1:A:129:LYS:H	1.81	0.43
1:A:560:LEU:N	1:A:560:LEU:CD1	2.82	0.43
1:A:1080:ALA:O	1:A:1132:ILE:CG1	2.57	0.43
1:B:38:TYR:H	1:B:38:TYR:HD1	1.66	0.43
1:B:674:TYR:HD1	1:B:692:ILE:HD13	1.83	0.43
1:B:785:VAL:HG12	1:B:888:PHE:CE1	2.54	0.43
1:B:1142:GLN:HE21	1:B:1142:GLN:CA	2.12	0.43
1:C:490:PHE:CD2	1:C:492:LEU:HB2	2.47	0.43
1:C:970:PHE:HD2	1:C:999:GLY:CA	1.98	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:31:SER:HB2	1:A:216:LEU:CD2	2.43	0.42
1:A:89:GLY:HA2	1:A:270:LEU:HD12	2.01	0.42
1:A:767:LEU:HD23	1:A:767:LEU:HA	1.79	0.42
1:A:1019:ARG:HG2	1:A:1019:ARG:HH11	1.84	0.42
1:B:529:LYS:HA	1:B:529:LYS:HE3	2.01	0.42
1:B:675:GLN:NE2	1:B:675:GLN:CA	2.74	0.42
1:C:738:CYS:HB3	1:C:1004:LEU:HD11	2.01	0.42
1:A:29:THR:HG23	1:A:62:VAL:HG13	2.01	0.42
1:A:66:HIS:CD2	1:A:68:ILE:HG21	2.52	0.42
1:A:349:SER:O	1:A:352:ALA:O	2.38	0.42
1:A:804:GLN:H	1:A:804:GLN:HG2	1.51	0.42
1:A:896:ILE:HD11	1:C:712:ILE:HD12	2.00	0.42
1:A:1095:PHE:HD2	1:A:1102:TRP:HE3	1.67	0.42
1:B:226:LEU:HD12	1:B:227:VAL:HG13	2.00	0.42
1:B:498:GLN:N	1:B:501:ASN:OD1	2.46	0.42
1:B:977:LEU:HA	1:B:980:ILE:HG22	2.01	0.42
1:C:335:LEU:HD22	1:C:335:LEU:N	2.34	0.42
1:C:860:VAL:HG23	1:C:860:VAL:O	2.19	0.42
2:K:2:NAG:O7	2:K:2:NAG:O3	2.37	0.42
1:A:280:ASN:HD22	1:A:286:THR:CG2	2.32	0.42
1:A:492:LEU:HD12	1:A:492:LEU:N	2.34	0.42
1:A:693:ILE:CD1	1:A:693:ILE:N	2.81	0.42
1:A:1097:SER:HB2	1:A:1102:TRP:CG	2.54	0.42
1:C:204:TYR:HD1	1:C:225:PRO:CA	2.32	0.42
1:C:948:LEU:HD21	1:C:1059:GLY:HA3	2.01	0.42
1:A:216:LEU:N	1:A:216:LEU:CD1	2.82	0.42
1:A:350:VAL:HG13	1:A:422:ASN:ND2	2.34	0.42
1:A:488:CYS:C	1:A:489:TYR:CD1	2.93	0.42
1:A:802:PHE:HE1	1:A:927:PHE:CZ	2.38	0.42
1:A:967:SER:O	1:A:975:SER:CB	2.67	0.42
1:B:118:LEU:CD2	1:B:135:PHE:CE1	2.99	0.42
1:B:1098:ASN:OD1	1:B:1098:ASN:N	2.51	0.42
1:C:128:ILE:HG22	1:C:129:LYS:H	1.55	0.42
1:C:192:PHE:HA	1:C:204:TYR:O	2.20	0.42
1:C:785:VAL:O	1:C:785:VAL:HG13	2.19	0.42
1:A:92:PHE:CE1	1:A:104:TRP:HZ2	2.37	0.42
1:B:855:PHE:CD1	1:B:855:PHE:C	2.91	0.42
1:C:100:ILE:CD1	1:C:243:ALA:HB3	2.50	0.42
1:C:328:ARG:NE	1:C:578:ASP:OD1	2.52	0.42
1:C:338:PHE:CE2	1:C:363:ALA:CB	3.02	0.42
1:C:658:ASN:ND2	1:C:660:TYR:OH	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:660:TYR:CB	1:C:695:TYR:CE2	2.97	0.42
1:A:25:PRO:HA	1:A:26:PRO:HD3	1.94	0.42
1:A:192:PHE:HA	1:A:204:TYR:O	2.20	0.42
1:A:426:PRO:HG3	1:A:463:PRO:HB2	2.02	0.42
1:A:472:ILE:HA	1:A:491:PRO:CD	2.49	0.42
1:B:128:ILE:HG23	1:B:129:LYS:H	1.81	0.42
1:C:314:GLN:HE21	1:C:314:GLN:HB2	1.73	0.42
1:C:882:ILE:HA	1:C:898:PHE:CE1	2.52	0.42
1:C:1096:VAL:O	1:C:1096:VAL:HG23	2.19	0.42
1:A:328:ARG:NH2	1:A:533:LEU:CA	2.83	0.42
1:A:347:PHE:CE2	1:A:399:SER:HB2	2.54	0.42
1:A:884:SER:O	1:A:884:SER:OG	2.38	0.42
1:A:1047:TYR:CD1	1:A:1047:TYR:N	2.79	0.42
1:B:88:ASP:OD1	1:B:88:ASP:N	2.53	0.42
1:B:354:ASN:O	1:B:398:ASP:HA	2.19	0.42
1:B:715:PRO:HG3	1:B:1069:PRO:HB3	2.01	0.42
1:B:1081:ILE:O	1:B:1088:HIS:CB	2.48	0.42
1:C:558:LYS:N	1:C:558:LYS:CD	2.82	0.42
1:C:782:PHE:CD2	1:C:870:ILE:HG23	2.54	0.42
1:A:266:TYR:HD1	1:A:266:TYR:H	1.68	0.42
1:A:426:PRO:HG3	1:A:463:PRO:CB	2.49	0.42
1:A:954:GLN:CG	1:A:1014:ARG:CZ	2.97	0.42
1:B:37:TYR:C	1:B:37:TYR:HD1	2.22	0.42
1:B:724:THR:CG2	1:B:1063:LEU:CD2	2.93	0.42
1:B:822:LEU:CD1	1:B:938:LEU:HD13	2.50	0.42
1:B:1078:ALA:HB3	1:B:1102:TRP:CH2	2.55	0.42
1:C:90:VAL:CA	1:C:270:LEU:CD1	2.98	0.42
1:C:168:PHE:CG	1:C:231:ILE:CG1	3.02	0.42
1:C:817:PHE:CD1	1:C:817:PHE:C	2.93	0.42
1:A:37:TYR:N	1:A:37:TYR:CD1	2.83	0.42
1:A:369:TYR:OH	1:A:384:PRO:CB	2.67	0.42
1:A:617:CYS:SG	1:A:644:GLN:CA	3.08	0.42
1:A:662:CYS:HA	1:A:695:TYR:OH	2.20	0.42
1:A:736:VAL:HG21	1:A:858:LEU:HD22	1.91	0.42
1:A:741:TYR:CZ	1:A:962:LEU:CD1	3.03	0.42
1:B:805:ILE:HG23	1:B:1054:GLN:NE2	2.34	0.42
1:C:43:PHE:O	1:C:43:PHE:CG	2.69	0.42
1:C:117:LEU:O	1:C:118:LEU:HB2	2.20	0.42
1:C:378:LYS:HG2	1:C:433:VAL:HG13	1.93	0.42
1:C:541:PHE:CD1	1:C:541:PHE:O	2.72	0.42
1:C:738:CYS:N	1:C:760:CYS:SG	2.92	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:821:LEU:CD2	1:C:939:SER:HB3	2.34	0.42
1:A:91:TYR:CD1	1:A:91:TYR:C	2.93	0.42
1:A:266:TYR:N	1:A:266:TYR:HD1	2.14	0.42
1:A:704:SER:HB2	1:B:790:LYS:HB2	2.01	0.42
1:B:17:ASN:O	1:B:255:SER:HA	2.20	0.42
1:B:806:LEU:HD22	1:B:807:PRO:HD2	2.02	0.42
1:B:868:GLU:OE1	1:B:868:GLU:HA	2.20	0.42
1:B:911:VAL:HG21	1:B:1067:TYR:CE2	2.55	0.42
1:B:1039:ARG:HB2	1:B:1042:PHE:HB2	2.02	0.42
1:C:99:ASN:N	1:C:99:ASN:HD22	2.17	0.42
1:C:290:ASP:O	1:C:297:SER:CB	2.59	0.42
1:C:358:ILE:CG2	1:C:395:VAL:HB	2.50	0.42
1:C:433:VAL:CG2	1:C:512:VAL:HG22	2.40	0.42
1:C:521:PRO:HD3	1:C:564:GLN:HG3	2.01	0.42
1:A:302:THR:HG21	1:A:315:THR:CB	2.50	0.41
1:A:336:CYS:HA	1:A:337:PRO:HD3	1.93	0.41
1:B:231:ILE:HG22	1:B:233:ILE:H	1.85	0.41
1:B:312:ILE:O	1:B:312:ILE:HG23	2.20	0.41
1:B:388:ASN:OD1	1:B:527:PRO:HG2	2.20	0.41
1:B:658:ASN:HB2	1:B:660:TYR:HE1	1.85	0.41
1:C:326:ILE:HA	1:C:531:THR:HG21	2.02	0.41
1:C:327:VAL:H	1:C:531:THR:HG22	1.85	0.41
1:C:660:TYR:N	1:C:695:TYR:HE2	2.16	0.41
1:A:90:VAL:CG1	1:A:194:PHE:CA	2.98	0.41
1:A:269:TYR:N	1:A:269:TYR:CD1	2.88	0.41
1:A:671:CYS:HB2	1:A:695:TYR:CZ	2.55	0.41
1:A:1090:PRO:HD3	1:A:1095:PHE:CD1	2.54	0.41
1:B:48:LEU:HB3	1:B:276:LEU:HD21	2.02	0.41
1:C:317:ASN:HA	1:C:593:GLY:O	2.20	0.41
1:C:317:ASN:CA	1:C:593:GLY:O	2.68	0.41
1:C:806:LEU:HA	1:C:806:LEU:HD23	1.82	0.41
1:A:103:GLY:H	1:A:241:LEU:HB3	1.85	0.41
1:A:106:PHE:HB3	1:A:235:ILE:HG21	2.02	0.41
1:A:216:LEU:H	1:A:216:LEU:CD1	2.34	0.41
1:A:309:GLU:H	1:A:309:GLU:CD	2.18	0.41
1:A:350:VAL:HG11	1:A:418:ILE:HD11	2.02	0.41
1:A:1043:CYS:CA	1:A:1064:HIS:HE1	2.27	0.41
1:B:560:LEU:CB	1:B:562:PHE:CE1	3.03	0.41
1:B:577:ARG:HE	1:B:584:ILE:HD11	1.85	0.41
1:C:337:PRO:HB2	1:C:340:GLU:HG2	2.02	0.41
1:C:513:LEU:HD12	1:C:513:LEU:HA	1.75	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:521:PRO:CG	1:A:564:GLN:HG2	2.49	0.41
1:A:878:LEU:HD23	1:A:878:LEU:C	2.40	0.41
1:B:334:ASN:O	1:B:362:VAL:HB	2.20	0.41
1:B:383:SER:H	1:B:386:LYS:HZ3	1.68	0.41
1:B:1095:PHE:HZ	1:B:1120:THR:CG2	2.20	0.41
1:C:108:THR:OG1	1:C:234:ASN:O	2.39	0.41
1:C:313:TYR:CD1	1:C:313:TYR:N	2.88	0.41
1:C:1086:LYS:HE2	1:C:1122:VAL:HG21	2.02	0.41
1:A:17:ASN:O	1:A:255:SER:HA	2.20	0.41
1:A:556:ASN:O	1:A:557:LYS:C	2.59	0.41
1:A:886:TRP:O	1:A:886:TRP:CE3	2.73	0.41
1:A:1004:LEU:HD23	1:A:1004:LEU:HA	1.75	0.41
1:B:107:GLY:CA	1:B:235:ILE:HG12	2.49	0.41
1:B:350:VAL:HG13	1:B:422:ASN:ND2	2.35	0.41
1:B:410:ILE:HG23	1:B:425:LEU:HD11	2.03	0.41
1:B:945:LEU:HD22	1:B:948:LEU:HD12	2.02	0.41
1:C:349:SER:OG	1:C:451:TYR:HA	2.20	0.41
1:C:352:ALA:HB2	1:C:468:ILE:HG22	1.99	0.41
1:C:380:TYR:CE2	1:C:412:PRO:HG3	2.55	0.41
1:C:612:TYR:HB3	1:C:615:VAL:CG1	2.30	0.41
1:C:751:ASN:N	1:C:751:ASN:HD22	2.18	0.41
1:C:1103:PHE:HA	1:C:1115:ILE:HD11	2.02	0.41
1:A:48:LEU:N	1:A:48:LEU:CD1	2.84	0.41
1:A:230:PRO:HG2	1:C:357:ARG:CZ	2.51	0.41
1:A:743:CYS:O	1:A:977:LEU:HD21	2.21	0.41
1:A:864:LEU:CD1	1:C:665:PRO:HB2	2.49	0.41
1:A:917:TYR:CZ	1:C:1079:PRO:HB3	2.56	0.41
1:B:185:ASN:HB2	1:B:213:VAL:HG21	2.03	0.41
1:B:417:LYS:O	1:B:421:TYR:HB2	2.20	0.41
1:B:453:TYR:CE2	1:B:493:GLN:HB2	2.55	0.41
1:C:32:PHE:HB3	1:C:59:PHE:CE2	2.54	0.41
1:C:37:TYR:HA	1:C:223:LEU:HG	2.03	0.41
1:C:312:ILE:HD11	1:C:596:SER:HB3	2.01	0.41
1:C:312:ILE:O	1:C:312:ILE:HG23	2.21	0.41
1:C:534:VAL:HG13	1:C:539:VAL:HG21	2.00	0.41
1:C:1144:GLU:OE1	1:C:1144:GLU:HA	2.20	0.41
1:A:117:LEU:O	1:A:118:LEU:HB2	2.20	0.41
1:A:319:ARG:HB3	1:A:319:ARG:HH21	1.84	0.41
1:A:357:ARG:CD	1:A:396:TYR:HE1	2.34	0.41
1:A:670:ILE:CG2	1:A:694:ALA:HB1	2.51	0.41
1:B:275:PHE:CE1	1:B:290:ASP:CA	3.00	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:900:MET:HA	1:B:917:TYR:OH	2.20	0.41
1:C:490:PHE:HE2	1:C:492:LEU:CD2	2.30	0.41
1:C:655:HIS:CD2	1:C:655:HIS:O	2.73	0.41
1:C:1083:HIS:CG	1:C:1137:VAL:HB	2.56	0.41
1:A:141:LEU:H	1:A:241:LEU:HD11	1.85	0.41
1:A:403:ARG:HB2	1:A:406:GLU:OE1	2.20	0.41
1:A:726:ILE:HG12	1:A:1061:VAL:HG22	2.03	0.41
1:A:795:LYS:HE2	1:A:795:LYS:HA	2.02	0.41
1:A:805:ILE:HB	1:A:878:LEU:HD11	2.03	0.41
1:A:1007:TYR:CE1	1:A:1011:GLN:OE1	2.74	0.41
1:B:34:ARG:NH1	1:B:189:LEU:HD21	2.34	0.41
1:B:91:TYR:CD1	1:B:91:TYR:C	2.93	0.41
1:B:289:VAL:CG2	1:B:306:PHE:CE2	3.01	0.41
1:B:712:ILE:CG1	1:B:713:ALA:N	2.84	0.41
1:B:718:PHE:CG	1:B:718:PHE:O	2.73	0.41
1:B:726:ILE:HD12	1:B:1061:VAL:CG2	2.41	0.41
1:B:763:LEU:HD23	1:B:763:LEU:HA	1.95	0.41
1:C:226:LEU:O	1:C:226:LEU:HD12	2.21	0.41
1:C:320:VAL:CG2	1:C:619:GLU:HG3	2.51	0.41
1:C:452:LEU:CD2	1:C:492:LEU:HD12	2.51	0.41
1:C:856:ASN:HD22	1:C:856:ASN:HA	1.70	0.41
1:A:384:PRO:HA	1:A:387:LEU:CD1	2.51	0.41
1:A:536:ASN:N	1:A:536:ASN:ND2	2.68	0.41
1:A:597:VAL:HG23	1:A:597:VAL:O	2.21	0.41
1:A:822:LEU:HD13	1:A:1061:VAL:HG21	2.02	0.41
4:A:1307:NAG:O5	4:A:1307:NAG:H83	2.21	0.41
1:B:381:GLY:HA3	1:B:430:THR:HG23	2.01	0.41
1:B:574:ASP:O	1:B:587:ILE:N	2.54	0.41
1:B:715:PRO:HG2	1:B:1108:ASN:O	2.19	0.41
1:B:813:SER:O	1:B:813:SER:OG	2.37	0.41
1:B:976:VAL:HG12	1:B:979:ASP:H	1.86	0.41
1:C:68:ILE:HD12	1:C:262:ALA:HA	2.01	0.41
1:C:105:ILE:CD1	1:C:239:GLN:O	2.68	0.41
1:C:203:ILE:HG21	1:C:203:ILE:HD13	1.85	0.41
1:C:358:ILE:O	1:C:358:ILE:HG23	2.21	0.41
1:C:927:PHE:HZ	1:C:1052:PHE:CE2	2.38	0.41
1:C:931:ILE:CA	1:C:934:ILE:HG22	2.51	0.41
1:A:326:ILE:HG21	1:A:534:VAL:CG2	2.45	0.41
1:A:541:PHE:HB2	1:A:543:PHE:HE1	1.84	0.41
1:A:1048:HIS:O	1:A:1048:HIS:CG	2.73	0.41
1:A:1085:GLY:HA2	1:A:1126:CYS:SG	2.61	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:866:THR:O	1:B:867:ASP:C	2.59	0.41
1:B:1102:TRP:CZ2	1:B:1133:VAL:HG11	2.56	0.41
1:C:472:ILE:CD1	1:C:482:GLY:HA2	2.50	0.41
1:C:715:PRO:CA	1:C:1071:GLN:O	2.63	0.41
1:C:882:ILE:HG22	1:C:898:PHE:CE1	2.55	0.41
1:A:559:PHE:CZ	1:B:43:PHE:HD2	2.39	0.40
1:A:560:LEU:HD22	1:A:563:GLN:NE2	2.37	0.40
1:A:927:PHE:CE1	1:A:931:ILE:CG1	3.04	0.40
1:A:1084:ASP:OD2	1:A:1086:LYS:NZ	2.54	0.40
1:B:212:LEU:HD13	1:B:213:VAL:N	2.36	0.40
1:B:661:GLU:OE1	1:B:661:GLU:HA	2.21	0.40
1:B:817:PHE:CD1	1:B:817:PHE:C	2.94	0.40
1:B:937:SER:O	1:B:941:THR:OG1	2.36	0.40
1:C:105:ILE:CB	1:C:118:LEU:HD13	2.50	0.40
1:C:393:THR:HG21	1:C:522:ALA:HB2	1.98	0.40
1:C:752:LEU:HD21	1:C:990:GLU:OE1	2.21	0.40
1:C:754:LEU:HD23	1:C:754:LEU:C	2.41	0.40
1:A:280:ASN:ND2	1:A:286:THR:CG2	2.83	0.40
1:A:881:THR:O	1:A:885:GLY:N	2.55	0.40
1:A:922:LEU:HG	1:A:926:GLN:HE21	1.86	0.40
1:A:927:PHE:C	1:A:927:PHE:CD1	2.94	0.40
1:B:365:TYR:O	1:B:368:LEU:HB2	2.21	0.40
1:B:695:TYR:CD1	1:B:695:TYR:O	2.75	0.40
1:C:342:PHE:HE1	1:C:511:VAL:CG1	2.18	0.40
1:C:601:GLY:O	1:C:605:SER:O	2.39	0.40
1:A:731:MET:HG2	1:A:774:GLN:OE1	2.20	0.40
1:A:976:VAL:CG1	1:A:979:ASP:HB3	2.34	0.40
1:B:659:SER:HB2	1:B:698:SER:HB3	2.03	0.40
1:B:712:ILE:CD1	1:C:896:ILE:HD12	2.51	0.40
1:B:822:LEU:HD21	1:B:1061:VAL:CG2	2.33	0.40
1:C:497:PHE:CD1	1:C:507:PRO:HB3	2.55	0.40
1:A:405:ASP:OD1	1:A:405:ASP:N	2.53	0.40
1:A:1019:ARG:HG2	1:A:1019:ARG:NH1	2.36	0.40
1:A:1029:MET:HE2	1:A:1033:VAL:HG21	2.04	0.40
1:A:1085:GLY:CA	1:A:1126:CYS:SG	3.10	0.40
4:A:1307:NAG:N2	4:A:1307:NAG:C5	2.84	0.40
1:B:560:LEU:HB2	1:B:562:PHE:CE1	2.56	0.40
1:B:612:TYR:O	1:B:648:GLY:HA3	2.21	0.40
1:B:736:VAL:HG13	1:B:858:LEU:CD2	2.45	0.40
1:C:480:CYS:CA	1:C:483:VAL:HG12	2.51	0.40
1:C:520:ALA:HB1	1:C:521:PRO:HD2	2.03	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:560:LEU:CB	1:C:562:PHE:CE1	3.04	0.40
1:C:1004:LEU:C	1:C:1004:LEU:CD2	2.90	0.40
1:A:131:CYS:HG	1:A:166:CYS:CB	2.33	0.40
1:C:37:TYR:CD2	1:C:204:TYR:CD2	3.09	0.40
1:C:102:ARG:O	1:C:104:TRP:CZ3	2.74	0.40
1:C:269:TYR:N	1:C:269:TYR:HD1	2.19	0.40
1:C:718:PHE:CE1	1:C:923:ILE:HG12	2.56	0.40
1:C:782:PHE:CZ	1:C:1060:VAL:HB	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	1060/1250 (85%)	1001 (94%)	52 (5%)	7 (1%)	19	47
1	B	1035/1250 (83%)	986 (95%)	45 (4%)	4 (0%)	30	60
1	C	1064/1250 (85%)	1015 (95%)	48 (4%)	1 (0%)	48	78
All	All	3159/3750 (84%)	3002 (95%)	145 (5%)	12 (0%)	32	60

