Full wwPDB EM Validation Report ⓘ

Jun 26, 2024 – 10:35 AM JST

PDB ID	:	7YE2
EMDB ID	:	EMD-33762
Title	:	The cryo-EM structure of C. crescentus GcrA-TACdown
Authors	:	Wu, X.X.; Zhang, Y.
Deposited on	:	2022-07-05
Resolution	:	3.80 Å(reported)

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

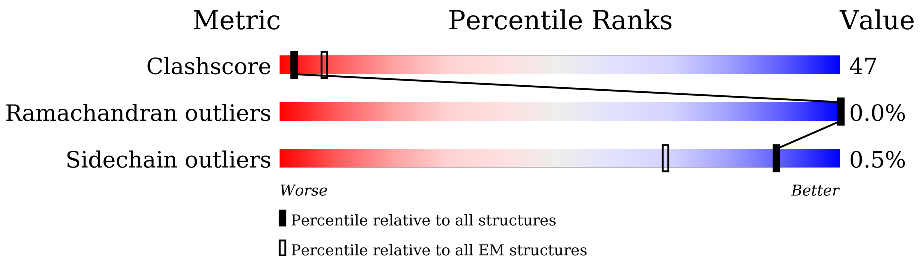
EMDB validation analysis	:	0.0.1.dev92
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

1 Overall quality at a glance ⓘ

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

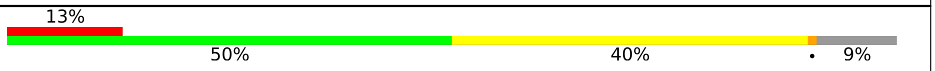
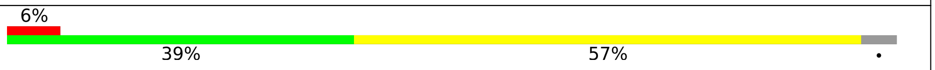
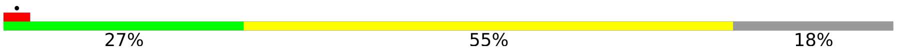
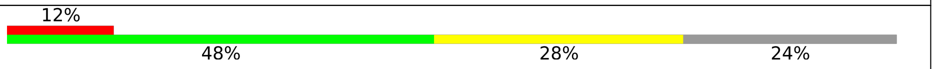
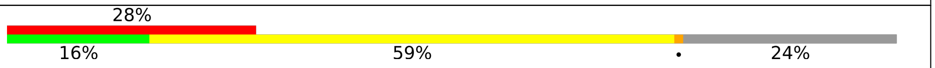
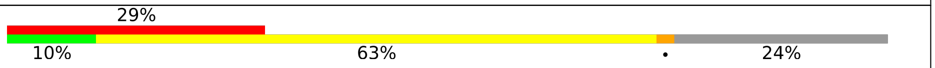
The reported resolution of this entry is 3.80 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	338	
1	B	338	
2	C	1356	
3	D	1396	
4	E	119	
5	F	652	
6	H	90	
7	I	90	

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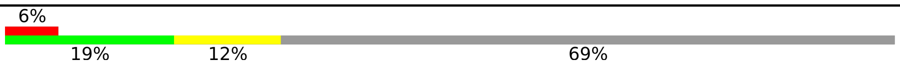
Mol	Chain	Length	Quality of chain
8	G	173	

2 Entry composition

There are 10 unique types of molecules in this entry. The entry contains 28925 atoms, of which 12 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 DNA-directed RNA polymerase subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	306	Total	C	N	O	S	0	0
			2054	1300	353	397	4		
1	B	220	Total	C	N	O	S	0	0
			1633	1044	274	311	4		

- Molecule 2 is a protein called DNA-directed RNA polymerase subunit beta.

Mol	Chain	Residues	Atoms						AltConf	Trace
2	C	1303	Total	C	H	N	O	S	0	0
			9603	6112	12	1598	1841	40		

- Molecule 3 is a protein called DNA-directed RNA polymerase subunit beta'.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	D	1140	Total	C	N	O	S	0	0
			8691	5586	1432	1630	43		

- Molecule 4 is a protein called DNA-directed RNA polymerase subunit omega.

Mol	Chain	Residues	Atoms					AltConf	Trace
4	E	69	Total	C	N	O	S	0	0
			510	323	85	101	1		

- Molecule 5 is a protein called RNA polymerase sigma factor RpoD.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	F	497	Total	C	N	O	S	0	0
			3266	2049	576	631	10		

- Molecule 6 is a DNA chain called DNA (90-MER)-non template.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
6	H	68	1396	663	257	408	68	0	0

- Molecule 7 is a DNA chain called DNA (90-MER)-template.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
7	I	68	1396	663	257	408	68	0	0

- Molecule 8 is a protein called Cell cycle regulatory protein GcrA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	G	53	372	237	61	70	4	0	0

- Molecule 9 is ZINC ION (three-letter code: ZN) (formula: Zn).

Mol	Chain	Residues	Atoms		AltConf
9	D	2	Total 2	Zn 2	0
9	G	1	Total 1	Zn 1	0

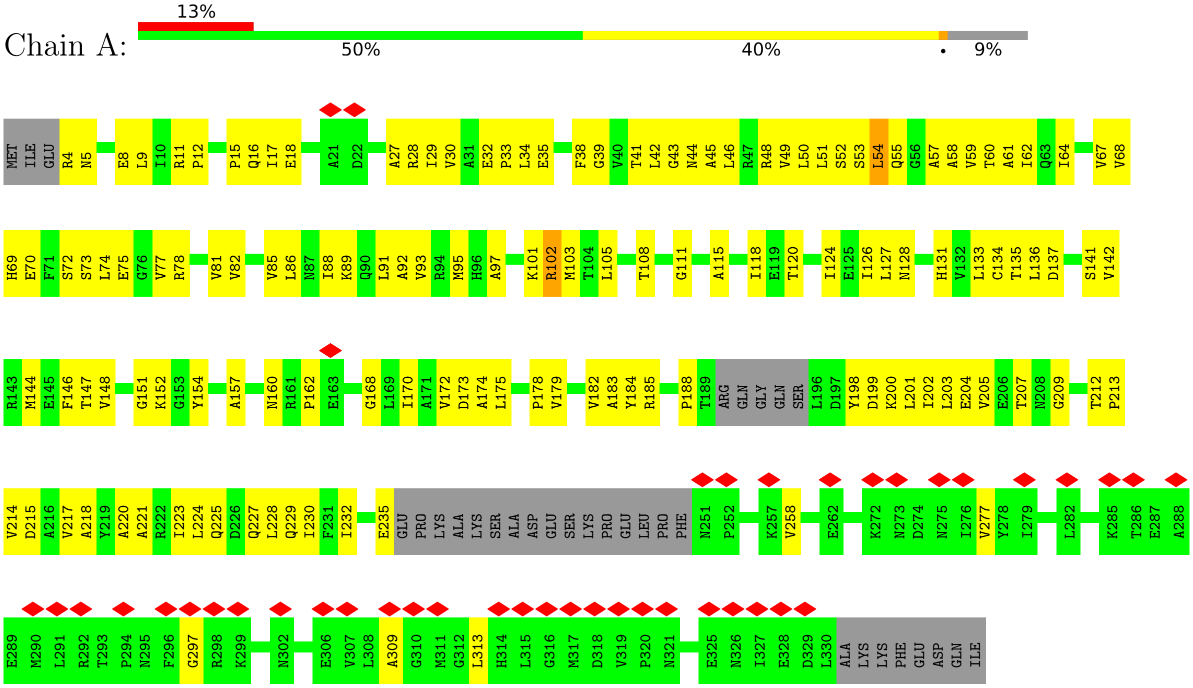
- Molecule 10 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		AltConf
			Total	Mg	
10	D	1	1	1	0

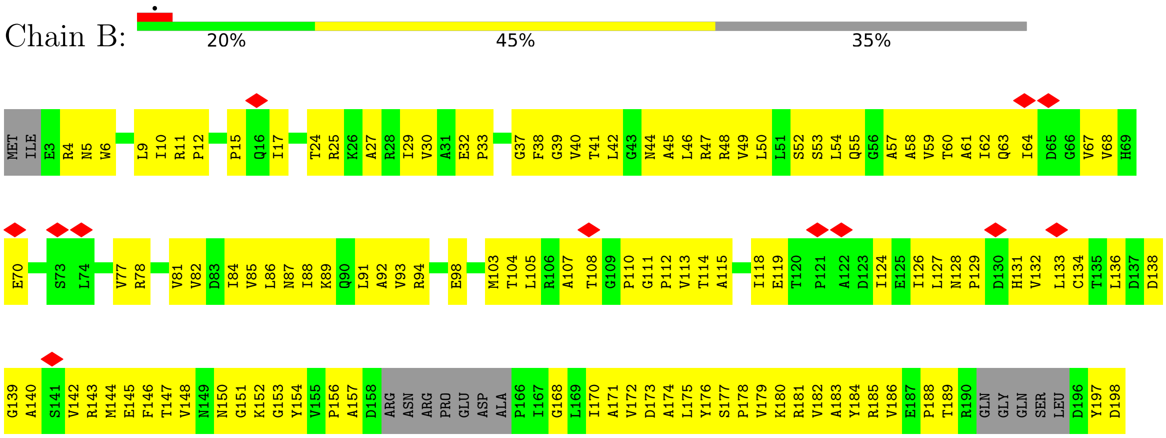
3 Residue-property plots ⓘ

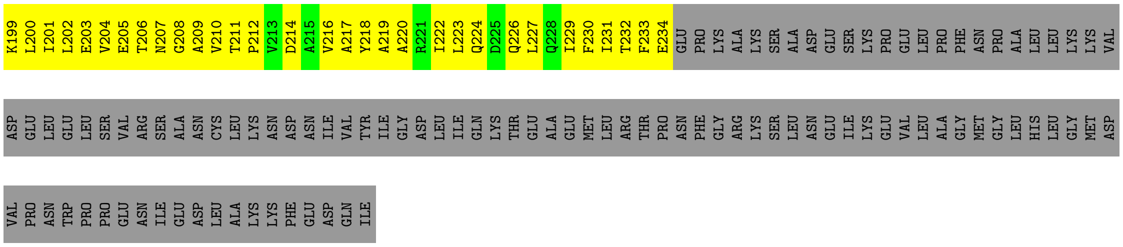
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion 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: DNA-directed RNA polymerase subunit alpha



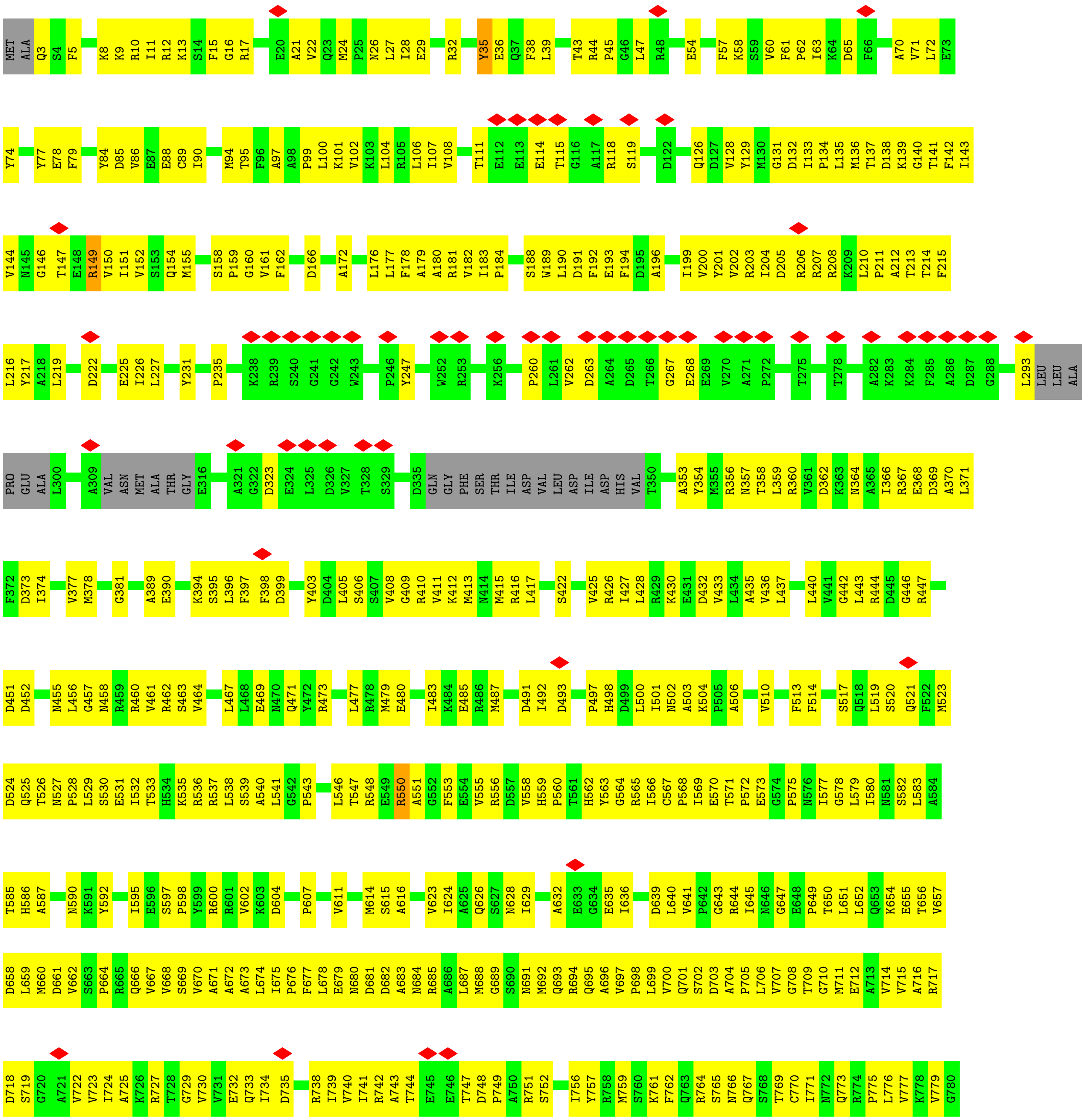
- Molecule 1: DNA-directed RNA polymerase subunit alpha

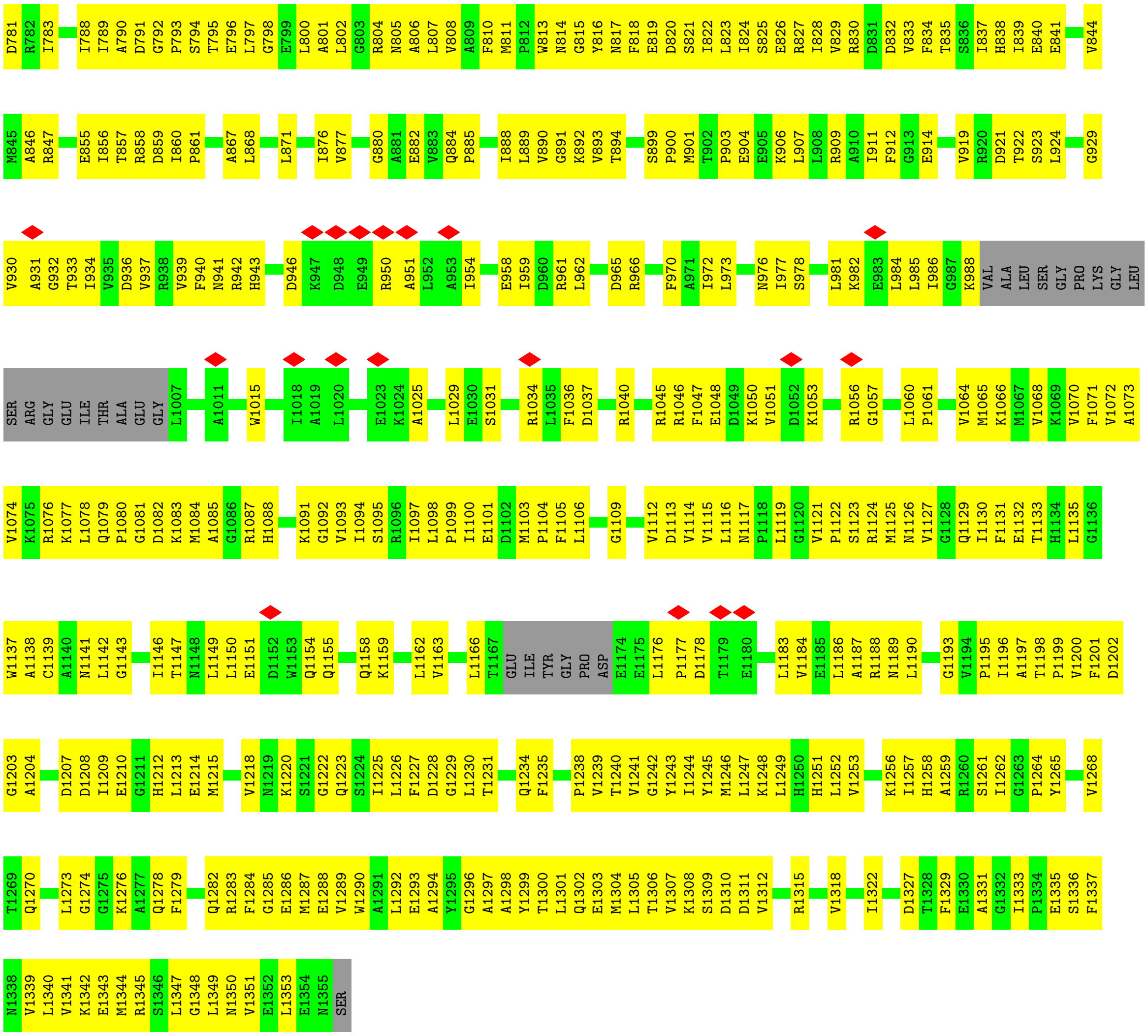




- Molecule 2: DNA-directed RNA polymerase subunit beta

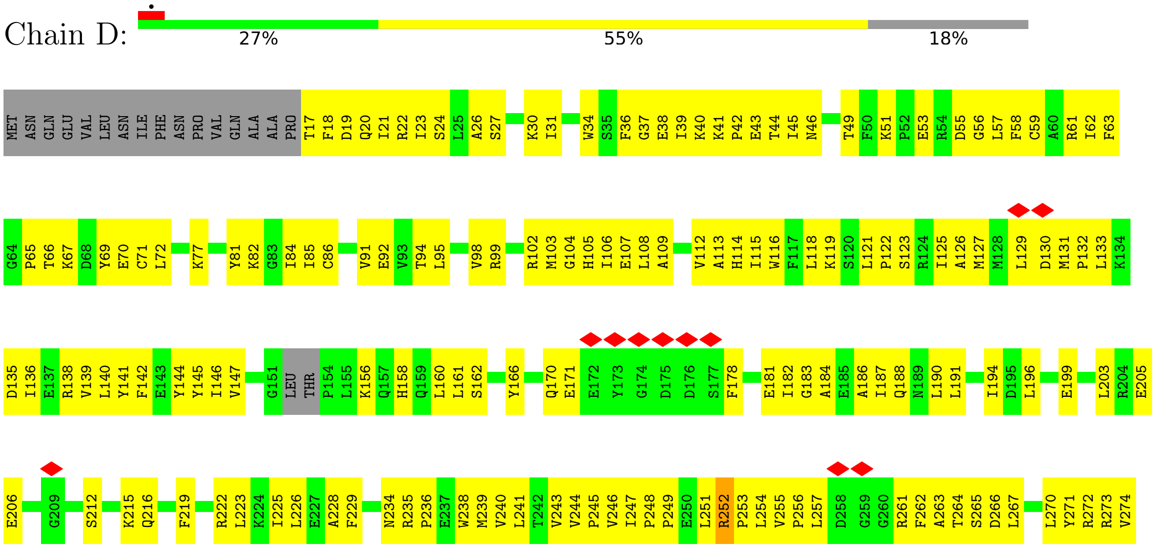
Chain C:

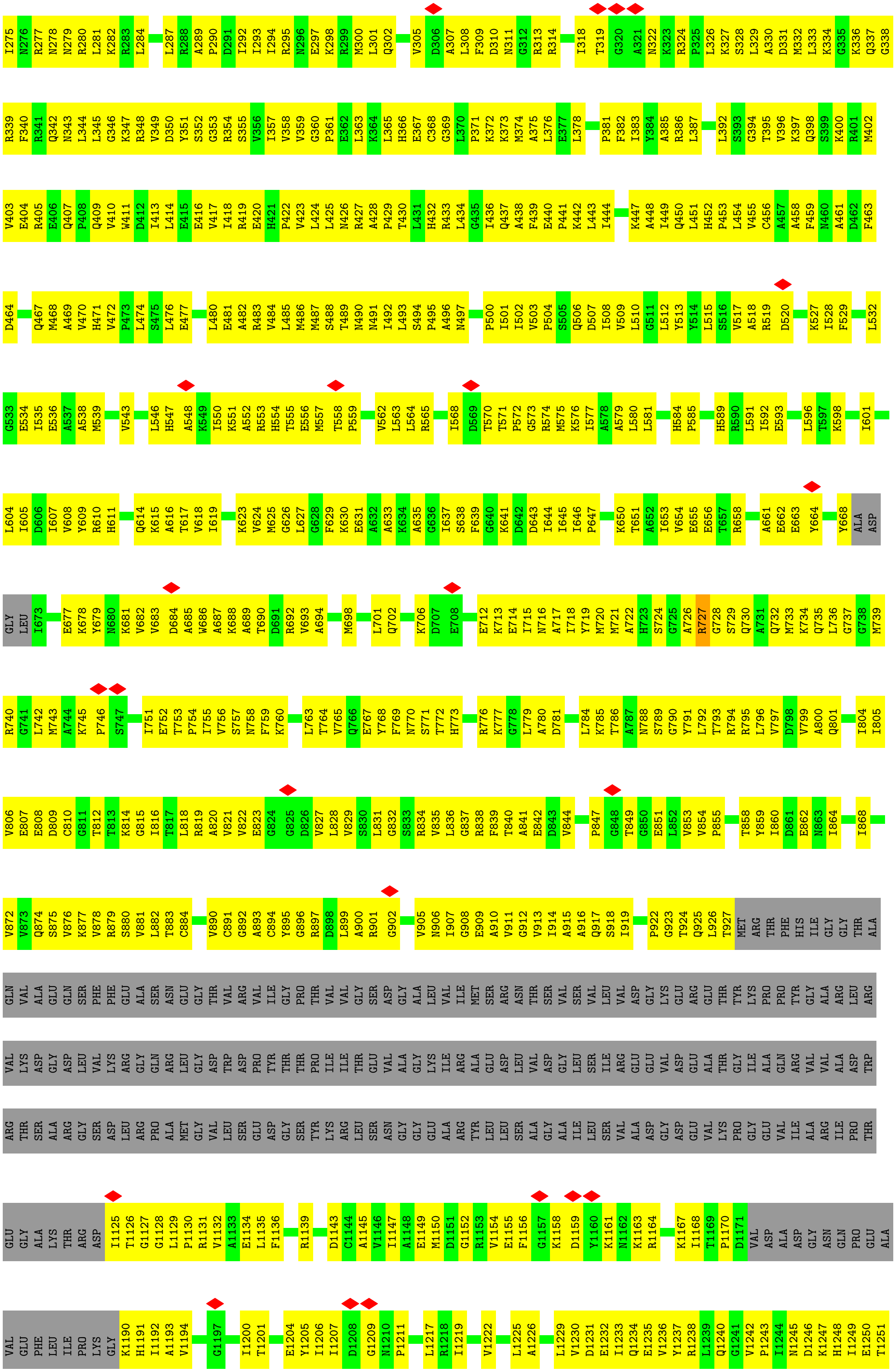


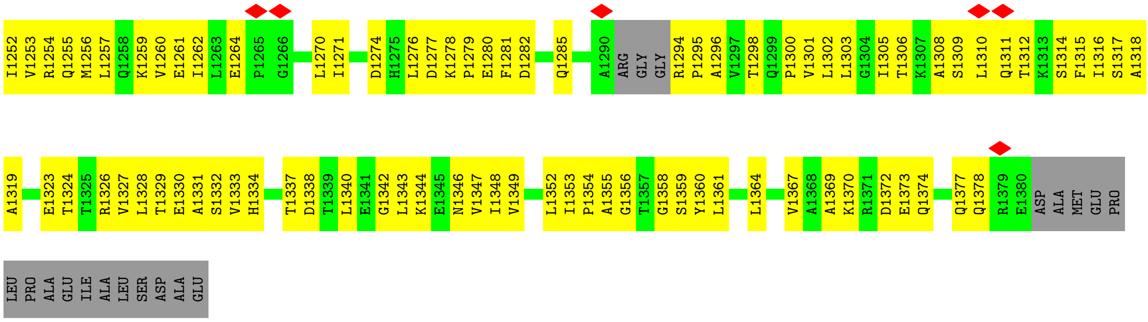


- Molecule 3: DNA-directed RNA polymerase subunit beta’

Chain D:

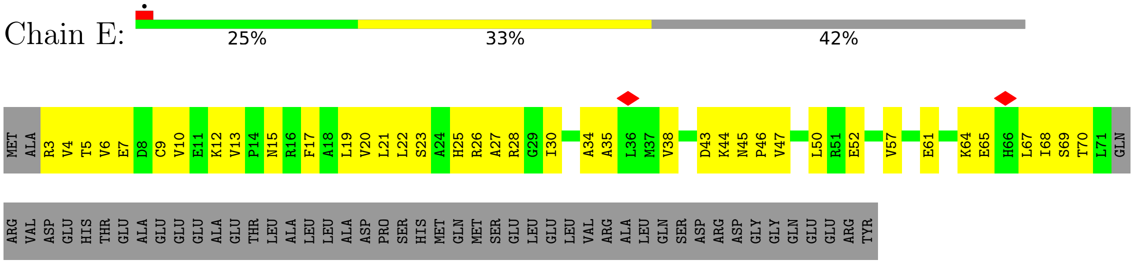



I275 N276 R277 N278 N279 R280 L281 K282 R283 L284 L287 R288 A289 P290 D291 I292 I293 I294 R295 N296 E297 K298 R299 M300 L301 Q302 V305 D306 A307 L308 F309 D310 N311 G312 R313 R314 I318 T319 G320 A321 N322 K323 R324 P325 L326 K327 S328 L329 A330 D331 M332 L333 K334 G335 K336 Q337 G338
R339 F340 R341 Q342 N343 L344 L345 G346 K347 R348 V349 D350 Y351 S352 G353 R354 S355 V356 I357 V358 V359 G360 P361 E362 L363 K364 L365 H366 E367 C368 G369 L370 P371 K372 K373 M374 A375 L376 E377 L378 P381 F382 I383 Y384 A385 R386 L387 L392 S393 G394 T395 V396 K397 Q398 S399 K400 R401 M402
V403 E404 R405 E406 Q407 P408 Q409 V410 W411 D412 I413 L414 E415 E416 V417 I418 R419 E420 H421 P422 V423 L424 L425 N426 R427 A428 P429 T430 L431 H432 R433 L434 G435 I436 Q437 A438 F439 E440 P441 K442 L443 I444 K447 A448 I449 Q450 L451 H452 P453 L454 V455 C456 A457 A458 F459 N460 A461 D462 F463
D464 Q467 M468 A469 V470 H471 V472 P473 L474 S475 L476 E477 L480 E481 A482 R483 V484 L485 M486 M487 S488 T489 N490 N491 I492 L493 S494 P495 A496 N497 P500 I501 I502 V503 P504 S505 Q506 D507 I508 V509 L510 G511 L512 Y513 Y514 L515 S516 V517 A518 R519 D520 K527 I528 F529 L532
G533 E534 I535 E536 A537 A538 M539 V543 L546 H547 A548 K549 I550 K551 A552 R553 H554 T555 E556 M557 T558 P559 V562 L563 L564 R565 I568 D569 T570 T571 P572 G573 R574 M575 K576 I577 A578 A579 L580 L581 H584 P585 H589 R590 L591 I592 E593 L596 T597 K598 I601
L604 I605 D606 I607 V608 Y609 R610 H611 Q614 K615 A616 T617 V618 I619 K623 V624 M625 G626 L627 G628 F629 K630 E631 A632 A633 K634 A635 G636 I637 S638 F639 G640 K641 D642 D643 I644 I645 I646 P647 K650 T651 A652 I653 V654 E655 E656 T657 R658 A661 E662 E663 Y664 Y668 ALA ASP
GLY LEU I673 E677 K678 Y679 N680 K681 V682 V683 D684 A685 W686 A687 K688 A689 T690 D691 R692 V693 A694 M698 L701 Q702 K706 D707 E708 E712 K713 E714 I715 N716 A717 I718 Y719 M720 M721 A722 H723 S724 G725 A726 R727 G728 S729 Q730 A731 Q732 M733 K734 Q735 L736 G737 G738 M739
R740 G741 L742 M743 A744 K745 P746 S747 I751 E752 T753 P754 I755 V756 S757 N758 F759 K760 L763 T764 V765 Q766 E767 Y768 F769 N770 S771 T772 H773 R776 K777 G778 L779 A780 D781 L784 K785 T786 A787 N788 S789 G790 Y791 L792 T793 R794 R795 L796 V797 D798 V799 A800 Q801 I804 I805
V806 E807 E808 D809 C810 G811 T812 T813 K814 G815 I816 T817 L818 R819 A820 V821 V822 E823 G824 G825 D826 V827 L828 V829 S830 L831 G832 S833 R834 V835 L836 G837 R838 F839 T840 A841 E842 D843 V844 P847 G848 T849 G850 E851 L852 V853 V854 P855 T858 Y859 I860 D861 E862 N863 I864 I868
V872 V873 Q874 S875 V876 K877 V878 R879 S880 V881 L882 T883 C884 V890 C891 G892 A893 C894 Y895 G896 R897 D898 L899 A900 R901 G902 V905 N906 I907 G908 E909 A910 V911 G912 V913 I914 A915 A916 Q917 S918 I919 P922 G923 T924 Q925 L926 T927 MET ARG THR PHE HIS ILE GLY GLY THR ALA
GLN VAL ALA GLU GLN SER PHE PHE GLU ALA SER ASN GLU GLY THR VAL ARG VAL ILE GLY PRO THR VAL VAL GLY SER ASP GLY ALA LEU VAL ILE MET SER ARG ASN THR SER VAL SER VAL LEU VAL ASP GLY LYS GLU ARG GLU THR TYR LYS PRO PRO TYR GLY ALA ARG LEU ARG
VAL LYS ASP GLY ASP LEU VAL LYS ARG GLY GLN ARG LEU GLY ASP TRP ASP PRO TYR THR THR PRO ILE ILE THR GLU VAL ALA GLY LYS ILE ARG ALA GLU ASP LEU VAL ASP GLY LEU SER ILE ARG GLU GLU VAL ASP GLU ALA THR GLY ILE ALA GLN ARG VAL VAL ALA ASP TRP
ARG THR SER ALA ARG GLY SER ASP LEU ARG PRO ALA MET GLY VAL LEU SER GLU ASP GLY SER TYR LYS ARG LEU SER ASN GLY GLY GLU ALA ARG TYR LEU LEU SER ALA GLY ALA ILE LEU SER VAL ALA ASP GLY ASP GLU VAL LYS PRO GLY GLU VAL ILE ALA ARG ILE PRO THR
GLU GLY ALA LYS THR ARG ASP I1125 T1126 G1127 G1128 L1129 P1130 R1131 V1132 A1133 E1134 L1135 F1136 R1139 D1143 C1144 A1145 V1146 I1147 A1148 E1149 M1150 D1151 G1152 R1153 V1154 E1155 F1156 G1157 K1158 D1159 Y1160 K1161 N1162 K1163 R1164 K1167 I1168 T1169 P1170 D1171 VAL ASP ALA ASP GLY ASN GLN PRO GLU ALA
VAL GLU PHE LEU ILE PRO LYS GLY K1190 H1191 I1192 A1193 V1194 G1197 I1200 T1201 E1204 Y1205 I1206 I1207 D1208 G1209 N1210 P1211 L1217 R1218 I1219 V1222 L1225 A1226 L1229 V1230 D1231 E1232 I1233 Q1234 E1235 V1236 Y1237 R1238 L1239 Q1240 G1241 V1242 P1243 I1244 N1245 D1246 K1247 H1248 I1249 E1250 T1251
]



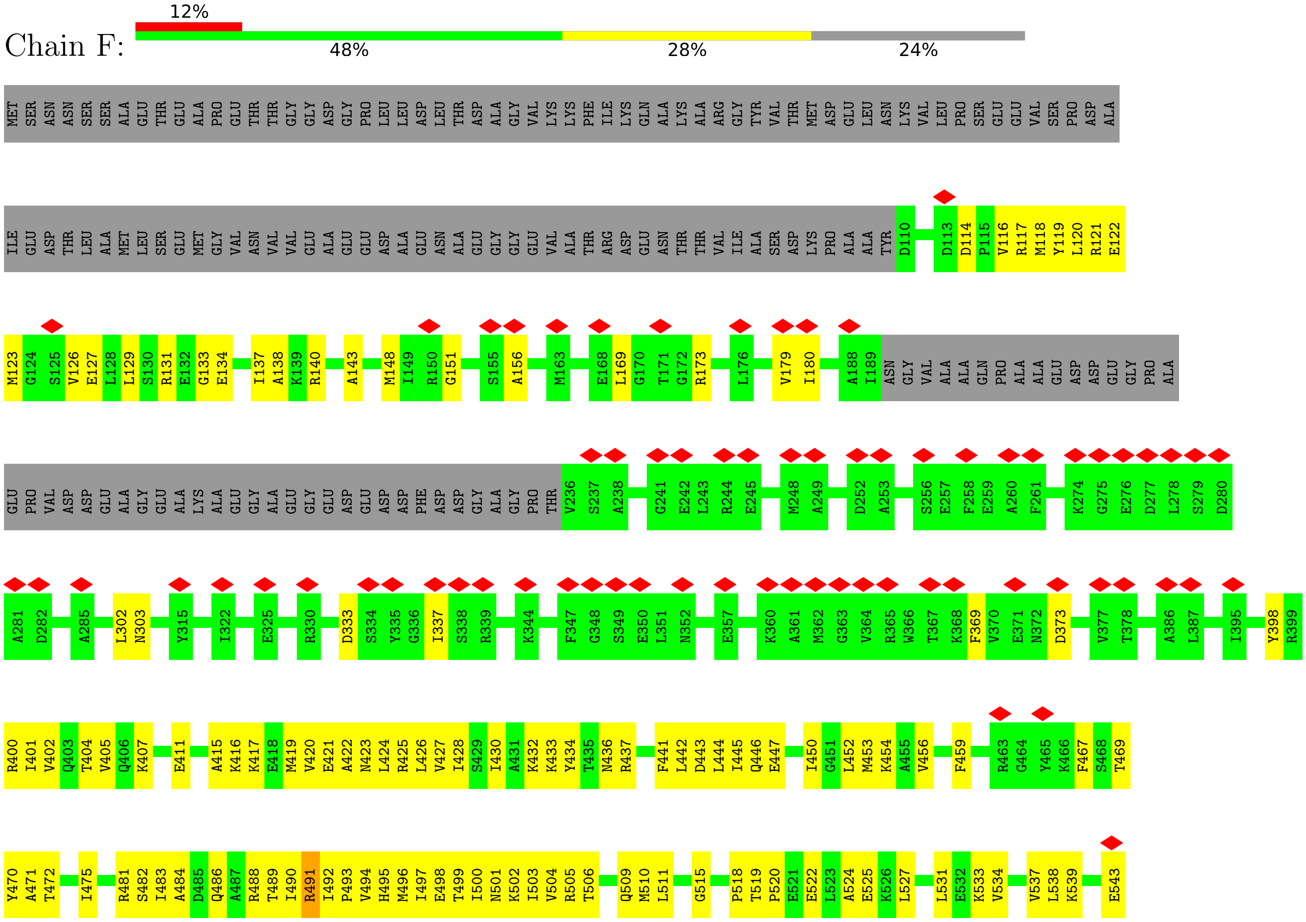
- Molecule 4: DNA-directed RNA polymerase subunit omega

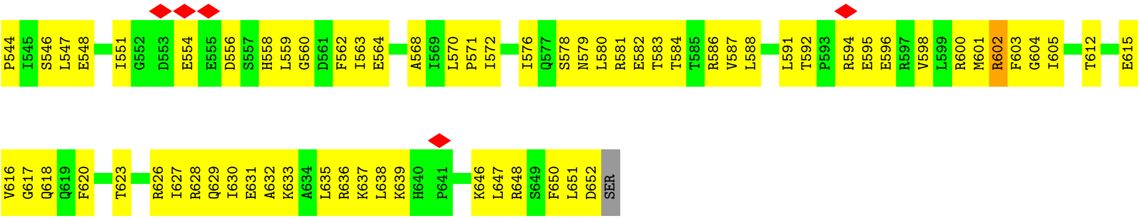
Chain E:



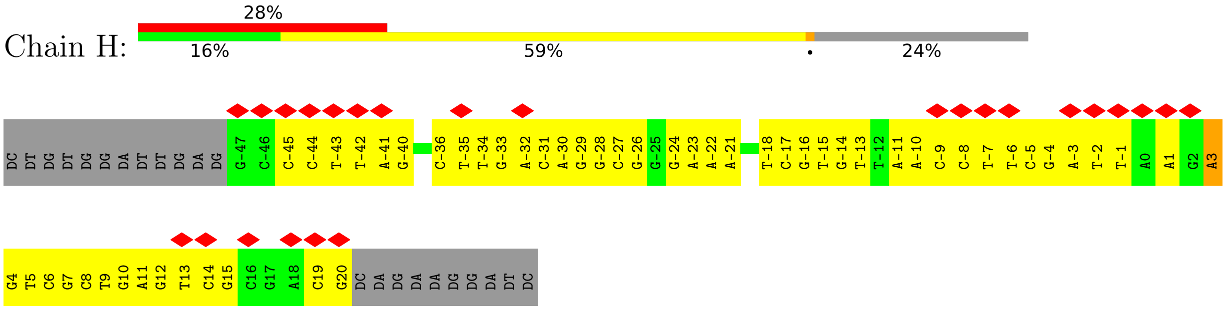
- Molecule 5: RNA polymerase sigma factor RpoD

Chain F:

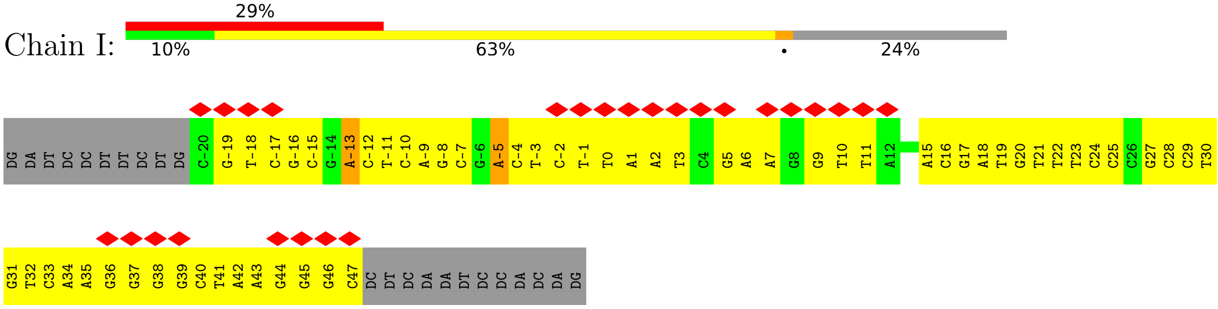




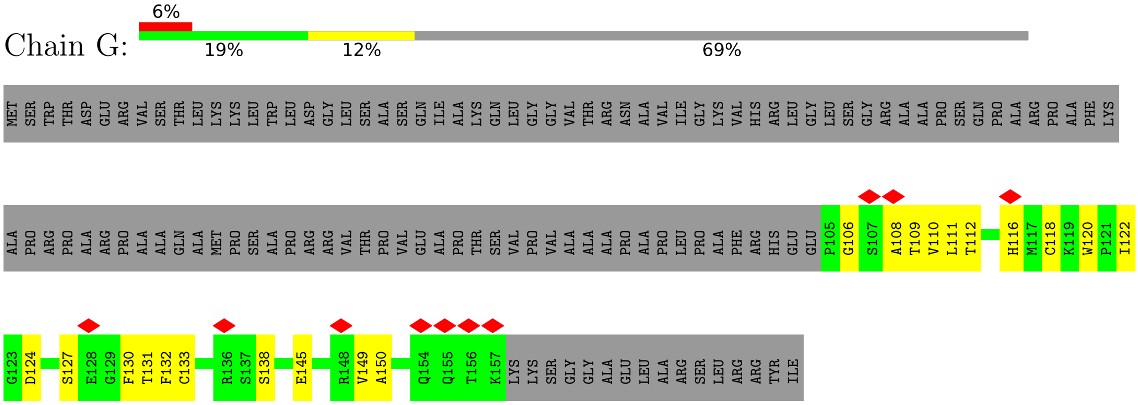
- Molecule 6: DNA (90-MER)-non template



- Molecule 7: DNA (90-MER)-template



- Molecule 8: Cell cycle regulatory protein GcrA



4 Experimental information ⓘ

Property	**Value**	**Source**
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	109869	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{Å}^2)$	60.8	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2200	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.121	Depositor
Minimum map value	-0.083	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.003	Depositor
Recommended contour level	0.01	Depositor
Map size (Å)	300.0, 300.0, 300.0	wwPDB
Map dimensions	300, 300, 300	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.0, 1.0, 1.0	Depositor

5 Model quality (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: 6MA, ZN, MG

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	0.24	0/2078	0.41	0/2838
1	B	0.23	0/1657	0.42	0/2249
2	C	0.24	0/9735	0.40	0/13133
3	D	0.24	0/8829	0.39	0/11870
4	E	0.23	0/514	0.39	0/695
5	F	0.23	0/3294	0.38	0/4467
6	H	0.49	0/1513	0.88	0/2328
7	I	0.52	0/1513	0.89	0/2328
8	G	0.24	0/384	0.39	0/522
All	All	0.28	0/29517	0.48	0/40430

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (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	2054	0	1816	216	0
1	B	1633	0	1618	203	0
2	C	9591	12	9110	1038	0
3	D	8691	0	8727	1024	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	E	510	0	505	57	0
5	F	3266	0	2751	248	0
6	H	1396	0	768	82	0
7	I	1396	0	768	87	0
8	G	372	0	325	14	0
9	D	2	0	0	0	0
9	G	1	0	0	0	0
10	D	1	0	0	0	0
All	All	28913	12	26388	2614	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 47.

