W O R L D W I D E

wwPDB

P R O T E I N   D A T A   B A N K

Full wwPDB EM Validation Report (i)

Nov 20, 2022 – 04:40 PM EST

PDB ID	:	7MKN
EMDB ID	:	EMD-23900
Title	:	Escherichia coli RNA polymerase and RapA elongation complex
Authors	:	Qayyum, M.Z.; Murakami, K.S.
Deposited on	:	2021-04-26
Resolution	:	3.30 Å(reported)

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

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

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

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

EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.5 (274361), CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.2

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 3.30 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	Percentile Ranks	Value
Clashscore		21
Ramachandran outliers		0.5%
Sidechain outliers		1.0%
RNA backbone		0.55

Worse — *Better*

▮ Percentile relative to all structures
▯ Percentile relative to all EM structures
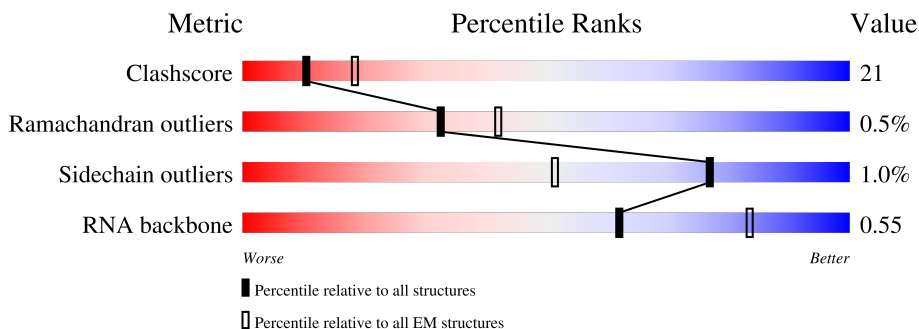
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

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	237	6% — 51% / 47% / •
1	B	237	19% — 53% / 43% / • •
2	C	1340	8% — 55% / 43% / •
3	D	1363	15% — 55% / 43% / • •
4	E	91	55% — 37% / 38% / 24%
5	L	968	28% — 61% / 38% / •
6	N	29	7% — 52% / 24% / 24%

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Mol	Chain	Length	Quality of chain
7	R	11	55%　　　　　　36%　　　　9%
8	T	29	52%　　　　　　45%

2 Entity composition ⓘ

There are 11 unique types of molecules in this entry. The entry contains 34084 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called DNA-directed RNA polymerase subunit alpha.

Mol	Chain	Residues	Atoms					AltConf	Trace
1	A	231	Total	C	N	O	S	0	0
			1794	1117	318	353	6		
1	B	230	Total	C	N	O	S	0	0
			1786	1112	317	351	6		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	1340	Total	C	N	O	S	0	0
			10570	6631	1841	2055	43		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
3	D	1340	Total	C	N	O	S	0	0
			10382	6522	1849	1962	49		

- 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
			546	335	105	105	1		

- Molecule 5 is a protein called RNA polymerase-associated protein RapA.

Mol	Chain	Residues	Atoms					AltConf	Trace
5	L	967	Total	C	N	O	S	0	0
			7696	4820	1378	1470	28		

- Molecule 6 is a DNA chain called DNA (29-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
6	N	22	Total 451	C 214	N 89	O 127	P 21	0	0

- Molecule 7 is a RNA chain called RNA (20-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
7	R	11	Total 244	C 108	N 50	O 75	P 11	0	0

- Molecule 8 is a DNA chain called DNA (29-MER).

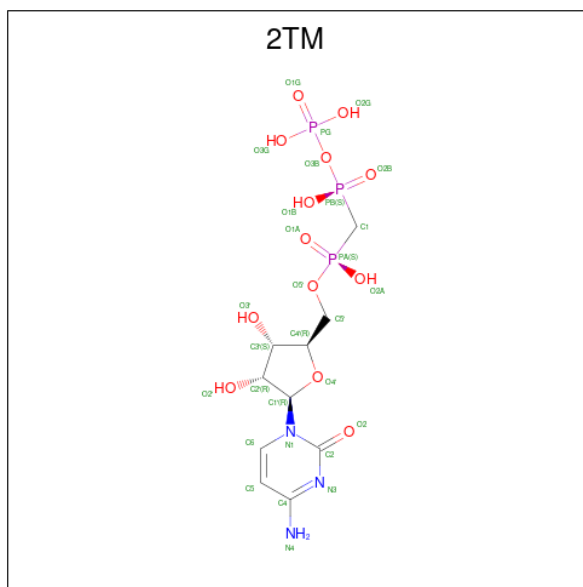| Mol	Chain	Residues	Atoms					AltConf	Trace
8	T	29	Total 583	C 279	N 99	O 177	P 28	0	0

- Molecule 9 is MAGNESIUM ION (three-letter code: MG) (formula: Mg) (labeled as "Ligand of Interest" by depositor).

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

- Molecule 10 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
10	D	2	Total 2	Zn 2	0

- Molecule 11 is 5'-O-[(S)-hydroxy{[(S)-hydroxy(phosphonooxy)phosphoryl]methyl}phosphoryl]cytidine (three-letter code: 2TM) (formula: $C_{10}H_{18}N_3O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).

2TM

| Mol	Chain	Residues	Atoms					AltConf
11	T	1	Total	C	N	O	P	0
			29	10	3	13	3	

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.
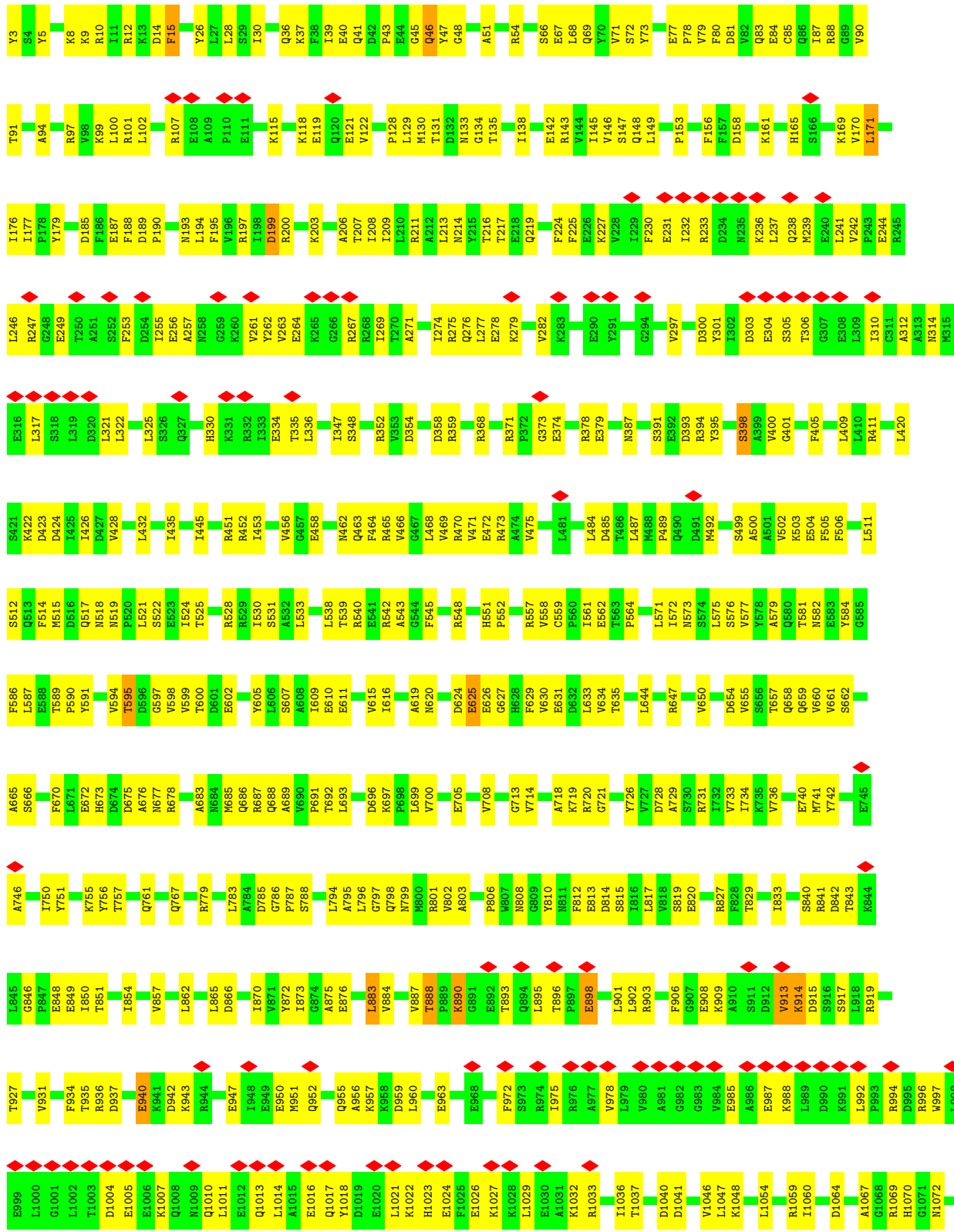
- Molecule 1: DNA-directed RNA polymerase subunit alpha
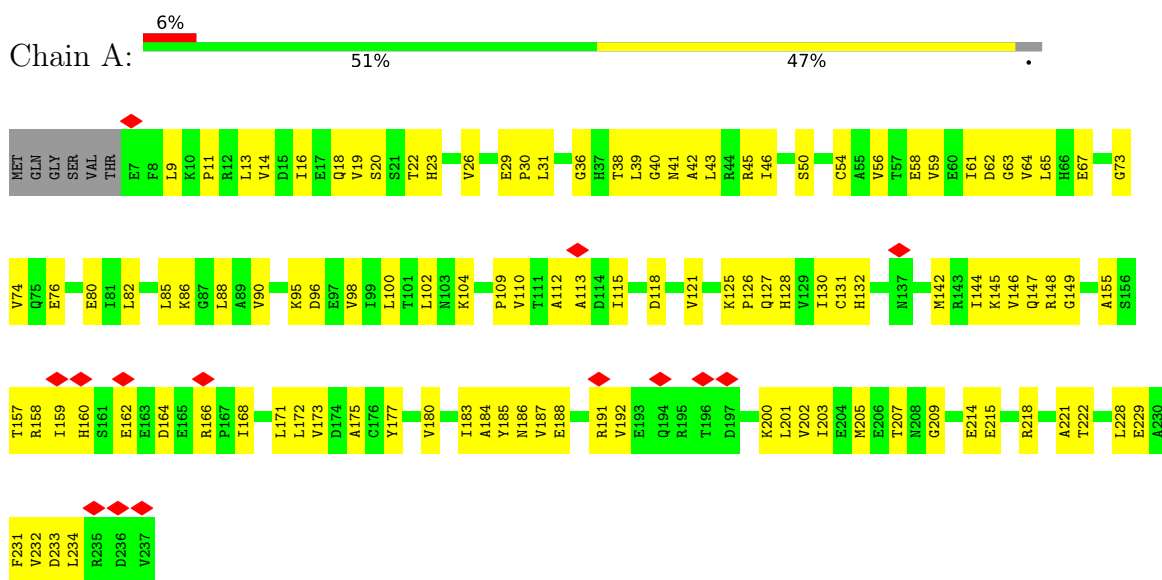
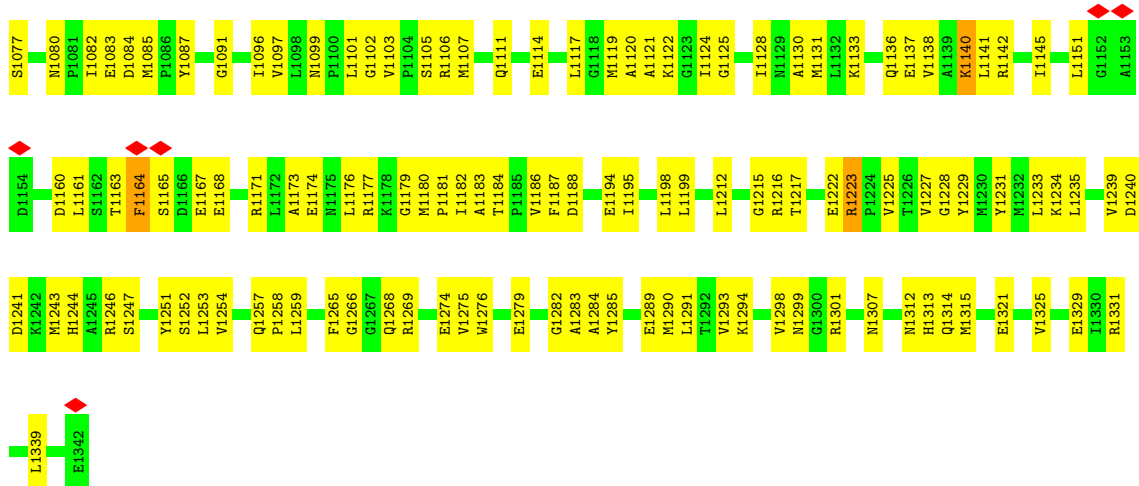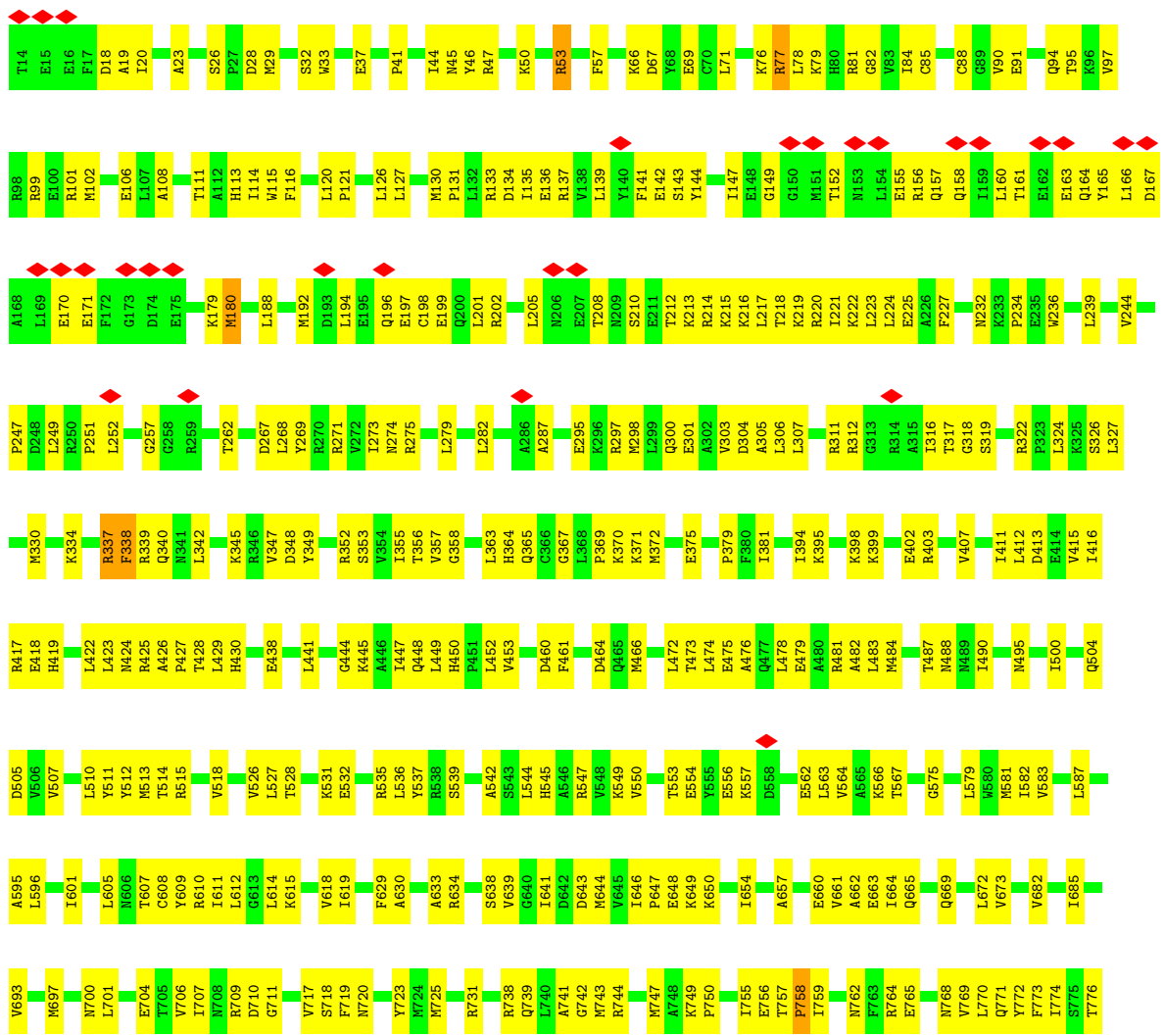- Molecule 1: DNA-directed RNA polymerase subunit alpha
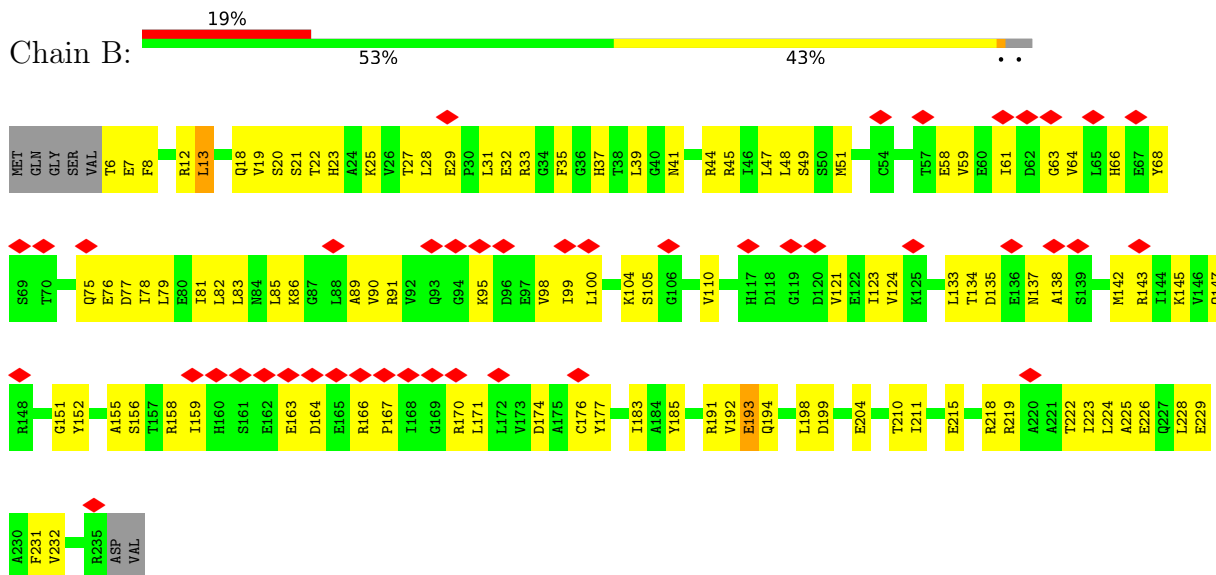
- Molecule 2: DNA-directed RNA polymerase subunit beta

• Molecule 3: DNA-directed RNA polymerase subunit beta'

15%

Chain D:

55% 43%
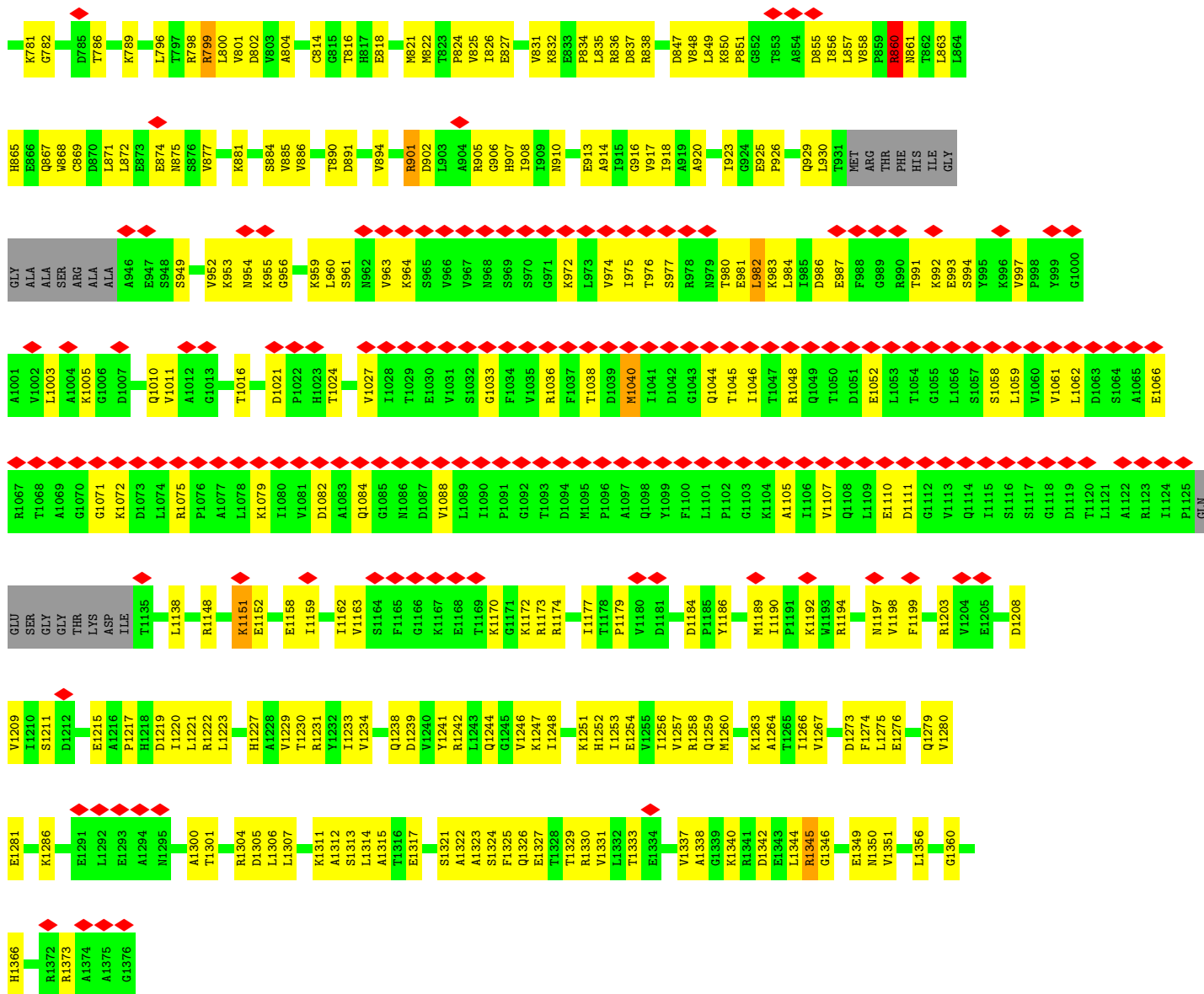
• Molecule 4: DNA-directed RNA polymerase subunit omega

Chain E:

55%

37%   38%   24%
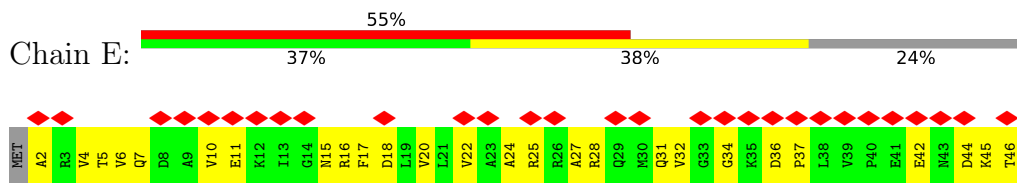
• Molecule 5: RNA polymerase-associated protein RapA