All (12) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	620	VAL
1	B	946	GLY
1	A	347	PHE
1	A	501	ASN
1	A	643	PHE
1	B	646	ARG
1	A	337	PRO
1	A	1053	PRO
1	C	665	PRO

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Mol	Chain	Res	Type
1	B	1112	PRO
1	A	1112	PRO
1	B	728	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	933/1090 (86%)	874 (94%)	59 (6%)	15	40
1	B	915/1090 (84%)	870 (95%)	45 (5%)	21	48
1	C	929/1090 (85%)	864 (93%)	65 (7%)	12	37
All	All	2777/3270 (85%)	2608 (94%)	169 (6%)	18	40

All (169) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	32	PHE
1	A	37	TYR
1	A	43	PHE
1	A	64	TRP
1	A	86	PHE
1	A	88	ASP
1	A	117	LEU
1	A	201	PHE
1	A	211	ASN
1	A	220	PHE
1	A	227	VAL
1	A	235	ILE
1	A	238	PHE
1	A	240	THR
1	A	266	TYR
1	A	301	CYS
1	A	304	LYS
1	A	318	PHE
1	A	335	LEU

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Mol	Chain	Res	Type
1	A	345	THR
1	A	353	TRP
1	A	382	VAL
1	A	515	PHE
1	A	536	ASN
1	A	544	ASN
1	A	546	LEU
1	A	552	LEU
1	A	556	ASN
1	A	559	PHE
1	A	602	THR
1	A	607	GLN
1	A	611	LEU
1	A	642	VAL
1	A	643	PHE
1	A	650	LEU
1	A	654	GLU
1	A	661	GLU
1	A	693	ILE
1	A	695	TYR
1	A	696	THR
1	A	709	ASN
1	A	738	CYS
1	A	751	ASN
1	A	760	CYS
1	A	804	GLN
1	A	927	PHE
1	A	954	GLN
1	A	959	LEU
1	A	1019	ARG
1	A	1034	LEU
1	A	1048	HIS
1	A	1067	TYR
1	A	1072	GLU
1	A	1103	PHE
1	A	1106	GLN
1	A	1107	ARG
1	A	1115	ILE
1	A	1121	PHE
1	A	1127	ASP
1	B	37	TYR
1	B	43	PHE

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Mol	Chain	Res	Type
1	B	86	PHE
1	B	88	ASP
1	B	164	ASN
1	B	198	ASP
1	B	212	LEU
1	B	215	ASP
1	B	216	LEU
1	B	218	GLN
1	B	220	PHE
1	B	226	LEU
1	B	234	ASN
1	B	238	PHE
1	B	265	TYR
1	B	270	LEU
1	B	291	CYS
1	B	301	CYS
1	B	318	PHE
1	B	328	ARG
1	B	335	LEU
1	B	546	LEU
1	B	553	THR
1	B	613	GLN
1	B	617	CYS
1	B	620	VAL
1	B	658	ASN
1	B	674	TYR
1	B	695	TYR
1	B	737	ASP
1	B	740	MET
1	B	747	THR
1	B	784	GLN
1	B	820	ASP
1	B	888	PHE
1	B	895	GLN
1	B	941	THR
1	B	950	ASP
1	B	955	ASN
1	B	959	LEU
1	B	1065	VAL
1	B	1088	HIS
1	B	1116	THR
1	B	1127	ASP

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Mol	Chain	Res	Type
1	B	1134	ASN
1	C	32	PHE
1	C	43	PHE
1	C	48	LEU
1	C	51	THR
1	C	55	PHE
1	C	87	ASN
1	C	88	ASP
1	C	96	GLU
1	C	99	ASN
1	C	104	TRP
1	C	105	ILE
1	C	171	VAL
1	C	201	PHE
1	C	210	ILE
1	C	212	LEU
1	C	213	VAL
1	C	216	LEU
1	C	220	PHE
1	C	223	LEU
1	C	226	LEU
1	C	266	TYR
1	C	269	TYR
1	C	270	LEU
1	C	314	GLN
1	C	317	ASN
1	C	334	ASN
1	C	340	GLU
1	C	345	THR
1	C	353	TRP
1	C	365	TYR
1	C	388	ASN
1	C	392	PHE
1	C	409	GLN
1	C	445	VAL
1	C	461	LEU
1	C	483	VAL
1	C	515	PHE
1	C	517	LEU
1	C	531	THR
1	C	546	LEU
1	C	556	ASN

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Mol	Chain	Res	Type
1	C	559	PHE
1	C	585	LEU
1	C	611	LEU
1	C	618	THR
1	C	655	HIS
1	C	660	TYR
1	C	671	CYS
1	C	709	ASN
1	C	736	VAL
1	C	786	LYS
1	C	861	LEU
1	C	896	ILE
1	C	902	MET
1	C	916	LEU
1	C	922	LEU
1	C	934	ILE
1	C	981	LEU
1	C	1083	HIS
1	C	1092	GLU
1	C	1098	ASN
1	C	1101	HIS
1	C	1134	ASN
1	C	1135	ASN
1	C	1139	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (69) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	66	HIS
1	A	164	ASN
1	A	211	ASN
1	A	317	ASN
1	A	321	GLN
1	A	409	GLN
1	A	501	ASN
1	A	536	ASN
1	A	580	GLN
1	A	613	GLN
1	A	641	ASN
1	A	675	GLN
1	A	751	ASN
1	A	755	GLN

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Mol	Chain	Res	Type
1	A	764	ASN
1	A	779	GLN
1	A	901	GLN
1	A	926	GLN
1	A	954	GLN
1	A	955	ASN
1	A	965	GLN
1	A	978	ASN
1	A	992	GLN
1	A	1002	GLN
1	A	1108	ASN
1	B	165	ASN
1	B	207	HIS
1	B	211	ASN
1	B	218	GLN
1	B	314	GLN
1	B	317	ASN
1	B	360	ASN
1	B	422	ASN
1	B	564	GLN
1	B	606	ASN
1	B	675	GLN
1	B	784	GLN
1	B	913	GLN
1	B	955	ASN
1	B	965	GLN
1	B	1011	GLN
1	B	1036	GLN
1	B	1083	HIS
1	B	1119	ASN
1	B	1142	GLN
1	C	99	ASN
1	C	165	ASN
1	C	185	ASN
1	C	207	HIS
1	C	314	GLN
1	C	343	ASN
1	C	360	ASN
1	C	388	ASN
1	C	394	ASN
1	C	409	GLN
1	C	414	GLN

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Mol	Chain	Res	Type
1	C	493	GLN
1	C	532	ASN
1	C	544	ASN
1	C	607	GLN
1	C	644	GLN
1	C	751	ASN
1	C	779	GLN
1	C	824	ASN
1	C	856	ASN
1	C	901	GLN
1	C	1002	GLN
1	C	1088	HIS
1	C	1125	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

22 monosaccharides are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
2	NAG	E	1	1,2	14,14,15	0.96	1 (7%)	17,19,21	2.33	4 (23%)
2	NAG	E	2	2	14,14,15	0.75	0	17,19,21	1.10	2 (11%)
2	NAG	G	1	1,2	14,14,15	1.02	1 (7%)	17,19,21	1.89	4 (23%)
2	NAG	G	2	2	14,14,15	0.76	1 (7%)	17,19,21	1.09	2 (11%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
2	NAG	I	1	1,2	14,14,15	1.12	2 (14%)	17,19,21	2.23	6 (35%)
2	NAG	I	2	2	14,14,15	0.89	1 (7%)	17,19,21	1.68	3 (17%)
2	NAG	J	1	1,2	14,14,15	0.76	0	17,19,21	1.08	1 (5%)
2	NAG	J	2	2	14,14,15	0.73	0	17,19,21	1.66	4 (23%)
2	NAG	K	1	1,2	14,14,15	0.66	0	17,19,21	1.33	2 (11%)
2	NAG	K	2	2	14,14,15	0.91	0	17,19,21	1.79	4 (23%)
2	NAG	L	1	1,2	14,14,15	0.69	0	17,19,21	1.26	1 (5%)
2	NAG	L	2	2	14,14,15	0.72	1 (7%)	17,19,21	1.54	3 (17%)
2	NAG	M	1	1,2	14,14,15	0.61	0	17,19,21	1.26	2 (11%)
2	NAG	M	2	2	14,14,15	0.28	0	17,19,21	0.63	0
2	NAG	N	1	1,2	14,14,15	1.24	2 (14%)	17,19,21	2.14	5 (29%)
2	NAG	N	2	2	14,14,15	0.24	0	17,19,21	0.78	0
2	NAG	O	1	1,2	14,14,15	2.10	4 (28%)	17,19,21	3.85	8 (47%)
2	NAG	O	2	2	14,14,15	0.86	1 (7%)	17,19,21	1.72	3 (17%)
2	NAG	P	1	1,2	14,14,15	1.12	1 (7%)	17,19,21	2.26	6 (35%)
2	NAG	P	2	2	14,14,15	0.93	0	17,19,21	1.66	2 (11%)
3	NDG	Q	1	3	14,14,15	1.17	2 (14%)	17,19,21	2.12	6 (35%)
3	NAG	Q	2	3	14,14,15	0.90	2 (14%)	17,19,21	1.82	3 (17%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NAG	E	1	1,2	-	0/6/23/26	0/1/1/1
2	NAG	E	2	2	-	2/6/23/26	0/1/1/1
2	NAG	G	1	1,2	-	0/6/23/26	0/1/1/1
2	NAG	G	2	2	-	2/6/23/26	0/1/1/1
2	NAG	I	1	1,2	-	0/6/23/26	0/1/1/1
2	NAG	I	2	2	-	1/6/23/26	0/1/1/1
2	NAG	J	1	1,2	-	0/6/23/26	0/1/1/1
2	NAG	J	2	2	-	2/6/23/26	0/1/1/1
2	NAG	K	1	1,2	-	0/6/23/26	0/1/1/1
2	NAG	K	2	2	-	2/6/23/26	0/1/1/1
2	NAG	L	1	1,2	-	0/6/23/26	0/1/1/1
2	NAG	L	2	2	-	2/6/23/26	0/1/1/1
2	NAG	M	1	1,2	-	1/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	NAG	M	2	2	-	0/6/23/26	0/1/1/1
2	NAG	N	1	1,2	-	0/6/23/26	0/1/1/1
2	NAG	N	2	2	-	2/6/23/26	0/1/1/1
2	NAG	O	1	1,2	-	3/6/23/26	0/1/1/1
2	NAG	O	2	2	-	3/6/23/26	0/1/1/1
2	NAG	P	1	1,2	-	0/6/23/26	0/1/1/1
2	NAG	P	2	2	-	1/6/23/26	0/1/1/1
3	NDG	Q	1	3	-	0/6/23/26	0/1/1/1
3	NAG	Q	2	3	-	1/6/23/26	0/1/1/1

All (19) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	O	1	NAG	C2-N2	-5.83	1.36	1.46
2	N	1	NAG	C2-N2	-3.29	1.40	1.46
2	N	1	NAG	C8-C7	-2.86	1.44	1.50
2	I	2	NAG	C8-C7	-2.85	1.44	1.50
3	Q	1	NDG	C2-N2	-2.57	1.41	1.46
2	O	2	NAG	C8-C7	-2.49	1.45	1.50
2	I	1	NAG	C8-C7	-2.48	1.45	1.50
2	G	2	NAG	O5-C1	-2.48	1.39	1.43
2	P	1	NAG	C2-N2	-2.48	1.42	1.46
2	O	1	NAG	C8-C7	-2.40	1.45	1.50
2	I	1	NAG	C2-N2	-2.38	1.42	1.46
3	Q	2	NAG	C8-C7	-2.28	1.45	1.50
3	Q	1	NDG	C8-C7	-2.24	1.45	1.50
2	E	1	NAG	O5-C1	-2.15	1.40	1.43
2	O	1	NAG	C3-C2	-2.10	1.48	1.52
3	Q	2	NAG	C2-N2	-2.09	1.42	1.46
2	G	1	NAG	C2-N2	-2.07	1.42	1.46
2	L	2	NAG	C8-C7	-2.07	1.46	1.50
2	O	1	NAG	O5-C1	-2.02	1.40	1.43

All (71) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	O	1	NAG	O7-C7-N2	9.64	139.67	121.95
2	E	1	NAG	C1-O5-C5	-7.86	101.54	112.19
2	O	1	NAG	C8-C7-N2	-6.85	104.50	116.10
2	O	1	NAG	C1-O5-C5	6.30	120.72	112.19
2	N	1	NAG	C8-C7-N2	-6.07	105.83	116.10