All (2614) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:45:ALA:O	1:A:49:VAL:HG12	1.48	1.11
1:A:50:LEU:HB2	1:A:220:ALA:CB	1.84	1.07
5:F:123:MET:HE2	5:F:123:MET:HA	1.34	1.04
1:A:51:LEU:HD21	2:C:1100:ILE:HG13	1.40	1.04
3:D:504:PRO:HB3	3:D:508:ILE:HB	1.39	1.04
3:D:1134:GLU:HG2	3:D:1139:ARG:HD2	1.38	1.03
2:C:1092:GLY:HA2	3:D:464:ASP:HA	1.39	1.03
2:C:26:ASN:HB3	2:C:29:GLU:HB2	1.38	1.02
1:B:30:VAL:HG13	1:B:201:ILE:HG22	1.41	1.02
1:B:50:LEU:HB3	1:B:179:VAL:HG21	1.42	1.01
3:D:432:HIS:HA	3:D:917:GLN:HB3	1.41	1.01
1:B:77:VAL:HA	1:B:136:LEU:HD12	1.39	1.00
3:D:228:ALA:HB1	3:D:1334:HIS:HA	1.41	1.00
3:D:527:LYS:HB3	3:D:550:ILE:HD11	1.43	1.00
1:A:50:LEU:HD13	1:A:220:ALA:HB2	1.38	0.99
3:D:359:VAL:HG12	3:D:361:PRO:HD3	1.42	0.99
1:A:48:ARG:HD2	1:B:41:THR:HB	1.46	0.98
2:C:208:ARG:HD3	2:C:377:VAL:HG22	1.43	0.98
2:C:1262:ILE:HD11	5:F:572:ILE:HG13	1.46	0.98
2:C:199:ILE:HG13	2:C:358:THR:HG22	1.43	0.97
2:C:939:VAL:HG12	2:C:1068:VAL:HG22	1.44	0.97
2:C:1294:ALA:HA	3:D:910:ALA:HB3	1.46	0.96
5:F:129:LEU:HD11	6:H:-7:DT:C2	2.00	0.96
3:D:822:VAL:HG12	3:D:827:VAL:HA	1.47	0.96
3:D:67:LYS:HB2	3:D:70:GLU:HB2	1.47	0.96

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
2:C:931:ALA:HA	2:C:1074:VAL:HG22	1.46	0.96
1:B:179:VAL:HA	1:B:206:THR:HA	1.48	0.95
2:C:1287:MET:HB3	7:I:0:DT:H4’	1.48	0.94
3:D:790:GLY:HA3	7:I:-1:DT:H1’	1.48	0.94
3:D:203:LEU:HD22	3:D:223:LEU:HB2	1.50	0.94
1:A:182:VAL:HG22	1:A:205:VAL:HG23	1.48	0.94
1:A:188:PRO:HA	1:A:199:ASP:HA	1.46	0.94
7:I:-11:DT:H2”	7:I:-10:DC:H5”	1.50	0.94
2:C:12:ARG:HG2	2:C:1195:PRO:HB2	1.50	0.93
1:A:49:VAL:HG11	1:A:224:LEU:HG	1.51	0.93
1:A:64:ILE:HG12	1:A:144:MET:HG2	1.47	0.93
2:C:655:GLU:HG2	2:C:656:THR:HG23	1.50	0.93
3:D:371:PRO:HG2	3:D:374:MET:HB3	1.49	0.93
1:A:50:LEU:HB2	1:A:220:ALA:HB2	1.49	0.93
3:D:548:ALA:HA	3:D:572:PRO:HD2	1.51	0.93
3:D:403:VAL:HG12	3:D:410:VAL:HG21	1.50	0.92
1:B:108:THR:HG23	1:B:140:ALA:HB2	1.52	0.92
3:D:686:TRP:HB3	3:D:742:LEU:HD21	1.48	0.92
2:C:738:ARG:HD2	2:C:756:ILE:HD11	1.51	0.92
1:A:74:LEU:HD13	1:A:142:VAL:HG11	1.50	0.92
5:F:137:ILE:HG21	5:F:419:MET:HB2	1.51	0.92
3:D:37:GLY:HA3	3:D:62:ILE:HD12	1.51	0.91
2:C:770:CYS:HB3	2:C:837:ILE:HB	1.52	0.91
1:B:231:ILE:HG22	1:B:232:THR:HG23	1.52	0.91
2:C:734:ILE:HG22	2:C:739:ILE:HG22	1.53	0.91
3:D:212:SER:HB2	3:D:216:GLN:HB2	1.53	0.91
1:A:67:VAL:HG21	1:A:81:VAL:HG21	1.51	0.90
3:D:820:ALA:HB2	3:D:831:LEU:HB2	1.53	0.90
1:A:46:LEU:HD21	1:A:217:VAL:HG13	1.53	0.90
2:C:1213:LEU:HD22	2:C:1218:VAL:HG11	1.54	0.89
2:C:551:ALA:HB2	2:C:579:LEU:HD21	1.55	0.89
3:D:369:GLY:HA3	3:D:450:GLN:HB2	1.51	0.89
1:B:115:ALA:HB3	1:B:129:PRO:HA	1.51	0.89
1:B:60:THR:HA	1:B:172:VAL:HB	1.55	0.89
1:A:50:LEU:CD1	1:A:220:ALA:HB2	2.02	0.88
1:A:50:LEU:CD1	1:A:54:LEU:HD21	2.02	0.88
2:C:1283:ARG:HA	3:D:348:ARG:HA	1.54	0.88
2:C:1199:PRO:HD2	2:C:1203:GLY:HA2	1.56	0.88
1:A:52:SER:HG	1:B:38:PHE:HE1	1.19	0.88
3:D:270:LEU:HD23	3:D:308:LEU:HA	1.56	0.88
2:C:128:VAL:HG11	2:C:501:ILE:HD13	1.55	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:824:ILE:HG23	2:C:1097:ILE:HA	1.54	0.88
3:D:145:TYR:HA	3:D:182:ILE:HD13	1.55	0.88
5:F:524:ALA:HA	5:F:534:VAL:HG21	1.55	0.88
1:B:105:LEU:HB3	1:B:144:MET:HG3	1.56	0.88
3:D:821:VAL:HG22	3:D:829:VAL:HG12	1.57	0.87
1:B:77:VAL:HG21	1:B:134:CYS:HB3	1.57	0.87
2:C:150:VAL:HG21	2:C:535:LYS:HG2	1.57	0.87
2:C:408:VAL:HG23	2:C:592:TYR:HB3	1.57	0.87
2:C:1304:MET:HG3	3:D:349:VAL:HG21	1.55	0.86
1:B:179:VAL:HG12	1:B:206:THR:HG22	1.57	0.86
1:B:182:VAL:HG23	1:B:204:VAL:HG12	1.57	0.86
3:D:85:ILE:HG22	3:D:92:GLU:HB3	1.55	0.86
3:D:1262:ILE:HA	3:D:1298:THR:HG22	1.55	0.86
5:F:441:PHE:CZ	6:H:-5:DC:C6	2.64	0.85
1:A:93:VAL:HG12	1:A:126:ILE:HA	1.59	0.85
3:D:290:PRO:HB3	5:F:417:LYS:HG3	1.58	0.85
2:C:1141:ASN:HD22	2:C:1218:VAL:HG22	1.41	0.85
2:C:1225:ILE:HD11	2:C:1234:GLN:HG3	1.59	0.84
1:A:51:LEU:HD21	2:C:1100:ILE:CG1	2.07	0.84
2:C:1137:TRP:HB2	2:C:1242:GLY:HA2	1.58	0.84
3:D:26:ALA:HB1	3:D:31:ILE:HD11	1.59	0.84
3:D:365:LEU:HD23	3:D:618:VAL:HG23	1.56	0.84
4:E:12:LYS:HB3	4:E:57:VAL:HG21	1.59	0.84
1:A:52:SER:HB3	2:C:1101:GLU:CD	1.97	0.84
2:C:43:THR:HG23	2:C:45:PRO:HD2	1.57	0.84
2:C:1308:LYS:HE3	3:D:474:LEU:HD13	1.59	0.84
2:C:1283:ARG:HB2	3:D:348:ARG:HD3	1.59	0.84
2:C:1347:LEU:HD11	3:D:329:LEU:HB3	1.59	0.84
5:F:416:LYS:HG3	5:F:456:VAL:HG11	1.59	0.84
1:A:9:LEU:HD21	1:A:33:PRO:HB2	1.57	0.83
2:C:200:VAL:HG12	2:C:358:THR:HG21	1.59	0.83
3:D:515:LEU:HD11	3:D:631:GLU:HG3	1.60	0.83
2:C:216:LEU:HB3	2:C:222:ASP:HB2	1.61	0.83
3:D:693:VAL:HG11	3:D:739:MET:HB2	1.61	0.83
3:D:420:GLU:HG3	4:E:47:VAL:HG11	1.60	0.83
3:D:800:ALA:HA	3:D:1255:GLN:HG3	1.57	0.83
5:F:441:PHE:CE1	6:H:-5:DC:C5	2.67	0.83
3:D:310:ASP:HA	3:D:330:ALA:HB3	1.60	0.83
5:F:444:LEU:HD21	5:F:483:ILE:HD11	1.60	0.83
6:H:8:DC:H3’	6:H:9:DT:H71	1.61	0.83
1:A:61:ALA:HB3	1:A:147:THR:HB	1.61	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:823:LEU:HD21	2:C:1098:LEU:HD12	1.59	0.83
3:D:512:LEU:HD23	3:D:596:LEU:HD21	1.61	0.83
2:C:788:ILE:HD13	2:C:798:GLY:HA2	1.60	0.82
2:C:1138:ALA:HB2	2:C:1213:LEU:HD23	1.61	0.82
3:D:489:THR:HG22	3:D:618:VAL:HG21	1.61	0.82
1:A:52:SER:HB3	2:C:1101:GLU:OE1	1.79	0.82
3:D:745:LYS:HE3	3:D:746:PRO:HD2	1.61	0.82
1:A:45:ALA:O	1:A:49:VAL:CG1	2.27	0.82
3:D:418:ILE:HD12	3:D:443:LEU:HD21	1.60	0.82
6:H:-14:DG:H5”	6:H:-13:DT:H71	1.61	0.82
3:D:926:LEU:HD23	3:D:1240:GLN:HG2	1.59	0.82
5:F:120:LEU:HD12	6:H:-6:DT:O2	1.80	0.82
3:D:112:VAL:HG23	3:D:302:GLN:HG2	1.60	0.82
2:C:180:ALA:HB2	2:C:440:LEU:HD13	1.60	0.82
3:D:1343:LEU:HD12	3:D:1354:PRO:HG2	1.60	0.82
1:A:50:LEU:CB	1:A:220:ALA:HB2	2.10	0.81
2:C:598:PRO:HB2	2:C:662:VAL:HG21	1.60	0.81
3:D:683:VAL:HA	3:D:687:ALA:HB3	1.62	0.81
3:D:1168:ILE:HG22	3:D:1170:PRO:HD3	1.62	0.81
1:B:86:LEU:HD21	3:D:528:ILE:HB	1.62	0.81
2:C:743:ALA:HB1	2:C:747:THR:HG21	1.62	0.81
2:C:1119:LEU:HD13	3:D:506:GLN:HB3	1.63	0.81
5:F:426:LEU:CD2	5:F:430:ILE:HD12	2.10	0.81
5:F:116:VAL:O	5:F:120:LEU:HD23	1.78	0.81
3:D:654:VAL:HG11	3:D:756:VAL:HG21	1.62	0.81
6:H:-3:DA:H2”	6:H:-2:DT:H2’	1.60	0.81
1:A:183:ALA:HB3	1:A:204:GLU:HB2	1.62	0.81
1:A:50:LEU:HB2	1:A:220:ALA:HB1	1.61	0.81
1:B:103:MET:HB2	1:B:146:PHE:HB2	1.60	0.81
2:C:78:GLU:HG3	2:C:101:LYS:HB2	1.62	0.81
2:C:1293:GLU:HG2	3:D:1343:LEU:HD23	1.61	0.81
1:B:91:LEU:HD21	1:B:126:ILE:HD12	1.63	0.81
2:C:9:LYS:HG3	2:C:797:LEU:HD13	1.61	0.81
7:I:22:DT:H2”	7:I:23:DT:H71	1.62	0.81
1:A:49:VAL:HG11	1:A:224:LEU:CG	2.11	0.81
3:D:854:VAL:HG21	3:D:868:ILE:HD11	1.64	0.80
8:G:124:ASP:HB3	8:G:127:SER:HB3	1.61	0.80
2:C:664:PRO:HB2	2:C:1201:PHE:HB2	1.63	0.80
2:C:847:ARG:HG2	2:C:1064:VAL:HB	1.62	0.80
4:E:13:VAL:HG22	4:E:57:VAL:HG13	1.61	0.80
2:C:1123:SER:HB2	3:D:727:ARG:HB3	1.64	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:I:27:DG:H1'	7:I:28:DC:H5'	1.64	0.80
2:C:1285:GLY:HA2	3:D:346:GLY:HA2	1.64	0.80
3:D:434:LEU:HD22	3:D:491:ASN:HB3	1.61	0.80
3:D:1353:ILE:HG22	3:D:1355:ALA:H	1.48	0.79
1:B:115:ALA:HB1	1:B:126:ILE:HG21	1.64	0.79
3:D:1253:VAL:HA	3:D:1256:MET:HE2	1.65	0.79
3:D:840:THR:HG23	3:D:860:ILE:HD11	1.64	0.79
3:D:112:VAL:HG23	3:D:302:GLN:HA	1.65	0.78
3:D:292:ILE:HD12	5:F:123:MET:HE1	1.66	0.78
2:C:822:ILE:HG12	2:C:1116:LEU:HD22	1.65	0.78
3:D:328:SER:H	3:D:331:ASP:HB2	1.48	0.78
2:C:844:VAL:HG11	2:C:890:VAL:HG21	1.64	0.78
3:D:1360:TYR:HD2	4:E:21:LEU:HD12	1.49	0.78
5:F:452:LEU:HB2	5:F:475:ILE:HD11	1.66	0.78
2:C:698:PRO:HA	2:C:794:SER:HB3	1.65	0.78
2:C:1339:VAL:HG23	3:D:251:LEU:HD13	1.64	0.78
3:D:112:VAL:HG21	3:D:305:VAL:HB	1.64	0.78
3:D:1128:GLY:HA2	3:D:1236:VAL:HG13	1.65	0.78
5:F:580:LEU:HA	5:F:583:THR:HG22	1.65	0.78
2:C:456:LEU:HD11	2:C:595:ILE:HD12	1.65	0.78
2:C:1327:ASP:HB2	3:D:476:LEU:HB2	1.66	0.78
3:D:428:ALA:HB3	3:D:429:PRO:HD3	1.66	0.78
1:B:184:TYR:HA	1:B:202:LEU:HA	1.67	0.77
5:F:481:ARG:HD3	5:F:494:VAL:HG11	1.64	0.77
1:A:17:ILE:HG12	1:A:214:VAL:HG23	1.66	0.77
1:A:85:VAL:HG13	1:A:172:VAL:HG23	1.65	0.77
3:D:926:LEU:HA	3:D:1240:GLN:HG2	1.65	0.77
1:B:40:VAL:HG21	2:C:1230:LEU:HG	1.66	0.77
2:C:1162:LEU:HD23	2:C:1166:LEU:HD23	1.65	0.77
5:F:129:LEU:HD22	6:H:-7:DT:H2'	1.65	0.77
2:C:683:ALA:HB1	3:D:772:THR:HA	1.65	0.77
1:A:108:THR:HB	1:A:141:SER:HB2	1.66	0.77
8:G:109:THR:HG22	8:G:112:THR:HG22	1.67	0.77
1:A:51:LEU:CD2	2:C:1100:ILE:HG13	2.15	0.77
1:A:179:VAL:HG12	1:A:207:THR:HB	1.67	0.77
2:C:155:MET:HG2	2:C:461:VAL:HG23	1.66	0.77
1:B:157:ALA:HB1	1:B:171:ALA:HB1	1.65	0.76
2:C:1340:LEU:HD22	3:D:339:ARG:HG3	1.65	0.76
3:D:510:LEU:HD21	3:D:637:ILE:HG21	1.65	0.76
1:A:88:ILE:HD13	1:A:133:LEU:HD22	1.66	0.76
3:D:558:THR:HG23	3:D:559:PRO:HD3	1.68	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:674:LEU:HD13	2:C:712:GLU:HG2	1.67	0.76
2:C:371:LEU:HD13	2:C:390:GLU:HB2	1.67	0.76
2:C:769:THR:HA	2:C:838:HIS:HA	1.67	0.76
5:F:123:MET:HE2	5:F:123:MET:CA	2.15	0.76
2:C:111:THR:HA	2:C:118:ARG:HH21	1.50	0.76
3:D:427:ARG:HD2	3:D:461:ALA:HB2	1.68	0.76
2:C:847:ARG:HA	2:C:1064:VAL:HA	1.67	0.76
1:B:47:ARG:HG3	1:B:182:VAL:HG13	1.67	0.75
3:D:1294:ARG:HH11	3:D:1295:PRO:HD2	1.50	0.75
2:C:79:PHE:HE1	2:C:133:ILE:HD11	1.50	0.75
2:C:538:LEU:HD11	2:C:583:LEU:HD13	1.68	0.75
3:D:427:ARG:HG2	3:D:429:PRO:HD2	1.67	0.75
1:A:64:ILE:HB	1:A:67:VAL:HG12	1.67	0.75
2:C:204:ILE:HD11	2:C:396:LEU:HD21	1.69	0.75
2:C:1344:MET:HE3	3:D:339:ARG:HH12	1.51	0.75
3:D:661:ALA:HA	3:D:681:LYS:HD2	1.68	0.75
2:C:823:LEU:HD11	2:C:1098:LEU:HD11	1.69	0.75
2:C:877:VAL:HG11	2:C:889:LEU:HD12	1.66	0.75
5:F:617:GLY:HA2	5:F:627:ILE:HG13	1.69	0.75
7:I:-5:6MA:H2’	7:I:-4:DC:H5	1.51	0.75
2:C:456:LEU:HD22	2:C:562:HIS:HA	1.66	0.75
2:C:939:VAL:HG21	2:C:951:ALA:HB1	1.68	0.75
3:D:899:LEU:HD21	3:D:1245:ASN:HD22	1.52	0.74
2:C:158:SER:HB2	2:C:460:ARG:HB3	1.68	0.74
1:B:186:VAL:HG13	1:B:198:ASP:HB3	1.67	0.74
2:C:696:ALA:HB2	2:C:1247:LEU:HD23	1.68	0.74
2:C:835:THR:HG22	2:C:1077:LYS:HA	1.70	0.74
3:D:1260:VAL:HG12	3:D:1300:PRO:HA	1.68	0.74
1:B:61:ALA:HB3	1:B:146:PHE:HA	1.68	0.74
1:B:200:LEU:HD21	1:B:202:LEU:HD22	1.68	0.74
2:C:44:ARG:HA	2:C:47:LEU:HD12	1.69	0.74
2:C:857:THR:HG22	2:C:893:VAL:HG21	1.67	0.74
2:C:397:PHE:HB3	2:C:428:LEU:HD21	1.69	0.74
2:C:1308:LYS:HE2	3:D:351:TYR:HB2	1.69	0.74
3:D:98:VAL:HG22	3:D:102:ARG:HG3	1.69	0.74
3:D:849:THR:HG23	3:D:851:GLU:HG2	1.68	0.74
2:C:670:VAL:HG13	2:C:711:MET:HE3	1.70	0.74
2:C:696:ALA:HB3	2:C:802:LEU:HD12	1.69	0.74
5:F:426:LEU:HD21	5:F:430:ILE:HD12	1.69	0.74
2:C:892:LYS:HE3	2:C:922:THR:HG22	1.70	0.73
1:B:12:PRO:HB3	1:B:33:PRO:HD2	1.69	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:819:GLU:HB2	3:D:463:PHE:HD2	1.52	0.73
2:C:28:ILE:HD12	2:C:32:ARG:HD2	1.69	0.73
3:D:1257:LEU:HD21	3:D:1302:LEU:HD12	1.69	0.73
1:B:27:ALA:HB3	1:B:212:PRO:HB2	1.69	0.73
2:C:814:ASN:H	3:D:633:ALA:HB2	1.53	0.73
3:D:292:ILE:CD1	5:F:123:MET:HE1	2.19	0.73
5:F:422:ALA:O	5:F:423:ASN:ND2	2.22	0.73
1:B:127:LEU:HD13	1:B:209:ALA:HB2	1.71	0.73
2:C:10:ARG:HG3	2:C:1195:PRO:HG2	1.70	0.73
5:F:488:ARG:HG3	5:F:492:ILE:HD12	1.71	0.73
2:C:1262:ILE:HG21	5:F:571:PRO:HG2	1.69	0.73
3:D:255:VAL:HG11	5:F:563:ILE:HG12	1.71	0.73
3:D:357:ILE:HG21	3:D:468:MET:HG3	1.71	0.73
2:C:548:ARG:HD3	2:C:575:PRO:HB2	1.70	0.73
3:D:319:THR:HB	3:D:326:LEU:HD21	1.69	0.73
3:D:882:LEU:HD23	3:D:1254:ARG:HB2	1.70	0.73
3:D:65:PRO:HG2	3:D:94:THR:H	1.54	0.72
1:B:127:LEU:HD22	1:B:209:ALA:HA	1.71	0.72
2:C:904:GLU:HB3	5:F:580:LEU:HG	1.71	0.72
3:D:108:LEU:HD13	3:D:301:LEU:HD21	1.71	0.72
1:A:55:GLN:HB2	1:B:5:ASN:HB3	1.71	0.72
2:C:699:LEU:HD11	2:C:1248:LYS:HB3	1.72	0.72
7:I:0:DT:H71	7:I:1:DA:H62	1.55	0.72
1:A:70:GLU:HB3	1:A:170:ILE:HG23	1.70	0.72
2:C:461:VAL:HG21	2:C:538:LEU:HD22	1.71	0.72
5:F:618:GLN:HE21	5:F:623:THR:HG21	1.55	0.72
1:A:105:LEU:HD13	1:A:118:ILE:HG12	1.71	0.72
1:B:67:VAL:HB	1:B:168:GLY:HA2	1.72	0.72
2:C:740:VAL:HG11	2:C:972:ILE:HG12	1.70	0.72
2:C:808:VAL:HG11	2:C:1244:ILE:HB	1.71	0.72
3:D:422:PRO:HB2	3:D:438:ALA:HB1	1.72	0.72
2:C:22:VAL:HG21	2:C:611:VAL:HG21	1.70	0.71
2:C:675:ILE:HB	2:C:678:LEU:HD12	1.72	0.71
3:D:507:ASP:HB3	3:D:629:PHE:HE1	1.54	0.71
5:F:524:ALA:HB1	5:F:531:LEU:HA	1.71	0.71
2:C:150:VAL:H	2:C:523:MET:HB2	1.55	0.71
2:C:151:ILE:HB	2:C:464:VAL:HB	1.71	0.71
5:F:602:ARG:HG2	5:F:616:VAL:HG11	1.70	0.71
1:A:53:SER:O	1:A:54:LEU:HG	1.90	0.71
2:C:636:ILE:HG13	2:C:654:LYS:HG3	1.73	0.71
2:C:652:LEU:HD12	2:C:657:VAL:HG22	1.71	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:841:GLU:HA	2:C:1071:PHE:HA	1.70	0.71
2:C:1131:PHE:HZ	3:D:760:LYS:HG3	1.55	0.71
2:C:1257:ILE:HG13	3:D:355:SER:HB3	1.71	0.71
2:C:1048:GLU:HA	2:C:1051:VAL:HG12	1.73	0.71
3:D:1217:LEU:HB2	3:D:1225:LEU:HD12	1.73	0.71
6:H:-29:DG:N2	7:I:30:DT:O2	2.23	0.71
2:C:623:VAL:HG23	2:C:645:ILE:HG22	1.73	0.71
3:D:908:GLY:O	3:D:1356:GLY:N	2.24	0.71
1:B:113:VAL:HG12	1:B:134:CYS:HB2	1.72	0.71
2:C:813:TRP:HB2	2:C:1115:VAL:HG11	1.72	0.71
7:I:-13:6MA:H5”	7:I:-13:6MA:H8	1.73	0.71
1:A:50:LEU:HD12	1:A:54:LEU:HD21	1.72	0.71
2:C:1226:LEU:HD13	2:C:1241:VAL:HG21	1.73	0.71
5:F:469:THR:HB	6:H:-9:DC:OP1	1.91	0.71
3:D:336:LYS:O	3:D:342:GLN:N	2.24	0.70
3:D:550:ILE:HG22	3:D:572:PRO:HD3	1.73	0.70
3:D:645:ILE:HG22	3:D:701:LEU:HD13	1.72	0.70
1:A:41:THR:HG22	1:B:48:ARG:HD3	1.73	0.70
5:F:612:THR:HG22	5:F:615:GLU:HG2	1.73	0.70
2:C:1270:GLN:HE22	5:F:568:ALA:HB2	1.55	0.70
2:C:1305:LEU:HB2	3:D:347:LYS:HD2	1.72	0.70
1:B:178:PRO:HB2	1:B:210:VAL:HG11	1.72	0.70
2:C:166:ASP:HB2	2:C:177:LEU:HB2	1.74	0.70
5:F:129:LEU:CD2	6:H:-7:DT:H2’	2.22	0.70
3:D:844:VAL:HG12	3:D:854:VAL:HB	1.73	0.70
1:A:58:ALA:HB3	1:A:174:ALA:HB1	1.74	0.70
2:C:937:VAL:HG22	2:C:1070:VAL:HG23	1.72	0.70
3:D:39:ILE:HD11	3:D:246:VAL:HG11	1.71	0.70
7:I:-5:6MA:H2’	7:I:-4:DC:C5	2.27	0.70
2:C:882:GLU:HA	2:C:933:THR:HA	1.74	0.70
3:D:844:VAL:HB	3:D:876:VAL:HG23	1.72	0.70
5:F:471:ALA:O	5:F:475:ILE:HG12	1.91	0.70
2:C:381:GLY:O	5:F:121:ARG:CZ	2.40	0.69
2:C:817:ASN:O	2:C:1117:ASN:ND2	2.25	0.69
1:A:200:LYS:HE3	1:A:202:ILE:HD11	1.73	0.69
2:C:816:TYR:HB2	2:C:823:LEU:HD12	1.74	0.69
2:C:860:ILE:HD12	2:C:861:PRO:HD2	1.72	0.69
3:D:375:ALA:HB3	3:D:414:LEU:HD21	1.74	0.69
1:A:27:ALA:H	1:A:213:PRO:HG2	1.57	0.69
1:B:63:GLN:HG3	1:B:143:ARG:HB2	1.74	0.69
1:B:170:ILE:HG23	1:B:172:VAL:HG23	1.74	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1352:LEU:HD21	3:D:1358:GLY:HA2	1.73	0.69
1:A:51:LEU:O	1:A:51:LEU:HD23	1.91	0.69
1:B:46:LEU:HD13	1:B:216:VAL:HG13	1.75	0.69
3:D:438:ALA:N	3:D:486:MET:O	2.24	0.69
3:D:1217:LEU:HD22	3:D:1302:LEU:HB2	1.75	0.69
5:F:503:ILE:HD12	5:F:537:VAL:HG11	1.74	0.69
1:B:94:ARG:HD2	1:B:209:ALA:HB1	1.74	0.69
1:B:154:TYR:HD1	1:B:175:LEU:HB3	1.56	0.69
3:D:495:PRO:O	3:D:1248:HIS:NE2	2.26	0.69
3:D:818:LEU:HD12	3:D:878:VAL:HG21	1.74	0.69
5:F:123:MET:HA	5:F:123:MET:CE	2.19	0.69
1:A:44:ASN:ND2	2:C:1231:THR:O	2.26	0.69
2:C:1270:GLN:HB2	2:C:1335:GLU:HG2	1.73	0.69
2:C:1298:ALA:HB3	3:D:1358:GLY:H	1.57	0.69
3:D:439:PHE:HZ	3:D:455:VAL:HG21	1.58	0.69
6:H:-8:DC:H2”	6:H:-7:DT:OP1	1.92	0.69
1:A:60:THR:OG1	1:A:160:ASN:ND2	2.24	0.69
2:C:61:PHE:HD2	2:C:74:TYR:HB2	1.57	0.69
2:C:1310:ASP:O	2:C:1335:GLU:N	2.22	0.69
2:C:1349:LEU:HD11	3:D:116:TRP:HZ3	1.56	0.69
1:A:50:LEU:HD11	1:A:54:LEU:HD21	1.75	0.69
2:C:1259:ALA:HB2	3:D:374:MET:HG3	1.73	0.69
3:D:1158:LYS:H	3:D:1161:LYS:HE2	1.58	0.69
1:A:78:ARG:HG3	2:C:775:PRO:HG2	1.74	0.68
3:D:372:LYS:HG2	3:D:443:LEU:HD12	1.75	0.68
3:D:477:GLU:O	3:D:481:GLU:N	2.23	0.68
6:H:-35:DT:H1’	6:H:-34:DT:H5”	1.75	0.68
1:A:53:SER:OG	1:B:38:PHE:CZ	2.46	0.68
2:C:776:LEU:HD11	2:C:791:ASP:HB3	1.74	0.68
3:D:434:LEU:HD11	3:D:494:SER:HA	1.76	0.68
3:D:718:ILE:HA	3:D:721:MET:HE3	1.73	0.68
5:F:426:LEU:C	5:F:426:LEU:HD23	2.14	0.68
1:B:60:THR:HG23	1:B:147:THR:HB	1.75	0.68
1:A:35:GLU:HB2	1:A:38:PHE:HB3	1.76	0.68
2:C:674:LEU:HD11	2:C:715:VAL:HG11	1.74	0.68
3:D:668:TYR:HB2	3:D:677:GLU:HG3	1.74	0.68
1:A:50:LEU:CD1	1:A:54:LEU:HD11	2.24	0.68
1:B:175:LEU:HD13	1:B:177:SER:HB3	1.74	0.68
3:D:140:LEU:HD21	3:D:187:ILE:HG21	1.75	0.68
3:D:333:LEU:HB3	3:D:1324:THR:HG21	1.76	0.68
6:H:3:6MA:H2	7:I:-3:DT:H3	1.59	0.68

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
1:A:62:ILE:HB	1:A:170:ILE:HB	1.75	0.68
1:A:218:ALA:HB1	1:B:233:PHE:HE2	1.58	0.68
2:C:734:ILE:HG12	2:C:779:VAL:HG22	1.76	0.68
5:F:506:THR:HG21	5:F:527:LEU:HD21	1.76	0.68
3:D:123:SER:HB3	3:D:126:ALA:HB3	1.75	0.67
3:D:683:VAL:O	3:D:688:LYS:N	2.27	0.67
1:A:137:ASP:HB2	2:C:733:GLN:HB2	1.77	0.67
2:C:748:ASP:HB2	2:C:751:ARG:HB2	1.76	0.67
1:B:58:ALA:HB1	1:B:174:ALA:HB3	1.74	0.67
3:D:383:ILE:HD11	3:D:414:LEU:HA	1.75	0.67
3:D:1319:ALA:HA	3:D:1327:VAL:HG11	1.76	0.67
3:D:483:ARG:HA	3:D:487:MET:HG2	1.75	0.67
2:C:63:ILE:HG21	2:C:480:GLU:HG3	1.77	0.67
2:C:1081:GLY:H	2:C:1094:ILE:HG22	1.58	0.67
3:D:559:PRO:HD3	3:D:563:LEU:HD22	1.77	0.67
2:C:1078:LEU:HD13	2:C:1084:MET:HE1	1.77	0.67
2:C:1119:LEU:HD21	3:D:510:LEU:HD12	1.74	0.67
5:F:426:LEU:HD23	5:F:430:ILE:HD12	1.77	0.67
3:D:797:VAL:HG13	3:D:913:VAL:HG13	1.76	0.67
1:B:44:ASN:ND2	2:C:1231:THR:O	2.28	0.67
1:B:59:VAL:HG21	1:B:88:ILE:HG22	1.76	0.67
2:C:973:LEU:HA	2:C:976:ASN:HD21	1.59	0.67
2:C:161:VAL:HA	2:C:182:VAL:HA	1.77	0.67
2:C:529:LEU:HB2	2:C:800:LEU:HD21	1.76	0.67
3:D:834:ARG:NE	3:D:1246:ASP:OD2	2.28	0.67
7:I:33:DC:H2’	7:I:34:DA:C8	2.29	0.67
7:I:34:DA:H2’	7:I:35:DA:C8	2.29	0.67
1:A:111:GLY:HA2	1:A:136:LEU:HB2	1.77	0.66
2:C:28:ILE:HG22	2:C:535:LYS:HD2	1.76	0.66
3:D:69:TYR:HE1	3:D:82:LYS:HG3	1.59	0.66
3:D:261:ARG:NE	5:F:543:GLU:O	2.25	0.66
3:D:359:VAL:HG13	3:D:453:PRO:HG3	1.76	0.66
5:F:436:ASN:O	7:I:9:DG:N2	2.27	0.66
5:F:419:MET:SD	5:F:423:ASN:OD1	2.54	0.66
2:C:532:ILE:HD11	2:C:719:SER:HB2	1.78	0.66
3:D:614:GLN:H	4:E:7:GLU:HG2	1.59	0.66
3:D:637:ILE:HG23	3:D:720:MET:HE3	1.77	0.66
5:F:600:ARG:HG3	5:F:605:ILE:HG12	1.78	0.66
1:B:53:SER:HB3	1:B:152:LYS:HB3	1.77	0.66
2:C:571:THR:HG21	2:C:578:GLY:H	1.61	0.66
2:C:1210:GLU:OE1	3:D:641:LYS:NZ	2.29	0.66

