Full wwPDB EM Validation Report

May 26, 2025 – 06:06 AM EDT

PDB ID	:	6EEC / pdb_00006eec
EMDB ID	:	EMD-9041
Title	:	Mycobacterium tuberculosis RNAP promoter unwinding intermediate complex with RbpA/CarD and AP3 promoter captured by Corallopyronin
Authors	:	Darst, S.A.; Campbell, E.A.; Boyaci Selcuk, H.; Chen, J.
Deposited on	:	2018-08-13
Resolution	:	3.55 Å(reported)

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

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

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

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

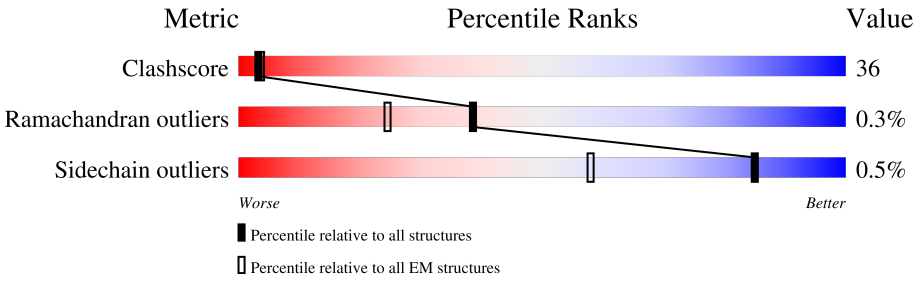
EMDB validation analysis	:	0.0.1.dev118
Mogul	:	2022.3.0, CSD as543be (2022)
MolProbity	:	4-5-2 with Phenix2.0rc1
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.43.1

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 3.55 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	A	347	34% 31% 35%
1	B	347	31% 37% 32%
2	C	1179	44% 49% • 6%
3	D	1326	44% 51% • 5%
4	E	110	35% 41% 25%
5	F	531	31% 28% • 40%
6	J	111	54% 43% •
7	O	90	10% 62% 28%

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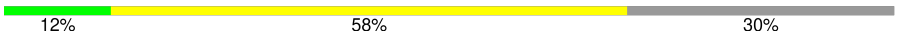
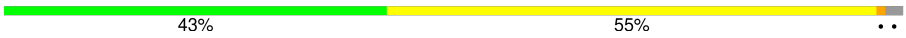
Mol	Chain	Length	Quality of chain
8	P	90	
9	M	162	

2 Entry composition (i)

There are 12 unique types of molecules in this entry. The entry contains 29936 atoms, of which 40 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	225	Total	C	N	O	S	0	0
			1716	1080	296	338	2		
1	B	237	Total	C	N	O	S	0	0
			1759	1112	298	346	3		

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

Mol	Chain	Residues	Atoms					AltConf	Trace
2	C	1111	Total	C	N	O	S	0	0
			8593	5381	1507	1666	39		

There are 7 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	1179	LEU	-	expression tag	UNP V9Z879
C	1180	ALA	-	expression tag	UNP V9Z879
C	1181	ARG	-	expression tag	UNP V9Z879
C	1182	HIS	-	expression tag	UNP V9Z879
C	1183	GLY	-	expression tag	UNP V9Z879
C	1184	GLY	-	expression tag	UNP V9Z879
C	1185	SER	-	expression tag	UNP V9Z879

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

Mol	Chain	Residues	Atoms					AltConf	Trace
3	D	1266	Total	C	N	O	S	0	0
			9873	6184	1794	1853	42		

There are 10 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	-1	GLY	-	expression tag	UNP A5U053
D	0	ALA	-	expression tag	UNP A5U053

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Chain	Residue	Modelled	Actual	Comment	Reference
D	1317	HIS	-	expression tag	UNP A5U053
D	1318	HIS	-	expression tag	UNP A5U053
D	1319	HIS	-	expression tag	UNP A5U053
D	1320	HIS	-	expression tag	UNP A5U053
D	1321	HIS	-	expression tag	UNP A5U053
D	1322	HIS	-	expression tag	UNP A5U053
D	1323	HIS	-	expression tag	UNP A5U053
D	1324	HIS	-	expression tag	UNP A5U053

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

Mol	Chain	Residues	Atoms				AltConf	Trace
4	E	83	Total	C	N	O	0	0
			649	414	108	127		

There is a discrepancy between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	1	GLY	-	expression tag	UNP A0A0T9N9K3

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

Mol	Chain	Residues	Atoms					AltConf	Trace
5	F	319	Total	C	N	O	S	0	0
			2518	1571	456	482	9		

There are 3 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	-2	GLY	-	expression tag	UNP P9WGI0
F	-1	PRO	-	expression tag	UNP P9WGI0
F	0	HIS	-	expression tag	UNP P9WGI0

- Molecule 6 is a protein called RNA polymerase-binding protein RbpA.

Mol	Chain	Residues	Atoms					AltConf	Trace
6	J	108	Total	C	N	O	S	0	0
			881	543	168	167	3		

- Molecule 7 is a DNA chain called DNA (65-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
7	O	65	Total	C	N	O	P	0	0
			1336	633	243	395	65		

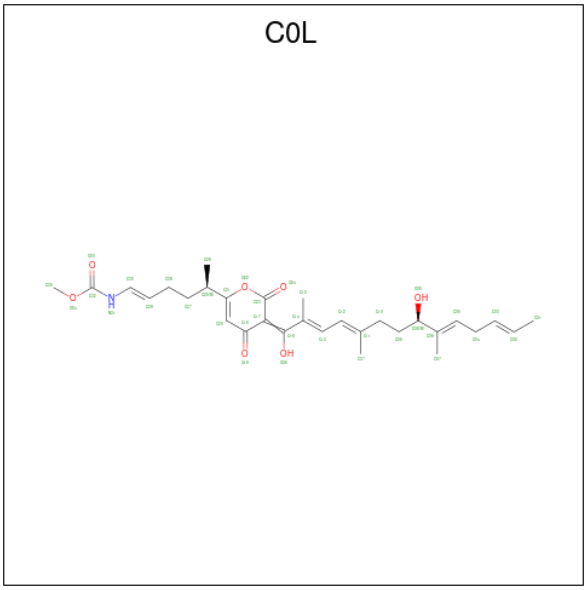
- Molecule 8 is a DNA chain called DNA (63-MER).

Mol	Chain	Residues	Atoms					AltConf	Trace
8	P	63	Total	C	N	O	P	0	0
			1289	610	242	374	63		

- Molecule 9 is a protein called RNA polymerase-binding transcription factor CarD.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	M	159	Total	C	N	O	S	0	0
			1241	777	224	239	1		

- Molecule 10 is methyl [(1E,5R)-5-{(3E)-3-[(2E,4E,8R,9E,12E)-1,8-dihydroxy-2,5,9-trimethyltetradeca-2,4,9,12-tetraen-1-ylidene]-2,4-dioxo-3,4-dihydro-2H-pyran-6-yl}hex-1-en-1-yl]carbamate (CCD ID: C0L) (formula: $C_{30}H_{41}NO_7$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
10	C	1	Total	C	H	N	O	0
			78	30	40	1	7	

- Molecule 11 is ZINC ION (CCD ID: ZN) (formula: Zn).

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

- Molecule 12 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

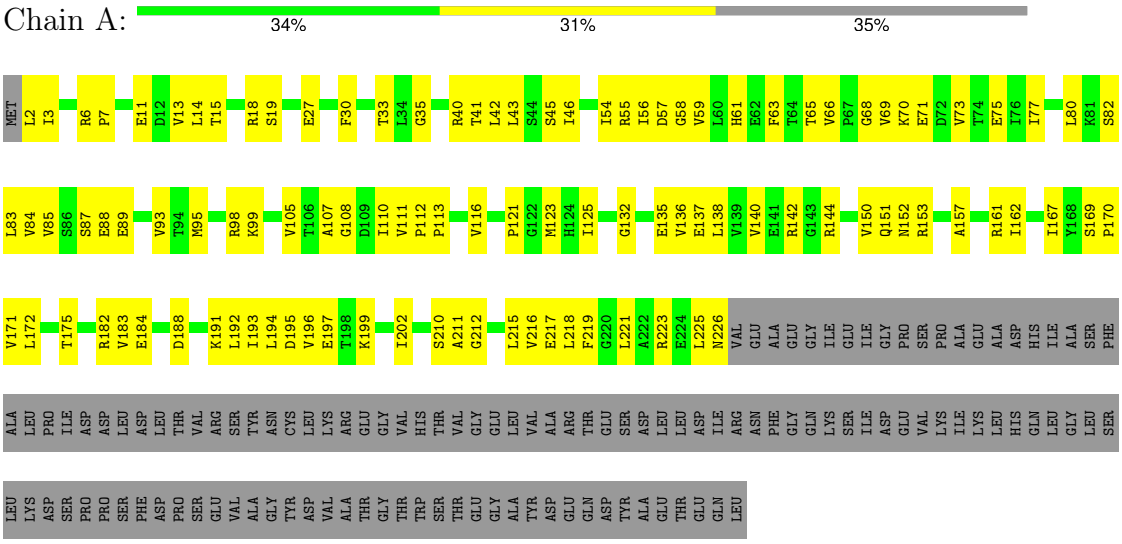
Mol	Chain	Residues	Atoms		AltConf
12	D	1	Total	Mg	0
			1	1	

3 Residue-property plots (i)

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

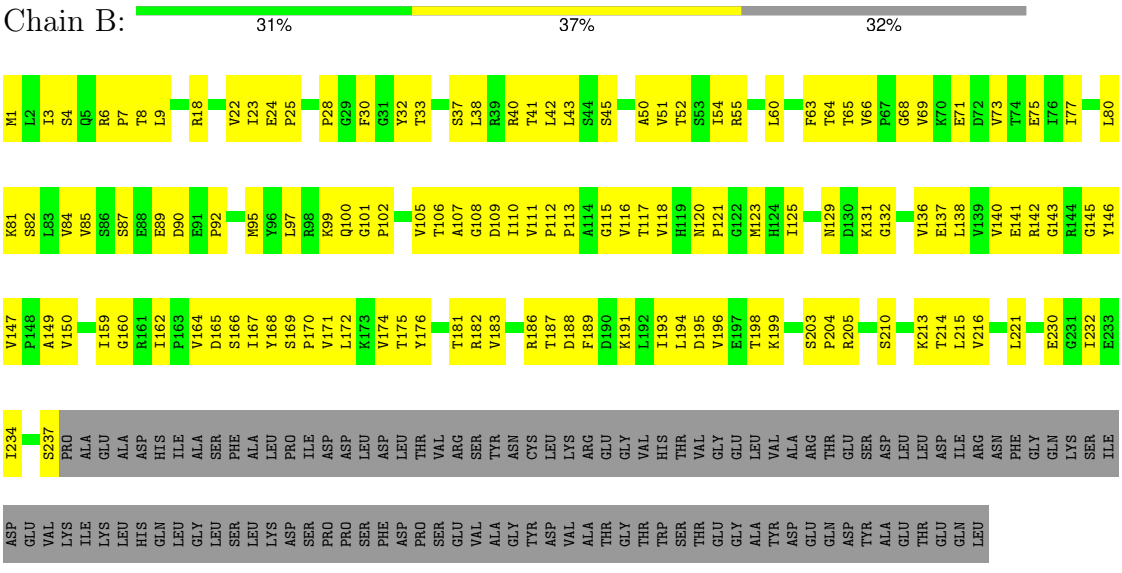
• Molecule 1: DNA-directed RNA polymerase subunit alpha

Chain A:



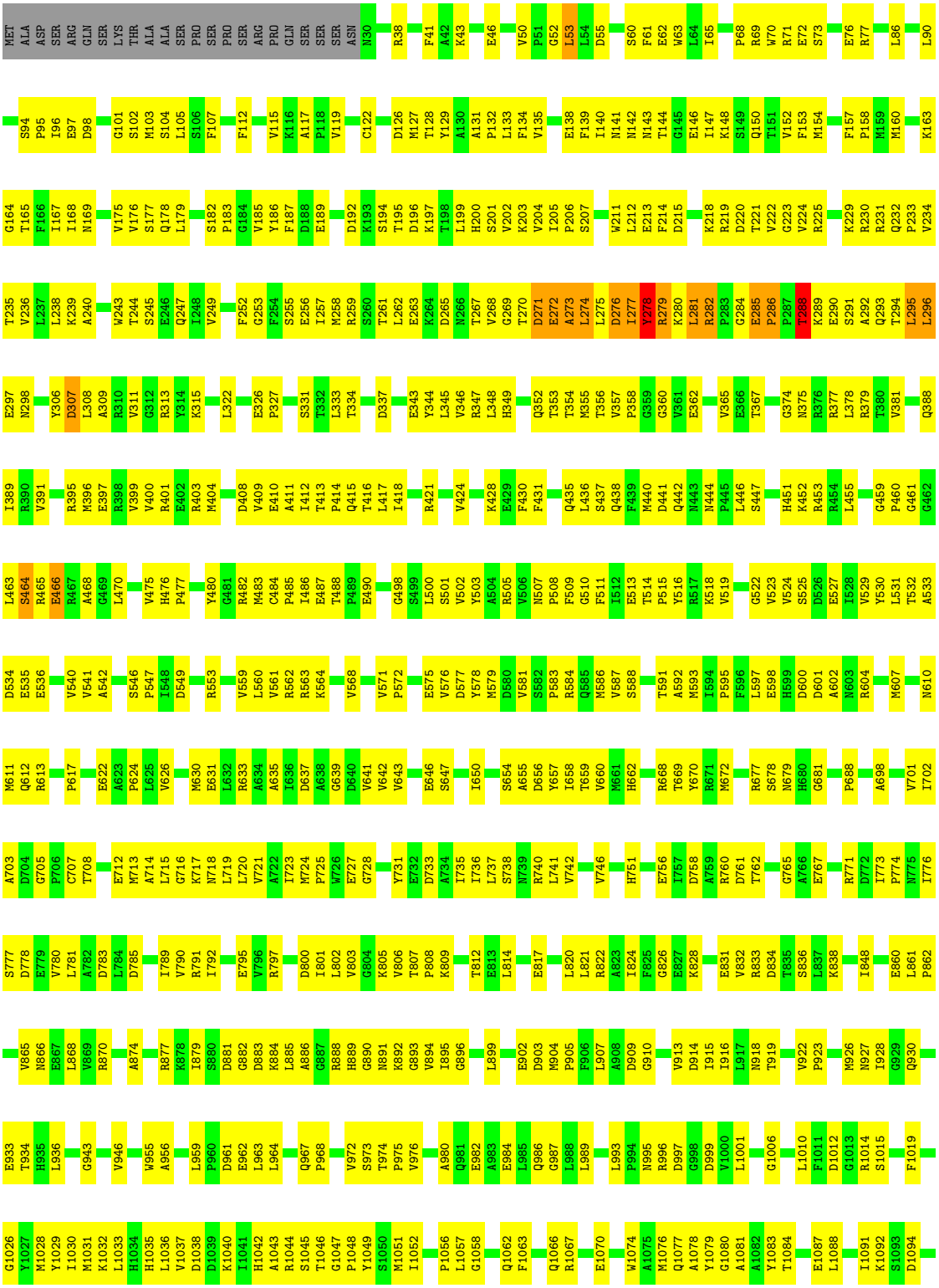
• Molecule 1: DNA-directed RNA polymerase subunit alpha

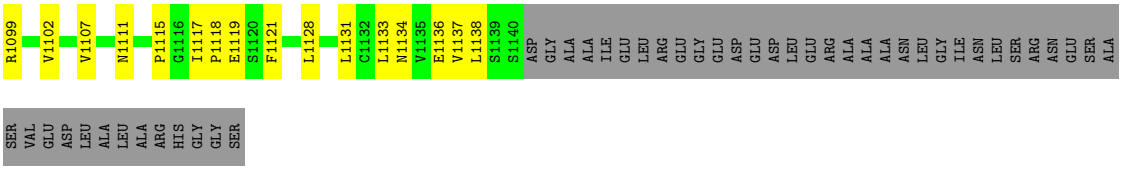
Chain B:



• Molecule 2: DNA-directed RNA polymerase subunit beta

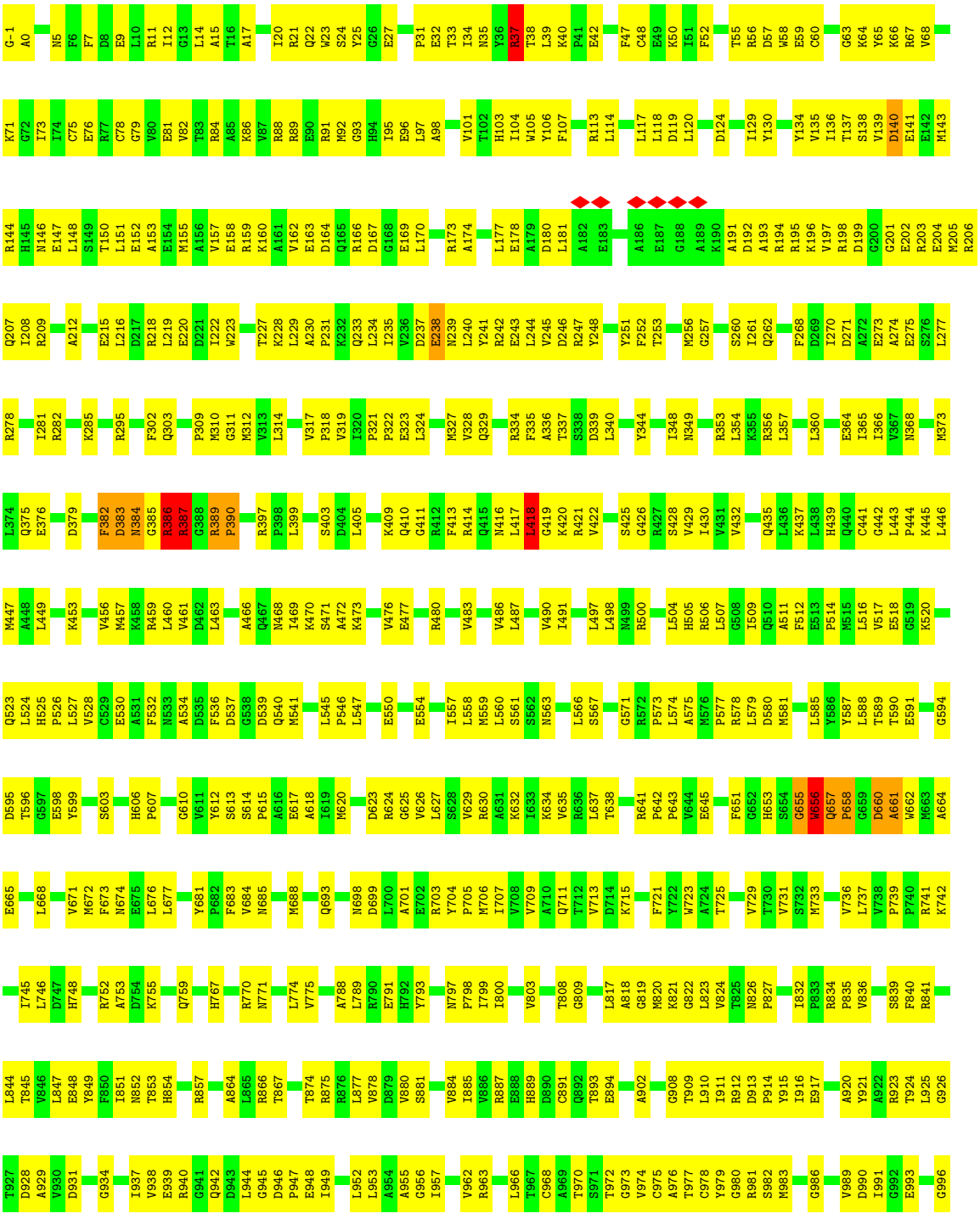
Chain C:

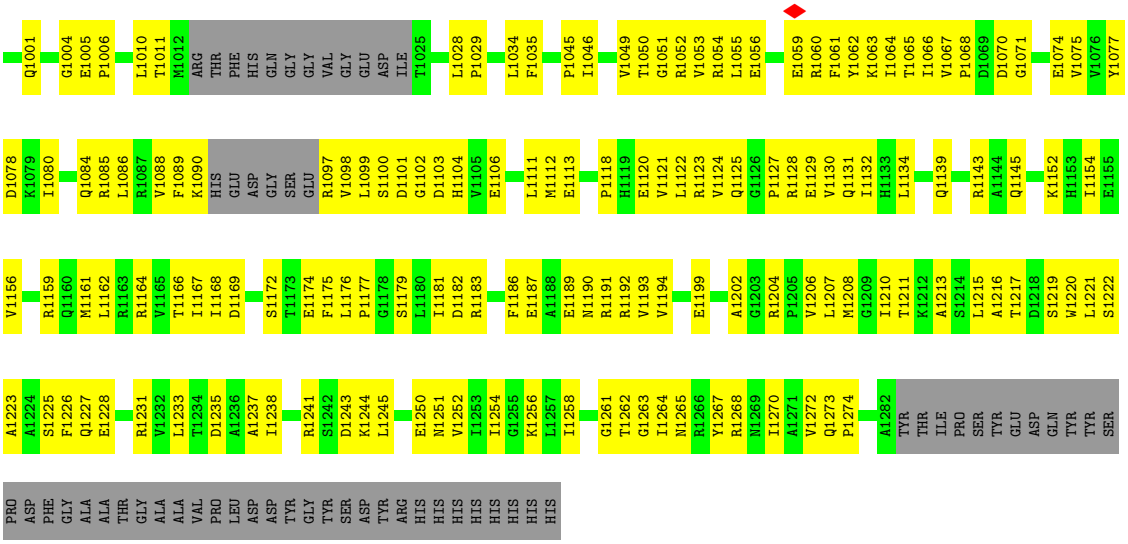




• Molecule 3: DNA-directed RNA polymerase subunit beta'

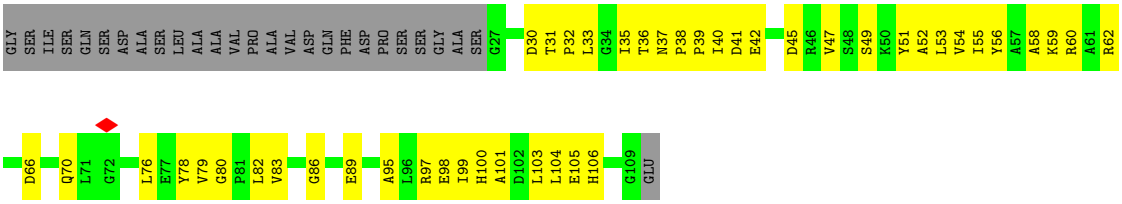
Chain D:





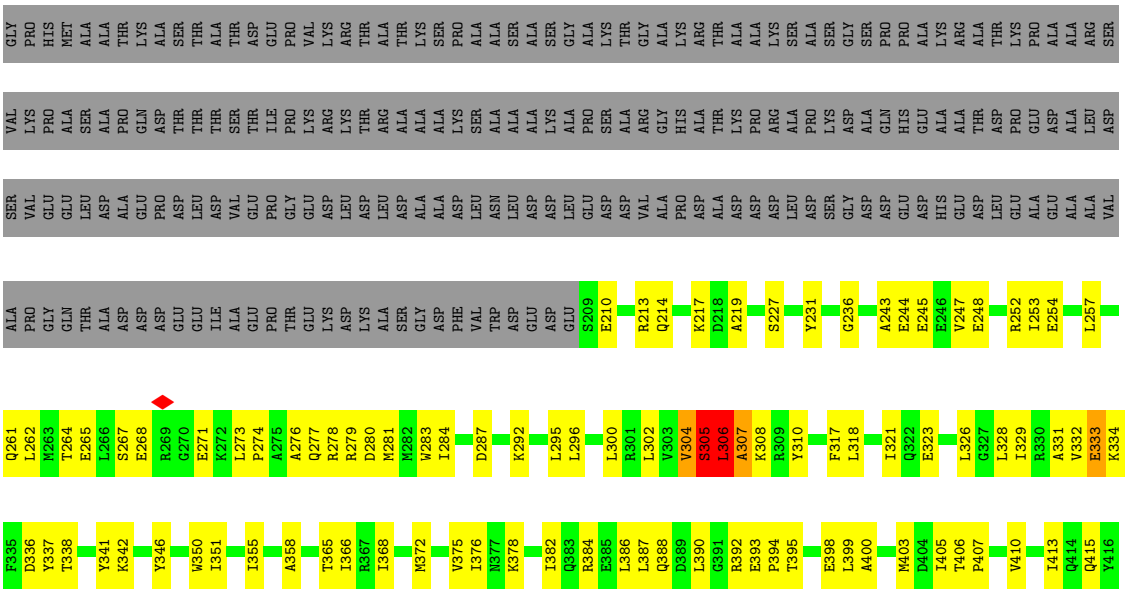
• Molecule 4: DNA-directed RNA polymerase subunit omega

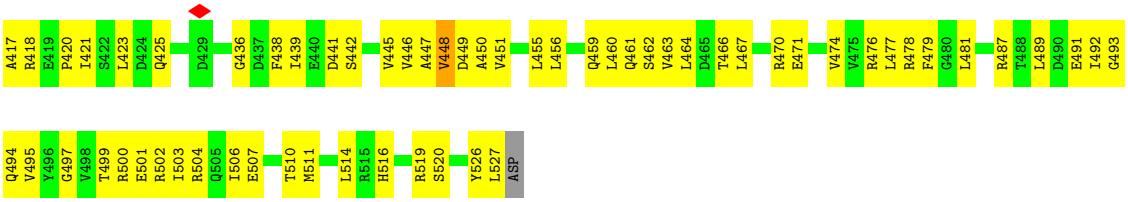
Chain E:



• Molecule 5: RNA polymerase sigma factor SigA

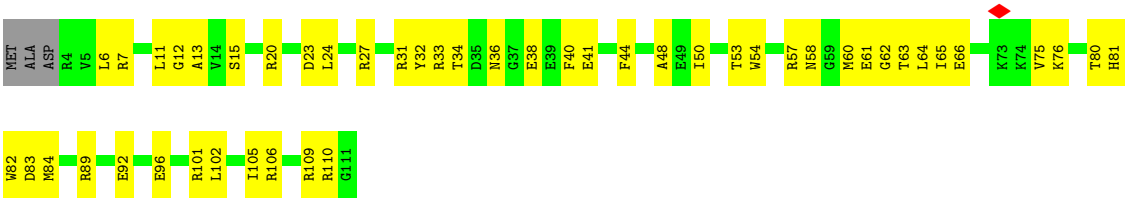
Chain F:





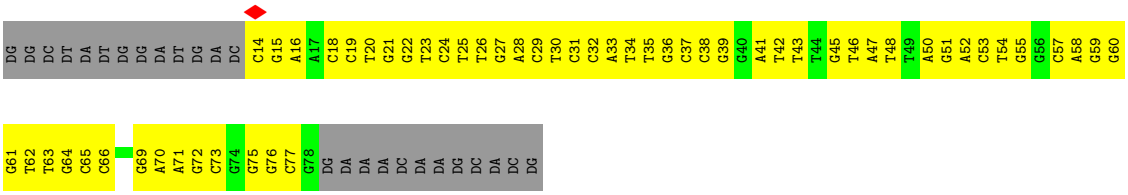
• Molecule 6: RNA polymerase-binding protein RbpA

Chain J:



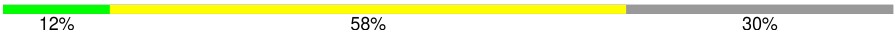
• Molecule 7: DNA (65-MER)

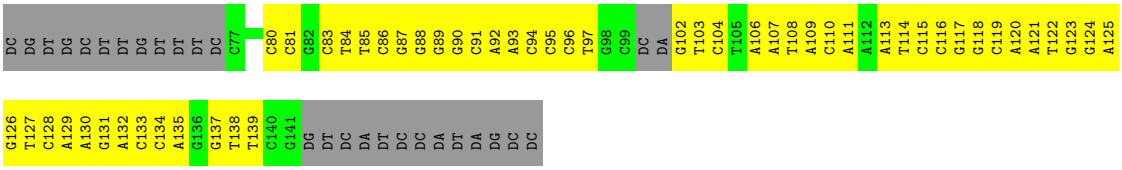
Chain O:



• Molecule 8: DNA (63-MER)

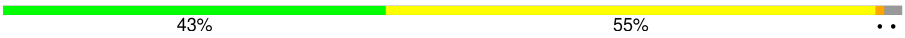
Chain P:

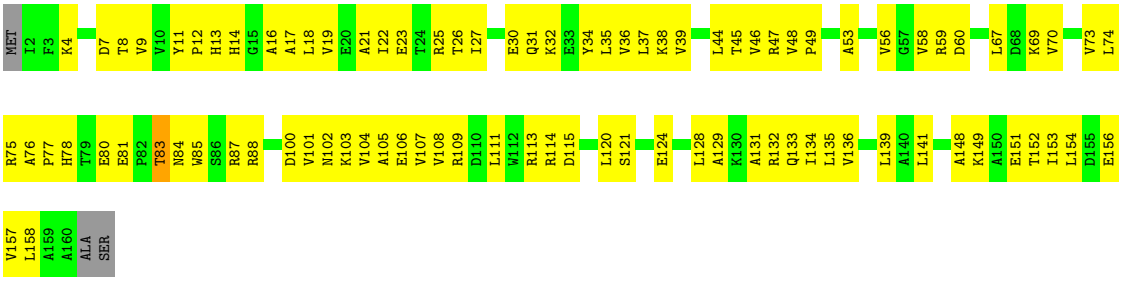




• Molecule 9: RNA polymerase-binding transcription factor CarD

Chain M:





4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	246409	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	69.9	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	3.111	Depositor
Minimum map value	-1.642	Depositor
Average map value	0.006	Depositor
Map value standard deviation	0.103	Depositor
Recommended contour level	0.3	Depositor
Map size (Å)	325.0, 325.0, 325.0	wwPDB
Map dimensions	250, 250, 250	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.3, 1.3, 1.3	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, C0L, 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	0.43	0/1742	0.55	0/2370
1	B	0.39	0/1786	0.54	0/2435
2	C	0.57	7/8751 (0.1%)	0.67	13/11869 (0.1%)
3	D	0.63	24/10037 (0.2%)	0.65	16/13570 (0.1%)
4	E	0.37	0/662	0.51	0/901
5	F	0.55	6/2549 (0.2%)	0.63	3/3438 (0.1%)
6	J	0.32	0/897	0.62	2/1210 (0.2%)
7	O	0.35	0/1497	0.46	0/2310
8	P	0.32	0/1445	0.42	0/2224
9	M	0.29	0/1257	0.49	0/1700
All	All	0.54	37/30623 (0.1%)	0.61	34/42027 (0.1%)

All (37) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	D	656	TRP	CA-C	-8.86	1.41	1.52
3	D	389	ARG	CA-C	-8.74	1.43	1.52
3	D	661	ALA	CA-C	-8.66	1.41	1.52
5	F	305	SER	CA-C	-8.57	1.41	1.52
3	D	387	ARG	CA-C	-8.35	1.42	1.52
3	D	386	ARG	CA-C	-8.09	1.43	1.52
3	D	389	ARG	C-O	-8.06	1.15	1.24
2	C	277	ILE	C-O	-7.55	1.15	1.24
3	D	384	ASN	CA-C	-7.49	1.43	1.52
3	D	390	PRO	C-O	-7.37	1.14	1.23
3	D	661	ALA	C-O	-7.32	1.15	1.23
3	D	383	ASP	CA-C	-7.26	1.44	1.52
3	D	397	ARG	C-O	-7.05	1.16	1.24
2	C	277	ILE	CA-C	-6.68	1.44	1.52
3	D	390	PRO	CA-C	-6.66	1.44	1.52
3	D	386	ARG	C-O	-6.28	1.15	1.23

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	F	304	VAL	CA-C	-6.21	1.45	1.52
5	F	333	GLU	C-O	-6.06	1.16	1.24
2	C	273	ALA	CA-C	-5.86	1.45	1.53
3	D	387	ARG	C-O	-5.76	1.17	1.24
2	C	281	LEU	CA-C	-5.76	1.45	1.52
2	C	272	GLU	N-CA	-5.74	1.39	1.46
5	F	333	GLU	CA-C	-5.68	1.45	1.52
2	C	278	TYR	N-CA	-5.67	1.38	1.46
3	D	411	GLY	C-O	-5.65	1.18	1.23
3	D	384	ASN	C-O	-5.57	1.17	1.23
3	D	419	GLY	C-O	-5.56	1.16	1.23
3	D	418	LEU	N-CA	-5.48	1.39	1.46
5	F	304	VAL	CA-CB	-5.42	1.48	1.54
3	D	383	ASP	C-O	-5.34	1.18	1.24
5	F	305	SER	C-O	-5.28	1.18	1.24
2	C	464	SER	C-O	-5.25	1.18	1.23
3	D	389	ARG	C-N	-5.24	1.26	1.33
3	D	413	PHE	C-O	-5.24	1.17	1.24
3	D	661	ALA	C-N	-5.13	1.27	1.33
3	D	37	ARG	C-O	-5.12	1.16	1.23
3	D	656	TRP	C-O	-5.12	1.17	1.24

All (34) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
5	F	306	LEU	CA-C-N	-10.51	103.71	120.63
5	F	306	LEU	C-N-CA	-10.51	103.71	120.63
2	C	307	ASP	N-CA-C	8.87	122.75	110.06
2	C	288	THR	N-CA-C	-8.46	93.21	108.02
2	C	281	LEU	N-CA-C	-8.40	102.21	111.36
5	F	448	VAL	N-CA-C	-7.83	105.13	112.96
3	D	386	ARG	N-CA-C	-7.80	102.31	112.68
6	J	75	VAL	CA-C-N	7.49	136.76	121.48
6	J	75	VAL	C-N-CA	7.49	136.76	121.48
3	D	419	GLY	N-CA-C	7.43	130.80	113.18
3	D	384	ASN	N-CA-C	7.33	120.86	110.23
3	D	656	TRP	N-CA-C	-7.22	97.47	108.67
3	D	655	GLY	N-CA-C	-7.13	96.27	113.18
3	D	397	ARG	N-CA-C	-7.12	98.53	109.64
2	C	276	ASP	N-CA-C	-7.08	103.49	111.14
2	C	277	ILE	CB-CA-C	-6.77	103.30	111.97
2	C	285	GLU	CA-C-N	-6.67	113.51	120.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	C	285	GLU	C-N-CA	-6.67	113.51	120.38
3	D	657	GLN	CA-C-N	6.29	127.70	119.84
3	D	657	GLN	C-N-CA	6.29	127.70	119.84
3	D	390	PRO	CA-N-CD	-5.82	103.85	112.00
3	D	390	PRO	CB-CA-C	-5.73	104.29	111.56
2	C	654	SER	CA-C-N	-5.60	112.93	122.56
2	C	654	SER	C-N-CA	-5.60	112.93	122.56
3	D	411	GLY	N-CA-C	-5.54	102.79	112.55
3	D	382	PHE	CA-C-N	-5.51	115.03	122.86
3	D	382	PHE	C-N-CA	-5.51	115.03	122.86
3	D	418	LEU	N-CA-C	-5.49	99.11	110.80
3	D	660	ASP	N-CA-C	5.43	122.36	110.80
2	C	273	ALA	CA-C-N	-5.28	111.45	121.54
2	C	273	ALA	C-N-CA	-5.28	111.45	121.54
3	D	390	PRO	CA-C-O	-5.09	115.61	121.36
2	C	286	PRO	CA-C-N	-5.07	115.02	120.03
2	C	286	PRO	C-N-CA	-5.07	115.02	120.03

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	1716	0	1756	120	0
1	B	1759	0	1783	146	0
2	C	8593	0	8517	721	0
3	D	9873	0	9938	772	0
4	E	649	0	645	55	0
5	F	2518	0	2540	186	0
6	J	881	0	861	63	0
7	O	1336	0	732	119	0
8	P	1289	0	706	88	0
9	M	1241	0	1259	111	0
10	C	38	40	0	1	0
11	D	2	0	0	0	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
12	D	1	0	0	0	0
All	All	29896	40	28737	2135	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 36.