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	I	1	NAG	C8-C7-N2	-5.77	106.33	116.10
2	O	1	NAG	O3-C3-C4	-5.37	97.94	110.35
3	Q	1	NDG	C8-C7-N2	-5.31	107.10	116.10
2	P	2	NAG	C1-O5-C5	5.26	119.32	112.19
3	Q	2	NAG	C8-C7-N2	-5.13	107.42	116.10
2	P	1	NAG	O5-C1-C2	-5.06	103.30	111.29
2	P	1	NAG	C1-O5-C5	5.04	119.02	112.19
2	K	2	NAG	C8-C7-N2	-4.54	108.41	116.10
2	J	2	NAG	C2-N2-C7	-4.44	116.58	122.90
2	I	1	NAG	C1-C2-N2	-4.41	102.96	110.49
2	I	2	NAG	C2-N2-C7	-4.15	116.99	122.90
3	Q	1	NDG	C1-C2-N2	-3.90	103.82	110.49
2	K	1	NAG	C1-O5-C5	3.89	117.46	112.19
2	L	2	NAG	C2-N2-C7	-3.72	117.61	122.90
2	G	1	NAG	C1-C2-N2	-3.71	104.14	110.49
2	G	1	NAG	C8-C7-N2	-3.64	109.93	116.10
3	Q	2	NAG	O7-C7-N2	3.63	128.63	121.95
2	N	1	NAG	O7-C7-N2	3.58	128.54	121.95
2	E	1	NAG	O5-C1-C2	3.53	116.86	111.29
2	O	2	NAG	C2-N2-C7	-3.48	117.95	122.90
2	I	2	NAG	O7-C7-N2	3.37	128.15	121.95
2	I	2	NAG	C8-C7-N2	-3.37	110.40	116.10
2	O	1	NAG	O7-C7-C8	-3.35	115.83	122.06
2	P	1	NAG	C8-C7-N2	-3.29	110.53	116.10
2	G	1	NAG	C3-C4-C5	3.28	116.09	110.24
2	L	2	NAG	O7-C7-N2	3.12	127.69	121.95
2	O	1	NAG	C2-N2-C7	3.11	127.33	122.90
2	K	2	NAG	O7-C7-N2	3.04	127.55	121.95
2	K	2	NAG	C1-O5-C5	3.02	116.28	112.19
3	Q	2	NAG	C2-N2-C7	-3.02	118.61	122.90
2	I	1	NAG	O7-C7-C8	3.01	127.66	122.06
2	G	1	NAG	C1-O5-C5	2.99	116.24	112.19
2	I	1	NAG	O5-C5-C6	-2.96	102.57	107.20
2	L	2	NAG	C8-C7-N2	-2.92	111.16	116.10
3	Q	1	NDG	O5-C1-C2	-2.90	106.70	111.29
2	N	1	NAG	O5-C1-C2	-2.89	106.73	111.29
2	O	1	NAG	C1-C2-N2	-2.86	105.60	110.49
2	P	1	NAG	C1-C2-N2	-2.85	105.62	110.49
2	M	1	NAG	C4-C3-C2	-2.81	106.90	111.02
2	M	1	NAG	C1-O5-C5	-2.77	108.43	112.19
3	Q	1	NDG	O7-C7-N2	2.73	126.97	121.95
2	K	2	NAG	C2-N2-C7	-2.69	119.07	122.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	O	2	NAG	C4-C3-C2	2.63	114.87	111.02
2	P	1	NAG	O7-C7-N2	2.59	126.70	121.95
2	J	2	NAG	O7-C7-N2	2.57	126.68	121.95
2	E	2	NAG	C2-N2-C7	-2.57	119.25	122.90
2	E	1	NAG	C2-N2-C7	2.56	126.55	122.90
2	J	2	NAG	C1-O5-C5	2.52	115.60	112.19
2	G	2	NAG	C1-O5-C5	2.49	115.56	112.19
2	P	2	NAG	C1-C2-N2	-2.48	106.26	110.49
2	P	1	NAG	C4-C3-C2	-2.41	107.48	111.02
2	K	1	NAG	C4-C3-C2	2.38	114.51	111.02
2	E	2	NAG	C1-C2-N2	-2.35	106.48	110.49
2	O	1	NAG	O4-C4-C3	-2.33	104.96	110.35
2	N	1	NAG	C1-O5-C5	2.29	115.30	112.19
2	G	2	NAG	C2-N2-C7	-2.22	119.75	122.90
2	N	1	NAG	C2-N2-C7	-2.19	119.78	122.90
2	E	1	NAG	C1-C2-N2	-2.13	106.86	110.49
2	J	1	NAG	C8-C7-N2	-2.11	112.52	116.10
3	Q	1	NDG	C3-C4-C5	2.08	113.95	110.24
2	I	1	NAG	O7-C7-N2	2.08	125.77	121.95
2	L	1	NAG	O5-C1-C2	-2.08	108.01	111.29
2	J	2	NAG	O7-C7-C8	-2.08	118.20	122.06
3	Q	1	NDG	O7-C7-C8	2.07	125.90	122.06
2	O	2	NAG	C3-C4-C5	2.05	113.89	110.24
2	I	1	NAG	C3-C4-C5	2.02	113.85	110.24

There are no chirality outliers.

All (22) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
2	O	1	NAG	C3-C2-N2-C7
2	O	2	NAG	C1-C2-N2-C7
2	J	2	NAG	C1-C2-N2-C7
2	L	2	NAG	C1-C2-N2-C7
2	G	2	NAG	C1-C2-N2-C7
2	I	2	NAG	C1-C2-N2-C7
2	E	2	NAG	C1-C2-N2-C7
2	M	1	NAG	C3-C2-N2-C7
2	N	2	NAG	C1-C2-N2-C7
2	K	2	NAG	C1-C2-N2-C7
2	P	2	NAG	C1-C2-N2-C7
3	Q	2	NAG	C1-C2-N2-C7
2	J	2	NAG	C3-C2-N2-C7

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Mol	Chain	Res	Type	Atoms
2	L	2	NAG	C3-C2-N2-C7
2	O	2	NAG	C3-C2-N2-C7
2	O	1	NAG	O5-C5-C6-O6
2	O	1	NAG	C4-C5-C6-O6
2	E	2	NAG	C3-C2-N2-C7
2	K	2	NAG	C3-C2-N2-C7
2	G	2	NAG	C3-C2-N2-C7
2	N	2	NAG	C3-C2-N2-C7
2	O	2	NAG	O5-C5-C6-O6

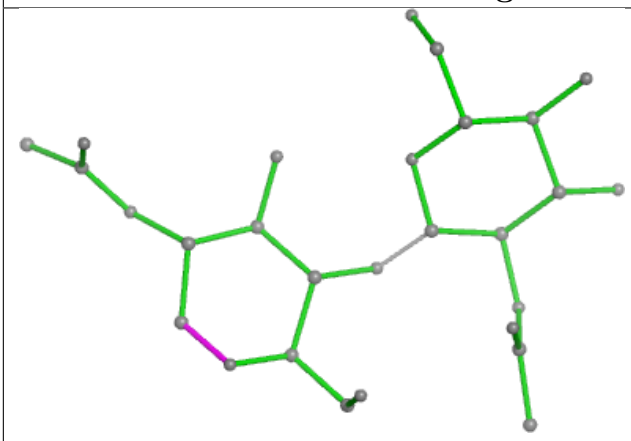
There are no ring outliers.

9 monomers are involved in 17 short contacts:

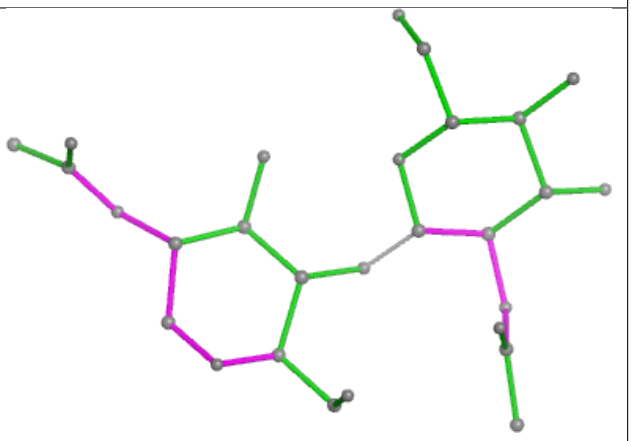
Mol	Chain	Res	Type	Clashes	Symm-Clashes
2	O	1	NAG	1	0
2	P	1	NAG	2	0
3	Q	1	NDG	2	0
2	O	2	NAG	2	0
2	K	2	NAG	1	0
2	L	2	NAG	1	0
2	J	2	NAG	4	0
2	M	1	NAG	1	0
2	K	1	NAG	3	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.