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
3:D:57:LEU:HD22	3:D:271:TYR:HB3	1.77	0.66
3:D:1152:GLY:O	3:D:1200:ILE:N	2.27	0.66
2:C:590:ASN:ND2	2:C:615:SER:OG	2.29	0.66
2:C:1257:ILE:HD12	3:D:447:LYS:HB3	1.78	0.66
2:C:104:LEU:HB2	2:C:126:GLN:HB2	1.76	0.66
2:C:569:ILE:HD11	2:C:672:ALA:HB1	1.78	0.66
2:C:813:TRP:HB3	2:C:823:LEU:HD13	1.78	0.66
3:D:129:LEU:HD12	3:D:190:LEU:HG	1.77	0.66
5:F:554:GLU:HG2	5:F:556:ASP:H	1.61	0.66
7:I:30:DT:H2”	7:I:31:DG:H5”	1.76	0.66
1:A:228:LEU:HB3	1:B:220:ALA:HB1	1.77	0.65
2:C:885:PRO:HB3	2:C:929:GLY:H	1.61	0.65
3:D:792:LEU:HA	3:D:795:ARG:HE	1.61	0.65
3:D:906:ASN:ND2	4:E:15:ASN:O	2.28	0.65
2:C:1292:LEU:HB2	2:C:1301:LEU:HD21	1.78	0.65
2:C:1293:GLU:HG3	3:D:1353:ILE:HD13	1.79	0.65
3:D:121:LEU:HB2	3:D:122:PRO:HD3	1.78	0.65
3:D:366:HIS:HB3	3:D:489:THR:HG23	1.78	0.65
6:H:-31:DC:H2”	6:H:-30:DA:H5’	1.77	0.65
2:C:366:ILE:HG23	2:C:369:ASP:H	1.60	0.65
2:C:817:ASN:ND2	2:C:1115:VAL:O	2.29	0.65
2:C:528:PRO:HG2	2:C:800:LEU:HD13	1.79	0.65
3:D:365:LEU:HD11	3:D:502:ILE:HD11	1.77	0.65
3:D:804:ILE:HD12	3:D:910:ALA:HA	1.77	0.65
3:D:1278:LYS:HB2	3:D:1279:PRO:HD3	1.79	0.65
7:I:34:DA:H2’	7:I:35:DA:H8	1.62	0.65
1:B:12:PRO:HA	1:B:33:PRO:HG2	1.77	0.65
2:C:765:SER:HB2	2:C:771:ILE:HG12	1.78	0.65
2:C:943:HIS:ND1	2:C:1056:ARG:O	2.30	0.65
2:C:1210:GLU:O	2:C:1214:GLU:HG3	1.97	0.65
3:D:423:VAL:HG22	3:D:441:PRO:HG3	1.78	0.65
1:A:59:VAL:HG13	1:A:146:PHE:HB3	1.76	0.65
2:C:951:ALA:HA	2:C:954:ILE:HD13	1.78	0.65
3:D:432:HIS:CE1	3:D:434:LEU:HB2	2.32	0.65
2:C:692:MET:SD	2:C:695:GLN:NE2	2.70	0.65
3:D:339:ARG:HD3	3:D:1348:ILE:HD13	1.78	0.65
1:A:52:SER:OG	1:B:38:PHE:HE1	1.79	0.65
3:D:267:LEU:HD22	3:D:329:LEU:HD22	1.79	0.65
3:D:434:LEU:HD13	3:D:501:ILE:HG21	1.77	0.65
5:F:180:ILE:HA	5:F:302:LEU:HA	1.79	0.65
5:F:548:GLU:O	5:F:558:HIS:ND1	2.30	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:161:VAL:HG21	2:C:417:LEU:HD22	1.79	0.65
1:A:11:ARG:N	1:B:226:GLN:OE1	2.29	0.65
2:C:27:LEU:HD12	2:C:532:ILE:HD13	1.78	0.64
5:F:426:LEU:HD21	5:F:430:ILE:CD1	2.27	0.64
1:B:103:MET:HE1	1:B:126:ILE:HD11	1.79	0.64
2:C:179:ALA:HA	2:C:193:GLU:HA	1.78	0.64
2:C:835:THR:HG21	2:C:1077:LYS:HD3	1.79	0.64
3:D:701:LEU:HG	3:D:719:TYR:HB2	1.78	0.64
2:C:795:THR:HG22	2:C:800:LEU:HA	1.78	0.64
2:C:1309:SER:HB3	3:D:349:VAL:HA	1.79	0.64
3:D:273:ARG:O	3:D:277:ARG:HG2	1.97	0.64
5:F:434:TYR:HA	5:F:437:ARG:HD2	1.80	0.64
2:C:565:ARG:HA	2:C:587:ALA:HB2	1.79	0.64
6:H:-29:DG:H4’	6:H:-28:DG:OP1	1.98	0.64
2:C:893:VAL:CG1	2:C:919:VAL:HG21	2.27	0.64
3:D:574:ARG:HG2	3:D:592:ILE:HG22	1.78	0.64
2:C:822:ILE:HD13	2:C:1246:MET:HE3	1.78	0.64
2:C:868:LEU:HD12	2:C:871:LEU:HD22	1.79	0.64
2:C:940:PHE:HB3	2:C:1060:LEU:HD21	1.78	0.64
2:C:1292:LEU:HD21	3:D:436:ILE:HG21	1.79	0.64
3:D:647:PRO:HG2	3:D:650:LYS:HB2	1.79	0.64
2:C:455:ASN:HB3	2:C:458:ASN:HB2	1.79	0.64
2:C:811:MET:HE1	2:C:1104:PRO:HB3	1.80	0.64
2:C:1106:LEU:HD13	2:C:1241:VAL:HG11	1.78	0.64
5:F:116:VAL:HG22	5:F:442:LEU:HB2	1.79	0.64
2:C:771:ILE:HD12	2:C:793:PRO:HG3	1.80	0.64
2:C:1239:VAL:HA	3:D:638:SER:HB2	1.80	0.64
3:D:351:TYR:HE2	3:D:381:PRO:HG3	1.61	0.64
1:A:225:GLN:O	1:B:224:GLN:NE2	2.31	0.64
2:C:707:VAL:HG11	2:C:1132:GLU:HG2	1.80	0.64
6:H:9:DT:H2’	6:H:10:DG:C8	2.33	0.64
2:C:824:ILE:HB	2:C:1094:ILE:HD11	1.79	0.63
3:D:925:GLN:O	3:D:1240:GLN:NE2	2.30	0.63
2:C:411:VAL:O	2:C:415:MET:HG2	1.98	0.63
2:C:674:LEU:HD11	2:C:800:LEU:HD23	1.80	0.63
3:D:801:GLN:NE2	3:D:1317:SER:OG	2.31	0.63
5:F:426:LEU:CD1	5:F:471:ALA:HB3	2.27	0.63
1:B:32:GLU:HB3	1:B:33:PRO:HD3	1.81	0.63
3:D:196:LEU:HD21	3:D:236:PRO:HG3	1.80	0.63
1:B:4:ARG:NH2	1:B:234:GLU:OE2	2.32	0.63
2:C:151:ILE:HD12	2:C:520:SER:HB2	1.80	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1136:PHE:HB3	3:D:1305:ILE:HD13	1.79	0.63
6:H:19:DC:H2”	6:H:20:DG:H5”	1.79	0.63
1:B:29:ILE:HD12	1:B:216:VAL:HG21	1.80	0.63
1:B:57:ALA:HB3	1:B:93:VAL:HG13	1.79	0.63
2:C:395:SER:HA	2:C:399:ASP:HB2	1.79	0.63
2:C:673:ALA:HB3	2:C:711:MET:HG2	1.80	0.63
2:C:699:LEU:HD23	2:C:834:PHE:HA	1.81	0.63
2:C:856:ILE:HG22	2:C:950:ARG:HD2	1.79	0.63
2:C:1293:GLU:OE1	3:D:1343:LEU:HB3	1.98	0.63
3:D:1147:ILE:HA	3:D:1205:TYR:HB3	1.79	0.63
8:G:109:THR:HG23	8:G:111:LEU:H	1.63	0.63
3:D:493:LEU:HA	3:D:500:PRO:HA	1.81	0.63
5:F:441:PHE:CZ	6:H:-5:DC:C5	2.86	0.63
1:B:103:MET:O	1:B:146:PHE:N	2.32	0.63
1:B:175:LEU:HD21	1:B:180:LYS:HD3	1.81	0.63
3:D:800:ALA:HB2	3:D:1252:ILE:HD13	1.81	0.63
3:D:835:VAL:HG23	3:D:878:VAL:HG21	1.79	0.63
3:D:118:LEU:HB2	3:D:125:ILE:HD12	1.80	0.63
1:A:50:LEU:O	1:A:54:LEU:HG	1.99	0.62
2:C:1290:TRP:CH2	3:D:794:ARG:HA	2.34	0.62
1:A:50:LEU:HD13	1:A:220:ALA:CB	2.23	0.62
2:C:139:LYS:HE3	2:C:141:THR:HG21	1.80	0.62
2:C:201:TYR:HD1	2:C:211:PRO:HA	1.62	0.62
2:C:687:LEU:HD22	3:D:779:LEU:HD21	1.81	0.62
2:C:804:ARG:HB2	2:C:834:PHE:HE1	1.64	0.62
3:D:482:ALA:HA	3:D:486:MET:HB2	1.79	0.62
5:F:600:ARG:HD3	5:F:605:ILE:HB	1.80	0.62
2:C:1300:THR:O	2:C:1304:MET:N	2.32	0.62
7:I:-19:DG:H2”	7:I:-18:DT:H5’	1.82	0.62
2:C:807:LEU:HD11	2:C:1241:VAL:HG12	1.81	0.62
3:D:1129:LEU:HB3	3:D:1130:PRO:HD3	1.82	0.62
5:F:426:LEU:HD11	5:F:471:ALA:HB3	1.80	0.62
6:H:-28:DG:N2	7:I:29:DC:O2	2.31	0.62
1:B:112:PRO:HB3	1:B:133:LEU:HB3	1.79	0.62
2:C:1123:SER:O	3:D:732:GLN:NE2	2.32	0.62
7:I:37:DG:H2’	7:I:38:DG:C8	2.34	0.62
2:C:22:VAL:HB	2:C:662:VAL:HG11	1.81	0.62
2:C:211:PRO:HG2	2:C:214:THR:HG23	1.82	0.62
2:C:1261:SER:HA	3:D:351:TYR:HA	1.81	0.62
1:A:64:ILE:HG21	1:A:74:LEU:HD21	1.80	0.62
1:B:92:ALA:H	1:B:128:ASN:HD21	1.48	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:1150:LEU:HD13	2:C:1187:ALA:HB3	1.82	0.62
2:C:1256:LYS:HE3	7:I:3:DT:H4’	1.82	0.62
3:D:1259:LYS:HD3	3:D:1303:LEU:HD21	1.81	0.62
2:C:9:LYS:HB2	2:C:1189:ASN:HD22	1.65	0.62
2:C:1296:GLY:HA2	3:D:1356:GLY:HA3	1.82	0.62
3:D:646:ILE:HG22	3:D:758:ASN:HD21	1.64	0.62
2:C:1284:PHE:HE2	2:C:1289:VAL:HG23	1.65	0.62
5:F:156:ALA:HB1	5:F:398:TYR:HD1	1.65	0.62
2:C:222:ASP:HA	2:C:226:ILE:HB	1.81	0.62
2:C:707:VAL:HG23	2:C:1135:LEU:HD23	1.82	0.62
2:C:1273:LEU:HD13	2:C:1278:GLN:HE21	1.64	0.62
3:D:550:ILE:H	3:D:572:PRO:HD3	1.65	0.62
3:D:1145:ALA:HA	3:D:1207:ILE:HD13	1.81	0.62
1:B:200:LEU:CD2	1:B:202:LEU:HD22	2.29	0.61
2:C:323:ASP:O	2:C:360:ARG:NH2	2.33	0.61
2:C:692:MET:HB3	2:C:1249:LEU:HD21	1.82	0.61
3:D:494:SER:HB2	3:D:501:ILE:HB	1.82	0.61
5:F:495:HIS:O	5:F:498:GLU:HG2	2.00	0.61
3:D:94:THR:HG22	3:D:95:LEU:HD23	1.81	0.61
3:D:116:TRP:HE1	3:D:330:ALA:HB2	1.63	0.61
3:D:528:ILE:HG22	3:D:551:LYS:HD2	1.82	0.61
7:I:21:DT:H2’	7:I:22:DT:H71	1.82	0.61
2:C:823:LEU:HA	2:C:1095:SER:HB3	1.80	0.61
5:F:404:THR:HA	5:F:407:LYS:HD2	1.82	0.61
2:C:1149:LEU:HD22	2:C:1159:LYS:HB2	1.82	0.61
3:D:792:LEU:HD11	3:D:1136:PHE:HD2	1.64	0.61
2:C:353:ALA:O	2:C:357:ASN:ND2	2.32	0.61
2:C:846:ALA:H	2:C:1064:VAL:HG23	1.65	0.61
3:D:109:ALA:HB3	3:D:281:LEU:HG	1.82	0.61
5:F:402:VAL:HA	5:F:405:VAL:HG12	1.81	0.61
7:I:-10:DC:H2’	7:I:-9:DA:C8	2.35	0.61
2:C:1121:VAL:HB	2:C:1122:PRO:HD3	1.81	0.61
2:C:1285:GLY:HA2	3:D:346:GLY:CA	2.30	0.61
3:D:99:ARG:HG2	3:D:249:PRO:HG2	1.83	0.61
3:D:141:TYR:HD2	5:F:118:MET:HE1	1.66	0.61
3:D:644:ILE:HG23	3:D:760:LYS:HD2	1.82	0.61
1:B:37:GLY:N	1:B:198:ASP:OD2	2.28	0.61
2:C:532:ILE:HG21	2:C:670:VAL:HG11	1.82	0.61
3:D:653:ILE:O	3:D:656:GLU:HG3	2.01	0.61
7:I:5:DG:H2”	7:I:6:DA:O4’	2.01	0.61
2:C:27:LEU:HD11	2:C:711:MET:HE1	1.82	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:597:SER:HB2	2:C:666:GLN:HE21	1.66	0.61
3:D:319:THR:HB	3:D:326:LEU:HD11	1.82	0.61
3:D:598:LYS:N	3:D:724:SER:O	2.29	0.61
1:A:5:ASN:HA	1:B:222:ILE:HD11	1.83	0.61
2:C:70:ALA:HB2	2:C:492:ILE:HD13	1.83	0.61
2:C:911:ILE:HD13	5:F:638:LEU:HD11	1.82	0.61
2:C:527:ASN:HB2	2:C:528:PRO:HD2	1.83	0.60
2:C:1095:SER:HA	3:D:358:VAL:CG1	2.31	0.60
3:D:274:VAL:HG21	3:D:308:LEU:HD13	1.82	0.60
6:H:-15:DT:H3'	6:H:-14:DG:H8	1.64	0.60
2:C:1351:VAL:HG22	3:D:23:ILE:HG22	1.82	0.60
1:A:27:ALA:HB3	1:A:213:PRO:HB2	1.83	0.60
2:C:394:LYS:HA	2:C:398:PHE:HB2	1.83	0.60
2:C:958:GLU:O	2:C:961:ARG:HG3	2.01	0.60
1:B:17:ILE:HB	1:B:30:VAL:HB	1.83	0.60
2:C:203:ARG:HG2	2:C:206:ARG:HA	1.82	0.60
2:C:709:THR:HG22	2:C:711:MET:H	1.67	0.60
2:C:1135:LEU:HD22	2:C:1209:ILE:HD11	1.82	0.60
3:D:854:VAL:HG22	3:D:864:ILE:HG23	1.83	0.60
3:D:1246:ASP:O	3:D:1250:GLU:HG2	2.02	0.60
2:C:860:ILE:CD1	2:C:861:PRO:HD2	2.32	0.60
2:C:1290:TRP:CG	3:D:797:VAL:HG11	2.37	0.60
5:F:489:THR:HB	5:F:544:PRO:HG3	1.84	0.60
5:F:493:PRO:HG2	5:F:496:MET:HB3	1.83	0.60
1:B:204:VAL:HG23	1:B:212:PRO:HB3	1.83	0.60
2:C:568:PRO:HG2	3:D:772:THR:HG21	1.84	0.60
2:C:877:VAL:HG13	2:C:889:LEU:O	2.01	0.60
3:D:116:TRP:HB3	3:D:1329:THR:CG2	2.31	0.60
2:C:222:ASP:N	2:C:225:GLU:OE2	2.33	0.60
2:C:739:ILE:HD12	2:C:789:ILE:HG21	1.83	0.60
7:I:-19:DG:H5"	7:I:-19:DG:H8	1.66	0.60
2:C:856:ILE:HG21	2:C:1066:LYS:HD3	1.84	0.60
2:C:1343:GLU:HG2	3:D:247:ILE:HD12	1.82	0.60
1:A:228:LEU:HD21	1:B:42:LEU:HD22	1.82	0.59
2:C:154:GLN:O	2:C:462:ARG:N	2.28	0.59
2:C:1045:ARG:HA	2:C:1048:GLU:OE1	2.02	0.59
3:D:591:LEU:HD13	3:D:607:ILE:HG21	1.84	0.59
6:H:-34:DT:H1'	6:H:-33:DG:H5'	1.84	0.59
3:D:371:PRO:HB3	3:D:447:LYS:HA	1.84	0.59
3:D:722:ALA:HA	3:D:728:GLY:HA3	1.83	0.59
5:F:524:ALA:CB	5:F:531:LEU:HA	2.32	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:50:LEU:CB	1:A:220:ALA:CB	2.69	0.59
3:D:504:PRO:CB	3:D:508:ILE:HB	2.26	0.59
6:H:19:DC:H4'	6:H:20:DG:OP1	2.02	0.59
1:B:189:THR:HG21	1:B:199:LYS:HD3	1.84	0.59
2:C:688:MET:O	2:C:692:MET:HG2	2.03	0.59
2:C:1262:ILE:CD1	5:F:572:ILE:HG13	2.28	0.59
3:D:85:ILE:HA	3:D:92:GLU:HA	1.84	0.59
3:D:529:PHE:CD2	3:D:535:ILE:HG13	2.37	0.59
3:D:791:TYR:CE2	3:D:795:ARG:HD3	2.37	0.59
3:D:512:LEU:HD22	3:D:601:ILE:CD1	2.32	0.59
3:D:643:ASP:O	3:D:716:ASN:ND2	2.30	0.59
3:D:926:LEU:HD12	3:D:1129:LEU:HD13	1.85	0.59
3:D:1247:LYS:O	3:D:1251:THR:HG23	2.02	0.59
8:G:110:VAL:HG12	8:G:132:PHE:HE2	1.66	0.59
1:A:51:LEU:HD23	1:A:51:LEU:C	2.23	0.59
2:C:142:PHE:HB3	2:C:514:PHE:HE2	1.65	0.59
2:C:1288:GLU:OE1	3:D:426:ASN:ND2	2.24	0.59
2:C:1353:LEU:HD13	3:D:18:PHE:CD2	2.37	0.59
3:D:480:LEU:HD21	4:E:23:SER:HB2	1.84	0.59
3:D:614:GLN:HB3	4:E:7:GLU:HB2	1.84	0.59
3:D:1343:LEU:HG	3:D:1353:ILE:HG23	1.83	0.59
2:C:1079:GLN:HE21	2:C:1253:VAL:HG12	1.68	0.59
3:D:529:PHE:HD2	3:D:535:ILE:HG13	1.68	0.59
3:D:751:ILE:CG2	3:D:753:THR:HG22	2.33	0.59
5:F:423:ASN:O	5:F:426:LEU:HB3	2.03	0.59
5:F:493:PRO:HG2	5:F:496:MET:CB	2.32	0.59
1:A:228:LEU:HD11	1:B:223:LEU:HD23	1.83	0.59
1:A:59:VAL:O	1:A:174:ALA:HB2	2.03	0.59
2:C:86:VAL:HG23	2:C:143:ILE:HD12	1.85	0.59
3:D:557:MET:H	3:D:563:LEU:HD23	1.68	0.59
3:D:800:ALA:O	3:D:912:GLY:HA3	2.03	0.59
3:D:841:ALA:HB3	3:D:877:LYS:HG3	1.84	0.59
2:C:676:PRO:HG2	2:C:1132:GLU:HG3	1.84	0.58
2:C:876:ILE:HG22	2:C:890:VAL:HG12	1.84	0.58
3:D:405:ARG:HG3	3:D:407:GLN:HG3	1.84	0.58
3:D:653:ILE:HD11	3:D:693:VAL:HG23	1.85	0.58
4:E:30:ILE:HA	4:E:34:ALA:HB3	1.84	0.58
6:H:-5:DC:H2"	6:H:-4:DG:H5'	1.85	0.58
7:I:-18:DT:H2"	7:I:-17:DC:C6	2.37	0.58
1:A:88:ILE:HD11	1:A:133:LEU:HD13	1.85	0.58
2:C:27:LEU:HD13	2:C:670:VAL:HG11	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:670:VAL:HG13	2:C:711:MET:CE	2.33	0.58
2:C:810:PHE:CZ	2:C:1116:LEU:HD12	2.38	0.58
3:D:363:LEU:HD22	3:D:442:LYS:HD3	1.83	0.58
3:D:422:PRO:HG2	3:D:482:ALA:HB3	1.85	0.58
3:D:426:ASN:O	3:D:469:ALA:N	2.35	0.58
3:D:793:THR:O	3:D:797:VAL:HG23	2.03	0.58
3:D:881:VAL:HG21	3:D:1251:THR:HA	1.83	0.58
2:C:60:VAL:HG13	2:C:477:LEU:HD23	1.84	0.58
2:C:394:LYS:HG2	2:C:398:PHE:HB2	1.85	0.58
2:C:537:ARG:HG2	2:C:580:ILE:HG22	1.85	0.58
3:D:897:ARG:HE	3:D:902:GLY:HA2	1.69	0.58
5:F:594:ARG:HD3	5:F:620:PHE:HE1	1.66	0.58
1:A:50:LEU:CG	1:A:220:ALA:HB2	2.32	0.58
1:A:185:ARG:HB2	1:A:202:ILE:HB	1.85	0.58
2:C:570:GLU:HG3	2:C:671:ALA:HB3	1.84	0.58
2:C:1337:PHE:HZ	3:D:21:ILE:HD12	1.69	0.58
3:D:56:GLY:N	3:D:59:CYS:SG	2.68	0.58
2:C:559:HIS:H	2:C:562:HIS:HD2	1.51	0.58
2:C:626:GLN:HE22	3:D:764:THR:HG21	1.67	0.58
2:C:856:ILE:HD13	2:C:1066:LYS:HE3	1.86	0.58
3:D:855:PRO:HG2	3:D:858:THR:OG1	2.03	0.58
3:D:1343:LEU:HD11	3:D:1355:ALA:HB2	1.84	0.58
1:B:105:LEU:HD13	1:B:118:ILE:HA	1.85	0.58
2:C:828:ILE:HG23	2:C:1078:LEU:HD12	1.84	0.58
2:C:1306:THR:O	2:C:1311:ASP:HB2	2.04	0.58
2:C:1342:LYS:HB2	3:D:251:LEU:HD11	1.84	0.58
3:D:95:LEU:O	3:D:98:VAL:HG12	2.04	0.58
3:D:418:ILE:HG21	3:D:441:PRO:HB2	1.85	0.58
3:D:568:ILE:HB	3:D:570:THR:HG23	1.84	0.58
3:D:751:ILE:HG22	3:D:753:THR:HG22	1.86	0.58
3:D:1233:ILE:HG21	3:D:1249:ILE:HD12	1.85	0.58
2:C:150:VAL:HG12	2:C:523:MET:HG3	1.86	0.58
2:C:676:PRO:HG2	2:C:1088:HIS:HE1	1.68	0.58
2:C:1301:LEU:HD12	3:D:1353:ILE:HD12	1.85	0.58
3:D:71:CYS:SG	3:D:86:CYS:HB2	2.43	0.58
3:D:637:ILE:HD12	3:D:720:MET:HE1	1.85	0.58
1:A:103:MET:HB2	1:A:146:PHE:HB2	1.85	0.58
2:C:825:SER:HB2	2:C:1103:MET:HG3	1.84	0.58
2:C:1080:PRO:HA	2:C:1094:ILE:HG23	1.85	0.58
1:A:58:ALA:CB	1:A:174:ALA:HB1	2.33	0.58
1:A:179:VAL:HA	1:A:207:THR:HA	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:1286:GLU:HA	2:C:1289:VAL:HG12	1.84	0.58
2:C:1294:ALA:HB1	3:D:914:ILE:CG1	2.34	0.58
3:D:272:ARG:HE	5:F:489:THR:HA	1.69	0.58
3:D:424:LEU:HB2	3:D:471:HIS:HB2	1.86	0.58
6:H:8:DC:H2’	6:H:9:DT:C6	2.39	0.58
1:B:77:VAL:HG23	1:B:78:ARG:H	1.69	0.58
2:C:571:THR:O	2:C:691:ASN:ND2	2.35	0.58
2:C:651:LEU:HD11	3:D:754:PRO:HD3	1.86	0.58
3:D:515:LEU:HD21	3:D:631:GLU:HB3	1.84	0.58
3:D:646:ILE:HG23	3:D:760:LYS:HD3	1.86	0.58
1:A:49:VAL:HG11	1:A:224:LEU:CD1	2.34	0.57
3:D:550:ILE:HG22	3:D:572:PRO:CD	2.33	0.57
3:D:780:ALA:O	3:D:784:LEU:N	2.36	0.57
3:D:789:SER:OG	3:D:923:GLY:HA3	2.04	0.57
3:D:1163:LYS:HG3	3:D:1190:LYS:HE2	1.85	0.57
2:C:825:SER:O	2:C:828:ILE:HG22	2.04	0.57
3:D:686:TRP:CZ2	3:D:754:PRO:HB3	2.40	0.57
1:B:53:SER:CB	1:B:152:LYS:HB3	2.34	0.57
2:C:128:VAL:HB	2:C:498:HIS:HB2	1.86	0.57
2:C:172:ALA:HB2	2:C:196:ALA:HB2	1.86	0.57
2:C:607:PRO:HD2	2:C:635:GLU:HA	1.86	0.57
2:C:1084:MET:HG3	2:C:1247:LEU:O	2.04	0.57
2:C:1214:GLU:HG2	2:C:1220:LYS:HG3	1.86	0.57
2:C:61:PHE:HB3	2:C:62:PRO:HD3	1.86	0.57
2:C:216:LEU:HG	2:C:226:ILE:HD12	1.86	0.57
2:C:547:THR:HG23	2:C:550:ARG:H	1.69	0.57
2:C:565:ARG:HG2	2:C:597:SER:HB3	1.86	0.57
2:C:154:GLN:N	2:C:462:ARG:O	2.36	0.57
2:C:487:MET:HE2	2:C:500:LEU:HD11	1.86	0.57
3:D:1145:ALA:CA	3:D:1207:ILE:HD13	2.35	0.57
1:A:50:LEU:HD12	1:A:54:LEU:CD2	2.35	0.57
1:B:59:VAL:HG11	1:B:88:ILE:HG22	1.87	0.57
2:C:467:LEU:CD2	2:C:519:LEU:HG	2.34	0.57
3:D:395:THR:HG23	3:D:398:GLN:H	1.68	0.57
3:D:679:TYR:HA	3:D:682:VAL:HG12	1.87	0.57
5:F:519:THR:HG23	5:F:522:GLU:H	1.70	0.57
5:F:617:GLY:CA	5:F:627:ILE:HG13	2.35	0.57
1:B:154:TYR:HE2	3:D:543:VAL:HG11	1.69	0.57
2:C:930:VAL:O	2:C:1074:VAL:HG13	2.05	0.57
2:C:1239:VAL:HG13	3:D:638:SER:OG	2.04	0.57
3:D:444:ILE:HG21	3:D:450:GLN:HG2	1.86	0.57

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
3:D:819:ARG:CB	3:D:875:SER:HB3	2.35	0.57
5:F:151:GLY:O	5:F:401:ILE:HG23	2.05	0.57
1:A:221:ALA:HB1	1:B:227:LEU:HG	1.87	0.57
2:C:1087:ARG:HD2	2:C:1245:TYR:HB3	1.87	0.57
3:D:425:LEU:HB3	3:D:468:MET:HE3	1.87	0.57
3:D:604:LEU:HA	3:D:607:ILE:HG22	1.87	0.57
5:F:628:ARG:CZ	5:F:632:ALA:HB2	2.34	0.57
1:A:203:LEU:HD23	1:A:205:VAL:H	1.70	0.57
2:C:72:LEU:HA	2:C:106:LEU:HD23	1.87	0.57
2:C:703:ASP:OD1	2:C:804:ARG:HD2	2.05	0.57
2:C:705:PRO:HG2	2:C:708:GLY:HA3	1.86	0.57
1:A:51:LEU:HD21	2:C:1100:ILE:CD1	2.35	0.57
1:A:52:SER:HB3	2:C:1101:GLU:OE2	2.05	0.57
2:C:807:LEU:HD23	2:C:1112:VAL:HA	1.86	0.57
2:C:815:GLY:O	3:D:359:VAL:HG11	2.05	0.57
3:D:554:HIS:HB3	3:D:568:ILE:HD11	1.87	0.57
5:F:138:ALA:HB2	5:F:459:PHE:CE2	2.39	0.57
6:H:-2:DT:H1'	6:H:-1:DT:C2	2.40	0.57
1:A:43:GLY:CA	1:A:201:LEU:HD11	2.34	0.56
4:E:22:LEU:HD22	4:E:61:GLU:HA	1.85	0.56
4:E:43:ASP:HB3	4:E:47:VAL:HG13	1.86	0.56
6:H:3:6MA:H2	7:I:-3:DT:N3	2.20	0.56
6:H:13:DT:H2'	6:H:14:DC:C6	2.40	0.56
1:A:137:ASP:HB3	2:C:734:ILE:O	2.05	0.56
2:C:820:ASP:HB3	3:D:464:ASP:HB3	1.88	0.56
2:C:1135:LEU:HD11	2:C:1196:ILE:HD12	1.87	0.56
2:C:1333:ILE:HG23	2:C:1337:PHE:HD2	1.70	0.56
3:D:59:CYS:HB2	3:D:62:ILE:HB	1.86	0.56
3:D:480:LEU:HD21	4:E:23:SER:CB	2.34	0.56
3:D:678:LYS:O	3:D:682:VAL:HG12	2.05	0.56
3:D:1139:ARG:HD3	6:H:4:DG:O3'	2.06	0.56
4:E:25:HIS:HE1	4:E:67:LEU:HD13	1.70	0.56
1:B:178:PRO:O	1:B:207:ASN:N	2.28	0.56
2:C:35:TYR:HE1	2:C:464:VAL:HG22	1.70	0.56
2:C:62:PRO:HA	2:C:72:LEU:O	2.05	0.56
2:C:810:PHE:O	3:D:638:SER:HA	2.05	0.56
2:C:911:ILE:O	5:F:639:LYS:HE2	2.05	0.56
2:C:1159:LYS:HE3	2:C:1187:ALA:HB2	1.85	0.56
2:C:1285:GLY:N	7:I:1:DA:OP1	2.35	0.56
2:C:1288:GLU:HA	3:D:430:THR:HG21	1.87	0.56
3:D:141:TYR:CD2	5:F:118:MET:HE1	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:805:ILE:HG22	3:D:909:GLU:O	2.05	0.56
3:D:815:GLY:HA2	3:D:883:THR:HG21	1.88	0.56
5:F:469:THR:O	5:F:472:THR:HG22	2.05	0.56
5:F:505:ARG:HA	7:I:11:DT:H73	1.87	0.56
6:H:-27:DC:H6	6:H:-27:DC:H5”	1.71	0.56
1:A:35:GLU:HB2	1:A:38:PHE:CB	2.34	0.56
2:C:639:ASP:O	2:C:640:LEU:HD22	2.05	0.56
2:C:687:LEU:HD13	3:D:779:LEU:HD23	1.88	0.56
2:C:813:TRP:CZ2	2:C:1230:LEU:HB2	2.41	0.56
2:C:813:TRP:HH2	2:C:1230:LEU:HD13	1.69	0.56
2:C:1297:ALA:HA	3:D:481:GLU:HG2	1.87	0.56
3:D:281:LEU:HA	3:D:297:GLU:HG2	1.86	0.56
3:D:701:LEU:CG	3:D:719:TYR:HB2	2.36	0.56
1:B:142:VAL:HG23	1:B:143:ARG:H	1.70	0.56
2:C:17:ARG:HG2	2:C:1202:ASP:OD1	2.05	0.56
2:C:664:PRO:HA	3:D:765:VAL:HG21	1.87	0.56
2:C:664:PRO:HG3	2:C:1202:ASP:HB2	1.86	0.56
3:D:21:ILE:CG2	3:D:1338:ASP:HB3	2.36	0.56
3:D:158:HIS:CE1	3:D:190:LEU:HD11	2.41	0.56
1:A:86:LEU:HD11	2:C:832:ASP:HB3	1.88	0.56
2:C:152:VAL:O	2:C:519:LEU:HD12	2.06	0.56
2:C:1053:LYS:HA	2:C:1056:ARG:HG2	1.88	0.56
2:C:1256:LYS:HD2	3:D:467:GLN:HE22	1.71	0.56
3:D:438:ALA:CB	3:D:482:ALA:HB1	2.35	0.56
3:D:895:TYR:HD2	3:D:905:VAL:HG21	1.70	0.56
3:D:351:TYR:CZ	3:D:474:LEU:HD21	2.40	0.56
3:D:512:LEU:HD22	3:D:601:ILE:HD12	1.88	0.56
3:D:616:ALA:HA	3:D:619:ILE:HG22	1.87	0.56
3:D:768:TYR:O	3:D:772:THR:HG22	2.06	0.56
4:E:7:GLU:HA	4:E:10:VAL:HG12	1.86	0.56
6:H:14:DC:H2’	6:H:15:DG:C8	2.41	0.56
2:C:456:LEU:HD21	2:C:565:ARG:HB2	1.87	0.56
2:C:673:ALA:HA	2:C:1200:VAL:HG21	1.87	0.56
2:C:677:PHE:HZ	2:C:1209:ILE:HD11	1.70	0.56
2:C:751:ARG:HD2	2:C:752:SER:OG	2.06	0.56
2:C:808:VAL:HG23	2:C:1116:LEU:HG	1.86	0.56
2:C:1131:PHE:CZ	3:D:760:LYS:HG3	2.39	0.56
3:D:392:LEU:HD21	3:D:409:GLN:OE1	2.06	0.56
3:D:1135:LEU:HD12	3:D:1229:LEU:HD23	1.87	0.56
3:D:1217:LEU:HB2	3:D:1225:LEU:CD1	2.34	0.56
3:D:1261:GLU:HG3	3:D:1301:VAL:HB	1.88	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:65:ASP:HB2	2:C:70:ALA:H	1.71	0.56
2:C:134:PRO:HD3	2:C:510:VAL:HG21	1.88	0.56
2:C:180:ALA:HB3	2:C:440:LEU:HD22	1.87	0.56
2:C:479:MET:CE	2:C:506:ALA:HB2	2.34	0.56
3:D:407:GLN:O	3:D:410:VAL:HG12	2.06	0.56
3:D:480:LEU:HD13	4:E:46:PRO:HB3	1.88	0.56
2:C:10:ARG:HD3	2:C:704:ALA:HB3	1.88	0.56
2:C:11:ILE:HG12	2:C:1186:LEU:HD11	1.87	0.56
7:I:-19:DG:H2’	7:I:-18:DT:C6	2.41	0.56
1:A:57:ALA:HB3	1:A:93:VAL:O	2.05	0.55
2:C:702:SER:O	2:C:796:GLU:HB2	2.06	0.55
2:C:1105:PHE:N	2:C:1227:PHE:O	2.39	0.55
2:C:1348:GLY:O	3:D:26:ALA:N	2.38	0.55
3:D:552:ALA:HB3	3:D:575:MET:SD	2.46	0.55
4:E:30:ILE:CD1	4:E:35:ALA:HB2	2.35	0.55
2:C:137:THR:HG22	2:C:138:ASP:OD1	2.06	0.55
2:C:699:LEU:HD11	2:C:1248:LYS:CB	2.36	0.55
2:C:1351:VAL:HG22	3:D:23:ILE:CG2	2.35	0.55
3:D:554:HIS:HB3	3:D:568:ILE:CD1	2.36	0.55
3:D:881:VAL:O	3:D:1254:ARG:HD2	2.06	0.55
1:B:103:MET:CE	1:B:126:ILE:HD11	2.35	0.55
1:B:175:LEU:HD23	3:D:534:GLU:OE2	2.07	0.55
2:C:147:THR:HB	2:C:766:ASN:OD1	2.07	0.55
2:C:893:VAL:HG13	2:C:919:VAL:HG21	1.88	0.55
3:D:135:ASP:HB3	3:D:160:LEU:CD1	2.36	0.55
3:D:366:HIS:HB2	3:D:487:MET:CE	2.36	0.55
3:D:425:LEU:HB3	3:D:468:MET:CE	2.36	0.55
3:D:539:MET:HE1	3:D:546:LEU:HD13	1.88	0.55
3:D:555:THR:HG22	3:D:565:ARG:HG2	1.87	0.55
3:D:1356:GLY:HA2	4:E:17:PHE:CZ	2.41	0.55
2:C:126:GLN:CG	2:C:497:PRO:HB3	2.37	0.55
3:D:746:PRO:HD3	3:D:773:HIS:CE1	2.42	0.55
3:D:1262:ILE:HB	3:D:1270:LEU:O	2.07	0.55
5:F:441:PHE:CE1	5:F:445:ILE:HD11	2.41	0.55
1:A:55:GLN:HG3	1:B:5:ASN:HA	1.88	0.55
1:A:118:ILE:HD13	1:A:146:PHE:HE2	1.72	0.55
1:B:64:ILE:H	1:B:64:ILE:HD12	1.71	0.55
2:C:526:THR:OG1	2:C:767:GLN:HG3	2.07	0.55
2:C:536:ARG:HD3	2:C:670:VAL:HG21	1.89	0.55
2:C:708:GLY:HA2	2:C:1087:ARG:CZ	2.37	0.55
3:D:311:ASN:HB2	3:D:328:SER:OG	2.07	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:420:VAL:O	5:F:424:LEU:HG	2.06	0.55
2:C:86:VAL:HG23	2:C:143:ILE:CD1	2.37	0.55
2:C:573:GLU:HG2	2:C:688:MET:SD	2.46	0.55
2:C:942:ARG:O	2:C:946:ASP:HB3	2.07	0.55
2:C:1306:THR:HG22	2:C:1331:ALA:CB	2.37	0.55
3:D:563:LEU:HD12	3:D:564:LEU:H	1.70	0.55
3:D:736:LEU:O	3:D:758:ASN:HB2	2.05	0.55
3:D:915:ALA:HB1	3:D:1248:HIS:O	2.06	0.55
5:F:420:VAL:HG13	5:F:452:LEU:HD22	1.88	0.55
1:A:78:ARG:N	1:A:135:THR:O	2.26	0.55
1:B:185:ARG:HE	1:B:201:ILE:HD11	1.72	0.55
2:C:483:ILE:HD11	2:C:501:ILE:HG13	1.87	0.55
2:C:1240:THR:H	3:D:638:SER:HB3	1.72	0.55
2:C:1283:ARG:HB2	3:D:348:ARG:CD	2.32	0.55
1:A:49:VAL:HG23	1:B:38:PHE:CE1	2.42	0.55
1:B:151:GLY:HA3	1:B:176:TYR:CD2	2.42	0.55
1:B:156:PRO:HA	1:B:173:ASP:HB2	1.87	0.55
2:C:471:GLN:OE1	2:C:513:PHE:HB2	2.07	0.55
2:C:651:LEU:HD11	3:D:754:PRO:CD	2.36	0.55
2:C:716:ALA:HB2	2:C:800:LEU:HB2	1.89	0.55
2:C:838:HIS:CE1	2:C:1252:LEU:HD11	2.42	0.55
2:C:1138:ALA:HB2	2:C:1213:LEU:CD2	2.35	0.55
3:D:188:GLN:HB2	3:D:240:VAL:HG11	1.87	0.55
3:D:485:LEU:HD21	4:E:17:PHE:HE1	1.71	0.55
3:D:614:GLN:HB3	4:E:7:GLU:CB	2.36	0.55
3:D:926:LEU:HA	3:D:1240:GLN:CG	2.34	0.55
3:D:1132:VAL:HG23	3:D:1236:VAL:HG11	1.89	0.55
1:A:309:ALA:HA	1:A:313:LEU:O	2.06	0.55
1:B:114:THR:HB	1:B:129:PRO:O	2.07	0.55
2:C:825:SER:HB3	2:C:1113:ASP:HA	1.89	0.55
2:C:894:THR:O	2:C:919:VAL:HG23	2.07	0.55
3:D:330:ALA:O	3:D:334:LYS:HG3	2.07	0.55
1:B:27:ALA:CB	1:B:212:PRO:HB2	2.37	0.55
2:C:159:PRO:O	2:C:409:GLY:HA2	2.07	0.55
2:C:354:TYR:O	2:C:358:THR:HG23	2.07	0.55
2:C:629:ILE:HG21	2:C:641:VAL:HG23	1.89	0.55
2:C:1119:LEU:HD13	3:D:506:GLN:CB	2.36	0.55
2:C:1282:GLN:CD	3:D:354:ARG:HB2	2.28	0.55
2:C:1287:MET:HE3	3:D:793:THR:HG21	1.89	0.55
2:C:1350:ASN:N	3:D:24:SER:O	2.40	0.55
3:D:589:HIS:O	3:D:593:GLU:HG2	2.08	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:698:MET:HG3	3:D:730:GLN:HE22	1.71	0.55
2:C:162:PHE:N	2:C:181:ARG:O	2.39	0.54
2:C:607:PRO:CD	2:C:635:GLU:HA	2.37	0.54
3:D:39:ILE:CD1	3:D:246:VAL:HG11	2.36	0.54
3:D:576:LYS:O	3:D:580:LEU:HD13	2.06	0.54
5:F:601:MET:HB2	5:F:616:VAL:HG23	1.89	0.54
2:C:652:LEU:HD23	2:C:652:LEU:H	1.72	0.54
2:C:693:GLN:NE2	2:C:1087:ARG:O	2.40	0.54
2:C:701:GLN:O	2:C:804:ARG:HD3	2.08	0.54
2:C:890:VAL:CG2	2:C:924:LEU:HB3	2.38	0.54
2:C:970:PHE:HE1	2:C:1040:ARG:HD3	1.71	0.54
2:C:1196:ILE:HD11	2:C:1212:HIS:CE1	2.41	0.54
3:D:366:HIS:HB3	3:D:489:THR:CG2	2.37	0.54
3:D:437:GLN:HG2	3:D:491:ASN:HD22	1.71	0.54
2:C:443:LEU:HA	2:C:446:GLY:O	2.07	0.54
2:C:732:GLU:HB3	2:C:740:VAL:HG23	1.89	0.54
2:C:892:LYS:HE3	2:C:922:THR:CG2	2.38	0.54
2:C:1344:MET:HB3	2:C:1351:VAL:HG21	1.90	0.54
3:D:181:GLU:HG3	3:D:186:ALA:CB	2.38	0.54
5:F:424:LEU:O	5:F:428:ILE:HG13	2.06	0.54
1:B:105:LEU:HD23	1:B:144:MET:SD	2.47	0.54
2:C:184:PRO:HD2	2:C:189:TRP:CD1	2.43	0.54
2:C:1341:VAL:HG23	2:C:1351:VAL:CG1	2.38	0.54
3:D:38:GLU:OE1	3:D:107:GLU:HB2	2.08	0.54
5:F:119:TYR:O	5:F:123:MET:HG2	2.08	0.54
5:F:122:GLU:O	5:F:126:VAL:HB	2.06	0.54
5:F:156:ALA:HB2	5:F:401:ILE:HD12	1.89	0.54
5:F:450:ILE:HA	5:F:453:MET:CE	2.38	0.54
1:A:18:GLU:HG3	1:A:28:ARG:HG3	1.89	0.54
2:C:644:ARG:HB3	2:C:649:PRO:HA	1.88	0.54
3:D:114:HIS:CD2	3:D:116:TRP:HB2	2.42	0.54
3:D:745:LYS:HB3	3:D:746:PRO:HD2	1.90	0.54
3:D:880:SER:O	3:D:894:CYS:HB3	2.08	0.54
1:A:157:ALA:N	1:A:173:ASP:HB3	2.22	0.54
2:C:533:THR:HG21	2:C:694:ARG:CB	2.37	0.54
2:C:709:THR:HG23	2:C:1198:THR:O	2.07	0.54
2:C:804:ARG:HB2	2:C:834:PHE:CE1	2.42	0.54
2:C:893:VAL:HG12	2:C:919:VAL:HG21	1.89	0.54
3:D:456:CYS:HB2	3:D:461:ALA:O	2.08	0.54
3:D:1237:TYR:HB3	3:D:1242:VAL:O	2.06	0.54
7:I:35:DA:H2’	7:I:36:DG:C8	2.42	0.54