All (2135) 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)
2:C:281:LEU:CD2	2:C:295:LEU:HD21	1.62	1.30
2:C:271:ASP:O	2:C:275:LEU:HD12	1.25	1.27
2:C:1067:ARG:CZ	3:D:418:LEU:CD2	2.13	1.25
2:C:278:TYR:CE1	2:C:292:ALA:HB2	1.73	1.23
2:C:1067:ARG:NH1	3:D:418:LEU:CD2	2.04	1.21
2:C:278:TYR:CD1	2:C:292:ALA:CB	2.25	1.19
2:C:275:LEU:HD21	2:C:289:LYS:CB	1.72	1.19
2:C:275:LEU:CD2	2:C:289:LYS:HB3	1.73	1.18
5:F:334:LYS:HE2	7:O:48:DT:OP1	1.41	1.17
2:C:271:ASP:O	2:C:275:LEU:CD1	1.91	1.17
2:C:278:TYR:CE1	2:C:292:ALA:CB	2.29	1.15
2:C:463:LEU:HD13	2:C:468:ALA:HB2	1.30	1.12
2:C:273:ALA:O	2:C:276:ASP:N	1.83	1.12
3:D:641:ARG:HA	3:D:657:GLN:HG3	1.27	1.10
2:C:1067:ARG:NH1	3:D:418:LEU:HD22	1.66	1.08
3:D:383:ASP:OD2	3:D:386:ARG:NE	1.86	1.08
9:M:104:VAL:HG11	9:M:134:ILE:HD11	1.35	1.08
2:C:278:TYR:CD1	2:C:292:ALA:HB1	1.89	1.07
2:C:466:GLU:OE1	2:C:466:GLU:N	1.87	1.07
4:E:47:VAL:HG21	4:E:53:LEU:HB2	1.37	1.06
6:J:31:ARG:HG2	6:J:41:GLU:HG2	1.37	1.06
3:D:952:LEU:HD22	3:D:957:ILE:HD11	1.37	1.04
2:C:1067:ARG:NH1	3:D:418:LEU:HD23	1.72	1.03
2:C:278:TYR:O	2:C:281:LEU:N	1.93	1.01
2:C:281:LEU:HD22	2:C:295:LEU:HD21	1.44	0.99
2:C:281:LEU:CD2	2:C:295:LEU:CD2	2.41	0.98
3:D:641:ARG:CA	3:D:657:GLN:HG3	1.93	0.98
2:C:273:ALA:O	2:C:275:LEU:N	1.97	0.97
3:D:389:ARG:NH1	7:O:58:DA:C8	2.31	0.97
2:C:659:THR:HG22	2:C:669:THR:HG22	1.45	0.97
7:O:29:DC:H2"	7:O:30:DT:H5'	1.44	0.97
9:M:26:THR:HB	9:M:31:GLN:HG3	1.46	0.97