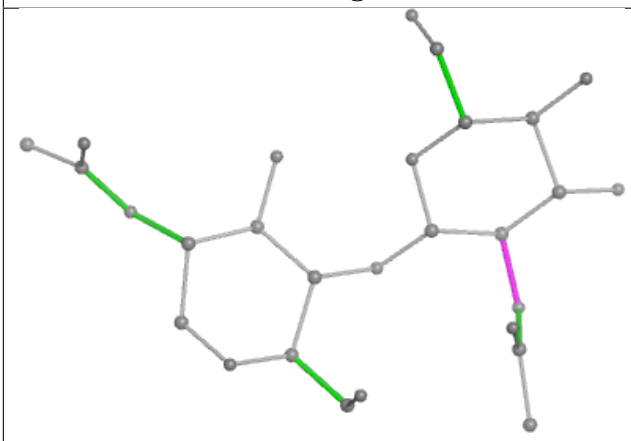
Oligosaccharide Chain E



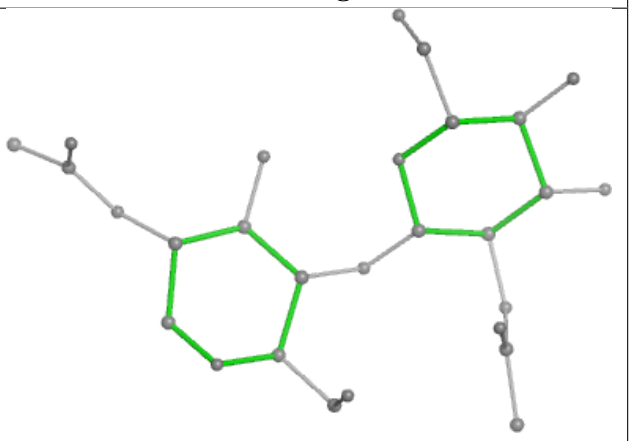
Bond lengths



Bond angles

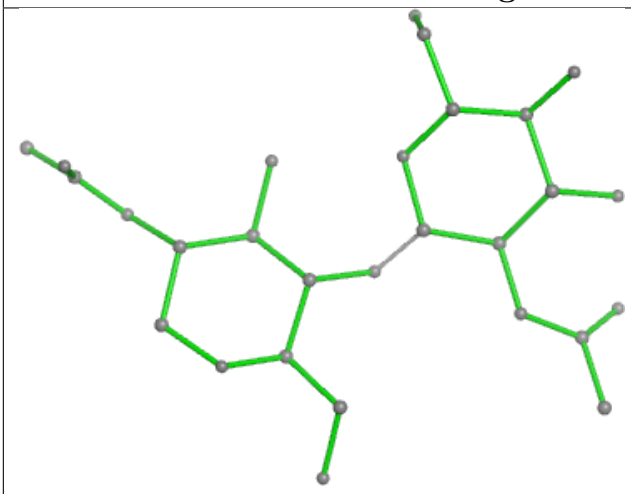


Torsions

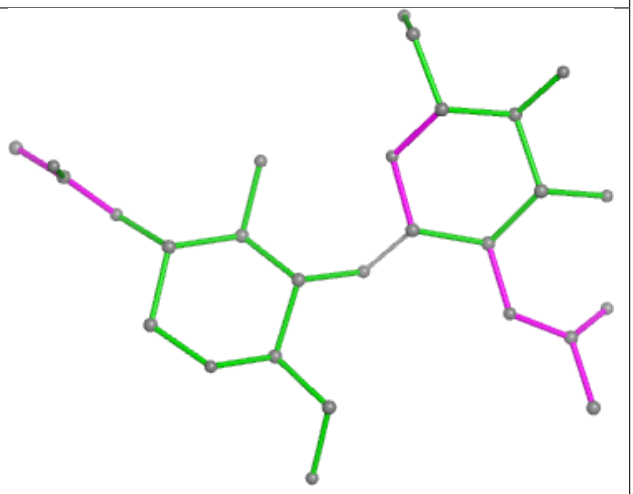


Rings

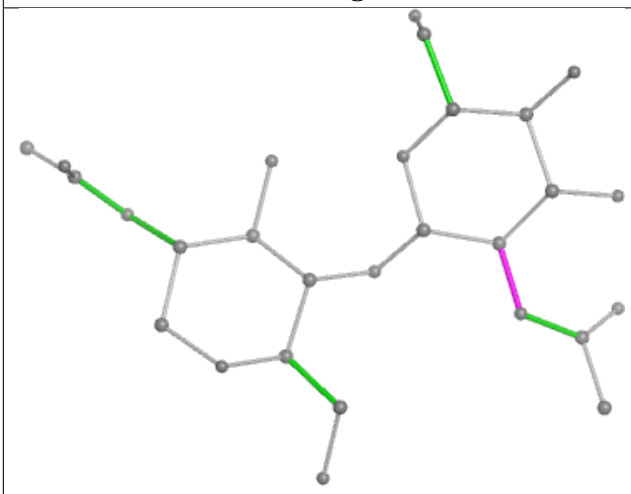
Oligosaccharide Chain J



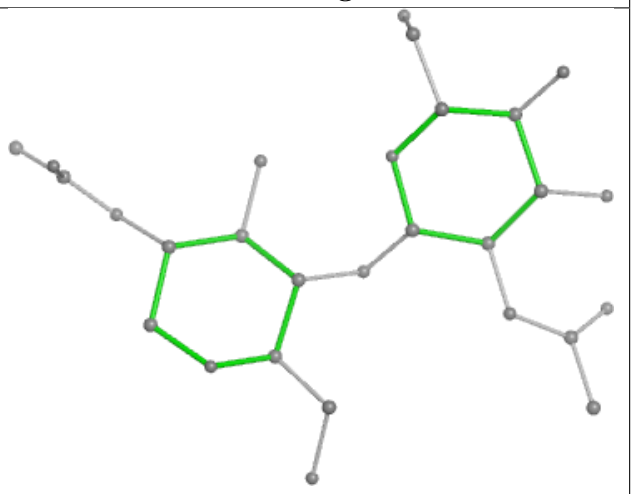
Bond lengths



Bond angles

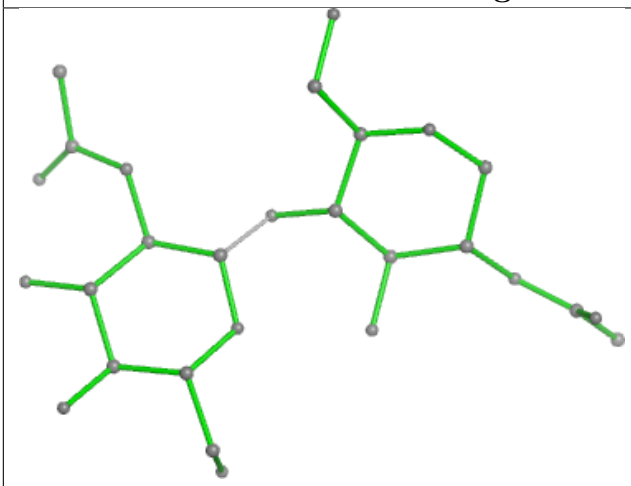


Torsions

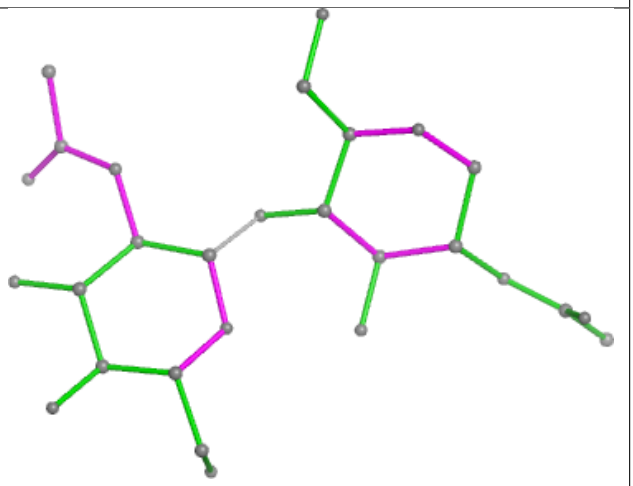


Rings

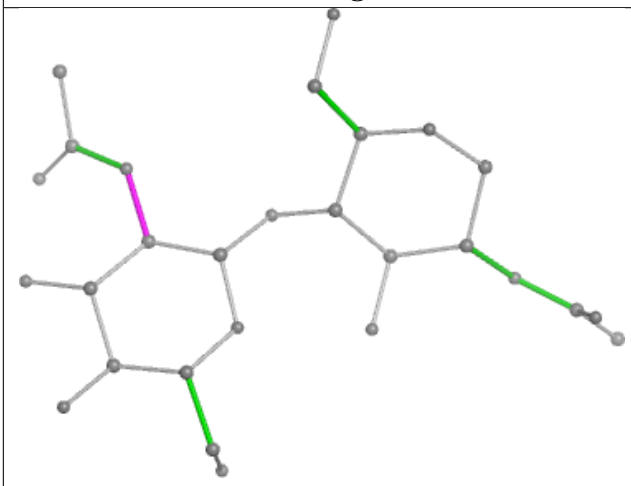
Oligosaccharide Chain K



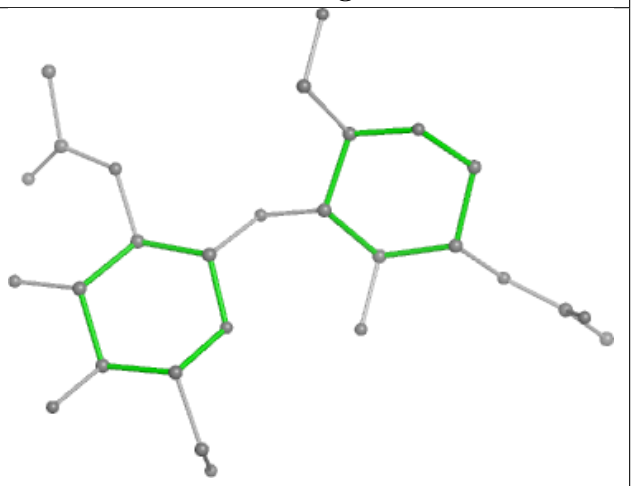
Bond lengths



Bond angles

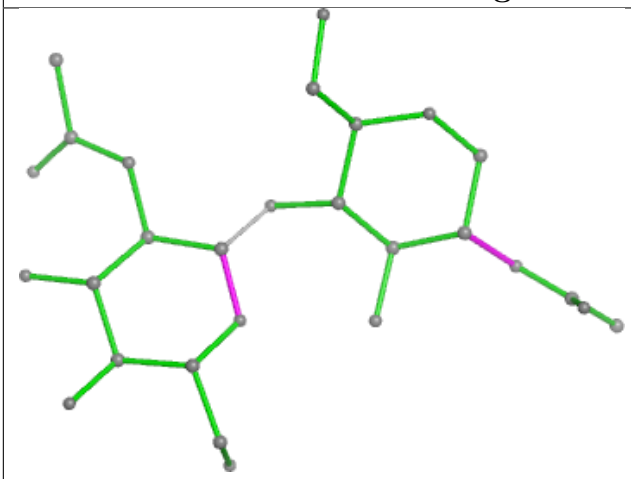


Torsions

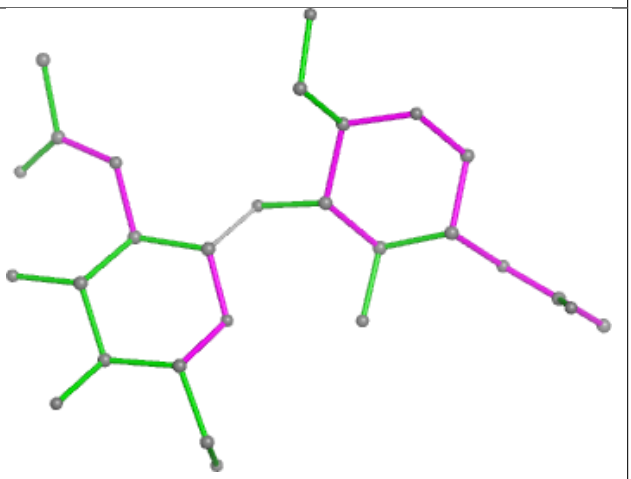


Rings

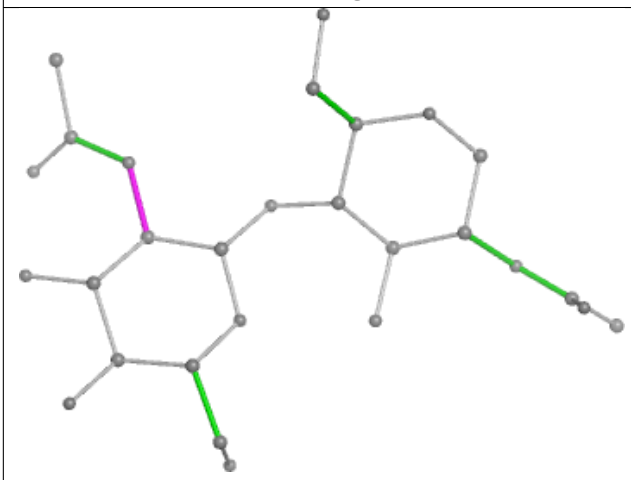
Oligosaccharide Chain G



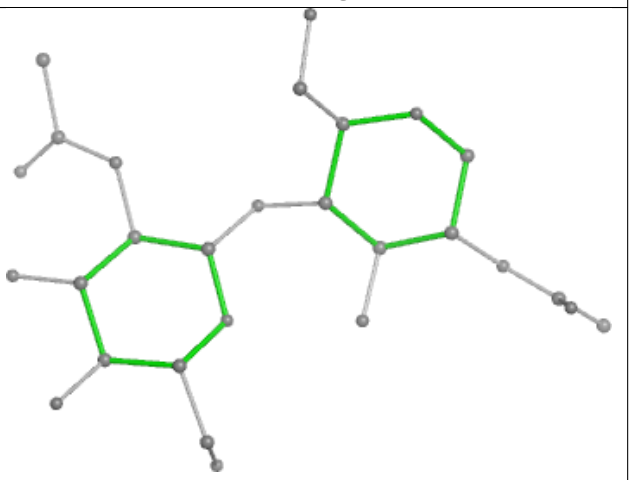
Bond lengths



Bond angles

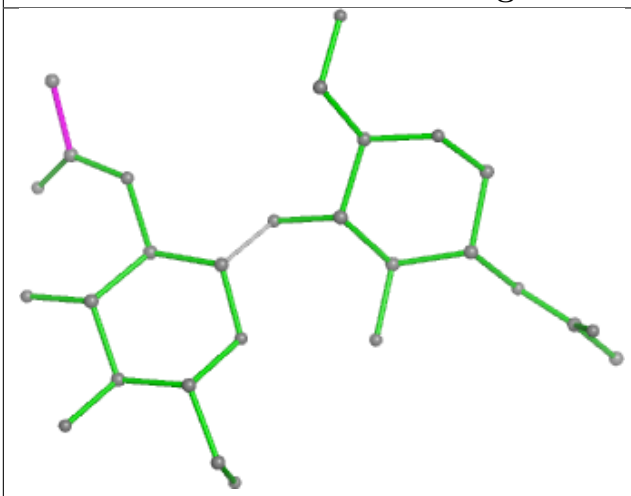


Torsions

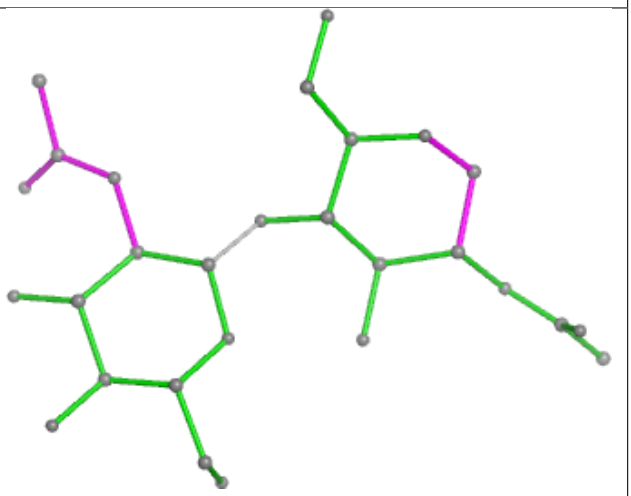


Rings

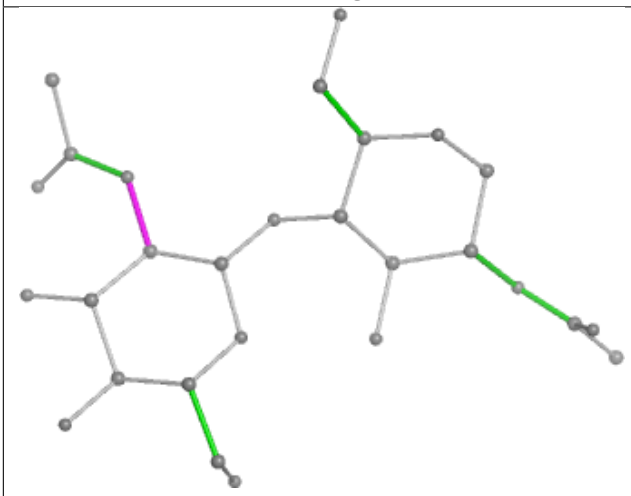
Oligosaccharide Chain L



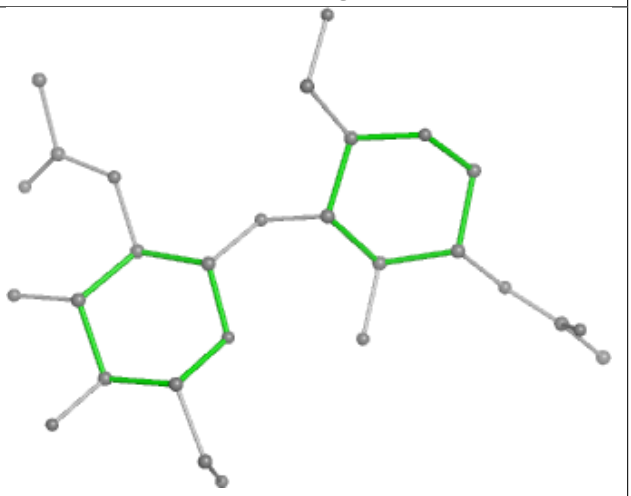
Bond lengths



Bond angles

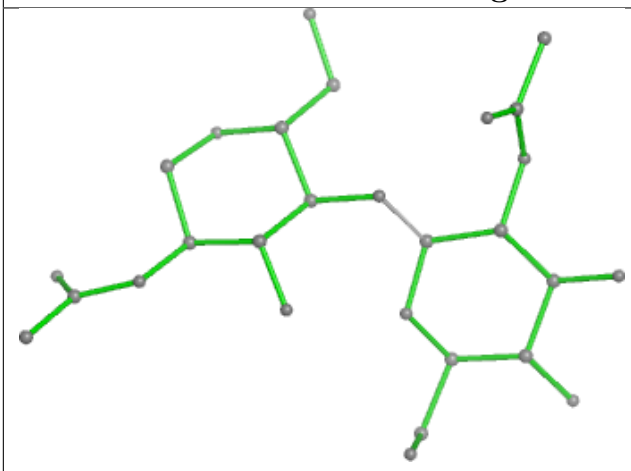


Torsions

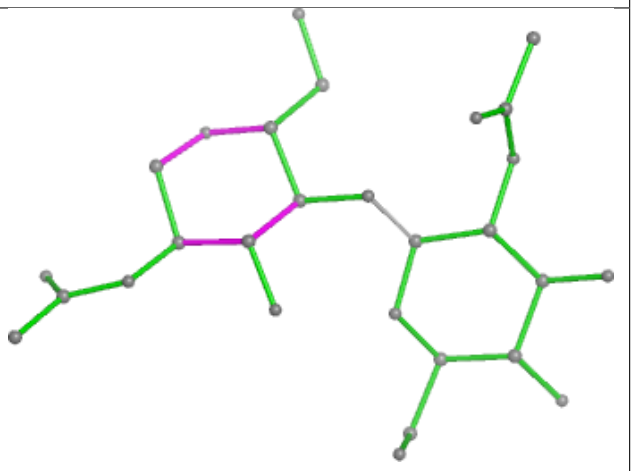


Rings

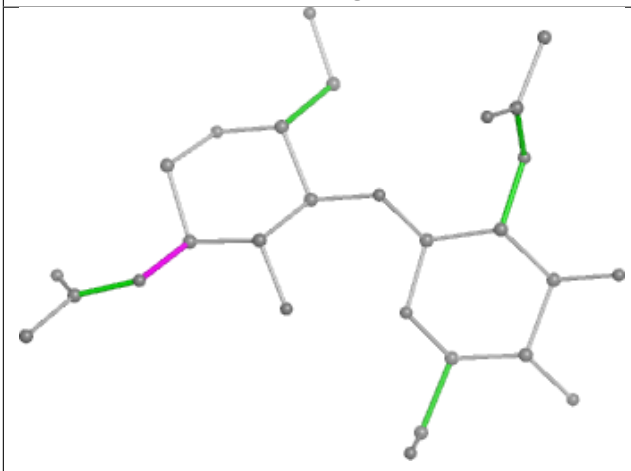
Oligosaccharide Chain M



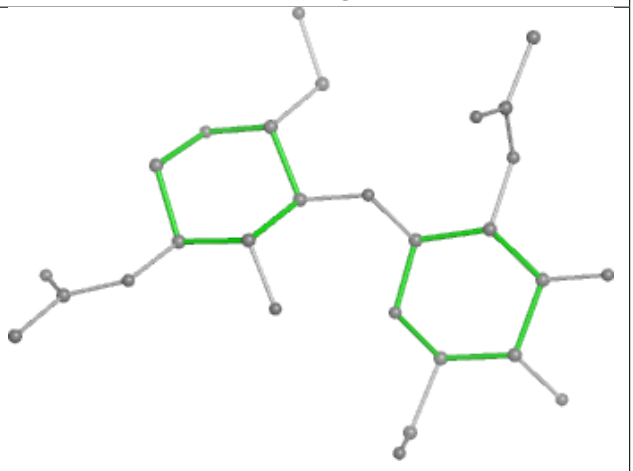
Bond lengths



Bond angles

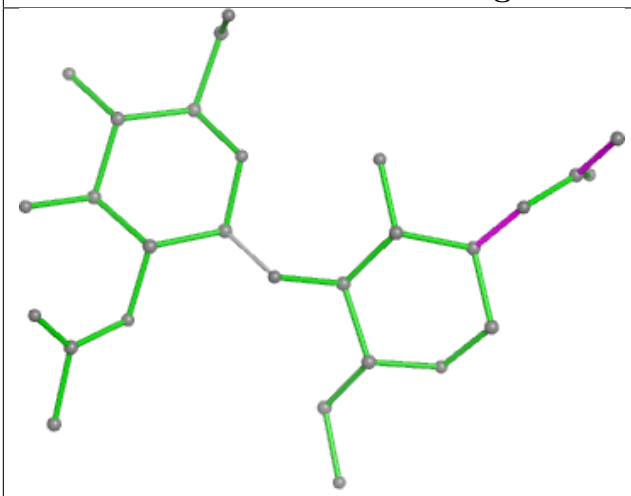


Torsions

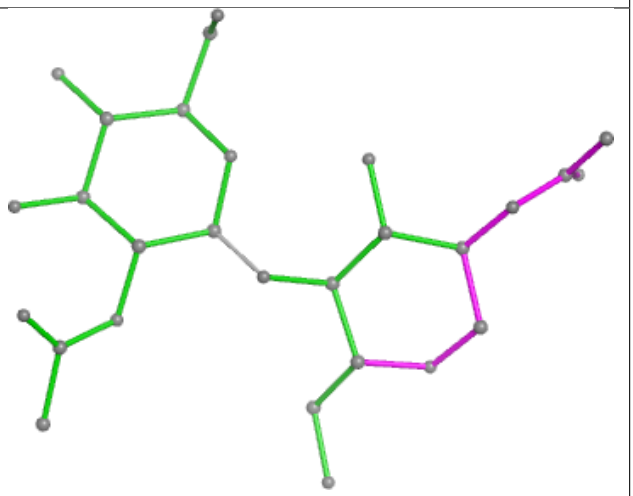


Rings

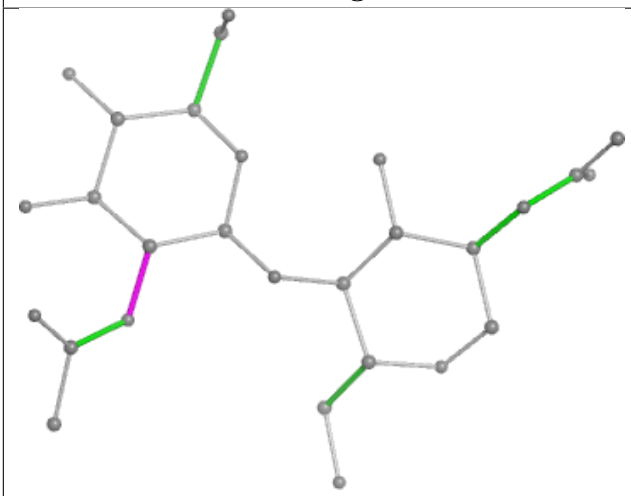
Oligosaccharide Chain N



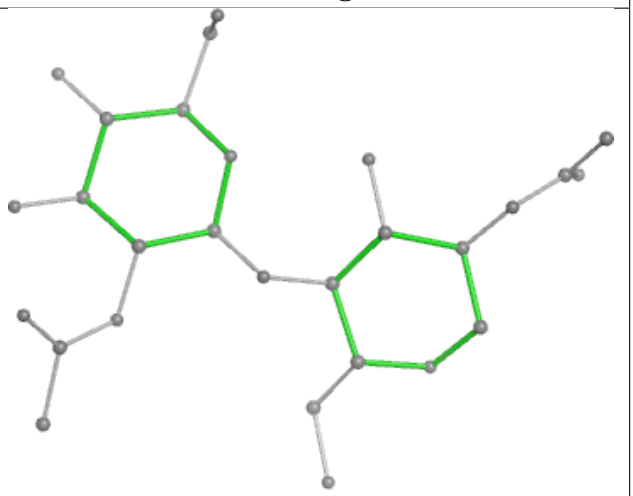
Bond lengths



Bond angles

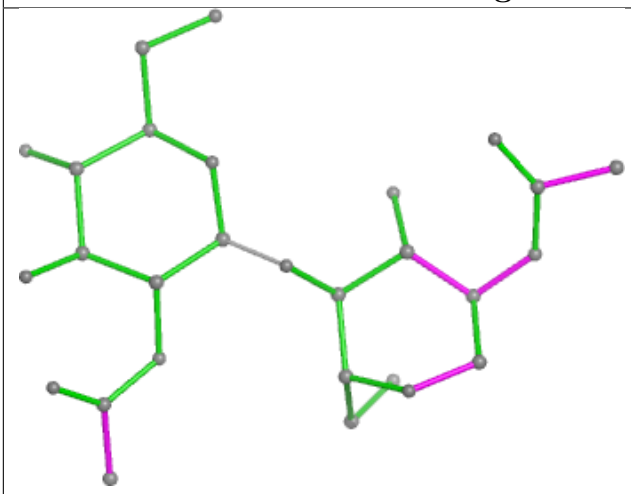


Torsions

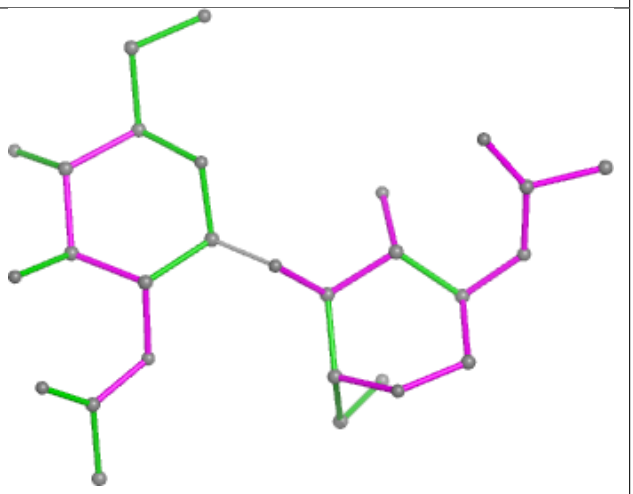


Rings

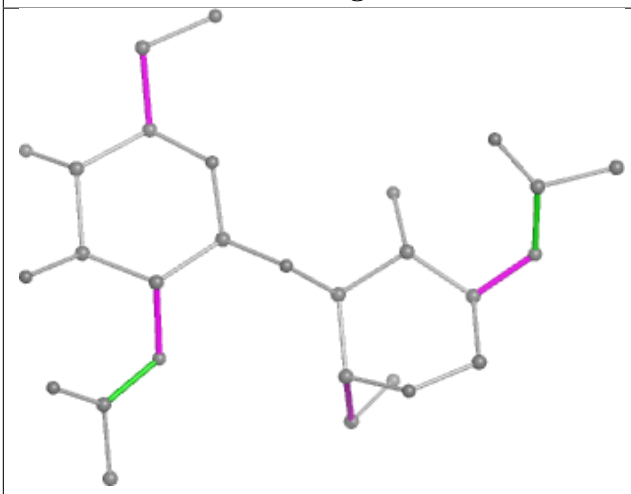
Oligosaccharide Chain O



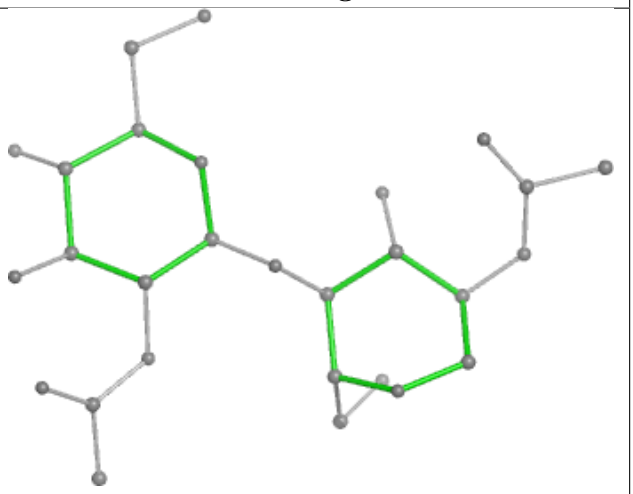
Bond lengths



Bond angles

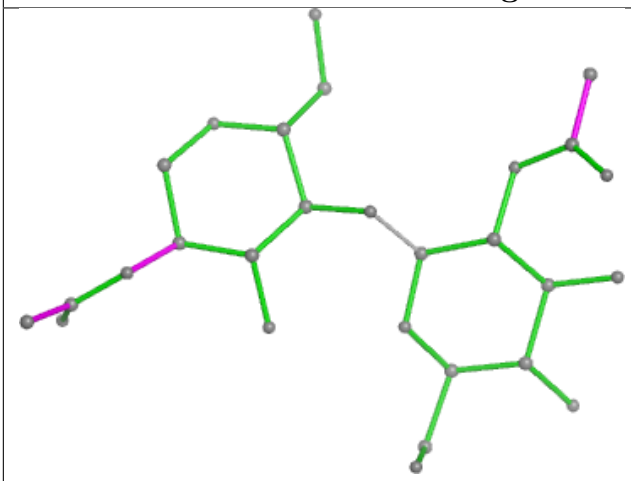


Torsions

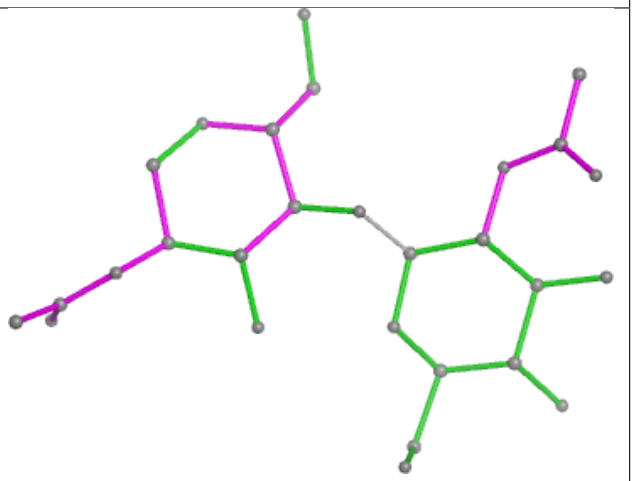


Rings

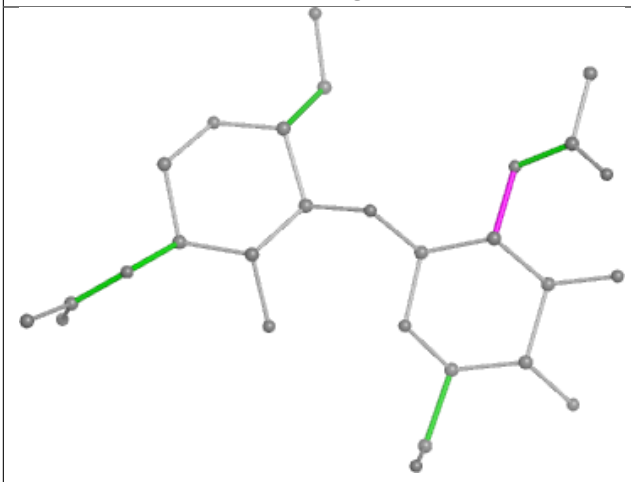
Oligosaccharide Chain I



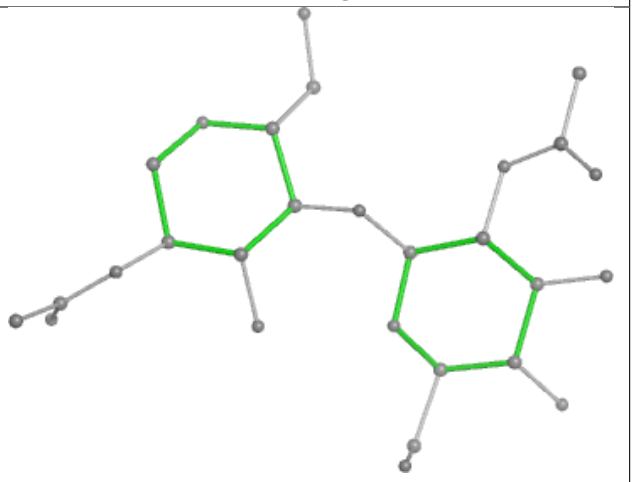
Bond lengths



Bond angles

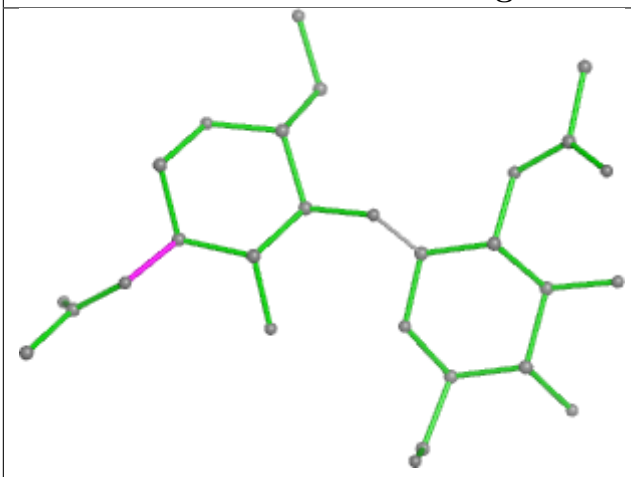


Torsions

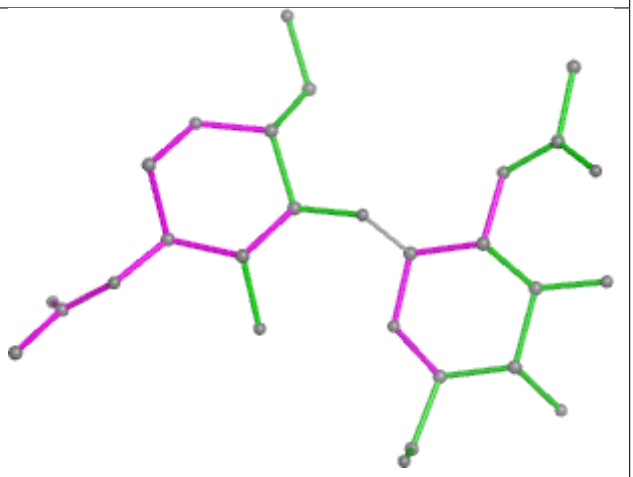


Rings

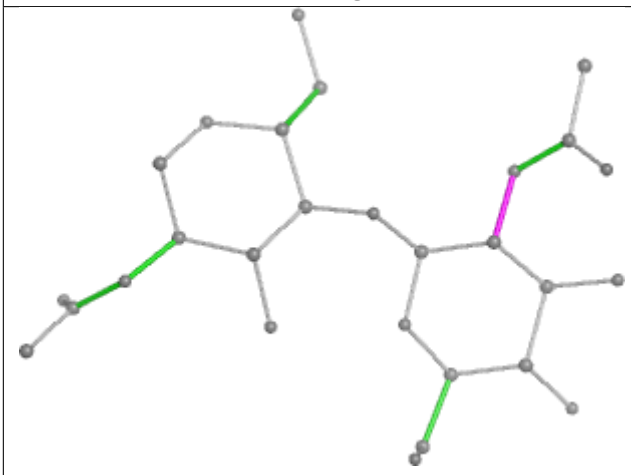
Oligosaccharide Chain P



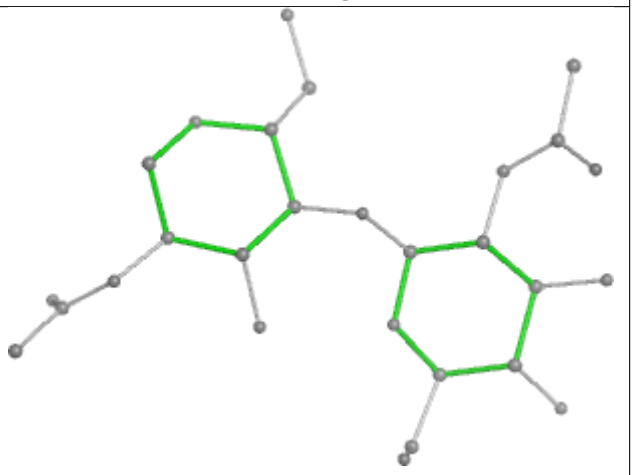
Bond lengths



Bond angles

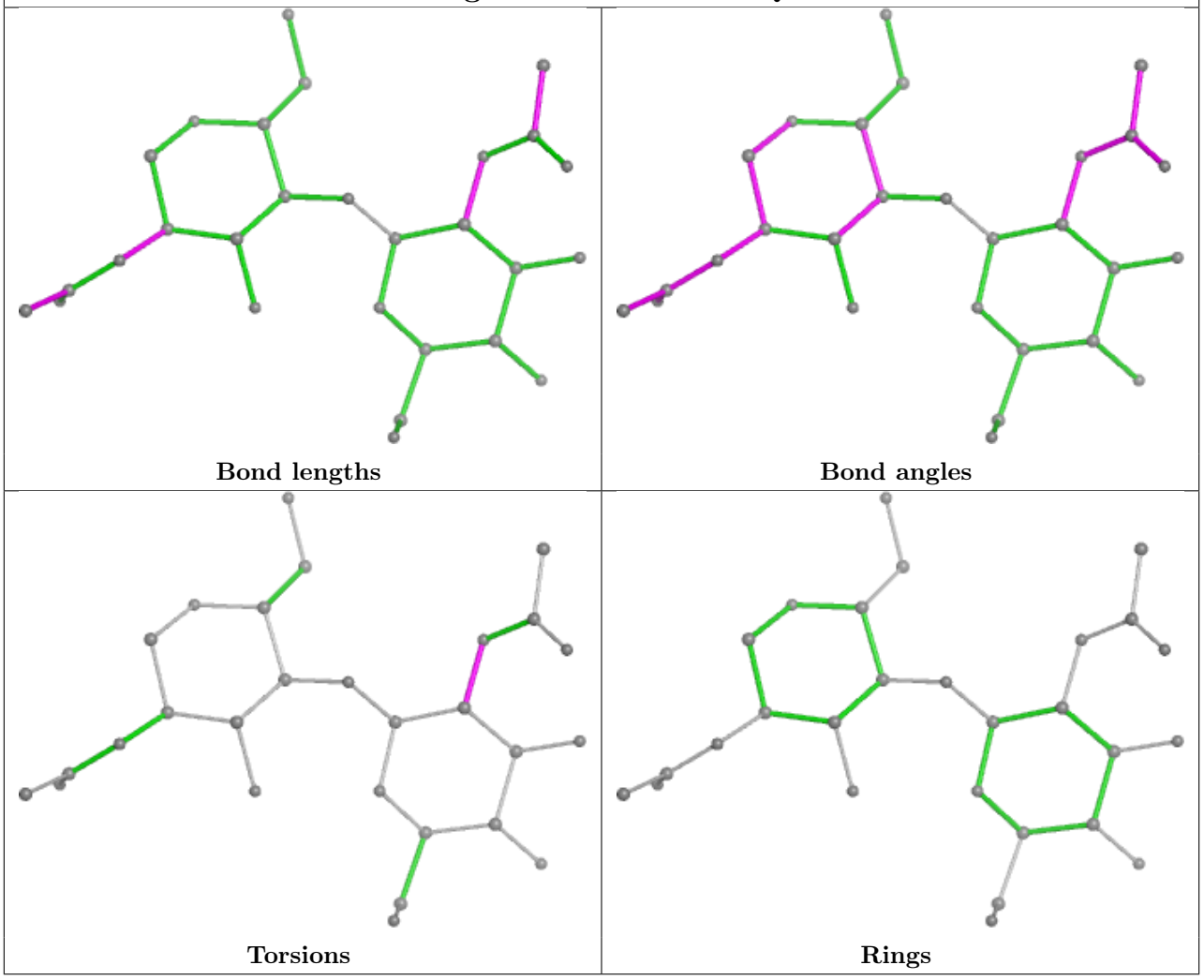


Torsions



Rings

Oligosaccharide Chain Q



5.6 Ligand geometry (i)

25 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
4	NAG	A	1306	1	14,14,15	1.12	1 (7%)	17,19,21	1.51	3 (17%)
4	NAG	B	1303	1	14,14,15	0.43	0	17,19,21	0.86	1 (5%)
4	NAG	C	1305	1	14,14,15	0.62	0	17,19,21	0.88	1 (5%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\|>2$	Counts	RMSZ	$\#\|Z\|>2$
4	NAG	B	1302	1	14,14,15	0.33	0	17,19,21	1.26	1 (5%)
4	NAG	A	1305	1	14,14,15	0.45	0	17,19,21	1.28	1 (5%)
4	NAG	B	1301	1	14,14,15	0.53	0	17,19,21	1.04	0
4	NAG	A	1309	1	14,14,15	1.52	3 (21%)	17,19,21	5.15	7 (41%)
4	NAG	A	1308	1	14,14,15	0.65	1 (7%)	17,19,21	1.22	3 (17%)
4	NAG	C	1302	1	14,14,15	0.80	0	17,19,21	3.66	8 (47%)
4	NAG	B	1306	1	14,14,15	0.77	0	17,19,21	1.79	3 (17%)
4	NAG	B	1304	1	14,14,15	0.83	0	17,19,21	3.53	7 (41%)
4	NAG	B	1305	1	14,14,15	0.85	0	17,19,21	3.85	9 (52%)
4	NAG	C	1301	-	14,14,15	0.77	0	17,19,21	0.99	0
4	NAG	A	1303	1	14,14,15	0.48	0	17,19,21	0.66	0
4	NAG	A	1304	1	14,14,15	0.66	0	17,19,21	1.87	3 (17%)
4	NAG	C	1303	1	14,14,15	0.80	1 (7%)	17,19,21	1.53	1 (5%)
4	NAG	C	1307	1	14,14,15	0.53	0	17,19,21	2.42	7 (41%)
4	NAG	A	1310	1	14,14,15	0.50	0	17,19,21	0.96	1 (5%)
4	NAG	A	1302	1	14,14,15	0.83	0	17,19,21	3.45	9 (52%)
4	NAG	C	1304	1	14,14,15	0.63	0	17,19,21	1.56	3 (17%)
4	NAG	A	1301	1	14,14,15	1.15	0	17,19,21	4.29	9 (52%)
4	NAG	B	1308	1	14,14,15	1.30	3 (21%)	17,19,21	3.38	5 (29%)