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
8:G:145:GLU:O	8:G:149:VAL:HG13	2.07	0.54
2:C:526:THR:O	2:C:698:PRO:HD3	2.08	0.54
2:C:733:GLN:HG2	2:C:740:VAL:CG2	2.38	0.54
2:C:1149:LEU:HD11	2:C:1158:GLN:OE1	2.08	0.54
3:D:853:VAL:HG13	3:D:854:VAL:HG23	1.89	0.54
5:F:502:LYS:HD2	5:F:527:LEU:HD13	1.89	0.54
1:A:61:ALA:HB3	1:A:147:THR:CB	2.35	0.54
2:C:70:ALA:HB1	2:C:492:ILE:HG21	1.90	0.54
3:D:1135:LEU:HD12	3:D:1229:LEU:CD2	2.38	0.54
7:I:17:DG:H2”	7:I:18:DA:C8	2.43	0.54
2:C:639:ASP:HA	2:C:654:LYS:HB2	1.90	0.54
2:C:859:ASP:OD2	2:C:868:LEU:HD13	2.07	0.54
3:D:56:GLY:H	3:D:59:CYS:HG	1.54	0.54
3:D:257:LEU:HD11	5:F:559:LEU:HD21	1.89	0.54
3:D:512:LEU:HB3	3:D:596:LEU:HG	1.90	0.54
3:D:701:LEU:CD2	3:D:719:TYR:HB2	2.37	0.54
3:D:1252:ILE:O	3:D:1256:MET:HG3	2.08	0.54
1:A:108:THR:HA	1:A:136:LEU:CD1	2.39	0.53
1:B:199:LYS:O	1:B:201:ILE:HG23	2.08	0.53
2:C:79:PHE:CE2	2:C:135:LEU:HD12	2.44	0.53
2:C:712:GLU:HA	2:C:715:VAL:HG12	1.89	0.53
2:C:860:ILE:HD11	2:C:919:VAL:HG13	1.90	0.53
2:C:890:VAL:HG22	2:C:924:LEU:HB3	1.88	0.53
2:C:1351:VAL:CG1	3:D:21:ILE:HD11	2.38	0.53
3:D:297:GLU:HA	5:F:446:GLN:OE1	2.07	0.53
3:D:400:LYS:O	3:D:404:GLU:HB2	2.08	0.53
3:D:1155:GLU:O	3:D:1164:ARG:NH2	2.41	0.53
3:D:1260:VAL:HG21	3:D:1279:PRO:HG2	1.89	0.53
5:F:580:LEU:HD13	5:F:650:PHE:CE1	2.43	0.53
7:I:7:DA:H2’	7:I:7:DA:N3	2.22	0.53
2:C:626:GLN:HA	2:C:661:ASP:OD2	2.08	0.53
2:C:748:ASP:HB3	2:C:749:PRO:HD2	1.89	0.53
2:C:1322:ILE:CG2	3:D:381:PRO:HB2	2.38	0.53
3:D:158:HIS:HE1	3:D:190:LEU:HD11	1.72	0.53
3:D:196:LEU:CD2	3:D:236:PRO:HG3	2.37	0.53
5:F:570:LEU:HG	5:F:571:PRO:HD2	1.90	0.53
6:H:-11:DA:H2”	6:H:-10:DA:OP1	2.08	0.53
7:I:37:DG:H2”	7:I:38:DG:H5’	1.90	0.53
2:C:150:VAL:HG21	2:C:535:LYS:CG	2.34	0.53
2:C:396:LEU:O	2:C:403:TYR:HB2	2.08	0.53
2:C:500:LEU:HD23	2:C:500:LEU:H	1.73	0.53

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
2:C:523:MET:O	2:C:767:GLN:NE2	2.41	0.53
2:C:532:ILE:HD12	2:C:715:VAL:HG23	1.90	0.53
3:D:357:ILE:HD13	3:D:468:MET:HG3	1.90	0.53
3:D:365:LEU:HD23	3:D:618:VAL:CG2	2.36	0.53
3:D:550:ILE:HG22	3:D:572:PRO:CG	2.37	0.53
3:D:840:THR:CG2	3:D:860:ILE:HD11	2.34	0.53
3:D:859:TYR:CZ	3:D:897:ARG:HB2	2.44	0.53
3:D:899:LEU:HD21	3:D:1247:LYS:HD2	1.89	0.53
5:F:430:ILE:CD1	5:F:472:THR:HA	2.38	0.53
6:H:8:DC:C3’	6:H:9:DT:H71	2.37	0.53
2:C:15:PHE:CE2	2:C:1196:ILE:HD13	2.44	0.53
2:C:61:PHE:CD2	2:C:74:TYR:HB2	2.43	0.53
2:C:180:ALA:HB3	2:C:192:PHE:HB2	1.89	0.53
2:C:184:PRO:HB3	2:C:403:TYR:CZ	2.44	0.53
2:C:203:ARG:CG	2:C:206:ARG:HA	2.39	0.53
2:C:541:LEU:HA	2:C:546:LEU:O	2.08	0.53
2:C:856:ILE:CG2	2:C:950:ARG:HD2	2.38	0.53
2:C:857:THR:HG22	2:C:893:VAL:CG2	2.38	0.53
2:C:909:ARG:HG3	2:C:914:GLU:O	2.08	0.53
2:C:977:ILE:HD13	2:C:1036:PHE:HB3	1.90	0.53
3:D:246:VAL:HA	3:D:271:TYR:CE1	2.44	0.53
3:D:359:VAL:CG1	3:D:453:PRO:HG3	2.38	0.53
6:H:-27:DC:H1’	6:H:-26:DG:H5’	1.89	0.53
2:C:166:ASP:O	2:C:176:LEU:HD22	2.08	0.53
2:C:556:ARG:HG2	2:C:577:ILE:O	2.08	0.53
2:C:632:ALA:N	2:C:635:GLU:O	2.39	0.53
2:C:822:ILE:HD13	2:C:1246:MET:CE	2.37	0.53
2:C:1282:GLN:HG2	3:D:352:SER:OG	2.08	0.53
3:D:387:LEU:CD2	3:D:413:ILE:HG13	2.38	0.53
3:D:581:LEU:CD2	3:D:604:LEU:HD11	2.39	0.53
7:I:21:DT:C2’	7:I:22:DT:H71	2.38	0.53
1:A:5:ASN:HA	1:B:222:ILE:CD1	2.39	0.53
1:B:54:LEU:O	1:B:152:LYS:HA	2.07	0.53
2:C:9:LYS:HB2	2:C:1189:ASN:ND2	2.23	0.53
2:C:551:ALA:HB1	2:C:579:LEU:HD11	1.90	0.53
2:C:600:ARG:N	2:C:660:MET:O	2.42	0.53
2:C:776:LEU:HD13	2:C:797:LEU:HA	1.89	0.53
3:D:63:PHE:O	3:D:99:ARG:HA	2.09	0.53
3:D:104:GLY:HA3	3:D:246:VAL:HG22	1.91	0.53
3:D:702:GLN:HG2	3:D:719:TYR:CZ	2.44	0.53
5:F:626:ARG:O	5:F:630:ILE:HG23	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:I:40:DC:H2’	7:I:41:DT:H71	1.90	0.53
1:A:108:THR:HA	1:A:136:LEU:HD12	1.89	0.53
1:B:38:PHE:HA	1:B:41:THR:HG22	1.91	0.53
2:C:5:PHE:HE2	2:C:777:VAL:HG12	1.73	0.53
2:C:759:MET:HG2	2:C:773:GLN:HB2	1.91	0.53
3:D:92:GLU:OE1	3:D:94:THR:OG1	2.27	0.53
3:D:693:VAL:HG11	3:D:739:MET:HE2	1.91	0.53
3:D:796:LEU:HA	3:D:799:VAL:HG12	1.91	0.53
6:H:-31:DC:H2”	6:H:-30:DA:C5’	2.38	0.53
1:A:67:VAL:HG23	1:A:72:SER:HB3	1.90	0.53
2:C:161:VAL:HG13	2:C:413:MET:HG2	1.91	0.53
2:C:519:LEU:CD2	2:C:543:PRO:HD2	2.39	0.53
2:C:859:ASP:HB2	2:C:868:LEU:HD13	1.89	0.53
2:C:942:ARG:N	2:C:1065:MET:O	2.41	0.53
2:C:1274:GLY:HA3	3:D:348:ARG:CZ	2.39	0.53
3:D:145:TYR:CZ	3:D:182:ILE:HG21	2.44	0.53
3:D:419:ARG:HB3	4:E:44:LYS:HZ3	1.73	0.53
3:D:555:THR:CG2	3:D:565:ARG:HG2	2.38	0.53
3:D:804:ILE:CD1	3:D:910:ALA:HA	2.39	0.53
5:F:134:GLU:OE2	5:F:467:PHE:N	2.29	0.53
5:F:426:LEU:HD13	5:F:471:ALA:CB	2.38	0.53
5:F:430:ILE:HD13	5:F:472:THR:HA	1.90	0.53
5:F:592:THR:HB	5:F:595:GLU:CB	2.39	0.53
1:A:12:PRO:HD3	1:A:33:PRO:HG2	1.90	0.53
1:B:154:TYR:CE2	3:D:543:VAL:HG11	2.44	0.53
2:C:546:LEU:HD13	2:C:551:ALA:HA	1.89	0.53
2:C:972:ILE:O	2:C:976:ASN:ND2	2.42	0.53
2:C:1299:TYR:CZ	3:D:1361:LEU:HD22	2.44	0.53
2:C:1303:GLU:HA	2:C:1307:VAL:HG12	1.90	0.53
3:D:112:VAL:HG21	3:D:305:VAL:CB	2.38	0.53
3:D:859:TYR:CE1	3:D:897:ARG:HB2	2.43	0.53
1:B:199:LYS:HG2	1:B:201:ILE:CG2	2.39	0.53
2:C:525:GLN:HG3	2:C:531:GLU:HG2	1.91	0.53
2:C:700:VAL:HG22	2:C:835:THR:O	2.08	0.53
2:C:705:PRO:HB3	2:C:1245:TYR:CD1	2.43	0.53
2:C:1122:PRO:HG2	3:D:721:MET:SD	2.49	0.53
2:C:1315:ARG:HG2	5:F:571:PRO:HG3	1.91	0.53
3:D:112:VAL:CG2	3:D:302:GLN:HA	2.37	0.53
3:D:292:ILE:HD12	5:F:123:MET:CE	2.36	0.53
3:D:493:LEU:HB2	3:D:900:ALA:O	2.09	0.53
5:F:551:ILE:HD11	5:F:559:LEU:HB2	1.89	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:104:THR:HA	1:B:145:GLU:HA	1.90	0.52
2:C:884:GLN:HB3	2:C:885:PRO:HD2	1.91	0.52
2:C:1159:LYS:O	2:C:1163:VAL:HG23	2.09	0.52
3:D:44:THR:HB	3:D:58:PHE:CD1	2.44	0.52
3:D:354:ARG:NE	3:D:467:GLN:OE1	2.33	0.52
3:D:492:ILE:HG23	3:D:502:ILE:CG2	2.39	0.52
3:D:837:GLY:CA	3:D:897:ARG:HB3	2.39	0.52
3:D:1192:ILE:HG22	3:D:1194:VAL:H	1.74	0.52
4:E:4:VAL:HG12	4:E:47:VAL:HG23	1.91	0.52
4:E:27:ALA:HB1	4:E:45:ASN:HB3	1.90	0.52
5:F:453:MET:O	5:F:456:VAL:HG12	2.09	0.52
2:C:1127:VAL:HB	3:D:736:LEU:HD11	1.91	0.52
2:C:1213:LEU:HD13	2:C:1222:GLY:HA2	1.91	0.52
3:D:490:ASN:OD1	3:D:614:GLN:NE2	2.29	0.52
3:D:792:LEU:O	3:D:796:LEU:HG	2.09	0.52
3:D:839:PHE:HB2	3:D:893:ALA:O	2.10	0.52
3:D:896:GLY:O	3:D:905:VAL:HG12	2.09	0.52
2:C:225:GLU:OE1	2:C:225:GLU:N	2.42	0.52
2:C:564:GLY:HA2	2:C:666:GLN:HG2	1.91	0.52
2:C:705:PRO:HB3	2:C:1245:TYR:CG	2.44	0.52
2:C:727:ARG:HB3	2:C:743:ALA:O	2.09	0.52
2:C:876:ILE:HD12	2:C:937:VAL:CG1	2.39	0.52
2:C:1099:PRO:HB2	2:C:1101:GLU:HG2	1.90	0.52
2:C:1268:VAL:HG13	3:D:251:LEU:O	2.08	0.52
2:C:1286:GLU:HB3	3:D:345:LEU:HD23	1.91	0.52
2:C:1339:VAL:HG23	3:D:251:LEU:HD22	1.89	0.52
3:D:104:GLY:CA	3:D:246:VAL:HG22	2.39	0.52
3:D:654:VAL:CG1	3:D:756:VAL:HG21	2.38	0.52
1:B:115:ALA:HB2	1:B:131:HIS:CE1	2.43	0.52
1:B:175:LEU:HD12	1:B:177:SER:H	1.73	0.52
1:B:206:THR:HG21	1:B:210:VAL:HG13	1.92	0.52
2:C:538:LEU:HD11	2:C:583:LEU:CD1	2.38	0.52
2:C:602:VAL:HB	2:C:607:PRO:HA	1.91	0.52
2:C:777:VAL:CG1	2:C:789:ILE:HG23	2.39	0.52
3:D:41:LYS:HB2	3:D:55:ASP:O	2.09	0.52
3:D:85:ILE:HG22	3:D:92:GLU:CB	2.34	0.52
3:D:131:MET:HE1	3:D:158:HIS:HB3	1.90	0.52
3:D:529:PHE:HB2	3:D:552:ALA:CB	2.40	0.52
3:D:548:ALA:CA	3:D:572:PRO:HD2	2.34	0.52
3:D:922:PRO:HB3	3:D:1242:VAL:HG11	1.91	0.52
3:D:1294:ARG:HD2	3:D:1295:PRO:HD2	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1309:SER:HB2	3:D:1318:ALA:CB	2.39	0.52
4:E:3:ARG:HD3	4:E:43:ASP:OD2	2.10	0.52
1:B:48:ARG:O	1:B:52:SER:HB3	2.10	0.52
2:C:104:LEU:HD11	2:C:128:VAL:HG12	1.90	0.52
2:C:155:MET:HG3	2:C:538:LEU:HB3	1.90	0.52
2:C:191:ASP:HB2	2:C:203:ARG:O	2.10	0.52
2:C:876:ILE:HD12	2:C:937:VAL:HG11	1.92	0.52
2:C:962:LEU:HA	2:C:965:ASP:OD2	2.09	0.52
2:C:1257:ILE:HD12	3:D:447:LYS:O	2.10	0.52
3:D:81:TYR:HB3	3:D:84:ILE:CG1	2.40	0.52
3:D:919:ILE:HG21	3:D:1136:PHE:HE2	1.72	0.52
3:D:1312:THR:CG2	3:D:1318:ALA:HB2	2.39	0.52
3:D:1372:ASP:OD1	4:E:69:SER:OG	2.28	0.52
5:F:133:GLY:O	5:F:137:ILE:HG12	2.10	0.52
5:F:398:TYR:O	5:F:402:VAL:HG12	2.10	0.52
2:C:405:LEU:HD21	2:C:409:GLY:HA3	1.91	0.52
2:C:650:THR:HG22	3:D:752:GLU:OE2	2.10	0.52
2:C:739:ILE:HG13	2:C:757:TYR:HB2	1.91	0.52
2:C:1298:ALA:HB3	3:D:1358:GLY:N	2.24	0.52
3:D:166:TYR:HA	3:D:170:GLN:HB2	1.92	0.52
3:D:529:PHE:HB2	3:D:552:ALA:HB2	1.91	0.52
3:D:557:MET:N	3:D:563:LEU:HD23	2.25	0.52
3:D:643:ASP:OD2	3:D:717:ALA:HB3	2.09	0.52
1:A:108:THR:HB	1:A:141:SER:CB	2.38	0.52
1:B:91:LEU:CD2	1:B:126:ILE:HD12	2.36	0.52
2:C:104:LEU:CB	2:C:126:GLN:HB2	2.40	0.52
2:C:761:LYS:HE2	2:C:761:LYS:HA	1.91	0.52
2:C:988:LYS:HD3	2:C:1025:ALA:CB	2.40	0.52
2:C:1343:GLU:HG2	3:D:247:ILE:CD1	2.40	0.52
3:D:113:ALA:HB3	3:D:302:GLN:NE2	2.25	0.52
1:A:12:PRO:HG3	1:A:33:PRO:HD2	1.92	0.52
2:C:467:LEU:HD21	2:C:519:LEU:HG	1.92	0.52
2:C:777:VAL:HG11	2:C:789:ILE:HG23	1.91	0.52
2:C:1155:GLN:HE21	2:C:1184:VAL:HB	1.75	0.52
2:C:1294:ALA:HB1	3:D:914:ILE:HG13	1.92	0.52
3:D:605:ILE:HA	3:D:608:VAL:HG12	1.92	0.52
3:D:637:ILE:HD12	3:D:720:MET:CE	2.40	0.52
3:D:838:ARG:HD3	3:D:878:VAL:HG11	1.92	0.52
5:F:131:ARG:N	8:G:150:ALA:O	2.43	0.52
5:F:580:LEU:HA	5:F:583:THR:CG2	2.39	0.52
2:C:134:PRO:HG2	2:C:514:PHE:CE1	2.45	0.52