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:40:ARG:HH12	2:C:903:ASP:HB3	1.31	0.96
1:B:101:GLY:HA2	1:B:131:LYS:HA	1.48	0.96
9:M:74:LEU:HD21	9:M:158:LEU:HD23	1.46	0.95
3:D:327:MET:HE2	3:D:337:THR:HG22	1.48	0.95
2:C:278:TYR:HE1	2:C:292:ALA:HB2	1.21	0.94
2:C:1052:ILE:HD11	5:F:423:LEU:HD13	1.49	0.94
3:D:1090:LYS:HD2	3:D:1097:ARG:HE	1.32	0.94
5:F:305:SER:OG	7:O:54:DT:H4'	1.68	0.93
2:C:719:LEU:HD22	2:C:1030:ILE:HD11	1.51	0.92
3:D:641:ARG:HA	3:D:657:GLN:CG	2.00	0.92
2:C:1107:VAL:HG11	3:D:469:ILE:HD12	1.50	0.92
3:D:1010:LEU:HD12	3:D:1145:GLN:HG3	1.50	0.92
2:C:278:TYR:HD1	2:C:292:ALA:CB	1.73	0.92
2:C:1091:ILE:HD12	2:C:1102:VAL:HG21	1.51	0.92
2:C:273:ALA:O	2:C:274:LEU:C	2.09	0.92
1:A:95:MET:HE3	1:A:140:VAL:HG21	1.52	0.91
2:C:891:ASN:HD21	2:C:1028:MET:HE1	1.35	0.91
6:J:106:ARG:HG3	6:J:110:ARG:HD3	1.53	0.91
2:C:148:LYS:HB3	2:C:414:PRO:HD3	1.52	0.90
5:F:306:LEU:O	5:F:307:ALA:C	2.05	0.90
3:D:880:VAL:HG21	3:D:1210:ILE:HB	1.52	0.90
3:D:1062:TYR:HB2	3:D:1080:ILE:HG21	1.53	0.90
3:D:181:LEU:HD21	3:D:198:ARG:HD2	1.54	0.90
6:J:64:LEU:HD23	6:J:66:GLU:H	1.37	0.89
2:C:275:LEU:HD21	2:C:289:LYS:HB3	0.91	0.89
2:C:288:THR:CG2	2:C:291:SER:HB3	2.02	0.89
7:O:42:DT:H1'	7:O:43:DT:H5'	1.53	0.89
2:C:1092:LYS:NZ	3:D:545:LEU:O	2.05	0.89
5:F:328:LEU:HD23	5:F:351:ILE:HD11	1.51	0.89
3:D:1190:ASN:HA	3:D:1193:VAL:HG12	1.54	0.89
9:M:115:ASP:HB3	9:M:120:LEU:HD13	1.51	0.89
2:C:294:THR:O	2:C:298:ASN:OD1	1.91	0.88
8:P:107:DA:H2'	8:P:108:DT:H71	1.55	0.88
9:M:111:LEU:HB2	9:M:128:LEU:HD13	1.54	0.88
3:D:676:LEU:HD12	3:D:715:LYS:HB3	1.55	0.87
2:C:515:PRO:HB2	2:C:581:VAL:HG11	1.56	0.87
2:C:267:THR:CG2	2:C:272:GLU:HG3	2.04	0.86
2:C:1052:ILE:HD12	5:F:436:GLY:HA3	1.55	0.86
2:C:222:VAL:HG21	2:C:234:VAL:HG22	1.57	0.86
3:D:910:LEU:HD21	3:D:956:GLY:HA2	1.56	0.86
2:C:1067:ARG:CZ	3:D:418:LEU:HD23	2.00	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:98:ARG:HG3	1:A:135:GLU:HG2	1.57	0.85
2:C:1067:ARG:CZ	3:D:418:LEU:HD22	1.96	0.85
2:C:270:THR:O	2:C:274:LEU:HD23	1.76	0.85
3:D:1068:PRO:HD2	3:D:1074:GLU:HG2	1.58	0.85
3:D:797:ASN:HB3	3:D:800:ILE:HG22	1.56	0.85
6:J:81:HIS:HA	6:J:84:MET:HE2	1.59	0.85
3:D:1066:ILE:HD12	3:D:1075:VAL:HB	1.59	0.85
2:C:281:LEU:HD21	2:C:295:LEU:HD21	1.57	0.84
2:C:288:THR:HG21	2:C:291:SER:HB3	1.57	0.84
2:C:463:LEU:CD1	2:C:468:ALA:HB2	2.07	0.84
7:O:21:DG:H2'	7:O:22:DG:H1'	1.59	0.84
3:D:1217:THR:HG22	3:D:1223:ALA:HB2	1.60	0.84
3:D:417:LEU:O	3:D:418:LEU:O	1.96	0.84
1:A:221:LEU:HD12	1:A:225:LEU:HD22	1.61	0.83
1:B:191:LYS:HE3	1:B:193:ILE:HD11	1.60	0.83
3:D:441:CYS:HB3	3:D:512:PHE:HD2	1.44	0.83
1:A:218:LEU:HD12	1:B:234:ILE:HD11	1.60	0.83
3:D:177:LEU:HD11	3:D:198:ARG:HA	1.60	0.82
2:C:269:GLY:O	2:C:272:GLU:HB3	1.79	0.82
3:D:442:GLY:HA3	3:D:523:GLN:HB2	1.61	0.82
2:C:483:MET:HE3	2:C:498:GLY:HA3	1.59	0.82
2:C:612:GLN:HA	2:C:1031:MET:HE1	1.61	0.82
5:F:492:ILE:HG22	5:F:503:ILE:HD12	1.61	0.82
7:O:25:DT:H1'	7:O:26:DT:H5'	1.61	0.82
5:F:390:LEU:HD21	5:F:392:ARG:HE	1.45	0.82
2:C:334:THR:HG23	2:C:337:ASP:H	1.46	0.81
2:C:597:LEU:HB3	2:C:976:VAL:HG13	1.60	0.81
9:M:8:THR:HG22	9:M:18:LEU:HD21	1.62	0.81
3:D:1053:VAL:HG12	3:D:1103:ASP:H	1.44	0.81
5:F:470:ARG:NH1	7:O:24:DC:OP2	2.13	0.81
2:C:885:LEU:HD23	2:C:1030:ILE:HD12	1.62	0.81
3:D:1124:VAL:HG12	3:D:1125:GLN:HG3	1.59	0.81
1:B:60:LEU:HD21	1:B:159:ILE:HD13	1.63	0.81
1:A:40:ARG:HE	1:B:33:THR:HG22	1.47	0.80
5:F:470:ARG:HD3	5:F:506:ILE:HD13	1.61	0.80
8:P:117:DG:H1'	8:P:118:DG:H5'	1.63	0.80
2:C:278:TYR:CE1	2:C:292:ALA:HB1	2.09	0.80
5:F:306:LEU:O	5:F:308:LYS:N	2.14	0.80
3:D:444:PRO:HG2	3:D:447:MET:HB3	1.63	0.80
2:C:821:LEU:HB3	5:F:527:LEU:HD11	1.64	0.80
2:C:284:GLY:HA2	5:F:219:ALA:HB1	1.64	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:233:PRO:HG2	2:C:236:VAL:HG23	1.64	0.79
2:C:307:ASP:O	2:C:308:LEU:C	2.23	0.79
2:C:1067:ARG:HH12	3:D:418:LEU:HD22	1.45	0.79
7:O:61:DG:H2"	7:O:62:DT:H5'	1.62	0.79
1:B:183:VAL:HA	1:B:188:ASP:H	1.48	0.79
2:C:1067:ARG:CZ	3:D:418:LEU:HD21	2.12	0.79
3:D:1167:ILE:HD11	3:D:1181:ILE:HD11	1.65	0.78
2:C:50:VAL:HG22	2:C:503:TYR:HE1	1.48	0.78
3:D:737:LEU:HB2	3:D:793:TYR:HE1	1.48	0.78
5:F:336:ASP:OD1	6:J:89:ARG:NH2	2.17	0.78
2:C:891:ASN:ND2	2:C:930:GLN:OE1	2.14	0.78
1:B:172:LEU:HD13	1:B:199:LYS:H	1.49	0.77
3:D:923:ARG:HB3	3:D:962:VAL:HG21	1.64	0.77
9:M:75:ARG:HE	9:M:157:VAL:HG13	1.49	0.77
1:B:38:LEU:HD23	1:B:194:LEU:HD11	1.65	0.77
1:A:95:MET:HA	1:A:113:PRO:HD3	1.67	0.77
2:C:38:ARG:HD3	2:C:973:SER:HB3	1.64	0.77
3:D:820:MET:HG2	3:D:822:GLY:H	1.48	0.77
1:B:71:GLU:HB3	1:B:75:GLU:HB3	1.67	0.77
2:C:909:ASP:OD2	2:C:995:ASN:ND2	2.16	0.77
3:D:277:LEU:HD11	3:D:295:ARG:HH12	1.48	0.77
1:B:97:LEU:HB3	1:B:136:VAL:HB	1.66	0.77
1:B:99:LYS:HD3	1:B:105:VAL:HG22	1.67	0.77
3:D:356:ARG:HE	5:F:326:LEU:HD11	1.49	0.77
2:C:487:GLU:OE2	2:C:613:ARG:NH2	2.18	0.76
3:D:93:GLY:O	3:D:319:VAL:N	2.16	0.76
3:D:706:MET:N	4:E:41:ASP:OD2	2.18	0.76
8:P:93:DA:H1'	8:P:94:DC:H5"	1.67	0.76
2:C:322:LEU:HD23	2:C:357:VAL:HG11	1.67	0.76
2:C:758:ASP:HB3	2:C:868:LEU:HD23	1.66	0.76
2:C:767:GLU:HG2	2:C:807:THR:HG22	1.67	0.76
2:C:285:GLU:OE1	2:C:286:PRO:HD2	1.86	0.75
2:C:1032:LYS:HE2	2:C:1036:LEU:HD21	1.69	0.75
3:D:173:ARG:NH1	3:D:204:GLU:OE1	2.17	0.75
7:O:21:DG:H2'	7:O:22:DG:C1'	2.16	0.75
2:C:273:ALA:C	2:C:275:LEU:N	2.44	0.75
2:C:139:PHE:HB3	2:C:148:LYS:HB2	1.68	0.75
2:C:919:THR:HG23	3:D:731:VAL:HG23	1.68	0.75
2:C:1042:HIS:NE2	2:C:1063:PHE:O	2.19	0.75
3:D:101:VAL:O	3:D:314:LEU:N	2.19	0.75
3:D:136:ILE:HG13	3:D:229:LEU:HD11	1.69	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:55:ARG:HG2	1:B:137:GLU:HB2	1.69	0.75
2:C:147:ILE:HG12	9:M:47:ARG:HG2	1.66	0.75
2:C:253:GLY:O	2:C:259:ARG:NH1	2.20	0.75
2:C:278:TYR:CD1	2:C:292:ALA:HB2	2.08	0.75
5:F:493:GLY:O	5:F:497:GLY:N	2.20	0.75
2:C:463:LEU:HD13	2:C:468:ALA:CB	2.15	0.75
3:D:891:CYS:HB3	3:D:970:THR:HG23	1.69	0.74
5:F:334:LYS:HE2	7:O:48:DT:P	2.26	0.74
2:C:1066:GLN:OE1	3:D:425:SER:OG	2.04	0.74
2:C:1044:ARG:NH1	2:C:1056:PRO:HB3	2.01	0.74
2:C:1091:ILE:HG23	2:C:1115:PRO:HB3	1.70	0.74
3:D:389:ARG:NH1	7:O:59:DG:C8	2.55	0.74
8:P:86:DC:H1'	8:P:87:DG:H5'	1.68	0.74
3:D:701:ALA:HA	3:D:709:VAL:HG21	1.70	0.74
8:P:133:DC:H2'	8:P:134:DC:H1'	1.70	0.74
1:B:102:PRO:HD3	1:B:131:LYS:H	1.53	0.74
2:C:281:LEU:HD23	2:C:295:LEU:CD2	2.18	0.74
2:C:288:THR:OG1	2:C:291:SER:HB3	1.87	0.74
3:D:618:ALA:HB1	3:D:668:LEU:HD12	1.69	0.74
3:D:981:ARG:HD3	3:D:986:GLY:HA2	1.68	0.74
2:C:252:PHE:HB3	2:C:255:SER:HB2	1.70	0.73
2:C:278:TYR:HE1	2:C:292:ALA:CB	1.84	0.73
3:D:443:LEU:HD12	3:D:444:PRO:HD2	1.70	0.73
2:C:412:ILE:HD13	2:C:417:LEU:HD11	1.70	0.73
3:D:191:ALA:HA	3:D:194:ARG:HE	1.52	0.73
2:C:267:THR:HG22	2:C:272:GLU:HG3	1.69	0.73
2:C:571:VAL:HG21	2:C:575:GLU:HB2	1.71	0.73
3:D:22:GLN:O	6:J:57:ARG:NH2	2.21	0.73
2:C:604:ARG:NH1	2:C:607:MET:SD	2.62	0.73
5:F:302:LEU:O	5:F:305:SER:HB2	1.88	0.73
2:C:348:LEU:HD21	2:C:367:THR:HG22	1.70	0.73
2:C:413:THR:HG22	2:C:416:THR:HG23	1.69	0.73
2:C:442:GLN:O	2:C:678:SER:OG	2.07	0.73
2:C:90:LEU:HD23	2:C:107:PHE:HB3	1.71	0.73
3:D:657:GLN:HA	3:D:657:GLN:NE2	2.01	0.73
3:D:1089:PHE:O	3:D:1097:ARG:N	2.22	0.73
2:C:255:SER:HB3	2:C:258:MET:HB2	1.70	0.72
2:C:986:GLN:HG2	3:D:733:MET:HE1	1.71	0.72
3:D:449:LEU:HD11	3:D:476:VAL:HG13	1.70	0.72
3:D:1164:ARG:NH2	3:D:1216:ALA:O	2.21	0.72
3:D:160:LYS:NZ	3:D:164:ASP:OD1	2.22	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:353:THR:HG23	2:C:354:THR:HG22	1.72	0.72
2:C:1136:GLU:OE2	3:D:11:ARG:NH2	2.19	0.72
3:D:970:THR:OG1	3:D:973:GLY:O	2.06	0.72
3:D:1120:GLU:OE2	3:D:1123:ARG:NH2	2.21	0.72
2:C:101:GLY:O	2:C:142:ASN:ND2	2.23	0.72
2:C:905:PRO:HD2	2:C:916:ILE:HD11	1.71	0.72
3:D:177:LEU:HD13	3:D:201:GLY:HA3	1.71	0.72
1:A:142:ARG:NH2	1:B:230:GLU:OE1	2.22	0.72
2:C:150:GLN:HG2	9:M:44:LEU:HB3	1.70	0.72
3:D:699:ASP:OD1	3:D:703:ARG:NH1	2.23	0.71
2:C:463:LEU:HD12	2:C:463:LEU:C	2.14	0.71
2:C:780:VAL:HG23	2:C:781:LEU:HD12	1.72	0.71
2:C:157:PHE:HE1	2:C:389:ILE:HD11	1.55	0.71
2:C:758:ASP:O	2:C:805:LYS:NZ	2.23	0.71
9:M:85:TRP:HA	9:M:88:ARG:HG2	1.71	0.71
2:C:313:ARG:HG3	2:C:331:SER:HA	1.73	0.71
7:O:72:DG:H2"	7:O:73:DC:H2'	1.70	0.71
9:M:77:PRO:O	9:M:109:ARG:NH2	2.23	0.71
2:C:532:THR:HG22	2:C:535:GLU:HG2	1.72	0.71
3:D:235:ILE:HG21	3:D:241:TYR:HB2	1.72	0.71
2:C:1057:LEU:HD23	2:C:1062:GLN:HG2	1.73	0.71
3:D:926:GLY:O	3:D:940:ARG:NH2	2.24	0.71
3:D:1274:PRO:HA	4:E:104:LEU:HD23	1.73	0.71
1:A:41:THR:OG1	1:A:215:LEU:HD21	1.90	0.71
9:M:23:GLU:OE1	9:M:25:ARG:NH2	2.24	0.71
1:B:18:ARG:NH2	1:B:195:ASP:OD2	2.24	0.70
8:P:135:DA:OP2	8:P:135:DA:H2'	1.90	0.70
3:D:1189:GLU:OE2	3:D:1192:ARG:NH2	2.24	0.70
2:C:892:LYS:HE3	3:D:537:ASP:HB2	1.74	0.70
3:D:1088:VAL:HA	3:D:1098:VAL:HA	1.73	0.70
7:O:58:DA:H2"	7:O:59:DG:H3'	1.73	0.70
2:C:442:GLN:NE2	2:C:679:ASN:OD1	2.24	0.70
2:C:540:VAL:HG22	2:C:561:VAL:CG2	2.20	0.70
3:D:417:LEU:C	3:D:418:LEU:O	2.32	0.70
2:C:229:LYS:HE3	2:C:281:LEU:O	1.92	0.70
3:D:1172:SER:H	3:D:1199:GLU:HG3	1.56	0.70
2:C:150:GLN:NE2	2:C:413:THR:OG1	2.25	0.70
2:C:737:LEU:HD23	2:C:915:ILE:HG22	1.72	0.70
3:D:594:GLY:N	3:D:598:GLU:OE2	2.24	0.70
3:D:615:PRO:HD3	3:D:637:LEU:HD23	1.74	0.70
2:C:215:ASP:N	2:C:223:GLY:O	2.23	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:584:ARG:HH22	2:C:975:PRO:HB2	1.57	0.70
2:C:801:ILE:HD13	2:C:838:LYS:HG2	1.73	0.70
2:C:891:ASN:ND2	2:C:1028:MET:HE1	2.05	0.69
2:C:1067:ARG:NH2	3:D:418:LEU:CD2	2.55	0.69
3:D:651:PHE:CD2	3:D:655:GLY:HA3	2.26	0.69
2:C:102:SER:O	2:C:142:ASN:N	2.21	0.69
2:C:1074:TRP:HB3	3:D:1001:GLN:HE21	1.58	0.69
5:F:248:GLU:OE2	6:J:101:ARG:NH2	2.25	0.69
1:A:170:PRO:HB3	1:A:202:ILE:HG12	1.73	0.69
3:D:885:ILE:HD11	3:D:887:ARG:HE	1.57	0.69
2:C:277:ILE:O	2:C:278:TYR:C	2.33	0.69
3:D:144:ARG:O	3:D:148:LEU:HB2	1.93	0.69
1:B:171:VAL:HG12	1:B:198:THR:HG22	1.75	0.69
2:C:435:GLN:HE21	2:C:460:PRO:HD3	1.57	0.69
3:D:981:ARG:O	3:D:1152:LYS:NZ	2.25	0.69
7:O:22:DG:H2"	7:O:23:DT:H5'	1.73	0.68
3:D:410:GLN:NE2	3:D:1225:SER:O	2.22	0.68
7:O:19:DC:H2'	7:O:20:DT:H71	1.75	0.68
7:O:58:DA:H2"	7:O:59:DG:C3'	2.23	0.68
1:A:221:LEU:HD22	1:B:7:PRO:HG2	1.75	0.68
8:P:121:DA:H2'	8:P:122:DT:C1'	2.23	0.68
1:A:7:PRO:HG2	1:B:221:LEU:HD11	1.75	0.68
2:C:192:ASP:O	2:C:196:ASP:N	2.27	0.68
2:C:761:ASP:OD1	2:C:866:ASN:ND2	2.26	0.68
3:D:913:ASP:HB3	3:D:916:ILE:HG13	1.76	0.68
3:D:1228:GLU:OE1	3:D:1231:ARG:NE	2.19	0.68
5:F:296:LEU:HD23	5:F:328:LEU:HD12	1.74	0.68
2:C:438:GLN:OE1	2:C:451:HIS:NE2	2.26	0.68
2:C:278:TYR:O	2:C:280:LYS:N	2.27	0.68
3:D:545:LEU:HD12	3:D:546:PRO:HD2	1.76	0.68
3:D:968:CYS:SG	3:D:975:CYS:N	2.63	0.68
2:C:224:VAL:HB	2:C:232:GLN:HB2	1.75	0.68
2:C:563:ARG:HG3	2:C:564:LYS:H	1.58	0.67
2:C:96:ILE:HD12	2:C:397:GLU:HG3	1.75	0.67
2:C:1094:ASP:OD2	3:D:420:LYS:NZ	2.18	0.67
3:D:1162:LEU:HD21	3:D:1207:LEU:HD23	1.77	0.67
5:F:317:PHE:CE2	5:F:321:ILE:HD11	2.29	0.67
9:M:4:LYS:N	9:M:7:ASP:OD2	2.20	0.67
5:F:333:GLU:OE1	6:J:84:MET:HE3	1.94	0.67
1:B:40:ARG:HH12	3:D:623:ASP:HB3	1.60	0.67
2:C:1094:ASP:HB3	2:C:1119:GLU:H	1.58	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:270:ILE:HD12	3:D:303:GLN:HA	1.74	0.67
3:D:1056:GLU:HB3	3:D:1063:LYS:HB3	1.76	0.67
2:C:986:GLN:CG	3:D:733:MET:HE1	2.24	0.67
3:D:1208:MET:HE3	3:D:1213:ALA:HA	1.76	0.67
2:C:288:THR:HG21	2:C:291:SER:CB	2.24	0.67
5:F:405:ILE:HD11	5:F:410:VAL:HG22	1.76	0.67
3:D:191:ALA:HB2	3:D:194:ARG:HH21	1.59	0.66
3:D:844:LEU:HD23	3:D:848:GLU:HB3	1.75	0.66
3:D:915:TYR:CZ	3:D:1143:ARG:HD3	2.30	0.66
8:P:121:DA:H2'	8:P:122:DT:H1'	1.76	0.66
2:C:203:LYS:HG2	2:C:213:GLU:HG3	1.77	0.66
5:F:283:TRP:CE3	6:J:105:ILE:HD12	2.30	0.66
7:O:50:DA:OP1	9:M:87:ARG:NH2	2.26	0.66
8:P:133:DC:H2'	8:P:134:DC:C1'	2.25	0.66