Chain L:

28%

61%   38%

• Molecule 6: DNA (29-MER)

Chain N:

G1 G2 A6 DC DC DT DC DT DC A14 T15 G16 A17 G20 C21 T25 A26 C29

• Molecule 7: RNA (20-MER)

Chain R:

55%　　　　　　　　　　36%　　　　　　9%

G10 C11 G12 G15 A16 G17 A20

• Molecule 8: DNA (29-MER)

Chain T:

52%　　　　　　　　　　45%　　　　　•

G1 G2 C8 G9 G12 T13 G14 T15 A16 C17 C18 T19 C20 T21 C22 C23 C29
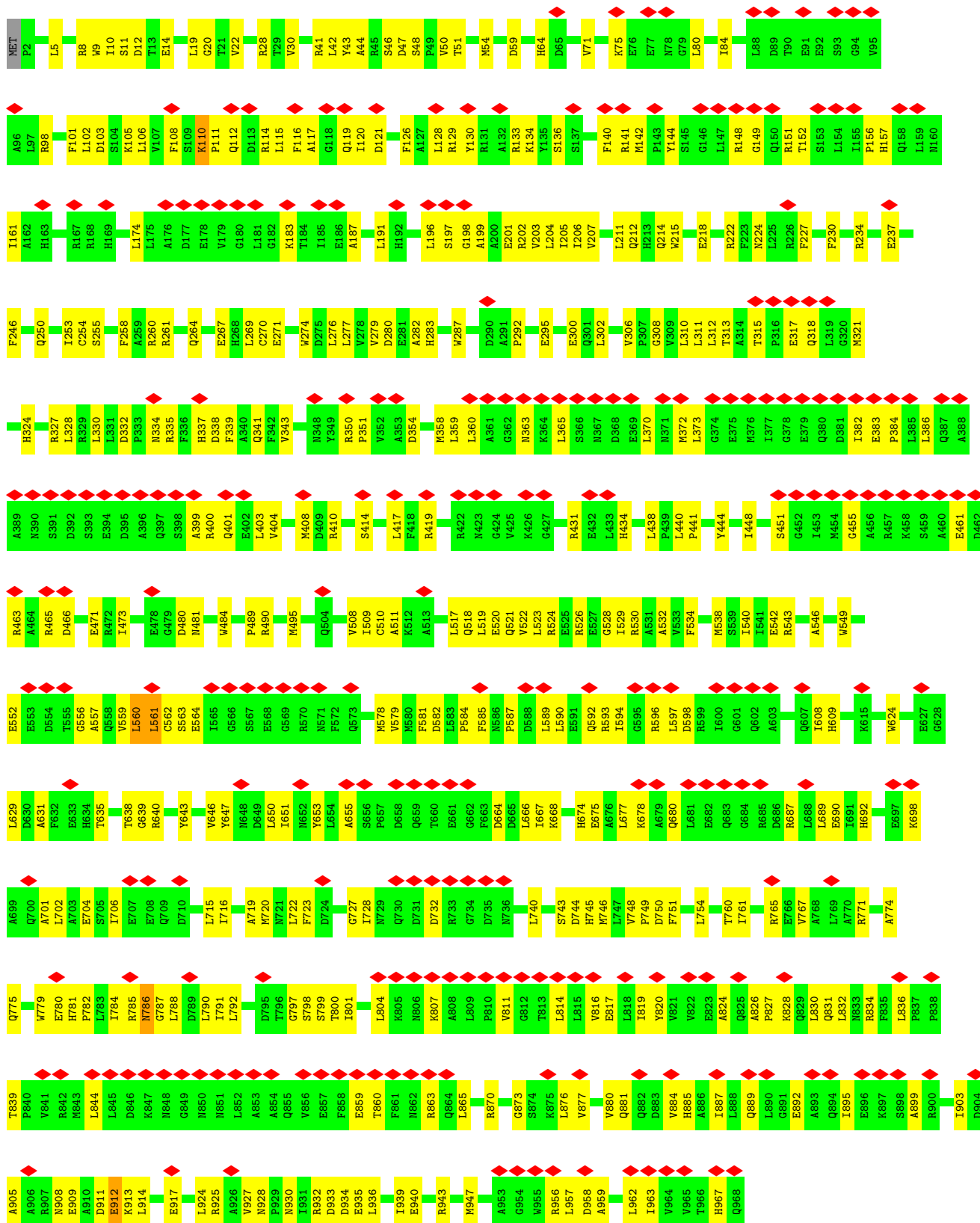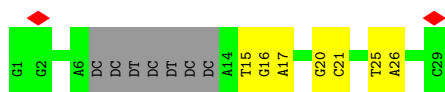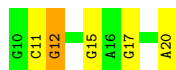
4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	69457	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose $(e^-/\text{Å}^2)$	40	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.146	Depositor
Minimum map value	-0.074	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.005	Depositor
Recommended contour level	0.016	Depositor
Map size (Å)	343.2, 343.2, 343.2	wwPDB
Map dimensions	260, 260, 260	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.32, 1.32, 1.32	Depositor

5 Model quality ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: ZN, 2TM, 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	0.29	0/1816	0.61	0/2461
1	B	0.31	0/1808	0.69	1/2450 (0.0%)
2	C	0.33	0/10739	0.65	3/14489 (0.0%)
3	D	0.31	0/10539	0.67	9/14234 (0.1%)
4	E	0.27	0/548	0.62	0/738
5	L	0.28	0/7840	0.61	4/10622 (0.0%)
6	N	0.49	0/506	0.93	0/777
7	R	0.34	0/274	0.85	0/427
8	T	0.58	0/650	1.04	1/1000 (0.1%)
All	All	0.32	0/34720	0.67	18/47198 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
2	C	0	2
3	D	0	3
5	L	0	3
All	All	0	8

There are no bond length outliers.

All (18) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	D	758	PRO	CA-N-CD	-10.18	97.25	111.50
3	D	77	ARG	CB-CG-CD	-8.78	88.78	111.60
3	D	757	THR	C-N-CD	-8.56	101.76	120.60
5	L	750	ASP	C-N-CA	-8.51	100.42	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	C	171	LEU	CA-CB-CG	7.51	132.57	115.30
3	D	1040	MET	CA-CB-CG	6.99	125.19	113.30
5	L	156	PRO	N-CD-CG	-6.60	93.30	103.20
3	D	802	ASP	CB-CG-OD2	-6.26	112.67	118.30
1	B	13	LEU	CA-CB-CG	6.25	129.68	115.30
3	D	802	ASP	CB-CG-OD1	6.04	123.73	118.30
5	L	912	GLU	CA-CB-CG	5.92	126.43	113.40
3	D	180	MET	CB-CG-SD	-5.83	94.90	112.40
5	L	912	GLU	N-CA-CB	5.68	120.82	110.60
8	T	17	DC	O4'-C4'-C3'	-5.55	102.28	104.50
2	C	46	GLN	CA-CB-CG	5.49	125.47	113.40
3	D	758	PRO	N-CD-CG	-5.20	95.40	103.20
3	D	982	LEU	CA-CB-CG	5.09	127.00	115.30
2	C	15	PHE	C-N-CA	-5.07	111.66	122.30

There are no chirality outliers.

All (8) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	C	236	LYS	Peptide
2	C	595	THR	Peptide
3	D	1184	ASP	Peptide
3	D	860	ARG	Peptide
3	D	901	ARG	Peptide
5	L	110	LYS	Peptide
5	L	560	LEU	Peptide
5	L	564	GLU	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1794	0	1819	85	0
1	B	1786	0	1813	90	0
2	C	10570	0	10582	472	0
3	D	10382	0	10570	551	0
4	E	546	0	565	101	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	L	7696	0	7542	285	0
6	N	451	0	248	6	0
7	R	244	0	120	4	0
8	T	583	0	329	13	0
9	D	1	0	0	0	0
10	D	2	0	0	0	0
11	T	29	0	14	3	0
All	All	34084	0	33602	1424	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 21.