4	NAG	B	1307	1	14,14,15	0.98	0	17,19,21	4.36	5 (29%)
4	NAG	C	1306	1	14,14,15	0.59	0	17,19,21	3.23	5 (29%)
4	NAG	A	1307	1	14,14,15	1.14	1 (7%)	17,19,21	3.61	7 (41%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	NAG	A	1306	1	-	1/6/23/26	0/1/1/1
4	NAG	B	1303	1	-	0/6/23/26	0/1/1/1
4	NAG	C	1305	1	-	3/6/23/26	0/1/1/1
4	NAG	B	1302	1	-	0/6/23/26	0/1/1/1
4	NAG	A	1305	1	-	2/6/23/26	0/1/1/1
4	NAG	B	1301	1	-	2/6/23/26	0/1/1/1
4	NAG	A	1309	1	-	2/6/23/26	0/1/1/1
4	NAG	A	1308	1	-	2/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	NAG	C	1302	1	-	0/6/23/26	0/1/1/1
4	NAG	B	1306	1	-	0/6/23/26	0/1/1/1
4	NAG	B	1304	1	-	0/6/23/26	0/1/1/1
4	NAG	B	1305	1	-	0/6/23/26	0/1/1/1
4	NAG	C	1301	-	-	0/6/23/26	0/1/1/1
4	NAG	A	1303	1	-	1/6/23/26	0/1/1/1
4	NAG	A	1304	1	-	1/6/23/26	0/1/1/1
4	NAG	C	1303	1	-	0/6/23/26	0/1/1/1
4	NAG	C	1307	1	-	1/6/23/26	0/1/1/1
4	NAG	A	1310	1	-	1/6/23/26	0/1/1/1
4	NAG	A	1302	1	-	0/6/23/26	0/1/1/1
4	NAG	C	1304	1	-	0/6/23/26	0/1/1/1
4	NAG	A	1301	1	-	0/6/23/26	0/1/1/1
4	NAG	B	1308	1	-	2/6/23/26	0/1/1/1
4	NAG	B	1307	1	-	0/6/23/26	0/1/1/1
4	NAG	C	1306	1	-	4/6/23/26	0/1/1/1
4	NAG	A	1307	1	-	5/6/23/26	0/1/1/1

All (10) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	A	1309	NAG	O5-C1	-3.83	1.37	1.43
4	B	1308	NAG	C2-N2	-3.51	1.40	1.46
4	A	1306	NAG	O5-C1	-3.35	1.38	1.43
4	A	1307	NAG	O7-C7	-3.31	1.15	1.23
4	C	1303	NAG	C1-C2	2.61	1.56	1.52
4	A	1309	NAG	C8-C7	-2.42	1.45	1.50
4	B	1308	NAG	C7-N2	-2.42	1.26	1.34
4	B	1308	NAG	C8-C7	-2.18	1.46	1.50
4	A	1309	NAG	C2-N2	-2.08	1.42	1.46
4	A	1308	NAG	C1-C2	2.03	1.55	1.52

All (99) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	1309	NAG	C2-N2-C7	14.13	143.03	122.90
4	C	1306	NAG	C1-O5-C5	11.61	127.92	112.19
4	A	1301	NAG	C8-C7-N2	-11.49	96.64	116.10
4	B	1307	NAG	C8-C7-N2	-11.45	96.71	116.10
4	A	1307	NAG	C8-C7-N2	10.38	133.67	116.10
4	B	1307	NAG	C2-N2-C7	10.05	137.22	122.90

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	1309	NAG	C8-C7-N2	-9.49	100.03	116.10
4	C	1302	NAG	C8-C7-N2	-9.14	100.62	116.10
4	A	1309	NAG	O7-C7-N2	9.06	138.61	121.95
4	B	1305	NAG	C8-C7-N2	-8.72	101.33	116.10
4	B	1304	NAG	C8-C7-N2	-8.69	101.39	116.10
4	A	1302	NAG	C8-C7-N2	-8.65	101.46	116.10
4	B	1308	NAG	C8-C7-N2	-8.45	101.79	116.10
4	B	1305	NAG	C2-N2-C7	8.19	134.57	122.90
4	B	1304	NAG	C2-N2-C7	8.02	134.32	122.90
4	B	1308	NAG	C1-C2-N2	-7.23	98.13	110.49
4	A	1301	NAG	C2-N2-C7	7.12	133.04	122.90
4	A	1309	NAG	C1-C2-N2	6.50	121.59	110.49
4	A	1304	NAG	C2-N2-C7	6.48	132.14	122.90
4	B	1308	NAG	O7-C7-N2	6.24	133.43	121.95
4	B	1307	NAG	O7-C7-C8	6.22	133.62	122.06
4	B	1306	NAG	C2-N2-C7	-5.58	114.95	122.90
4	C	1302	NAG	O5-C1-C2	-5.49	102.63	111.29
4	A	1302	NAG	C2-N2-C7	5.35	130.52	122.90
4	C	1302	NAG	C2-N2-C7	5.34	130.51	122.90
4	B	1307	NAG	C1-C2-N2	-5.34	101.37	110.49
4	A	1301	NAG	O7-C7-N2	5.29	131.69	121.95
4	A	1307	NAG	C2-N2-C7	5.28	130.43	122.90
4	A	1307	NAG	O7-C7-N2	-5.28	112.24	121.95
4	C	1302	NAG	C1-C2-N2	5.21	119.39	110.49
4	A	1301	NAG	O7-C7-C8	5.18	131.68	122.06
4	A	1302	NAG	O7-C7-N2	5.14	131.39	121.95
4	B	1305	NAG	O5-C1-C2	-5.02	103.36	111.29
4	C	1303	NAG	O5-C1-C2	-4.97	103.44	111.29
4	A	1302	NAG	C1-C2-N2	4.67	118.46	110.49
4	C	1307	NAG	O5-C1-C2	-4.37	104.39	111.29
4	C	1302	NAG	O7-C7-N2	4.33	129.91	121.95
4	A	1307	NAG	O7-C7-C8	-4.30	114.07	122.06
4	B	1304	NAG	O7-C7-N2	4.29	129.84	121.95
4	A	1301	NAG	O5-C5-C6	4.25	113.87	107.20
4	C	1307	NAG	C1-C2-N2	4.19	117.64	110.49
4	B	1305	NAG	O7-C7-C8	4.17	129.80	122.06
4	A	1306	NAG	C2-N2-C7	4.15	128.82	122.90
4	B	1307	NAG	O7-C7-N2	4.15	129.58	121.95
4	A	1309	NAG	O5-C1-C2	-4.15	104.74	111.29
4	A	1301	NAG	C1-O5-C5	4.09	117.73	112.19
4	B	1302	NAG	C1-O5-C5	4.04	117.67	112.19
4	B	1305	NAG	C1-C2-N2	3.97	117.27	110.49

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	C	1302	NAG	O7-C7-C8	3.95	129.40	122.06