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
2:C:149:ARG:HA	2:C:523:MET:HB2	1.91	0.52
2:C:614:MET:HG3	2:C:659:LEU:CD1	2.39	0.52
2:C:649:PRO:HG3	3:D:770:ASN:HD21	1.75	0.52
2:C:810:PHE:HZ	2:C:1244:ILE:HD12	1.73	0.52
2:C:813:TRP:CH2	2:C:1230:LEU:HD13	2.45	0.52
3:D:105:HIS:HB2	3:D:243:VAL:CG2	2.40	0.52
3:D:658:ARG:O	3:D:662:GLU:HG2	2.10	0.52
3:D:1259:LYS:HE2	3:D:1311:GLN:HB2	1.90	0.52
2:C:844:VAL:HG12	2:C:1068:VAL:O	2.09	0.52
3:D:1234:GLN:HB3	3:D:1238:ARG:CZ	2.40	0.52
5:F:506:THR:O	5:F:510:MET:HG3	2.10	0.52
6:H:-16:DG:H2'	6:H:-15:DT:H6	1.75	0.52
7:I:15:DA:H2"	7:I:16:DC:C6	2.45	0.52
1:A:103:MET:O	1:A:146:PHE:N	2.26	0.51
1:B:82:VAL:HG23	3:D:528:ILE:CD1	2.40	0.51
1:B:178:PRO:HB2	1:B:210:VAL:CG1	2.38	0.51
2:C:216:LEU:HG	2:C:226:ILE:CD1	2.39	0.51
2:C:698:PRO:HG2	2:C:770:CYS:SG	2.50	0.51
3:D:351:TYR:CD2	3:D:474:LEU:HD11	2.45	0.51
3:D:786:THR:HG1	7:I:-1:DT:H3	1.58	0.51
3:D:808:GLU:HG3	3:D:809:ASP:OD1	2.10	0.51
3:D:1158:LYS:HB2	3:D:1161:LYS:CD	2.40	0.51
5:F:426:LEU:CD1	5:F:471:ALA:CB	2.88	0.51
5:F:432:LYS:HA	5:F:441:PHE:HE2	1.75	0.51
1:A:50:LEU:HD12	1:A:54:LEU:CG	2.40	0.51
1:A:89:LYS:HZ2	2:C:832:ASP:HB2	1.76	0.51
1:A:183:ALA:CB	1:A:204:GLU:HB2	2.37	0.51
2:C:567:CYS:SG	2:C:570:GLU:HB3	2.50	0.51
2:C:673:ALA:CB	2:C:711:MET:HG2	2.39	0.51
2:C:931:ALA:HB1	2:C:1072:VAL:CG2	2.40	0.51
2:C:1287:MET:HA	2:C:1290:TRP:CE3	2.45	0.51
3:D:527:LYS:HB3	3:D:550:ILE:CD1	2.28	0.51
3:D:558:THR:CG2	3:D:559:PRO:HD3	2.37	0.51
3:D:598:LYS:HA	3:D:601:ILE:HG22	1.91	0.51
3:D:837:GLY:O	3:D:897:ARG:N	2.38	0.51
5:F:600:ARG:O	5:F:604:GLY:N	2.42	0.51
6:H:-22:DA:H2"	6:H:-21:DA:C8	2.45	0.51
6:H:-2:DT:H1'	6:H:-1:DT:N3	2.24	0.51
8:G:106:GLY:HA3	8:G:132:PHE:O	2.10	0.51
8:G:108:ALA:O	8:G:131:THR:HB	2.11	0.51
1:A:29:ILE:N	1:A:203:LEU:O	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:50:LEU:HD11	1:A:54:LEU:HD11	1.92	0.51
1:A:232:ILE:HG22	1:B:217:ALA:O	2.10	0.51
2:C:207:ARG:NH1	2:C:378:MET:HA	2.26	0.51
2:C:412:LYS:NZ	2:C:458:ASN:O	2.44	0.51
2:C:699:LEU:CD2	2:C:834:PHE:HA	2.40	0.51
2:C:1105:PHE:O	2:C:1227:PHE:N	2.44	0.51
2:C:1163:VAL:HA	2:C:1166:LEU:CD2	2.41	0.51
2:C:1303:GLU:HB3	2:C:1329:PHE:CZ	2.45	0.51
2:C:1322:ILE:O	3:D:385:ALA:HB2	2.10	0.51
3:D:423:VAL:CG2	3:D:441:PRO:HG3	2.39	0.51
3:D:644:ILE:HD11	3:D:737:GLY:CA	2.41	0.51
5:F:129:LEU:CD1	6:H:-7:DT:C2	2.86	0.51
7:I:20:DG:H2”	7:I:21:DT:C5’	2.40	0.51
1:A:232:ILE:HA	1:B:217:ALA:HB1	1.92	0.51
1:B:40:VAL:HG21	2:C:1230:LEU:CG	2.39	0.51
2:C:1257:ILE:CD1	3:D:447:LYS:HB3	2.41	0.51
2:C:1308:LYS:HE3	3:D:474:LEU:CD1	2.37	0.51
2:C:1337:PHE:CZ	3:D:21:ILE:HD12	2.46	0.51
3:D:21:ILE:HG22	3:D:1338:ASP:HB3	1.93	0.51
3:D:376:LEU:CD2	3:D:414:LEU:HD22	2.40	0.51
3:D:557:MET:SD	3:D:562:VAL:HA	2.50	0.51
3:D:797:VAL:CG1	3:D:913:VAL:HG13	2.41	0.51
3:D:1364:LEU:HA	3:D:1367:VAL:HG12	1.92	0.51
1:B:53:SER:HA	1:B:153:GLY:N	2.26	0.51
1:B:113:VAL:O	1:B:132:VAL:HG13	2.10	0.51
2:C:530:SER:HA	2:C:533:THR:HG22	1.92	0.51
2:C:1349:LEU:O	3:D:26:ALA:HB2	2.11	0.51
3:D:247:ILE:HG22	3:D:271:TYR:CE2	2.46	0.51
3:D:375:ALA:CB	3:D:414:LEU:HD21	2.39	0.51
3:D:1155:GLU:CG	3:D:1167:LYS:HB3	2.41	0.51
5:F:114:ASP:O	5:F:118:MET:HG3	2.11	0.51
5:F:333:ASP:HA	5:F:337:ILE:CB	2.40	0.51
7:I:42:DA:H2”	7:I:43:DA:C8	2.46	0.51
2:C:5:PHE:CE2	2:C:777:VAL:HG12	2.46	0.51
2:C:13:LYS:HD2	2:C:1166:LEU:O	2.10	0.51
2:C:394:LYS:HG2	2:C:398:PHE:CB	2.41	0.51
2:C:1105:PHE:HB2	2:C:1227:PHE:HB2	1.93	0.51
2:C:1214:GLU:HG2	2:C:1220:LYS:HE3	1.92	0.51
4:E:38:VAL:HG12	4:E:52:GLU:HB3	1.92	0.51
5:F:123:MET:CA	5:F:123:MET:CE	2.85	0.51
7:I:24:DC:H4’	7:I:25:DC:OP1	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:60:VAL:CG1	2:C:477:LEU:HD23	2.41	0.51
2:C:558:VAL:CG1	3:D:773:HIS:HA	2.40	0.51
2:C:689:GLY:O	2:C:693:GLN:HG2	2.11	0.51
2:C:1159:LYS:NZ	2:C:1183:LEU:HG	2.26	0.51
2:C:1166:LEU:HA	2:C:1215:MET:CE	2.41	0.51
2:C:586:HIS:HB3	2:C:598:PRO:CG	2.40	0.51
2:C:903:PRO:HG2	2:C:904:GLU:OE2	2.11	0.51
3:D:71:CYS:SG	3:D:72:LEU:N	2.84	0.51
3:D:247:ILE:CG1	3:D:251:LEU:HD12	2.41	0.51
3:D:257:LEU:HD21	5:F:563:ILE:HD13	1.92	0.51
3:D:844:VAL:CG1	3:D:854:VAL:HB	2.41	0.51
4:E:43:ASP:HB3	4:E:47:VAL:CG1	2.41	0.51
1:A:86:LEU:CD1	2:C:832:ASP:HB3	2.41	0.51
1:B:57:ALA:CB	1:B:93:VAL:HG13	2.41	0.51
2:C:213:THR:HB	2:C:362:ASP:OD2	2.11	0.51
2:C:408:VAL:HA	2:C:411:VAL:HG12	1.93	0.51
2:C:569:ILE:CD1	2:C:678:LEU:HD11	2.41	0.51
2:C:1204:ALA:HB1	2:C:1208:ASP:HB3	1.93	0.51
3:D:402:MET:HG3	3:D:407:GLN:NE2	2.25	0.51
3:D:423:VAL:HG12	3:D:472:VAL:HG22	1.93	0.51
3:D:510:LEU:HD12	3:D:721:MET:HG2	1.92	0.51
3:D:1158:LYS:HB2	3:D:1161:LYS:HD3	1.92	0.51
3:D:1253:VAL:HA	3:D:1256:MET:CE	2.39	0.51
5:F:492:ILE:HG23	5:F:493:PRO:HD2	1.93	0.51
6:H:19:DC:H2”	6:H:20:DG:C5’	2.40	0.51
2:C:602:VAL:O	2:C:658:ASP:HA	2.11	0.51
2:C:808:VAL:CG2	2:C:1116:LEU:HG	2.40	0.51
2:C:818:PHE:CE2	2:C:819:GLU:HG2	2.45	0.51
2:C:1303:GLU:O	2:C:1308:LYS:HB2	2.11	0.51
3:D:336:LYS:HE3	7:I:-2:DC:OP2	2.11	0.51
3:D:365:LEU:HD21	3:D:502:ILE:HG12	1.93	0.51
3:D:428:ALA:HB1	7:I:1:DA:C4	2.44	0.51
3:D:484:VAL:HG12	3:D:485:LEU:HD12	1.93	0.51
3:D:786:THR:OG1	3:D:924:THR:HG22	2.11	0.51
3:D:1310:LEU:HB3	3:D:1311:GLN:OE1	2.10	0.51
7:I:29:DC:H2”	7:I:30:DT:O5’	2.11	0.51
1:A:38:PHE:CE2	1:A:42:LEU:HB2	2.46	0.50
1:A:101:LYS:HG3	1:A:124:ILE:HG12	1.92	0.50
1:B:29:ILE:HD12	1:B:216:VAL:CG2	2.41	0.50
2:C:159:PRO:HG2	2:C:408:VAL:HG13	1.93	0.50
2:C:546:LEU:HD13	2:C:551:ALA:CA	2.41	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:1137:TRP:HB2	2:C:1242:GLY:CA	2.34	0.50
3:D:553:ARG:HD3	3:D:565:ARG:HB3	1.94	0.50
3:D:677:GLU:O	3:D:681:LYS:HG2	2.09	0.50
3:D:1372:ASP:OD2	4:E:70:THR:HG22	2.12	0.50
5:F:441:PHE:O	5:F:445:ILE:HG13	2.10	0.50
5:F:502:LYS:HD3	5:F:527:LEU:HD22	1.92	0.50
2:C:77:TYR:CB	2:C:102:VAL:HG12	2.41	0.50
2:C:455:ASN:HB3	2:C:458:ASN:CB	2.41	0.50
2:C:473:ARG:O	2:C:477:LEU:HG	2.12	0.50
2:C:614:MET:HG3	2:C:659:LEU:HD11	1.92	0.50
2:C:936:ASP:O	2:C:1071:PHE:N	2.29	0.50
3:D:265:SER:HA	5:F:547:LEU:HB3	1.92	0.50
3:D:433:ARG:CZ	3:D:900:ALA:HB2	2.41	0.50
3:D:439:PHE:CZ	3:D:455:VAL:HG21	2.44	0.50
3:D:503:VAL:HA	3:D:605:ILE:HD12	1.92	0.50
3:D:753:THR:O	3:D:755:ILE:HD12	2.10	0.50
3:D:805:ILE:HG23	3:D:908:GLY:H	1.75	0.50
3:D:1352:LEU:CD2	3:D:1361:LEU:HD23	2.41	0.50
5:F:592:THR:HB	5:F:595:GLU:HB2	1.93	0.50
2:C:84:TYR:HE1	2:C:1053:LYS:HD3	1.77	0.50
2:C:190:LEU:HD11	2:C:397:PHE:CE1	2.47	0.50
2:C:457:GLY:CA	2:C:616:ALA:HB3	2.41	0.50
2:C:815:GLY:HA3	3:D:629:PHE:CD2	2.46	0.50
2:C:1308:LYS:HB3	3:D:349:VAL:HG23	1.93	0.50
3:D:21:ILE:O	3:D:1338:ASP:N	2.40	0.50
3:D:272:ARG:NE	5:F:489:THR:HA	2.25	0.50
3:D:355:SER:OG	3:D:449:ILE:HG13	2.12	0.50
3:D:357:ILE:HG21	3:D:468:MET:CG	2.41	0.50
3:D:1318:ALA:CB	3:D:1327:VAL:HG21	2.42	0.50
3:D:1329:THR:O	3:D:1333:VAL:HG22	2.12	0.50
5:F:576:ILE:HG23	5:F:650:PHE:CZ	2.47	0.50
6:H:8:DC:H2'	6:H:9:DT:H6	1.75	0.50
8:G:110:VAL:HG12	8:G:132:PHE:CE2	2.46	0.50
1:A:43:GLY:HA3	1:A:184:TYR:CE1	2.47	0.50
1:A:111:GLY:HA2	1:A:136:LEU:CB	2.42	0.50
1:A:297:GLY:HA3	7:I:43:DA:O5'	2.11	0.50
2:C:183:ILE:HG23	2:C:189:TRP:CE2	2.47	0.50
2:C:623:VAL:HG11	2:C:656:THR:O	2.11	0.50
2:C:1104:PRO:HG2	2:C:1112:VAL:HG22	1.92	0.50
3:D:433:ARG:HG2	3:D:495:PRO:HG3	1.94	0.50
3:D:795:ARG:HD2	3:D:1306:THR:HG22	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:426:LEU:CD2	5:F:430:ILE:CD1	2.85	0.50
5:F:500:ILE:O	5:F:504:VAL:HG22	2.11	0.50
5:F:533:LYS:O	5:F:537:VAL:HG23	2.11	0.50
1:A:46:LEU:HD22	1:B:229:ILE:HD11	1.92	0.50
2:C:378:MET:CE	2:C:396:LEU:HD22	2.41	0.50
2:C:716:ALA:O	2:C:722:VAL:HG21	2.11	0.50
3:D:17:THR:OG1	3:D:18:PHE:N	2.44	0.50
3:D:129:LEU:HD13	3:D:158:HIS:CE1	2.45	0.50
3:D:141:TYR:CD2	5:F:118:MET:CE	2.95	0.50
3:D:427:ARG:CD	3:D:461:ALA:HB2	2.39	0.50
3:D:706:LYS:HA	3:D:712:GLU:HA	1.94	0.50
5:F:591:LEU:CD2	5:F:637:LYS:HD2	2.41	0.50
1:A:78:ARG:CG	2:C:775:PRO:HG2	2.40	0.50
2:C:183:ILE:HD12	2:C:189:TRP:CD2	2.46	0.50
2:C:523:MET:O	2:C:766:ASN:ND2	2.44	0.50
2:C:560:PRO:HB2	2:C:647:GLY:HA2	1.94	0.50
3:D:234:ASN:HA	3:D:238:TRP:CZ3	2.47	0.50
3:D:508:ILE:HD12	3:D:508:ILE:H	1.77	0.50
3:D:847:PRO:HG3	3:D:874:GLN:HE22	1.77	0.50
1:A:69:HIS:HB3	2:C:880:GLY:HA2	1.94	0.50
1:A:230:ILE:HD12	1:B:12:PRO:HG2	1.93	0.50
1:B:86:LEU:HD21	3:D:528:ILE:CB	2.37	0.50
1:B:154:TYR:CD1	1:B:175:LEU:HB3	2.43	0.50
2:C:826:GLU:HB3	2:C:1100:ILE:HG23	1.94	0.50
2:C:860:ILE:HG21	2:C:921:ASP:CG	2.32	0.50
3:D:166:TYR:HA	3:D:170:GLN:CB	2.42	0.50
3:D:184:ALA:O	3:D:187:ILE:HG22	2.11	0.50
3:D:518:ALA:HA	3:D:547:HIS:O	2.12	0.50
5:F:148:MET:HG2	5:F:405:VAL:HG23	1.94	0.50
5:F:469:THR:HG23	5:F:470:TYR:N	2.26	0.50
2:C:111:THR:CG2	2:C:115:THR:HB	2.41	0.50
2:C:973:LEU:HA	2:C:976:ASN:ND2	2.26	0.50
3:D:129:LEU:HD13	3:D:158:HIS:HE1	1.77	0.50
3:D:357:ILE:HD13	3:D:468:MET:CG	2.42	0.50
3:D:444:ILE:HG12	3:D:450:GLN:HG3	1.94	0.50
3:D:529:PHE:CE2	3:D:550:ILE:HD13	2.47	0.50
3:D:1139:ARG:CZ	6:H:4:DG:H2”	2.42	0.50
3:D:1207:ILE:HG13	3:D:1209:GLY:H	1.76	0.50
2:C:192:PHE:CD2	2:C:202:VAL:HG22	2.47	0.50
2:C:413:MET:O	2:C:417:LEU:HD23	2.11	0.50
2:C:551:ALA:CB	2:C:579:LEU:HD11	2.42	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:692:MET:CG	2:C:1249:LEU:HD21	2.42	0.50
2:C:1015:TRP:O	2:C:1029:LEU:HD21	2.10	0.50
2:C:1114:VAL:HG21	2:C:1246:MET:SD	2.52	0.50
3:D:46:ASN:HB2	3:D:49:THR:O	2.11	0.50
3:D:138:ARG:HD3	3:D:144:TYR:CE2	2.47	0.50
3:D:367:GLU:OE2	3:D:442:LYS:HB2	2.11	0.50
3:D:396:VAL:HG23	5:F:579:ASN:HD22	1.76	0.50
3:D:681:LYS:O	3:D:685:ALA:HB3	2.12	0.50
5:F:127:GLU:HG3	5:F:421:GLU:HB3	1.93	0.50
6:H:-18:DT:H2”	6:H:-17:DC:C6	2.47	0.50
2:C:765:SER:HB2	2:C:771:ILE:CG1	2.42	0.49
2:C:820:ASP:CB	3:D:464:ASP:HB3	2.42	0.49
2:C:826:GLU:HB2	2:C:1099:PRO:HA	1.94	0.49
2:C:877:VAL:HG21	2:C:934:ILE:HG13	1.94	0.49
2:C:1135:LEU:HD11	2:C:1196:ILE:CD1	2.42	0.49
2:C:1186:LEU:O	2:C:1190:LEU:HG	2.12	0.49
2:C:1286:GLU:HB3	3:D:345:LEU:HB3	1.94	0.49
3:D:433:ARG:N	3:D:917:GLN:OE1	2.45	0.49
3:D:651:THR:O	3:D:655:GLU:HG2	2.12	0.49
3:D:1354:PRO:O	3:D:1359:SER:HB2	2.11	0.49
5:F:450:ILE:HA	5:F:453:MET:HE3	1.92	0.49
1:A:48:ARG:CD	1:B:41:THR:HB	2.30	0.49
1:A:101:LYS:CD	1:A:124:ILE:HD11	2.42	0.49
2:C:24:MET:HB3	2:C:586:HIS:CE1	2.48	0.49
2:C:28:ILE:CD1	2:C:32:ARG:HD2	2.40	0.49
2:C:111:THR:HA	2:C:118:ARG:NH2	2.24	0.49
2:C:366:ILE:HG13	2:C:368:GLU:H	1.76	0.49
2:C:378:MET:SD	2:C:396:LEU:HD22	2.52	0.49
2:C:1147:THR:O	2:C:1151:GLU:HG3	2.11	0.49
3:D:444:ILE:HG21	3:D:450:GLN:CG	2.42	0.49
3:D:805:ILE:HD13	3:D:905:VAL:HG22	1.94	0.49
3:D:1164:ARG:HH21	3:D:1167:LYS:HE2	1.77	0.49
3:D:1257:LEU:CD2	3:D:1302:LEU:HD12	2.41	0.49
3:D:1262:ILE:O	3:D:1271:ILE:HA	2.11	0.49
4:E:30:ILE:CA	4:E:34:ALA:HB3	2.41	0.49
5:F:116:VAL:HA	5:F:442:LEU:HD12	1.94	0.49
6:H:-16:DG:H2’	6:H:-15:DT:C6	2.47	0.49
1:A:232:ILE:HA	1:B:217:ALA:CB	2.43	0.49
2:C:547:THR:HG22	2:C:550:ARG:HB2	1.93	0.49
2:C:834:PHE:HB2	2:C:1078:LEU:HD11	1.93	0.49
3:D:41:LYS:O	3:D:56:GLY:HA2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:458:ALA:HB2	3:D:501:ILE:HG23	1.94	0.49
3:D:609:TYR:HD2	3:D:617:THR:HG21	1.76	0.49
3:D:844:VAL:HB	3:D:876:VAL:CG2	2.39	0.49
7:I:-8:DG:H2’	7:I:-7:DC:C6	2.47	0.49
1:A:229:GLN:HG3	1:B:224:GLN:HE22	1.76	0.49
1:B:59:VAL:HG11	1:B:88:ILE:CG2	2.42	0.49
1:B:94:ARG:HB3	1:B:209:ALA:HB1	1.93	0.49
1:B:230:PHE:HB2	1:B:233:PHE:CE2	2.46	0.49
2:C:159:PRO:HB2	2:C:409:GLY:HA3	1.94	0.49
2:C:188:SER:HB2	2:C:396:LEU:HD11	1.95	0.49
2:C:200:VAL:CG1	2:C:358:THR:HG21	2.35	0.49
2:C:540:ALA:N	2:C:579:LEU:O	2.30	0.49
2:C:668:VAL:HG11	2:C:1200:VAL:HG11	1.94	0.49
3:D:360:GLY:N	3:D:451:LEU:O	2.46	0.49
3:D:396:VAL:H	5:F:579:ASN:HD22	1.60	0.49
3:D:764:THR:HG22	3:D:767:GLU:OE2	2.12	0.49
3:D:1201:THR:O	3:D:1204:GLU:HG2	2.12	0.49
1:B:127:LEU:O	1:B:129:PRO:HD3	2.11	0.49
2:C:27:LEU:CD1	2:C:532:ILE:HD13	2.42	0.49
2:C:38:PHE:O	2:C:39:LEU:HD23	2.12	0.49
2:C:202:VAL:HG23	2:C:212:ALA:HA	1.94	0.49
2:C:840:GLU:HB2	2:C:1072:VAL:CG1	2.42	0.49
2:C:911:ILE:CD1	5:F:638:LEU:HD11	2.42	0.49
2:C:1341:VAL:HG23	2:C:1351:VAL:HG12	1.94	0.49
3:D:19:ASP:OD1	3:D:20:GLN:N	2.45	0.49
3:D:66:THR:HG23	3:D:67:LYS:HG2	1.95	0.49
3:D:1326:ARG:NE	3:D:1330:GLU:OE2	2.39	0.49
5:F:129:LEU:HD22	6:H:-7:DT:C2’	2.40	0.49
1:A:45:ALA:O	1:A:224:LEU:HD11	2.12	0.49
2:C:43:THR:O	2:C:47:LEU:HG	2.13	0.49
2:C:1083:LYS:O	2:C:1249:LEU:HB2	2.13	0.49
3:D:1352:LEU:HD22	3:D:1361:LEU:HD23	1.94	0.49
3:D:1369:ALA:O	3:D:1373:GLU:HG2	2.13	0.49
7:I:41:DT:H2”	7:I:42:DA:C5’	2.43	0.49
1:A:72:SER:OG	1:A:73:SER:N	2.45	0.49
2:C:10:ARG:CG	2:C:1195:PRO:HG2	2.42	0.49
2:C:10:ARG:NH2	2:C:796:GLU:OE1	2.45	0.49
2:C:806:ALA:HB1	2:C:1113:ASP:HB2	1.93	0.49
2:C:1119:LEU:HD23	3:D:721:MET:HG2	1.95	0.49
3:D:196:LEU:CD1	3:D:229:PHE:HB3	2.43	0.49
3:D:484:VAL:O	4:E:6:VAL:HG21	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:799:VAL:HG23	3:D:1308:ALA:CB	2.43	0.49
3:D:806:VAL:HG23	3:D:807:GLU:HG3	1.94	0.49
3:D:919:ILE:HD12	3:D:1252:ILE:HG13	1.94	0.49
6:H:5:DT:H2'	6:H:6:DC:C6	2.47	0.49
7:I:9:DG:H2"	7:I:10:DT:O2	2.12	0.49
1:A:46:LEU:HD23	1:A:203:LEU:HD13	1.95	0.49
1:B:87:ASN:ND2	1:B:131:HIS:O	2.43	0.49
2:C:683:ALA:HB2	3:D:771:SER:OG	2.13	0.49
2:C:1119:LEU:HB3	3:D:727:ARG:HG3	1.93	0.49
2:C:1339:VAL:HG23	3:D:251:LEU:CD1	2.39	0.49
3:D:81:TYR:HB3	3:D:84:ILE:HG12	1.93	0.49
3:D:804:ILE:HD11	3:D:1343:LEU:HD22	1.95	0.49
1:B:86:LEU:HD22	3:D:529:PHE:O	2.13	0.49
2:C:623:VAL:CG2	2:C:645:ILE:HG22	2.41	0.49
2:C:1258:HIS:CE1	2:C:1276:LYS:HA	2.48	0.49
2:C:1340:LEU:HD13	3:D:339:ARG:HB2	1.93	0.49
3:D:118:LEU:HD22	3:D:140:LEU:HD13	1.94	0.49
3:D:171:GLU:HG3	3:D:178:PHE:CG	2.48	0.49
3:D:881:VAL:HA	3:D:884:CYS:SG	2.52	0.49
3:D:891:CYS:SG	3:D:892:GLY:N	2.86	0.49
3:D:1149:GLU:HB2	3:D:1219:ILE:HG23	1.95	0.49
3:D:1278:LYS:O	3:D:1282:ASP:N	2.27	0.49
6:H:-5:DC:H2"	6:H:-4:DG:C5'	2.43	0.49
7:I:-1:DT:H3'	7:I:0:DT:H5"	1.95	0.49
7:I:22:DT:C2'	7:I:23:DT:H71	2.36	0.49
1:A:53:SER:HG	1:B:38:PHE:HZ	1.51	0.49
2:C:15:PHE:CD2	2:C:1204:ALA:HB2	2.48	0.49
2:C:397:PHE:O	2:C:427:ILE:HB	2.13	0.49
2:C:405:LEU:HD23	2:C:406:SER:O	2.13	0.49
2:C:824:ILE:HB	2:C:1094:ILE:CD1	2.41	0.49
2:C:1085:ALA:HB1	2:C:1091:LYS:HG2	1.95	0.49
2:C:1262:ILE:HD13	5:F:571:PRO:HB2	1.95	0.49
2:C:1264:PRO:HD2	2:C:1279:PHE:HB2	1.93	0.49
3:D:31:ILE:HD12	3:D:245:PRO:HG3	1.95	0.49
3:D:919:ILE:HG21	3:D:1136:PHE:CE2	2.47	0.49
3:D:1352:LEU:CD2	3:D:1358:GLY:HA2	2.43	0.49
1:A:8:GLU:OE2	1:B:226:GLN:NE2	2.46	0.48
1:A:34:LEU:HD23	1:A:39:GLY:HA2	1.94	0.48
1:A:68:VAL:HG23	1:A:69:HIS:CD2	2.48	0.48
1:A:75:GLU:O	2:C:735:ASP:HB2	2.13	0.48
1:B:68:VAL:HG22	1:B:70:GLU:H	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:175:LEU:HD21	1:B:180:LYS:CD	2.42	0.48
2:C:159:PRO:HA	2:C:183:ILE:O	2.13	0.48
2:C:366:ILE:CG2	2:C:369:ASP:HB2	2.43	0.48
2:C:829:VAL:HG23	2:C:1077:LYS:HB3	1.94	0.48
2:C:1213:LEU:HD22	2:C:1218:VAL:CG1	2.36	0.48
2:C:1286:GLU:CB	3:D:345:LEU:HD23	2.43	0.48
3:D:45:ILE:HG13	5:F:490:ILE:HG23	1.94	0.48
3:D:290:PRO:O	3:D:294:ILE:HG13	2.13	0.48
3:D:508:ILE:HG13	3:D:629:PHE:CE1	2.48	0.48
3:D:581:LEU:HD22	3:D:604:LEU:HD11	1.93	0.48
4:E:22:LEU:HD11	4:E:61:GLU:HB2	1.94	0.48
5:F:631:GLU:O	5:F:635:LEU:HD23	2.12	0.48
1:A:67:VAL:CG2	1:A:72:SER:HB3	2.43	0.48
1:A:85:VAL:HG13	1:A:172:VAL:CG2	2.39	0.48
2:C:652:LEU:CD1	2:C:657:VAL:HG22	2.43	0.48
2:C:914:GLU:OE1	5:F:651:LEU:HD21	2.13	0.48
2:C:1133:THR:HG22	2:C:1242:GLY:HA3	1.94	0.48
2:C:1143:GLY:HA2	2:C:1146:ILE:HG22	1.95	0.48
2:C:1292:LEU:HD12	2:C:1301:LEU:HD21	1.94	0.48
2:C:1294:ALA:HB1	3:D:914:ILE:HG12	1.94	0.48
3:D:20:GLN:HA	3:D:1338:ASP:O	2.12	0.48
3:D:1309:SER:HB2	3:D:1318:ALA:HA	1.96	0.48
2:C:491:ASP:HB2	2:C:493:ASP:OD1	2.12	0.48
2:C:682:ASP:HB2	2:C:1125:MET:O	2.13	0.48
2:C:941:ASN:HB2	2:C:946:ASP:HB2	1.95	0.48
3:D:181:GLU:OE2	3:D:186:ALA:HA	2.13	0.48
3:D:246:VAL:HA	3:D:271:TYR:CZ	2.48	0.48
3:D:358:VAL:HG23	3:D:448:ALA:HB1	1.93	0.48
3:D:413:ILE:O	3:D:417:VAL:HG12	2.14	0.48
3:D:492:ILE:HD13	3:D:617:THR:HG22	1.94	0.48
3:D:814:LYS:HG3	3:D:883:THR:OG1	2.13	0.48
3:D:822:VAL:CG1	3:D:827:VAL:HG12	2.43	0.48
5:F:129:LEU:HD11	6:H:-7:DT:O2	2.12	0.48
5:F:437:ARG:CZ	7:I:10:DT:H1’	2.43	0.48
5:F:511:LEU:HA	5:F:515:GLY:O	2.13	0.48
5:F:520:PRO:HB3	5:F:538:LEU:HD21	1.95	0.48
7:I:-16:DG:C8	7:I:-16:DG:H5’	2.48	0.48
1:A:95:MET:HE2	1:A:97:ALA:O	2.14	0.48
2:C:26:ASN:HA	2:C:718:ASP:OD2	2.13	0.48
2:C:104:LEU:CD1	2:C:128:VAL:HG12	2.43	0.48
2:C:194:PHE:HE1	2:C:200:VAL:HB	1.77	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:456:LEU:CD2	2:C:565:ARG:HB2	2.43	0.48
2:C:562:HIS:CE1	2:C:566:ILE:HD12	2.48	0.48
2:C:859:ASP:HB2	2:C:868:LEU:CD1	2.42	0.48
3:D:108:LEU:HA	3:D:278:ASN:ND2	2.27	0.48
3:D:309:PHE:O	3:D:330:ALA:N	2.42	0.48
5:F:546:SER:HB3	5:F:548:GLU:OE1	2.12	0.48
2:C:461:VAL:CG2	2:C:538:LEU:HD22	2.40	0.48
2:C:485:GLU:OE2	5:F:433:LYS:HD3	2.13	0.48
2:C:966:ARG:HB2	2:C:1047:PHE:CD2	2.49	0.48
2:C:1048:GLU:HA	2:C:1051:VAL:CG1	2.41	0.48
2:C:1080:PRO:HA	2:C:1094:ILE:CG2	2.43	0.48
2:C:1095:SER:HA	3:D:358:VAL:HG11	1.96	0.48
3:D:69:TYR:CE2	3:D:95:LEU:HB3	2.49	0.48
3:D:510:LEU:CD2	3:D:637:ILE:HG13	2.43	0.48
3:D:661:ALA:O	3:D:681:LYS:HE2	2.14	0.48
1:A:111:GLY:O	1:A:135:THR:HA	2.14	0.48
2:C:21:ALA:HB3	2:C:662:VAL:HG13	1.96	0.48
2:C:22:VAL:HB	2:C:662:VAL:CG1	2.43	0.48
2:C:571:THR:CG2	2:C:578:GLY:H	2.27	0.48
2:C:837:ILE:HG23	2:C:1073:ALA:HB1	1.96	0.48
2:C:855:GLU:HB3	2:C:893:VAL:HB	1.94	0.48
2:C:988:LYS:HD3	2:C:1025:ALA:HB1	1.95	0.48
3:D:266:ASP:OD2	3:D:327:LYS:HB2	2.13	0.48
3:D:437:GLN:HB2	3:D:459:PHE:CZ	2.49	0.48
3:D:513:TYR:O	3:D:517:VAL:HG13	2.13	0.48
3:D:805:ILE:HD11	3:D:892:GLY:HA2	1.94	0.48
3:D:841:ALA:HB3	3:D:877:LYS:CG	2.43	0.48
1:B:50:LEU:CD2	1:B:219:ALA:HB2	2.43	0.48
2:C:128:VAL:HB	2:C:498:HIS:CB	2.44	0.48
2:C:907:LEU:HB2	5:F:603:PHE:CD2	2.49	0.48
3:D:271:TYR:CD1	3:D:308:LEU:HD11	2.48	0.48
3:D:307:ALA:HA	3:D:311:ASN:HA	1.94	0.48
3:D:508:ILE:HG12	3:D:625:MET:HA	1.95	0.48
3:D:922:PRO:HB3	3:D:1242:VAL:CG1	2.43	0.48
3:D:1315:PHE:CE1	3:D:1338:ASP:HB2	2.49	0.48
5:F:432:LYS:HA	5:F:441:PHE:CE2	2.49	0.48
5:F:491:ARG:O	5:F:491:ARG:NE	2.29	0.48
5:F:584:THR:HA	5:F:587:VAL:HG22	1.96	0.48
1:A:95:MET:HA	1:A:124:ILE:HA	1.96	0.48
1:B:42:LEU:O	1:B:46:LEU:HG	2.14	0.48
1:B:103:MET:CB	1:B:146:PHE:HB2	2.40	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:188:SER:CB	2:C:396:LEU:HD11	2.44	0.48
2:C:452:ASP:N	2:C:452:ASP:OD1	2.47	0.48
2:C:818:PHE:HE1	3:D:506:GLN:H	1.61	0.48
2:C:912:PHE:CZ	5:F:648:ARG:HA	2.49	0.48
2:C:1290:TRP:HH2	3:D:794:ARG:HG3	1.79	0.48
3:D:339:ARG:HA	3:D:343:ASN:HB2	1.95	0.48
3:D:351:TYR:CG	3:D:474:LEU:HD11	2.49	0.48
3:D:563:LEU:HD12	3:D:564:LEU:N	2.29	0.48
3:D:1131:ARG:O	3:D:1135:LEU:HD23	2.14	0.48
3:D:1343:LEU:HG	3:D:1353:ILE:CG2	2.43	0.48
5:F:495:HIS:CE1	6:H:-18:DT:H3’	2.49	0.48
1:B:24:THR:O	1:B:212:PRO:HD3	2.14	0.48
2:C:539:SER:HA	2:C:580:ILE:HA	1.95	0.48
2:C:673:ALA:O	2:C:709:THR:HG21	2.14	0.48
2:C:1273:LEU:HD21	5:F:563:ILE:O	2.13	0.48
2:C:1292:LEU:HD21	3:D:436:ILE:CG2	2.43	0.48
3:D:353:GLY:O	3:D:470:VAL:HG12	2.13	0.48
3:D:655:GLU:OE1	3:D:658:ARG:HD3	2.12	0.48
3:D:1161:LYS:HE3	3:D:1163:LYS:O	2.13	0.48
1:B:87:ASN:ND2	1:B:132:VAL:HA	2.28	0.48
1:B:92:ALA:HB2	1:B:207:ASN:O	2.14	0.48
1:B:156:PRO:HB3	3:D:543:VAL:HG21	1.95	0.48
2:C:71:VAL:CG1	2:C:107:ILE:HG12	2.44	0.48
2:C:532:ILE:CD1	2:C:719:SER:HB2	2.43	0.48
2:C:765:SER:HB3	2:C:769:THR:HG22	1.95	0.48
5:F:417:LYS:O	5:F:421:GLU:HG3	2.13	0.48
1:B:61:ALA:HB2	1:B:147:THR:OG1	2.13	0.47
2:C:219:LEU:HD23	2:C:430:LYS:HA	1.96	0.47
2:C:658:ASP:OD1	2:C:658:ASP:N	2.46	0.47
2:C:844:VAL:CG1	2:C:1068:VAL:HB	2.44	0.47
3:D:199:GLU:HB3	3:D:226:LEU:HD13	1.96	0.47
3:D:376:LEU:HD23	3:D:414:LEU:HD22	1.95	0.47
3:D:842:GLU:OE1	3:D:877:LYS:HG2	2.14	0.47
3:D:1318:ALA:HB3	3:D:1327:VAL:HG21	1.96	0.47
4:E:26:ARG:O	4:E:30:ILE:HG13	2.13	0.47
6:H:-28:DG:H1’	6:H:-27:DC:C5	2.48	0.47
6:H:-3:DA:H5”	6:H:-3:DA:C8	2.48	0.47
2:C:160:GLY:HA2	2:C:413:MET:HG3	1.95	0.47
2:C:741:ILE:HD12	2:C:783:ILE:HD11	1.96	0.47
2:C:807:LEU:HD13	2:C:1243:TYR:CE1	2.49	0.47
2:C:931:ALA:HB1	2:C:1072:VAL:HG22	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:977:ILE:O	2:C:981:LEU:HG	2.14	0.47
2:C:1114:VAL:HG11	2:C:1246:MET:SD	2.55	0.47
3:D:434:LEU:CD1	3:D:501:ILE:HG21	2.43	0.47
5:F:425:ARG:HD2	6:H:-7:DT:H2”	1.96	0.47
2:C:563:TYR:CE2	3:D:765:VAL:HG12	2.49	0.47
2:C:674:LEU:CD1	2:C:800:LEU:HD23	2.43	0.47
2:C:1163:VAL:HG12	2:C:1176:LEU:CD2	2.44	0.47
2:C:1290:TRP:O	3:D:917:GLN:NE2	2.47	0.47
2:C:1302:GLN:O	2:C:1306:THR:HB	2.14	0.47
3:D:294:ILE:O	3:D:298:LYS:HG3	2.14	0.47
3:D:434:LEU:O	3:D:437:GLN:HG3	2.15	0.47
3:D:483:ARG:HA	3:D:487:MET:CG	2.44	0.47
3:D:484:VAL:HA	4:E:6:VAL:CG2	2.45	0.47
3:D:515:LEU:HD11	3:D:631:GLU:CG	2.40	0.47
3:D:558:THR:HG22	3:D:563:LEU:CD2	2.45	0.47
3:D:568:ILE:HD12	3:D:570:THR:HG21	1.95	0.47
3:D:791:TYR:O	3:D:795:ARG:HG3	2.14	0.47
5:F:134:GLU:CD	5:F:467:PHE:HB3	2.35	0.47
5:F:499:THR:HG21	5:F:533:LYS:HZ3	1.79	0.47
5:F:584:THR:O	5:F:588:LEU:HG	2.14	0.47
6:H:-24:DG:H2”	6:H:-23:DA:C8	2.49	0.47
1:A:30:VAL:HG13	1:A:200:LYS:HD2	1.97	0.47
2:C:22:VAL:HG21	2:C:611:VAL:HG11	1.96	0.47
2:C:77:TYR:HB3	2:C:102:VAL:HG12	1.96	0.47
2:C:78:GLU:CG	2:C:101:LYS:HB2	2.40	0.47
2:C:356:ARG:O	2:C:360:ARG:HD3	2.15	0.47
2:C:679:GLU:HG2	2:C:680:ASN:OD1	2.14	0.47
2:C:822:ILE:HD12	2:C:1084:MET:O	2.14	0.47
2:C:1282:GLN:HA	7:I:2:DA:OP1	2.14	0.47
3:D:287:LEU:O	3:D:287:LEU:HD23	2.14	0.47
3:D:336:LYS:HA	3:D:340:PHE:HD2	1.79	0.47
1:A:58:ALA:C	1:A:148:VAL:HG23	2.35	0.47
2:C:172:ALA:HB2	2:C:196:ALA:CB	2.45	0.47
2:C:217:TYR:HB3	2:C:367:ARG:HA	1.96	0.47
2:C:565:ARG:HB3	2:C:595:ILE:CG2	2.44	0.47
2:C:1284:PHE:CE2	2:C:1289:VAL:HG23	2.48	0.47
3:D:427:ARG:HB2	3:D:468:MET:SD	2.55	0.47
3:D:571:THR:HB	3:D:572:PRO:HD2	1.97	0.47
3:D:637:ILE:CG2	3:D:720:MET:HE3	2.43	0.47
3:D:800:ALA:HB1	3:D:912:GLY:CA	2.45	0.47
4:E:25:HIS:CE1	4:E:67:LEU:HD13	2.48	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:H:-33:DG:H2”	6:H:-32:DA:N7	2.28	0.47
6:H:9:DT:H2”	6:H:10:DG:H5’	1.97	0.47
7:I:-8:DG:H2’	7:I:-7:DC:H6	1.79	0.47
1:A:182:VAL:HA	1:A:205:VAL:HA	1.97	0.47
1:B:25:ARG:HG2	1:B:208:GLY:HA2	1.95	0.47
2:C:43:THR:CG2	2:C:45:PRO:HD2	2.37	0.47
2:C:262:VAL:HA	2:C:268:GLU:O	2.14	0.47
2:C:546:LEU:HD23	6:H:1:DA:C6	2.49	0.47
2:C:629:ILE:HG21	2:C:641:VAL:CG2	2.45	0.47
2:C:695:GLN:O	2:C:1249:LEU:HA	2.14	0.47
2:C:1061:PRO:HD2	2:C:1064:VAL:HG13	1.97	0.47
3:D:40:LYS:O	3:D:279:ASN:ND2	2.40	0.47
3:D:57:LEU:HD11	3:D:272:ARG:HB2	1.97	0.47
3:D:181:GLU:HG3	3:D:186:ALA:HA	1.96	0.47
3:D:257:LEU:HB2	3:D:261:ARG:O	2.14	0.47
3:D:354:ARG:HG2	3:D:467:GLN:HB3	1.96	0.47
3:D:386:ARG:HG3	3:D:417:VAL:HB	1.96	0.47
3:D:387:LEU:HD23	3:D:413:ILE:HG13	1.95	0.47
3:D:735:GLN:HA	3:D:740:ARG:HA	1.96	0.47
3:D:804:ILE:HG13	3:D:1343:LEU:CD1	2.45	0.47
3:D:810:CYS:SG	3:D:812:THR:HG22	2.55	0.47
1:B:136:LEU:HD22	1:B:139:GLY:CA	2.45	0.47
2:C:57:PHE:CZ	2:C:102:VAL:HG11	2.50	0.47
2:C:79:PHE:HE2	2:C:135:LEU:HD12	1.80	0.47
2:C:84:TYR:HB3	2:C:88:GLU:OE2	2.14	0.47
2:C:235:PRO:CB	2:C:247:TYR:HA	2.45	0.47
2:C:367:ARG:O	2:C:371:LEU:HG	2.15	0.47
2:C:456:LEU:CD2	2:C:562:HIS:HA	2.41	0.47
2:C:519:LEU:HD23	2:C:543:PRO:HD2	1.97	0.47
2:C:684:ASN:OD1	3:D:779:LEU:HD13	2.14	0.47
2:C:839:ILE:HG12	2:C:1073:ALA:HB2	1.96	0.47
2:C:1298:ALA:HB1	3:D:1353:ILE:HB	1.97	0.47
3:D:43:GLU:HB2	3:D:53:GLU:HG3	1.97	0.47
3:D:506:GLN:HA	3:D:726:ALA:HB1	1.95	0.47
3:D:693:VAL:HG11	3:D:739:MET:CE	2.44	0.47
3:D:805:ILE:CD1	3:D:892:GLY:HA2	2.45	0.47
3:D:805:ILE:HG12	3:D:907:ILE:HA	1.96	0.47
3:D:1262:ILE:HD11	3:D:1274:ASP:OD2	2.15	0.47
5:F:400:ARG:O	5:F:404:THR:HG22	2.15	0.47
5:F:484:ALA:HB1	5:F:497:ILE:HG13	1.97	0.47
5:F:578:SER:O	5:F:582:GLU:HG3	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:I:45:DG:H2”	7:I:46:DG:C8	2.50	0.47
2:C:178:PHE:O	2:C:440:LEU:HD11	2.15	0.47
2:C:417:LEU:HD23	2:C:417:LEU:H	1.80	0.47
2:C:529:LEU:HD21	2:C:671:ALA:CB	2.45	0.47
2:C:856:ILE:HG21	2:C:1066:LYS:CE	2.45	0.47
2:C:1184:VAL:O	2:C:1188:ARG:HG2	2.14	0.47
2:C:1302:GLN:HG3	3:D:1352:LEU:CA	2.44	0.47
3:D:434:LEU:HB3	3:D:437:GLN:HE21	1.79	0.47
5:F:497:ILE:O	5:F:500:ILE:HG22	2.15	0.47
1:A:62:ILE:HD11	1:A:88:ILE:HG21	1.96	0.47
2:C:558:VAL:HG13	3:D:773:HIS:HD1	1.80	0.47
2:C:676:PRO:HG2	2:C:1088:HIS:CE1	2.49	0.47
2:C:717:ARG:O	2:C:724:ILE:HD11	2.15	0.47
2:C:837:ILE:HA	2:C:1074:VAL:O	2.15	0.47
2:C:1261:SER:O	3:D:350:ASP:HB2	2.14	0.47
2:C:1273:LEU:HD11	5:F:564:GLU:HA	1.97	0.47
2:C:1306:THR:HG22	2:C:1331:ALA:HB3	1.95	0.47
3:D:126:ALA:HB1	3:D:131:MET:O	2.14	0.47
3:D:257:LEU:CD2	5:F:563:ILE:HD13	2.45	0.47
3:D:689:ALA:HA	3:D:692:ARG:HB3	1.97	0.47
4:E:45:ASN:HB2	4:E:46:PRO:HD3	1.97	0.47
5:F:117:ARG:CZ	6:H:-4:DG:N2	2.78	0.47
1:A:120:THR:HB	1:A:126:ILE:HD11	1.96	0.47
2:C:32:ARG:N	2:C:136:MET:HE1	2.30	0.47
2:C:373:ASP:O	2:C:377:VAL:HG23	2.16	0.47
2:C:550:ARG:HG3	2:C:550:ARG:O	2.15	0.47
2:C:1046:ARG:O	2:C:1050:LYS:HG2	2.15	0.47
2:C:1265:TYR:CE2	5:F:570:LEU:HD12	2.50	0.47
3:D:112:VAL:CG2	3:D:302:GLN:HG2	2.38	0.47
3:D:254:LEU:HD23	3:D:254:LEU:O	2.15	0.47
3:D:405:ARG:HD2	3:D:407:GLN:OE1	2.15	0.47
1:A:12:PRO:CG	1:A:33:PRO:HD2	2.45	0.46
1:A:93:VAL:CG1	1:A:126:ILE:HG23	2.45	0.46
3:D:414:LEU:HA	3:D:417:VAL:HG12	1.97	0.46
3:D:480:LEU:HB2	4:E:46:PRO:HB3	1.96	0.46
3:D:610:ARG:HE	3:D:862:GLU:HG2	1.80	0.46
3:D:619:ILE:O	3:D:623:LYS:HG2	2.14	0.46
3:D:698:MET:O	3:D:702:GLN:HG3	2.16	0.46
5:F:612:THR:HG22	5:F:615:GLU:CG	2.42	0.46
7:I:35:DA:H2’	7:I:36:DG:H8	1.79	0.46
1:A:92:ALA:O	1:A:127:LEU:HB2	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:93:VAL:HG12	1:A:126:ILE:HG23	1.97	0.46
1:B:82:VAL:HG23	3:D:528:ILE:HD13	1.97	0.46
2:C:408:VAL:CG2	2:C:592:TYR:HB3	2.37	0.46
2:C:560:PRO:HB2	2:C:647:GLY:CA	2.45	0.46
2:C:840:GLU:HB2	2:C:1072:VAL:HG13	1.97	0.46
2:C:1130:ILE:HG13	3:D:639:PHE:CD1	2.50	0.46
2:C:1284:PHE:O	3:D:346:GLY:HA2	2.15	0.46
3:D:344:LEU:O	3:D:347:LYS:HG3	2.15	0.46
3:D:548:ALA:HB1	3:D:571:THR:CB	2.46	0.46
3:D:559:PRO:CD	3:D:563:LEU:HD22	2.44	0.46
3:D:781:ASP:O	3:D:785:LYS:HB2	2.16	0.46
3:D:913:VAL:HG12	3:D:917:GLN:NE2	2.29	0.46
3:D:923:GLY:O	3:D:924:THR:OG1	2.31	0.46
4:E:22:LEU:CD1	4:E:61:GLU:HB2	2.45	0.46
1:A:74:LEU:CD1	1:A:77:VAL:HG21	2.45	0.46
1:B:68:VAL:CG2	1:B:70:GLU:HG2	2.44	0.46
2:C:521:GLN:OE1	2:C:521:GLN:N	2.47	0.46
2:C:821:SER:HB2	3:D:463:PHE:CB	2.45	0.46
2:C:1031:SER:O	2:C:1034:ARG:HG2	2.14	0.46
2:C:1093:VAL:HG23	3:D:463:PHE:O	2.16	0.46
2:C:1119:LEU:HB3	3:D:727:ARG:CG	2.45	0.46
2:C:1343:GLU:O	2:C:1347:LEU:HD12	2.15	0.46
3:D:538:ALA:HB1	3:D:543:VAL:HG13	1.97	0.46
3:D:739:MET:SD	3:D:756:VAL:HG23	2.55	0.46
4:E:12:LYS:HB3	4:E:57:VAL:CG2	2.39	0.46
5:F:447:GLU:HG2	5:F:482:SER:OG	2.14	0.46
6:H:-14:DG:H2'	6:H:-13:DT:C6	2.50	0.46
7:I:40:DC:C2'	7:I:41:DT:H71	2.45	0.46
8:G:120:TRP:CZ3	8:G:122:ILE:HG13	2.50	0.46
2:C:104:LEU:O	2:C:126:GLN:N	2.48	0.46
2:C:398:PHE:HA	2:C:427:ILE:HD12	1.98	0.46
2:C:706:LEU:HD11	2:C:805:ASN:HD22	1.80	0.46
2:C:1135:LEU:HD13	2:C:1209:ILE:CD1	2.46	0.46
3:D:426:ASN:N	3:D:469:ALA:O	2.35	0.46
3:D:509:VAL:HG13	3:D:726:ALA:HB2	1.97	0.46
4:E:38:VAL:CG1	4:E:52:GLU:HB3	2.45	0.46
6:H:-36:DC:H2"	6:H:-35:DT:H5'	1.95	0.46
7:I:-13:6MA:H2'	7:I:-12:DC:C6	2.50	0.46
1:A:59:VAL:HB	1:A:88:ILE:HG22	1.97	0.46
1:A:223:ILE:HG12	1:B:6:TRP:HB3	1.96	0.46
2:C:10:ARG:HB2	2:C:797:LEU:HD12	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:533:THR:HG21	2:C:694:ARG:HB3	1.97	0.46
2:C:859:ASP:OD1	2:C:860:ILE:N	2.48	0.46
2:C:891:GLY:HA2	2:C:923:SER:CB	2.45	0.46
3:D:49:THR:HG21	3:D:51:LYS:HE2	1.96	0.46
3:D:99:ARG:CG	3:D:249:PRO:HG2	2.46	0.46
3:D:277:ARG:HD2	3:D:300:MET:HG2	1.97	0.46
3:D:311:ASN:ND2	3:D:326:LEU:O	2.42	0.46
3:D:515:LEU:CD1	3:D:577:ILE:HD11	2.45	0.46
3:D:616:ALA:O	3:D:619:ILE:HG22	2.15	0.46
3:D:693:VAL:CG1	3:D:739:MET:HB2	2.37	0.46
3:D:1156:PHE:HA	3:D:1164:ARG:NH2	2.30	0.46
3:D:1342:GLY:O	3:D:1346:ASN:ND2	2.47	0.46
5:F:506:THR:O	5:F:509:GLN:HG2	2.16	0.46
5:F:588:LEU:O	5:F:596:GLU:HG3	2.16	0.46
1:B:154:TYR:HA	1:B:175:LEU:HA	1.98	0.46
2:C:85:ASP:O	2:C:89:CYS:N	2.48	0.46
2:C:180:ALA:CB	2:C:440:LEU:HD22	2.45	0.46
2:C:1045:ARG:O	2:C:1048:GLU:HG2	2.15	0.46
2:C:1103:MET:O	2:C:1229:GLY:HA3	2.15	0.46
3:D:135:ASP:HB3	3:D:160:LEU:HD11	1.97	0.46
3:D:215:LYS:HE3	3:D:219:PHE:CE2	2.51	0.46
3:D:701:LEU:HD21	3:D:719:TYR:HB2	1.96	0.46
3:D:1143:ASP:O	3:D:1207:ILE:HD11	2.16	0.46
3:D:1374:GLN:O	3:D:1378:GLN:HG3	2.15	0.46
2:C:16:GLY:HA2	2:C:1202:ASP:O	2.15	0.46
2:C:27:LEU:HD13	2:C:532:ILE:HG21	1.97	0.46
2:C:526:THR:HG22	2:C:697:VAL:HA	1.98	0.46
2:C:1103:MET:HE3	2:C:1115:VAL:HG23	1.98	0.46
3:D:114:HIS:HD2	3:D:116:TRP:HB2	1.81	0.46
3:D:290:PRO:CB	5:F:417:LYS:HG3	2.40	0.46
3:D:318:ILE:HG23	3:D:324:ARG:O	2.16	0.46
3:D:497:ASN:HD21	3:D:1243:PRO:HG2	1.81	0.46
3:D:615:LYS:HE2	4:E:5:THR:OG1	2.15	0.46
3:D:1328:LEU:O	3:D:1332:SER:N	2.39	0.46
1:A:78:ARG:HB3	1:A:135:THR:HB	1.98	0.46
1:A:105:LEU:N	1:A:144:MET:O	2.37	0.46
1:B:62:ILE:HG21	1:B:170:ILE:HB	1.97	0.46
1:B:127:LEU:CD2	1:B:209:ALA:HA	2.44	0.46
2:C:70:ALA:CB	2:C:492:ILE:HG21	2.46	0.46
2:C:563:TYR:HE2	3:D:765:VAL:HG12	1.79	0.46
2:C:807:LEU:HD11	2:C:1241:VAL:CG1	2.46	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:823:LEU:HD22	2:C:1115:VAL:HB	1.97	0.46
3:D:532:LEU:HD22	3:D:579:ALA:CB	2.44	0.46
3:D:882:LEU:HD13	3:D:1226:ALA:CB	2.46	0.46
5:F:501:ASN:HA	5:F:504:VAL:HG22	1.98	0.46
8:G:118:CYS:HB3	8:G:133:CYS:HB2	1.96	0.46
1:A:128:ASN:HB3	1:A:131:HIS:HB2	1.98	0.46
1:B:136:LEU:HD22	1:B:139:GLY:HA3	1.98	0.46
1:B:211:THR:HG23	1:B:214:ASP:H	1.81	0.46
2:C:707:VAL:HG23	2:C:1135:LEU:CD2	2.46	0.46
2:C:934:ILE:HD13	2:C:1072:VAL:HG23	1.98	0.46
3:D:244:VAL:HG23	3:D:309:PHE:HZ	1.81	0.46
3:D:394:GLY:HA3	5:F:646:LYS:HG3	1.98	0.46
3:D:453:PRO:HD2	3:D:625:MET:SD	2.55	0.46
3:D:504:PRO:HG2	3:D:601:ILE:CD1	2.46	0.46
3:D:664:TYR:HB2	3:D:681:LYS:NZ	2.31	0.46
5:F:420:VAL:HG22	5:F:452:LEU:CD2	2.46	0.46
1:A:235:GLU:HG2	1:B:218:TYR:CE1	2.51	0.46
2:C:191:ASP:O	2:C:203:ARG:N	2.49	0.46
2:C:417:LEU:HD12	2:C:435:ALA:CB	2.46	0.46
2:C:422:SER:HB3	2:C:425:VAL:CG1	2.46	0.46
2:C:729:GLY:N	2:C:744:THR:HA	2.31	0.46
2:C:816:TYR:CB	2:C:823:LEU:HD12	2.43	0.46
2:C:846:ALA:H	2:C:1064:VAL:CG2	2.29	0.46
2:C:901:MET:SD	2:C:906:LYS:HD2	2.56	0.46
2:C:1142:LEU:O	2:C:1146:ILE:HG22	2.16	0.46
2:C:1166:LEU:HA	2:C:1215:MET:HE1	1.98	0.46
3:D:203:LEU:O	3:D:203:LEU:HD23	2.16	0.46
3:D:284:LEU:HD12	3:D:297:GLU:HG2	1.97	0.46
3:D:354:ARG:HD3	7:I:2:DA:H4’	1.98	0.46
3:D:476:LEU:CD1	4:E:46:PRO:HG3	2.46	0.46
3:D:539:MET:CE	3:D:546:LEU:HD13	2.45	0.46
3:D:1145:ALA:HB2	3:D:1207:ILE:HG12	1.97	0.46
5:F:123:MET:O	5:F:127:GLU:HB2	2.16	0.46
5:F:180:ILE:HA	5:F:303:ASN:N	2.31	0.46
2:C:142:PHE:HB3	2:C:514:PHE:CE2	2.50	0.45
2:C:759:MET:HE1	2:C:775:PRO:HB3	1.98	0.45
2:C:882:GLU:HG3	2:C:932:GLY:CA	2.46	0.45
2:C:1262:ILE:CD1	5:F:571:PRO:HB2	2.46	0.45
2:C:1312:VAL:HG12	2:C:1335:GLU:OE2	2.16	0.45
3:D:251:LEU:O	3:D:253:PRO:HD3	2.15	0.45
3:D:481:GLU:OE1	4:E:20:VAL:HG21	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:882:LEU:HD13	3:D:1226:ALA:HB1	1.98	0.45
4:E:30:ILE:CG1	4:E:34:ALA:HB3	2.46	0.45
1:A:8:GLU:HA	1:B:152:LYS:HZ2	1.81	0.45
1:B:45:ALA:HB1	1:B:223:LEU:HD22	1.97	0.45
1:B:57:ALA:HB1	1:B:148:VAL:HG23	1.98	0.45
1:B:110:PRO:HG3	1:B:138:ASP:H	1.82	0.45
2:C:735:ASP:OD1	2:C:735:ASP:N	2.45	0.45
2:C:834:PHE:HB3	2:C:1078:LEU:HD21	1.99	0.45
2:C:1240:THR:H	3:D:638:SER:CB	2.30	0.45
3:D:36:PHE:HB2	3:D:62:ILE:O	2.16	0.45
3:D:452:HIS:NE2	3:D:625:MET:SD	2.89	0.45
3:D:454:LEU:HD11	3:D:625:MET:HB2	1.97	0.45
3:D:481:GLU:OE1	4:E:20:VAL:HG11	2.17	0.45
3:D:655:GLU:O	3:D:658:ARG:HG2	2.17	0.45
3:D:823:GLU:OE1	3:D:828:LEU:HB2	2.14	0.45
3:D:1323:GLU:O	3:D:1327:VAL:HG12	2.16	0.45
5:F:635:LEU:O	5:F:639:LYS:HE3	2.16	0.45
2:C:35:TYR:CE1	2:C:464:VAL:HG22	2.48	0.45
2:C:623:VAL:HG22	2:C:652:LEU:HD13	1.98	0.45
2:C:856:ILE:HG21	2:C:1066:LYS:CD	2.47	0.45
2:C:985:LEU:HD21	2:C:1029:LEU:CD1	2.46	0.45
3:D:838:ARG:HB3	3:D:878:VAL:CG1	2.46	0.45
7:I:-13:6MA:H8	7:I:-13:6MA:C5’	2.44	0.45
1:A:88:ILE:CD1	1:A:133:LEU:HD13	2.45	0.45
1:B:115:ALA:O	1:B:118:ILE:HG22	2.16	0.45
2:C:139:LYS:HG3	2:C:141:THR:HG23	1.97	0.45
2:C:565:ARG:CG	2:C:597:SER:HB3	2.46	0.45
2:C:681:ASP:OD2	2:C:1088:HIS:HB3	2.16	0.45
2:C:702:SER:HA	2:C:804:ARG:HG2	1.98	0.45
2:C:723:VAL:HG22	2:C:790:ALA:HB3	1.99	0.45
2:C:741:ILE:HG13	2:C:757:TYR:HE2	1.82	0.45
2:C:834:PHE:CB	2:C:1078:LEU:HD11	2.46	0.45
2:C:1037:ASP:HA	2:C:1040:ARG:HD2	1.98	0.45
2:C:1286:GLU:O	2:C:1289:VAL:HG12	2.16	0.45
3:D:423:VAL:O	3:D:438:ALA:HA	2.17	0.45
3:D:702:GLN:HG2	3:D:719:TYR:CE1	2.51	0.45
3:D:847:PRO:HG2	3:D:872:VAL:O	2.15	0.45
3:D:1230:VAL:O	3:D:1234:GLN:HG2	2.16	0.45
3:D:1262:ILE:HA	3:D:1298:THR:CG2	2.36	0.45
3:D:1312:THR:HG23	3:D:1314:SER:O	2.17	0.45
5:F:452:LEU:HB2	5:F:475:ILE:CD1	2.40	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:I:46:DG:H2”	7:I:47:DC:C6	2.52	0.45
1:A:175:LEU:HD12	1:A:175:LEU:O	2.16	0.45
2:C:150:VAL:HG12	2:C:523:MET:CG	2.46	0.45
2:C:208:ARG:HB2	2:C:377:VAL:HG13	1.98	0.45
2:C:214:THR:O	2:C:370:ALA:HB1	2.16	0.45
2:C:984:LEU:HD11	2:C:988:LYS:HE3	1.98	0.45
3:D:264:THR:HG22	5:F:544:PRO:HB2	1.97	0.45
3:D:512:LEU:HD11	3:D:624:VAL:HG22	1.98	0.45
3:D:797:VAL:HG22	3:D:916:ALA:HB3	1.97	0.45
3:D:1353:ILE:HG23	3:D:1354:PRO:HD2	1.99	0.45
1:A:258:VAL:N	1:A:277:VAL:O	2.49	0.45
1:B:81:VAL:O	1:B:85:VAL:HG12	2.16	0.45
1:B:181:ARG:O	1:B:205:GLU:N	2.46	0.45
1:B:182:VAL:CG2	1:B:204:VAL:HG12	2.39	0.45
2:C:32:ARG:HA	2:C:136:MET:SD	2.56	0.45
2:C:667:VAL:HG11	3:D:765:VAL:HG13	1.99	0.45
3:D:300:MET:SD	5:F:443:ASP:HA	2.57	0.45
3:D:382:PHE:HZ	3:D:474:LEU:HA	1.82	0.45
3:D:468:MET:HE3	3:D:468:MET:HB3	1.92	0.45
3:D:507:ASP:HB3	3:D:629:PHE:CE1	2.43	0.45
3:D:538:ALA:HB1	3:D:543:VAL:CG1	2.46	0.45
3:D:1231:ASP:O	3:D:1235:GLU:HG3	2.17	0.45
1:A:16:GLN:HG2	1:A:16:GLN:O	2.16	0.45
1:A:30:VAL:CG1	1:A:200:LYS:HD2	2.47	0.45
1:A:46:LEU:O	1:A:50:LEU:HB3	2.16	0.45
1:A:91:LEU:HD11	1:A:115:ALA:HB1	1.97	0.45
2:C:1256:LYS:HE3	7:I:3:DT:C4’	2.46	0.45
2:C:1285:GLY:HA3	7:I:1:DA:P	2.56	0.45
3:D:280:ARG:HB3	3:D:297:GLU:OE2	2.16	0.45
3:D:661:ALA:HA	3:D:681:LYS:CD	2.44	0.45
5:F:441:PHE:CE1	6:H:-5:DC:C4	3.04	0.45
7:I:-16:DG:H2”	7:I:-15:DC:O5’	2.17	0.45
7:I:1:DA:C2	7:I:2:DA:H1’	2.52	0.45
1:B:10:ILE:CG2	1:B:33:PRO:HB2	2.47	0.45
2:C:100:LEU:HD11	2:C:133:ILE:HD13	1.98	0.45
2:C:912:PHE:HZ	5:F:648:ARG:HA	1.81	0.45
2:C:1139:CYS:O	2:C:1193:GLY:HA2	2.16	0.45
2:C:1296:GLY:HA3	4:E:17:PHE:CE1	2.52	0.45
2:C:1348:GLY:H	3:D:114:HIS:CE1	2.34	0.45
3:D:804:ILE:HG13	3:D:1343:LEU:HD13	1.98	0.45
5:F:420:VAL:HG22	5:F:452:LEU:HD23	1.98	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:547:LEU:HG	5:F:560:GLY:CA	2.47	0.45
7:I:38:DG:H2”	7:I:39:DG:C8	2.52	0.45
2:C:15:PHE:HE2	2:C:1135:LEU:HD21	1.82	0.45
2:C:24:MET:CE	2:C:27:LEU:HD21	2.46	0.45
2:C:89:CYS:SG	2:C:94:MET:HG3	2.57	0.45
2:C:111:THR:HB	2:C:118:ARG:HE	1.82	0.45
2:C:139:LYS:O	2:C:535:LYS:NZ	2.41	0.45
2:C:636:ILE:CG1	2:C:654:LYS:HG3	2.43	0.45
2:C:707:VAL:CG1	2:C:1132:GLU:HG2	2.46	0.45
2:C:707:VAL:HG21	2:C:1135:LEU:HB3	1.98	0.45
2:C:730:VAL:HG12	2:C:742:ARG:HE	1.81	0.45
2:C:1163:VAL:HA	2:C:1166:LEU:HD21	1.99	0.45
2:C:1308:LYS:HD3	3:D:349:VAL:CG2	2.47	0.45
3:D:26:ALA:HA	3:D:30:LYS:NZ	2.32	0.45
3:D:136:ILE:HA	3:D:139:VAL:HG12	1.98	0.45
3:D:147:VAL:HG21	3:D:156:LYS:O	2.16	0.45
3:D:372:LYS:HB3	3:D:411:TRP:CZ3	2.52	0.45
3:D:416:GLU:O	4:E:44:LYS:NZ	2.46	0.45
3:D:492:ILE:O	3:D:501:ILE:N	2.46	0.45
3:D:548:ALA:C	3:D:571:THR:HB	2.37	0.45
3:D:756:VAL:O	3:D:757:SER:OG	2.32	0.45
5:F:595:GLU:HA	5:F:598:VAL:HG22	1.98	0.45
7:I:20:DG:H2”	7:I:21:DT:H5’	1.97	0.45
1:B:175:LEU:HD11	1:B:180:LYS:NZ	2.31	0.45
2:C:118:ARG:HG2	2:C:119:SER:H	1.82	0.45
2:C:140:GLY:O	2:C:535:LYS:HD3	2.17	0.45
2:C:577:ILE:CD1	3:D:779:LEU:HG	2.47	0.45
2:C:808:VAL:HB	2:C:1244:ILE:HG22	1.99	0.45
2:C:821:SER:HB2	3:D:463:PHE:HB3	1.99	0.45
2:C:824:ILE:HB	2:C:1094:ILE:CG1	2.47	0.45
2:C:959:ILE:HD13	2:C:1051:VAL:HG23	1.99	0.45
3:D:145:TYR:HB2	3:D:161:LEU:O	2.17	0.45
3:D:337:GLN:HG2	5:F:558:HIS:HD2	1.82	0.45
3:D:397:LYS:HE2	5:F:652:ASP:HB2	1.98	0.45
3:D:639:PHE:CE2	3:D:718:ILE:HB	2.52	0.45
3:D:745:LYS:HA	3:D:773:HIS:NE2	2.32	0.45
3:D:823:GLU:OE1	3:D:823:GLU:N	2.50	0.45
3:D:1312:THR:HG21	3:D:1318:ALA:HB2	1.98	0.45
5:F:482:SER:HB2	5:F:486:GLN:NE2	2.32	0.45
5:F:572:ILE:O	5:F:576:ILE:HD12	2.17	0.45
6:H:-2:DT:H3’	6:H:-2:DT:OP2	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:I:30:DT:H2”	7:I:31:DG:C5’	2.46	0.45
1:A:34:LEU:O	1:A:198:TYR:HB3	2.16	0.44
1:A:89:LYS:NZ	2:C:832:ASP:HB2	2.31	0.44
1:B:89:LYS:HG3	1:B:174:ALA:HB2	1.99	0.44
1:B:230:PHE:HB2	1:B:233:PHE:CD2	2.53	0.44
2:C:97:ALA:CB	2:C:132:ASP:HB2	2.47	0.44
2:C:100:LEU:N	2:C:131:GLY:O	2.48	0.44
2:C:405:LEU:HB3	2:C:426:ARG:O	2.17	0.44
2:C:966:ARG:HB2	2:C:1047:PHE:CE2	2.52	0.44
2:C:1081:GLY:C	2:C:1253:VAL:HB	2.37	0.44
3:D:142:PHE:CE2	3:D:183:GLY:HA3	2.52	0.44
3:D:396:VAL:H	5:F:579:ASN:ND2	2.14	0.44
3:D:492:ILE:HG23	3:D:502:ILE:HG22	1.99	0.44
7:I:24:DC:H2”	7:I:25:DC:C6	2.52	0.44
1:B:40:VAL:CA	1:B:186:VAL:HG21	2.47	0.44
2:C:1301:LEU:O	2:C:1305:LEU:HG	2.17	0.44
3:D:22:ARG:HA	3:D:1337:THR:HA	1.98	0.44
3:D:70:GLU:HA	3:D:77:LYS:HA	1.99	0.44
3:D:112:VAL:HG12	3:D:241:LEU:O	2.18	0.44
3:D:122:PRO:HG3	3:D:1326:ARG:NE	2.32	0.44
3:D:265:SER:HA	5:F:547:LEU:CB	2.48	0.44
3:D:424:LEU:HD23	3:D:436:ILE:HG21	1.98	0.44
5:F:179:VAL:O	5:F:303:ASN:N	2.30	0.44
5:F:442:LEU:HD21	5:F:446:GLN:NE2	2.33	0.44
5:F:493:PRO:HG2	5:F:496:MET:HB2	2.00	0.44
2:C:24:MET:HE1	2:C:585:THR:OG1	2.18	0.44
2:C:572:PRO:HA	2:C:691:ASN:HD21	1.81	0.44
2:C:723:VAL:CG2	2:C:790:ALA:HB3	2.48	0.44
2:C:930:VAL:HG13	2:C:1074:VAL:CG1	2.47	0.44
2:C:1176:LEU:HB3	2:C:1177:PRO:HD3	1.98	0.44
2:C:1285:GLY:O	2:C:1289:VAL:N	2.47	0.44
2:C:1306:THR:HG22	2:C:1331:ALA:HB1	2.00	0.44
3:D:216:GLN:NE2	3:D:1271:ILE:HD13	2.32	0.44
3:D:241:LEU:HD23	3:D:241:LEU:H	1.81	0.44
3:D:353:GLY:O	3:D:470:VAL:N	2.34	0.44
3:D:497:ASN:C	3:D:899:LEU:HD12	2.37	0.44
3:D:831:LEU:O	3:D:835:VAL:HG12	2.18	0.44
4:E:6:VAL:HG13	4:E:19:LEU:CD2	2.48	0.44
7:I:-5:6MA:H8	7:I:-5:6MA:O5’	2.17	0.44
7:I:16:DC:H2”	7:I:17:DG:H5”	1.98	0.44
1:A:67:VAL:CG2	1:A:81:VAL:HG21	2.36	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:77:TYR:HA	2:C:102:VAL:HA	2.00	0.44
2:C:536:ARG:O	2:C:582:SER:HB2	2.18	0.44
2:C:692:MET:HG3	2:C:1249:LEU:HD21	2.00	0.44
2:C:844:VAL:CG1	2:C:890:VAL:HG21	2.40	0.44
2:C:1163:VAL:O	2:C:1166:LEU:HG	2.18	0.44
3:D:142:PHE:CD2	3:D:295:ARG:HB2	2.52	0.44
3:D:144:TYR:HD1	3:D:162:SER:HB3	1.83	0.44
3:D:432:HIS:HE1	3:D:434:LEU:HB2	1.82	0.44
3:D:512:LEU:HD11	3:D:624:VAL:CG2	2.48	0.44
3:D:1370:LYS:O	3:D:1374:GLN:HG2	2.17	0.44
5:F:420:VAL:HG13	5:F:452:LEU:CD2	2.46	0.44
5:F:502:LYS:O	5:F:506:THR:HG23	2.18	0.44
2:C:371:LEU:O	2:C:389:ALA:HB1	2.16	0.44
2:C:685:ARG:CZ	2:C:1124:ARG:HD2	2.48	0.44
2:C:860:ILE:HG21	2:C:921:ASP:OD1	2.17	0.44
2:C:1098:LEU:HB2	2:C:1103:MET:SD	2.57	0.44
2:C:1149:LEU:CD2	2:C:1159:LYS:HB2	2.45	0.44
2:C:1302:GLN:HG3	3:D:1352:LEU:HA	2.00	0.44
3:D:26:ALA:HB1	3:D:31:ILE:CD1	2.38	0.44
3:D:266:ASP:HB3	5:F:548:GLU:OE1	2.18	0.44
3:D:345:LEU:HD11	3:D:1344:LYS:HD2	2.00	0.44
3:D:484:VAL:HA	4:E:6:VAL:HG21	1.98	0.44
3:D:715:ILE:HD11	3:D:719:TYR:CD2	2.52	0.44
3:D:792:LEU:HD11	3:D:1136:PHE:CD2	2.49	0.44
5:F:432:LYS:HD2	6:H:-5:DC:H4'	1.98	0.44
7:I:0:DT:C7	7:I:1:DA:H62	2.28	0.44
1:B:112:PRO:HB3	1:B:133:LEU:CB	2.45	0.44
2:C:1123:SER:HB2	3:D:727:ARG:CB	2.43	0.44
3:D:130:ASP:HB2	3:D:222:ARG:CZ	2.47	0.44
3:D:584:HIS:ND1	3:D:585:PRO:O	2.51	0.44
3:D:635:ALA:CB	3:D:637:ILE:HD11	2.48	0.44
3:D:683:VAL:HA	3:D:687:ALA:CB	2.41	0.44
3:D:764:THR:CG2	3:D:767:GLU:HG2	2.47	0.44
5:F:426:LEU:CD2	5:F:426:LEU:C	2.86	0.44
6:H:-43:DT:H2"	6:H:-42:DT:C6	2.53	0.44
1:A:62:ILE:HG13	1:A:172:VAL:HG11	1.99	0.44
1:A:162:PRO:HB3	2:C:882:GLU:CD	2.37	0.44
1:A:225:GLN:HE22	1:B:230:PHE:HE2	1.66	0.44
2:C:71:VAL:HG12	2:C:107:ILE:HG12	2.00	0.44
2:C:149:ARG:HA	2:C:523:MET:CB	2.47	0.44
2:C:815:GLY:HA3	3:D:629:PHE:CG	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:1322:ILE:HG22	3:D:381:PRO:HB2	1.98	0.44
3:D:500:PRO:O	3:D:503:VAL:HG13	2.17	0.44
3:D:819:ARG:HB2	3:D:875:SER:HB3	1.99	0.44
3:D:1135:LEU:HG	3:D:1232:GLU:CD	2.38	0.44
5:F:453:MET:HE3	5:F:453:MET:HB2	1.78	0.44
5:F:481:ARG:CD	5:F:494:VAL:HG11	2.40	0.44
8:G:116:HIS:HB3	8:G:138:SER:OG	2.18	0.44
1:A:55:GLN:HA	1:A:151:GLY:O	2.18	0.44
2:C:9:LYS:CG	2:C:797:LEU:HD13	2.40	0.44
2:C:792:GLY:N	2:C:795:THR:OG1	2.50	0.44
2:C:1053:LYS:HB2	2:C:1053:LYS:HE3	1.79	0.44
3:D:332:MET:O	3:D:338:GLY:HA3	2.18	0.44
3:D:679:TYR:HA	3:D:682:VAL:CG1	2.48	0.44
3:D:1159:ASP:OD1	3:D:1159:ASP:N	2.46	0.44
3:D:1276:LEU:O	3:D:1280:GLU:HG3	2.17	0.44
2:C:142:PHE:CZ	2:C:464:VAL:HG11	2.53	0.44
2:C:628:ASN:ND2	2:C:1202:ASP:OD1	2.51	0.44
2:C:697:VAL:HG11	2:C:838:HIS:CE1	2.53	0.44
2:C:722:VAL:HG12	2:C:792:GLY:N	2.33	0.44
2:C:1087:ARG:HB2	2:C:1245:TYR:O	2.18	0.44
2:C:1353:LEU:HD13	3:D:18:PHE:CG	2.52	0.44
3:D:114:HIS:HB2	3:D:239:MET:O	2.17	0.44
3:D:322:ASN:HD21	3:D:324:ARG:HD3	1.83	0.44
3:D:548:ALA:CA	3:D:571:THR:HB	2.48	0.44
3:D:663:GLU:HG3	3:D:664:TYR:CD2	2.53	0.44
7:I:-19:DG:H2”	7:I:-18:DT:C5’	2.47	0.44
1:A:8:GLU:HB2	1:B:152:LYS:HZ1	1.83	0.43
1:A:48:ARG:HD2	1:B:41:THR:CB	2.34	0.43
2:C:210:LEU:HD11	2:C:374:ILE:CD1	2.48	0.43
2:C:834:PHE:O	2:C:1248:LYS:HD2	2.18	0.43
2:C:1085:ALA:HA	2:C:1091:LYS:HA	1.98	0.43
3:D:337:GLN:HA	3:D:342:GLN:CB	2.48	0.43
3:D:626:GLY:O	3:D:630:LYS:HG3	2.18	0.43
3:D:687:ALA:O	3:D:690:THR:HG22	2.18	0.43
3:D:713:LYS:HG3	3:D:714:GLU:H	1.83	0.43
3:D:895:TYR:CE2	3:D:911:VAL:HG13	2.53	0.43
3:D:1164:ARG:NH2	3:D:1167:LYS:HE2	2.33	0.43
4:E:3:ARG:HG2	4:E:47:VAL:HG21	2.00	0.43
5:F:369:PHE:HA	5:F:373:ASP:CB	2.47	0.43
5:F:627:ILE:O	5:F:630:ILE:HG12	2.18	0.43
1:B:68:VAL:HG22	1:B:70:GLU:HG2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:98:GLU:OE1	1:B:150:ASN:HB3	2.18	0.43
2:C:158:SER:HB3	2:C:412:LYS:HZ3	1.83	0.43
2:C:201:TYR:CD1	2:C:211:PRO:HA	2.48	0.43
2:C:527:ASN:ND2	2:C:802:LEU:HD11	2.32	0.43
2:C:1127:VAL:HG12	3:D:759:PHE:HB3	1.99	0.43
2:C:1132:GLU:OE1	2:C:1244:ILE:HG13	2.17	0.43
3:D:182:ILE:N	3:D:186:ALA:HB2	2.33	0.43
3:D:743:MET:CE	3:D:771:SER:HA	2.47	0.43
3:D:835:VAL:HG23	3:D:878:VAL:CG2	2.47	0.43
4:E:30:ILE:HG12	4:E:34:ALA:HB3	1.99	0.43
5:F:551:ILE:HG21	5:F:562:PHE:HE2	1.82	0.43
5:F:588:LEU:HB3	5:F:596:GLU:CG	2.48	0.43
5:F:600:ARG:CD	5:F:605:ILE:HB	2.46	0.43
1:A:28:ARG:HA	1:A:204:GLU:HA	2.01	0.43
1:A:51:LEU:CD2	1:A:51:LEU:C	2.87	0.43
1:A:77:VAL:HG21	1:A:142:VAL:HG11	2.00	0.43
2:C:891:GLY:HA2	2:C:923:SER:HB2	2.00	0.43
2:C:1163:VAL:HG12	2:C:1176:LEU:HD22	2.00	0.43
2:C:1292:LEU:HD12	2:C:1301:LEU:CD2	2.49	0.43
3:D:71:CYS:SG	3:D:91:VAL:HG13	2.58	0.43
3:D:139:VAL:HG21	3:D:146:ILE:HB	2.00	0.43
3:D:289:ALA:O	3:D:294:ILE:HD11	2.17	0.43
3:D:366:HIS:HA	3:D:488:SER:OG	2.18	0.43
3:D:512:LEU:HG	3:D:577:ILE:HG12	2.00	0.43
3:D:882:LEU:CD1	3:D:1226:ALA:HB1	2.49	0.43
3:D:1155:GLU:HG2	3:D:1167:LYS:HB3	2.01	0.43
3:D:1233:ILE:HG21	3:D:1249:ILE:CD1	2.48	0.43
5:F:143:ALA:HB2	8:G:130:PHE:CE2	2.53	0.43
6:H:-24:DG:H2”	6:H:-23:DA:H8	1.83	0.43
1:A:152:LYS:HZ3	1:B:9:LEU:HA	1.84	0.43
1:A:230:ILE:HD13	1:B:11:ARG:CG	2.48	0.43
2:C:38:PHE:CD2	2:C:39:LEU:HG	2.54	0.43
2:C:54:GLU:O	2:C:58:LYS:HG2	2.19	0.43
2:C:192:PHE:CE2	2:C:437:LEU:HD21	2.53	0.43
2:C:820:ASP:O	2:C:1092:GLY:HA3	2.17	0.43
2:C:1082:ASP:OD1	2:C:1252:LEU:HD22	2.18	0.43
2:C:1085:ALA:HB3	2:C:1249:LEU:CD1	2.48	0.43
2:C:1315:ARG:O	2:C:1318:VAL:HG12	2.19	0.43
3:D:277:ARG:HD2	3:D:300:MET:CE	2.48	0.43
3:D:310:ASP:OD2	3:D:313:ARG:HD3	2.18	0.43
3:D:915:ALA:O	3:D:919:ILE:HG13	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1150:MET:SD	3:D:1154:VAL:HG23	2.58	0.43
3:D:1158:LYS:N	3:D:1161:LYS:HE2	2.29	0.43
3:D:1259:LYS:HZ1	3:D:1312:THR:HA	1.83	0.43
4:E:30:ILE:HD13	4:E:35:ALA:HB2	1.99	0.43
5:F:140:ARG:HD2	5:F:411:GLU:OE1	2.19	0.43
1:A:127:LEU:HG	1:A:209:GLY:C	2.39	0.43
2:C:27:LEU:HD13	2:C:670:VAL:CG1	2.47	0.43
2:C:39:LEU:HD11	2:C:133:ILE:HD12	1.99	0.43
2:C:162:PHE:O	2:C:181:ARG:N	2.48	0.43
2:C:194:PHE:CE1	2:C:200:VAL:HB	2.53	0.43
2:C:442:GLY:O	2:C:447:ARG:HB3	2.18	0.43
2:C:678:LEU:HB3	2:C:1200:VAL:HG13	2.00	0.43
2:C:1301:LEU:HD12	3:D:1353:ILE:CD1	2.49	0.43
3:D:37:GLY:CA	3:D:62:ILE:HG23	2.49	0.43
3:D:42:PRO:HB2	3:D:272:ARG:HG2	2.00	0.43
3:D:106:ILE:HG21	3:D:275:ILE:HD13	2.01	0.43
3:D:368:CYS:HB3	3:D:439:PHE:CG	2.53	0.43
3:D:485:LEU:HD21	4:E:17:PHE:CE1	2.50	0.43
3:D:788:ASN:HB2	3:D:1129:LEU:HD21	1.99	0.43
3:D:1340:LEU:HD21	3:D:1349:VAL:HG11	2.00	0.43
5:F:493:PRO:HG3	6:H:-17:DC:OP2	2.18	0.43
6:H:-23:DA:H2”	6:H:-22:DA:O5’	2.17	0.43
1:A:68:VAL:HG23	1:A:69:HIS:HD2	1.82	0.43
1:A:230:ILE:O	1:B:15:PRO:HG3	2.19	0.43
1:B:199:LYS:HG2	1:B:201:ILE:HG23	2.00	0.43
2:C:205:ASP:OD1	2:C:207:ARG:HB2	2.18	0.43
2:C:811:MET:HB3	3:D:638:SER:OG	2.17	0.43
2:C:889:LEU:CD2	2:C:1070:VAL:HG11	2.48	0.43
2:C:892:LYS:H	2:C:923:SER:HA	1.84	0.43
2:C:899:SER:HB2	2:C:900:PRO:HD2	1.99	0.43
2:C:943:HIS:HA	2:C:1057:GLY:HA3	2.00	0.43
5:F:554:GLU:OE1	5:F:554:GLU:N	2.47	0.43
1:A:32:GLU:HB3	1:A:33:PRO:HD3	2.01	0.43
1:B:39:GLY:O	1:B:200:LEU:HD12	2.18	0.43
2:C:937:VAL:HA	2:C:1070:VAL:HA	2.00	0.43
3:D:515:LEU:CD2	3:D:546:LEU:HD21	2.48	0.43
3:D:558:THR:HG22	3:D:563:LEU:HD22	2.00	0.43
3:D:694:ALA:O	3:D:698:MET:HG2	2.18	0.43
3:D:841:ALA:HA	3:D:879:ARG:HG3	1.99	0.43
5:F:582:GLU:O	5:F:586:ARG:HG3	2.19	0.43
5:F:588:LEU:HB3	5:F:596:GLU:HG3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:101:LYS:HE3	1:A:124:ILE:HD11	2.00	0.43
1:A:101:LYS:O	1:A:102:ARG:HD2	2.19	0.43
1:A:203:LEU:HD22	1:A:217:VAL:CG2	2.48	0.43
1:B:127:LEU:HD22	1:B:208:GLY:O	2.19	0.43
2:C:366:ILE:HG23	2:C:369:ASP:HB2	2.01	0.43
2:C:504:LYS:HB3	7:I:9:DG:C3'	2.49	0.43
2:C:569:ILE:HD12	2:C:678:LEU:HD11	2.00	0.43
2:C:730:VAL:HG23	2:C:781:ASP:C	2.39	0.43
2:C:748:ASP:CB	2:C:751:ARG:HB2	2.48	0.43
2:C:791:ASP:HB2	2:C:795:THR:OG1	2.19	0.43
2:C:867:ALA:HB1	2:C:888:ILE:HG12	2.01	0.43
2:C:877:VAL:CG1	2:C:889:LEU:HD12	2.42	0.43
2:C:1159:LYS:NZ	2:C:1183:LEU:O	2.45	0.43
3:D:112:VAL:HG11	3:D:305:VAL:HG11	2.01	0.43
3:D:763:LEU:HA	3:D:767:GLU:OE1	2.19	0.43
3:D:799:VAL:HG11	3:D:1305:ILE:HG22	2.00	0.43
3:D:809:ASP:OD2	3:D:893:ALA:HB2	2.19	0.43
3:D:815:GLY:O	3:D:877:LYS:HE2	2.18	0.43
3:D:1281:PHE:O	3:D:1285:GLN:HG2	2.18	0.43
5:F:583:THR:O	5:F:587:VAL:HG13	2.19	0.43
6:H:-42:DT:H2"	6:H:-41:DA:C8	2.53	0.43
6:H:-41:DA:H2"	6:H:-40:DG:C8	2.54	0.43
1:A:15:PRO:O	1:A:17:ILE:HD12	2.19	0.43
1:A:50:LEU:HG	1:A:54:LEU:HD11	2.00	0.43
1:B:38:PHE:HA	1:B:41:THR:CG2	2.48	0.43
1:B:181:ARG:HD2	3:D:536:GLU:OE2	2.19	0.43
1:B:231:ILE:HG22	1:B:232:THR:CG2	2.37	0.43
2:C:207:ARG:HH21	6:H:-1:DT:H73	1.83	0.43
2:C:260:PRO:O	2:C:293:LEU:HA	2.19	0.43
2:C:463:SER:O	2:C:467:LEU:HD13	2.19	0.43
2:C:524:ASP:HA	2:C:767:GLN:NE2	2.34	0.43
2:C:553:PHE:CZ	3:D:777:LYS:HG3	2.53	0.43
2:C:586:HIS:HB3	2:C:598:PRO:HG3	2.00	0.43
2:C:675:ILE:CB	2:C:678:LEU:HD12	2.44	0.43
2:C:708:GLY:O	2:C:1198:THR:HG22	2.18	0.43
2:C:822:ILE:HG21	2:C:1246:MET:HE1	1.99	0.43
2:C:1083:LYS:NZ	3:D:464:ASP:O	2.52	0.43
2:C:1264:PRO:HG2	2:C:1273:LEU:HD12	2.01	0.43
3:D:160:LEU:O	3:D:160:LEU:HD23	2.19	0.43
3:D:205:GLU:OE2	3:D:206:GLU:HG3	2.19	0.43
3:D:367:GLU:HG3	3:D:440:GLU:O	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:368:CYS:CB	3:D:425:LEU:HD11	2.48	0.43
3:D:607:ILE:HG13	3:D:611:HIS:CE1	2.54	0.43
3:D:880:SER:C	3:D:894:CYS:HB3	2.39	0.43
3:D:881:VAL:HG21	3:D:1251:THR:CA	2.48	0.43
3:D:1145:ALA:HB2	3:D:1207:ILE:CG1	2.49	0.43
3:D:1276:LEU:O	3:D:1279:PRO:HD2	2.19	0.43
6:H:5:DT:H2'	6:H:6:DC:C5	2.53	0.43
2:C:3:GLN:O	2:C:8:LYS:HE2	2.19	0.43
2:C:63:ILE:CG2	2:C:480:GLU:HG3	2.47	0.43
2:C:822:ILE:HG23	2:C:1116:LEU:HD23	2.01	0.43
2:C:857:THR:CG2	2:C:893:VAL:HG21	2.44	0.43
2:C:1300:THR:HA	2:C:1303:GLU:HG3	2.01	0.43
2:C:1307:VAL:HG11	2:C:1329:PHE:CD2	2.54	0.43
3:D:417:VAL:HG13	3:D:418:ILE:HG13	2.01	0.43
3:D:476:LEU:HD23	4:E:28:ARG:CG	2.49	0.43
3:D:769:PHE:HA	3:D:772:THR:HG22	2.01	0.43
3:D:876:VAL:HG13	3:D:878:VAL:HG23	2.01	0.43
5:F:425:ARG:NH1	5:F:425:ARG:HB2	2.34	0.43
5:F:539:LYS:HE2	5:F:539:LYS:HB3	1.89	0.43
6:H:-30:DA:H5'	6:H:-30:DA:C8	2.54	0.43
6:H:7:DG:H2'	6:H:8:DC:C6	2.54	0.43
7:I:33:DC:H2'	7:I:34:DA:H8	1.79	0.43
2:C:86:VAL:O	2:C:90:ILE:HG13	2.19	0.42
2:C:523:MET:HB3	2:C:766:ASN:HD22	1.83	0.42
2:C:537:ARG:CG	2:C:580:ILE:HG22	2.49	0.42
2:C:697:VAL:HG22	2:C:1248:LYS:O	2.19	0.42
2:C:733:GLN:HG2	2:C:740:VAL:HG21	2.01	0.42
2:C:824:ILE:HD12	2:C:1094:ILE:HG12	2.01	0.42
3:D:132:PRO:HG2	3:D:135:ASP:OD2	2.19	0.42
3:D:247:ILE:HG13	3:D:251:LEU:HD12	2.01	0.42
3:D:267:LEU:CD2	3:D:329:LEU:HD22	2.47	0.42
3:D:383:ILE:HG21	3:D:403:VAL:HG11	2.00	0.42
3:D:519:ARG:HG2	3:D:712:GLU:CD	2.39	0.42
3:D:919:ILE:CD1	3:D:1249:ILE:HD13	2.49	0.42
3:D:1131:ARG:HG2	3:D:1232:GLU:OE2	2.19	0.42
3:D:1154:VAL:HB	3:D:1200:ILE:HG21	2.01	0.42
5:F:427:VAL:HG22	5:F:475:ILE:HG13	2.01	0.42
5:F:493:PRO:HB2	5:F:495:HIS:HD1	1.83	0.42
6:H:12:DG:C8	6:H:13:DT:H72	2.54	0.42
7:I:1:DA:H2'	7:I:2:DA:O4'	2.19	0.42
1:A:54:LEU:HB3	1:A:178:PRO:CD	2.49	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:68:VAL:O	1:A:168:GLY:HA2	2.20	0.42
2:C:24:MET:SD	2:C:714:VAL:HG11	2.59	0.42
2:C:114:GLU:OE1	2:C:114:GLU:N	2.52	0.42
2:C:215:PHE:CE1	2:C:433:VAL:HG11	2.55	0.42
2:C:687:LEU:HD13	3:D:779:LEU:CD2	2.49	0.42
2:C:807:LEU:HG	2:C:1112:VAL:HG12	2.00	0.42
2:C:985:LEU:HD11	2:C:1029:LEU:CD1	2.49	0.42
2:C:1287:MET:HG2	3:D:430:THR:HG23	2.00	0.42
3:D:109:ALA:HB2	3:D:282:LYS:CD	2.49	0.42
3:D:257:LEU:CD1	3:D:263:ALA:HB2	2.49	0.42
3:D:807:GLU:O	3:D:892:GLY:N	2.51	0.42
3:D:838:ARG:HB3	3:D:878:VAL:HG13	2.00	0.42
3:D:1156:PHE:HA	3:D:1164:ARG:HH21	1.84	0.42
3:D:1229:LEU:O	3:D:1233:ILE:HG12	2.18	0.42
4:E:22:LEU:CD2	4:E:61:GLU:HA	2.49	0.42
7:I:-16:DG:H5'	7:I:-16:DG:H8	1.84	0.42
7:I:44:DG:H2"	7:I:45:DG:C8	2.53	0.42
1:A:74:LEU:HD13	1:A:142:VAL:CG1	2.36	0.42
1:A:154:TYR:HB2	2:C:830:ARG:HD3	2.00	0.42
1:A:212:THR:CG2	1:A:215:ASP:HB2	2.50	0.42
1:A:227:GLN:OE1	1:B:9:LEU:HD11	2.19	0.42
1:A:235:GLU:HG2	1:B:218:TYR:HE1	1.84	0.42
2:C:97:ALA:HB3	2:C:132:ASP:HB2	2.01	0.42
2:C:146:GLY:O	2:C:147:THR:OG1	2.33	0.42
2:C:525:GLN:H	2:C:767:GLN:HE21	1.68	0.42
2:C:567:CYS:HA	2:C:667:VAL:O	2.19	0.42
2:C:623:VAL:CG2	2:C:652:LEU:HD13	2.49	0.42
2:C:723:VAL:HG23	2:C:790:ALA:H	1.85	0.42
2:C:841:GLU:HA	2:C:1070:VAL:O	2.20	0.42
2:C:922:THR:HG22	2:C:922:THR:O	2.18	0.42
2:C:1159:LYS:HZ1	2:C:1183:LEU:HG	1.83	0.42
2:C:1342:LYS:HA	2:C:1342:LYS:HE2	2.02	0.42
3:D:361:PRO:HB3	3:D:629:PHE:CE2	2.54	0.42
3:D:1147:ILE:HB	3:D:1219:ILE:HG13	2.01	0.42
5:F:120:LEU:HD13	5:F:428:ILE:HD13	2.01	0.42
5:F:499:THR:HG21	5:F:533:LYS:NZ	2.35	0.42
1:A:203:LEU:HD21	1:A:205:VAL:HB	1.99	0.42
2:C:217:TYR:CD1	2:C:222:ASP:HB3	2.54	0.42
2:C:551:ALA:O	2:C:555:VAL:HG12	2.19	0.42
2:C:725:ALA:HB2	2:C:789:ILE:HD11	2.01	0.42
2:C:807:LEU:HD12	2:C:1242:GLY:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:235:ARG:HB2	3:D:238:TRP:CE2	2.54	0.42
3:D:256:PRO:HB3	3:D:262:PHE:CE1	2.55	0.42
3:D:481:GLU:OE2	3:D:485:LEU:HB2	2.20	0.42
3:D:552:ALA:HB3	3:D:575:MET:CE	2.50	0.42
3:D:1155:GLU:O	3:D:1167:LYS:HG2	2.19	0.42
5:F:484:ALA:O	5:F:497:ILE:HG13	2.19	0.42
1:A:230:ILE:CD1	1:B:12:PRO:HG2	2.50	0.42
2:C:11:ILE:HD13	2:C:1176:LEU:HD13	2.02	0.42
2:C:1121:VAL:HA	2:C:1126:ASN:OD1	2.19	0.42
2:C:1129:GLN:HE21	2:C:1244:ILE:CD1	2.32	0.42
2:C:1292:LEU:HB2	2:C:1301:LEU:HD11	2.01	0.42
3:D:187:ILE:O	3:D:191:LEU:HG	2.19	0.42
3:D:515:LEU:O	3:D:573:GLY:HA3	2.19	0.42
3:D:810:CYS:N	3:D:891:CYS:SG	2.92	0.42
5:F:427:VAL:HG22	5:F:475:ILE:CD1	2.49	0.42
5:F:551:ILE:HG21	5:F:562:PHE:CE2	2.54	0.42
1:A:49:VAL:HG13	1:A:50:LEU:N	2.34	0.42
2:C:12:ARG:HA	2:C:1195:PRO:O	2.19	0.42
2:C:192:PHE:CE2	2:C:202:VAL:HG22	2.55	0.42
2:C:227:LEU:HD11	2:C:359:LEU:HD12	2.01	0.42
2:C:432:ASP:O	2:C:436:VAL:HG23	2.20	0.42
2:C:528:PRO:HG2	2:C:800:LEU:CD1	2.46	0.42
2:C:1105:PHE:O	2:C:1226:LEU:HD12	2.19	0.42
2:C:1199:PRO:HD2	2:C:1203:GLY:CA	2.37	0.42
3:D:127:MET:SD	3:D:225:ILE:HG13	2.59	0.42
3:D:194:ILE:HD11	3:D:199:GLU:HG2	2.00	0.42
3:D:571:THR:O	3:D:575:MET:HG3	2.19	0.42
3:D:764:THR:HG22	3:D:767:GLU:CD	2.40	0.42
3:D:819:ARG:CZ	3:D:874:GLN:HB3	2.50	0.42
3:D:895:TYR:CZ	3:D:911:VAL:HG13	2.55	0.42
2:C:38:PHE:HD2	2:C:39:LEU:HG	1.84	0.42
2:C:529:LEU:HD12	2:C:674:LEU:HD12	2.02	0.42
2:C:558:VAL:HG21	2:C:568:PRO:HB3	2.01	0.42
2:C:711:MET:O	2:C:715:VAL:HG12	2.20	0.42
2:C:764:ARG:HG2	2:C:765:SER:O	2.19	0.42
2:C:824:ILE:CD1	2:C:1078:LEU:HD13	2.49	0.42
2:C:1125:MET:HB3	3:D:759:PHE:CD2	2.55	0.42
2:C:1154:GLN:OE1	2:C:1154:GLN:N	2.53	0.42
3:D:57:LEU:CD2	3:D:271:TYR:HB3	2.49	0.42
3:D:121:LEU:HB2	3:D:122:PRO:CD	2.48	0.42
3:D:293:ILE:HD11	5:F:424:LEU:HD21	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:424:LEU:HD23	3:D:436:ILE:CG2	2.50	0.42
3:D:842:GLU:H	3:D:877:LYS:HB3	1.85	0.42
5:F:156:ALA:HB2	5:F:401:ILE:CD1	2.50	0.42
5:F:169:LEU:HA	5:F:173:ARG:CB	2.50	0.42
7:I:22:DT:C6	7:I:23:DT:H73	2.55	0.42
1:B:12:PRO:CB	1:B:33:PRO:HD2	2.45	0.42
2:C:643:GLY:O	2:C:650:THR:N	2.36	0.42
2:C:674:LEU:HD21	2:C:711:MET:HG3	2.02	0.42
3:D:432:HIS:HA	3:D:917:GLN:CB	2.31	0.42
3:D:489:THR:CG2	3:D:618:VAL:HG21	2.40	0.42
3:D:627:LEU:O	3:D:631:GLU:HG2	2.19	0.42
3:D:756:VAL:O	3:D:756:VAL:HG13	2.20	0.42
5:F:140:ARG:HG2	5:F:415:ALA:HB2	2.01	0.42
5:F:510:MET:SD	5:F:518:PRO:HG3	2.60	0.42
1:A:49:VAL:HG11	1:A:224:LEU:HD11	2.00	0.42
1:A:224:LEU:O	1:A:228:LEU:HG	2.19	0.42
1:B:57:ALA:HB1	1:B:148:VAL:CG2	2.50	0.42
2:C:111:THR:HG23	2:C:115:THR:HB	2.01	0.42
2:C:502:ASN:OD1	2:C:503:ALA:N	2.52	0.42
2:C:1303:GLU:CA	2:C:1307:VAL:HG12	2.50	0.42
2:C:1333:ILE:HG13	3:D:18:PHE:CE1	2.54	0.42
3:D:115:ILE:HD11	3:D:313:ARG:HB2	2.01	0.42
3:D:512:LEU:HD21	3:D:624:VAL:CG2	2.50	0.42
3:D:743:MET:HG3	3:D:770:ASN:C	2.39	0.42
5:F:454:LYS:HE2	6:H:-14:DG:OP1	2.18	0.42
5:F:522:GLU:O	5:F:525:GLU:HG3	2.20	0.42
5:F:629:GLN:O	5:F:633:LYS:HG3	2.20	0.42
1:A:48:ARG:HG3	2:C:1101:GLU:HB2	2.01	0.42
1:A:62:ILE:HD11	1:A:88:ILE:CG2	2.50	0.42
1:B:110:PRO:HA	1:B:136:LEU:O	2.20	0.42
1:B:185:ARG:NE	1:B:201:ILE:HD11	2.34	0.42
1:B:188:PRO:HA	1:B:197:TYR:O	2.20	0.42
2:C:99:PRO:HB3	2:C:129:TYR:CZ	2.54	0.42
2:C:527:ASN:ND2	2:C:529:LEU:HB3	2.34	0.42
2:C:826:GLU:N	2:C:1098:LEU:O	2.52	0.42
2:C:827:ARG:HD3	2:C:1113:ASP:OD1	2.19	0.42
3:D:23:ILE:HD11	3:D:1331:ALA:HB3	2.02	0.42
3:D:294:ILE:HG22	3:D:298:LYS:HE3	2.02	0.42
3:D:319:THR:HB	3:D:326:LEU:CD2	2.46	0.42
3:D:382:PHE:HB3	3:D:417:VAL:HG21	2.01	0.42
3:D:489:THR:O	3:D:492:ILE:HG13	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:513:TYR:CD2	3:D:720:MET:HG3	2.55	0.42
3:D:571:THR:OG1	3:D:574:ARG:HD3	2.19	0.42
3:D:615:LYS:O	3:D:618:VAL:HG12	2.20	0.42
3:D:646:ILE:HG22	3:D:758:ASN:ND2	2.31	0.42
3:D:1126:THR:O	3:D:1131:ARG:HB2	2.20	0.42
3:D:1163:LYS:HG2	3:D:1164:ARG:N	2.35	0.42
3:D:1343:LEU:O	3:D:1347:VAL:HG23	2.20	0.42
5:F:594:ARG:O	5:F:598:VAL:HG22	2.20	0.42
7:I:20:DG:H2’	7:I:21:DT:C7	2.50	0.42
2:C:155:MET:CG	2:C:538:LEU:HB3	2.50	0.41
2:C:951:ALA:HA	2:C:954:ILE:CD1	2.48	0.41
2:C:1031:SER:HA	2:C:1034:ARG:CZ	2.50	0.41
2:C:1178:ASP:OD1	2:C:1178:ASP:N	2.53	0.41
3:D:222:ARG:O	3:D:226:LEU:HG	2.20	0.41
3:D:427:ARG:HE	3:D:461:ALA:HA	1.85	0.41
3:D:654:VAL:CG2	3:D:739:MET:HE1	2.50	0.41
3:D:841:ALA:CA	3:D:879:ARG:HG3	2.50	0.41
4:E:9:CYS:SG	4:E:19:LEU:HD21	2.60	0.41
6:H:-45:DC:H2”	6:H:-44:DC:C6	2.55	0.41
6:H:-16:DG:H2”	6:H:-15:DT:OP1	2.20	0.41
1:B:84:ILE:O	1:B:88:ILE:HG12	2.19	0.41
1:B:103:MET:HG2	1:B:124:ILE:HD11	2.02	0.41
2:C:215:PHE:HE1	2:C:433:VAL:HG21	1.85	0.41
2:C:553:PHE:CE2	3:D:777:LYS:HG3	2.55	0.41
2:C:674:LEU:HD22	2:C:712:GLU:CG	2.50	0.41
2:C:776:LEU:HD13	2:C:797:LEU:CA	2.49	0.41
2:C:1084:MET:HE3	2:C:1094:ILE:HD13	2.02	0.41
3:D:27:SER:O	3:D:31:ILE:HG12	2.20	0.41
3:D:357:ILE:HG13	3:D:463:PHE:CD1	2.55	0.41
3:D:881:VAL:HG11	3:D:1251:THR:HG22	2.02	0.41
3:D:895:TYR:CE1	3:D:1247:LYS:HD3	2.55	0.41
3:D:1155:GLU:HG3	3:D:1167:LYS:HB3	2.02	0.41
5:F:422:ALA:C	5:F:423:ASN:ND2	2.73	0.41
5:F:426:LEU:HD13	5:F:471:ALA:HB1	2.01	0.41
5:F:437:ARG:NH2	7:I:10:DT:H1’	2.35	0.41
5:F:598:VAL:O	5:F:616:VAL:HG21	2.19	0.41
5:F:647:LEU:HA	5:F:650:PHE:HB2	2.03	0.41
1:A:32:GLU:HA	1:A:200:LYS:HG3	2.02	0.41
1:A:77:VAL:CG1	1:A:134:CYS:HB2	2.49	0.41
1:A:218:ALA:HB1	1:B:233:PHE:CE2	2.47	0.41
1:A:230:ILE:HD13	1:B:11:ARG:HG2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:111:GLY:HA2	1:B:112:PRO:HD3	1.94	0.41
2:C:824:ILE:HD11	2:C:1078:LEU:HD13	2.02	0.41
2:C:894:THR:C	2:C:919:VAL:HG23	2.41	0.41
2:C:1149:LEU:O	2:C:1149:LEU:HD23	2.20	0.41
2:C:1336:SER:CB	3:D:347:LYS:HE3	2.51	0.41
2:C:1342:LYS:HE2	2:C:1345:ARG:HD2	2.02	0.41
3:D:103:MET:SD	3:D:248:PRO:HD3	2.60	0.41
3:D:520:ASP:N	3:D:520:ASP:OD1	2.53	0.41
3:D:557:MET:HA	3:D:563:LEU:HB3	2.01	0.41
3:D:581:LEU:HD21	3:D:604:LEU:HD21	2.02	0.41
3:D:1158:LYS:HG2	3:D:1161:LYS:HZ3	1.86	0.41
3:D:1191:HIS:O	3:D:1192:ILE:HD13	2.20	0.41
3:D:1217:LEU:CD1	3:D:1222:VAL:HA	2.50	0.41
3:D:1309:SER:HB2	3:D:1318:ALA:HB1	2.02	0.41
1:A:212:THR:HG23	1:A:215:ASP:HB2	2.02	0.41
1:B:49:VAL:HA	1:B:52:SER:OG	2.20	0.41
1:B:107:ALA:H	1:B:142:VAL:HG21	1.86	0.41
1:B:183:ALA:O	1:B:203:GLU:N	2.42	0.41
2:C:138:ASP:OD1	2:C:138:ASP:N	2.52	0.41
2:C:513:PHE:O	2:C:517:SER:HB3	2.20	0.41
2:C:567:CYS:HB3	2:C:669:SER:HB3	2.01	0.41
2:C:692:MET:CB	2:C:1249:LEU:HD21	2.47	0.41
2:C:1209:ILE:O	2:C:1213:LEU:HG	2.21	0.41
2:C:1228:ASP:HB2	2:C:1235:PHE:CE1	2.55	0.41
3:D:119:LYS:O	3:D:313:ARG:HG2	2.20	0.41
3:D:496:ALA:HA	3:D:918:SER:OG	2.19	0.41
3:D:548:ALA:HA	3:D:572:PRO:CD	2.35	0.41
3:D:598:LYS:O	3:D:601:ILE:HG22	2.19	0.41
3:D:655:GLU:HA	3:D:658:ARG:CD	2.51	0.41
3:D:729:SER:O	3:D:733:MET:HG2	2.19	0.41
3:D:795:ARG:HD2	3:D:1306:THR:CG2	2.50	0.41
3:D:1316:ILE:HB	3:D:1338:ASP:OD2	2.20	0.41
3:D:1346:ASN:ND2	3:D:1354:PRO:HD3	2.36	0.41
1:A:183:ALA:HA	2:C:1109:GLY:HA3	2.03	0.41
1:A:221:ALA:HA	1:B:227:LEU:HD21	2.01	0.41
2:C:151:ILE:HG21	2:C:513:PHE:CZ	2.56	0.41
2:C:263:ASP:H	2:C:268:GLU:N	2.19	0.41
2:C:395:SER:HA	2:C:399:ASP:CB	2.48	0.41
2:C:1344:MET:HE1	3:D:1328:LEU:HD21	2.03	0.41
3:D:300:MET:SD	5:F:442:LEU:HD23	2.61	0.41
3:D:529:PHE:H	3:D:552:ALA:HA	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:733:MET:HB3	3:D:733:MET:HE2	1.95	0.41
3:D:837:GLY:HA2	3:D:897:ARG:HB3	2.01	0.41
3:D:895:TYR:CD2	3:D:905:VAL:HG21	2.54	0.41
3:D:1193:ALA:HB3	3:D:1206:ILE:HG13	2.03	0.41
3:D:1353:ILE:O	3:D:1358:GLY:HA3	2.20	0.41
3:D:1367:VAL:HG13	4:E:65:GLU:OE2	2.21	0.41
1:B:17:ILE:O	1:B:30:VAL:HG23	2.21	0.41
1:B:25:ARG:O	1:B:205:GLU:HA	2.20	0.41
2:C:32:ARG:O	2:C:36:GLU:HG3	2.19	0.41
2:C:263:ASP:H	2:C:267:GLY:HA2	1.86	0.41
2:C:487:MET:HG3	2:C:500:LEU:HD13	2.02	0.41
2:C:527:ASN:HD22	2:C:529:LEU:H	1.69	0.41
2:C:532:ILE:HD12	2:C:715:VAL:CG2	2.51	0.41
2:C:676:PRO:O	2:C:1088:HIS:NE2	2.53	0.41
2:C:858:ARG:HE	2:C:868:LEU:HD21	1.85	0.41
2:C:1074:VAL:CG1	2:C:1076:ARG:HG3	2.50	0.41
3:D:556:GLU:OE1	3:D:558:THR:HB	2.19	0.41
3:D:745:LYS:CE	3:D:746:PRO:HD2	2.42	0.41
3:D:922:PRO:HB3	3:D:1242:VAL:HB	2.02	0.41
3:D:1256:MET:HE2	3:D:1256:MET:HB2	1.91	0.41
3:D:1264:GLU:OE2	3:D:1296:ALA:HB2	2.21	0.41
6:H:-43:DT:H2’	6:H:-42:DT:H72	2.01	0.41
1:A:64:ILE:HB	1:A:67:VAL:CG1	2.43	0.41
2:C:410:ARG:HG2	2:C:422:SER:O	2.20	0.41
2:C:479:MET:HE3	2:C:506:ALA:HB2	2.02	0.41
2:C:702:SER:OG	2:C:794:SER:HA	2.21	0.41
2:C:860:ILE:HG12	2:C:921:ASP:HA	2.02	0.41
2:C:933:THR:O	2:C:1072:VAL:HG23	2.21	0.41
2:C:982:LYS:O	2:C:986:ILE:HG23	2.19	0.41
2:C:1036:PHE:O	2:C:1040:ARG:HG3	2.20	0.41
2:C:1143:GLY:O	2:C:1147:THR:HG22	2.21	0.41
3:D:314:ARG:HD3	3:D:314:ARG:HA	1.88	0.41
3:D:322:ASN:ND2	3:D:324:ARG:HD3	2.35	0.41
3:D:734:LYS:HE2	3:D:734:LYS:HB3	1.93	0.41
3:D:1309:SER:HB2	3:D:1318:ALA:CA	2.51	0.41
6:H:-9:DC:H2”	6:H:-8:DC:H5”	2.02	0.41
7:I:18:DA:H1’	7:I:19:DT:H5’	2.02	0.41
1:A:41:THR:HG22	1:B:48:ARG:CD	2.49	0.41
1:B:10:ILE:HG13	1:B:197:TYR:CZ	2.55	0.41
2:C:565:ARG:HB3	2:C:595:ILE:HG21	2.01	0.41
2:C:771:ILE:CD1	2:C:793:PRO:HG3	2.48	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:811:MET:SD	2:C:1226:LEU:HD23	2.61	0.41
2:C:977:ILE:HG12	2:C:1036:PHE:CD2	2.56	0.41
2:C:978:SER:O	2:C:982:LYS:HD3	2.21	0.41
2:C:1199:PRO:HB2	2:C:1202:ASP:H	1.86	0.41
3:D:26:ALA:HA	3:D:30:LYS:HZ1	1.86	0.41
3:D:109:ALA:HB3	3:D:281:LEU:CG	2.49	0.41
3:D:832:GLY:O	3:D:836:LEU:HB2	2.21	0.41
3:D:1205:TYR:CE2	3:D:1211:PRO:HB3	2.56	0.41
3:D:1260:VAL:CG2	3:D:1279:PRO:HG2	2.50	0.41
5:F:402:VAL:HA	5:F:405:VAL:CG1	2.50	0.41
6:H:7:DG:H2’	6:H:8:DC:H6	1.85	0.41
7:I:-11:DT:C2’	7:I:-10:DC:H5”	2.35	0.41
1:A:62:ILE:HG22	1:A:64:ILE:HG13	2.02	0.41
2:C:364:ASN:CB	2:C:369:ASP:HB3	2.51	0.41
2:C:381:GLY:HA3	5:F:117:ARG:HB3	2.02	0.41
2:C:559:HIS:O	2:C:562:HIS:HB2	2.21	0.41
2:C:703:ASP:H	2:C:804:ARG:HD2	1.85	0.41
2:C:834:PHE:CD2	2:C:1078:LEU:HD11	2.56	0.41
2:C:835:THR:CG2	2:C:1077:LYS:HD3	2.48	0.41
2:C:1053:LYS:HG3	2:C:1056:ARG:HH11	1.85	0.41
2:C:1150:LEU:HD13	2:C:1187:ALA:CB	2.47	0.41
2:C:1207:ASP:OD1	2:C:1208:ASP:N	2.53	0.41
2:C:1226:LEU:HD22	2:C:1241:VAL:CG2	2.50	0.41
2:C:1287:MET:CE	3:D:793:THR:HG21	2.51	0.41
2:C:1345:ARG:HG2	3:D:34:TRP:CH2	2.56	0.41
3:D:24:SER:HB2	3:D:234:ASN:ND2	2.36	0.41
3:D:37:GLY:HA3	3:D:62:ILE:HG23	2.02	0.41
3:D:39:ILE:HD11	3:D:106:ILE:HG12	2.02	0.41
3:D:57:LEU:HD11	3:D:272:ARG:CA	2.51	0.41
3:D:104:GLY:O	3:D:245:PRO:HA	2.21	0.41
3:D:123:SER:OG	3:D:133:LEU:HD13	2.20	0.41
3:D:290:PRO:HG2	5:F:420:VAL:HG11	2.01	0.41
3:D:684:ASP:HA	3:D:688:LYS:CG	2.51	0.41
3:D:746:PRO:HD3	3:D:773:HIS:NE2	2.36	0.41
3:D:805:ILE:HG23	3:D:908:GLY:N	2.35	0.41
3:D:835:VAL:HG21	3:D:876:VAL:HG11	2.03	0.41
3:D:1259:LYS:HA	3:D:1274:ASP:O	2.20	0.41
5:F:416:LYS:O	5:F:420:VAL:HG23	2.20	0.41
5:F:425:ARG:HB2	5:F:425:ARG:CZ	2.50	0.41
5:F:444:LEU:HD21	5:F:483:ILE:CD1	2.40	0.41
7:I:43:DA:H2”	7:I:44:DG:C8	2.56	0.41