All (1424) 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)
3:D:419:HIS:HB2	4:E:45:LYS:NZ	1.55	1.22
3:D:905:ARG:HD2	4:E:16:ARG:HH11	1.00	1.10
3:D:913:GLU:OE2	4:E:17:PHE:CZ	2.10	1.04
3:D:615:LYS:NZ	4:E:5:THR:HB	1.73	1.03
3:D:905:ARG:HD2	4:E:16:ARG:NH1	1.71	1.03
3:D:910:ASN:ND2	4:E:15:ASN:O	1.90	1.03
3:D:913:GLU:CD	4:E:17:PHE:CZ	2.35	0.99
3:D:913:GLU:CD	4:E:17:PHE:HZ	1.64	0.98
3:D:615:LYS:HZ3	4:E:5:THR:HB	1.29	0.98
3:D:419:HIS:HB2	4:E:45:LYS:HZ1	1.15	0.97
3:D:419:HIS:CB	4:E:45:LYS:HZ1	1.79	0.95
3:D:474:LEU:HD21	4:E:27:ALA:HB3	1.43	0.95
3:D:438:GLU:OE2	4:E:2:ALA:HB1	1.68	0.93
3:D:474:LEU:HD21	4:E:27:ALA:CB	1.99	0.92
3:D:418:GLU:O	3:D:481:ARG:NH2	2.01	0.92
3:D:905:ARG:CD	4:E:16:ARG:HH11	1.84	0.89
5:L:414:SER:HG	5:L:692:HIS:HD1	1.19	0.89
2:C:1136:GLN:HB2	2:C:1140:LYS:HE2	1.53	0.88
3:D:1344:LEU:O	3:D:1346:GLY:N	2.07	0.87
1:B:66:HIS:HE1	1:B:68:TYR:HD2	1.21	0.86
5:L:579:VAL:HG12	5:L:609:HIS:HB2	1.56	0.86
2:C:519:ASN:HD21	2:C:796:LEU:HD22	1.40	0.86
3:D:419:HIS:CB	4:E:45:LYS:NZ	2.38	0.86
2:C:1312:ASN:HA	4:E:31:GLN:OE1	1.75	0.85
3:D:478:LEU:CD2	4:E:51:LEU:HD11	2.06	0.85
2:C:525:THR:HG21	2:C:687:ARG:HD2	1.56	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:1282:GLY:HA3	4:E:17:PHE:CE1	2.12	0.84
3:D:77:ARG:NH2	5:L:749:PRO:O	2.09	0.84
2:C:88:ARG:NH1	2:C:1040:ASP:OD2	2.10	0.84
3:D:475:GLU:OE2	4:E:28:ARG:NH1	2.11	0.84
3:D:1061:VAL:HB	3:D:1105:ALA:HB3	1.58	0.84
5:L:260:ARG:NH1	5:L:295:GLU:OE1	2.11	0.84
2:C:1291:LEU:HD11	3:D:1351:VAL:HG13	1.59	0.83
2:C:179:TYR:HE2	2:C:462:ASN:HD21	1.27	0.82
3:D:133:ARG:NH1	3:D:136:GLU:OE1	2.12	0.81
2:C:1282:GLY:HA3	4:E:17:PHE:HE1	1.46	0.81
3:D:419:HIS:N	4:E:45:LYS:HZ3	1.79	0.81
3:D:130:MET:SD	3:D:157:GLN:NE2	2.54	0.81
2:C:1314:GLN:HG2	2:C:1315:MET:H	1.45	0.81
3:D:824:PRO:HD3	3:D:835:LEU:HD13	1.63	0.81
2:C:131:THR:HG22	2:C:135:THR:H	1.44	0.80
1:B:13:LEU:HD11	1:B:29:GLU:HB3	1.63	0.80
2:C:1269:ARG:NH1	8:T:16:DA:OP1	2.14	0.80
5:L:761:ILE:HG22	5:L:775:GLN:HB2	1.63	0.80
1:A:85:LEU:HA	1:A:88:LEU:HD13	1.64	0.80
1:B:134:THR:HG22	1:B:135:ASP:H	1.47	0.80
3:D:337:ARG:O	3:D:340:GLN:N	2.14	0.80
2:C:161:LYS:HB3	2:C:170:VAL:HG23	1.63	0.79
5:L:152:THR:HG22	5:L:222:ARG:HH21	1.48	0.79
3:D:438:GLU:OE1	4:E:2:ALA:CB	2.30	0.79
5:L:410:ARG:NH2	5:L:927:VAL:O	2.15	0.79
3:D:913:GLU:OE2	4:E:17:PHE:CE2	2.35	0.78
2:C:1246:ARG:NH1	3:D:348:ASP:OD1	2.16	0.78
3:D:322:ARG:NH1	7:R:15:G:OP1	2.16	0.78
3:D:418:GLU:CG	4:E:48:VAL:HG21	2.13	0.78
2:C:1313:HIS:N	4:E:31:GLN:OE1	2.16	0.78
3:D:816:THR:OG1	3:D:818:GLU:OE1	2.01	0.78
2:C:558:VAL:HG11	2:C:573:ASN:HB3	1.66	0.78
3:D:143:SER:OG	3:D:160:LEU:O	2.02	0.78
2:C:522:SER:OG	2:C:687:ARG:O	2.01	0.78
3:D:364:HIS:CG	4:E:4:VAL:HG23	2.19	0.78
2:C:731:ARG:HE	2:C:750:ILE:HD11	1.48	0.77
5:L:748:VAL:HG21	5:L:790:LEU:HD21	1.64	0.77
1:A:67:GLU:HG3	1:A:171:LEU:HD22	1.66	0.77
2:C:551:HIS:CD2	2:C:552:PRO:HD2	2.19	0.77
2:C:1298:VAL:HG12	2:C:1301:ARG:HH21	1.48	0.77
3:D:1221:LEU:HD13	3:D:1306:LEU:HB2	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:133:LEU:HD12	1:B:138:ALA:HA	1.65	0.76
3:D:111:THR:HG21	3:D:303:VAL:HG11	1.66	0.76
3:D:849:LEU:HD12	3:D:855:ASP:H	1.50	0.76
3:D:615:LYS:CE	4:E:5:THR:HB	2.15	0.76
2:C:755:LYS:NZ	2:C:767:GLN:O	2.18	0.76
3:D:1221:LEU:HD12	3:D:1229:VAL:HG11	1.68	0.75
2:C:538:LEU:HD13	2:C:543:ALA:HB2	1.67	0.75
2:C:808:ASN:H	3:D:633:ALA:HB2	1.51	0.75
1:B:76:GLU:HG3	1:B:81:ILE:HD11	1.69	0.75
3:D:749:LYS:HG2	3:D:750:PRO:HD2	1.68	0.75
3:D:615:LYS:HZ3	4:E:5:THR:CB	1.99	0.75
2:C:1176:LEU:HD23	2:C:1180:MET:HG3	1.68	0.75
3:D:449:LEU:HD13	3:D:466:MET:HE1	1.68	0.75
2:C:176:ILE:HD11	2:C:428:VAL:HG21	1.67	0.75
3:D:1314:LEU:HB2	3:D:1326:GLN:HE22	1.53	0.74
5:L:509:ILE:HA	5:L:561:LEU:HD22	1.68	0.74
3:D:482:ALA:O	3:D:488:ASN:ND2	2.15	0.74
3:D:913:GLU:HG2	4:E:17:PHE:HE2	1.53	0.74
3:D:955:LYS:HE3	3:D:1010:GLN:HG3	1.69	0.74
2:C:582:ASN:HD21	2:C:607:SER:HB3	1.53	0.74
3:D:430:HIS:HB3	3:D:925:GLU:HG2	1.69	0.74
3:D:1346:GLY:O	3:D:1350:ASN:ND2	2.20	0.73
1:B:66:HIS:CE1	1:B:68:TYR:HD2	2.05	0.73
2:C:211:ARG:NH2	2:C:217:THR:OG1	2.20	0.73
2:C:692:THR:HG22	2:C:693:LEU:H	1.53	0.73
3:D:474:LEU:HD23	4:E:28:ARG:HG3	1.69	0.73
3:D:478:LEU:CD2	4:E:47:THR:HG23	2.19	0.73
5:L:912:GLU:HG2	5:L:913:LYS:HD2	1.69	0.73
1:B:61:ILE:HG22	1:B:63:GLY:H	1.55	0.72
2:C:1138:VAL:HG12	2:C:1142:ARG:HD2	1.70	0.72
2:C:264:GLU:HG2	2:C:267:ARG:HH12	1.55	0.72
1:A:100:LEU:HD23	1:A:115:ILE:HG21	1.72	0.72
1:A:11:PRO:HA	1:A:30:PRO:HG2	1.72	0.72
2:C:138:ILE:HG21	2:C:143:ARG:HD2	1.72	0.72
2:C:714:VAL:HB	2:C:787:PRO:HD2	1.71	0.72
5:L:801:ILE:HG22	5:L:962:LEU:HB2	1.72	0.72
1:B:86:LYS:HE2	1:B:174:ASP:HB2	1.72	0.71
2:C:1168:GLU:OE1	2:C:1171:ARG:NH2	2.24	0.71
3:D:419:HIS:H	4:E:45:LYS:HZ3	1.35	0.71
2:C:1024:GLU:HA	2:C:1027:LYS:HE2	1.70	0.71
3:D:126:LEU:O	3:D:220:ARG:NH1	2.22	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:426:ALA:HB3	3:D:427:PRO:HD3	1.72	0.71
1:A:188:GLU:OE2	1:A:200:LYS:NZ	2.23	0.71
2:C:540:ARG:NH2	7:R:17:G:OP2	2.24	0.71
2:C:1018:TYR:HE1	2:C:1022:LYS:HZ2	1.39	0.71
3:D:913:GLU:HG2	4:E:17:PHE:CE2	2.25	0.71
3:D:528:THR:N	3:D:532:GLU:OE2	2.20	0.70
1:A:157:THR:O	1:A:160:HIS:ND1	2.24	0.70
2:C:145:ILE:HB	2:C:456:VAL:HG22	1.72	0.70
3:D:647:PRO:HG2	3:D:650:LYS:HB2	1.73	0.70
3:D:773:PHE:O	3:D:776:THR:OG1	2.09	0.70
2:C:199:ASP:O	2:C:200:ARG:NE	2.23	0.70
3:D:438:GLU:CD	4:E:2:ALA:HB1	2.12	0.70
5:L:538:MET:HB3	5:L:542:GLU:HG3	1.74	0.70
2:C:1070:HIS:NE2	2:C:1114:GLU:OE1	2.24	0.69
5:L:885:HIS:O	5:L:889:GLN:NE2	2.25	0.69
3:D:357:VAL:HG23	3:D:358:GLY:H	1.57	0.69
3:D:693:VAL:HG11	3:D:743:MET:HG2	1.73	0.69
4:E:24:ALA:HB1	4:E:28:ARG:NH1	2.08	0.69
1:A:45:ARG:HD2	2:C:1083:GLU:HB2	1.75	0.69
3:D:419:HIS:N	4:E:45:LYS:NZ	2.41	0.69
3:D:425:ARG:NH2	11:T:101:2TM:O3'	2.26	0.69
5:L:943:ARG:O	5:L:947:MET:HG2	1.93	0.69
2:C:189:ASP:OD1	2:C:193:ASN:N	2.25	0.68
2:C:1101:LEU:HD13	3:D:504:GLN:HB2	1.74	0.68
3:D:913:GLU:CD	4:E:17:PHE:CE2	2.67	0.68
2:C:688:GLN:HB2	2:C:1235:LEU:HD22	1.75	0.68
3:D:672:LEU:HD12	3:D:673:VAL:HG13	1.75	0.68
1:A:38:THR:OG1	1:B:45:ARG:NH1	2.26	0.68
3:D:139:LEU:HD21	3:D:300:GLN:HG2	1.75	0.68
2:C:842:ASP:HB2	2:C:1047:LEU:HD21	1.76	0.68
2:C:185:ASP:OD2	2:C:200:ARG:NH2	2.24	0.67
2:C:211:ARG:HH22	2:C:217:THR:HG1	1.42	0.67
2:C:1247:SER:HB3	3:D:375:GLU:O	1.94	0.67
2:C:301:TYR:OH	2:C:334:GLU:OE1	2.11	0.67
3:D:1321:SER:OG	3:D:1349:GLU:OE2	2.12	0.67
5:L:129:ARG:NH2	5:L:958:ASP:OD1	2.27	0.67
3:D:306:LEU:O	3:D:326:SER:OG	2.11	0.67
3:D:1194:ARG:HD2	3:D:1211:SER:HB2	1.76	0.67
2:C:80:PHE:HE2	2:C:88:ARG:HD2	1.60	0.67
2:C:398:SER:HB2	2:C:401:GLY:H	1.60	0.67
2:C:788:SER:OG	2:C:795:ALA:O	2.11	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:532:GLU:HA	3:D:535:ARG:HD3	1.77	0.67
1:A:39:LEU:O	1:A:43:LEU:HG	1.94	0.67
2:C:810:TYR:HA	3:D:357:VAL:HG21	1.77	0.67
3:D:120:LEU:HB3	3:D:121:PRO:HD3	1.76	0.67
1:A:131:CYS:SG	1:A:132:HIS:N	2.68	0.66
2:C:841:ARG:N	2:C:848:GLU:OE2	2.25	0.66
5:L:924:LEU:O	5:L:928:ASN:N	2.28	0.66
1:B:98:VAL:HG21	1:B:121:VAL:HG11	1.76	0.66
2:C:1137:GLU:O	2:C:1140:LYS:HG3	1.94	0.66
2:C:633:LEU:HG	2:C:644:LEU:HB3	1.76	0.66
3:D:836:ARG:HG3	3:D:869:CYS:HB3	1.77	0.66
5:L:141:ARG:NH2	5:L:839:THR:OG1	2.27	0.66
5:L:751:PHE:HB3	5:L:754:LEU:HB2	1.77	0.66
2:C:79:VAL:HG13	2:C:80:PHE:HD1	1.60	0.66
1:B:155:ALA:HA	1:B:158:ARG:HH21	1.60	0.66
3:D:507:VAL:HG23	3:D:601:ILE:HD12	1.77	0.66
5:L:414:SER:OG	5:L:692:HIS:ND1	2.20	0.66
2:C:131:THR:HG23	2:C:133:ASN:H	1.61	0.65
3:D:1038:THR:HG21	3:D:1079:LYS:HD3	1.77	0.65
2:C:689:ALA:HB2	2:C:1233:LEU:HD23	1.77	0.65
3:D:614:LEU:HD23	4:E:5:THR:CG2	2.26	0.65
5:L:128:LEU:HD11	5:L:722:LEU:HA	1.78	0.65
3:D:275:ARG:HH11	3:D:298:MET:HB3	1.60	0.65
5:L:12:ASP:OD1	5:L:51:THR:OG1	2.13	0.65
2:C:169:LYS:O	2:C:171:LEU:HD12	1.97	0.65
2:C:734:ILE:HD11	2:C:783:LEU:HD21	1.78	0.65
1:B:25:LYS:HG2	1:B:204:GLU:HG2	1.78	0.65
2:C:149:LEU:HB2	2:C:530:ILE:HG22	1.77	0.65
5:L:534:PHE:CE1	5:L:543:ARG:HB3	2.32	0.65
3:D:982:LEU:HD23	3:D:997:VAL:HB	1.78	0.65
2:C:678:ARG:HD2	2:C:1106:ARG:HB3	1.79	0.65
5:L:431:ARG:NH2	5:L:631:ALA:O	2.30	0.65
1:B:191:ARG:HH11	1:B:193:GLU:HA	1.60	0.65
2:C:1128:ILE:HA	2:C:1131:MET:HG2	1.78	0.65
2:C:808:ASN:OD1	2:C:1216:ARG:NH2	2.29	0.64
3:D:874:GLU:OE1	3:D:875:ASN:ND2	2.30	0.64
2:C:39:ILE:HG13	2:C:40:GLU:H	1.62	0.64
2:C:304:GLU:OE1	2:C:330:HIS:NE2	2.30	0.64
3:D:120:LEU:HB2	3:D:1330:ARG:HH21	1.62	0.64
3:D:478:LEU:HD22	4:E:51:LEU:HD11	1.79	0.64
3:D:510:LEU:HD21	3:D:579:LEU:HD13	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:418:GLU:HG2	4:E:48:VAL:HG21	1.78	0.64
1:B:32:GLU:HB3	1:B:35:PHE:CD2	2.33	0.64
1:B:41:ASN:ND2	2:C:1217:THR:HA	2.13	0.64
2:C:620:ASN:HD21	3:D:768:ASN:HB2	1.63	0.64
2:C:1290:MET:HG3	3:D:347:VAL:HG11	1.79	0.64
3:D:327:LEU:HA	3:D:330:MET:HE2	1.80	0.64
5:L:119:GLN:NE2	5:L:120:ILE:O	2.31	0.64
1:A:18:GLN:NE2	1:A:20:SER:O	2.30	0.64
3:D:1307:LEU:HD23	3:D:1312:ALA:HA	1.79	0.64
5:L:826:ALA:HB3	5:L:832:LEU:HD13	1.79	0.64
2:C:387:ASN:HA	2:C:391:SER:HB3	1.80	0.64
3:D:18:ASP:OD2	3:D:1373:ARG:NH2	2.31	0.64
3:D:1239:ASP:OD1	3:D:1242:ARG:NH1	2.31	0.64
2:C:470:ARG:O	2:C:473:ARG:HG2	1.98	0.64
5:L:461:GLU:O	5:L:465:ARG:HG2	1.98	0.64
5:L:831:GLN:OE1	5:L:834:ARG:NH1	2.31	0.64
1:B:124:VAL:HG11	1:B:210:THR:HA	1.80	0.63
2:C:1117:LEU:HD12	2:C:1195:ILE:HG12	1.79	0.63
3:D:756:GLU:O	3:D:758:PRO:HD2	1.98	0.63
3:D:515:ARG:HH21	3:D:717:VAL:HG13	1.63	0.63
3:D:910:ASN:ND2	4:E:15:ASN:C	2.51	0.63
2:C:705:GLU:HB3	2:C:794:LEU:H	1.62	0.63
3:D:19:ALA:HA	3:D:1342:ASP:O	1.98	0.63
2:C:303:ASP:HB2	2:C:310:ILE:HD11	1.81	0.63
3:D:749:LYS:CG	3:D:750:PRO:HD2	2.27	0.63
1:B:222:THR:O	1:B:226:GLU:HG2	1.99	0.63
2:C:530:ILE:HD11	2:C:575:LEU:HD12	1.79	0.63
2:C:719:LYS:O	2:C:779:ARG:NH1	2.32	0.63
3:D:133:ARG:O	3:D:137:ARG:HG2	1.98	0.63
1:A:16:ILE:HG23	1:A:26:VAL:HG22	1.81	0.62
2:C:1254:VAL:O	3:D:99:ARG:NH2	2.31	0.62
3:D:147:ILE:HD11	3:D:179:LYS:HE3	1.81	0.62
3:D:216:LYS:O	3:D:219:LYS:HG2	1.98	0.62
3:D:1325:PHE:CZ	3:D:1326:GLN:HG3	2.34	0.62
5:L:199:ALA:HB2	5:L:831:GLN:HE21	1.64	0.62
2:C:1244:HIS:NE2	2:C:1265:PHE:O	2.32	0.62
3:D:801:VAL:HG13	3:D:917:VAL:HG13	1.79	0.62
1:A:164:ASP:OD1	5:L:530:ARG:NH1	2.32	0.62
1:A:45:ARG:HH22	1:B:37:HIS:HB2	1.64	0.62
1:B:104:LYS:HG2	1:B:110:VAL:HG22	1.80	0.62
2:C:514:PHE:HE2	8:T:20:DC:H2"	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:268:LEU:HD21	3:D:324:LEU:HD11	1.81	0.62
5:L:466:ASP:HB3	5:L:473:ILE:HD11	1.81	0.62
3:D:418:GLU:HG2	4:E:48:VAL:CG2	2.29	0.62
3:D:418:GLU:HG3	4:E:48:VAL:HG21	1.80	0.62
5:L:332:ASP:OD2	5:L:932:ARG:NH1	2.33	0.62
1:A:191:ARG:NH1	1:A:192:VAL:O	2.32	0.62
5:L:664:ASP:O	5:L:667:ILE:HG22	2.00	0.62
2:C:514:PHE:CE2	8:T:20:DC:H2"	2.35	0.62
5:L:664:ASP:O	5:L:668:LYS:HG2	2.00	0.62
1:A:14:VAL:HG21	1:A:29:GLU:HG2	1.81	0.62
3:D:82:GLY:O	5:L:43:TYR:HA	2.00	0.62
3:D:429:LEU:HB3	3:D:925:GLU:HB2	1.82	0.62
5:L:484:TRP:NE1	5:L:518:GLN:OE1	2.33	0.62
5:L:860:THR:HA	5:L:863:ARG:HE	1.65	0.62
2:C:575:LEU:HD21	2:C:579:ALA:HB3	1.82	0.61
2:C:677:ASN:OD1	2:C:678:ARG:N	2.33	0.61
1:B:18:GLN:NE2	1:B:23:HIS:O	2.32	0.61
2:C:600:THR:OG1	2:C:602:GLU:OE1	2.18	0.61
2:C:115:LYS:NZ	2:C:485:ASP:OD1	2.33	0.61
5:L:148:ARG:HG2	5:L:706:ILE:HG23	1.82	0.61
1:B:12:ARG:HG2	1:B:13:LEU:N	2.15	0.61
1:B:145:LYS:NZ	1:B:147:GLN:OE1	2.33	0.61
3:D:205:LEU:HD21	3:D:217:LEU:HB3	1.82	0.61
2:C:469:VAL:O	2:C:472:GLU:HG3	2.01	0.61
3:D:141:PHE:HA	3:D:180:MET:CE	2.30	0.61
3:D:742:GLY:O	3:D:762:ASN:HB3	2.00	0.61
3:D:1238:GLN:NE2	3:D:1248:ILE:O	2.32	0.61
5:L:130:TYR:CZ	5:L:134:LYS:HD2	2.35	0.61
2:C:423:ASP:HA	2:C:426:ILE:HG12	1.82	0.61
2:C:829:THR:HG22	2:C:1059:ARG:HA	1.82	0.60
3:D:514:THR:OG1	3:D:595:ALA:O	2.19	0.60
3:D:885:VAL:HG23	3:D:894:VAL:HG11	1.83	0.60
5:L:47:ASP:OD1	5:L:870:ARG:NH1	2.33	0.60
1:A:42:ALA:O	1:A:46:ILE:HG12	2.02	0.60
1:A:88:LEU:HD11	1:A:130:ILE:HD11	1.82	0.60
2:C:841:ARG:HG2	2:C:1046:VAL:HG22	1.83	0.60
3:D:413:ASP:OD1	3:D:417:ARG:NH1	2.33	0.60
3:D:731:ARG:NH1	11:T:101:2TM:O1G	2.26	0.60
3:D:1151:LYS:HG3	3:D:1152:GLU:OE1	2.00	0.60
5:L:149:GLY:N	5:L:780:GLU:OE2	2.30	0.60
1:B:99:ILE:HD11	1:B:143:ARG:HD2	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:166:ARG:HB3	1:B:170:ARG:HG3	1.83	0.60
2:C:956:ALA:HB1	2:C:1032:LYS:HD2	1.83	0.60
3:D:282:LEU:HD12	3:D:295:GLU:HG3	1.81	0.60
3:D:1033:GLY:HA3	3:D:1082:ASP:HA	1.83	0.60
2:C:15:PHE:HE2	2:C:1194:GLU:HB3	1.65	0.60
3:D:349:TYR:HE2	3:D:379:PRO:HG3	1.66	0.60
2:C:590:PRO:HB2	2:C:655:VAL:HG21	1.83	0.60
3:D:120:LEU:HB2	3:D:1330:ARG:NH2	2.17	0.60
3:D:481:ARG:HE	4:E:47:THR:HG21	1.66	0.60
5:L:578:MET:HG2	5:L:597:LEU:HD21	1.83	0.60
1:A:36:GLY:HA3	1:A:187:VAL:HG21	1.84	0.60
1:B:33:ARG:NH2	2:C:820:GLU:OE1	2.35	0.60
2:C:28:LEU:HD21	2:C:524:ILE:HG13	1.84	0.60
2:C:85:CYS:SG	2:C:90:VAL:HG13	2.42	0.60
3:D:252:LEU:HG	3:D:262:THR:HG22	1.84	0.60
3:D:1072:LYS:O	3:D:1075:ARG:NH1	2.35	0.60
3:D:1159:ILE:HG21	3:D:1179:PRO:HG3	1.83	0.60
3:D:1208:ASP:OD1	3:D:1209:VAL:N	2.35	0.60
5:L:148:ARG:O	5:L:765:ARG:NH2	2.35	0.60
5:L:727:GLY:O	5:L:743:SER:OG	2.14	0.60
2:C:67:GLU:OE1	2:C:69:GLN:HG3	2.02	0.60
5:L:19:LEU:HD12	5:L:103:ASP:O	2.02	0.60
1:A:218:ARG:NH1	1:B:231:PHE:O	2.35	0.60
2:C:464:PHE:O	2:C:468:LEU:HD23	2.02	0.60
2:C:876:GLU:HG2	2:C:927:THR:HG22	1.84	0.60
2:C:1259:LEU:O	2:C:1266:GLY:HA2	2.02	0.60
2:C:1314:GLN:HG2	2:C:1315:MET:N	2.16	0.60
3:D:1172:LYS:HE3	3:D:1189:MET:HB3	1.84	0.60
2:C:599:VAL:H	2:C:627:GLY:HA3	1.68	0.59
3:D:782:GLY:O	3:D:786:THR:HG23	2.02	0.59
1:A:201:LEU:HG	1:A:203:ILE:HD11	1.85	0.59
3:D:45:ASN:C	3:D:47:ARG:H	2.05	0.59
3:D:478:LEU:HD23	4:E:47:THR:HG23	1.82	0.59
3:D:980:THR:OG1	3:D:997:VAL:O	2.20	0.59
2:C:3:TYR:O	2:C:8:LYS:NZ	2.35	0.59
2:C:1243:MET:HE3	3:D:445:LYS:HB3	1.85	0.59
3:D:518:VAL:O	3:D:547:ARG:NH2	2.35	0.59
5:L:534:PHE:HE1	5:L:543:ARG:HB3	1.68	0.59
5:L:647:TYR:O	5:L:651:ILE:HG12	2.02	0.59
2:C:1312:ASN:CA	4:E:31:GLN:OE1	2.48	0.59
3:D:913:GLU:CG	4:E:17:PHE:HE2	2.15	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1040:MET:CE	3:D:1046:ILE:HG13	2.32	0.59
2:C:81:ASP:OD1	2:C:84:GLU:HB3	2.03	0.59
2:C:872:TYR:OH	5:L:524:ARG:NH2	2.35	0.59
2:C:1290:MET:SD	2:C:1294:LYS:NZ	2.76	0.59
3:D:370:LYS:HA	3:D:441:LEU:HD12	1.85	0.59
3:D:700:ASN:O	3:D:704:GLU:HB3	2.02	0.59
3:D:755:ILE:HD12	3:D:755:ILE:H	1.67	0.59
2:C:972:PHE:HD2	2:C:994:ARG:HH11	1.51	0.59
3:D:660:GLU:O	3:D:663:GLU:HG3	2.03	0.59
3:D:913:GLU:CG	4:E:17:PHE:CE2	2.85	0.59
2:C:519:ASN:ND2	2:C:796:LEU:HD22	2.15	0.59
5:L:508:VAL:HG23	5:L:579:VAL:HG23	1.84	0.59
2:C:358:ASP:OD1	2:C:359:ARG:N	2.35	0.58
3:D:479:GLU:CG	4:E:20:VAL:HG11	2.33	0.58
3:D:1148:ARG:NH1	6:N:20:DG:H5”	2.17	0.58
3:D:1264:ALA:HB2	3:D:1280:VAL:HG22	1.84	0.58
3:D:514:THR:HG21	3:D:596:LEU:HD12	1.83	0.58
3:D:759:ILE:HA	3:D:771:GLN:HE21	1.67	0.58
3:D:1189:MET:O	3:D:1190:ILE:HD13	2.03	0.58
5:L:9:TRP:CE3	5:L:50:VAL:HG12	2.38	0.58
1:B:215:GLU:OE1	1:B:219:ARG:NH1	2.36	0.58
3:D:364:HIS:CB	4:E:4:VAL:HG23	2.34	0.58
3:D:1219:ASP:OD1	3:D:1220:ILE:N	2.37	0.58
2:C:812:PHE:O	2:C:1099:ASN:ND2	2.36	0.58
2:C:1284:ALA:HB1	3:D:1356:LEU:HD22	1.84	0.58
5:L:360:LEU:HD21	5:L:404:VAL:HG11	1.85	0.58
5:L:530:ARG:HD2	5:L:549:TRP:HZ2	1.68	0.58
1:B:82:LEU:HD11	1:B:171:LEU:HD21	1.85	0.58
3:D:156:ARG:HG2	3:D:157:GLN:OE1	2.03	0.58
3:D:587:LEU:HD11	3:D:608:CYS:HB2	1.86	0.58
3:D:1110:GLU:HG2	3:D:1111:ASP:H	1.67	0.58
5:L:14:GLU:OE2	5:L:41:ARG:NH1	2.36	0.58
1:A:184:ALA:HB2	2:C:1091:GLY:HA3	1.86	0.58
3:D:116:PHE:CD1	3:D:1333:THR:HG23	2.39	0.58
1:B:105:SER:HA	1:B:138:ALA:O	2.04	0.57
3:D:863:LEU:HD11	3:D:901:ARG:HB3	1.85	0.57
5:L:110:LYS:O	5:L:112:GLN:N	2.36	0.57
5:L:110:LYS:HZ2	5:L:956:ARG:HE	1.51	0.57
2:C:733:VAL:HG22	2:C:750:ILE:HG13	1.86	0.57
2:C:1145:ILE:HG23	2:C:1161:LEU:HD11	1.86	0.57
3:D:826:ILE:HG22	3:D:831:VAL:HG12	1.86	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:801:ILE:HG21	5:L:877:VAL:HG22	1.86	0.57
1:A:229:GLU:O	1:A:232:VAL:HG22	2.04	0.57