1:B:108:GLY:N	1:B:121:PRO:O	2.28	0.66
2:C:175:VAL:HG11	2:C:381:VAL:HG23	1.76	0.66
3:D:7:PHE:O	3:D:1256:LYS:NZ	2.28	0.66
3:D:512:PHE:CE1	3:D:561:SER:HB2	2.30	0.66
2:C:308:LEU:O	2:C:331:SER:HB2	1.95	0.66
2:C:584:ARG:HH12	2:C:975:PRO:HB3	1.59	0.66
2:C:789:ILE:HG22	2:C:803:VAL:HG22	1.78	0.66
2:C:463:LEU:HD12	2:C:463:LEU:O	1.95	0.66
2:C:518:LYS:O	2:C:525:SER:OG	2.11	0.66
3:D:56:ARG:NE	3:D:59:GLU:OE1	2.22	0.66
2:C:717:LYS:HB2	2:C:719:LEU:HD11	1.77	0.66
2:C:41:PHE:CD2	2:C:980:ALA:HB2	2.31	0.66
2:C:738:SER:HA	2:C:904:MET:HE3	1.77	0.66
3:D:1068:PRO:CD	3:D:1074:GLU:HG2	2.26	0.66
5:F:305:SER:O	5:F:308:LYS:HG2	1.96	0.66
2:C:146:GLU:HG3	9:M:48:VAL:HG22	1.77	0.66
3:D:106:TYR:HB3	3:D:312:MET:HE3	1.78	0.66
3:D:262:GLN:HG3	3:D:310:MET:HE1	1.78	0.66
2:C:465:ARG:HB2	2:C:466:GLU:OE1	1.96	0.66
2:C:762:THR:HG23	2:C:765:GLY:H	1.60	0.66
3:D:797:ASN:HD22	3:D:798:PRO:HD2	1.60	0.66
4:E:60:ARG:HH22	4:E:80:GLY:HA3	1.60	0.66
2:C:107:PHE:HZ	2:C:396:MET:HE1	1.60	0.65
3:D:334:ARG:HH11	5:F:418:ARG:HB3	1.61	0.65
3:D:517:VAL:HG12	3:D:518:GLU:O	1.96	0.65
3:D:676:LEU:CD1	3:D:715:LYS:HB3	2.26	0.65
2:C:267:THR:HG23	2:C:272:GLU:HG3	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:431:PHE:O	2:C:437:SER:OG	2.14	0.65
3:D:441:CYS:HB3	3:D:512:PHE:CD2	2.30	0.65
3:D:916:ILE:HG23	3:D:920:ALA:HB3	1.78	0.65
5:F:252:ARG:NH2	5:F:287:ASP:OD1	2.28	0.65
2:C:453:ARG:NH2	2:C:501:SER:O	2.30	0.65
2:C:658:ILE:HD11	2:C:688:PRO:HB3	1.77	0.65
3:D:550:GLU:HG3	4:E:58:ALA:HB1	1.78	0.65
3:D:1052:ARG:O	3:D:1067:VAL:HB	1.97	0.65
3:D:151:LEU:HD22	3:D:248:TYR:HE1	1.61	0.65
3:D:257:GLY:O	3:D:260:SER:OG	2.09	0.65
1:A:157:ALA:HB1	1:A:161:ARG:HG3	1.78	0.65
2:C:277:ILE:O	2:C:278:TYR:O	2.15	0.65
2:C:1133:LEU:HD11	3:D:105:TRP:HZ3	1.60	0.65
3:D:39:LEU:HB3	6:J:11:LEU:HD13	1.77	0.65
1:B:43:LEU:HD11	1:B:174:VAL:HB	1.79	0.65
3:D:33:THR:HG21	3:D:327:MET:HE1	1.79	0.65
2:C:270:THR:C	2:C:274:LEU:HD23	2.22	0.65
2:C:736:ILE:HD11	2:C:916:ILE:HD12	1.78	0.65
3:D:767:HIS:O	3:D:770:ARG:HG3	1.96	0.65
5:F:390:LEU:HG	5:F:392:ARG:HG2	1.79	0.65
1:B:95:MET:HG2	1:B:113:PRO:HD2	1.77	0.64
3:D:638:THR:HG22	3:D:660:ASP:O	1.96	0.64
3:D:181:LEU:HD21	3:D:198:ARG:CD	2.26	0.64
5:F:210:GLU:OE1	5:F:213:ARG:HG3	1.97	0.64
3:D:389:ARG:HD3	3:D:390:PRO:HD2	1.79	0.64
6:J:106:ARG:O	6:J:110:ARG:HD2	1.97	0.64
1:A:93:VAL:HG21	1:A:116:VAL:HG11	1.80	0.64
2:C:267:THR:HG23	2:C:272:GLU:CG	2.28	0.64
2:C:848:ILE:HD11	2:C:874:ALA:HB2	1.79	0.64
3:D:35:ASN:HB3	3:D:38:THR:HG22	1.79	0.64
3:D:963:ARG:NH1	3:D:977:THR:OG1	2.30	0.64
3:D:1273:GLN:NE2	4:E:105:GLU:OE2	2.28	0.64
1:B:183:VAL:HA	1:B:188:ASP:N	2.12	0.64
2:C:737:LEU:HD22	2:C:741:LEU:HD12	1.79	0.64
5:F:502:ARG:NH2	7:O:24:DC:OP2	2.30	0.64
9:M:26:THR:HA	9:M:31:GLN:HA	1.78	0.64
2:C:220:ASP:OD2	2:C:257:ILE:HG12	1.98	0.64
2:C:540:VAL:HG22	2:C:561:VAL:HG21	1.79	0.64
2:C:922:VAL:HG22	2:C:930:GLN:NE2	2.13	0.64
2:C:239:LYS:NZ	2:C:267:THR:O	2.29	0.64
2:C:306:TYR:HE2	2:C:333:LEU:HG	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:847:LEU:O	3:D:851:ILE:HG12	1.98	0.64
2:C:202:VAL:HG11	2:C:214:PHE:HB2	1.80	0.64
2:C:646:GLU:HB3	2:C:662:HIS:CE1	2.33	0.64
3:D:118:LEU:HB3	3:D:120:LEU:HD13	1.81	0.64
3:D:63:GLY:O	3:D:66:LYS:NZ	2.31	0.63
4:E:42:GLU:OE1	4:E:100:HIS:NE2	2.23	0.63
1:B:107:ALA:O	1:B:110:ILE:HG22	1.98	0.63
3:D:1046:ILE:HD11	3:D:1124:VAL:HG21	1.80	0.63
8:P:132:DA:H2"	8:P:133:DC:H5'	1.79	0.63
2:C:178:GLN:O	2:C:378:LEU:HD12	1.98	0.63
7:O:22:DG:H2'	7:O:23:DT:C6	2.34	0.63
2:C:409:VAL:HG23	2:C:410:GLU:OE1	1.98	0.63
2:C:642:VAL:HB	2:C:703:ALA:HB3	1.79	0.63
8:P:138:DT:H2"	8:P:139:DT:OP2	1.97	0.63
9:M:17:ALA:HB3	9:M:37:LEU:HD21	1.81	0.63
9:M:78:HIS:HA	9:M:113:ARG:HH12	1.63	0.63
9:M:81:GLU:OE2	9:M:88:ARG:HD3	1.99	0.63
1:A:215:LEU:HD12	1:A:219:PHE:CE2	2.33	0.63
2:C:446:LEU:HB2	2:C:713:MET:HE2	1.80	0.63
2:C:515:PRO:HB3	2:C:530:TYR:HE1	1.63	0.63
3:D:180:ASP:HB3	3:D:197:VAL:CG1	2.29	0.63
3:D:662:TRP:CZ3	3:D:664:ALA:HB2	2.34	0.63
3:D:1139:GLN:HE21	3:D:1154:ILE:HD12	1.61	0.63
7:O:52:DA:H2"	7:O:53:DC:H5'	1.80	0.63
5:F:296:LEU:O	5:F:300:LEU:HG	1.98	0.63
1:B:171:VAL:HA	1:B:198:THR:HG22	1.80	0.63
3:D:923:ARG:HB3	3:D:962:VAL:CG2	2.29	0.63
3:D:1217:THR:CG2	3:D:1223:ALA:HB2	2.28	0.63
9:M:76:ALA:HB1	9:M:77:PRO:HD2	1.80	0.63
1:A:151:GLN:NE2	2:C:795:GLU:OE2	2.24	0.63
2:C:724:MET:HE1	2:C:1019:PHE:CZ	2.34	0.63
3:D:902:ALA:HA	3:D:913:ASP:H	1.62	0.63
3:D:1118:PRO:HA	3:D:1121:VAL:HG12	1.81	0.63
2:C:296:LEU:O	2:C:296:LEU:HD13	1.99	0.63
3:D:37:ARG:HG3	3:D:38:THR:N	2.13	0.63
3:D:887:ARG:HD2	3:D:972:THR:O	1.99	0.63
5:F:306:LEU:C	5:F:308:LYS:N	2.52	0.63
9:M:120:LEU:HD23	9:M:124:GLU:HB3	1.80	0.63
2:C:243:TRP:HE3	2:C:247:GLN:HB3	1.64	0.62
1:B:118:VAL:HG12	1:B:120:ASN:H	1.64	0.62
3:D:1274:PRO:HG2	4:E:79:VAL:CG1	2.28	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:O:76:DG:H1'	7:O:77:DC:H5'	1.80	0.62
2:C:642:VAL:O	2:C:702:ILE:HG22	1.99	0.62
3:D:993:GLU:OE2	4:E:51:TYR:OH	2.16	0.62
3:D:1086:LEU:HB3	3:D:1099:LEU:HB3	1.81	0.62
7:O:59:DG:H4'	7:O:60:DG:H5'	1.80	0.62
2:C:725:PRO:O	3:D:725:THR:HG22	2.00	0.62
7:O:35:DT:H1'	7:O:36:DG:H5'	1.80	0.62
4:E:32:PRO:HB2	4:E:36:THR:HG23	1.80	0.62
8:P:129:DA:H2"	8:P:130:DA:OP2	1.99	0.62
2:C:206:PRO:HG3	2:C:306:TYR:CE1	2.34	0.62
3:D:33:THR:HG23	3:D:47:PHE:CE2	2.34	0.62
3:D:360:LEU:HD21	5:F:329:ILE:HG21	1.80	0.62
3:D:445:LYS:NZ	3:D:518:GLU:OE2	2.31	0.62
7:O:19:DC:H2"	7:O:20:DT:OP2	1.99	0.62
9:M:81:GLU:CD	9:M:88:ARG:HB3	2.25	0.62
2:C:240:ALA:HA	2:C:274:LEU:CD2	2.29	0.62
2:C:736:ILE:CG1	2:C:916:ILE:HB	2.29	0.62
2:C:915:ILE:HD13	2:C:1030:ILE:HD13	1.82	0.62
3:D:114:LEU:HG	3:D:312:MET:HE2	1.81	0.62
5:F:501:GLU:OE1	5:F:504:ARG:HD3	2.00	0.62
2:C:185:VAL:HG12	2:C:204:VAL:HG22	1.82	0.62
2:C:1087:GLU:OE1	2:C:1091:ILE:HD11	2.00	0.62
3:D:834:ARG:HB3	3:D:835:PRO:HA	1.81	0.62
3:D:913:ASP:HB3	3:D:916:ILE:CG1	2.30	0.62
9:M:38:LYS:HB3	9:M:45:THR:HG22	1.81	0.62
2:C:157:PHE:CE1	2:C:389:ILE:HD11	2.33	0.61
2:C:1057:LEU:CD2	2:C:1062:GLN:HG2	2.29	0.61
2:C:230:ARG:O	2:C:231:ARG:NE	2.28	0.61
2:C:715:LEU:N	2:C:1029:TYR:OH	2.33	0.61
3:D:130:TYR:CZ	3:D:387:ARG:NE	2.68	0.61
5:F:304:VAL:O	5:F:304:VAL:HG12	2.01	0.61
2:C:505:ARG:NH2	2:C:513:GLU:OE1	2.33	0.61
3:D:498:LEU:HB3	3:D:541:MET:HE2	1.82	0.61
3:D:1162:LEU:CD2	3:D:1207:LEU:HD23	2.30	0.61
7:O:29:DC:H2'	7:O:30:DT:C7	2.31	0.61
7:O:72:DG:H1'	7:O:73:DC:H5'	1.82	0.61
2:C:1067:ARG:HD2	3:D:421:ARG:HG2	1.82	0.61
5:F:334:LYS:CE	7:O:48:DT:OP1	2.33	0.61
8:P:120:DA:H2'	8:P:120:DA:OP2	1.99	0.61
3:D:143:MET:HE2	3:D:251:TYR:CE1	2.36	0.61
3:D:147:GLU:OE2	3:D:150:THR:OG1	2.15	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:657:GLN:N	3:D:658:PRO:HD2	2.15	0.61
3:D:1049:VAL:HG11	3:D:1068:PRO:HB3	1.83	0.61
5:F:264:THR:HA	5:F:267:SER:HB3	1.83	0.61
1:A:95:MET:HE3	1:A:140:VAL:CG2	2.29	0.61
1:A:170:PRO:O	1:A:199:LYS:HG2	2.01	0.61
2:C:285:GLU:CD	2:C:286:PRO:HD2	2.25	0.61
2:C:1128:LEU:HD21	3:D:1233:LEU:HD21	1.82	0.61
3:D:505:HIS:CE1	3:D:507:LEU:HB2	2.36	0.61
3:D:558:LEU:CD1	4:E:54:VAL:HG21	2.31	0.61
3:D:595:ASP:N	3:D:598:GLU:OE2	2.27	0.61
3:D:823:LEU:HD23	3:D:835:PRO:HB3	1.82	0.61
1:B:52:THR:O	1:B:164:VAL:HG22	2.00	0.61
2:C:278:TYR:O	2:C:279:ARG:C	2.42	0.61
3:D:134:TYR:CD1	3:D:256:MET:HE3	2.36	0.61
3:D:1166:THR:HG22	3:D:1204:ARG:HB2	1.82	0.61
5:F:305:SER:O	5:F:308:LYS:CD	2.48	0.61
2:C:252:PHE:HB3	2:C:255:SER:CB	2.30	0.61
2:C:507:ASN:N	2:C:511:PHE:O	2.31	0.61
2:C:807:THR:O	2:C:833:ARG:N	2.32	0.61
2:C:1067:ARG:NH2	3:D:418:LEU:HD22	2.15	0.61
3:D:173:ARG:HD3	3:D:204:GLU:HB2	1.82	0.61
3:D:239:ASN:HD21	3:D:242:ARG:HH21	1.48	0.61
3:D:1056:GLU:O	3:D:1063:LYS:N	2.34	0.61
3:D:976:ALA:O	3:D:979:TYR:N	2.33	0.60
3:D:498:LEU:HB3	3:D:541:MET:CE	2.30	0.60
3:D:820:MET:HG2	3:D:822:GLY:N	2.16	0.60
1:A:46:ILE:HD12	1:A:210:SER:OG	2.01	0.60
1:B:54:ILE:O	1:B:162:ILE:HG13	2.00	0.60
1:B:71:GLU:HG2	1:B:75:GLU:HG2	1.82	0.60
1:B:182:ARG:HG3	1:B:186:ARG:H	1.66	0.60
2:C:635:ALA:HB2	2:C:713:MET:HG2	1.82	0.60
3:D:473:LYS:HD2	5:F:448:VAL:HG21	1.83	0.60
6:J:53:THR:HB	6:J:61:GLU:OE2	2.02	0.60
1:A:85:VAL:HG21	1:A:95:MET:HE1	1.82	0.60
2:C:288:THR:HG23	2:C:288:THR:O	2.01	0.60
2:C:797:ARG:N	2:C:800:ASP:OD2	2.30	0.60
5:F:445:VAL:HG12	5:F:447:ALA:H	1.67	0.60
2:C:268:VAL:O	2:C:272:GLU:CB	2.50	0.60
2:C:296:LEU:C	2:C:298:ASN:H	2.09	0.60
2:C:482:ARG:NH1	2:C:532:THR:O	2.33	0.60
2:C:1057:LEU:HD11	5:F:438:PHE:HA	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:84:ARG:HD3	3:D:86:LYS:HE3	1.84	0.60
3:D:206:ARG:O	3:D:209:ARG:HG3	2.02	0.60
3:D:130:TYR:CG	3:D:387:ARG:NH2	2.68	0.60
3:D:557:ILE:HD13	4:E:53:LEU:CD1	2.31	0.60
1:A:182:ARG:HA	1:A:188:ASP:OD1	2.01	0.60
2:C:189:GLU:OE1	2:C:367:THR:HG21	2.02	0.60
3:D:457:MET:HE3	3:D:473:LYS:HB2	1.84	0.60
3:D:683:PHE:CE2	3:D:685:ASN:HB2	2.37	0.60
3:D:1166:THR:CG2	3:D:1204:ARG:HB2	2.32	0.60
2:C:716:GLY:N	2:C:1029:TYR:OH	2.35	0.60
2:C:997:ASP:HB2	2:C:999:ASP:OD2	2.01	0.60
3:D:382:PHE:O	3:D:403:SER:OG	2.17	0.60
2:C:955:TRP:CD1	2:C:987:GLY:HA3	2.37	0.60
6:J:92:GLU:O	6:J:96:GLU:HG2	2.02	0.60
9:M:120:LEU:HB3	9:M:124:GLU:HB2	1.84	0.59
1:B:55:ARG:HD3	1:B:137:GLU:OE1	2.02	0.59
2:C:150:GLN:OE1	2:C:415:GLN:HB2	2.02	0.59
7:O:58:DA:H2"	7:O:59:DG:C2'	2.32	0.59
2:C:147:ILE:CG1	9:M:47:ARG:HG2	2.32	0.59
2:C:536:GLU:OE2	2:C:562:ARG:NH1	2.30	0.59
2:C:790:VAL:HG13	2:C:802:LEU:O	2.01	0.59
3:D:101:VAL:HG13	3:D:375:GLN:OE1	2.02	0.59
3:D:134:TYR:CE1	3:D:256:MET:HE3	2.38	0.59
1:B:95:MET:HG2	1:B:113:PRO:CD	2.32	0.59
2:C:195:THR:HG22	2:C:197:LYS:HG3	1.83	0.59
3:D:466:ALA:HB1	3:D:471:SER:OG	2.01	0.59
3:D:1086:LEU:HD23	3:D:1099:LEU:HB3	1.83	0.59
3:D:241:TYR:O	3:D:245:VAL:HG23	2.03	0.59
3:D:944:LEU:HA	3:D:948:GLU:CG	2.33	0.59
2:C:767:GLU:HG2	2:C:807:THR:CG2	2.32	0.59
2:C:1083:TYR:O	2:C:1087:GLU:HG2	2.02	0.59
3:D:1011:THR:OG1	3:D:1145:GLN:NE2	2.36	0.59
6:J:40:PHE:CZ	6:J:58:ASN:HB2	2.37	0.59
9:M:78:HIS:HA	9:M:113:ARG:NH1	2.18	0.59
2:C:105:LEU:HD12	2:C:138:GLU:O	2.03	0.59
5:F:261:GLN:O	5:F:265:GLU:HG2	2.02	0.59
5:F:387:LEU:HD13	5:F:393:GLU:HG2	1.85	0.59
3:D:173:ARG:HG2	3:D:205:MET:HB2	1.85	0.59
5:F:257:LEU:HD21	6:J:81:HIS:CG	2.38	0.59
7:O:41:DA:H2'	7:O:42:DT:H71	1.85	0.59
2:C:413:THR:OG1	2:C:414:PRO:HD2	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:727:GLU:H	3:D:725:THR:CG2	2.16	0.59
3:D:614:SER:HB2	3:D:615:PRO:HD2	1.85	0.59
3:D:634:LYS:HG2	3:D:665:GLU:HB3	1.84	0.59
8:P:128:DC:H2"	8:P:129:DA:OP2	2.02	0.59
1:B:68:GLY:O	1:B:129:ASN:N	2.27	0.59
2:C:224:VAL:HG21	2:C:234:VAL:N	2.17	0.59
2:C:922:VAL:HB	2:C:923:PRO:HD3	1.85	0.59
2:C:1077:GLN:NE2	3:D:1252:VAL:HG21	2.18	0.59
2:C:1137:VAL:O	3:D:-1:GLY:HA2	2.03	0.59
3:D:33:THR:HG21	3:D:327:MET:CE	2.32	0.59
3:D:1054:ARG:HB2	3:D:1067:VAL:HG23	1.84	0.59
3:D:1223:ALA:HA	3:D:1226:PHE:CD2	2.38	0.59
8:P:119:DC:H2"	8:P:120:DA:OP2	2.03	0.59
2:C:1111:ASN:ND2	4:E:66:ASP:OD1	2.35	0.58
3:D:887:ARG:HH11	3:D:972:THR:HB	1.67	0.58
7:O:58:DA:H2"	7:O:59:DG:H2'	1.85	0.58
8:P:84:DT:H2"	8:P:85:DT:H71	1.85	0.58
2:C:96:ILE:HB	2:C:105:LEU:HB3	1.84	0.58
2:C:294:THR:O	2:C:298:ASN:CG	2.46	0.58
3:D:840:PHE:CD1	3:D:844:LEU:HD11	2.38	0.58
5:F:262:LEU:O	5:F:265:GLU:HB2	2.03	0.58
5:F:467:LEU:HB3	5:F:471:GLU:OE1	2.02	0.58
1:A:55:ARG:NE	1:A:137:GLU:OE2	2.37	0.58
1:B:84:VAL:HG12	1:B:120:ASN:ND2	2.18	0.58
2:C:224:VAL:HB	2:C:232:GLN:CB	2.33	0.58
2:C:270:THR:O	2:C:274:LEU:CD2	2.49	0.58
3:D:511:ALA:O	3:D:560:LEU:HD12	2.03	0.58
3:D:849:TYR:O	3:D:853:THR:HG23	2.02	0.58
7:O:25:DT:H2"	7:O:26:DT:H71	1.85	0.58
2:C:736:ILE:HD11	2:C:916:ILE:HB	1.85	0.58
3:D:75:CYS:HB3	3:D:78:CYS:SG	2.44	0.58
5:F:378:LYS:O	5:F:382:ILE:HG12	2.02	0.58
5:F:460:LEU:HD13	5:F:464:LEU:HD13	1.85	0.58
2:C:485:PRO:O	3:D:857:ARG:NH2	2.35	0.58