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Atom-1	**Atom-2**	**Interatomic distance (Å)**	**Clash overlap (Å)**
1:B:62:ILE:CG2	1:B:170:ILE:HB	2.50	0.41
2:C:95:THR:HA	2:C:144:VAL:O	2.21	0.41
2:C:210:LEU:HD23	2:C:210:LEU:H	1.86	0.41
2:C:354:TYR:CZ	2:C:444:ARG:HD2	2.56	0.41
2:C:759:MET:CG	2:C:773:GLN:HB2	2.51	0.41
3:D:252:ARG:H	3:D:252:ARG:HG3	1.60	0.41
3:D:373:LYS:HG3	3:D:447:LYS:HE3	2.01	0.41
3:D:821:VAL:HG21	3:D:1238:ARG:CZ	2.50	0.41
3:D:899:LEU:HD21	3:D:1245:ASN:ND2	2.29	0.41
3:D:1139:ARG:CZ	3:D:1139:ARG:HB3	2.51	0.41
3:D:1277:ASP:HA	3:D:1280:GLU:CD	2.41	0.41
8:G:120:TRP:CE3	8:G:122:ILE:HG13	2.55	0.41
1:A:4:ARG:HA	1:B:55:GLN:OE1	2.21	0.40
1:A:203:LEU:HD22	1:A:217:VAL:HG21	2.02	0.40
1:A:225:GLN:O	1:A:229:GLN:HG3	2.21	0.40
1:B:10:ILE:HG13	1:B:197:TYR:CE2	2.56	0.40
1:B:86:LEU:HD22	3:D:529:PHE:C	2.41	0.40
2:C:263:ASP:N	2:C:267:GLY:HA2	2.36	0.40
2:C:362:ASP:OD1	2:C:364:ASN:N	2.42	0.40
2:C:604:ASP:N	2:C:604:ASP:OD1	2.53	0.40
2:C:624:ILE:HG13	2:C:659:LEU:HB2	2.03	0.40
2:C:748:ASP:HB2	2:C:751:ARG:CB	2.47	0.40
2:C:828:ILE:HG13	2:C:833:VAL:CG1	2.51	0.40
3:D:140:LEU:CD2	3:D:184:ALA:HA	2.51	0.40
3:D:378:LEU:HD11	3:D:470:VAL:HG13	2.04	0.40
3:D:557:MET:O	3:D:585:PRO:HA	2.21	0.40
3:D:650:LYS:O	3:D:654:VAL:HG23	2.21	0.40
3:D:819:ARG:CG	3:D:875:SER:HB3	2.51	0.40
3:D:881:VAL:HG12	3:D:890:VAL:HG21	2.03	0.40
3:D:1128:GLY:O	3:D:1132:VAL:HG23	2.21	0.40
5:F:123:MET:HG3	5:F:428:ILE:HD11	2.03	0.40
5:F:636:ARG:HA	5:F:639:LYS:HD2	2.02	0.40
7:I:-4:DC:H6	7:I:-4:DC:H5”	1.84	0.40
7:I:28:DC:H6	7:I:28:DC:H2’	1.67	0.40
1:A:101:LYS:HG3	1:A:124:ILE:CG1	2.51	0.40
1:B:58:ALA:CB	1:B:174:ALA:HB3	2.46	0.40
2:C:641:VAL:O	2:C:652:LEU:HD23	2.20	0.40
2:C:712:GLU:HA	2:C:715:VAL:CG1	2.50	0.40
2:C:1247:LEU:HB3	2:C:1249:LEU:HD12	2.03	0.40
3:D:383:ILE:O	3:D:387:LEU:HG	2.22	0.40
3:D:538:ALA:O	3:D:543:VAL:HG12	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:816:ILE:HG22	3:D:880:SER:HB2	2.02	0.40
3:D:1125:ILE:HG13	3:D:1130:PRO:HG2	2.04	0.40
3:D:1149:GLU:HB2	3:D:1219:ILE:HD12	2.03	0.40
5:F:580:LEU:HB2	5:F:650:PHE:CZ	2.55	0.40
6:H:-44:DC:H2'	6:H:-43:DT:H72	2.03	0.40
7:I:24:DC:H1'	7:I:25:DC:O5'	2.20	0.40
7:I:31:DG:C2'	7:I:32:DT:H71	2.51	0.40
1:A:46:LEU:HD13	1:B:227:LEU:HD11	2.02	0.40
1:A:89:LYS:HE3	1:A:89:LYS:HB2	1.87	0.40
1:A:229:GLN:HG3	1:B:224:GLN:NE2	2.37	0.40
1:B:63:GLN:HG3	1:B:142:VAL:O	2.21	0.40
1:B:104:THR:N	1:B:119:GLU:O	2.54	0.40
2:C:416:ARG:HD3	2:C:451:ASP:OD2	2.22	0.40
2:C:707:VAL:HG22	2:C:707:VAL:O	2.20	0.40
2:C:710:GLY:CA	2:C:1197:ALA:HB1	2.52	0.40
2:C:800:LEU:HD12	2:C:801:ALA:N	2.36	0.40
2:C:823:LEU:HD21	2:C:1098:LEU:CD1	2.42	0.40
2:C:1196:ILE:HD11	2:C:1212:HIS:HE1	1.83	0.40
2:C:1223:GLN:HB2	2:C:1238:PRO:HB2	2.02	0.40
2:C:1288:GLU:HG2	3:D:430:THR:CG2	2.52	0.40
3:D:61:ARG:HA	3:D:91:VAL:HA	2.04	0.40
3:D:292:ILE:HD13	5:F:421:GLU:OE1	2.21	0.40
3:D:480:LEU:HD11	4:E:50:LEU:HG	2.02	0.40
3:D:1222:VAL:CG2	3:D:1257:LEU:HD13	2.52	0.40
3:D:1373:GLU:O	3:D:1377:GLN:HG3	2.21	0.40
4:E:64:LYS:O	4:E:68:ILE:HG12	2.21	0.40
1:A:82:VAL:O	1:A:86:LEU:HD23	2.21	0.40
2:C:108:VAL:HG23	2:C:492:ILE:HD11	2.03	0.40
2:C:487:MET:HE2	2:C:487:MET:HB2	1.91	0.40
2:C:558:VAL:HG11	3:D:773:HIS:HA	2.03	0.40
2:C:738:ARG:HD2	2:C:756:ILE:CD1	2.37	0.40
2:C:1251:HIS:HA	2:C:1256:LYS:NZ	2.37	0.40
2:C:1344:MET:CB	2:C:1351:VAL:HG21	2.51	0.40
3:D:683:VAL:CA	3:D:687:ALA:HB3	2.42	0.40
3:D:927:THR:HG22	3:D:1127:GLY:O	2.20	0.40
3:D:1193:ALA:H	3:D:1206:ILE:HG12	1.85	0.40
3:D:1328:LEU:HD23	3:D:1328:LEU:HA	1.90	0.40
6:H:-9:DC:C2'	6:H:-8:DC:H5"	2.52	0.40
2:C:38:PHE:HE1	2:C:469:GLU:HA	1.86	0.40
2:C:583:LEU:HD11	2:C:595:ILE:CG2	2.52	0.40
2:C:761:LYS:HG3	2:C:762:PHE:H	1.87	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:826:GLU:HA	2:C:829:VAL:HG12	2.04	0.40
3:D:434:LEU:HD22	3:D:491:ASN:CB	2.43	0.40
3:D:681:LYS:C	3:D:685:ALA:HB3	2.42	0.40
3:D:881:VAL:CG1	3:D:890:VAL:HG21	2.51	0.40
3:D:1152:GLY:N	3:D:1200:ILE:O	2.55	0.40
6:H:-27:DC:H2”	6:H:-26:DG:O5’	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