3:D:474:LEU:HD23	4:E:28:ARG:CG	2.33	0.57
3:D:848:VAL:HG22	3:D:858:VAL:HG22	1.86	0.57
2:C:1023:HIS:O	2:C:1026:GLU:HG3	2.04	0.57
3:D:79:LYS:O	3:D:81:ARG:NH1	2.37	0.57
3:D:475:GLU:HG3	4:E:24:ALA:HB1	1.86	0.57
3:D:1313:SER:HG	3:D:1325:PHE:HZ	1.51	0.57
3:D:1323:ALA:HA	3:D:1331:VAL:HG11	1.87	0.57
5:L:495:MET:SD	5:L:526:ARG:NH2	2.76	0.57
3:D:478:LEU:CD2	4:E:51:LEU:CD1	2.82	0.57
3:D:515:ARG:NH2	3:D:717:VAL:HG13	2.19	0.57
5:L:129:ARG:HH22	5:L:133:ARG:HH21	1.53	0.57
2:C:683:ALA:O	2:C:687:ARG:HG3	2.05	0.57
2:C:767:GLN:HG2	2:C:786:GLY:HA2	1.86	0.57
3:D:1219:ASP:HA	3:D:1222:ARG:NH1	2.20	0.57
5:L:440:LEU:HD12	5:L:441:PRO:HD2	1.86	0.57
3:D:515:ARG:NH2	3:D:717:VAL:O	2.37	0.57
1:A:45:ARG:HE	2:C:1083:GLU:HG3	1.69	0.57
1:B:219:ARG:O	1:B:223:ILE:HG13	2.04	0.57
5:L:114:ARG:NH2	5:L:121:ASP:OD1	2.38	0.57
5:L:115:LEU:HD11	5:L:881:GLN:HG2	1.85	0.57
2:C:207:THR:OG1	2:C:354:ASP:OD2	2.19	0.57
2:C:452:ARG:NH1	2:C:458:GLU:OE2	2.30	0.57
2:C:594:VAL:HG11	2:C:650:VAL:HG23	1.87	0.57
2:C:206:ALA:O	2:C:209:ILE:HG22	2.05	0.57
3:D:818:GLU:OE1	3:D:818:GLU:N	2.38	0.57
2:C:798:GLN:OE1	2:C:827:ARG:HB2	2.05	0.56
1:A:118:ASP:HB2	1:A:121:VAL:HG22	1.87	0.56
1:A:61:ILE:HG12	1:A:142:MET:HE3	1.88	0.56
2:C:545:PHE:HD2	3:D:781:LYS:NZ	2.04	0.56
3:D:141:PHE:HD1	3:D:180:MET:HE3	1.69	0.56
3:D:357:VAL:HG23	3:D:358:GLY:N	2.20	0.56
3:D:526:VAL:HG12	3:D:549:LYS:HB2	1.85	0.56
5:L:785:ARG:HH11	5:L:785:ARG:HG2	1.71	0.56
5:L:827:PRO:HG2	5:L:830:LEU:HG	1.87	0.56
1:A:183:ILE:HD13	1:A:205:MET:HG3	1.87	0.56
3:D:337:ARG:O	3:D:339:ARG:N	2.38	0.56
5:L:321:MET:O	5:L:324:HIS:HB2	2.06	0.56
1:A:19:VAL:HG21	1:A:23:HIS:HD2	1.71	0.56
2:C:348:SER:O	2:C:352:ARG:HG2	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:870:ILE:HG21	2:C:931:VAL:HG11	1.87	0.56
3:D:641:ILE:O	3:D:764:ARG:NH1	2.38	0.56
5:L:64:HIS:ND1	5:L:101:PHE:HB3	2.20	0.56
2:C:796:LEU:N	2:C:1231:TYR:OH	2.39	0.56
3:D:218:THR:HA	3:D:221:ILE:HG22	1.88	0.56
5:L:114:ARG:HD2	5:L:117:ALA:HB3	1.86	0.56
2:C:841:ARG:HD2	3:D:257:GLY:HA2	1.88	0.56
3:D:1021:ASP:HB3	3:D:1024:THR:HB	1.87	0.56
3:D:1062:LEU:HD12	3:D:1066:GLU:HG3	1.88	0.56
2:C:68:LEU:HD21	2:C:100:LEU:HD23	1.88	0.56
3:D:79:LYS:HE2	5:L:749:PRO:HD3	1.88	0.56
3:D:478:LEU:HD23	4:E:51:LEU:HD11	1.88	0.56
5:L:936:LEU:O	5:L:940:GLU:HG3	2.05	0.56
1:A:102:LEU:HB2	1:A:115:ILE:HD13	1.88	0.55
3:D:961:SER:OG	3:D:981:GLU:HB3	2.06	0.55
5:L:198:GLY:HA3	5:L:828:LYS:HG2	1.87	0.55
1:B:225:ALA:O	1:B:229:GLU:HG3	2.06	0.55
2:C:506:PHE:O	2:C:512:SER:OG	2.17	0.55
2:C:538:LEU:HD11	2:C:571:LEU:HD22	1.88	0.55
2:C:1125:GLY:HA3	2:C:1179:GLY:HA2	1.87	0.55
5:L:230:PHE:CD1	5:L:234:ARG:HG2	2.41	0.55
5:L:490:ARG:NH1	5:L:582:ASP:OD1	2.39	0.55
3:D:188:LEU:O	3:D:192:MET:HG2	2.05	0.55
3:D:1311:LYS:HZ2	3:D:1314:LEU:HD13	1.72	0.55
5:L:935:GLU:O	5:L:939:ILE:HD12	2.06	0.55
2:C:840:SER:HB3	2:C:850:ILE:HD11	1.86	0.55
2:C:987:GLU:HG3	2:C:988:LYS:H	1.72	0.55
3:D:643:ASP:O	3:D:720:ASN:ND2	2.34	0.55
5:L:98:ARG:HG3	5:L:98:ARG:HH11	1.71	0.55
2:C:1033:ARG:HH12	2:C:1037:THR:HG21	1.70	0.55
3:D:646:ILE:CD1	3:D:762:ASN:HD21	2.19	0.55
3:D:956:GLY:HA3	3:D:984:LEU:HD11	1.88	0.55
3:D:860:ARG:HG3	3:D:861:ASN:H	1.72	0.55
2:C:685:MET:SD	2:C:1067:ALA:HB1	2.47	0.55
2:C:624:ASP:O	2:C:626:GLU:N	2.39	0.55
3:D:363:LEU:HD23	3:D:618:VAL:HG13	1.89	0.55
3:D:1163:VAL:HG23	3:D:1177:ILE:HD13	1.88	0.55
3:D:1356:LEU:O	3:D:1366:HIS:NE2	2.40	0.55
3:D:419:HIS:CA	4:E:45:LYS:HZ1	2.20	0.55
3:D:479:GLU:HG2	4:E:20:VAL:HG11	1.88	0.55
3:D:1219:ASP:HA	3:D:1222:ARG:HH12	1.72	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:234:ARG:HA	5:L:237:GLU:HG2	1.89	0.55
1:B:91:ARG:HE	1:B:210:THR:HG21	1.72	0.55
2:C:692:THR:HG21	2:C:827:ARG:O	2.07	0.55
1:A:82:LEU:HD23	1:A:173:VAL:HG22	1.89	0.54
2:C:230:PHE:HE2	2:C:335:THR:HG21	1.72	0.54
2:C:524:ILE:O	2:C:528:ARG:HG2	2.07	0.54
5:L:561:LEU:HD23	5:L:562:CYS:N	2.22	0.54
2:C:179:TYR:HE2	2:C:462:ASN:ND2	2.01	0.54
2:C:469:VAL:HA	2:C:472:GLU:HG3	1.89	0.54
2:C:657:THR:HB	2:C:1187:PHE:HB2	1.89	0.54
2:C:672:GLU:HG3	2:C:673:HIS:CD2	2.42	0.54
5:L:108:PHE:HE1	5:L:114:ARG:HD3	1.72	0.54
5:L:911:ASP:OD1	5:L:912:GLU:N	2.40	0.54
2:C:128:PRO:HG2	2:C:506:PHE:HD2	1.71	0.54
2:C:453:ILE:HD13	2:C:530:ILE:HD12	1.90	0.54
2:C:1329:GLU:OE1	3:D:337:ARG:NH1	2.41	0.54
3:D:23:ALA:HB1	3:D:232:ASN:HD21	1.73	0.54
3:D:886:VAL:HA	3:D:1258:ARG:HG3	1.89	0.54
3:D:905:ARG:NH2	3:D:907:HIS:HB2	2.23	0.54
3:D:131:PRO:HG2	3:D:134:ASP:OD2	2.08	0.54
3:D:438:GLU:CD	4:E:2:ALA:CB	2.72	0.54
2:C:231:GLU:OE2	2:C:233:ARG:NH1	2.41	0.54
5:L:587:PRO:HG3	5:L:643:TYR:CD2	2.42	0.54
2:C:249:GLU:O	2:C:269:ILE:HG22	2.08	0.54
3:D:473:THR:HG23	3:D:476:ALA:H	1.72	0.54
3:D:1280:VAL:HG11	3:D:1304:ARG:HH21	1.72	0.54
1:A:162:GLU:OE1	1:A:162:GLU:N	2.41	0.54
2:C:102:LEU:HD12	2:C:489:PRO:HG3	1.90	0.54
2:C:700:VAL:HG13	2:C:1117:LEU:HD22	1.89	0.54
2:C:1314:GLN:CG	2:C:1315:MET:H	2.18	0.54
3:D:1219:ASP:O	3:D:1223:LEU:HG	2.07	0.54
5:L:19:LEU:HG	5:L:106:LEU:HB2	1.89	0.54
1:B:20:SER:O	1:B:22:THR:N	2.41	0.54
3:D:111:THR:O	3:D:239:LEU:N	2.34	0.54
3:D:954:ASN:HD21	3:D:992:LYS:HG3	1.73	0.54
1:A:74:VAL:O	2:C:729:ALA:N	2.41	0.54
2:C:1064:ASP:OD1	2:C:1239:VAL:HG12	2.08	0.54
3:D:424:ASN:OD1	3:D:425:ARG:N	2.41	0.54
5:L:317:GLU:O	5:L:318:GLN:HG2	2.06	0.54
5:L:471:GLU:OE2	5:L:490:ARG:NH2	2.40	0.54
3:D:417:ARG:HB3	3:D:418:GLU:OE1	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:545:HIS:CE1	3:D:719:PHE:HE2	2.26	0.54
2:C:244:GLU:OE2	2:C:278:GLU:HG2	2.08	0.53
2:C:271:ALA:HA	2:C:274:ILE:HD12	1.89	0.53
3:D:804:ALA:O	3:D:916:GLY:HA3	2.07	0.53
1:A:228:LEU:HD21	1:B:224:LEU:HD23	1.90	0.53
1:B:163:GLU:N	1:B:163:GLU:OE1	2.40	0.53
3:D:527:LEU:HD22	3:D:532:GLU:HG3	1.89	0.53
5:L:199:ALA:HB2	5:L:831:GLN:NE2	2.23	0.53
1:A:50:SER:HB3	1:B:8:PHE:HZ	1.73	0.53
2:C:142:GLU:HB3	2:C:515:MET:HE3	1.89	0.53
2:C:558:VAL:CG1	2:C:573:ASN:HB3	2.37	0.53
3:D:114:ILE:HD12	3:D:304:ASP:HB2	1.89	0.53
3:D:212:THR:O	3:D:215:LYS:HG2	2.08	0.53
5:L:399:ALA:O	5:L:403:LEU:HD23	2.08	0.53
5:L:639:GLY:O	5:L:643:TYR:HB2	2.07	0.53
1:A:73:GLY:N	2:C:728:ASP:OD1	2.42	0.53
1:A:222:THR:HA	1:B:232:VAL:HG23	1.90	0.53
2:C:135:THR:HG21	2:C:515:MET:HE2	1.90	0.53
5:L:205:ILE:HB	5:L:253:ILE:HD13	1.90	0.53
5:L:578:MET:SD	5:L:608:ILE:HG23	2.48	0.53
1:A:166:ARG:HB2	5:L:528:GLY:HA3	1.90	0.53
3:D:37:GLU:OE2	3:D:106:GLU:N	2.38	0.53
3:D:41:PRO:HG3	3:D:274:ASN:OD1	2.09	0.53
5:L:227:PHE:HB3	5:L:253:ILE:HG12	1.91	0.53
5:L:804:LEU:HD13	5:L:865:LEU:HD12	1.91	0.53
2:C:46:GLN:O	2:C:51:ALA:HB2	2.09	0.53
2:C:66:SER:HB3	2:C:484:LEU:HD13	1.91	0.53
3:D:126:LEU:HD11	3:D:223:LEU:HD13	1.89	0.53
3:D:615:LYS:NZ	4:E:5:THR:CB	2.58	0.53
3:D:1045:THR:O	3:D:1046:ILE:HD13	2.09	0.53
1:B:210:THR:OG1	1:B:211:ILE:N	2.42	0.53
2:C:393:ASP:OD1	2:C:394:ARG:N	2.42	0.53
2:C:451:ARG:NH1	6:N:16:DG:O6	2.42	0.53
2:C:595:THR:O	2:C:597:GLY:N	2.42	0.53
3:D:141:PHE:HA	3:D:180:MET:HE2	1.91	0.53
3:D:399:LYS:O	3:D:403:ARG:HG3	2.09	0.53
3:D:1215:GLU:OE1	3:D:1215:GLU:N	2.40	0.53
2:C:517:GLN:H	2:C:761:GLN:HE21	1.55	0.53
3:D:975:ILE:HG23	3:D:980:THR:HG21	1.91	0.53
5:L:215:TRP:HA	5:L:218:GLU:HG3	1.91	0.53
5:L:404:VAL:O	5:L:408:MET:HG3	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:147:SER:HB2	2:C:530:ILE:HD13	1.90	0.52
2:C:1033:ARG:HA	2:C:1036:ILE:HG22	1.90	0.52
3:D:364:HIS:HB3	4:E:4:VAL:HG23	1.91	0.52
3:D:1173:ARG:HB2	3:D:1192:LYS:HZ3	1.74	0.52
1:B:47:LEU:O	1:B:51:MET:HG3	2.09	0.52
2:C:1017:GLN:O	2:C:1021:LEU:HD23	2.09	0.52
4:E:42:GLU:OE1	4:E:42:GLU:N	2.42	0.52
2:C:685:MET:HG3	2:C:686:GLN:N	2.24	0.52
2:C:1276:TRP:CG	3:D:801:VAL:HG11	2.43	0.52
3:D:71:LEU:H	3:D:90:VAL:HG11	1.75	0.52
3:D:487:THR:HB	3:D:618:VAL:HG21	1.92	0.52
3:D:885:VAL:HG22	3:D:1258:ARG:HD2	1.91	0.52
3:D:959:LYS:HA	3:D:959:LYS:HE2	1.91	0.52
5:L:723:PHE:HD1	5:L:728:ILE:HD12	1.74	0.52
2:C:297:VAL:HB	2:C:317:LEU:HD11	1.91	0.52
2:C:720:ARG:HH12	2:C:736:VAL:HG21	1.73	0.52
1:B:99:ILE:HD11	1:B:143:ARG:CD	2.39	0.52
2:C:12:ARG:NH1	2:C:1182:ILE:O	2.41	0.52
2:C:564:PRO:HD2	2:C:572:ILE:HB	1.91	0.52
2:C:1298:VAL:HG23	2:C:1299:ASN:H	1.75	0.52
1:A:31:LEU:HD13	1:A:36:GLY:HA2	1.92	0.52
1:A:234:LEU:HD13	1:B:218:ARG:HG2	1.92	0.52
2:C:378:ARG:NH1	2:C:379:GLU:HG2	2.25	0.52
5:L:300:GLU:HA	5:L:330:LEU:HD11	1.90	0.52
2:C:257:ALA:HB3	2:C:262:TYR:CE2	2.44	0.52
3:D:244:VAL:HG12	3:D:269:TYR:CE1	2.44	0.52
3:D:419:HIS:CA	4:E:45:LYS:NZ	2.72	0.52
5:L:9:TRP:HE3	5:L:50:VAL:HG12	1.75	0.52
5:L:280:ASP:HA	5:L:312:LEU:HB2	1.92	0.52
5:L:351:PRO:HB2	5:L:372:MET:SD	2.50	0.52
5:L:463:ARG:NE	5:L:655:ALA:O	2.35	0.52
5:L:908:ASN:O	5:L:912:GLU:OE1	2.28	0.52
3:D:450:HIS:CE1	3:D:452:LEU:HB2	2.45	0.52
2:C:755:LYS:O	2:C:757:THR:HG23	2.09	0.52
2:C:1013:GLN:O	2:C:1016:GLU:HG2	2.10	0.52
3:D:796:LEU:HA	3:D:799:ARG:HH21	1.75	0.52
3:D:1279:GLN:OE1	3:D:1317:GLU:HB3	2.09	0.52
5:L:328:LEU:HD21	5:L:417:LEU:HD21	1.92	0.52
5:L:552:GLU:HB2	5:L:556:GLY:HA3	1.91	0.52
5:L:889:GLN:HA	5:L:892:GLU:HG3	1.91	0.52
3:D:407:VAL:O	3:D:411:ILE:HG12	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1263:LYS:NZ	3:D:1315:ALA:O	2.34	0.52
5:L:873:GLY:O	5:L:877:VAL:HG23	2.10	0.52
5:L:925:ARG:NH2	5:L:933:ASP:OD1	2.30	0.52
1:A:82:LEU:O	1:A:86:LYS:HG3	2.10	0.51
1:A:155:ALA:O	1:A:159:ILE:HG12	2.10	0.51
2:C:91:THR:HB	2:C:138:ILE:O	2.10	0.51
2:C:463:GLN:HG3	2:C:505:PHE:CG	2.44	0.51
2:C:1269:ARG:NH2	3:D:340:GLN:HA	2.25	0.51
3:D:352:ARG:HH22	3:D:426:ALA:HB2	1.75	0.51
2:C:960:LEU:O	2:C:963:GLU:HG3	2.10	0.51
3:D:537:TYR:CE1	3:D:544:LEU:HB2	2.45	0.51
5:L:230:PHE:HD1	5:L:234:ARG:HG2	1.74	0.51
1:A:82:LEU:HD11	1:A:171:LEU:HD13	1.91	0.51
1:B:192:VAL:O	1:B:194:GLN:N	2.38	0.51
2:C:256:GLU:HA	2:C:261:VAL:HA	1.93	0.51
2:C:1107:MET:SD	3:D:739:GLN:HG2	2.50	0.51
5:L:532:ALA:HB1	5:L:546:ALA:HB1	1.92	0.51
2:C:12:ARG:HD3	2:C:1183:ALA:HB2	1.92	0.51
2:C:518:ASN:O	2:C:691:PRO:HD3	2.10	0.51
2:C:951:MET:O	2:C:955:GLN:HG2	2.10	0.51
3:D:275:ARG:NH1	3:D:298:MET:HB3	2.25	0.51
3:D:438:GLU:OE1	4:E:2:ALA:HB1	2.08	0.51
3:D:981:GLU:OE2	3:D:994:SER:OG	2.16	0.51
5:L:650:LEU:HD12	5:L:653:TYR:HB2	1.93	0.51
2:C:657:THR:HG21	2:C:1188:ASP:HB2	1.90	0.51
1:B:41:ASN:HD22	2:C:1217:THR:HA	1.76	0.51
1:B:75:GLN:HG2	1:B:76:GLU:N	2.26	0.51
2:C:135:THR:HG21	2:C:515:MET:CE	2.41	0.51
2:C:957:LYS:NZ	2:C:1029:LEU:HD21	2.26	0.51
3:D:115:TRP:CE2	3:D:1329:THR:HG22	2.46	0.51
3:D:901:ARG:HD2	3:D:906:GLY:O	2.11	0.51
5:L:370:LEU:HD23	5:L:373:LEU:HD21	1.93	0.51
2:C:133:ASN:ND2	2:C:713:GLY:HA3	2.26	0.51
3:D:275:ARG:HD2	3:D:298:MET:HB3	1.91	0.51
3:D:1162:ILE:HD13	3:D:1203:ARG:HH22	1.76	0.51
5:L:589:LEU:HA	5:L:592:GLN:HG2	1.93	0.51
1:A:231:PHE:HE2	1:B:39:LEU:HD11	1.75	0.51
3:D:1325:PHE:CE1	3:D:1326:GLN:HG3	2.46	0.51
8:T:8:DC:H2"	8:T:9:DG:C8	2.46	0.51
1:A:56:VAL:HG12	1:A:146:VAL:HG22	1.93	0.51
1:B:124:VAL:HG21	1:B:210:THR:HG22	1.93	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:1290:MET:HA	2:C:1294:LYS:HG3	1.93	0.51
3:D:925:GLU:HG3	3:D:926:PRO:HD3	1.93	0.51
3:D:1048:ARG:HH11	3:D:1048:ARG:HG2	1.75	0.51
3:D:1194:ARG:HD2	3:D:1211:SER:CB	2.39	0.51
5:L:105:LYS:HD3	5:L:105:LYS:N	2.26	0.51
5:L:350:ARG:HB3	5:L:351:PRO:HD3	1.93	0.51
1:B:76:GLU:N	1:B:76:GLU:OE1	2.27	0.50
3:D:353:SER:OG	3:D:445:LYS:O	2.25	0.50
3:D:505:ASP:HB2	3:D:629:PHE:HE1	1.73	0.50
3:D:587:LEU:HD21	3:D:608:CYS:HA	1.93	0.50
3:D:648:GLU:OE1	3:D:700:ASN:ND2	2.43	0.50
5:L:287:TRP:CD1	5:L:292:PRO:HB3	2.47	0.50
5:L:358:MET:HB2	5:L:365:LEU:HD21	1.94	0.50
5:L:509:ILE:HG21	5:L:593:ARG:HD3	1.93	0.50
5:L:675:GLU:HA	5:L:678:LYS:HG2	1.93	0.50
1:B:6:THR:OG1	1:B:7:GLU:N	2.42	0.50
2:C:589:THR:HG23	2:C:591:TYR:CE2	2.46	0.50
3:D:77:ARG:HE	5:L:749:PRO:HA	1.75	0.50
3:D:1052:GLU:OE1	3:D:1052:GLU:N	2.38	0.50
3:D:644:MET:HG3	3:D:764:ARG:HD2	1.93	0.50
3:D:741:ALA:C	3:D:762:ASN:HD22	2.14	0.50
3:D:902:ASP:H	3:D:1251:LYS:NZ	2.08	0.50
5:L:110:LYS:HZ2	5:L:956:ARG:NE	2.09	0.50
5:L:112:GLN:O	5:L:115:LEU:HD22	2.12	0.50
5:L:201:GLU:O	5:L:250:GLN:HB3	2.12	0.50
5:L:324:HIS:CE1	5:L:327:ARG:HH21	2.28	0.50
5:L:824:ALA:HB2	5:L:836:LEU:HD23	1.94	0.50
1:A:109:PRO:HB3	1:A:132:HIS:CE1	2.46	0.50
2:C:802:VAL:HG12	2:C:1096:ILE:HB	1.92	0.50
2:C:1128:ILE:HG23	2:C:1177:ARG:HA	1.93	0.50
3:D:475:GLU:HG3	4:E:24:ALA:CB	2.41	0.50
5:L:54:MET:HB3	5:L:116:PHE:HE2	1.76	0.50
1:A:215:GLU:OE1	1:A:215:GLU:N	2.44	0.50
1:B:91:ARG:NH2	1:B:210:THR:OG1	2.42	0.50
2:C:36:GLN:O	2:C:40:GLU:HB2	2.12	0.50
2:C:1082:ILE:H	2:C:1082:ILE:HD12	1.76	0.50
3:D:32:SER:O	5:L:28:ARG:NH2	2.43	0.50
3:D:426:ALA:HB1	8:T:16:DA:H1'	1.93	0.50
3:D:615:LYS:HE2	4:E:5:THR:HB	1.91	0.50
5:L:110:LYS:NZ	5:L:956:ARG:HE	2.10	0.50
5:L:204:LEU:HD22	5:L:269:LEU:HD11	1.92	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:113:ALA:HB2	1:A:126:PRO:HB2	1.93	0.50
2:C:696:ASP:OD1	2:C:697:LYS:N	2.39	0.50
2:C:987:GLU:HG3	2:C:988:LYS:N	2.26	0.50
3:D:91:GLU:OE1	5:L:44:ALA:HB2	2.12	0.50
3:D:607:THR:HA	3:D:610:ARG:HG2	1.92	0.50
3:D:644:MET:SD	3:D:764:ARG:HB2	2.52	0.50
3:D:910:ASN:HB3	4:E:15:ASN:OD1	2.11	0.50
5:L:10:ILE:HG13	5:L:51:THR:HB	1.92	0.50
5:L:215:TRP:NE1	5:L:280:ASP:OD2	2.45	0.50
2:C:1291:LEU:O	3:D:345:LYS:NZ	2.35	0.50
3:D:834:PRO:HD2	3:D:837:ASP:OD2	2.11	0.50
2:C:131:THR:HG23	2:C:133:ASN:N	2.26	0.50
2:C:1077:SER:OG	3:D:357:VAL:HG22	2.11	0.50
3:D:114:ILE:HD11	3:D:311:ARG:HB2	1.93	0.50
3:D:137:ARG:HA	3:D:142:GLU:OE2	2.11	0.50
3:D:422:LEU:HD21	3:D:484:MET:HE3	1.93	0.50
3:D:554:GLU:HG3	3:D:566:LYS:HG3	1.94	0.50
5:L:315:THR:HB	5:L:324:HIS:HE2	1.77	0.50
5:L:934:ASP:OD1	5:L:935:GLU:N	2.45	0.50
1:A:90:VAL:HG21	1:A:146:VAL:HG11	1.94	0.49
2:C:500:ALA:O	2:C:504:GLU:HG3	2.11	0.49
2:C:1072:ASN:ND2	2:C:1111:GLN:OE1	2.44	0.49
3:D:77:ARG:NH1	5:L:746:MET:HG3	2.26	0.49
3:D:141:PHE:HA	3:D:180:MET:HE3	1.94	0.49
3:D:334:LYS:HB2	3:D:339:ARG:HH11	1.77	0.49
2:C:213:LEU:HD12	2:C:422:LYS:HE2	1.94	0.49
3:D:311:ARG:O	3:D:312:ARG:HD3	2.12	0.49
3:D:821:MET:HA	3:D:881:LYS:HA	1.94	0.49
3:D:822:MET:CE	3:D:838:ARG:HB3	2.42	0.49
4:E:24:ALA:HB1	4:E:28:ARG:HH12	1.77	0.49
4:E:24:ALA:O	4:E:28:ARG:HG3	2.12	0.49
5:L:523:LEU:HB3	5:L:529:ILE:HB	1.93	0.49
2:C:468:LEU:HA	2:C:471:VAL:HG12	1.94	0.49
2:C:692:THR:HG22	2:C:693:LEU:N	2.23	0.49
2:C:1223:ARG:NH2	3:D:719:PHE:O	2.28	0.49
2:C:1275:VAL:O	2:C:1279:GLU:HG3	2.13	0.49
2:C:1285:TYR:HB2	3:D:479:GLU:OE2	2.11	0.49
1:B:45:ARG:O	1:B:49:SER:OG	2.30	0.49
1:B:90:VAL:HG12	1:B:123:ILE:HG22	1.93	0.49
1:B:156:SER:HA	1:B:159:ILE:HG22	1.94	0.49
1:B:191:ARG:NH1	1:B:193:GLU:HA	2.26	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:94:ALA:HB2	2:C:129:LEU:HD11	1.95	0.49
2:C:1246:ARG:HD2	2:C:1266:GLY:O	2.12	0.49
2:C:1298:VAL:HG12	2:C:1301:ARG:NH2	2.23	0.49
3:D:531:LYS:HA	3:D:581:MET:HE1	1.95	0.49
3:D:1194:ARG:HA	3:D:1194:ARG:NE	2.28	0.49
5:L:136:SER:O	5:L:140:PHE:HD1	1.95	0.49
5:L:819:ILE:HD13	5:L:959:ALA:HB3	1.93	0.49
1:B:123:ILE:O	1:B:123:ILE:HG13	2.12	0.49
2:C:91:THR:HG21	2:C:503:LYS:NZ	2.27	0.49
2:C:813:GLU:HB2	3:D:461:PHE:CD2	2.47	0.49
2:C:1312:ASN:OD1	2:C:1313:HIS:N	2.45	0.49
3:D:221:ILE:O	3:D:225:GLU:HG3	2.13	0.49
2:C:797:GLY:N	2:C:1231:TYR:OH	2.33	0.49
2:C:866:ASP:HB3	2:C:872:TYR:CE1	2.47	0.49
2:C:1142:ARG:NH1	2:C:1165:SER:O	2.45	0.49
2:C:1289:GLU:HG3	2:C:1290:MET:N	2.28	0.49
3:D:913:GLU:OE2	4:E:17:PHE:HZ	1.68	0.49
3:D:930:LEU:HD11	3:D:1241:TYR:HE1	1.77	0.49
3:D:977:SER:HB2	3:D:980:THR:HG23	1.93	0.49
5:L:438:LEU:HD23	5:L:489:PRO:HB2	1.95	0.49
1:B:83:LEU:HD22	3:D:528:THR:HA	1.95	0.49
2:C:696:ASP:O	2:C:697:LYS:HB3	2.12	0.49
3:D:661:VAL:HG22	3:D:685:ILE:HD11	1.95	0.49
8:T:12:DG:H2'	8:T:13:DT:C6	2.47	0.49
1:A:207:THR:HG23	1:A:209:GLY:H	1.77	0.49
3:D:914:ALA:O	3:D:918:ILE:HG13	2.13	0.49
3:D:986:ASP:OD1	3:D:987:GLU:N	2.45	0.49
4:E:68:GLU:OE2	4:E:69:ARG:HG3	2.13	0.49
5:L:716:ILE:O	5:L:720:MET:HG3	2.12	0.49
2:C:30:ILE:HD11	2:C:575:LEU:HD13	1.95	0.49
2:C:148:GLN:HB2	2:C:511:LEU:HD13	1.95	0.49
2:C:153:PRO:HA	2:C:177:ILE:HG13	1.95	0.49
2:C:524:ILE:HG21	2:C:708:VAL:HG13	1.94	0.49