4	C	1307	NAG	C8-C7-N2	-3.89	109.51	116.10
4	B	1305	NAG	O7-C7-N2	3.75	128.85	121.95
4	A	1307	NAG	O5-C5-C6	3.71	113.02	107.20
4	A	1302	NAG	O5-C1-C2	-3.66	105.51	111.29
4	A	1307	NAG	C1-C2-N2	-3.62	104.31	110.49
4	B	1304	NAG	O7-C7-C8	3.62	128.77	122.06
4	B	1308	NAG	C2-N2-C7	3.61	128.04	122.90
4	C	1307	NAG	O7-C7-N2	3.60	128.58	121.95
4	B	1304	NAG	O5-C5-C6	3.53	112.73	107.20
4	C	1307	NAG	C2-N2-C7	3.52	127.92	122.90
4	A	1301	NAG	O5-C1-C2	-3.47	105.80	111.29
4	C	1306	NAG	C2-N2-C7	3.46	127.84	122.90
4	A	1305	NAG	O5-C1-C2	3.44	116.72	111.29
4	C	1304	NAG	O7-C7-N2	3.42	128.25	121.95
4	B	1304	NAG	O5-C1-C2	-3.41	105.91	111.29
4	C	1306	NAG	O5-C1-C2	-3.39	105.93	111.29
4	C	1304	NAG	C8-C7-N2	-3.35	110.43	116.10
4	A	1301	NAG	C1-C2-N2	3.09	115.77	110.49
4	B	1305	NAG	O5-C5-C6	3.06	112.00	107.20
4	A	1308	NAG	O5-C1-C2	-3.03	106.50	111.29
4	A	1302	NAG	C1-O5-C5	2.96	116.20	112.19
4	B	1305	NAG	C3-C4-C5	-2.84	105.18	110.24
4	C	1307	NAG	C1-O5-C5	2.82	116.01	112.19
4	A	1307	NAG	O5-C1-C2	2.81	115.72	111.29
4	A	1309	NAG	C1-O5-C5	2.80	115.99	112.19
4	B	1308	NAG	C1-O5-C5	2.75	115.91	112.19
4	A	1302	NAG	O7-C7-C8	2.73	127.13	122.06
4	B	1304	NAG	C1-C2-N2	2.72	115.14	110.49
4	B	1305	NAG	C1-O5-C5	2.67	115.80	112.19
4	A	1304	NAG	O5-C1-C2	-2.66	107.08	111.29
4	C	1302	NAG	C1-O5-C5	2.65	115.79	112.19
4	A	1306	NAG	C1-C2-N2	2.60	114.92	110.49
4	A	1302	NAG	O5-C5-C6	2.58	111.25	107.20
4	A	1308	NAG	C1-O5-C5	2.45	115.50	112.19
4	A	1306	NAG	O5-C5-C6	-2.38	103.47	107.20
4	C	1305	NAG	C2-N2-C7	-2.35	119.56	122.90
4	A	1302	NAG	C3-C4-C5	-2.32	106.10	110.24
4	A	1301	NAG	C3-C4-C5	-2.31	106.13	110.24
4	C	1307	NAG	C3-C4-C5	-2.30	106.13	110.24
4	C	1306	NAG	O7-C7-C8	-2.24	117.89	122.06
4	A	1310	NAG	C1-O5-C5	-2.19	109.22	112.19

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	C	1304	NAG	O5-C5-C6	2.19	110.64	107.20
4	C	1306	NAG	C1-C2-N2	2.18	114.21	110.49
4	B	1306	NAG	C1-O5-C5	2.17	115.13	112.19
4	A	1309	NAG	O3-C3-C4	-2.16	105.35	110.35
4	C	1302	NAG	C3-C4-C5	-2.15	106.40	110.24
4	A	1308	NAG	C2-N2-C7	-2.15	119.85	122.90
4	B	1303	NAG	O5-C1-C2	-2.04	108.07	111.29
4	A	1304	NAG	O7-C7-C8	-2.03	118.29	122.06
4	B	1306	NAG	O5-C5-C6	2.03	110.38	107.20

There are no chirality outliers.

All (27) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	1304	NAG	C3-C2-N2-C7
4	A	1306	NAG	C1-C2-N2-C7
4	A	1307	NAG	C1-C2-N2-C7
4	A	1309	NAG	C3-C2-N2-C7
4	A	1307	NAG	O5-C5-C6-O6
4	A	1307	NAG	C8-C7-N2-C2
4	A	1307	NAG	O7-C7-N2-C2
4	C	1306	NAG	C8-C7-N2-C2
4	C	1306	NAG	O7-C7-N2-C2
4	B	1308	NAG	O5-C5-C6-O6
4	B	1301	NAG	O5-C5-C6-O6
4	C	1305	NAG	O5-C5-C6-O6
4	A	1305	NAG	C4-C5-C6-O6
4	A	1303	NAG	O5-C5-C6-O6
4	A	1307	NAG	C4-C5-C6-O6
4	A	1309	NAG	C1-C2-N2-C7
4	C	1306	NAG	O5-C5-C6-O6
4	A	1305	NAG	O5-C5-C6-O6
4	A	1310	NAG	O5-C5-C6-O6
4	A	1308	NAG	C1-C2-N2-C7
4	B	1308	NAG	C4-C5-C6-O6
4	C	1305	NAG	C3-C2-N2-C7
4	C	1305	NAG	C4-C5-C6-O6
4	A	1308	NAG	C3-C2-N2-C7
4	C	1306	NAG	C4-C5-C6-O6
4	C	1307	NAG	C4-C5-C6-O6
4	B	1301	NAG	C4-C5-C6-O6

There are no ring outliers.

6 monomers are involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	1306	NAG	1	0
4	C	1305	NAG	1	0
4	A	1308	NAG	1	0
4	B	1305	NAG	1	0
4	C	1304	NAG	1	0
4	A	1307	NAG	4	0

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

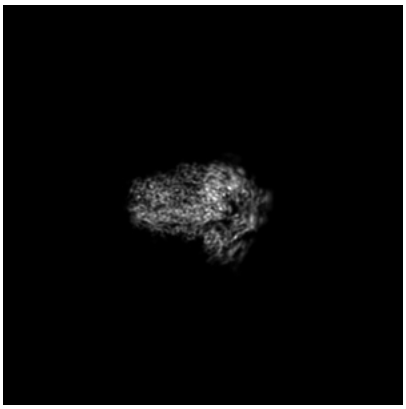
This section contains visualisations of the EMDB entry EMD-13916. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

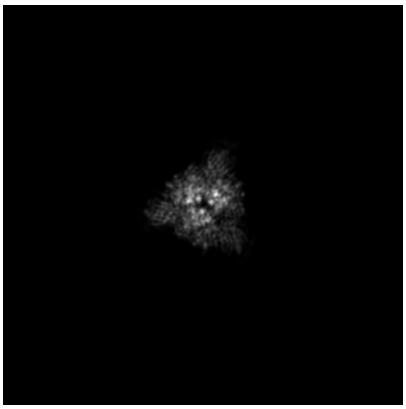
6.1 Orthogonal projections

6.1.1 Primary map

X

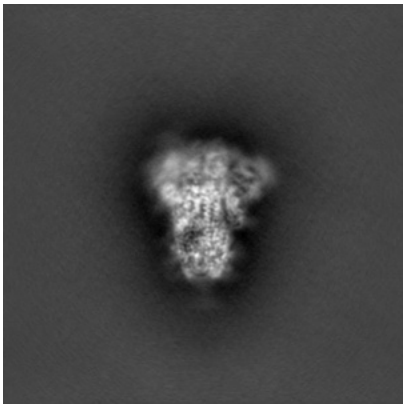


Y

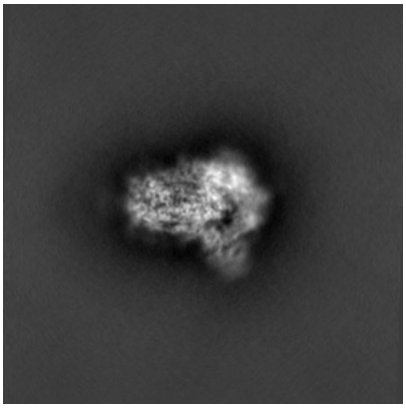


Z

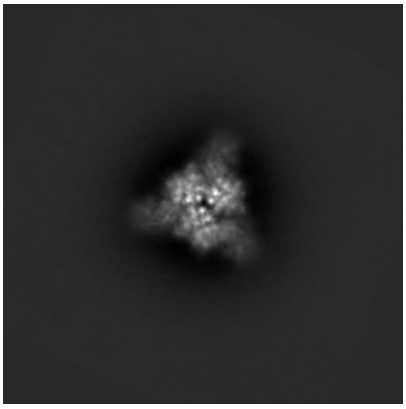
6.1.2 Raw map



X



Y



Z

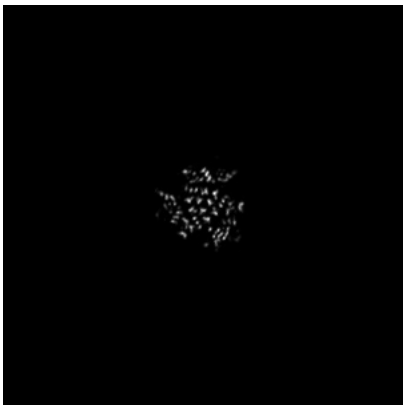
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