3:D:134:TYR:CD1	3:D:256:MET:HB2	2.38	0.58
3:D:656:TRP:HB2	3:D:658:PRO:HG2	1.86	0.58
5:F:386:LEU:HD12	5:F:399:LEU:HD23	1.85	0.58
2:C:62:GLU:OE1	2:C:69:ARG:HD3	2.03	0.58
2:C:943:GLY:O	2:C:993:LEU:HG	2.04	0.58
3:D:9:GLU:HG2	3:D:1244:LYS:HD2	1.84	0.58
3:D:928:ASP:OD1	3:D:940:ARG:N	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1190:ASN:O	3:D:1194:VAL:HG13	2.03	0.58
9:M:111:LEU:HD13	9:M:128:LEU:HB2	1.85	0.58
1:A:215:LEU:HD12	1:A:219:PHE:HE2	1.69	0.58
2:C:515:PRO:HB3	2:C:530:TYR:CE1	2.39	0.58
2:C:737:LEU:HD22	2:C:741:LEU:CD1	2.34	0.58
3:D:81:GLU:OE1	3:D:91:ARG:NH2	2.33	0.58
3:D:147:GLU:HG3	3:D:151:LEU:HG	1.85	0.58
1:B:24:GLU:HB3	1:B:191:LYS:HG3	1.86	0.58
2:C:152:VAL:HG21	2:C:418:ILE:HD12	1.86	0.58
2:C:268:VAL:O	2:C:272:GLU:HG2	2.04	0.58
2:C:395:ARG:NH1	8:P:102:DG:OP2	2.36	0.58
3:D:169:GLU:OE1	3:D:208:ILE:HG23	2.04	0.58
3:D:417:LEU:O	3:D:418:LEU:CB	2.51	0.58
3:D:851:ILE:HA	3:D:854:HIS:HD2	1.69	0.58
5:F:342:LYS:CB	7:O:52:DA:H5”	2.34	0.58
6:J:20:ARG:NH1	6:J:23:ASP:HB3	2.18	0.58
7:O:29:DC:H2’	7:O:30:DT:H72	1.86	0.58
8:P:134:DC:H2’	8:P:135:DA:C8	2.38	0.58
2:C:192:ASP:OD1	2:C:194:SER:OG	2.16	0.58
2:C:464:SER:OG	2:C:465:ARG:N	2.32	0.58
3:D:25:TYR:HD2	3:D:91:ARG:HD3	1.69	0.58
3:D:491:ILE:CD1	3:D:516:LEU:HD21	2.34	0.58
3:D:1219:SER:OG	3:D:1243:ASP:OD2	2.19	0.58
2:C:182:SER:O	2:C:186:TYR:OH	2.12	0.58
2:C:884:LYS:O	2:C:1033:LEU:HB2	2.04	0.58
3:D:444:PRO:HG2	3:D:447:MET:CB	2.34	0.58
3:D:915:TYR:CE1	3:D:1143:ARG:HD3	2.39	0.58
3:D:963:ARG:HD3	3:D:978:CYS:SG	2.44	0.58
5:F:491:GLU:O	5:F:494:GLN:HG3	2.04	0.58
7:O:22:DG:H2’	7:O:23:DT:C5	2.39	0.58
1:B:32:TYR:CE1	2:C:1014:ARG:HD3	2.38	0.57
2:C:446:LEU:HB2	2:C:713:MET:CE	2.34	0.57
2:C:756:GLU:HG3	2:C:870:ARG:HG2	1.85	0.57
2:C:1088:LEU:HD23	2:C:1092:LYS:HD2	1.86	0.57
2:C:222:VAL:HG21	2:C:234:VAL:CG2	2.32	0.57
2:C:559:VAL:HG12	2:C:560:LEU:O	2.03	0.57
1:A:95:MET:HG3	1:A:138:LEU:HB2	1.85	0.57
2:C:650:ILE:HD13	2:C:660:VAL:HG12	1.85	0.57
2:C:803:VAL:O	2:C:836:SER:OG	2.20	0.57
3:D:192:ASP:OD2	3:D:196:LYS:HE3	2.03	0.57
3:D:446:LEU:HD23	3:D:446:LEU:O	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1208:MET:HE3	3:D:1213:ALA:CB	2.34	0.57
8:P:106:DA:H2'	8:P:107:DA:O4'	2.05	0.57
8:P:131:DG:H2"	8:P:132:DA:C8	2.39	0.57
1:B:164:VAL:HG23	1:B:165:ASP:O	2.03	0.57
2:C:290:GLU:OE1	2:C:290:GLU:HA	2.04	0.57
2:C:584:ARG:O	2:C:587:VAL:HG12	2.03	0.57
2:C:591:THR:HG22	2:C:597:LEU:HD22	1.86	0.57
2:C:641:VAL:CG1	2:C:701:VAL:HG13	2.35	0.57
3:D:736:VAL:HG22	3:D:799:ILE:CD1	2.34	0.57
5:F:462:SER:O	5:F:466:THR:HG23	2.04	0.57
7:O:58:DA:H4'	7:O:59:DG:OP1	2.01	0.57
9:M:21:ALA:O	9:M:36:VAL:HG12	2.04	0.57
1:A:2:LEU:HB3	1:B:143:GLY:HA2	1.85	0.57
1:B:30:PHE:HA	1:B:33:THR:CG2	2.34	0.57
2:C:482:ARG:NH1	2:C:533:ALA:HA	2.20	0.57
3:D:327:MET:HE2	3:D:337:THR:CG2	2.30	0.57
3:D:512:PHE:HE1	3:D:561:SER:HB2	1.68	0.57
3:D:677:LEU:HD23	3:D:681:TYR:CD2	2.39	0.57
8:P:124:DG:H2"	8:P:125:DA:C8	2.39	0.57
1:B:89:GLU:OE2	1:B:115:GLY:HA3	2.05	0.57
1:B:181:THR:HG21	1:B:191:LYS:HD3	1.86	0.57
2:C:104:SER:N	2:C:140:ILE:O	2.30	0.57
2:C:809:LYS:HB2	2:C:833:ARG:HB2	1.85	0.57
3:D:218:ARG:HD2	3:D:243:GLU:OE2	2.04	0.57
3:D:1264:ILE:HD11	3:D:1267:TYR:CE2	2.40	0.57
5:F:463:VAL:O	5:F:466:THR:OG1	2.12	0.57
7:O:30:DT:OP2	7:O:30:DT:H2'	2.03	0.57
8:P:116:DC:H4'	8:P:117:DG:OP1	2.03	0.57
1:B:183:VAL:HG12	1:B:188:ASP:HA	1.86	0.57
3:D:195:ARG:HD3	3:D:198:ARG:HD3	1.86	0.57
5:F:236:GLY:HA3	7:O:55:DG:N2	2.19	0.57
1:A:15:THR:OG1	1:A:18:ARG:HG3	2.05	0.57
2:C:296:LEU:HD13	2:C:296:LEU:C	2.30	0.57
2:C:518:LYS:HD3	2:C:527:GLU:OE1	2.04	0.57
3:D:737:LEU:HB2	3:D:793:TYR:CE1	2.35	0.57
1:A:54:ILE:HD11	1:A:77:ILE:CD1	2.35	0.57
1:A:89:GLU:OE1	1:A:89:GLU:N	2.37	0.57
3:D:742:LYS:NZ	3:D:819:GLY:O	2.31	0.57
5:F:253:ILE:HD11	5:F:292:LYS:HA	1.87	0.57
1:B:3:ILE:HB	1:B:234:ILE:HA	1.85	0.57
1:B:40:ARG:NH1	3:D:623:ASP:HB3	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:144:THR:HG23	2:C:146:GLU:OE1	2.05	0.57
2:C:313:ARG:CG	2:C:331:SER:HA	2.35	0.57
3:D:113:ARG:HH21	3:D:1235:ASP:HB3	1.70	0.57
5:F:231:TYR:HE2	5:F:321:ILE:HG21	1.69	0.57
5:F:261:GLN:HG2	6:J:82:TRP:CZ2	2.40	0.57
5:F:305:SER:HG	7:O:54:DT:H4'	1.70	0.57
7:O:23:DT:H2'	7:O:23:DT:OP2	2.05	0.57
1:A:153:ARG:HH21	2:C:797:ARG:HD3	1.70	0.56
2:C:470:LEU:O	2:C:470:LEU:HD13	2.05	0.56
3:D:707:ILE:HD13	4:E:39:PRO:HB3	1.86	0.56
3:D:817:LEU:O	3:D:839:SER:HB2	2.05	0.56
3:D:1066:ILE:HD12	3:D:1075:VAL:CB	2.33	0.56
1:B:175:THR:HG22	1:B:195:ASP:HB3	1.87	0.56
3:D:615:PRO:HB3	3:D:671:VAL:HG11	1.87	0.56
3:D:1084:GLN:C	3:D:1085:ARG:HD2	2.31	0.56
1:A:66:VAL:HB	1:A:69:VAL:CG2	2.35	0.56
1:A:182:ARG:HH12	3:D:625:GLY:H	1.53	0.56
1:B:30:PHE:HA	1:B:33:THR:HG23	1.85	0.56
2:C:202:VAL:HG13	2:C:214:PHE:H	1.70	0.56
2:C:240:ALA:HA	2:C:274:LEU:HD22	1.85	0.56
2:C:934:THR:CG2	2:C:1026:GLY:HA3	2.35	0.56
3:D:134:TYR:HD1	3:D:256:MET:HB2	1.70	0.56
3:D:136:ILE:HG13	3:D:229:LEU:CD1	2.36	0.56
3:D:223:TRP:O	3:D:227:THR:HG23	2.05	0.56
3:D:1010:LEU:HD23	3:D:1028:LEU:HB2	1.85	0.56
4:E:47:VAL:HG11	4:E:53:LEU:HD23	1.87	0.56
5:F:280:ASP:O	5:F:284:ILE:HG12	2.04	0.56
5:F:295:LEU:HD23	5:F:332:VAL:HG23	1.86	0.56
5:F:499:THR:HG21	7:O:26:DT:H71	1.86	0.56
7:O:75:DG:H2"	7:O:76:DG:C8	2.41	0.56
1:A:56:ILE:HB	1:A:59:VAL:CG2	2.36	0.56
1:B:92:PRO:HG3	1:B:141:GLU:OE1	2.05	0.56
2:C:399:VAL:O	2:C:403:ARG:HG2	2.06	0.56
3:D:235:ILE:CG2	3:D:241:TYR:HB2	2.35	0.56
3:D:339:ASP:OD1	3:D:399:LEU:HD22	2.05	0.56
3:D:840:PHE:CE1	3:D:844:LEU:HD11	2.40	0.56
4:E:56:TYR:HE2	4:E:99:ILE:HG23	1.69	0.56
5:F:384:ARG:O	5:F:388:GLN:NE2	2.38	0.56
5:F:493:GLY:HA2	5:F:503:ILE:HD11	1.87	0.56
9:M:8:THR:HA	9:M:18:LEU:HD23	1.86	0.56
1:B:106:THR:N	1:B:109:ASP:OD2	2.32	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:284:GLY:CA	5:F:219:ALA:HB1	2.34	0.56
3:D:1035:PHE:HA	3:D:1161:MET:HE1	1.87	0.56
3:D:1100:SER:N	3:D:1103:ASP:OD2	2.30	0.56
4:E:56:TYR:CE1	4:E:106:HIS:HB3	2.41	0.56
6:J:33:ARG:HG2	6:J:34:THR:O	2.05	0.56
1:B:82:SER:OG	1:B:123:MET:HE1	2.06	0.56
2:C:522:GLY:O	2:C:553:ARG:HA	2.06	0.56
2:C:771:ARG:O	2:C:773:ILE:HG12	2.05	0.56
3:D:1052:ARG:HA	3:D:1104:HIS:HA	1.87	0.56
3:D:1054:ARG:CG	3:D:1065:THR:HB	2.35	0.56
7:O:32:DC:H2"	7:O:33:DA:C8	2.40	0.56
8:P:106:DA:H2'	8:P:107:DA:C1'	2.36	0.56
2:C:288:THR:CB	2:C:291:SER:HB3	2.35	0.56
3:D:329:GLN:HB3	3:D:335:PHE:CE1	2.40	0.56
3:D:527:LEU:HD22	3:D:575:ALA:O	2.06	0.56
3:D:866:ARG:HH11	3:D:1011:THR:HA	1.71	0.56
3:D:1080:ILE:HD11	3:D:1112:MET:HG3	1.88	0.56
2:C:147:ILE:CD1	9:M:47:ARG:HG2	2.36	0.56
2:C:189:GLU:OE1	2:C:189:GLU:N	2.39	0.56
2:C:262:LEU:HD12	2:C:265:ASP:OD2	2.06	0.56
2:C:275:LEU:HD21	2:C:289:LYS:CA	2.34	0.56
3:D:60:CYS:SG	3:D:64:LYS:N	2.79	0.56
3:D:449:LEU:O	3:D:449:LEU:HD13	2.05	0.56
3:D:704:TYR:HB3	3:D:705:PRO:HD2	1.87	0.56
3:D:823:LEU:HD23	3:D:835:PRO:CB	2.36	0.56
9:M:17:ALA:CB	9:M:39:VAL:HA	2.35	0.56
2:C:202:VAL:CG1	2:C:214:PHE:HB2	2.34	0.56
2:C:378:LEU:N	2:C:510:GLY:O	2.39	0.56
2:C:502:VAL:HG23	2:C:587:VAL:O	2.06	0.56
2:C:771:ARG:HD2	2:C:785:ASP:O	2.04	0.56
3:D:334:ARG:NH1	5:F:418:ARG:HB3	2.20	0.56
3:D:437:LYS:NZ	4:E:33:LEU:HD21	2.21	0.56
2:C:222:VAL:CG2	2:C:234:VAL:HG13	2.36	0.56
2:C:1040:LYS:HD2	3:D:540:GLN:HE22	1.71	0.56
3:D:212:ALA:O	3:D:215:GLU:HG2	2.06	0.56
3:D:580:ASP:HB2	3:D:721:PHE:HE1	1.71	0.56
3:D:797:ASN:HD22	3:D:798:PRO:CD	2.19	0.56
3:D:1055:LEU:HB3	3:D:1101:ASP:CB	2.36	0.56
6:J:33:ARG:O	6:J:63:THR:HG22	2.06	0.56
7:O:72:DG:H2"	7:O:73:DC:C2'	2.36	0.56
2:C:222:VAL:HG21	2:C:234:VAL:HG13	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:820:LEU:HD13	5:F:479:PHE:CD2	2.41	0.55
3:D:195:ARG:HD2	3:D:198:ARG:HH11	1.70	0.55
5:F:499:THR:HG21	7:O:26:DT:C7	2.36	0.55
7:O:59:DG:H1'	7:O:60:DG:O4'	2.06	0.55
1:A:42:LEU:HD23	1:A:211:ALA:HB2	1.88	0.55
2:C:817:GLU:HG3	5:F:481:LEU:HD22	1.87	0.55
1:A:93:VAL:HG23	1:A:140:VAL:HB	1.87	0.55
2:C:650:ILE:HD11	2:C:702:ILE:HD11	1.88	0.55
3:D:364:GLU:HG3	3:D:368:ASN:OD1	2.06	0.55
3:D:866:ARG:NH1	3:D:1011:THR:HA	2.20	0.55
7:O:42:DT:H2'	7:O:43:DT:C7	2.36	0.55
2:C:41:PHE:CD2	2:C:974:THR:HG22	2.41	0.55
3:D:159:ARG:O	3:D:162:VAL:HB	2.06	0.55
3:D:222:ILE:HD13	3:D:247:ARG:NH2	2.21	0.55
7:O:42:DT:H2'	7:O:43:DT:H72	1.89	0.55
8:P:92:DA:H2"	8:P:93:DA:H5'	1.88	0.55
2:C:104:SER:OG	2:C:140:ILE:HB	2.05	0.55
2:C:322:LEU:CD2	2:C:357:VAL:HG11	2.36	0.55
2:C:677:ARG:HG2	2:C:678:SER:O	2.06	0.55
2:C:848:ILE:CD1	2:C:874:ALA:HB2	2.36	0.55
2:C:961:ASP:O	2:C:962:GLU:HG3	2.05	0.55
3:D:146:ASN:OD1	3:D:147:GLU:N	2.40	0.55
3:D:167:ASP:HA	3:D:170:LEU:HD12	1.89	0.55
3:D:473:LYS:HE3	5:F:448:VAL:HG11	1.88	0.55
6:J:34:THR:OG1	6:J:38:GLU:HB2	2.07	0.55
1:A:98:ARG:HG3	1:A:135:GLU:CG	2.35	0.55
2:C:243:TRP:CE3	2:C:247:GLN:HB3	2.41	0.55
2:C:593:MET:HE1	2:C:713:MET:HG3	1.88	0.55
2:C:860:GLU:C	2:C:861:LEU:HD12	2.32	0.55
3:D:147:GLU:O	3:D:151:LEU:HG	2.06	0.55
3:D:337:THR:HG23	5:F:420:PRO:HB2	1.87	0.55
4:E:82:LEU:HB3	4:E:103:LEU:HD23	1.87	0.55
5:F:421:ILE:HD11	5:F:425:GLN:HE22	1.71	0.55
6:J:32:TYR:CD1	6:J:64:LEU:HA	2.42	0.55
6:J:40:PHE:CE2	6:J:58:ASN:HB2	2.41	0.55
6:J:76:LYS:H	6:J:76:LYS:HD3	1.72	0.55
6:J:106:ARG:CG	6:J:110:ARG:HD3	2.33	0.55
2:C:139:PHE:CZ	2:C:412:ILE:HD11	2.42	0.55
2:C:204:VAL:HB	2:C:212:LEU:HD21	1.88	0.55
3:D:1251:ASN:ND2	3:D:1256:LYS:HD2	2.22	0.55
5:F:262:LEU:HA	5:F:265:GLU:CG	2.36	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:504:ARG:NH2	8:P:128:DC:OP2	2.40	0.55
1:A:194:LEU:HD23	1:A:195:ASP:N	2.22	0.55
2:C:1080:GLY:O	3:D:1261:GLY:HA3	2.06	0.55
3:D:1054:ARG:HB2	3:D:1067:VAL:CG2	2.36	0.55
5:F:400:ALA:HB3	5:F:407:PRO:HG3	1.89	0.55
6:J:31:ARG:O	6:J:65:ILE:HB	2.06	0.55
7:O:58:DA:H1'	7:O:59:DG:O5'	2.07	0.55
2:C:41:PHE:HD2	2:C:980:ALA:HB2	1.71	0.55
2:C:347:ARG:HB3	2:C:352:GLN:HG3	1.87	0.55
3:D:106:TYR:HB3	3:D:312:MET:CE	2.35	0.55
3:D:151:LEU:HD22	3:D:248:TYR:CE1	2.41	0.55
3:D:206:ARG:HA	3:D:209:ARG:HG3	1.89	0.55
3:D:912:ARG:HG3	3:D:916:ILE:HD12	1.89	0.55
7:O:22:DG:C2'	7:O:23:DT:H5'	2.37	0.55
9:M:38:LYS:HA	9:M:45:THR:HA	1.88	0.55
2:C:150:GLN:HG2	9:M:44:LEU:CB	2.35	0.55
3:D:376:GLU:OE2	5:F:227:SER:HB2	2.07	0.55
3:D:946:ASP:HB2	3:D:947:PRO:HD3	1.89	0.55
8:P:80:DC:H2"	8:P:81:DC:C6	2.41	0.55
2:C:204:VAL:HB	2:C:212:LEU:CD2	2.36	0.54
3:D:390:PRO:O	3:D:390:PRO:HG2	2.06	0.54
5:F:328:LEU:CD2	5:F:351:ILE:HD11	2.32	0.54
7:O:42:DT:H4'	7:O:43:DT:OP1	2.06	0.54
1:B:9:LEU:HD12	1:B:22:VAL:O	2.06	0.54
2:C:245:SER:O	2:C:249:VAL:HG23	2.07	0.54
2:C:421:ARG:HA	2:C:424:VAL:HG12	1.88	0.54
3:D:1169:ASP:HB2	3:D:1202:ALA:HB3	1.87	0.54
5:F:451:VAL:O	5:F:455:LEU:HD23	2.08	0.54
2:C:160:MET:SD	2:C:164:GLY:HA2	2.46	0.54
3:D:37:ARG:CG	3:D:38:THR:N	2.69	0.54
3:D:113:ARG:HG2	3:D:1238:ILE:CD1	2.37	0.54
3:D:138:SER:HB3	3:D:253:THR:OG1	2.08	0.54
5:F:492:ILE:HA	5:F:495:VAL:HG12	1.90	0.54
7:O:76:DG:H1'	7:O:77:DC:C5'	2.37	0.54
9:M:17:ALA:HB2	9:M:39:VAL:HG12	1.89	0.54
1:A:73:VAL:O	1:A:77:ILE:HG12	2.08	0.54
1:B:25:PRO:HB2	1:B:189:PHE:HB3	1.90	0.54
1:B:107:ALA:HB2	1:B:123:MET:HB3	1.89	0.54
2:C:488:THR:O	2:C:610:ASN:ND2	2.30	0.54
2:C:936:LEU:HD11	2:C:972:VAL:HG21	1.89	0.54
3:D:880:VAL:CG2	3:D:1210:ILE:HB	2.33	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:908:GLY:O	3:D:909:THR:HG23	2.07	0.54
3:D:1168:ILE:HG13	3:D:1202:ALA:HB3	1.89	0.54
1:B:6:ARG:NH2	1:B:237:SER:HA	2.22	0.54
1:B:183:VAL:HA	1:B:188:ASP:HA	1.89	0.54
2:C:72:GLU:O	2:C:76:GLU:HG2	2.07	0.54
2:C:441:ASP:OD2	2:C:447:SER:OG	2.26	0.54
3:D:37:ARG:HG3	3:D:38:THR:H	1.72	0.54
3:D:71:LYS:HG2	6:J:24:LEU:CD1	2.37	0.54
3:D:215:GLU:O	3:D:219:LEU:HD23	2.08	0.54
3:D:277:LEU:HD11	3:D:295:ARG:NH1	2.18	0.54
3:D:366:ILE:HD11	5:F:300:LEU:HD21	1.90	0.54
3:D:606:HIS:HB2	3:D:607:PRO:HD2	1.90	0.54