2:C:564:PRO:HG2	2:C:572:ILE:HG13	1.94	0.49
2:C:666:SER:HA	2:C:1186:VAL:HG11	1.93	0.49
2:C:1122:LYS:HG2	2:C:1229:TYR:CE1	2.48	0.49
2:C:1167:GLU:HG3	2:C:1168:GLU:N	2.28	0.49
5:L:264:GLN:HA	5:L:267:GLU:HG3	1.95	0.49
5:L:318:GLN:NE2	5:L:680:GLN:OE1	2.45	0.49
5:L:339:PHE:O	5:L:343:VAL:HG23	2.12	0.49
1:A:54:CYS:HB3	1:A:148:ARG:HG2	1.95	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:104:LYS:HD2	1:A:110:VAL:HG22	1.94	0.48
2:C:231:GLU:O	2:C:238:GLN:N	2.42	0.48
2:C:1103:VAL:HG22	2:C:1111:GLN:HE21	1.77	0.48
3:D:113:HIS:HB3	3:D:116:PHE:HD2	1.78	0.48
3:D:149:GLY:O	3:D:152:THR:HG22	2.13	0.48
3:D:557:LYS:HA	3:D:562:GLU:O	2.13	0.48
5:L:354:ASP:O	5:L:358:MET:HG2	2.13	0.48
2:C:1140:LYS:HD2	2:C:1141:LEU:N	2.28	0.48
2:C:1176:LEU:CD2	2:C:1180:MET:HG3	2.41	0.48
3:D:77:ARG:HG3	3:D:79:LYS:H	1.79	0.48
3:D:97:VAL:HG22	3:D:101:ARG:HG3	1.93	0.48
3:D:127:LEU:HD13	3:D:223:LEU:HD21	1.95	0.48
3:D:984:LEU:HD23	3:D:993:GLU:HG3	1.95	0.48
1:B:76:GLU:CG	1:B:81:ILE:HD11	2.42	0.48
2:C:589:THR:OG1	2:C:659:GLN:OE1	2.31	0.48
3:D:535:ARG:HG2	3:D:535:ARG:HH11	1.78	0.48
5:L:788:LEU:O	5:L:792:LEU:HG	2.12	0.48
2:C:156:PHE:HE2	2:C:177:ILE:HD11	1.78	0.48
2:C:409:LEU:HB2	2:C:411:ARG:NE	2.29	0.48
2:C:1087:TYR:HE1	2:C:1215:GLY:HA2	1.79	0.48
2:C:1120:ALA:HB2	2:C:1199:LEU:HG	1.96	0.48
2:C:1141:LEU:HD21	2:C:1173:ALA:HB2	1.95	0.48
3:D:1158:GLU:HG3	3:D:1186:TYR:CZ	2.48	0.48
1:A:31:LEU:HD12	1:A:201:LEU:HB2	1.96	0.48
2:C:187:GLU:O	2:C:195:PHE:N	2.36	0.48
2:C:275:ARG:O	2:C:279:LYS:HG2	2.13	0.48
2:C:1102:GLY:O	2:C:1106:ARG:HB2	2.14	0.48
3:D:478:LEU:HD23	4:E:47:THR:CG2	2.43	0.48
3:D:1110:GLU:HG2	3:D:1111:ASP:N	2.28	0.48
3:D:1229:VAL:O	3:D:1233:ILE:HG22	2.14	0.48
5:L:715:LEU:HD13	5:L:779:TRP:CE2	2.47	0.48
1:B:44:ARG:HE	1:B:185:TYR:HE1	1.60	0.48
2:C:742:TYR:O	2:C:746:ALA:HB2	2.13	0.48
3:D:85:CYS:HB3	3:D:88:CYS:O	2.14	0.48
3:D:1253:ILE:O	3:D:1257:VAL:HG23	2.13	0.48
2:C:561:ILE:HD11	2:C:665:ALA:HB1	1.95	0.48
2:C:675:ASP:OD1	2:C:676:ALA:N	2.46	0.48
3:D:464:ASP:OD1	7:R:20:A:O2'	2.17	0.48
3:D:1197:ASN:OD1	3:D:1198:VAL:HG13	2.13	0.48
5:L:282:ALA:HB2	5:L:311:LEU:HD12	1.95	0.48
5:L:401:GLN:HA	5:L:404:VAL:HG22	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:860:THR:HA	5:L:863:ARG:NE	2.29	0.48
2:C:551:HIS:CD2	2:C:552:PRO:CD	2.96	0.48
2:C:1274:GLU:HG3	3:D:428:THR:HG21	1.95	0.48
3:D:53:ARG:HE	3:D:53:ARG:HB3	1.49	0.48
3:D:356:THR:HG22	3:D:357:VAL:H	1.78	0.48
3:D:528:THR:HG22	3:D:532:GLU:CD	2.34	0.48
3:D:822:MET:HE2	3:D:838:ARG:NE	2.29	0.48
3:D:847:ASP:HB2	3:D:856:ILE:HG23	1.96	0.48
2:C:472:GLU:HA	2:C:475:VAL:HG12	1.95	0.48
3:D:115:TRP:CZ2	3:D:1329:THR:HG22	2.49	0.48
3:D:167:ASP:O	3:D:171:GLU:HG3	2.13	0.48
3:D:413:ASP:O	3:D:416:ILE:HG22	2.14	0.48
3:D:1227:HIS:HA	3:D:1230:THR:HG22	1.95	0.48
3:D:798:ARG:CZ	3:D:1325:PHE:HB2	2.44	0.48
5:L:873:GLY:HA2	5:L:876:LEU:HB3	1.96	0.48
2:C:130:MET:SD	2:C:134:GLY:HA2	2.55	0.47
2:C:718:ALA:HB2	2:C:783:LEU:HD11	1.96	0.47
2:C:890:LYS:HD3	2:C:893:THR:HG22	1.96	0.47
2:C:1130:ALA:O	2:C:1133:LYS:HG2	2.14	0.47
3:D:45:ASN:O	3:D:47:ARG:N	2.44	0.47
3:D:510:LEU:HD22	3:D:579:LEU:HD22	1.96	0.47
5:L:10:ILE:HG23	5:L:19:LEU:HD23	1.95	0.47
5:L:151:ARG:NH1	5:L:774:ALA:O	2.31	0.47
5:L:204:LEU:HD11	5:L:254:CYS:SG	2.54	0.47
5:L:787:GLY:O	5:L:791:ILE:HG22	2.15	0.47
1:A:95:LYS:HE2	1:A:98:VAL:HG22	1.96	0.47
2:C:5:TYR:HD1	2:C:8:LYS:HZ1	1.61	0.47
2:C:466:VAL:O	2:C:469:VAL:HG22	2.14	0.47
2:C:551:HIS:HD2	2:C:552:PRO:HD2	1.72	0.47
2:C:906:PHE:HA	5:L:540:ILE:HB	1.95	0.47
3:D:197:GLU:N	3:D:197:GLU:OE1	2.47	0.47
3:D:297:ARG:O	3:D:301:GLU:OE1	2.32	0.47
3:D:418:GLU:CG	4:E:48:VAL:CG2	2.86	0.47
3:D:665:GLN:OE1	3:D:669:GLN:NE2	2.44	0.47
3:D:913:GLU:OE1	4:E:17:PHE:HZ	1.94	0.47
3:D:1342:ASP:OD2	3:D:1344:LEU:HD23	2.14	0.47
1:B:79:LEU:HD12	3:D:526:VAL:HG11	1.97	0.47
2:C:224:PHE:HB2	2:C:347:ILE:HD13	1.97	0.47
2:C:629:PHE:HB2	2:C:647:ARG:HG2	1.96	0.47
3:D:78:LEU:HD12	5:L:745:HIS:HB2	1.96	0.47
3:D:196:GLN:O	3:D:199:GLU:HG3	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:740:LEU:HD11	5:L:761:ILE:HG12	1.96	0.47
1:A:61:ILE:HB	1:A:64:VAL:CG2	2.45	0.47
2:C:699:LEU:HG	2:C:799:ASN:ND2	2.30	0.47
2:C:1128:ILE:HA	2:C:1131:MET:CG	2.44	0.47
3:D:800:LEU:HB3	3:D:920:ALA:HB1	1.95	0.47
3:D:850:LYS:HE2	3:D:851:PRO:HD2	1.96	0.47
4:E:32:VAL:O	4:E:34:GLY:N	2.43	0.47
5:L:270:CYS:SG	5:L:302:LEU:HD23	2.54	0.47
2:C:277:LEU:HD22	2:C:282:VAL:HG11	1.95	0.47
2:C:582:ASN:HD22	2:C:586:PHE:HB2	1.80	0.47
2:C:660:VAL:HG21	3:D:769:VAL:CG1	2.44	0.47
2:C:700:VAL:O	2:C:1069:ARG:NH2	2.40	0.47
2:C:814:ASP:OD1	2:C:1106:ARG:NH2	2.47	0.47
2:C:854:ILE:O	2:C:857:VAL:HG22	2.15	0.47
3:D:1040:MET:HE3	3:D:1046:ILE:HG13	1.95	0.47
5:L:495:MET:SD	5:L:526:ARG:NE	2.83	0.47
5:L:532:ALA:O	5:L:561:LEU:N	2.45	0.47
5:L:932:ARG:HA	5:L:932:ARG:NE	2.29	0.47
1:A:98:VAL:HG11	1:A:121:VAL:HG11	1.97	0.47
2:C:101:ARG:HD3	2:C:118:LYS:HD3	1.96	0.47
2:C:469:VAL:HA	2:C:472:GLU:CG	2.44	0.47
2:C:817:LEU:HD11	2:C:1080:ASN:ND2	2.30	0.47
2:C:1101:LEU:CD2	3:D:725:MET:HG2	2.44	0.47
2:C:1122:LYS:HG2	2:C:1229:TYR:CZ	2.49	0.47
3:D:1313:SER:OG	3:D:1325:PHE:HZ	1.97	0.47
4:E:7:GLN:O	4:E:10:VAL:HG12	2.14	0.47
6:N:25:DT:H2"	6:N:26:DA:C8	2.49	0.47
1:B:31:LEU:O	1:B:198:LEU:HG	2.14	0.47
2:C:300:ASP:OD1	2:C:312:ALA:HA	2.15	0.47
2:C:577:VAL:HG23	2:C:661:VAL:O	2.15	0.47
2:C:767:GLN:HA	2:C:785:ASP:O	2.14	0.47
2:C:952:GLN:HB2	2:C:1036:ILE:HD11	1.97	0.47
3:D:201:LEU:O	3:D:205:LEU:HD23	2.13	0.47
3:D:267:ASP:O	3:D:271:ARG:HG2	2.15	0.47
3:D:495:ASN:ND2	3:D:1247:LYS:O	2.47	0.47
3:D:515:ARG:NH2	3:D:718:SER:O	2.33	0.47
3:D:953:LYS:N	3:D:993:GLU:OE2	2.30	0.47
5:L:46:SER:C	5:L:48:SER:H	2.17	0.47
5:L:359:LEU:O	5:L:400:ARG:NH2	2.48	0.47
5:L:431:ARG:HD3	5:L:598:ASP:OD2	2.15	0.47
5:L:781:HIS:O	5:L:784:ILE:HG22	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:77:ASP:OD1	1:B:78:ILE:N	2.40	0.47
2:C:188:PHE:CE1	2:C:194:LEU:HB2	2.50	0.47
2:C:670:PHE:CE1	2:C:1184:THR:HG21	2.50	0.47
2:C:817:LEU:HD23	2:C:1097:VAL:HB	1.97	0.47
2:C:843:THR:OG1	2:C:846:GLY:O	2.32	0.47
2:C:1251:TYR:HA	2:C:1258:PRO:HA	1.97	0.47
3:D:213:LYS:O	3:D:217:LEU:HD23	2.15	0.47
4:E:28:ARG:O	4:E:32:VAL:HG22	2.14	0.47
5:L:444:TYR:O	5:L:448:ILE:HG12	2.15	0.47
2:C:239:MET:SD	2:C:241:LEU:HB2	2.55	0.47
2:C:590:PRO:HB3	2:C:605:TYR:CE1	2.50	0.47
2:C:721:GLY:N	2:C:740:GLU:OE1	2.45	0.47
3:D:357:VAL:HG12	3:D:461:PHE:CD2	2.50	0.47
3:D:369:PRO:HB3	3:D:444:GLY:O	2.15	0.47
3:D:1062:LEU:HB3	3:D:1066:GLU:HG3	1.97	0.47
2:C:305:SER:OG	2:C:306:THR:N	2.48	0.47
3:D:474:LEU:HD21	4:E:27:ALA:C	2.36	0.47
3:D:553:THR:HG22	3:D:567:THR:HB	1.96	0.47
3:D:1322:ALA:HB3	3:D:1331:VAL:HG21	1.96	0.47
5:L:152:THR:HG22	5:L:222:ARG:NH2	2.23	0.47
2:C:1007:LYS:O	2:C:1011:LEU:HD23	2.15	0.46
2:C:1282:GLY:H	3:D:483:LEU:HD23	1.81	0.46
3:D:18:ASP:N	3:D:18:ASP:OD1	2.48	0.46
3:D:208:THR:O	3:D:214:ARG:NH1	2.46	0.46
5:L:187:ALA:HB2	5:L:312:LEU:HD21	1.98	0.46
1:A:231:PHE:CE2	1:B:39:LEU:HD11	2.50	0.46
2:C:9:LYS:HG2	2:C:1171:ARG:HH12	1.80	0.46
2:C:41:GLN:NE2	2:C:72:SER:OG	2.48	0.46
2:C:149:LEU:N	2:C:531:SER:O	2.47	0.46
2:C:619:ALA:N	2:C:654:ASP:HB2	2.31	0.46
2:C:849:GLU:HG2	2:C:851:THR:H	1.80	0.46
2:C:1023:HIS:CD2	2:C:1027:LYS:NZ	2.83	0.46
3:D:215:LYS:HA	3:D:218:THR:HG22	1.96	0.46
3:D:772:TYR:O	3:D:776:THR:HG23	2.14	0.46
5:L:520:GLU:HG3	5:L:521:GLN:N	2.30	0.46
1:A:158:ARG:HH21	1:A:172:LEU:HD22	1.80	0.46
1:A:180:VAL:HG21	1:A:183:ILE:HD11	1.97	0.46
2:C:37:LYS:NZ	2:C:46:GLN:HE22	2.13	0.46
2:C:241:LEU:HD11	2:C:246:LEU:CD2	2.45	0.46
2:C:465:ARG:HG3	2:C:465:ARG:HH11	1.80	0.46
3:D:227:PHE:CZ	3:D:1337:VAL:HG13	2.51	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:865:HIS:CE1	3:D:867:GLN:HB3	2.50	0.46
5:L:5:LEU:HA	5:L:22:VAL:HG12	1.97	0.46
5:L:909:GLU:HA	5:L:912:GLU:CD	2.36	0.46
2:C:615:VAL:HG13	2:C:650:VAL:HA	1.96	0.46
2:C:720:ARG:NH1	2:C:736:VAL:HG21	2.30	0.46
2:C:940:GLU:H	2:C:940:GLU:HG3	1.51	0.46
3:D:155:GLU:OE2	3:D:158:GLN:HB2	2.15	0.46
5:L:559:VAL:HG12	5:L:560:LEU:N	2.30	0.46
1:B:191:ARG:NH2	3:D:413:ASP:HB2	2.30	0.46
2:C:9:LYS:HG2	2:C:1171:ARG:NH1	2.31	0.46
3:D:161:THR:HG22	3:D:164:GLN:HB2	1.98	0.46
3:D:213:LYS:HE3	3:D:213:LYS:HB2	1.73	0.46
3:D:438:GLU:OE1	4:E:2:ALA:HB3	2.13	0.46
3:D:902:ASP:H	3:D:1251:LYS:HZ3	1.62	0.46
5:L:723:PHE:HB3	5:L:728:ILE:HB	1.97	0.46
5:L:798:SER:OG	5:L:958:ASP:O	2.21	0.46
1:A:58:GLU:OE2	1:A:145:LYS:HD3	2.15	0.46
2:C:591:TYR:CE1	2:C:616:ILE:HG21	2.50	0.46
2:C:734:ILE:CD1	2:C:783:LEU:HD21	2.46	0.46
2:C:1252:SER:N	2:C:1257:GLN:O	2.42	0.46
3:D:395:LYS:HB2	5:L:732:ASP:HB3	1.97	0.46
3:D:983:LYS:HB2	3:D:991:THR:HG23	1.98	0.46
3:D:1327:GLU:CD	3:D:1327:GLU:H	2.19	0.46
6:N:17:DA:C8	6:N:17:DA:H5”	2.51	0.46
1:B:44:ARG:HA	1:B:183:ILE:HD13	1.98	0.46
2:C:77:GLU:OE1	2:C:78:PRO:HD2	2.16	0.46
2:C:1331:ARG:HD2	3:D:102:MET:SD	2.56	0.46
5:L:650:LEU:HD12	5:L:650:LEU:HA	1.66	0.46
1:B:164:ASP:N	1:B:164:ASP:OD1	2.47	0.46
2:C:119:GLU:HG2	2:C:122:VAL:HB	1.97	0.46
2:C:203:LYS:HG3	2:C:203:LYS:O	2.16	0.46
3:D:77:ARG:NE	5:L:748:VAL:O	2.48	0.46
3:D:367:GLY:HA3	3:D:448:GLN:HB2	1.96	0.46
5:L:914:LEU:HD13	5:L:917:GLU:OE2	2.16	0.46
1:B:152:TYR:HE1	1:B:176:CYS:HG	1.60	0.46
2:C:165:HIS:NE2	2:C:190:PRO:HG3	2.30	0.46
2:C:423:ASP:OD1	2:C:424:ASP:N	2.49	0.46
3:D:553:THR:HG22	3:D:567:THR:CB	2.46	0.46
3:D:1266:ILE:HD11	3:D:1300:ALA:HB1	1.97	0.46
4:E:36:ASP:OD1	4:E:37:PRO:HD2	2.16	0.46
8:T:20:DC:H2’	8:T:21:DT:C6	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:383:GLU:HB3	5:L:384:PRO:HD3	1.99	0.46
5:L:677:LEU:O	5:L:680:GLN:HG2	2.15	0.46
2:C:88:ARG:HA	2:C:934:PHE:HE2	1.82	0.45
2:C:533:LEU:HD23	2:C:538:LEU:O	2.16	0.45
3:D:1170:LYS:HB3	3:D:1174:ARG:HH12	1.80	0.45
5:L:120:ILE:HG22	5:L:121:ASP:H	1.79	0.45
5:L:202:ARG:NH2	5:L:246:PHE:O	2.30	0.45
5:L:310:LEU:HD23	5:L:310:LEU:HA	1.84	0.45
1:A:45:ARG:NH2	2:C:1084:ASP:OD1	2.50	0.45
1:B:137:ASN:OD1	1:B:138:ALA:N	2.41	0.45
2:C:213:LEU:O	2:C:214:ASN:HB2	2.16	0.45
2:C:660:VAL:HG21	3:D:769:VAL:HG13	1.99	0.45
2:C:1023:HIS:HA	2:C:1026:GLU:HG3	1.98	0.45
2:C:1298:VAL:HG23	2:C:1299:ASN:N	2.30	0.45
3:D:37:GLU:OE2	3:D:106:GLU:HG2	2.16	0.45
3:D:475:GLU:CD	4:E:28:ARG:NH1	2.70	0.45
3:D:831:VAL:HG23	3:D:831:VAL:O	2.15	0.45
3:D:868:TRP:O	3:D:872:LEU:HG	2.16	0.45
3:D:1305:ASP:OD1	3:D:1306:LEU:N	2.50	0.45
5:L:523:LEU:HD22	5:L:529:ILE:HD12	1.98	0.45
1:B:134:THR:HG22	1:B:135:ASP:N	2.25	0.45
2:C:46:GLN:NE2	2:C:47:TYR:HB2	2.30	0.45
2:C:521:LEU:HA	2:C:524:ILE:HG22	1.98	0.45
2:C:935:THR:HG22	2:C:1048:LYS:HE3	1.98	0.45
3:D:490:ILE:HG22	3:D:500:ILE:HD13	1.99	0.45
5:L:128:LEU:CD1	5:L:722:LEU:HA	2.45	0.45
5:L:183:LYS:HE3	5:L:312:LEU:HB3	1.98	0.45
2:C:803:ALA:HB2	2:C:1227:VAL:HG12	1.98	0.45
3:D:77:ARG:HH11	5:L:746:MET:HG3	1.81	0.45
3:D:450:HIS:O	3:D:453:VAL:HG22	2.15	0.45
3:D:630:ALA:O	3:D:634:ARG:HG2	2.17	0.45
3:D:804:ALA:HA	3:D:1259:GLN:HG3	1.98	0.45
4:E:15:ASN:HB3	4:E:18:ASP:OD1	2.16	0.45
4:E:65:ASP:O	4:E:68:GLU:HG3	2.15	0.45
5:L:205:ILE:HB	5:L:253:ILE:CD1	2.47	0.45
5:L:279:VAL:HB	5:L:311:LEU:HD13	1.98	0.45
5:L:624:TRP:CZ3	5:L:650:LEU:HD23	2.51	0.45
5:L:859:GLU:O	5:L:863:ARG:HG3	2.17	0.45
3:D:316:ILE:HG22	3:D:317:THR:N	2.30	0.45
3:D:318:GLY:O	3:D:319:SER:OG	2.34	0.45
3:D:1267:VAL:O	3:D:1274:PHE:HE1	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:371:ARG:HA	2:C:371:ARG:HH11	1.82	0.45
2:C:587:LEU:HD23	2:C:587:LEU:HA	1.85	0.45
3:D:205:LEU:O	3:D:214:ARG:NH1	2.34	0.45
3:D:269:TYR:CE1	3:D:306:LEU:HD21	2.51	0.45
3:D:701:LEU:HD21	3:D:723:TYR:HB2	1.99	0.45
3:D:747:MET:HB2	3:D:755:ILE:HD13	1.99	0.45
5:L:126:PHE:HA	5:L:797:GLY:O	2.16	0.45
5:L:133:ARG:HG2	5:L:792:LEU:HD22	1.98	0.45
2:C:149:LEU:HD23	2:C:451:ARG:HH21	1.81	0.45
2:C:1021:LEU:O	2:C:1024:GLU:HG3	2.17	0.45
3:D:972:LYS:HE2	3:D:1003:LEU:HB3	1.98	0.45
5:L:130:TYR:CE2	5:L:134:LYS:HD2	2.51	0.45
5:L:338:ASP:O	5:L:341:GLN:HG2	2.17	0.45
2:C:813:GLU:C	2:C:815:SER:H	2.20	0.45
2:C:1298:VAL:HG13	2:C:1321:GLU:HG3	1.97	0.45
3:D:972:LYS:NZ	3:D:974:VAL:HA	2.32	0.45
4:E:18:ASP:O	4:E:22:VAL:HG12	2.17	0.45
5:L:120:ILE:HG22	5:L:799:SER:O	2.17	0.45
5:L:480:ASP:OD1	5:L:481:ASN:N	2.50	0.45
1:A:183:ILE:CD1	1:A:205:MET:HG3	2.47	0.45
1:B:90:VAL:O	1:B:91:ARG:HD3	2.16	0.45
2:C:992:LEU:HD13	2:C:996:ARG:HB3	1.99	0.45
2:C:1243:MET:CE	3:D:371:LYS:HD2	2.47	0.45
3:D:163:GLU:HA	3:D:166:LEU:HD12	1.99	0.45
3:D:709:ARG:HG3	3:D:710:ASP:H	1.82	0.45
3:D:884:SER:HB2	3:D:1254:GLU:OE1	2.17	0.45
4:E:50:ALA:O	4:E:54:ILE:HG12	2.16	0.45
5:L:224:ASN:HB3	5:L:782:PRO:HG2	1.99	0.45
5:L:816:VAL:HG21	5:L:887:ILE:HG21	1.99	0.45
1:B:19:VAL:O	1:B:20:SER:OG	2.28	0.45
2:C:1125:GLY:O	2:C:1128:ILE:HG22	2.17	0.45
3:D:220:ARG:O	3:D:224:LEU:HD23	2.16	0.45
3:D:316:ILE:HG22	3:D:317:THR:H	1.81	0.45
3:D:479:GLU:HG3	4:E:20:VAL:HG11	1.98	0.45
3:D:858:VAL:HG12	3:D:868:TRP:CE3	2.52	0.45
3:D:1326:GLN:HB3	3:D:1327:GLU:OE1	2.17	0.45
3:D:1338:ALA:HB3	3:D:1340:LYS:HG2	1.98	0.45
5:L:59:ASP:O	5:L:71:VAL:HG22	2.17	0.45
5:L:98:ARG:HG3	5:L:98:ARG:NH1	2.32	0.45
5:L:335:ARG:NE	5:L:930:ASN:OD1	2.50	0.45
2:C:257:ALA:HB3	2:C:262:TYR:HE2	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:985:GLU:OE2	2:C:988:LYS:N	2.51	0.44
3:D:26:SER:HB2	3:D:236:TRP:CE2	2.52	0.44
3:D:67:ASP:HB2	5:L:744:ASP:HB3	1.99	0.44
3:D:556:GLU:O	3:D:564:VAL:HG22	2.17	0.44
3:D:1044:GLN:OE1	3:D:1044:GLN:N	2.49	0.44
1:B:61:ILE:HG21	1:B:64:VAL:HG22	1.99	0.44
2:C:48:GLY:O	2:C:51:ALA:N	2.48	0.44
2:C:1010:GLN:O	2:C:1014:LEU:HG	2.17	0.44
2:C:1283:ALA:HA	3:D:479:GLU:OE1	2.18	0.44
3:D:84:ILE:HG12	3:D:91:GLU:HB2	1.99	0.44
3:D:697:MET:HE3	3:D:738:ARG:HA	1.99	0.44
3:D:1005:LYS:HD3	3:D:1011:VAL:HG22	1.99	0.44
8:T:22:DC:H2"	8:T:23:DC:C6	2.53	0.44
1:A:96:ASP:O	1:A:147:GLN:HA	2.18	0.44
2:C:898:GLU:H	2:C:898:GLU:HG3	1.60	0.44
1:A:166:ARG:HD3	1:A:166:ARG:N	2.32	0.44
2:C:81:ASP:O	2:C:85:CYS:HB2	2.17	0.44
2:C:1325:VAL:HG12	2:C:1329:GLU:OE1	2.18	0.44
3:D:141:PHE:HD2	3:D:297:ARG:HB2	1.83	0.44
3:D:515:ARG:O	3:D:545:HIS:HB2	2.18	0.44
5:L:814:LEU:HD23	5:L:814:LEU:HA	1.88	0.44
2:C:46:GLN:NE2	2:C:47:TYR:HD2	2.15	0.44
3:D:415:VAL:O	4:E:45:LYS:NZ	2.49	0.44
3:D:513:MET:O	3:D:575:GLY:HA3	2.17	0.44
3:D:949:SER:HB2	3:D:1016:THR:HG23	2.00	0.44
5:L:382:ILE:HG22	5:L:386:LEU:HD12	2.00	0.44
5:L:646:VAL:HG11	5:L:666:LEU:HD21	1.98	0.44
5:L:817:GLU:HG3	5:L:844:LEU:HD13	1.99	0.44
2:C:216:THR:HG23	2:C:219:GLN:H	1.82	0.44
2:C:271:ALA:O	2:C:275:ARG:HG2	2.18	0.44
2:C:833:ILE:HA	2:C:1054:LEU:O	2.18	0.44
2:C:883:LEU:H	2:C:919:ARG:HA	1.81	0.44
2:C:1268:GLN:OE1	3:D:352:ARG:HB2	2.17	0.44
3:D:26:SER:HB2	3:D:236:TRP:CZ2	2.53	0.44
3:D:526:VAL:HA	3:D:549:LYS:O	2.18	0.44
3:D:582:ILE:HG13	3:D:583:VAL:N	2.32	0.44
5:L:271:GLU:O	5:L:271:GLU:HG2	2.18	0.44
5:L:646:VAL:HG12	5:L:650:LEU:HB2	2.00	0.44
5:L:687:ARG:O	5:L:690:GLU:HG2	2.18	0.44
2:C:255:ILE:HD13	2:C:263:VAL:HB	2.00	0.44
2:C:1212:LEU:HD13	2:C:1225:VAL:HG22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:1298:VAL:HA	2:C:1301:ARG:NH2	2.32	0.44
3:D:872:LEU:HB3	3:D:877:VAL:CG1	2.48	0.44
3:D:1082:ASP:HB2	3:D:1088:VAL:HG23	1.99	0.44
5:L:431:ARG:NH1	5:L:635:THR:HG22	2.32	0.44
1:A:149:GLY:O	1:A:177:TYR:HB3	2.17	0.44
2:C:499:SER:HA	2:C:502:VAL:HG12	2.00	0.44
3:D:429:LEU:HD23	3:D:429:LEU:HA	1.88	0.44
3:D:527:LEU:HB2	3:D:550:VAL:HG22	1.98	0.44
3:D:682:VAL:HA	3:D:685:ILE:HG12	2.00	0.44
3:D:1311:LYS:HZ2	3:D:1314:LEU:HD22	1.82	0.44
1:A:125:LYS:HG3	1:A:127:GLN:OE1	2.18	0.44
1:A:168:ILE:HG22	2:C:875:ALA:HA	1.99	0.44
1:B:91:ARG:HE	1:B:210:THR:CG2	2.31	0.44
2:C:213:LEU:HD12	2:C:422:LYS:HB3	2.00	0.44
2:C:227:LYS:HE3	2:C:227:LYS:HA	1.99	0.44
2:C:237:LEU:HD11	2:C:322:LEU:HD21	1.99	0.44
2:C:432:LEU:O	2:C:435:ILE:HG22	2.18	0.44
2:C:540:ARG:O	2:C:548:ARG:NH2	2.51	0.44
2:C:557:ARG:HB3	2:C:587:LEU:HD13	2.00	0.44
2:C:817:LEU:HD21	2:C:1080:ASN:ND2	2.32	0.44
3:D:419:HIS:HB2	4:E:45:LYS:HZ2	1.69	0.44
5:L:434:HIS:N	5:L:608:ILE:O	2.51	0.44
8:T:14:DG:N2	11:T:101:2TM:O2	2.38	0.44