6.2.1 Primary map

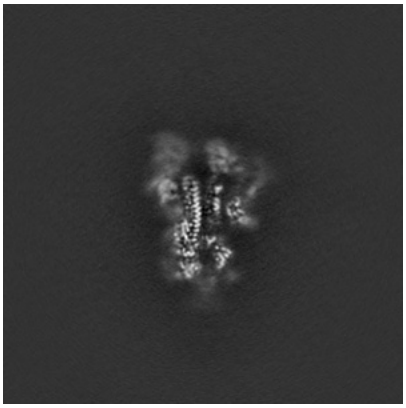
X Index: 150

Y Index: 150

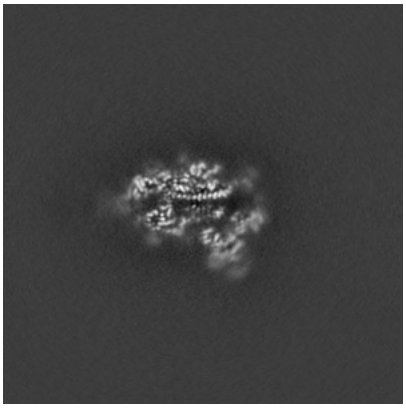


Z Index: 150

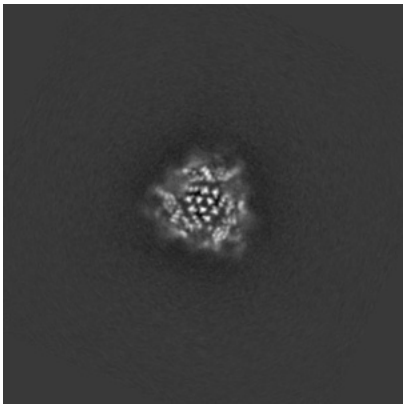
6.2.2 Raw map



X Index: 150



Y Index: 150



Z Index: 150

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

6.3 Largest variance slices (i)

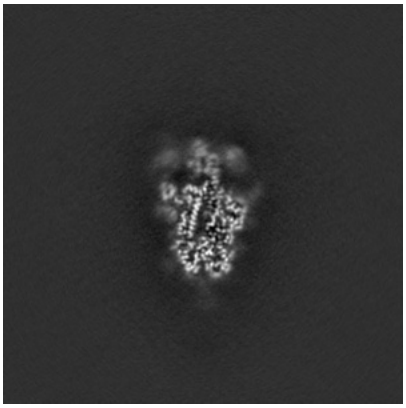
6.3.1 Primary map

X Index: 159

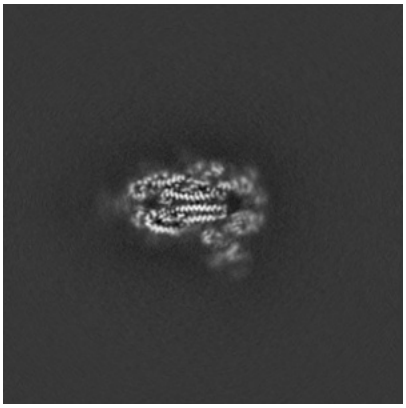
Y Index: 153

Z Index: 162

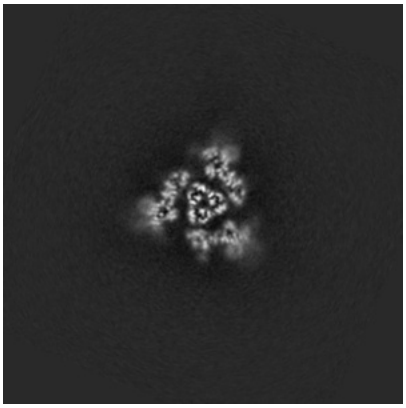
6.3.2 Raw map



X Index: 142



Y Index: 153

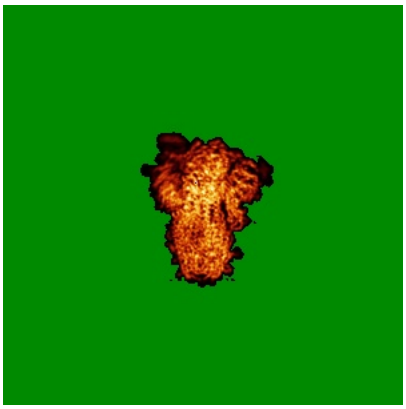


Z Index: 161

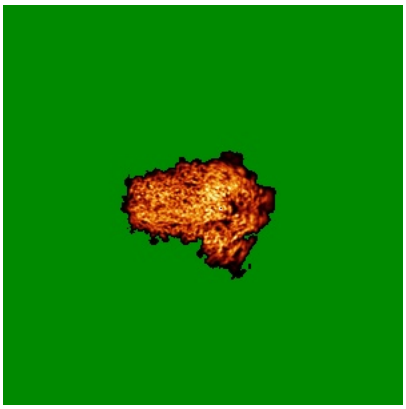
The images above show the largest variance slices of the map in three orthogonal directions.

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

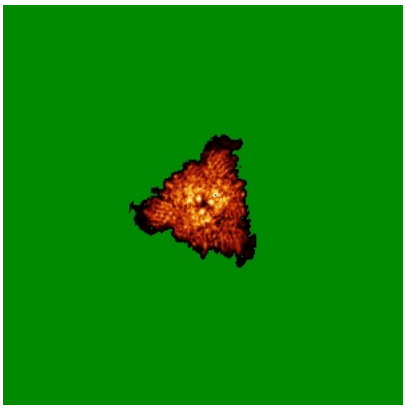
6.4.1 Primary map



X

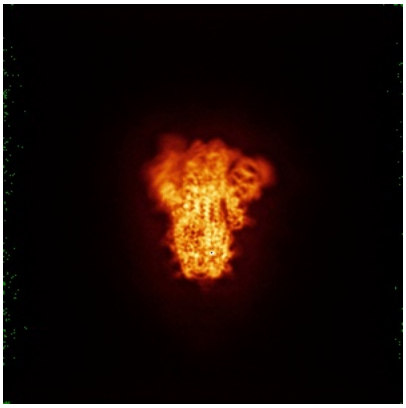


Y

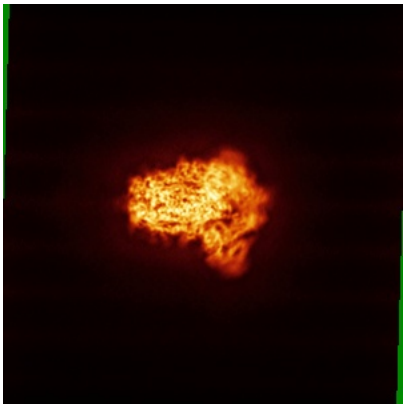


Z

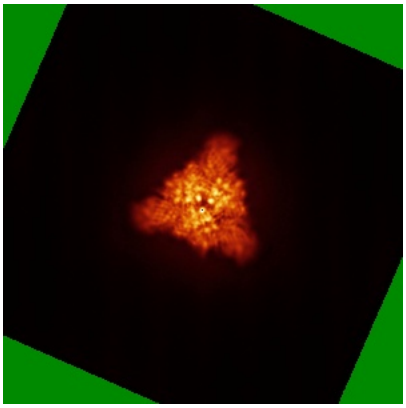
6.4.2 Raw map



X



Y

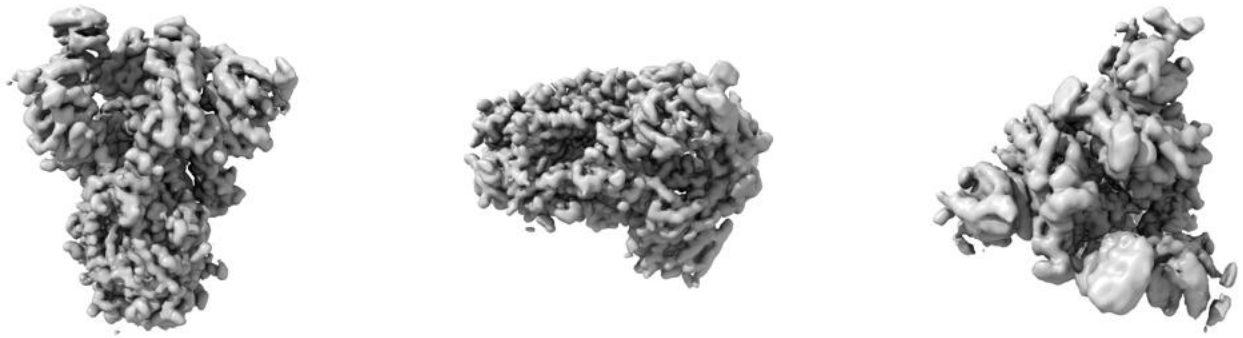


Z

The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views (i)

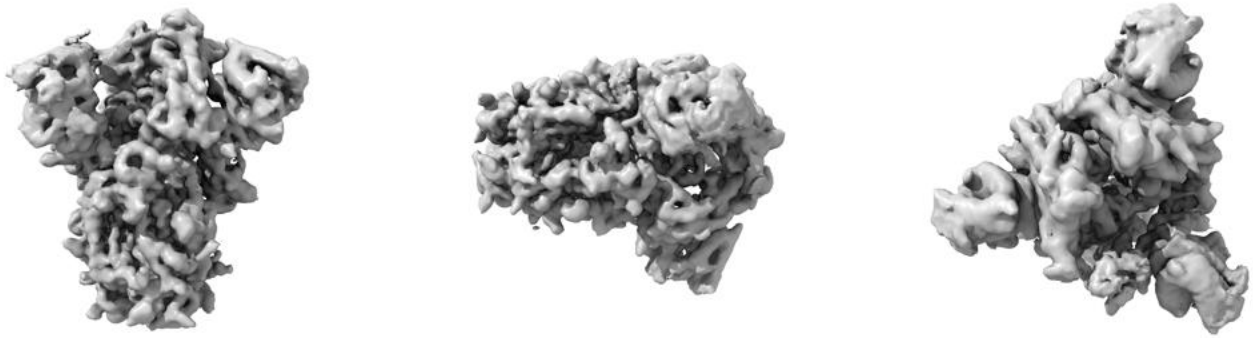
6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.048. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X Y Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

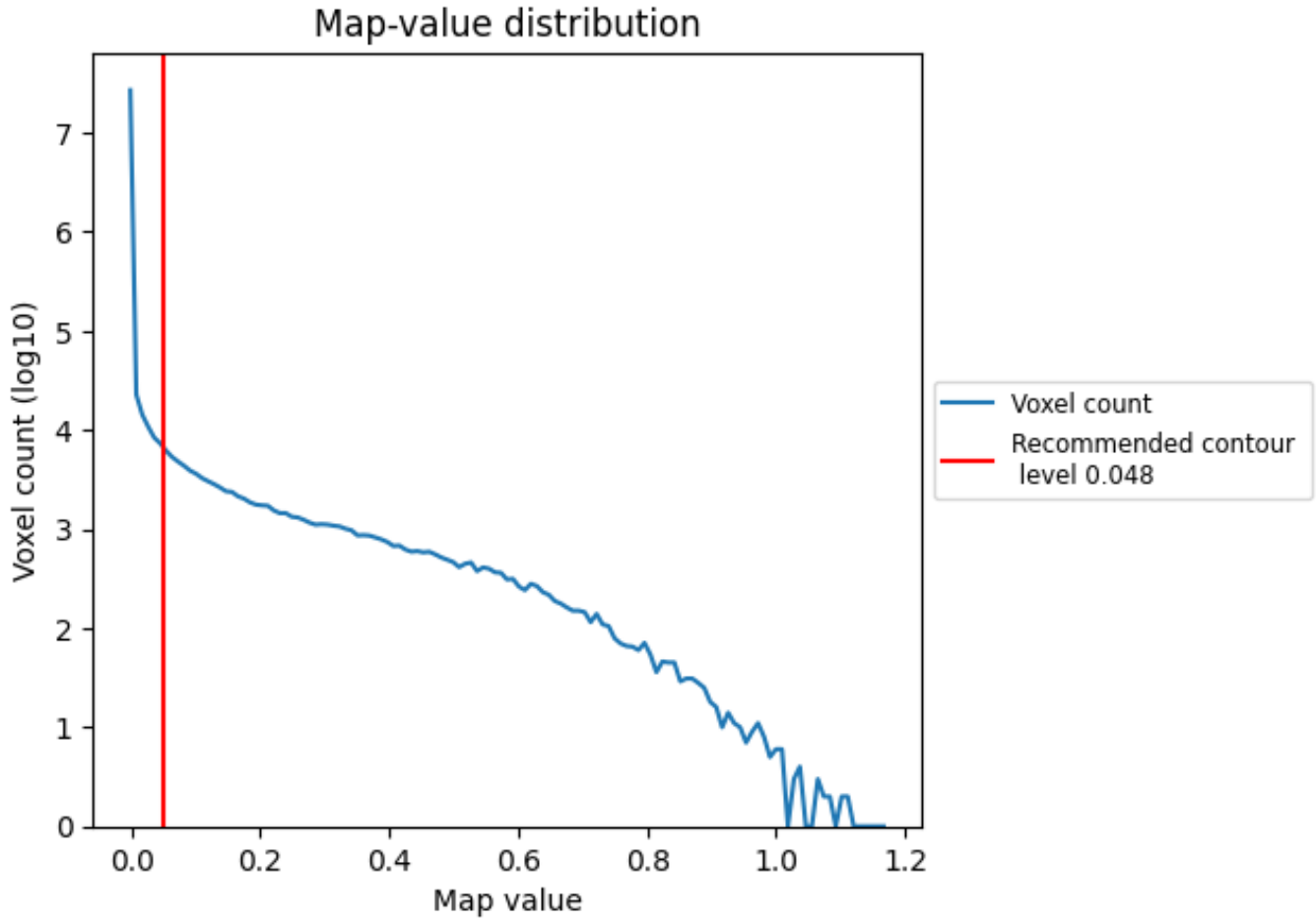
6.6 Mask visualisation (i)

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

7 Map analysis

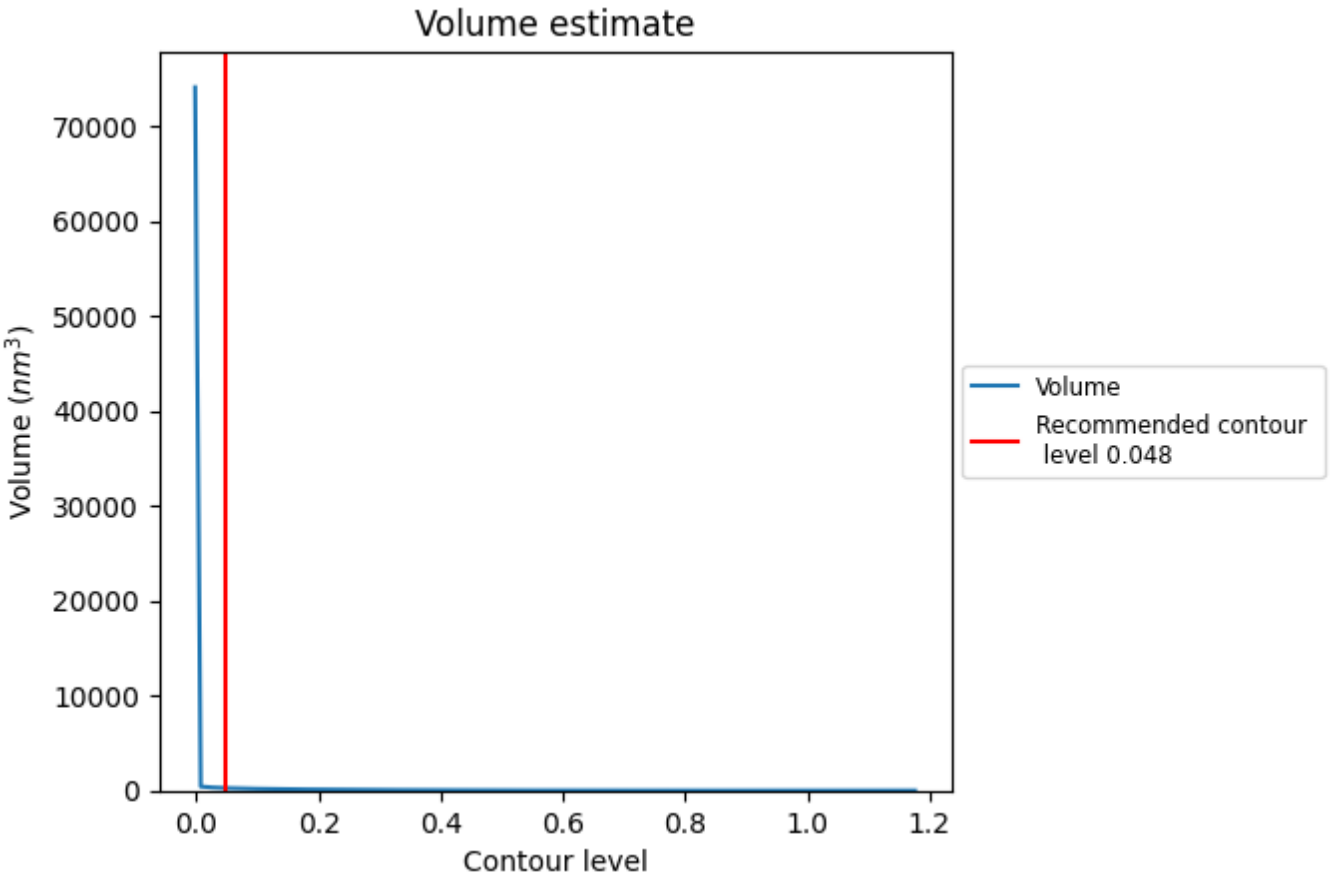
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