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	300/338 (89%)	280 (93%)	19 (6%)	1 (0%)	41	74
1	B	214/338 (63%)	202 (94%)	12 (6%)	0	100	100
2	C	1291/1356 (95%)	1207 (94%)	84 (6%)	0	100	100
3	D	1128/1396 (81%)	1072 (95%)	56 (5%)	0	100	100
4	E	67/119 (56%)	64 (96%)	3 (4%)	0	100	100
5	F	493/652 (76%)	477 (97%)	16 (3%)	0	100	100
8	G	51/173 (30%)	49 (96%)	2 (4%)	0	100	100
All	All	3544/4372 (81%)	3351 (95%)	192 (5%)	1 (0%)	100	100

All (1) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	54	LEU

5.3.2 Protein sidechains ⓘ

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	176/285 (62%)	175 (99%)	1 (1%)	86	92
1	B	173/285 (61%)	173 (100%)	0	100	100
2	C	975/1137 (86%)	971 (100%)	4 (0%)	91	95
3	D	941/1157 (81%)	937 (100%)	4 (0%)	91	95
4	E	56/100 (56%)	56 (100%)	0	100	100
5	F	247/542 (46%)	244 (99%)	3 (1%)	71	84
8	G	37/134 (28%)	37 (100%)	0	100	100
All	All	2605/3640 (72%)	2593 (100%)	12 (0%)	89	94

All (12) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	102	ARG
2	C	35	TYR
2	C	149	ARG
2	C	231	TYR
2	C	550	ARG
3	D	252	ARG
3	D	727	ARG
3	D	776	ARG
3	D	901	ARG
5	F	491	ARG
5	F	581	ARG
5	F	602	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (47) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	44	ASN
1	A	63	GLN
1	B	44	ASN

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Mol	Chain	Res	Type
1	B	224	GLN
2	C	154	GLN
2	C	357	ASN
2	C	419	GLN
2	C	458	ASN
2	C	527	ASN
2	C	590	ASN
2	C	628	ASN
2	C	666	GLN
2	C	693	GLN
2	C	695	GLN
2	C	767	GLN
2	C	773	GLN
2	C	870	ASN
2	C	941	ASN
2	C	974	ASN
2	C	976	ASN
2	C	1079	GLN
2	C	1129	GLN
2	C	1141	ASN
2	C	1155	GLN
2	C	1189	ASN
2	C	1258	HIS
2	C	1270	GLN
3	D	114	HIS
3	D	158	HIS
3	D	276	ASN
3	D	278	ASN
3	D	460	ASN
3	D	491	ASN
3	D	702	GLN
3	D	770	ASN
3	D	801	GLN
3	D	874	GLN
3	D	1227	ASN
3	D	1234	GLN
3	D	1245	ASN
3	D	1275	HIS
3	D	1285	GLN
3	D	1374	GLN
4	E	42	ASN
5	F	423	ASN

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Mol	Chain	Res	Type
5	F	579	ASN
5	F	629	GLN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

4 non-standard protein/DNA/RNA residues are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
6	6MA	H	11	7,6	18,24,25	3.10	10 (55%)	15,34,37	2.02	3 (20%)
7	6MA	I	-13	7,6	18,24,25	3.12	10 (55%)	15,34,37	2.03	3 (20%)
6	6MA	H	3	6	18,24,25	3.09	10 (55%)	15,34,37	2.20	4 (26%)
7	6MA	I	-5	7	18,24,25	3.13	10 (55%)	15,34,37	2.09	3 (20%)

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
6	6MA	H	11	7,6	-	5/5/23/24	0/3/3/3
7	6MA	I	-13	7,6	-	4/5/23/24	0/3/3/3
6	6MA	H	3	6	-	2/5/23/24	0/3/3/3
7	6MA	I	-5	7	-	4/5/23/24	0/3/3/3

All (40) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	I	-5	6MA	O4'-C4'	8.03	1.63	1.45
7	I	-13	6MA	C3'-C4'	-7.89	1.31	1.53
7	I	-13	6MA	O4'-C4'	7.89	1.62	1.45
6	H	11	6MA	O4'-C4'	7.85	1.62	1.45
6	H	11	6MA	C3'-C4'	-7.82	1.31	1.53
7	I	-5	6MA	C3'-C4'	-7.74	1.31	1.53
6	H	3	6MA	O4'-C4'	7.70	1.62	1.45
6	H	3	6MA	C3'-C4'	-7.64	1.32	1.53
6	H	3	6MA	O4'-C1'	-3.08	1.35	1.42
6	H	11	6MA	C5-C4	-2.81	1.33	1.40
7	I	-13	6MA	C5-C4	-2.79	1.33	1.40
7	I	-5	6MA	O4'-C1'	-2.78	1.36	1.42
7	I	-5	6MA	C5-C4	-2.78	1.33	1.40
6	H	3	6MA	C5-C4	-2.78	1.33	1.40
7	I	-13	6MA	O4'-C1'	-2.74	1.36	1.42
6	H	11	6MA	O4'-C1'	-2.72	1.36	1.42
7	I	-5	6MA	C1-N6	2.66	1.49	1.45
7	I	-13	6MA	C1-N6	2.66	1.49	1.45
6	H	3	6MA	C1-N6	2.64	1.49	1.45
6	H	11	6MA	C1-N6	2.59	1.49	1.45
7	I	-5	6MA	O3'-C3'	2.40	1.48	1.43
6	H	11	6MA	O5'-C5'	-2.38	1.38	1.44
7	I	-13	6MA	C2-N3	2.37	1.35	1.32
7	I	-5	6MA	C2-N3	2.36	1.35	1.32
6	H	11	6MA	C2-N3	2.32	1.35	1.32
6	H	3	6MA	O5'-C5'	-2.31	1.39	1.44
6	H	3	6MA	O3'-C3'	2.29	1.48	1.43
6	H	3	6MA	C2'-C3'	2.28	1.58	1.52
7	I	-13	6MA	O5'-C5'	-2.27	1.39	1.44
6	H	3	6MA	C2-N3	2.27	1.35	1.32
7	I	-5	6MA	O5'-C5'	-2.27	1.39	1.44
7	I	-13	6MA	O3'-C3'	2.26	1.48	1.43
6	H	11	6MA	O3'-C3'	2.23	1.48	1.43
6	H	11	6MA	C5-N7	-2.14	1.32	1.39
6	H	3	6MA	C5-N7	-2.13	1.32	1.39
7	I	-5	6MA	C5-N7	-2.13	1.32	1.39
7	I	-13	6MA	C5-N7	-2.11	1.32	1.39
6	H	11	6MA	C2'-C3'	2.07	1.58	1.52
7	I	-5	6MA	C2'-C3'	2.04	1.58	1.52
7	I	-13	6MA	C2'-C3'	2.02	1.58	1.52

All (13) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
7	I	-13	6MA	N3-C2-N1	-5.62	119.89	128.68
6	H	11	6MA	N3-C2-N1	-5.62	119.90	128.68
7	I	-5	6MA	N3-C2-N1	-5.53	120.03	128.68
6	H	3	6MA	N3-C2-N1	-5.50	120.09	128.68
6	H	3	6MA	C1-N6-C6	-3.76	119.64	122.87
7	I	-13	6MA	C2-N1-C6	3.60	119.67	116.59
6	H	3	6MA	C2-N1-C6	3.59	119.67	116.59
6	H	11	6MA	C2-N1-C6	3.55	119.63	116.59
7	I	-13	6MA	C1-N6-C6	-3.52	119.84	122.87
7	I	-5	6MA	C2-N1-C6	3.50	119.59	116.59
7	I	-5	6MA	C1-N6-C6	-3.48	119.87	122.87
6	H	11	6MA	C1-N6-C6	-3.45	119.90	122.87
6	H	3	6MA	C2'-C1'-N9	-2.02	109.62	114.27

There are no chirality outliers.

All (15) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
6	H	3	6MA	C5-C6-N6-C1
6	H	3	6MA	N1-C6-N6-C1
6	H	11	6MA	C5-C6-N6-C1
6	H	11	6MA	N1-C6-N6-C1
7	I	-13	6MA	C3'-C4'-C5'-O5'
7	I	-13	6MA	C5-C6-N6-C1
7	I	-13	6MA	N1-C6-N6-C1
7	I	-5	6MA	O4'-C4'-C5'-O5'
7	I	-5	6MA	C3'-C4'-C5'-O5'
7	I	-5	6MA	C5-C6-N6-C1
7	I	-5	6MA	N1-C6-N6-C1
7	I	-13	6MA	O4'-C4'-C5'-O5'
6	H	11	6MA	C3'-C4'-C5'-O5'
6	H	11	6MA	O4'-C4'-C5'-O5'
6	H	11	6MA	C4'-C5'-O5'-P

There are no ring outliers.

3 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	I	-13	6MA	3	0
6	H	3	6MA	2	0
7	I	-5	6MA	3	0

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

Of 4 ligands modelled in this entry, 4 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

There are no chain breaks in this entry.

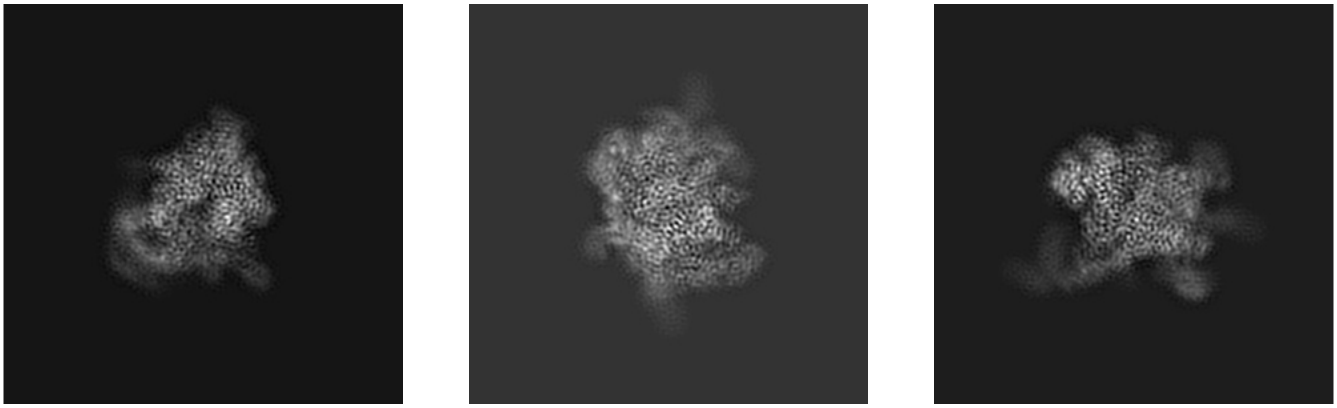
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-33762. 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.