2:C:199:ASP:HB2	6:N:15:DT:O2	2.18	0.43
2:C:624:ASP:OD2	2:C:630:VAL:HG22	2.18	0.43
2:C:849:GLU:HG2	2:C:851:THR:HG22	1.99	0.43
2:C:850:ILE:HG22	2:C:850:ILE:O	2.18	0.43
3:D:66:LYS:HD3	3:D:69:GLU:HG2	2.00	0.43
3:D:926:PRO:HB2	3:D:1246:VAL:HG21	2.00	0.43
3:D:1256:ILE:O	3:D:1260:MET:HG3	2.18	0.43
5:L:760:THR:HG23	5:L:774:ALA:HA	1.99	0.43
2:C:97:ARG:HB3	2:C:121:GLU:HG3	2.01	0.43
2:C:224:PHE:CD2	2:C:347:ILE:HG21	2.53	0.43
3:D:67:ASP:HB2	5:L:744:ASP:CB	2.48	0.43
3:D:67:ASP:OD1	3:D:95:THR:N	2.39	0.43
3:D:579:LEU:O	3:D:582:ILE:HG12	2.18	0.43
5:L:174:LEU:HB3	5:L:417:LEU:CD2	2.48	0.43
5:L:517:LEU:HA	5:L:520:GLU:HG2	2.00	0.43
2:C:1254:VAL:HG13	3:D:249:LEU:HA	2.00	0.43
3:D:252:LEU:O	3:D:252:LEU:HD23	2.18	0.43
3:D:365:GLN:HG2	3:D:438:GLU:HB2	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:490:ILE:HD11	3:D:609:TYR:CE1	2.53	0.43
3:D:697:MET:CE	3:D:738:ARG:HA	2.48	0.43
5:L:8:ARG:NH1	5:L:102:LEU:HB2	2.33	0.43
5:L:64:HIS:HA	5:L:103:ASP:OD1	2.18	0.43
1:B:193:GLU:HG2	1:B:194:GLN:HG2	2.00	0.43
2:C:208:ILE:O	2:C:211:ARG:HB2	2.19	0.43
2:C:794:LEU:HD12	2:C:794:LEU:HA	1.78	0.43
3:D:1045:THR:HG23	3:D:1071:GLY:HA3	1.99	0.43
3:D:1217:PRO:HA	3:D:1220:ILE:HG12	2.00	0.43
1:A:9:LEU:HD21	1:A:30:PRO:HB2	2.01	0.43
1:A:41:ASN:O	1:A:45:ARG:HG2	2.17	0.43
1:A:76:GLU:HB2	1:A:80:GLU:OE1	2.18	0.43
2:C:806:PRO:O	3:D:633:ALA:HA	2.18	0.43
2:C:947:GLU:O	2:C:950:GLU:HG3	2.18	0.43
2:C:1119:MET:HB2	2:C:1228:GLY:HA3	2.00	0.43
3:D:304:ASP:OD1	3:D:305:ALA:N	2.52	0.43
3:D:394:ILE:O	3:D:398:LYS:HG3	2.19	0.43
3:D:429:LEU:HB3	3:D:925:GLU:CB	2.48	0.43
3:D:649:LYS:HE2	3:D:649:LYS:HB2	1.90	0.43
5:L:419:ARG:HB3	5:L:689:LEU:HD23	2.01	0.43
2:C:88:ARG:HA	2:C:934:PHE:CE2	2.53	0.43
2:C:241:LEU:HD12	2:C:242:VAL:N	2.33	0.43
2:C:957:LYS:HD3	2:C:1029:LEU:HD11	2.01	0.43
2:C:1145:ILE:HG23	2:C:1161:LEU:CD1	2.48	0.43
2:C:1269:ARG:NH2	3:D:340:GLN:O	2.52	0.43
3:D:94:GLN:O	3:D:97:VAL:HG12	2.19	0.43
5:L:75:LYS:NZ	5:L:84:ILE:HD11	2.33	0.43
5:L:196:LEU:HD11	5:L:780:GLU:HB2	1.99	0.43
1:B:58:GLU:HG2	1:B:59:VAL:N	2.34	0.43
2:C:611:GLU:HG3	2:C:616:ILE:HD12	2.01	0.43
2:C:676:ALA:CB	3:D:776:THR:HA	2.49	0.43
2:C:1004:ASP:O	2:C:1005:GLU:HG3	2.19	0.43
2:C:1246:ARG:HD2	2:C:1266:GLY:C	2.39	0.43
3:D:615:LYS:O	3:D:619:ILE:HG23	2.18	0.43
3:D:1273:ASP:H	3:D:1276:GLU:CD	2.22	0.43
3:D:1317:GLU:OE1	3:D:1345:ARG:NH1	2.51	0.43
5:L:283:HIS:HA	5:L:327:ARG:NH1	2.34	0.43
5:L:597:LEU:HD12	5:L:598:ASP:N	2.34	0.43
5:L:880:VAL:O	5:L:884:VAL:HG22	2.18	0.43
7:R:12:G:N1	8:T:23:DC:O2	2.44	0.43
2:C:14:ASP:HA	2:C:1183:ALA:HB3	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:545:PHE:HD2	3:D:781:LYS:HZ2	1.65	0.43
3:D:553:THR:HG22	3:D:567:THR:OG1	2.19	0.43
3:D:827:GLU:OE1	3:D:832:LYS:HD2	2.19	0.43
5:L:11:SER:HG	5:L:14:GLU:CD	2.22	0.43
5:L:590:LEU:O	5:L:594:ILE:HG13	2.19	0.43
5:L:701:ALA:O	5:L:704:GLU:HG3	2.18	0.43
1:A:166:ARG:HD3	1:A:166:ARG:H	1.84	0.43
2:C:97:ARG:HB2	2:C:121:GLU:OE2	2.19	0.43
2:C:658:GLN:HG2	2:C:1186:VAL:HG22	2.00	0.43
2:C:1312:ASN:C	4:E:31:GLN:OE1	2.57	0.43
3:D:744:ARG:HG3	3:D:759:ILE:HB	2.00	0.43
3:D:977:SER:HB2	3:D:980:THR:CG2	2.48	0.43
1:A:13:LEU:N	1:B:231:PHE:HE1	2.16	0.43
1:A:214:GLU:O	1:A:218:ARG:HG3	2.19	0.43
2:C:1307:ASN:OD1	2:C:1312:ASN:HB3	2.18	0.43
3:D:418:GLU:OE2	4:E:44:ASP:OD1	2.36	0.43
3:D:605:LEU:HD23	3:D:605:LEU:HA	1.87	0.43
5:L:519:LEU:HA	5:L:522:VAL:HG12	2.00	0.43
1:B:13:LEU:HD12	1:B:13:LEU:O	2.19	0.42
2:C:1101:LEU:HD12	3:D:505:ASP:OD1	2.19	0.42
3:D:478:LEU:CD1	4:E:24:ALA:HA	2.49	0.42
3:D:518:VAL:HG12	3:D:707:ILE:HD11	2.01	0.42
3:D:536:LEU:HB3	3:D:542:ALA:HB3	2.00	0.42
3:D:657:ALA:O	3:D:661:VAL:HG23	2.18	0.42
3:D:1058:SER:O	3:D:1058:SER:OG	2.31	0.42
5:L:585:PHE:O	5:L:643:TYR:OH	2.36	0.42
5:L:667:ILE:HD12	5:L:667:ILE:HA	1.94	0.42
2:C:71:VAL:HG21	2:C:118:LYS:HE3	2.01	0.42
2:C:557:ARG:NH2	2:C:611:GLU:OE1	2.49	0.42
2:C:581:THR:HA	2:C:586:PHE:O	2.19	0.42
2:C:1293:VAL:O	2:C:1301:ARG:HG2	2.18	0.42
3:D:126:LEU:CD1	3:D:223:LEU:HD13	2.49	0.42
3:D:218:THR:O	3:D:222:LYS:HG2	2.19	0.42
3:D:269:TYR:O	3:D:273:ILE:HG13	2.18	0.42
3:D:369:PRO:HG2	3:D:372:MET:HE3	2.00	0.42
3:D:857:LEU:HD22	3:D:871:LEU:HD21	2.00	0.42
5:L:202:ARG:HA	5:L:250:GLN:O	2.18	0.42
5:L:510:CYS:SG	5:L:511:ALA:N	2.92	0.42
5:L:593:ARG:HA	5:L:596:ARG:HH11	1.84	0.42
5:L:807:LYS:HD3	5:L:967:HIS:HD2	1.83	0.42
1:A:231:PHE:CE2	1:B:39:LEU:HD21	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:400:VAL:HG23	2:C:584:TYR:HB3	2.01	0.42
2:C:528:ARG:NH1	2:C:576:SER:O	2.53	0.42
2:C:559:CYS:HB2	2:C:662:SER:HB2	2.01	0.42
2:C:819:SER:HB3	2:C:1085:MET:HE2	2.01	0.42
2:C:862:LEU:HD13	2:C:865:LEU:HD12	2.02	0.42
3:D:57:PHE:CD2	3:D:247:PRO:HB3	2.55	0.42
3:D:111:THR:CG2	3:D:303:VAL:HG11	2.44	0.42
5:L:42:LEU:H	5:L:42:LEU:HD23	1.84	0.42
5:L:258:PHE:HA	5:L:261:ARG:HH12	1.83	0.42
5:L:519:LEU:HD11	5:L:581:PHE:CD2	2.54	0.42
5:L:962:LEU:O	5:L:963:ILE:HD13	2.20	0.42
1:B:145:LYS:HE3	1:B:145:LYS:HB3	1.91	0.42
2:C:813:GLU:HB3	3:D:460:ASP:OD1	2.19	0.42
3:D:213:LYS:HA	3:D:216:LYS:HG2	2.00	0.42
3:D:638:SER:OG	3:D:639:VAL:N	2.52	0.42
3:D:964:LYS:O	3:D:976:THR:OG1	2.37	0.42
5:L:30:VAL:O	5:L:42:LEU:HA	2.19	0.42
8:T:1:DG:H2"	8:T:2:DG:C8	2.54	0.42
2:C:368:ARG:HH11	2:C:373:GLY:H	1.66	0.42
2:C:888:THR:HB	2:C:914:LYS:HD3	2.01	0.42
2:C:1186:VAL:HG23	2:C:1187:PHE:H	1.85	0.42
3:D:144:TYR:HD1	3:D:180:MET:SD	2.42	0.42
3:D:798:ARG:NH2	3:D:1325:PHE:HB2	2.34	0.42
3:D:1040:MET:HE1	3:D:1046:ILE:HG13	2.00	0.42
3:D:1314:LEU:HB2	3:D:1326:GLN:NE2	2.29	0.42
4:E:25:ARG:HG2	4:E:28:ARG:NH2	2.34	0.42
5:L:589:LEU:O	5:L:593:ARG:HG3	2.20	0.42
5:L:719:ALA:O	5:L:723:PHE:HD2	2.01	0.42
1:A:22:THR:HB	1:A:207:THR:O	2.18	0.42
1:A:59:VAL:HG22	1:A:144:ILE:HG23	2.01	0.42
2:C:128:PRO:HG2	2:C:506:PHE:CD2	2.53	0.42
2:C:146:VAL:HG22	2:C:511:LEU:O	2.19	0.42
2:C:631:GLU:OE2	2:C:634:VAL:HG23	2.20	0.42
2:C:817:LEU:HD11	2:C:1080:ASN:HD21	1.84	0.42
2:C:1222:GLU:O	2:C:1223:ARG:HG2	2.20	0.42
3:D:205:LEU:HA	3:D:208:THR:HG22	2.00	0.42
3:D:355:ILE:HA	3:D:447:ILE:O	2.20	0.42
3:D:662:ALA:O	3:D:665:GLN:HG3	2.20	0.42
1:B:48:LEU:HD22	3:D:539:SER:HB3	2.02	0.42
1:B:199:ASP:OD1	1:B:199:ASP:N	2.53	0.42
2:C:39:ILE:O	2:C:73:TYR:OH	2.37	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:91:THR:HG21	2:C:503:LYS:HZ3	1.82	0.42
2:C:232:ILE:O	2:C:232:ILE:HG13	2.20	0.42
2:C:575:LEU:HD23	2:C:576:SER:N	2.34	0.42
2:C:1121:ALA:O	2:C:1124:ILE:HG12	2.20	0.42
3:D:28:ASP:OD1	3:D:29:MET:N	2.53	0.42
3:D:984:LEU:O	3:D:991:THR:HA	2.19	0.42
5:L:899:ALA:O	5:L:903:ILE:HD12	2.19	0.42
1:A:221:ALA:HB1	1:B:228:LEU:HD11	2.02	0.42
2:C:314:ASN:CG	2:C:352:ARG:HE	2.22	0.42
2:C:576:SER:OG	2:C:577:VAL:N	2.53	0.42
2:C:975:ILE:HA	2:C:978:VAL:HG12	2.01	0.42
3:D:29:MET:HG3	3:D:33:TRP:CE2	2.54	0.42
3:D:205:LEU:HD12	3:D:214:ARG:NH2	2.35	0.42
3:D:338:PHE:HA	3:D:342:LEU:HB2	2.02	0.42
3:D:369:PRO:HG2	3:D:372:MET:CE	2.50	0.42
3:D:545:HIS:O	3:D:545:HIS:ND1	2.53	0.42
3:D:664:ILE:HD12	3:D:685:ILE:HD13	2.01	0.42
5:L:817:GLU:OE1	5:L:817:GLU:N	2.53	0.42
5:L:909:GLU:HA	5:L:912:GLU:OE2	2.19	0.42
1:A:233:ASP:OD1	1:A:233:ASP:N	2.52	0.42
2:C:562:GLU:OE2	2:C:687:ARG:HD3	2.20	0.42
2:C:1033:ARG:O	2:C:1036:ILE:HG22	2.20	0.42
3:D:364:HIS:HB3	3:D:487:THR:CG2	2.49	0.42
3:D:697:MET:SD	3:D:741:ALA:HB3	2.59	0.42
5:L:638:THR:HG21	5:L:674:HIS:ND1	2.35	0.42
5:L:767:VAL:O	5:L:771:ARG:N	2.50	0.42
2:C:487:LEU:HD12	2:C:492:MET:HB3	2.02	0.42
2:C:996:ARG:C	2:C:997:TRP:HD1	2.23	0.42
3:D:44:ILE:HG23	3:D:50:LYS:O	2.19	0.42
3:D:282:LEU:HD22	3:D:287:ALA:HB2	2.02	0.42
3:D:381:ILE:HD11	3:D:412:LEU:HD13	2.01	0.42
3:D:487:THR:HG21	4:E:4:VAL:CG2	2.50	0.42
3:D:650:LYS:O	3:D:654:ILE:HG12	2.20	0.42
3:D:710:ASP:OD1	3:D:711:GLY:N	2.50	0.42
3:D:863:LEU:HD13	3:D:908:ILE:HD13	2.02	0.42
3:D:929:GLN:O	3:D:1244:GLN:HG3	2.20	0.42
3:D:952:VAL:HG13	3:D:984:LEU:HD22	2.02	0.42
3:D:1327:GLU:HG2	3:D:1330:ARG:HD2	2.00	0.42
4:E:46:THR:HA	4:E:49:ILE:HD12	2.01	0.42
5:L:5:LEU:O	5:L:80:LEU:HD21	2.20	0.42
5:L:313:THR:CG2	5:L:324:HIS:HE1	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:520:GLU:OE2	5:L:521:GLN:NE2	2.53	0.42
2:C:41:GLN:HA	2:C:41:GLN:OE1	2.20	0.41
2:C:244:GLU:HA	2:C:247:ARG:NH1	2.35	0.41
2:C:1240:ASP:OD1	2:C:1241:ASP:N	2.53	0.41
3:D:1274:PHE:O	3:D:1274:PHE:CD1	2.73	0.41
3:D:1274:PHE:O	3:D:1275:LEU:HD12	2.19	0.41
5:L:549:TRP:CE3	5:L:557:ALA:HB2	2.55	0.41
1:B:86:LYS:CE	1:B:174:ASP:HB2	2.46	0.41
2:C:119:GLU:OE1	2:C:489:PRO:HD2	2.19	0.41
2:C:539:THR:OG1	2:C:542:ARG:HB2	2.20	0.41
2:C:595:THR:O	2:C:598:VAL:N	2.53	0.41
2:C:719:LYS:HZ3	2:C:751:TYR:HE1	1.67	0.41
2:C:750:ILE:HD13	2:C:959:ASP:OD2	2.20	0.41
2:C:1103:VAL:HG21	3:D:639:VAL:HG21	2.02	0.41
2:C:1282:GLY:CA	3:D:1360:GLY:HA3	2.50	0.41
3:D:611:ILE:HG22	3:D:612:LEU:HD12	2.01	0.41
3:D:1027:VAL:HG13	3:D:1199:PHE:HZ	1.84	0.41
4:E:47:THR:O	4:E:51:LEU:HD13	2.21	0.41
5:L:206:ILE:HA	5:L:254:CYS:O	2.19	0.41
5:L:261:ARG:HB2	5:L:261:ARG:HH11	1.85	0.41
1:A:102:LEU:HD23	1:A:142:MET:SD	2.60	0.41
2:C:187:GLU:HG3	2:C:188:PHE:N	2.36	0.41
2:C:519:ASN:HB3	2:C:522:SER:OG	2.20	0.41
3:D:108:ALA:HB3	3:D:279:LEU:HD22	2.00	0.41
3:D:355:ILE:HD12	3:D:461:PHE:CE1	2.55	0.41
4:E:7:GLN:O	4:E:11:GLU:HG3	2.19	0.41
5:L:110:LYS:HD3	5:L:957:LEU:HB2	2.01	0.41
5:L:191:LEU:HD21	5:L:203:VAL:HG11	2.01	0.41
2:C:45:GLY:CA	2:C:54:ARG:HH21	2.33	0.41
2:C:147:SER:HB3	2:C:453:ILE:HG23	2.02	0.41
2:C:395:TYR:CE2	2:C:420:LEU:HB2	2.55	0.41
2:C:1253:LEU:HD23	3:D:251:PRO:HG3	2.02	0.41
3:D:759:ILE:HG23	3:D:771:GLN:HB3	2.02	0.41
5:L:205:ILE:HG22	5:L:207:VAL:HG13	2.02	0.41
1:A:62:ASP:OD1	1:A:63:GLY:N	2.46	0.41
2:C:26:TYR:CE2	2:C:28:LEU:HB2	2.56	0.41
2:C:465:ARG:HG3	2:C:465:ARG:NH1	2.35	0.41
2:C:1290:MET:HG3	3:D:347:VAL:CG1	2.50	0.41
3:D:167:ASP:O	3:D:170:GLU:HG2	2.21	0.41
3:D:510:LEU:HD23	3:D:510:LEU:HA	1.75	0.41
3:D:706:VAL:O	3:D:706:VAL:HG23	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:814:CYS:HB3	3:D:890:THR:OG1	2.21	0.41
3:D:825:VAL:HG13	3:D:825:VAL:O	2.20	0.41
5:L:183:LYS:CE	5:L:312:LEU:HB3	2.51	0.41
5:L:214:GLN:OE1	5:L:214:GLN:N	2.52	0.41
5:L:334:ASN:O	5:L:337:HIS:ND1	2.41	0.41
5:L:702:LEU:O	5:L:706:ILE:HG12	2.19	0.41
2:C:812:PHE:CD2	2:C:813:GLU:HG2	2.56	0.41
2:C:813:GLU:O	2:C:815:SER:N	2.54	0.41
2:C:1124:ILE:HD11	2:C:1180:MET:HB3	2.03	0.41
2:C:1244:HIS:CE1	2:C:1266:GLY:O	2.73	0.41
3:D:160:LEU:HD21	3:D:165:TYR:HA	2.02	0.41
3:D:557:LYS:HB3	3:D:563:LEU:HD23	2.02	0.41
3:D:770:LEU:O	3:D:774:ILE:HG13	2.21	0.41
3:D:789:LYS:HZ1	3:D:930:LEU:C	2.23	0.41
5:L:10:ILE:CG2	5:L:19:LEU:HD23	2.50	0.41
5:L:126:PHE:CD2	5:L:800:THR:HG22	2.55	0.41
5:L:358:MET:HB3	5:L:363:ASN:HB2	2.02	0.41
5:L:716:ILE:H	5:L:716:ILE:HD12	1.86	0.41
5:L:782:PRO:O	5:L:786:ASN:HB2	2.21	0.41
5:L:905:ALA:O	5:L:909:GLU:HG2	2.20	0.41
1:B:166:ARG:NE	1:B:167:PRO:HD2	2.34	0.41
2:C:321:LEU:O	2:C:325:LEU:HD23	2.20	0.41
2:C:1151:LEU:HD22	2:C:1198:LEU:HD13	2.01	0.41
3:D:512:TYR:CE2	3:D:544:LEU:HD23	2.55	0.41
3:D:1084:GLN:OE1	3:D:1084:GLN:N	2.40	0.41
5:L:8:ARG:HA	5:L:20:GLY:O	2.21	0.41
5:L:215:TRP:O	5:L:218:GLU:HG3	2.20	0.41
5:L:584:PRO:HG2	5:L:590:LEU:HB2	2.02	0.41
5:L:748:VAL:HG21	5:L:790:LEU:HD11	2.02	0.41
1:B:66:HIS:HE1	1:B:68:TYR:CD2	2.14	0.41
1:B:192:VAL:O	1:B:192:VAL:HG23	2.21	0.41
2:C:83:GLN:O	2:C:87:ILE:HG12	2.20	0.41
2:C:719:LYS:N	2:C:751:TYR:OH	2.40	0.41
2:C:1128:ILE:HA	2:C:1131:MET:SD	2.61	0.41
3:D:135:ILE:H	3:D:135:ILE:HG13	1.71	0.41
3:D:194:LEU:HD11	3:D:234:PRO:HG2	2.02	0.41
3:D:923:ILE:HD11	3:D:1252:HIS:C	2.41	0.41
3:D:1231:ARG:HA	3:D:1234:VAL:HG12	2.03	0.41
4:E:45:LYS:O	4:E:49:ILE:HG13	2.20	0.41
5:L:206:ILE:HG12	5:L:254:CYS:SG	2.60	0.41
5:L:508:VAL:O	5:L:561:LEU:HB3	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:748:VAL:HG13	5:L:749:PRO:HD2	2.02	0.41
1:A:175:ALA:HB1	1:A:177:TYR:CE1	2.56	0.41
1:A:186:ASN:HB3	1:A:202:VAL:HG12	2.03	0.41
1:B:95:LYS:HD2	1:B:98:VAL:HG12	2.01	0.41
1:B:151:GLY:O	1:B:177:TYR:HB2	2.20	0.41
2:C:99:LYS:HG2	2:C:118:LYS:HE2	2.02	0.41
2:C:634:VAL:HG22	2:C:635:THR:H	1.86	0.41
2:C:726:TYR:HB3	2:C:733:VAL:HB	2.02	0.41
2:C:1339:LEU:HD23	3:D:20:ILE:HG12	2.03	0.41
3:D:198:CYS:SG	3:D:202:ARG:NH2	2.94	0.41
3:D:210:SER:O	3:D:214:ARG:HG3	2.20	0.41
3:D:338:PHE:CD2	3:D:1324:SER:HA	2.56	0.41
3:D:412:LEU:HA	3:D:415:VAL:HG12	2.02	0.41
3:D:511:TYR:CZ	3:D:515:ARG:HD2	2.56	0.41
5:L:11:SER:OG	5:L:14:GLU:OE1	2.39	0.41
5:L:120:ILE:HG22	5:L:121:ASP:N	2.35	0.41
5:L:142:MET:SD	5:L:144:TYR:N	2.84	0.41
5:L:197:SER:O	5:L:831:GLN:HG2	2.21	0.41
5:L:274:TRP:HB2	5:L:306:VAL:HG22	2.02	0.41
5:L:451:SER:O	5:L:455:GLY:N	2.52	0.41
1:A:112:ALA:N	1:A:128:HIS:O	2.53	0.41
2:C:197:ARG:NH2	2:C:203:LYS:HB3	2.36	0.41
2:C:371:ARG:HB3	2:C:374:GLU:OE2	2.20	0.41
2:C:1174:GLU:O	2:C:1177:ARG:HG2	2.21	0.41
3:D:113:HIS:ND1	3:D:307:LEU:HD23	2.35	0.41
3:D:398:LYS:O	3:D:402:GLU:HG2	2.20	0.41
3:D:423:LEU:HD23	3:D:466:MET:HE3	2.03	0.41
3:D:891:ASP:HA	3:D:1281:GLU:OE2	2.20	0.41
3:D:1036:ARG:HH21	3:D:1038:THR:HG22	1.86	0.41
3:D:1326:GLN:HB3	3:D:1327:GLU:H	1.78	0.41
5:L:640:ARG:HA	5:L:640:ARG:HD3	1.92	0.41
5:L:820:TYR:CD2	5:L:895:ILE:HG12	2.56	0.41
1:A:65:LEU:HD13	2:C:873:ILE:O	2.20	0.40
3:D:1059:LEU:HB2	3:D:1107:VAL:HB	2.02	0.40
5:L:629:LEU:HD23	5:L:639:GLY:HA2	2.03	0.40
5:L:811:VAL:HG12	5:L:967:HIS:CE1	2.56	0.40
1:B:100:LEU:HD21	1:B:121:VAL:HG21	2.02	0.40
2:C:149:LEU:HD21	2:C:451:ARG:HE	1.86	0.40
2:C:158:ASP:OD1	2:C:445:ILE:HD11	2.22	0.40
2:C:253:PHE:CE2	2:C:255:ILE:HG13	2.56	0.40
2:C:514:PHE:HE2	8:T:20:DC:C2'	2.32	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:598:VAL:HG23	2:C:626:GLU:O	2.22	0.40
2:C:673:HIS:ND1	3:D:765:GLU:O	2.54	0.40
3:D:355:ILE:HG12	3:D:464:ASP:O	2.22	0.40
3:D:930:LEU:HD12	3:D:1138:LEU:HD13	2.04	0.40
5:L:204:LEU:HD23	5:L:277:LEU:HD13	2.03	0.40
5:L:211:LEU:HD23	5:L:215:TRP:HE1	1.85	0.40
5:L:261:ARG:HB2	5:L:261:ARG:NH1	2.35	0.40
5:L:508:VAL:HA	5:L:579:VAL:O	2.20	0.40
1:B:98:VAL:HG21	1:B:121:VAL:CG1	2.48	0.40
2:C:225:PHE:CD2	2:C:336:LEU:HD13	2.57	0.40
2:C:624:ASP:O	2:C:625:GLU:HG3	2.21	0.40
3:D:487:THR:HG21	4:E:4:VAL:HG22	2.03	0.40
3:D:814:CYS:SG	3:D:816:THR:HG22	2.60	0.40
3:D:1036:ARG:HH21	3:D:1038:THR:CG2	2.34	0.40
4:E:6:VAL:HG12	4:E:51:LEU:HD23	2.04	0.40
4:E:24:ALA:CB	4:E:28:ARG:HH12	2.34	0.40
5:L:212:GLN:NE2	5:L:255:SER:HB2	2.36	0.40
5:L:330:LEU:HD12	5:L:330:LEU:HA	1.87	0.40
1:A:201:LEU:HG	1:A:203:ILE:CD1	2.50	0.40
1:B:85:LEU:HD21	1:B:142:MET:HE3	2.03	0.40
1:B:89:ALA:O	1:B:124:VAL:HG22	2.22	0.40
2:C:405:PHE:CE2	2:C:424:ASP:HB3	2.57	0.40
2:C:1060:ILE:HD13	2:C:1234:LYS:HD2	2.04	0.40
2:C:1072:ASN:OD1	2:C:1072:ASN:N	2.51	0.40
2:C:1105:SER:OG	3:D:731:ARG:NH1	2.53	0.40
2:C:1117:LEU:HD21	2:C:1182:ILE:HG13	2.03	0.40
2:C:1289:GLU:OE1	3:D:472:LEU:HB2	2.20	0.40
3:D:452:LEU:HD23	3:D:452:LEU:HA	1.86	0.40
5:L:276:LEU:HD13	5:L:308:GLY:HA3	2.03	0.40
5:L:559:VAL:CG1	5:L:560:LEU:N	2.84	0.40
6:N:20:DG:H1'	6:N:21:DC:H5'	2.04	0.40
1:A:40:GLY:HA3	1:A:185:TYR:CD2	2.57	0.40
2:C:10:ARG:HD3	2:C:1181:PRO:HG2	2.04	0.40
2:C:170:VAL:O	2:C:170:VAL:HG13	2.22	0.40
2:C:189:ASP:OD2	2:C:193:ASN:HB2	2.22	0.40
2:C:276:GLN:HA	2:C:279:LYS:HE2	2.03	0.40
2:C:609:ILE:HG13	2:C:610:GLU:H	1.86	0.40
2:C:741:MET:SD	2:C:746:ALA:HB1	2.61	0.40
2:C:801:ARG:HD2	2:C:1229:TYR:CZ	2.57	0.40
3:D:69:GLU:HA	3:D:76:LYS:HA	2.04	0.40
3:D:614:LEU:HD23	4:E:5:THR:HG21	2.01	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:905:ARG:HB3	4:E:16:ARG:NH1	2.36	0.40
3:D:960:LEU:HB3	3:D:963:VAL:HG11	2.04	0.40
5:L:157:HIS:O	5:L:161:ILE:HG12	2.21	0.40
8:T:17:DC:H2'	8:T:18:DC:C6	2.56	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	229/237 (97%)	211 (92%)	18 (8%)	0	100	100
1	B	228/237 (96%)	207 (91%)	19 (8%)	2 (1%)	17	48
2	C	1338/1340 (100%)	1229 (92%)	100 (8%)	9 (1%)	22	54
3	D	1334/1363 (98%)	1216 (91%)	112 (8%)	6 (0%)	34	66
4	E	67/91 (74%)	61 (91%)	6 (9%)	0	100	100
5	L	965/968 (100%)	925 (96%)	37 (4%)	3 (0%)	41	71
All	All	4161/4236 (98%)	3849 (92%)	292 (7%)	20 (0%)	32	61