3:D:656:TRP:CD1	3:D:656:TRP:H	2.23	0.54
3:D:674:ASN:HD21	3:D:684:VAL:H	1.56	0.54
4:E:70:GLN:HE22	4:E:76:LEU:HD22	1.72	0.54
5:F:500:ARG:NH1	8:P:127:DT:O4	2.41	0.54
7:O:22:DG:H2'	7:O:23:DT:C7	2.38	0.54
7:O:52:DA:H2"	7:O:53:DC:C5'	2.37	0.54
7:O:59:DG:H4'	7:O:60:DG:C5'	2.38	0.54
1:A:57:ASP:OD1	1:A:58:GLY:N	2.41	0.54
1:A:107:ALA:HA	1:A:125:ILE:HD11	1.88	0.54
1:B:172:LEU:HD13	1:B:199:LYS:N	2.20	0.54
2:C:926:MET:HE1	3:D:817:LEU:HA	1.89	0.54
3:D:851:ILE:HA	3:D:854:HIS:CD2	2.43	0.54
3:D:1060:ARG:HG2	3:D:1061:PHE:HD1	1.71	0.54
3:D:1243:ASP:OD1	3:D:1244:LYS:N	2.39	0.54
7:O:42:DT:C6	7:O:43:DT:H72	2.42	0.54
9:M:129:ALA:O	9:M:133:GLN:HG3	2.07	0.54
1:A:61:HIS:HA	1:A:162:ILE:HD11	1.89	0.54
2:C:255:SER:CB	2:C:258:MET:HB2	2.37	0.54
3:D:612:TYR:CE2	3:D:627:LEU:HD11	2.43	0.54
3:D:1125:GLN:OE1	3:D:1129:GLU:HG2	2.07	0.54
9:M:131:ALA:O	9:M:134:ILE:HG13	2.08	0.54
1:A:112:PRO:HB2	1:A:116:VAL:HG23	1.89	0.54
2:C:824:ILE:HA	5:F:511:MET:CE	2.38	0.54
2:C:1037:VAL:HG11	3:D:520:LYS:HB2	1.89	0.54
3:D:166:ARG:O	3:D:170:LEU:HG	2.08	0.54
3:D:222:ILE:HD11	3:D:244:LEU:HA	1.89	0.54
3:D:1128:ARG:O	3:D:1132:ILE:HG12	2.07	0.54
7:O:70:DA:H2"	7:O:71:DA:C8	2.43	0.54
8:P:96:DC:H4'	8:P:97:DT:OP1	2.08	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:P:102:DG:H1'	8:P:103:DT:OP1	2.08	0.54
8:P:107:DA:C2'	8:P:108:DT:H71	2.35	0.54
9:M:106:GLU:O	9:M:109:ARG:HG2	2.07	0.54
1:A:65:THR:OG1	2:C:655:ALA:HB3	2.08	0.54
3:D:237:ASP:O	3:D:238:GLU:HG3	2.07	0.54
3:D:910:LEU:CD2	3:D:956:GLY:HA2	2.33	0.54
3:D:1208:MET:HE3	3:D:1213:ALA:CA	2.38	0.54
9:M:16:ALA:CB	9:M:141:LEU:HD12	2.38	0.54
1:A:66:VAL:HB	1:A:69:VAL:HG21	1.89	0.54
2:C:780:VAL:HG23	2:C:781:LEU:CD1	2.38	0.54
3:D:27:GLU:OE2	3:D:96:GLU:HB2	2.08	0.54
1:B:145:GLY:HA2	1:B:169:SER:OG	2.09	0.53
1:B:171:VAL:HG12	1:B:198:THR:CG2	2.38	0.53
2:C:774:PRO:HG2	2:C:834:ASP:HB2	1.90	0.53
3:D:73:ILE:O	3:D:82:VAL:HG12	2.08	0.53
3:D:821:LYS:HB3	3:D:836:VAL:CG1	2.39	0.53
3:D:1054:ARG:HB3	3:D:1065:THR:HB	1.89	0.53
3:D:1164:ARG:HE	3:D:1208:MET:HE1	1.73	0.53
3:D:1258:ILE:O	3:D:1263:GLY:HA3	2.08	0.53
7:O:71:DA:H1'	7:O:72:DG:C8	2.44	0.53
2:C:225:ARG:HG2	2:C:230:ARG:C	2.34	0.53
2:C:982:GLU:OE1	3:D:841:ARG:NH2	2.41	0.53
3:D:158:GLU:O	3:D:162:VAL:HG23	2.08	0.53
3:D:353:ARG:NE	5:F:323:GLU:OE2	2.38	0.53
3:D:487:LEU:HA	3:D:490:VAL:HG22	1.89	0.53
3:D:845:THR:N	3:D:848:GLU:OE1	2.38	0.53
7:O:14:DC:H2"	7:O:15:DG:OP2	2.08	0.53
7:O:25:DT:C2'	7:O:26:DT:H71	2.38	0.53
8:P:102:DG:H2"	8:P:103:DT:O5'	2.07	0.53
1:A:82:SER:O	1:A:123:MET:HE1	2.09	0.53
2:C:344:TYR:OH	2:C:365:VAL:HA	2.08	0.53
2:C:412:ILE:HD13	2:C:417:LEU:CD1	2.37	0.53
2:C:631:GLU:O	2:C:713:MET:N	2.29	0.53
2:C:946:VAL:N	2:C:964:LEU:O	2.34	0.53
2:C:989:LEU:HD21	2:C:1006:GLY:CA	2.38	0.53
3:D:52:PHE:HB3	3:D:322:PRO:HG3	1.90	0.53
3:D:78:CYS:SG	3:D:79:GLY:N	2.82	0.53
3:D:148:LEU:O	3:D:152:GLU:HG2	2.09	0.53
3:D:344:TYR:O	3:D:348:ILE:HG12	2.09	0.53
3:D:577:PRO:HB3	3:D:581:MET:HG3	1.88	0.53
3:D:924:THR:HA	3:D:942:GLN:O	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:O:71:DA:H2'	7:O:71:DA:OP2	2.08	0.53
2:C:742:VAL:HG22	2:C:879:ILE:HG22	1.90	0.53
3:D:118:LEU:CB	3:D:120:LEU:HD13	2.39	0.53
9:M:9:VAL:CG1	9:M:37:LEU:HD11	2.38	0.53
9:M:17:ALA:CB	9:M:37:LEU:HD21	2.38	0.53
1:A:226:ASN:HD21	1:B:205:ARG:HA	1.72	0.53
1:B:8:THR:O	1:B:23:ILE:HA	2.08	0.53
2:C:77:ARG:HG2	2:C:77:ARG:O	2.08	0.53
2:C:278:TYR:HD1	2:C:292:ALA:HB1	1.43	0.53
2:C:281:LEU:CD2	2:C:295:LEU:HD11	2.39	0.53
2:C:463:LEU:HD12	2:C:464:SER:O	2.09	0.53
2:C:622:GLU:O	2:C:714:ALA:HB1	2.07	0.53
2:C:1051:MET:CE	5:F:441:ASP:HA	2.38	0.53
3:D:271:ASP:O	3:D:275:GLU:HG2	2.08	0.53
3:D:425:SER:OG	3:D:426:GLY:N	2.41	0.53
1:A:93:VAL:CG2	1:A:140:VAL:HB	2.38	0.53
2:C:267:THR:CG2	2:C:272:GLU:CG	2.82	0.53
3:D:240:LEU:O	3:D:244:LEU:HB2	2.07	0.53
3:D:1167:ILE:HD11	3:D:1181:ILE:CD1	2.37	0.53
5:F:262:LEU:HA	5:F:265:GLU:HG3	1.91	0.53
7:O:22:DG:H2"	7:O:23:DT:C5'	2.37	0.53
2:C:374:GLY:HA3	2:C:534:ASP:OD1	2.08	0.53
2:C:885:LEU:CD1	2:C:895:ILE:HD11	2.39	0.53
2:C:956:ALA:CB	2:C:959:LEU:HD12	2.39	0.53
2:C:1117:ILE:HG23	2:C:1118:PRO:HD2	1.89	0.53
9:M:106:GLU:HA	9:M:109:ARG:HG2	1.90	0.53
1:B:172:LEU:HD11	1:B:199:LYS:HE2	1.91	0.53
2:C:214:PHE:CE1	2:C:224:VAL:HG13	2.43	0.53
2:C:507:ASN:OD1	2:C:508:PRO:HD2	2.08	0.53
3:D:527:LEU:HD13	3:D:713:VAL:HG12	1.90	0.53
3:D:881:SER:O	3:D:996:GLY:HA3	2.09	0.53
3:D:931:ASP:O	3:D:934:GLY:N	2.39	0.53
2:C:357:VAL:CG2	2:C:358:PRO:HD2	2.39	0.53
2:C:611:MET:CE	2:C:890:GLY:HA2	2.38	0.53
2:C:631:GLU:OE1	2:C:631:GLU:N	2.39	0.53
2:C:995:ASN:OD1	2:C:996:ARG:N	2.38	0.53
2:C:1074:TRP:CE2	3:D:878:VAL:HG11	2.44	0.53
3:D:910:LEU:HD22	3:D:953:LEU:O	2.09	0.53
5:F:368:ILE:CG2	5:F:372:MET:HB3	2.38	0.53
7:O:24:DC:H2'	7:O:25:DT:C7	2.38	0.53
9:M:59:ARG:HG2	9:M:60:ASP:O	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:M:136:VAL:HG21	9:M:151:GLU:HG2	1.90	0.53
9:M:149:LYS:O	9:M:153:ILE:HG12	2.09	0.53
1:A:66:VAL:O	1:A:69:VAL:HG22	2.09	0.53
1:B:32:TYR:CZ	2:C:1014:ARG:HD3	2.44	0.53
1:B:146:TYR:O	3:D:624:ARG:NH2	2.42	0.53
2:C:139:PHE:O	2:C:147:ILE:HA	2.09	0.53
2:C:413:THR:CG2	2:C:416:THR:HG23	2.38	0.53
2:C:583:PRO:O	2:C:584:ARG:HD2	2.08	0.53
2:C:735:ILE:O	2:C:896:GLY:N	2.28	0.53
3:D:460:LEU:HD11	3:D:472:ALA:HB1	1.91	0.53
3:D:1220:TRP:HB3	3:D:1241:ARG:HH21	1.74	0.53
5:F:296:LEU:HD23	5:F:328:LEU:CD1	2.39	0.53
8:P:121:DA:H2'	8:P:122:DT:O4'	2.08	0.53
3:D:50:LYS:HG3	3:D:79:GLY:O	2.09	0.52
3:D:1011:THR:H	3:D:1145:GLN:NE2	2.07	0.52
3:D:1080:ILE:HD11	3:D:1112:MET:HE2	1.91	0.52
7:O:33:DA:H4'	7:O:34:DT:OP1	2.08	0.52
9:M:53:ALA:O	9:M:58:VAL:HG12	2.09	0.52
1:A:65:THR:HG21	2:C:656:ASP:OD2	2.10	0.52
2:C:519:VAL:HG23	2:C:523:VAL:C	2.34	0.52
3:D:124:ASP:O	3:D:234:LEU:HD21	2.09	0.52
3:D:566:LEU:HD23	3:D:573:PRO:HA	1.91	0.52
6:J:20:ARG:NH1	6:J:23:ASP:O	2.39	0.52
6:J:31:ARG:NE	6:J:41:GLU:OE2	2.41	0.52
9:M:19:VAL:HG12	9:M:37:LEU:HD12	1.90	0.52
2:C:281:LEU:HD22	2:C:295:LEU:CD2	2.24	0.52
2:C:540:VAL:HG22	2:C:561:VAL:HG22	1.90	0.52
3:D:1139:GLN:O	3:D:1143:ARG:HG3	2.08	0.52
1:B:41:THR:O	1:B:45:SER:HB3	2.10	0.52
2:C:189:GLU:O	2:C:189:GLU:HG2	2.09	0.52
2:C:232:GLN:HE22	2:C:236:VAL:HG11	1.75	0.52
2:C:861:LEU:HB3	2:C:862:PRO:HD2	1.92	0.52
2:C:1077:GLN:O	2:C:1080:GLY:N	2.41	0.52
3:D:624:ARG:HG2	3:D:625:GLY:H	1.74	0.52
6:J:36:ASN:ND2	6:J:60:MET:HE1	2.23	0.52
8:P:107:DA:H2'	8:P:108:DT:C6	2.44	0.52
1:B:90:ASP:OD1	1:B:142:ARG:HD3	2.09	0.52
3:D:683:PHE:HE2	3:D:685:ASN:HB2	1.74	0.52
3:D:1005:GLU:HB3	3:D:1006:PRO:HD3	1.91	0.52
5:F:415:GLN:HG2	5:F:418:ARG:HH22	1.73	0.52
5:F:506:ILE:O	5:F:510:THR:HG23	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:O:38:DC:H2"	7:O:39:DG:OP2	2.09	0.52
2:C:273:ALA:C	2:C:276:ASP:H	2.06	0.52
3:D:893:THR:OG1	3:D:894:GLU:N	2.43	0.52
4:E:32:PRO:CB	4:E:36:THR:HG23	2.39	0.52
7:O:27:DG:H2"	7:O:28:DA:OP2	2.10	0.52
7:O:41:DA:C2'	7:O:42:DT:H71	2.39	0.52
2:C:206:PRO:HB3	2:C:308:LEU:HB3	1.91	0.52
2:C:306:TYR:CE2	2:C:333:LEU:HG	2.43	0.52
2:C:705:GLY:N	2:C:708:THR:OG1	2.32	0.52
2:C:738:SER:CA	2:C:904:MET:HE3	2.39	0.52
3:D:206:ARG:HA	3:D:209:ARG:CG	2.39	0.52
3:D:216:LEU:O	3:D:220:GLU:HG2	2.09	0.52
3:D:739:PRO:HD3	3:D:789:LEU:HD13	1.92	0.52
8:P:107:DA:H2'	8:P:108:DT:C7	2.35	0.52
2:C:233:PRO:HG2	2:C:236:VAL:CG2	2.38	0.52
2:C:281:LEU:HD21	2:C:295:LEU:HD11	1.92	0.52
2:C:641:VAL:O	2:C:643:VAL:HG23	2.09	0.52
3:D:71:LYS:HG2	6:J:24:LEU:HD12	1.91	0.52
3:D:389:ARG:CZ	7:O:59:DG:C8	2.92	0.52
3:D:524:LEU:HD22	3:D:541:MET:SD	2.50	0.52
3:D:884:VAL:HG11	3:D:1156:VAL:HG13	1.92	0.52
3:D:939:GLU:OE1	3:D:939:GLU:N	2.37	0.52
3:D:1274:PRO:HG2	4:E:79:VAL:HG13	1.90	0.52
6:J:80:THR:OG1	6:J:83:ASP:N	2.40	0.52
2:C:200:HIS:CD2	2:C:348:LEU:HG	2.45	0.52
2:C:737:LEU:CD2	2:C:915:ILE:HG22	2.39	0.52
2:C:1044:ARG:CZ	2:C:1056:PRO:HB3	2.39	0.52
3:D:24:SER:OG	3:D:93:GLY:HA2	2.10	0.52
3:D:38:THR:HG23	3:D:40:LYS:H	1.74	0.52
3:D:340:LEU:HD11	3:D:405:LEU:CD1	2.39	0.52
3:D:595:ASP:O	3:D:598:GLU:HG3	2.09	0.52
3:D:1060:ARG:HG2	3:D:1061:PHE:CD1	2.44	0.52
5:F:261:GLN:HG2	6:J:82:TRP:CH2	2.44	0.52
1:A:99:LYS:HG2	1:A:105:VAL:HG22	1.92	0.52
2:C:736:ILE:CD1	2:C:916:ILE:HD12	2.39	0.52
2:C:737:LEU:HD11	2:C:895:ILE:HD13	1.91	0.52
3:D:222:ILE:HA	3:D:240:LEU:HD11	1.92	0.52
3:D:923:ARG:CB	3:D:962:VAL:HG21	2.37	0.52
5:F:487:ARG:HD2	5:F:491:GLU:CD	2.34	0.52
9:M:11:TYR:O	9:M:14:HIS:N	2.42	0.52
1:A:56:ILE:HB	1:A:59:VAL:HG22	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:224:VAL:HG21	2:C:234:VAL:CA	2.40	0.51
2:C:315:LYS:NZ	2:C:375:ASN:OD1	2.19	0.51
2:C:396:MET:HE3	2:C:418:ILE:HG23	1.92	0.51
2:C:927:ASN:O	2:C:930:GLN:HG2	2.09	0.51
3:D:34:ILE:CG2	3:D:39:LEU:HA	2.39	0.51
1:A:191:LYS:NZ	1:A:193:ILE:HD11	2.25	0.51
1:B:172:LEU:HD11	1:B:199:LYS:CE	2.40	0.51
3:D:966:LEU:HD22	3:D:1131:GLN:CD	2.36	0.51
4:E:47:VAL:HG11	4:E:53:LEU:HA	1.92	0.51
5:F:372:MET:HA	5:F:375:VAL:HG22	1.92	0.51
8:P:110:DC:H1'	8:P:111:DA:H5'	1.90	0.51
8:P:120:DA:H2"	8:P:121:DA:OP2	2.09	0.51
9:M:35:LEU:HD12	9:M:35:LEU:O	2.10	0.51
2:C:421:ARG:NH2	8:P:103:DT:OP2	2.42	0.51
2:C:879:ILE:HD12	2:C:1032:LYS:HE3	1.91	0.51
2:C:1070:GLU:OE2	3:D:414:ARG:NH2	2.43	0.51
2:C:1107:VAL:CG1	3:D:469:ILE:HD12	2.31	0.51
3:D:113:ARG:NH2	3:D:1235:ASP:HB3	2.25	0.51
3:D:203:ARG:HA	3:D:206:ARG:HG2	1.92	0.51
3:D:274:ALA:O	3:D:278:ARG:HG2	2.10	0.51
3:D:459:ARG:NH1	3:D:463:LEU:HG	2.26	0.51
3:D:1220:TRP:CB	3:D:1241:ARG:HH21	2.24	0.51
2:C:60:SER:O	2:C:63:TRP:HB3	2.09	0.51
2:C:69:ARG:O	2:C:72:GLU:HG3	2.11	0.51
3:D:929:ALA:O	3:D:937:ILE:HG22	2.11	0.51
5:F:406:THR:O	5:F:410:VAL:HG23	2.10	0.51
1:A:40:ARG:NE	1:B:33:THR:HG22	2.21	0.51
1:A:217:GLU:HB3	1:B:234:ILE:HD12	1.93	0.51
1:B:51:VAL:CG2	1:B:138:LEU:HD23	2.41	0.51
2:C:189:GLU:HB3	2:C:200:HIS:CD2	2.46	0.51
2:C:773:ILE:HG23	2:C:834:ASP:OD1	2.10	0.51
2:C:883:ASP:O	2:C:894:VAL:HA	2.11	0.51
2:C:907:LEU:HD23	2:C:1010:LEU:HD23	1.91	0.51
3:D:441:CYS:SG	3:D:514:PRO:HA	2.50	0.51
3:D:1050:THR:HG22	3:D:1106:GLU:C	2.35	0.51
2:C:440:MET:HE3	2:C:452:LYS:NZ	2.25	0.51
2:C:647:SER:HB3	2:C:698:ALA:H	1.75	0.51
3:D:588:LEU:O	3:D:588:LEU:HD22	2.09	0.51
5:F:305:SER:O	5:F:308:LYS:CG	2.59	0.51
9:M:104:VAL:HG11	9:M:134:ILE:CD1	2.25	0.51
1:B:3:ILE:O	1:B:4:SER:OG	2.24	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:133:LEU:HB2	2:C:154:MET:HB3	1.91	0.51
2:C:139:PHE:CE2	2:C:412:ILE:HD11	2.45	0.51
2:C:595:PRO:HG3	2:C:888:ARG:NH2	2.26	0.51
2:C:1133:LEU:HD11	3:D:105:TRP:CZ3	2.44	0.51
3:D:119:ASP:C	3:D:120:LEU:HD12	2.36	0.51
3:D:573:PRO:O	3:D:574:LEU:HD12	2.11	0.51
7:O:18:DC:H2"	7:O:19:DC:OP2	2.10	0.51
1:B:136:VAL:HG12	1:B:138:LEU:HD12	1.92	0.51
1:B:149:ALA:HA	1:B:164:VAL:O	2.11	0.51
2:C:86:LEU:HD21	2:C:389:ILE:HD13	1.93	0.51
3:D:32:GLU:HB3	3:D:42:GLU:HG3	1.93	0.51
3:D:139:VAL:HA	3:D:252:PHE:HA	1.92	0.51
3:D:921:TYR:CE1	3:D:949:ILE:HG13	2.46	0.51
3:D:1070:ASP:N	3:D:1071:GLY:HA2	2.25	0.51
7:O:34:DT:H4'	7:O:35:DT:OP1	2.10	0.51
1:A:191:LYS:HZ2	1:A:193:ILE:HD11	1.76	0.51
1:B:159:ILE:HD12	1:B:160:GLY:N	2.25	0.51
2:C:455:LEU:HD11	2:C:500:LEU:CD2	2.41	0.51
2:C:611:MET:HE1	2:C:890:GLY:O	2.10	0.51
3:D:384:ASN:OD1	3:D:385:GLY:N	2.43	0.51
3:D:497:LEU:C	3:D:498:LEU:HD12	2.35	0.51
3:D:1139:GLN:HB3	3:D:1143:ARG:CZ	2.41	0.51
5:F:295:LEU:HD23	5:F:332:VAL:CG2	2.41	0.51
9:M:132:ARG:O	9:M:136:VAL:HG23	2.11	0.51
2:C:296:LEU:C	2:C:296:LEU:CD1	2.84	0.51
2:C:519:VAL:HG23	2:C:524:VAL:HA	1.93	0.51
2:C:776:ILE:HD11	2:C:780:VAL:HG21	1.93	0.51
2:C:808:PRO:HA	2:C:832:VAL:HA	1.92	0.51
3:D:135:VAL:HG23	3:D:233:GLN:O	2.11	0.51
3:D:491:ILE:HD13	3:D:516:LEU:HD21	1.93	0.51
3:D:931:ASP:CG	3:D:955:ALA:HB1	2.36	0.51
3:D:1052:ARG:HA	3:D:1103:ASP:C	2.36	0.51