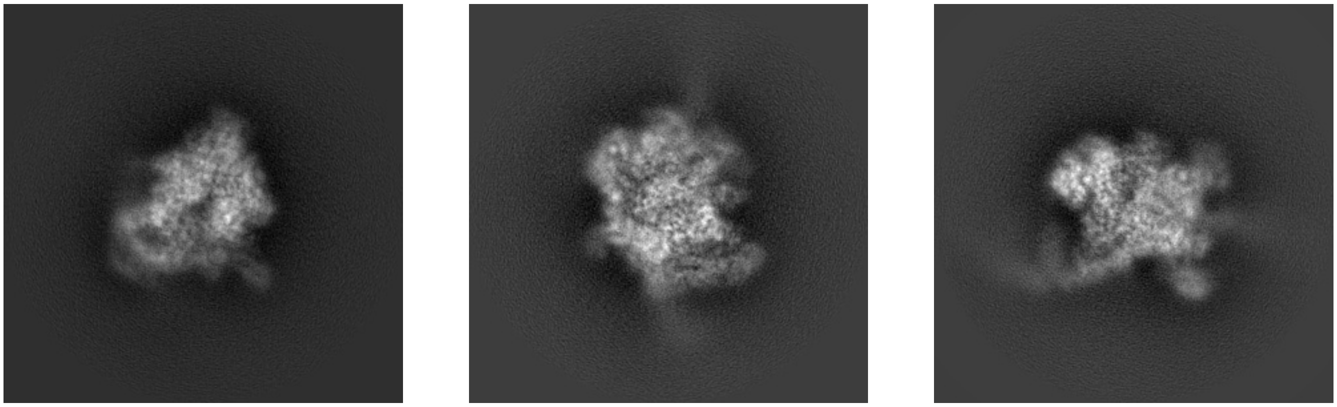
6.1 Orthogonal projections

6.1.1 Primary map



X Y Z

6.1.2 Raw map

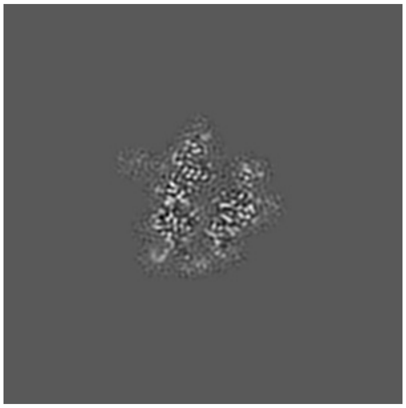


X Y Z

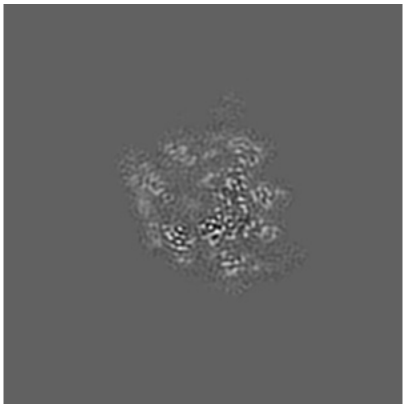
The images above show the map projected in three orthogonal directions.

6.2 Central slices

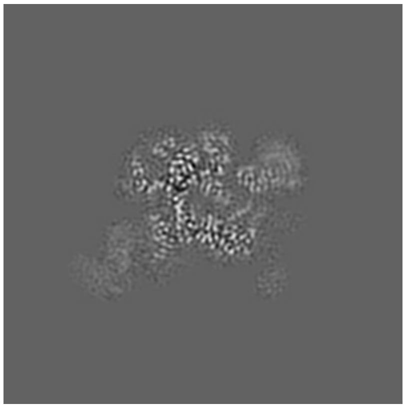
6.2.1 Primary map



X Index: 150

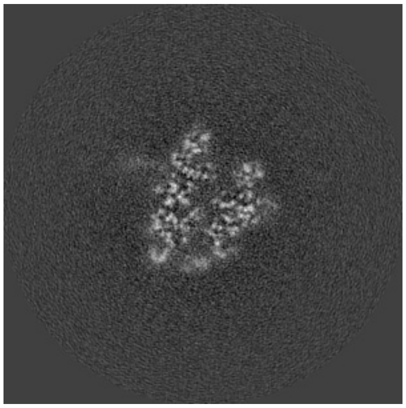


Y Index: 150

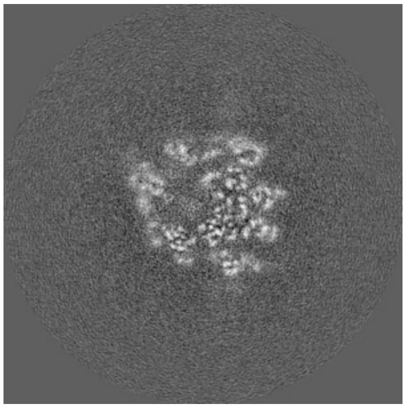


Z Index: 150

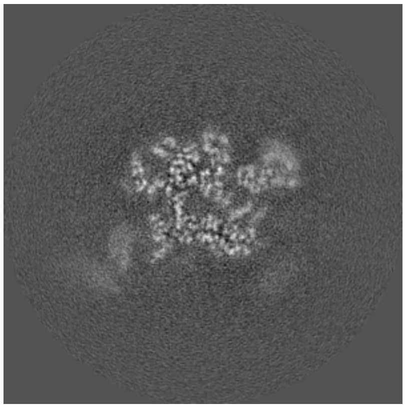
6.2.2 Raw map



X Index: 150



Y Index: 150

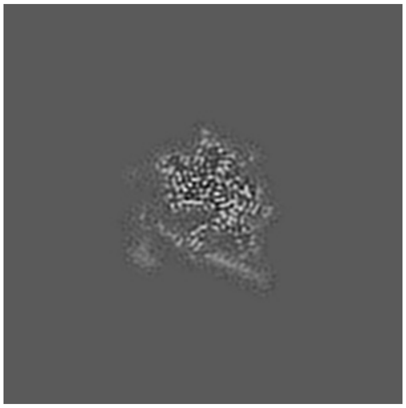


Z Index: 150

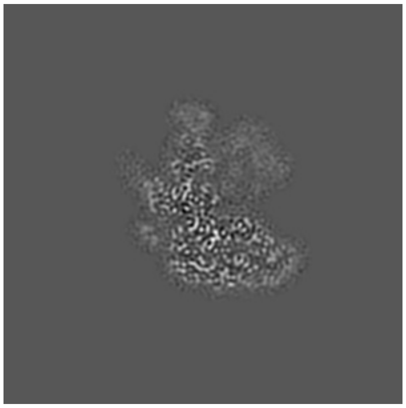
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices

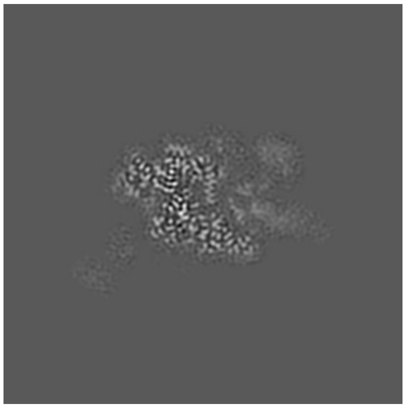
6.3.1 Primary map



X Index: 131

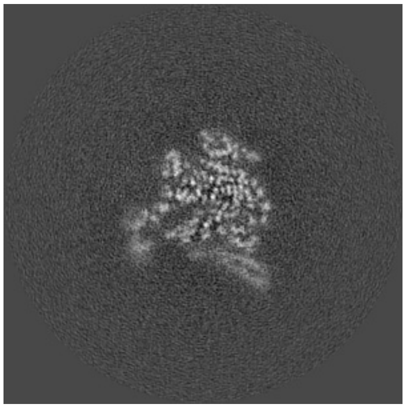


Y Index: 165

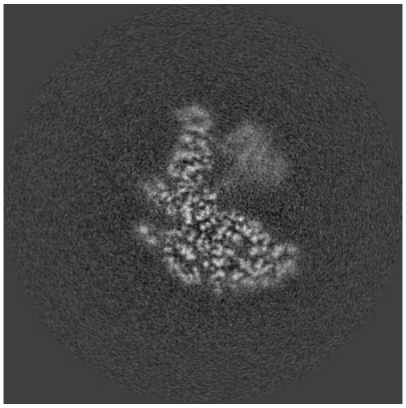


Z Index: 159

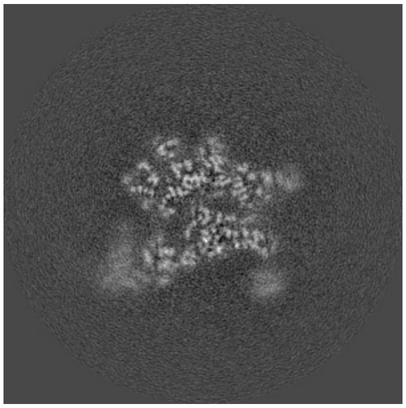
6.3.2 Raw map



X Index: 125



Y Index: 168

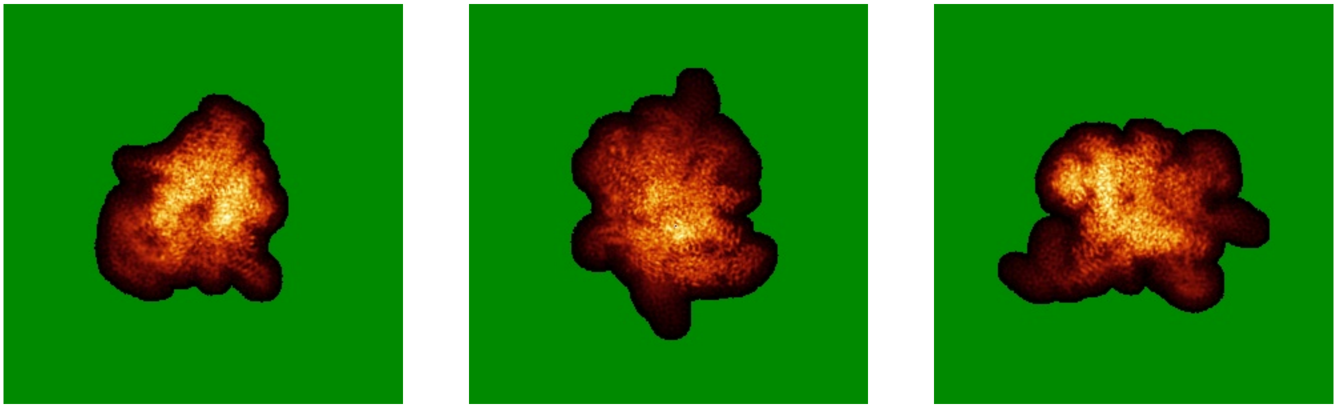


Z Index: 138

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

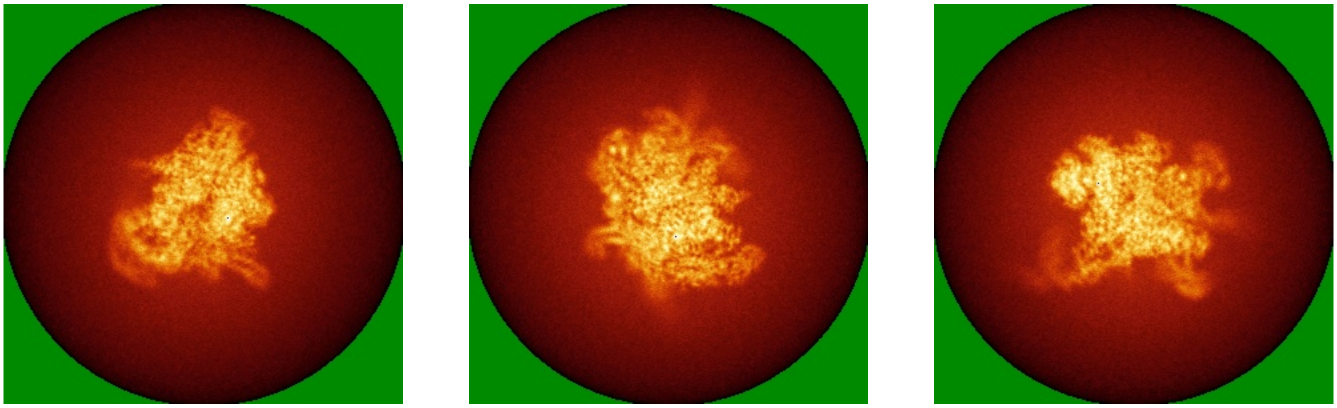
6.4 Orthogonal standard-deviation projections (False-color)

6.4.1 Primary map



X Y Z

6.4.2 Raw map

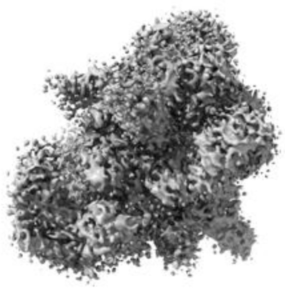


X Y Z

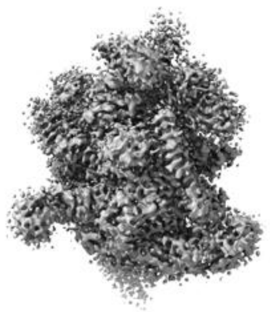
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views ⓘ

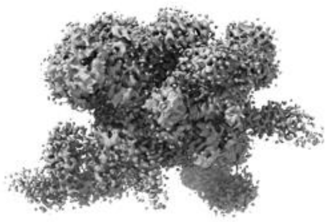
6.5.1 Primary map



X



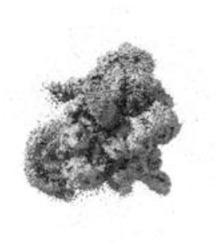
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.01. 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.

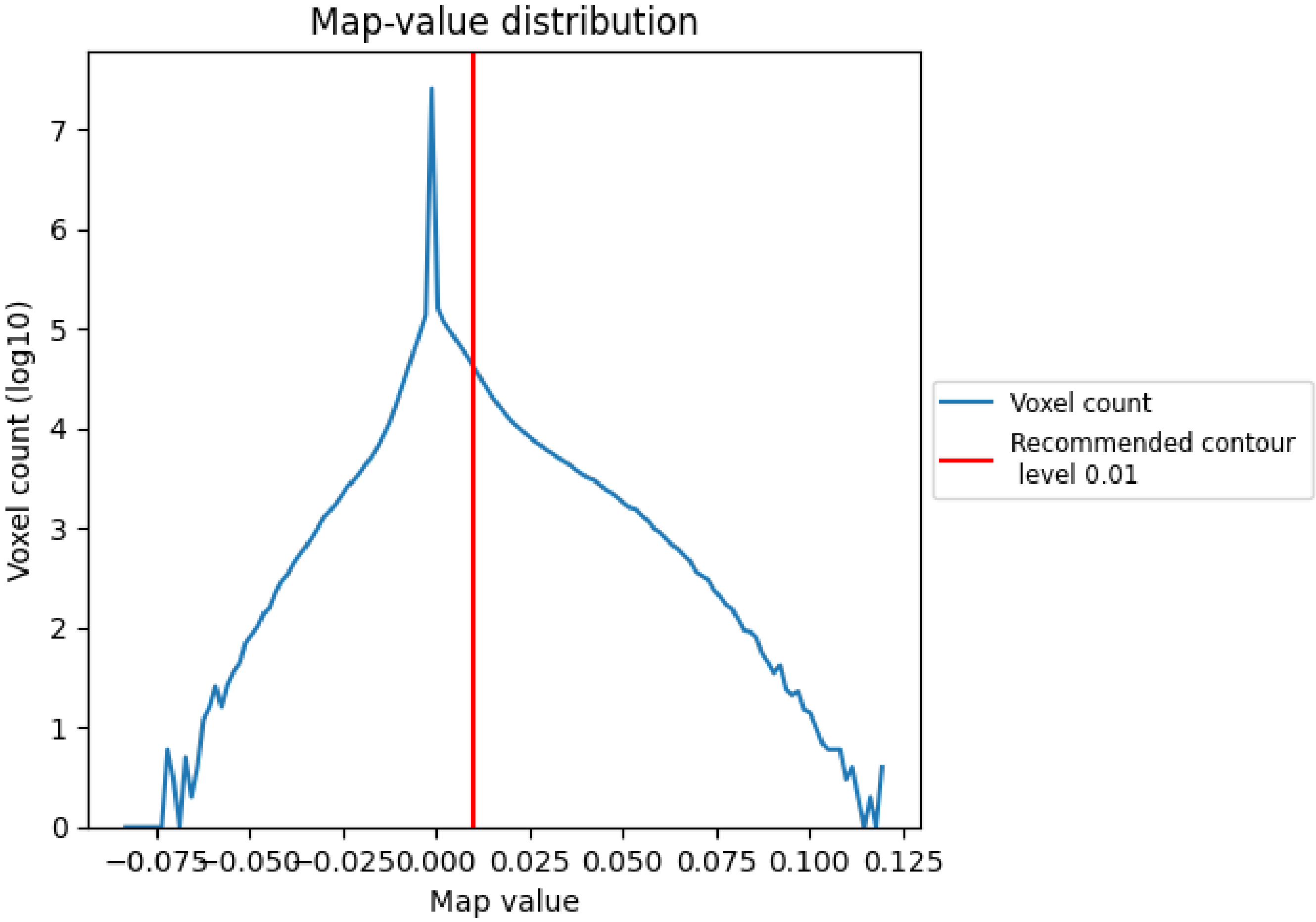
6.6 Mask visualisation ⓘ

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

7 Map analysis ⓘ

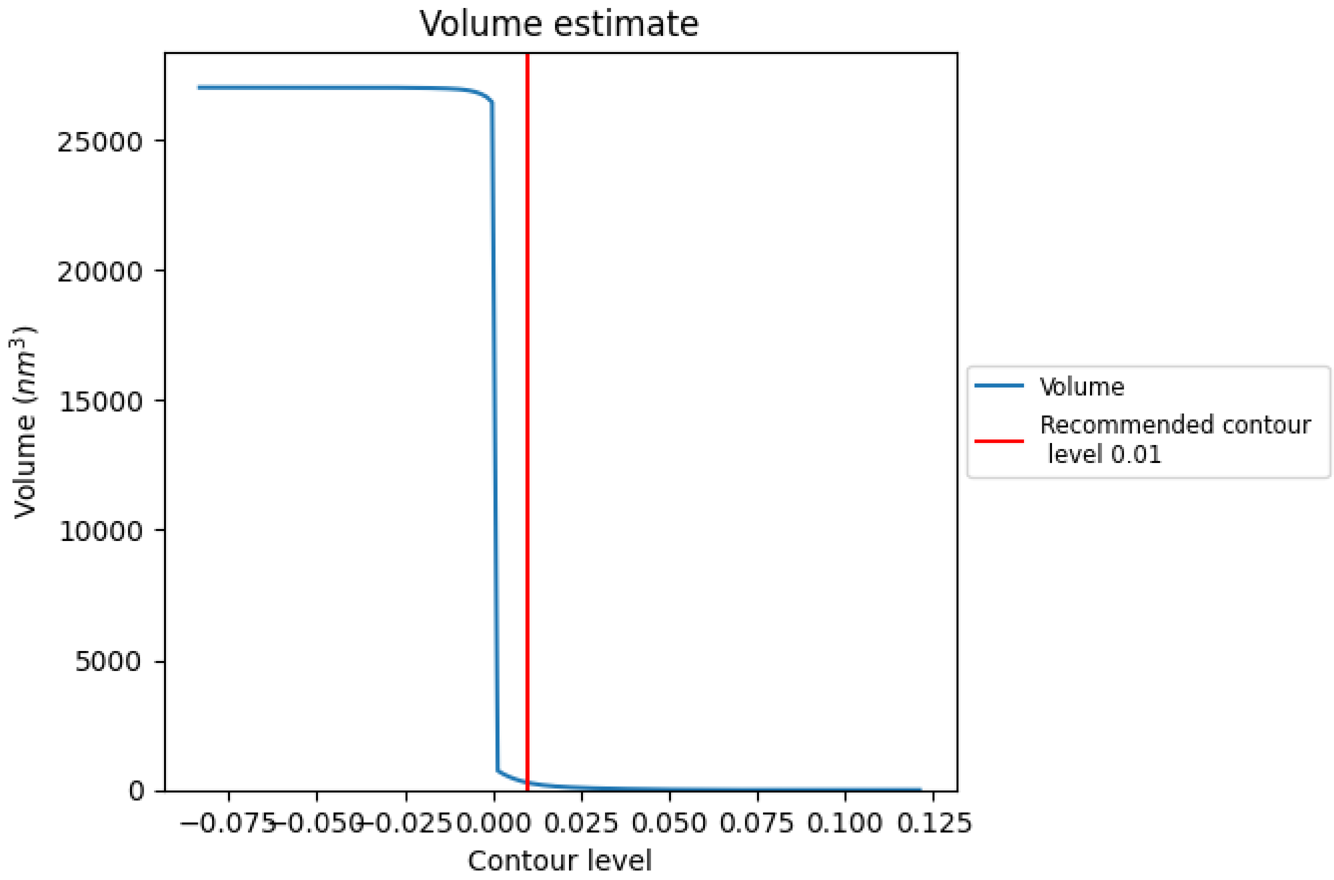
This section contains the results of statistical analysis of the map.

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.

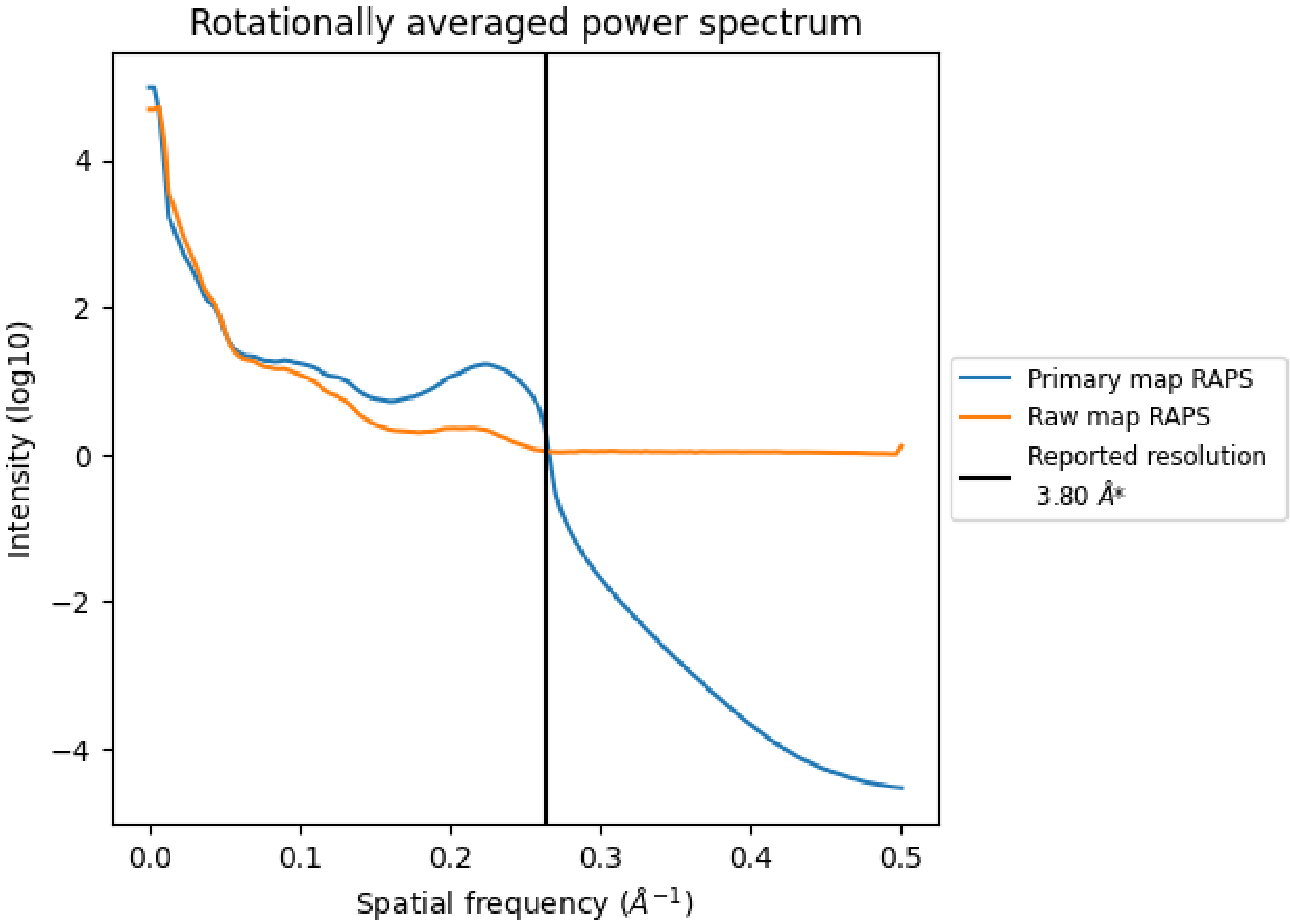
7.2 Volume estimate ⓘ



The volume at the recommended contour level is 277 nm^3; this corresponds to an approximate mass of 250 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 ⓘ

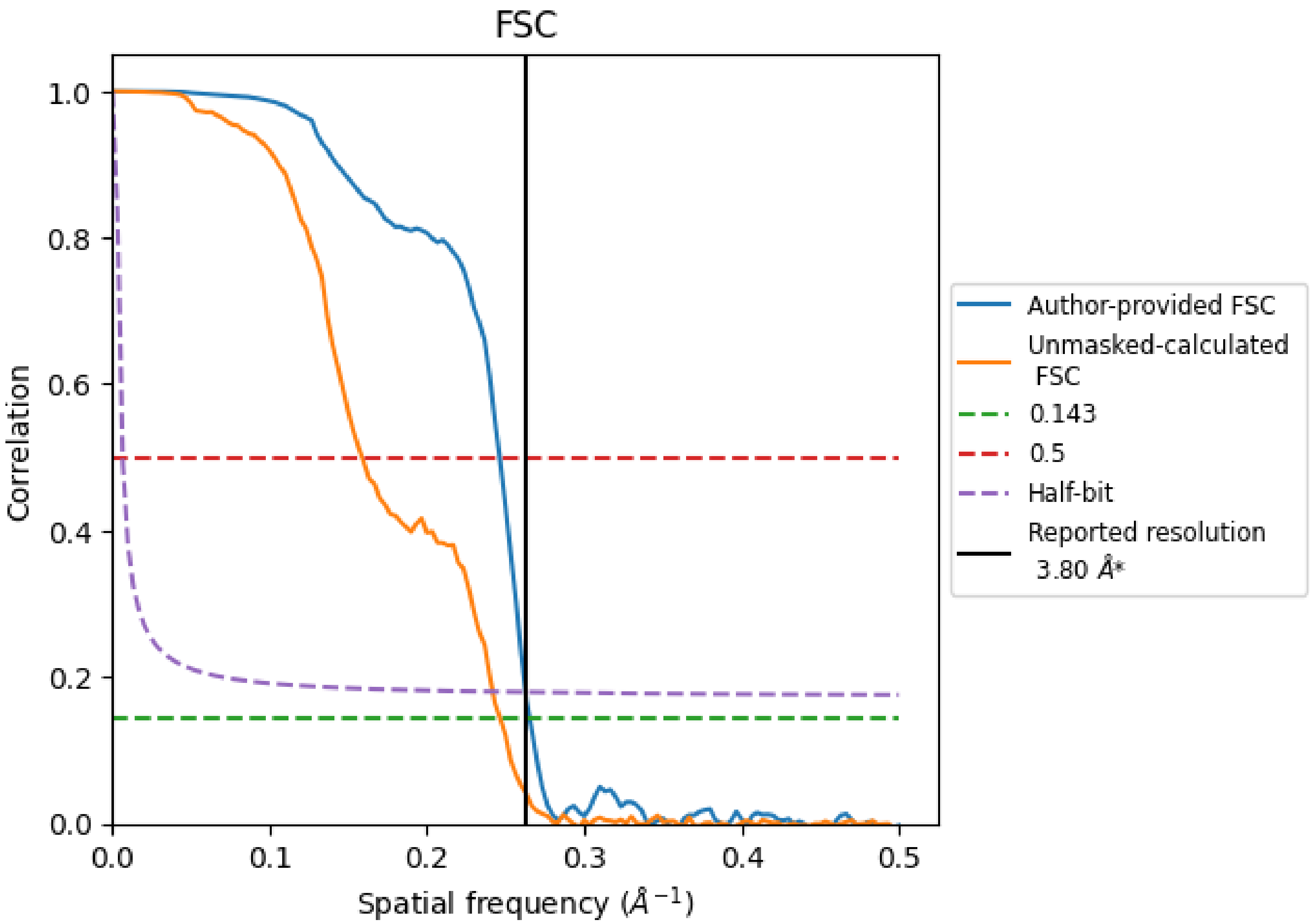


*Reported resolution corresponds to spatial frequency of 0.263 $Å^{-1}$

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 0.263 $Å^{-1}$

8.2 Resolution estimates ⓘ

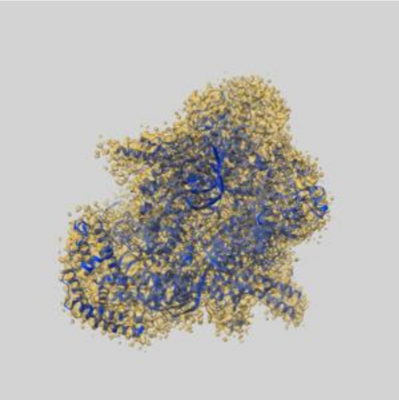
Resolution estimate (Å)	**Estimation criterion (FSC cut-off)**		
	0.143	0.5	Half-bit
Reported by author	3.80	-	-
Author-provided FSC curve	3.77	4.06	3.81
Unmasked-calculated*	4.06	6.30	4.13

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps.

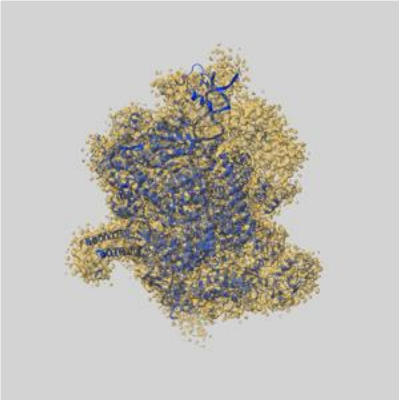
9 Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-33762 and PDB model 7YE2. Per-residue inclusion information can be found in section 3 on page 6.

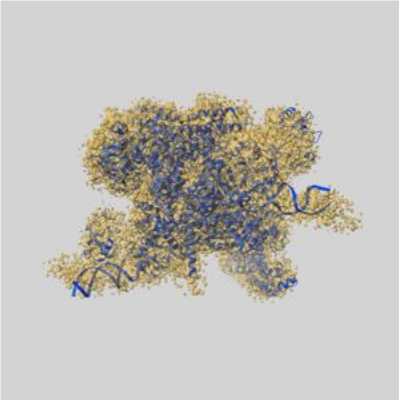
9.1 Map-model overlay ⓘ



X



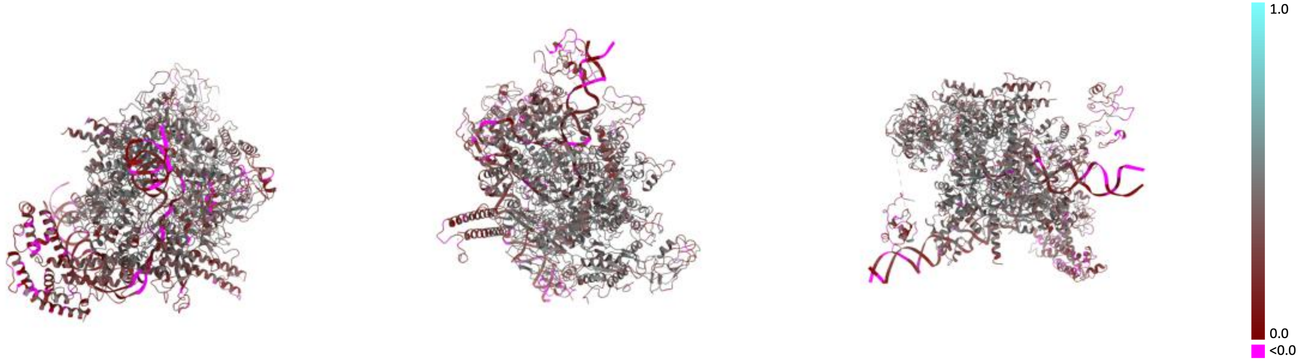
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.01 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.

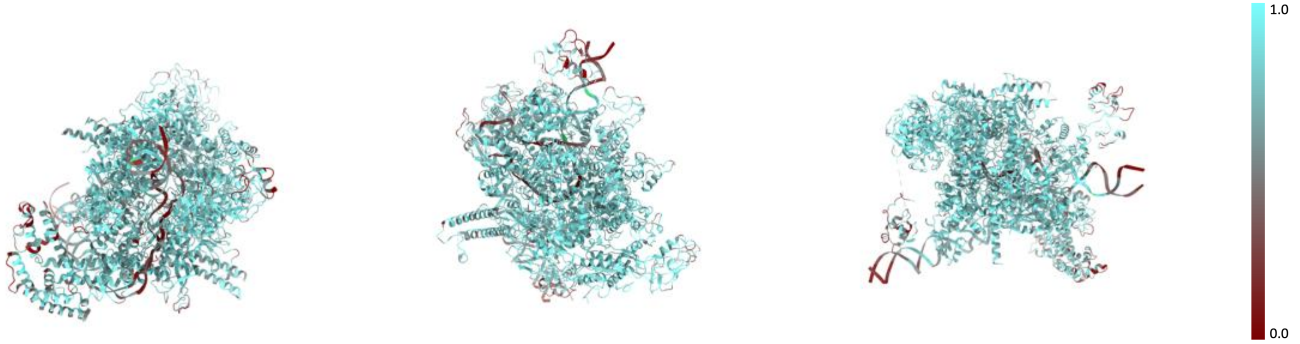
9.2 Q-score mapped to coordinate model ⓘ



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.

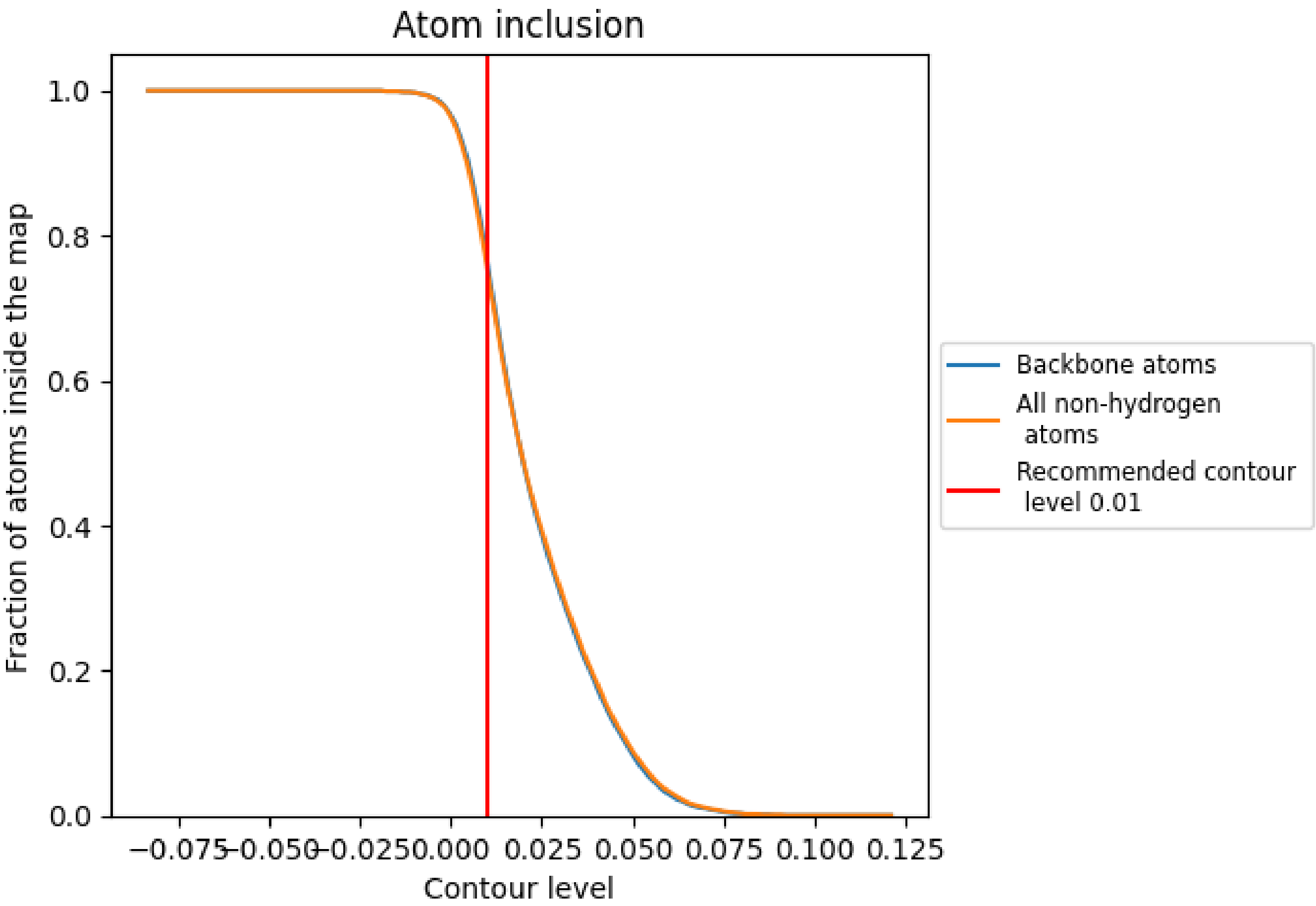
9.3 Atom inclusion mapped to coordinate model ⓘ



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 (0.01).

9.4 Atom inclusion ⓘ



At the recommended contour level, 77% of all backbone atoms, 76% 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 (0.01) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	▬ 0.7550	▬ 0.3540
A	▬ 0.7690	▬ 0.3850
B	▬ 0.8060	▬ 0.3890
C	▬ 0.7850	▬ 0.3840
D	▬ 0.8030	▬ 0.4060
E	▬ 0.8140	▬ 0.4120
F	▬ 0.7330	▬ 0.3080
G	▬ 0.6820	▬ 0.2680
H	▬ 0.4960	▬ 0.0990
I	▬ 0.4880	▬ 0.0920