All (20) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	21	SER
2	C	199	ASP
2	C	913	VAL
2	C	1041	ASP
3	D	338	PHE
3	D	1345	ARG
5	L	561	LEU
5	L	563	SER

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Mol	Chain	Res	Type
2	C	398	SER
1	B	193	GLU
2	C	625	GLU
3	D	860	ARG
2	C	43	PRO
3	D	46	TYR
2	C	1164	PHE
3	D	337	ARG
2	C	756	TYR
2	C	1223	ARG
3	D	1151	LYS
5	L	111	PRO

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	199/204 (98%)	199 (100%)	0	100	100
1	B	198/204 (97%)	196 (99%)	2 (1%)	76	86
2	C	1155/1155 (100%)	1128 (98%)	27 (2%)	50	73
3	D	1113/1136 (98%)	1109 (100%)	4 (0%)	91	95
4	E	59/75 (79%)	59 (100%)	0	100	100
5	L	820/829 (99%)	818 (100%)	2 (0%)	93	97
All	All	3544/3603 (98%)	3509 (99%)	35 (1%)	77	86

All (35) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	B	27	THR
1	B	28	LEU
2	C	107	ARG
2	C	883	LEU
2	C	884	VAL
2	C	887	VAL

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Mol	Chain	Res	Type
2	C	888	THR
2	C	890	LYS
2	C	895	LEU
2	C	896	THR
2	C	898	GLU
2	C	901	LEU
2	C	902	LEU
2	C	903	ARG
2	C	908	GLU
2	C	909	LYS
2	C	913	VAL
2	C	914	LYS
2	C	915	ASP
2	C	917	SER
2	C	936	ARG
2	C	937	ASP
2	C	940	GLU
2	C	942	ASP
2	C	943	LYS
2	C	1140	LYS
2	C	1160	ASP
2	C	1163	THR
2	C	1164	PHE
3	D	53	ARG
3	D	799	ARG
3	D	1286	LYS
3	D	1301	THR
5	L	698	LYS
5	L	786	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (17) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	23	HIS
1	B	18	GLN
2	C	46	GLN
2	C	582	ASN
2	C	620	ASN
2	C	761	GLN
2	C	799	ASN
2	C	1023	HIS
2	C	1080	ASN

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Mol	Chain	Res	Type
2	C	1220	GLN
3	D	762	ASN
3	D	771	GLN
5	L	119	GLN
5	L	318	GLN
5	L	881	GLN
5	L	885	HIS
5	L	967	HIS

5.3.3   RNA ⓘ

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
7	R	10/11 (90%)	2 (20%)	0

All (2) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
7	R	11	C
7	R	12	G

There are no RNA pucker outliers to report.

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

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

5.5   Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6   Ligand geometry ⓘ

Of 4 ligands modelled in this entry, 3 are monoatomic - leaving 1 for Mogul analysis.

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	$\#|Z| > 2$
11	2TM	T	101	-	27,30,30	3.01	12 (44%)	39,47,47	1.12	3 (7%)

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
11	2TM	T	101	-	-	7/19/38/38	0/2/2/2

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
11	T	101	2TM	O2-C2	8.88	1.40	1.23
11	T	101	2TM	PB-O3B	5.82	1.64	1.58
11	T	101	2TM	PA-O5'	5.03	1.64	1.57
11	T	101	2TM	C4-N4	4.94	1.45	1.33
11	T	101	2TM	C2-N3	4.01	1.44	1.36
11	T	101	2TM	O4'-C1'	3.84	1.51	1.42
11	T	101	2TM	C2'-C3'	-3.01	1.45	1.53
11	T	101	2TM	O4'-C4'	2.69	1.51	1.45
11	T	101	2TM	C1'-N1	-2.31	1.40	1.47
11	T	101	2TM	PB-O1B	-2.14	1.51	1.56
11	T	101	2TM	PA-O2A	-2.09	1.51	1.56
11	T	101	2TM	C6-C5	2.02	1.39	1.35

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(º)	Ideal(º)
11	T	101	2TM	PB-O3B-PG	-3.13	121.61	132.62
11	T	101	2TM	C3'-C2'-C1'	2.70	106.56	101.43
11	T	101	2TM	C4'-O4'-C1'	-2.42	104.14	109.47

There are no chirality outliers.

All (7) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
11	T	101	2TM	C5'-O5'-PA-O1A

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Mol	Chain	Res	Type	Atoms
11	T	101	2TM	PA-C1-PB-O3B
11	T	101	2TM	PA-C1-PB-O1B
11	T	101	2TM	PA-C1-PB-O2B
11	T	101	2TM	O4'-C4'-C5'-O5'
11	T	101	2TM	C3'-C4'-C5'-O5'
11	T	101	2TM	PB-O3B-PG-O1G

There are no ring outliers.

1 monomer is involved in 3 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
11	T	101	2TM	3	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

Ligand 2TM T 101

Bond lengths   Bond angles

Torsions   Rings
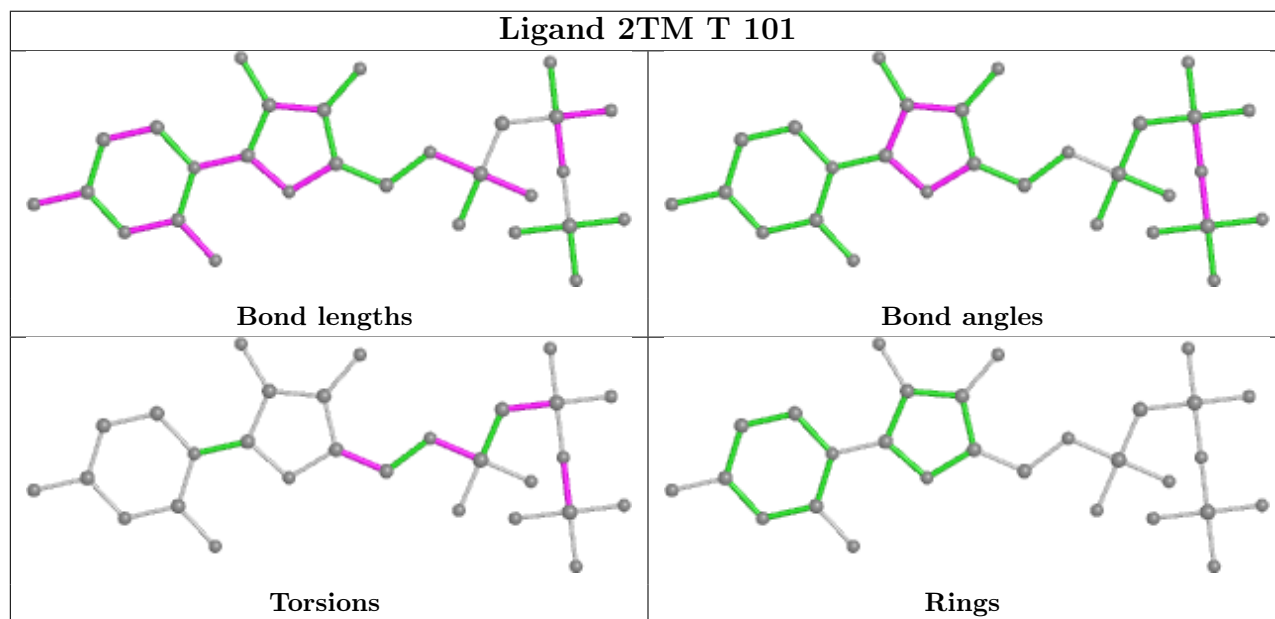
5.7 Other polymers ⓘ

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-23900. These allow visual inspection of the internal detail of the map and identification of artifacts.

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

6.1   Orthogonal projections   ⓘ

6.1.1   Primary map

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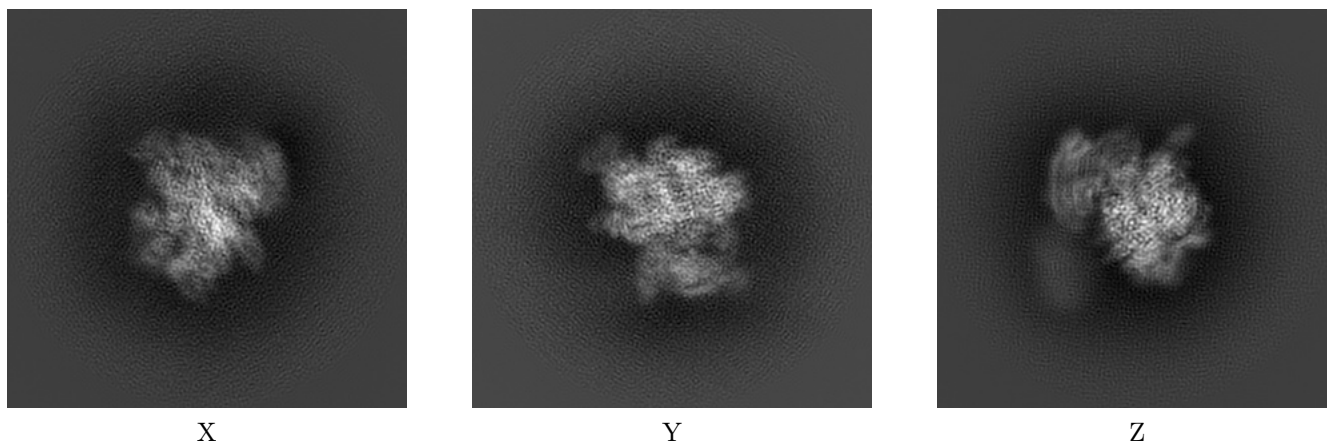
The images above show the map projected in three orthogonal directions.