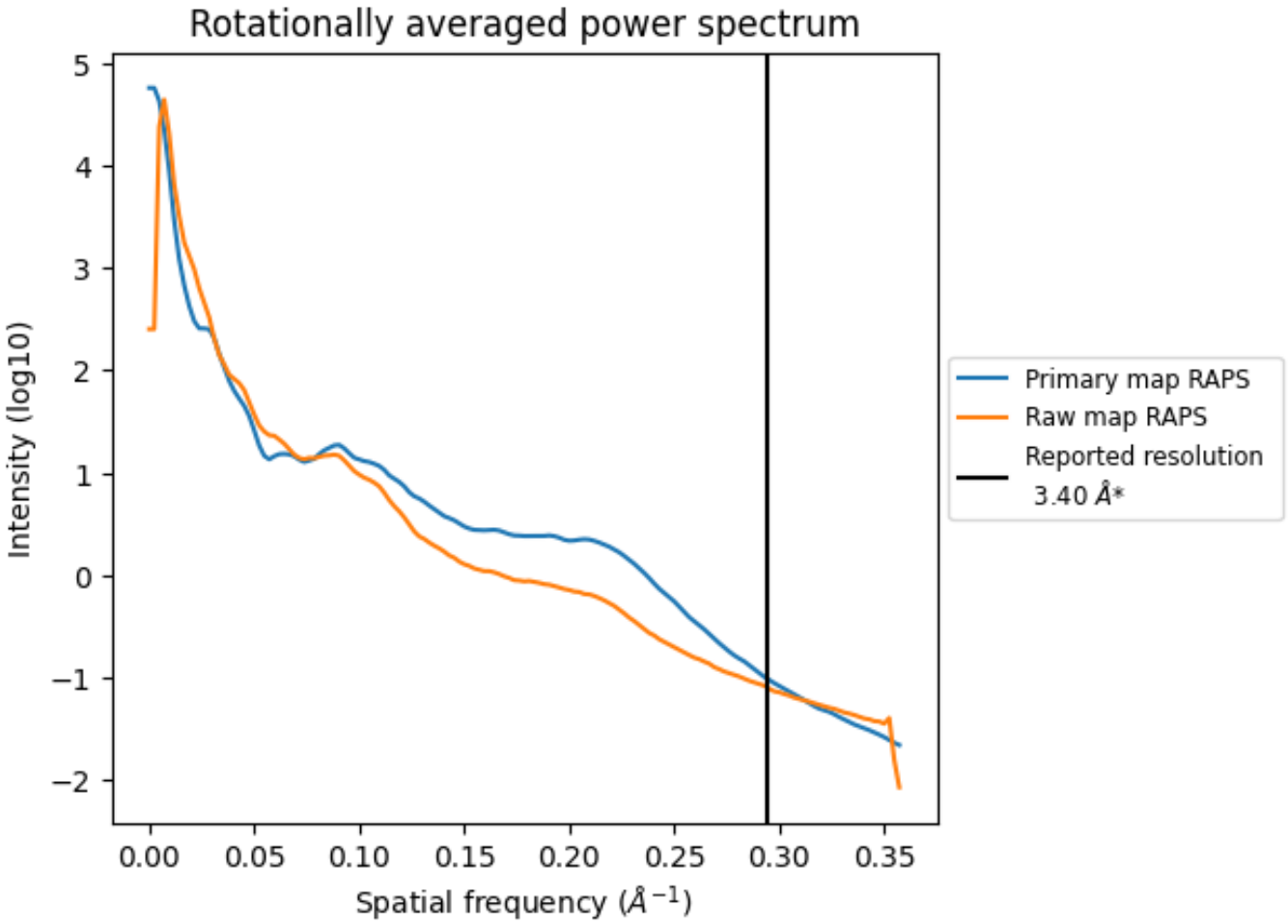
7.2 Volume estimate



The volume at the recommended contour level is 265 nm^3; this corresponds to an approximate mass of 239 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)

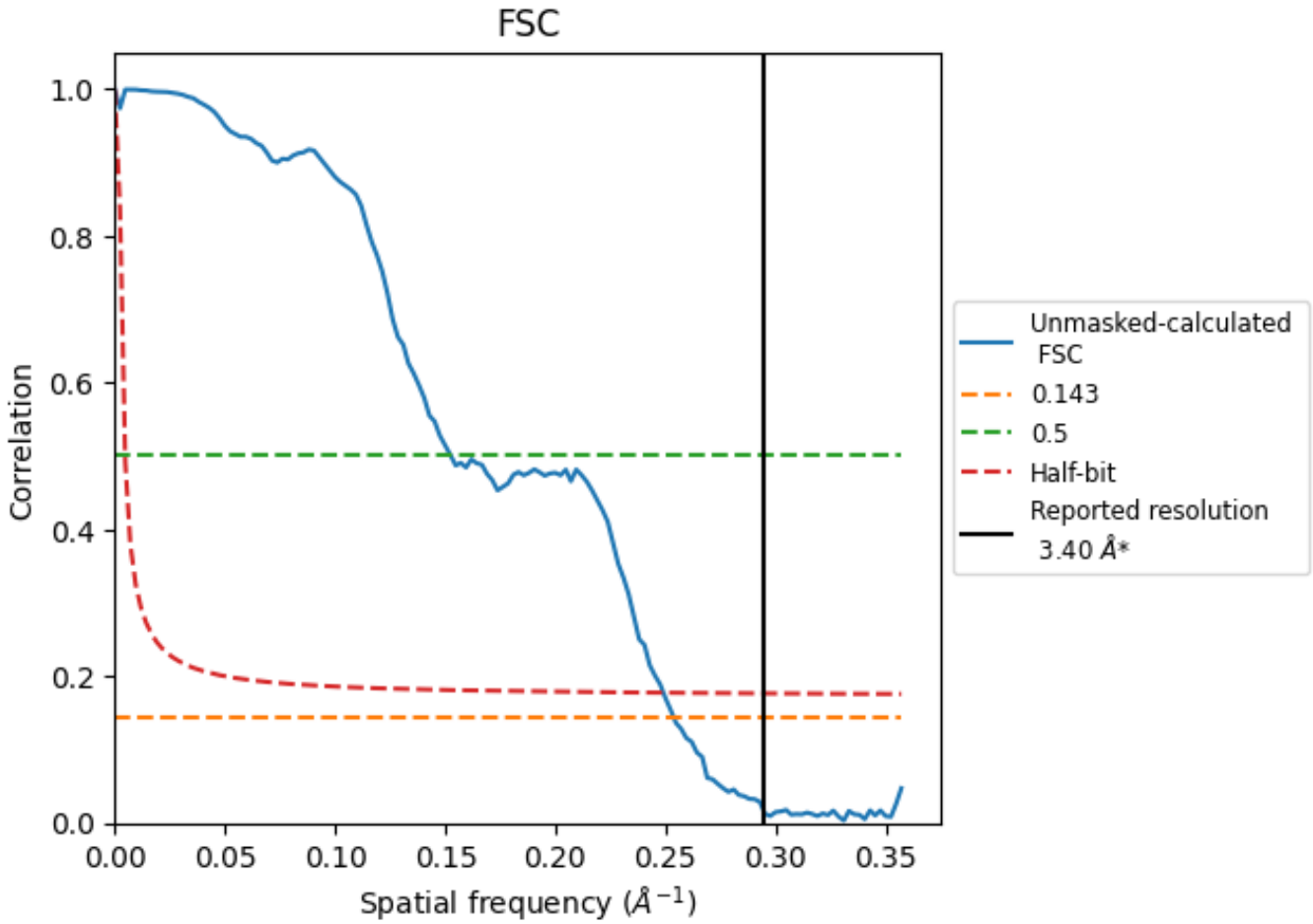


*Reported resolution corresponds to spatial frequency of 0.294 Å^{-1}

8 Fourier-Shell correlation

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.294 Å^{-1}

8.2 Resolution estimates (i)

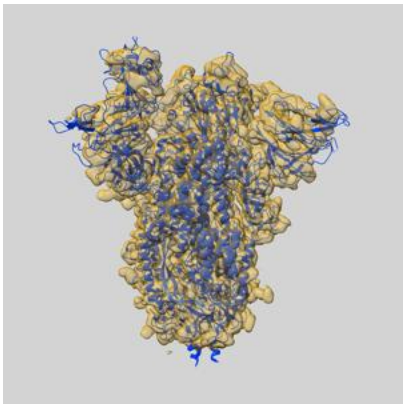
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.40	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	3.94	6.55	4.01

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 3.94 differs from the reported value 3.4 by more than 10 %

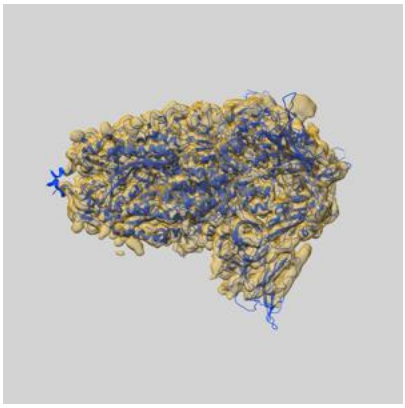
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-13916 and PDB model 7QDG. Per-residue inclusion information can be found in section 3 on page 10.

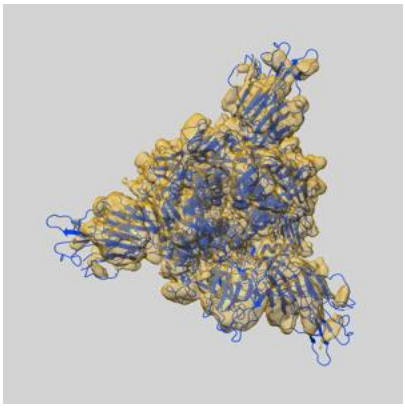
9.1 Map-model overlay



X



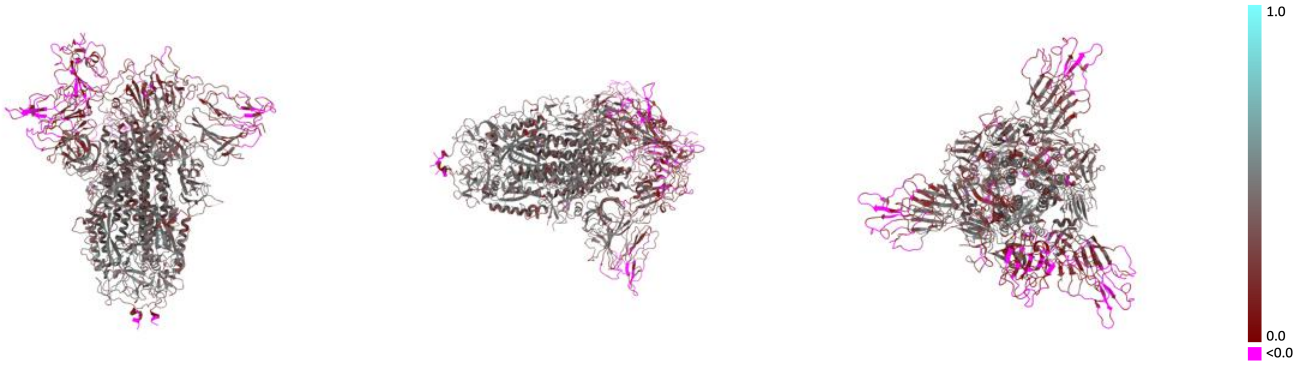
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.048 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.

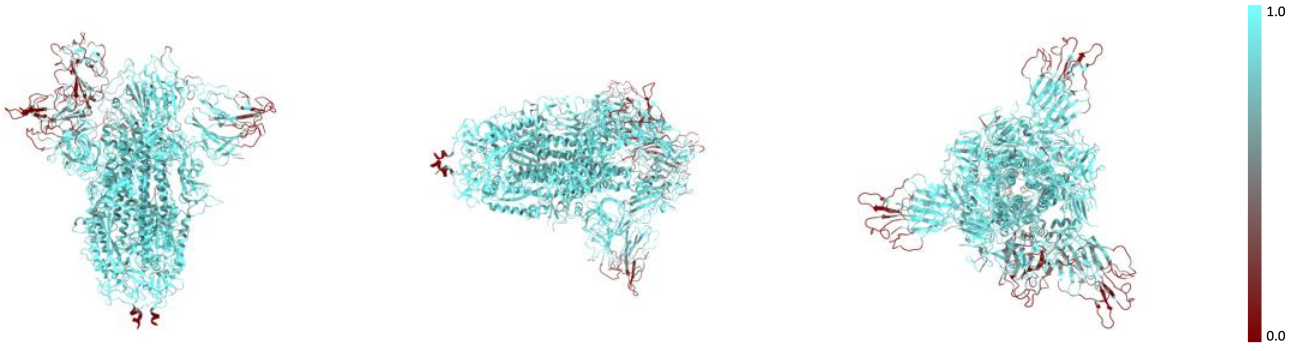
9.2 Q-score mapped to coordinate model



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.

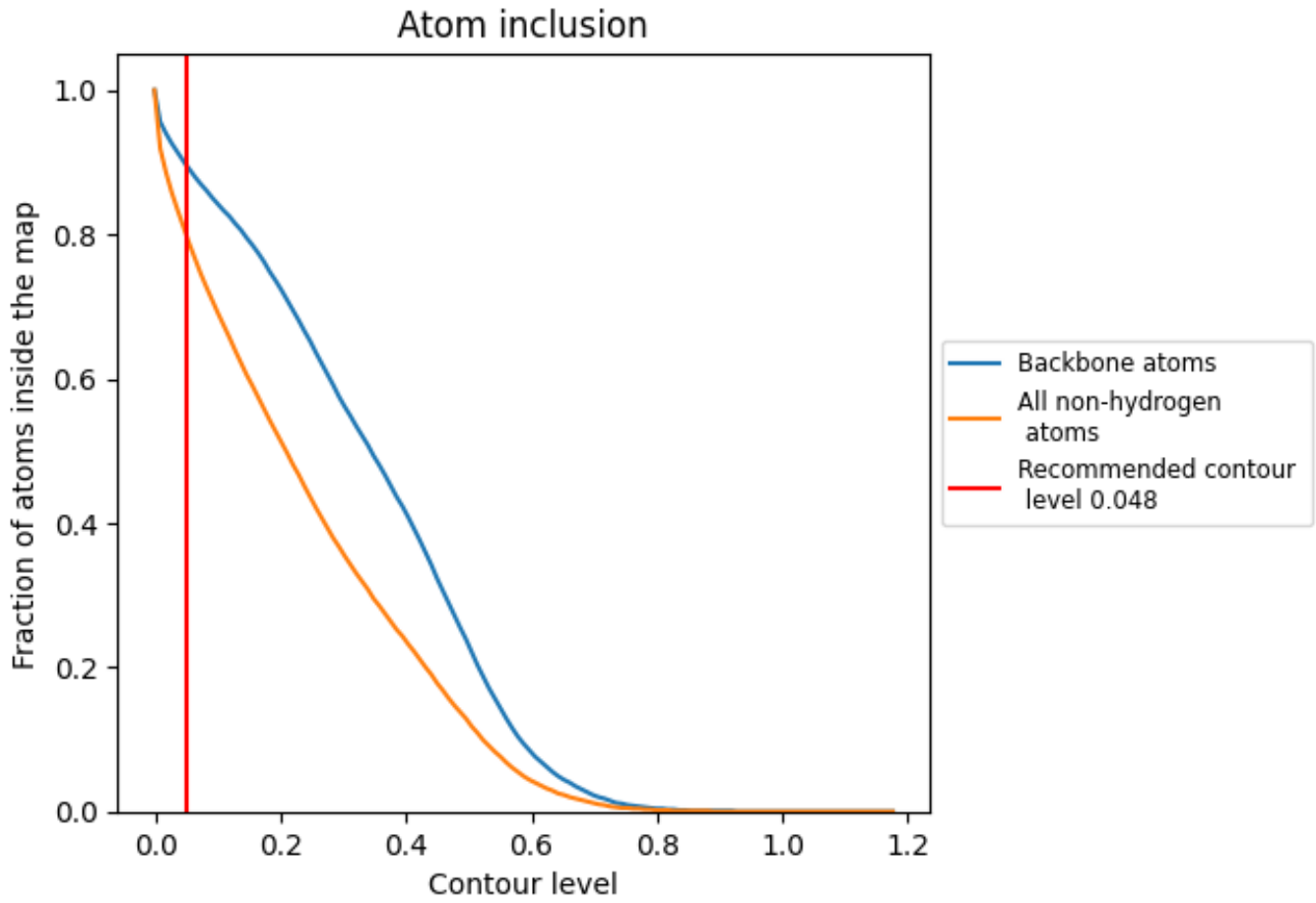
9.3 Atom inclusion mapped to coordinate model



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 (0.048).

9.4 Atom inclusion (i)



At the recommended contour level, 90% of all backbone atoms, 80% 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 (0.048) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.8020	0.3100
A	0.8380	0.3210
B	0.7640	0.2940
C	0.8110	0.3170
E	0.8930	0.4040
G	0.7140	0.2580
I	0.6790	0.3310
J	0.7140	0.2020
K	0.5710	0.2560
L	0.6430	0.2520
M	0.3930	0.1580
N	0.0000	0.0930
O	0.6430	0.2920
P	0.4290	0.0380
Q	0.6430	0.2010