6.2   Central slices   ⓘ

6.2.1   Primary map

X Index: 130   Y Index: 130   Z Index: 130
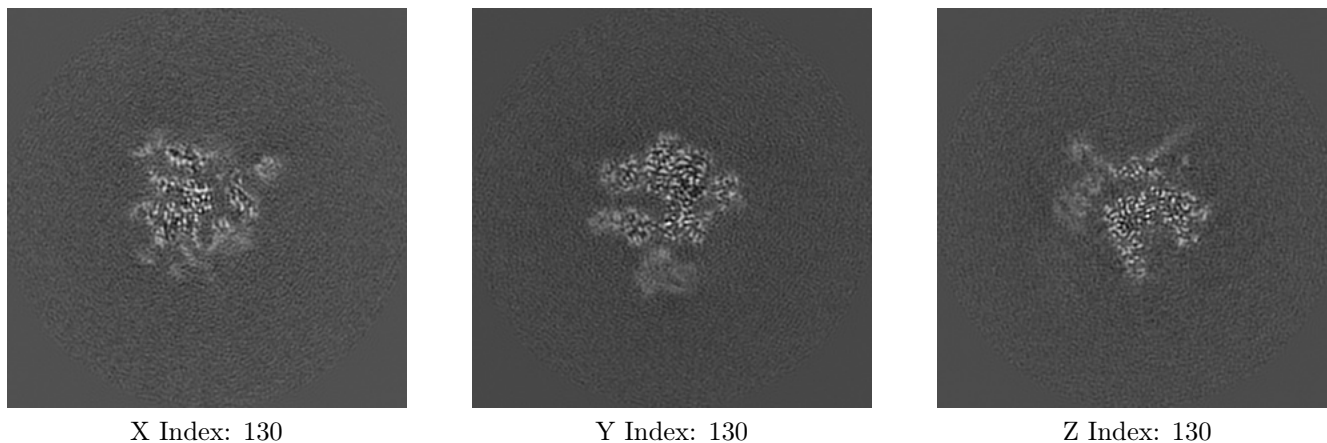
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices ⓘ
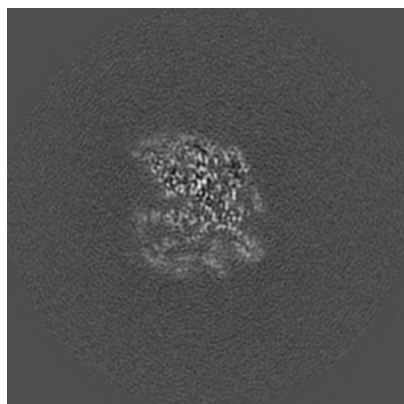
6.3.1 Primary map
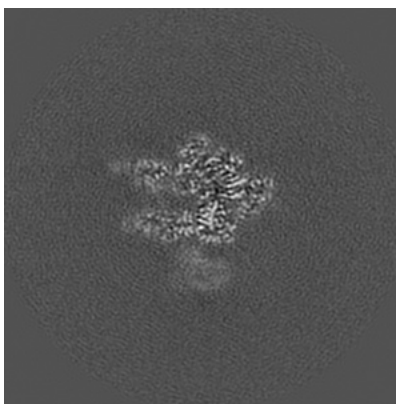
| X Index: 140 | Y Index: 127 | Z Index: 123 |
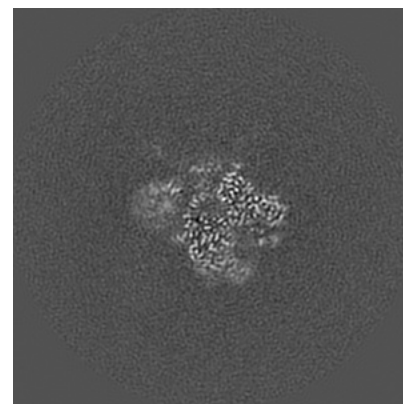
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal surface views ⓘ

6.4.1 Primary map

| X | Y | Z |

The images above show the 3D surface view of the map at the recommended contour level 0.016. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

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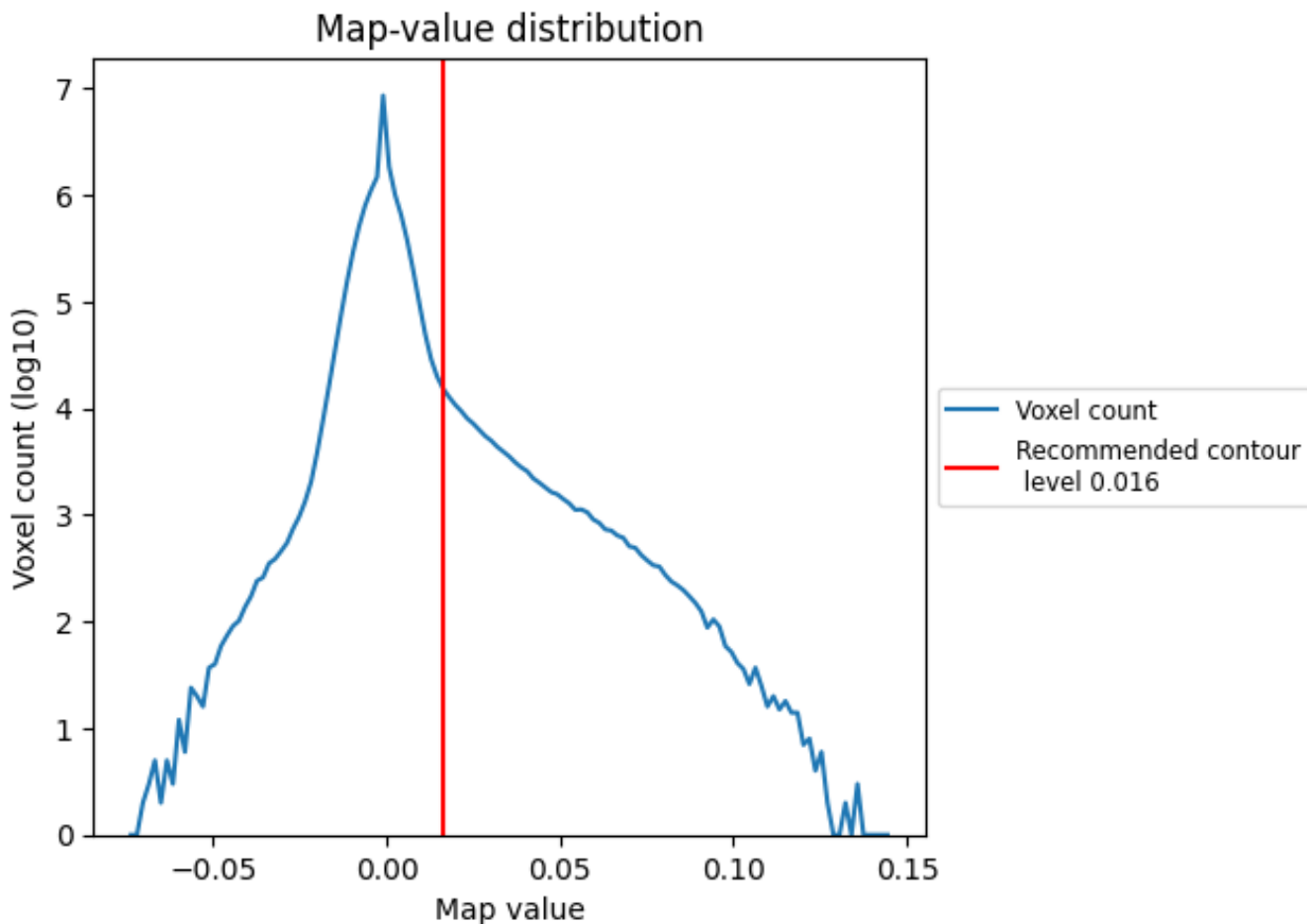
The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

7.2 Volume estimate ⓘ
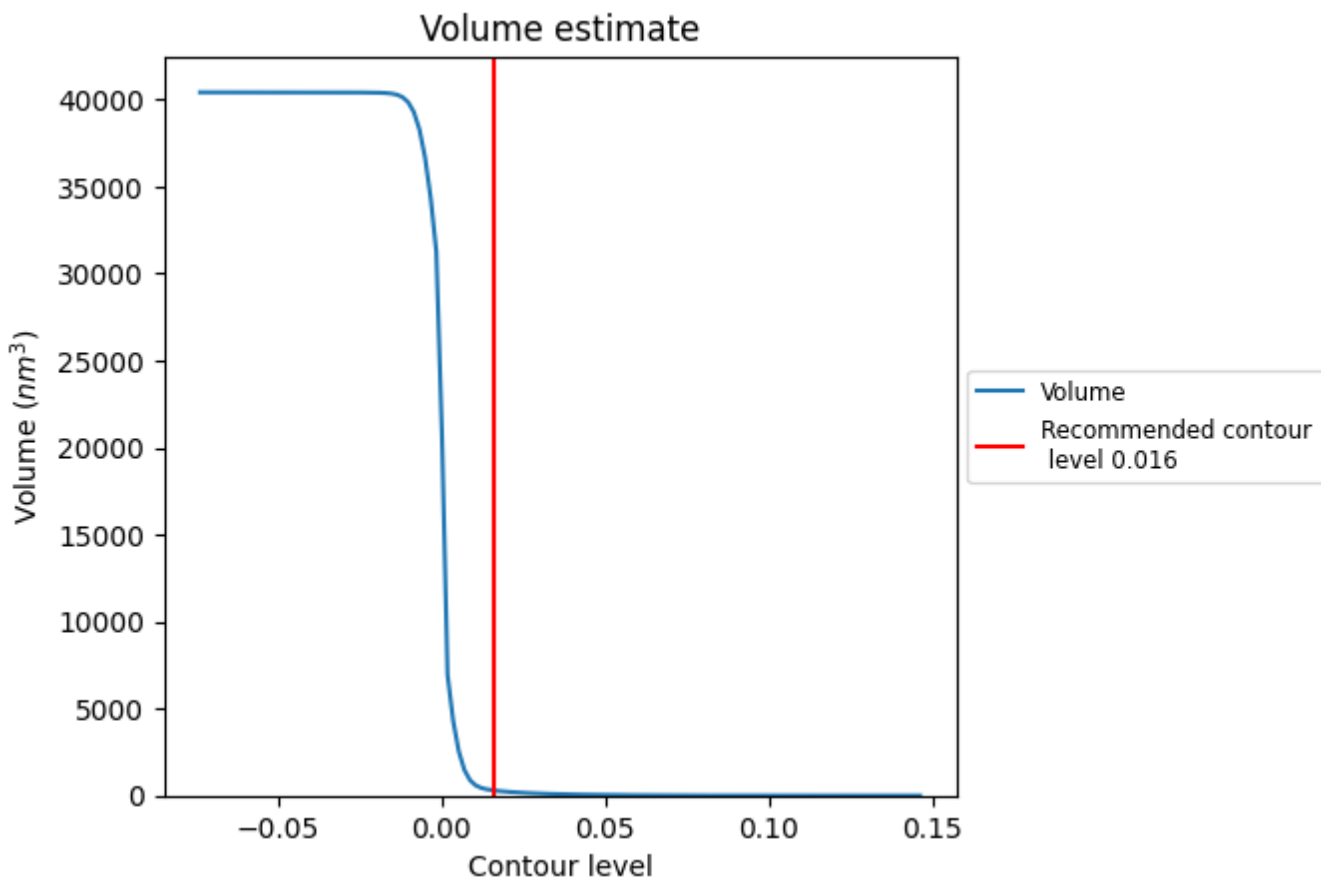
The volume at the recommended contour level is 296 nm^3; this corresponds to an approximate mass of 268 kDa.

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   ⓘ
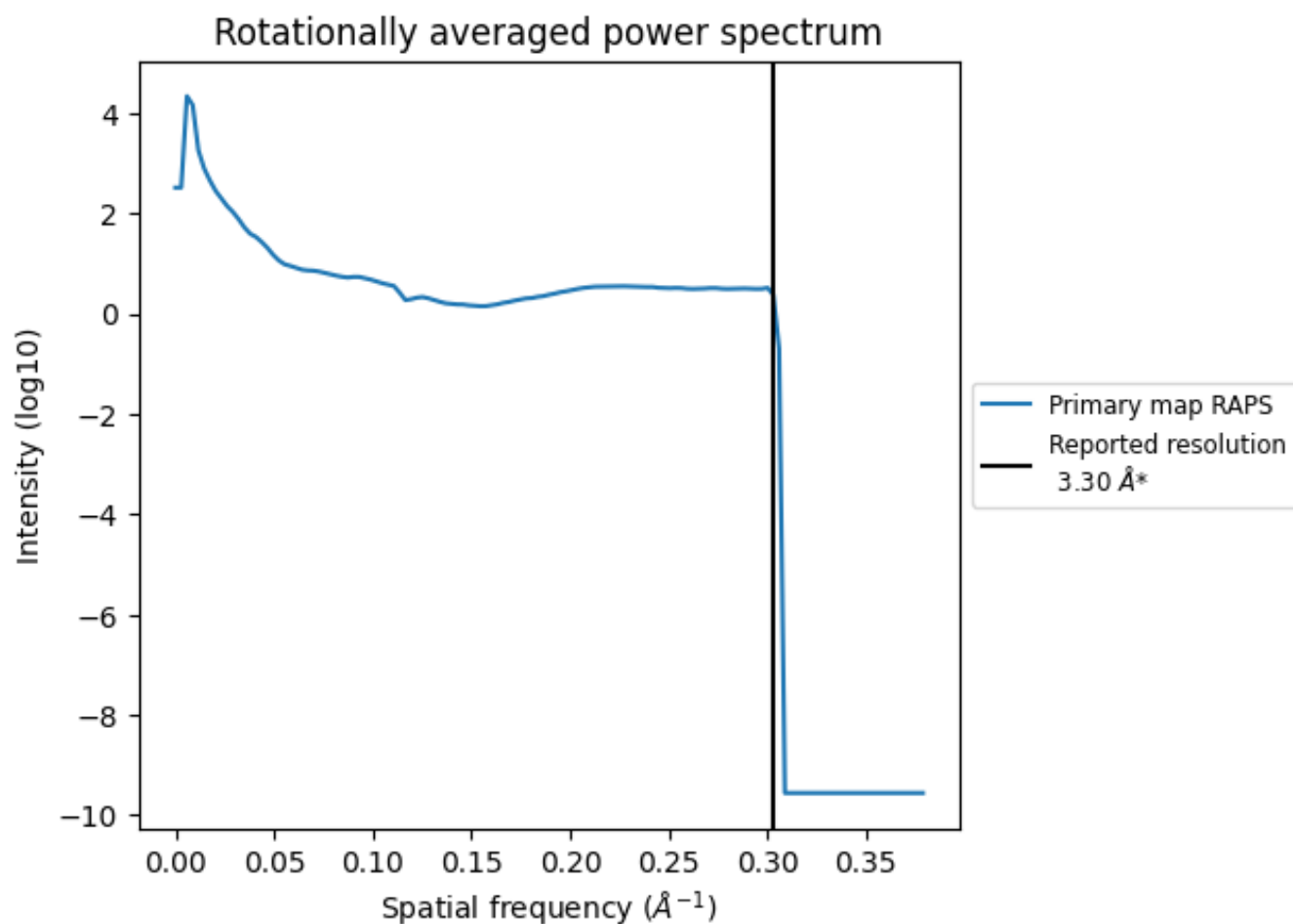
*Reported resolution corresponds to spatial frequency of 0.303 Å^{-1}

8 Fourier-Shell correlation ⓘ

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

9　Map-model fit ⓘ

This section contains information regarding the fit between EMDB map EMD-23900 and PDB model 7MKN. Per-residue inclusion information can be found in section 3 on page 7.

9.1　Map-model overlay ⓘ

X	Y	Z
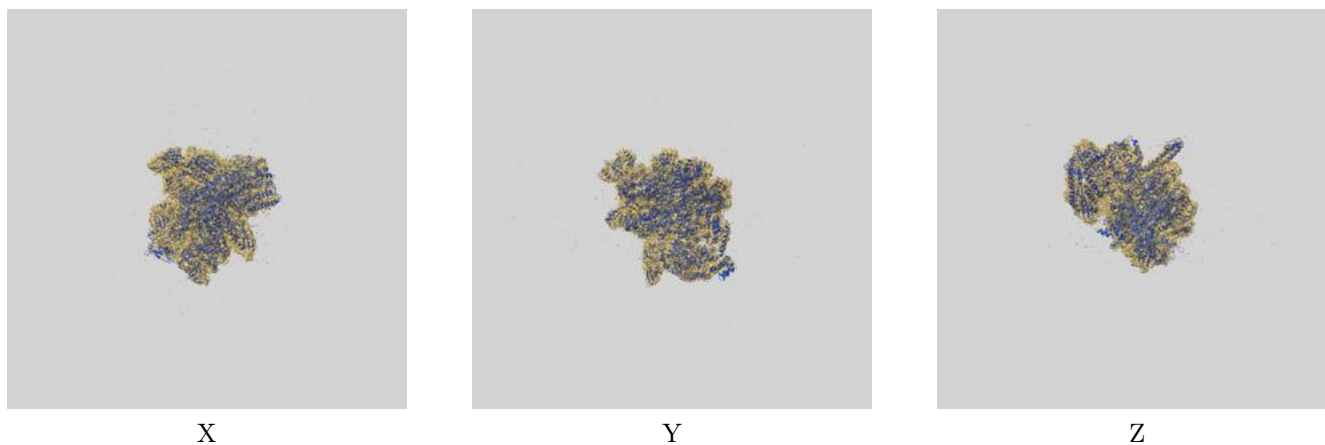
The images above show the 3D surface view of the map at the recommended contour level 0.016 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model ⓘ

X Y Z
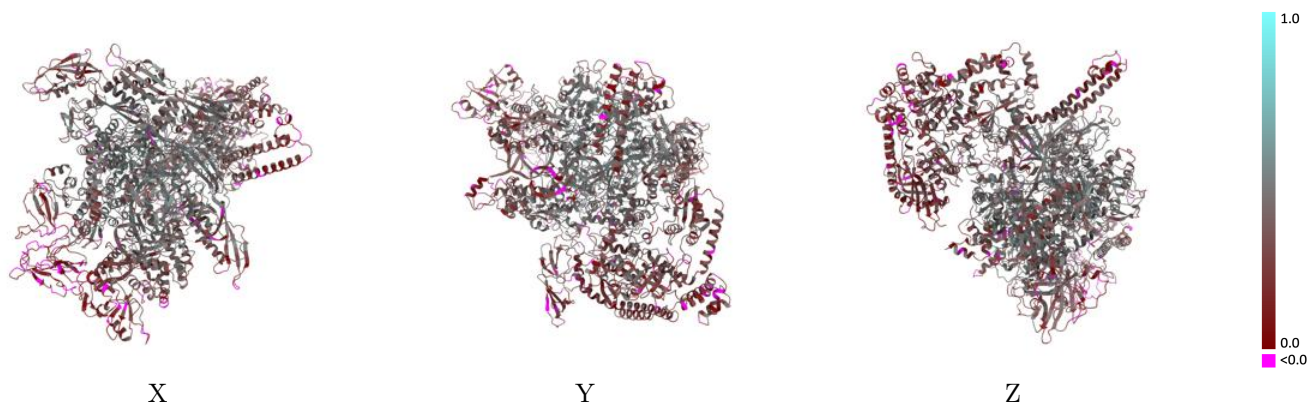
The images above show the model with each residue coloured according its Q-score. This shows
their resolvability in the map with higher Q-score values reflecting better resolvability. Please
note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at
resolutions 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
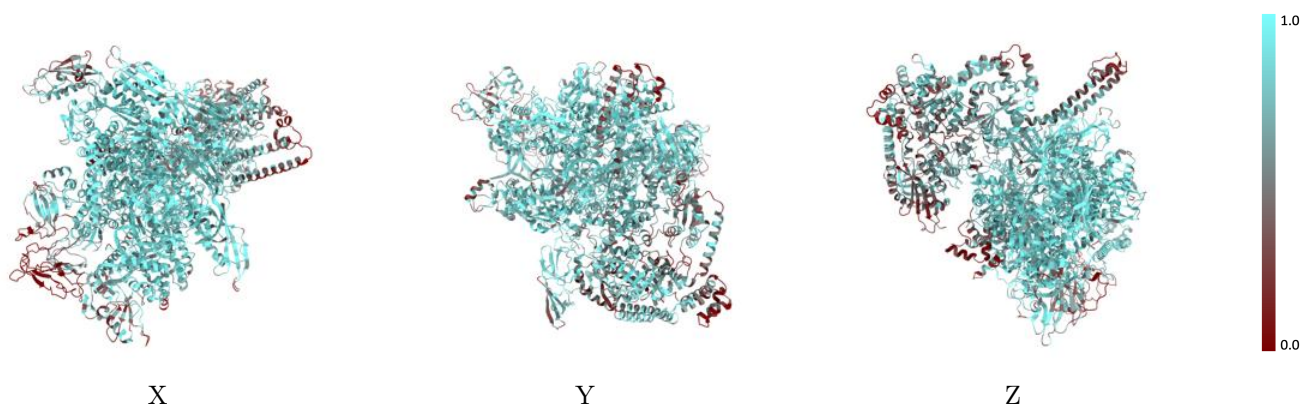
The images above show the model with each residue coloured according to its atom inclusion. This
shows to what extent they are inside the map at the recommended contour level (0.016).

9.4　Atom inclusion　ⓘ
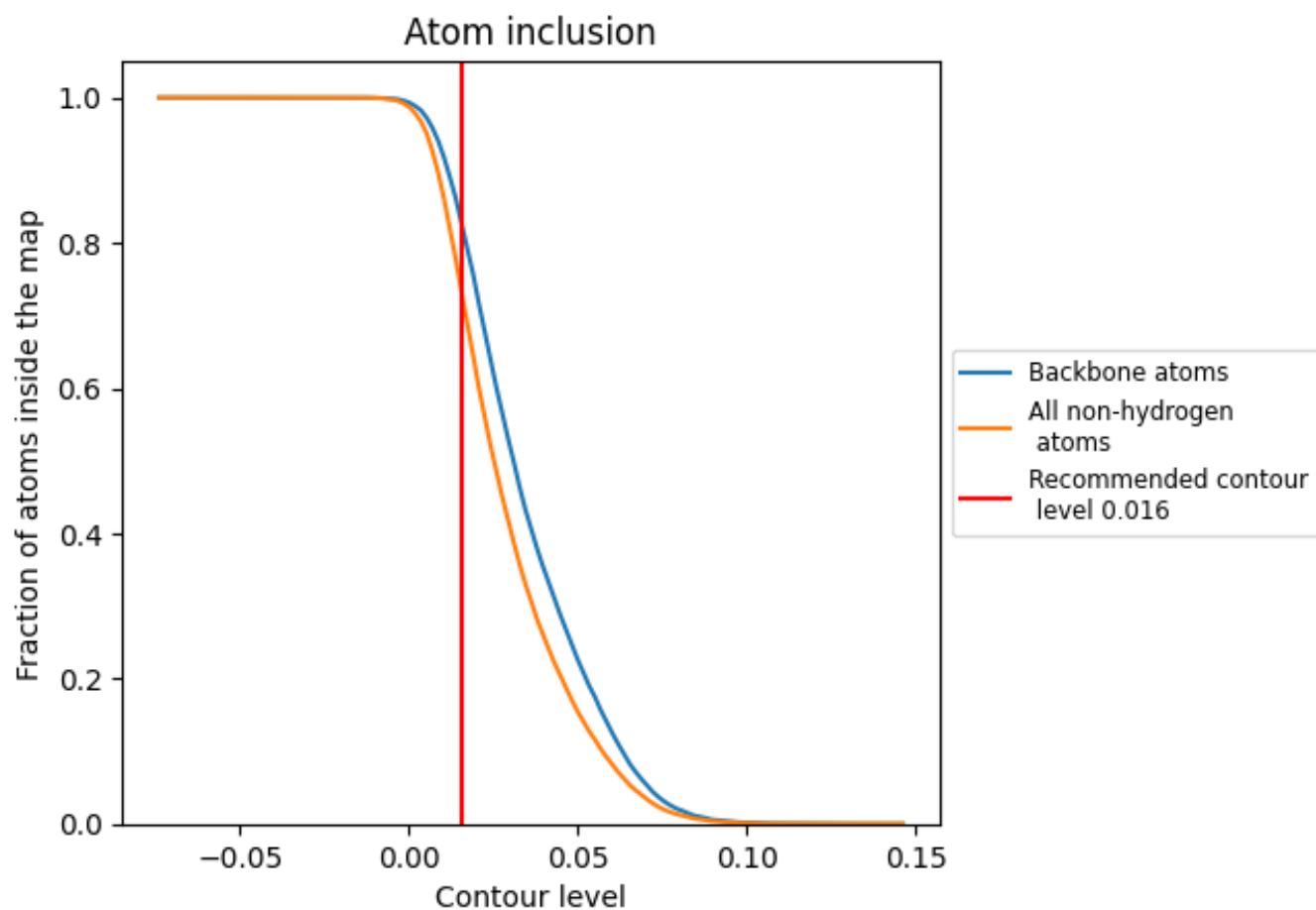
At the recommended contour level, 82% of all backbone atoms, 72% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary ⓘ

The table lists the average atom inclusion at the recommended contour level (0.016) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7232	0.3530
A	0.8149	0.3920
B	0.6682	0.3230
C	0.8041	0.3960
D	0.7440	0.3570
E	0.2566	0.2620
L	0.5860	0.2900
N	0.7916	0.3070
R	0.9590	0.5000
T	0.8480	0.3450

1.0

0.0
<0.0