5:F:273:LEU:HD11	5:F:281:MET:SD	2.51	0.51
5:F:296:LEU:CD2	5:F:328:LEU:HD12	2.41	0.51
8:P:113:DA:C8	8:P:114:DT:H72	2.45	0.51
1:A:33:THR:HG21	1:B:37:SER:HA	1.93	0.50
1:B:43:LEU:O	1:B:169:SER:OG	2.16	0.50
2:C:224:VAL:HG21	2:C:234:VAL:HA	1.93	0.50
2:C:311:VAL:HG22	2:C:509:PHE:HB3	1.93	0.50
2:C:466:GLU:H	2:C:466:GLU:CD	1.91	0.50
2:C:507:ASN:HB3	2:C:511:PHE:H	1.76	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:934:THR:HG22	2:C:1026:GLY:HA3	1.94	0.50
2:C:1091:ILE:HD12	2:C:1102:VAL:CG2	2.34	0.50
3:D:262:GLN:CG	3:D:310:MET:HE1	2.41	0.50
3:D:596:THR:HG22	3:D:626:VAL:O	2.11	0.50
3:D:913:ASP:OD1	3:D:914:PRO:HD2	2.11	0.50
5:F:504:ARG:O	5:F:507:GLU:HG3	2.12	0.50
1:A:83:LEU:HA	1:A:123:MET:HE1	1.92	0.50
2:C:490:GLU:OE1	2:C:607:MET:HG2	2.12	0.50
2:C:568:VAL:CG2	3:D:847:LEU:HD23	2.41	0.50
2:C:1070:GLU:HB2	3:D:417:LEU:HB2	1.93	0.50
3:D:117:LEU:O	3:D:117:LEU:HD13	2.10	0.50
3:D:913:ASP:HB3	3:D:916:ILE:CD1	2.42	0.50
5:F:501:GLU:HA	5:F:504:ARG:HG2	1.92	0.50
1:B:38:LEU:O	1:B:42:LEU:HD13	2.11	0.50
2:C:119:VAL:HG13	2:C:167:ILE:CD1	2.41	0.50
2:C:158:PRO:HG2	2:C:431:PHE:CE2	2.46	0.50
2:C:626:VAL:HG21	2:C:936:LEU:HD12	1.94	0.50
2:C:658:ILE:O	2:C:669:THR:HA	2.10	0.50
2:C:806:VAL:HG22	2:C:832:VAL:HB	1.93	0.50
2:C:1076:MET:HE1	2:C:1084:THR:HG22	1.92	0.50
3:D:1172:SER:N	3:D:1199:GLU:HG3	2.25	0.50
3:D:1190:ASN:HA	3:D:1193:VAL:CG1	2.34	0.50
4:E:30:ASP:OD1	4:E:31:THR:N	2.43	0.50
3:D:558:LEU:HD13	4:E:54:VAL:HG21	1.94	0.50
3:D:803:VAL:HG13	3:D:809:GLY:O	2.11	0.50
3:D:1182:ASP:OD1	3:D:1183:ARG:N	2.45	0.50
5:F:306:LEU:C	5:F:308:LYS:H	2.17	0.50
7:O:35:DT:H2"	7:O:36:DG:H5'	1.93	0.50
7:O:63:DT:H2"	7:O:64:DG:C8	2.46	0.50
1:A:167:ILE:O	1:A:167:ILE:HG13	2.11	0.50
2:C:189:GLU:HA	2:C:199:LEU:O	2.11	0.50
2:C:273:ALA:C	2:C:275:LEU:H	2.19	0.50
2:C:737:LEU:HD11	2:C:895:ILE:CD1	2.42	0.50
3:D:5:ASN:O	3:D:5:ASN:ND2	2.44	0.50
3:D:668:LEU:HD22	3:D:672:MET:HE2	1.93	0.50
5:F:387:LEU:HD13	5:F:393:GLU:CG	2.41	0.50
1:A:6:ARG:HB2	1:A:7:PRO:HD2	1.92	0.50
1:A:169:SER:O	1:A:199:LYS:HD3	2.12	0.50
1:A:226:ASN:OD1	1:B:205:ARG:HG3	2.12	0.50
2:C:624:PRO:HA	2:C:718:ASN:HD21	1.77	0.50
2:C:1079:TYR:CD2	3:D:559:MET:HG2	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:966:LEU:HD13	3:D:1131:GLN:OE1	2.10	0.50
9:M:38:LYS:CB	9:M:45:THR:HG22	2.41	0.50
9:M:148:ALA:O	9:M:152:THR:HG23	2.12	0.50
3:D:563:ASN:OD1	4:E:40:ILE:HG12	2.12	0.50
3:D:573:PRO:HD3	3:D:698:ASN:OD1	2.12	0.50
3:D:902:ALA:HA	3:D:913:ASP:N	2.26	0.50
3:D:945:GLY:N	3:D:948:GLU:OE2	2.29	0.50
7:O:41:DA:H5'	7:O:41:DA:H8	1.77	0.50
7:O:73:DC:H3'	7:O:73:DC:OP2	2.11	0.50
2:C:1131:LEU:HD13	3:D:105:TRP:CH2	2.47	0.50
3:D:181:LEU:HD21	3:D:198:ARG:CG	2.42	0.50
3:D:525:HIS:CG	3:D:526:PRO:HD2	2.47	0.50
3:D:1034:LEU:HD21	3:D:1134:LEU:HD22	1.93	0.50
3:D:1059:GLU:C	3:D:1060:ARG:HD3	2.36	0.50
3:D:1167:ILE:O	3:D:1177:PRO:HA	2.11	0.50
7:O:57:DC:H4'	7:O:58:DA:OP1	2.11	0.50
7:O:72:DG:C2'	7:O:73:DC:H5'	2.42	0.50
8:P:91:DC:H2"	8:P:92:DA:C8	2.47	0.50
9:M:80:GLU:N	9:M:80:GLU:OE1	2.45	0.50
1:B:162:ILE:HD12	1:B:162:ILE:O	2.12	0.50
2:C:285:GLU:CD	2:C:286:PRO:CD	2.85	0.50
2:C:388:GLN:HA	2:C:391:VAL:HG12	1.92	0.50
2:C:926:MET:SD	3:D:817:LEU:HG	2.52	0.50
2:C:1045:SER:O	2:C:1046:THR:OG1	2.28	0.50
3:D:262:GLN:CD	3:D:310:MET:HE1	2.37	0.50
3:D:336:ALA:HB1	5:F:423:LEU:HG	1.94	0.50
3:D:428:SER:OG	3:D:429:VAL:N	2.44	0.50
3:D:911:ILE:HD12	3:D:911:ILE:O	2.12	0.50
3:D:1187:GLU:O	3:D:1191:ARG:HG2	2.12	0.50
8:P:83:DC:C6	8:P:83:DC:H5'	2.46	0.50
8:P:137:DG:C8	8:P:138:DT:H72	2.47	0.50
2:C:97:GLU:CG	2:C:101:GLY:HA2	2.42	0.49
3:D:95:ILE:CD1	3:D:348:ILE:HD11	2.42	0.49
3:D:571:GLY:HA3	3:D:983:MET:HE3	1.92	0.49
9:M:88:ARG:HE	9:M:114:ARG:NH1	2.10	0.49
1:A:137:GLU:OE2	1:A:161:ARG:NH1	2.44	0.49
1:A:152:ASN:OD1	1:A:157:ALA:HB3	2.12	0.49
1:B:6:ARG:NH1	1:B:234:ILE:HG22	2.26	0.49
1:B:80:LEU:HD21	1:B:125:ILE:HD11	1.94	0.49
3:D:337:THR:HG23	5:F:420:PRO:CB	2.42	0.49
3:D:480:ARG:O	3:D:483:VAL:HG12	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:944:LEU:HA	3:D:948:GLU:HG3	1.94	0.49
5:F:243:ALA:O	5:F:247:VAL:HG23	2.12	0.49
9:M:67:LEU:HA	9:M:70:VAL:HG22	1.94	0.49
1:B:172:LEU:HD11	1:B:199:LYS:HB3	1.95	0.49
2:C:483:MET:CE	2:C:498:GLY:HA3	2.36	0.49
2:C:484:CYS:CB	2:C:588:SER:HB3	2.42	0.49
2:C:601:ASP:OD1	2:C:602:ALA:N	2.45	0.49
2:C:751:HIS:CD2	2:C:877:ARG:HD2	2.47	0.49
3:D:64:LYS:HE3	3:D:75:CYS:SG	2.53	0.49
3:D:668:LEU:HD23	3:D:668:LEU:O	2.13	0.49
5:F:492:ILE:CG2	5:F:503:ILE:HD12	2.38	0.49
3:D:241:TYR:CE2	3:D:245:VAL:HG21	2.47	0.49
5:F:366:ILE:O	5:F:366:ILE:HG13	2.12	0.49
6:J:109:ARG:HH11	6:J:110:ARG:HH21	1.59	0.49
1:A:68:GLY:HA3	1:A:132:GLY:HA2	1.95	0.49
2:C:132:PRO:HB3	2:C:153:PHE:HE1	1.77	0.49
2:C:736:ILE:HD11	2:C:916:ILE:CD1	2.41	0.49
2:C:790:VAL:CG1	2:C:802:LEU:HA	2.42	0.49
2:C:883:ASP:HB2	2:C:895:ILE:HD12	1.93	0.49
5:F:386:LEU:HD12	5:F:399:LEU:CD2	2.42	0.49
1:A:65:THR:HG21	2:C:656:ASP:CG	2.37	0.49
1:A:182:ARG:HA	1:A:188:ASP:CG	2.37	0.49
1:B:30:PHE:HD1	1:B:33:THR:HG21	1.77	0.49
2:C:436:LEU:HD13	2:C:460:PRO:HD2	1.94	0.49
4:E:47:VAL:CG1	4:E:53:LEU:HD23	2.42	0.49
4:E:56:TYR:CD1	4:E:106:HIS:HB3	2.48	0.49
7:O:28:DA:H2"	7:O:29:DC:O4'	2.12	0.49
7:O:35:DT:C2'	7:O:36:DG:H5'	2.43	0.49
8:P:133:DC:H2'	8:P:134:DC:C4'	2.41	0.49
1:A:54:ILE:HG22	1:A:138:LEU:HA	1.93	0.49
2:C:98:ASP:OD1	2:C:101:GLY:N	2.45	0.49
3:D:33:THR:HG22	3:D:34:ILE:HG13	1.94	0.49
3:D:57:ASP:HB2	6:J:15:SER:H	1.77	0.49
3:D:98:ALA:HB3	3:D:354:LEU:HD23	1.94	0.49
3:D:1055:LEU:HB3	3:D:1101:ASP:CG	2.37	0.49
9:M:100:ASP:O	9:M:104:VAL:HG23	2.13	0.49
1:B:54:ILE:HD11	1:B:77:ILE:HG12	1.94	0.49
1:B:146:TYR:HB2	3:D:620:MET:HE2	1.94	0.49
2:C:236:VAL:HG13	2:C:273:ALA:HB1	1.95	0.49
2:C:255:SER:HB3	2:C:258:MET:CB	2.40	0.49
2:C:658:ILE:HD11	2:C:688:PRO:CB	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:899:LEU:HB2	2:C:904:MET:HE1	1.95	0.49
2:C:1067:ARG:NH2	3:D:418:LEU:HD21	2.25	0.49
3:D:166:ARG:HG3	3:D:212:ALA:HB2	1.95	0.49
3:D:660:ASP:OD2	3:D:660:ASP:N	2.45	0.49
5:F:446:VAL:HB	5:F:449:ASP:CG	2.38	0.49
9:M:120:LEU:HD23	9:M:124:GLU:C	2.38	0.49
1:B:107:ALA:HB3	1:B:121:PRO:O	2.13	0.49
2:C:205:ILE:HG22	2:C:211:TRP:CE2	2.48	0.49
2:C:326:GLU:HB2	2:C:327:PRO:HD2	1.95	0.49
3:D:365:ILE:H	3:D:365:ILE:HD12	1.77	0.49
3:D:459:ARG:HH12	3:D:463:LEU:HG	1.76	0.49
3:D:736:VAL:HB	3:D:841:ARG:HD2	1.94	0.49
3:D:917:GLU:HA	3:D:921:TYR:CD2	2.47	0.49
4:E:60:ARG:HG2	4:E:104:LEU:HD11	1.93	0.49
8:P:103:DT:H2"	8:P:104:DC:O4'	2.13	0.49
1:A:65:THR:HG21	2:C:656:ASP:OD1	2.13	0.49
1:A:172:LEU:O	1:A:172:LEU:HD22	2.13	0.49
2:C:147:ILE:O	9:M:46:VAL:HG13	2.13	0.49
2:C:919:THR:CG2	3:D:731:VAL:HG23	2.39	0.49
3:D:57:ASP:HB3	3:D:58:TRP:CE3	2.48	0.49
3:D:755:LYS:O	3:D:759:GLN:HG3	2.13	0.49
5:F:467:LEU:HG	5:F:519:ARG:HH12	1.77	0.49
7:O:22:DG:H2'	7:O:23:DT:H72	1.95	0.49
7:O:24:DC:H2'	7:O:25:DT:H72	1.94	0.49
7:O:30:DT:H2"	7:O:31:DC:OP2	2.12	0.49
9:M:69:LYS:O	9:M:73:VAL:HG23	2.13	0.49
1:A:14:LEU:HB2	1:A:18:ARG:HD3	1.95	0.48
2:C:176:VAL:HG12	2:C:177:SER:O	2.13	0.48
2:C:268:VAL:O	2:C:272:GLU:CG	2.61	0.48
2:C:760:ARG:N	2:C:767:GLU:OE1	2.26	0.48
3:D:191:ALA:CB	3:D:194:ARG:HH21	2.26	0.48
5:F:470:ARG:HH12	7:O:24:DC:P	2.35	0.48
6:J:102:LEU:HD21	6:J:106:ARG:NH2	2.28	0.48
7:O:69:DG:H2"	7:O:70:DA:C8	2.48	0.48
8:P:107:DA:H2"	9:M:85:TRP:CZ2	2.48	0.48
9:M:48:VAL:HG13	9:M:49:PRO:HD2	1.94	0.48
1:B:107:ALA:HB3	1:B:121:PRO:C	2.38	0.48
2:C:435:GLN:NE2	2:C:459:GLY:HA2	2.27	0.48
2:C:486:ILE:HD11	3:D:849:TYR:CE2	2.47	0.48
3:D:668:LEU:CD2	3:D:672:MET:HE2	2.42	0.48
5:F:302:LEU:HB2	7:O:54:DT:C2	2.47	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:J:23:ASP:C	6:J:24:LEU:HD22	2.38	0.48
8:P:81:DC:OP2	8:P:81:DC:H2'	2.14	0.48
8:P:96:DC:C4'	8:P:97:DT:H73	2.43	0.48
8:P:115:DC:H2"	8:P:116:DC:C6	2.48	0.48
1:B:183:VAL:HA	1:B:188:ASP:CA	2.42	0.48
2:C:514:THR:O	2:C:530:TYR:HA	2.13	0.48
2:C:633:ARG:NH1	2:C:637:ASP:OD2	2.46	0.48
2:C:1012:ASP:OD2	2:C:1015:SER:OG	2.21	0.48
3:D:55:THR:O	6:J:12:GLY:HA3	2.13	0.48
3:D:173:ARG:HH21	3:D:177:LEU:N	2.11	0.48
3:D:442:GLY:N	3:D:523:GLN:O	2.35	0.48
3:D:1086:LEU:HD23	3:D:1099:LEU:CB	2.43	0.48
6:J:6:LEU:HD12	6:J:6:LEU:O	2.13	0.48
7:O:33:DA:H8	7:O:33:DA:OP2	1.95	0.48
9:M:17:ALA:CB	9:M:39:VAL:HG12	2.42	0.48
1:A:18:ARG:HB2	1:A:196:VAL:O	2.14	0.48
2:C:926:MET:HE1	3:D:817:LEU:CA	2.43	0.48
2:C:1081:ALA:HB1	3:D:554:GLU:OE1	2.13	0.48
3:D:124:ASP:HB3	3:D:234:LEU:CD2	2.43	0.48
3:D:389:ARG:NH1	7:O:59:DG:N7	2.60	0.48
4:E:82:LEU:N	4:E:98:GLU:OE2	2.40	0.48
8:P:129:DA:OP2	8:P:129:DA:H2'	2.12	0.48
9:M:17:ALA:HB1	9:M:39:VAL:HA	1.95	0.48
9:M:149:LYS:O	9:M:152:THR:OG1	2.29	0.48
1:A:157:ALA:HB1	1:A:161:ARG:CG	2.44	0.48
1:B:28:PRO:HD3	1:B:189:PHE:CD1	2.47	0.48
2:C:1134:ASN:N	3:D:15:ALA:HB2	2.29	0.48
3:D:151:LEU:HD13	3:D:248:TYR:CE1	2.49	0.48
3:D:1010:LEU:HD12	3:D:1145:GLN:CG	2.33	0.48
3:D:1054:ARG:O	3:D:1065:THR:N	2.45	0.48
3:D:1127:PRO:HA	3:D:1130:VAL:HG12	1.95	0.48
5:F:459:GLN:O	5:F:462:SER:OG	2.22	0.48
6:J:64:LEU:HD23	6:J:65:ILE:N	2.28	0.48
7:O:41:DA:H5'	7:O:41:DA:C8	2.49	0.48
8:P:122:DT:H2'	8:P:123:DG:C8	2.48	0.48
1:B:113:PRO:O	1:B:116:VAL:HG22	2.13	0.48
2:C:378:LEU:CD1	2:C:455:LEU:HD22	2.44	0.48
2:C:444:ASN:HD22	2:C:715:LEU:HD22	1.79	0.48
2:C:482:ARG:NH2	2:C:536:GLU:OE1	2.39	0.48
2:C:672:MET:HE3	2:C:688:PRO:HB3	1.95	0.48
2:C:740:ARG:HH21	2:C:914:ASP:CG	2.20	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:800:ASP:O	2:C:838:LYS:HA	2.13	0.48
3:D:1122:LEU:HD22	3:D:1207:LEU:HB2	1.94	0.48
3:D:1251:ASN:HD22	3:D:1256:LYS:HD2	1.78	0.48
6:J:80:THR:OG1	6:J:82:TRP:HB3	2.14	0.48
1:A:11:GLU:OE1	1:A:13:VAL:HG23	2.14	0.48
1:A:70:LYS:O	2:C:655:ALA:HB2	2.14	0.48
2:C:421:ARG:HH12	8:P:103:DT:P	2.36	0.48
2:C:721:VAL:HG12	2:C:1026:GLY:O	2.14	0.48
2:C:894:VAL:HG11	3:D:429:VAL:HG21	1.94	0.48
2:C:1079:TYR:O	3:D:558:LEU:HD23	2.14	0.48
3:D:192:ASP:O	3:D:196:LYS:HG3	2.14	0.48
3:D:504:LEU:HB3	3:D:1005:GLU:HG2	1.96	0.48
3:D:550:GLU:HG3	4:E:58:ALA:CB	2.43	0.48
3:D:662:TRP:HZ3	3:D:664:ALA:HB2	1.79	0.48
5:F:386:LEU:CB	5:F:394:PRO:HG2	2.43	0.48
9:M:22:ILE:HG23	9:M:34:TYR:O	2.13	0.48
2:C:344:TYR:CZ	2:C:365:VAL:HA	2.49	0.48
3:D:160:LYS:HD2	3:D:163:GLU:HB3	1.96	0.48
3:D:599:TYR:HA	3:D:610:GLY:HA3	1.96	0.48
3:D:974:VAL:HG12	3:D:1159:ARG:NH1	2.29	0.48
5:F:305:SER:O	5:F:308:LYS:HD3	2.13	0.48
9:M:19:VAL:CG1	9:M:37:LEU:HD12	2.42	0.48
9:M:26:THR:HB	9:M:31:GLN:CG	2.33	0.48
1:A:71:GLU:HB3	1:A:75:GLU:HB3	1.94	0.48
2:C:626:VAL:CG2	2:C:936:LEU:HD12	2.44	0.48
3:D:587:TYR:O	3:D:630:ARG:HD3	2.13	0.48
3:D:913:ASP:HB3	3:D:916:ILE:HD11	1.94	0.48
3:D:1010:LEU:HD23	3:D:1028:LEU:CB	2.44	0.48
3:D:1223:ALA:HA	3:D:1226:PHE:HD2	1.76	0.48
5:F:273:LEU:HD23	5:F:274:PRO:O	2.14	0.48
5:F:283:TRP:CD2	6:J:105:ILE:HD12	2.48	0.48
8:P:134:DC:H2"	8:P:135:DA:H5'	1.95	0.48
1:A:54:ILE:HD11	1:A:77:ILE:HD13	1.94	0.48
2:C:240:ALA:HA	2:C:274:LEU:HD21	1.96	0.48
2:C:243:TRP:HA	2:C:247:GLN:OE1	2.14	0.48
2:C:542:ALA:HB2	2:C:576:VAL:CG1	2.44	0.48
2:C:641:VAL:CG2	2:C:708:THR:HG21	2.43	0.48
3:D:155:MET:HE1	3:D:219:LEU:HD12	1.96	0.48
3:D:239:ASN:HD21	3:D:242:ARG:NH2	2.12	0.48
3:D:530:GLU:HB2	3:D:578:ARG:HH11	1.78	0.48
3:D:711:GLN:OE1	4:E:30:ASP:HB3	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:E:76:LEU:HD23	4:E:78:TYR:CE2	2.49	0.48
8:P:133:DC:H5'	8:P:133:DC:H6	1.78	0.48
1:A:84:VAL:HG13	1:A:84:VAL:O	2.13	0.47
1:A:212:GLY:O	1:A:216:VAL:HG23	2.14	0.47
1:B:176:TYR:HB3	1:B:194:LEU:HD23	1.96	0.47
2:C:313:ARG:HD3	2:C:331:SER:O	2.14	0.47
2:C:568:VAL:HG21	3:D:847:LEU:HD23	1.95	0.47
3:D:153:ALA:O	3:D:157:VAL:HG23	2.13	0.47
3:D:1270:ILE:O	4:E:59:LYS:NZ	2.21	0.47
5:F:487:ARG:HD2	5:F:491:GLU:OE2	2.14	0.47
6:J:54:TRP:N	6:J:62:GLY:O	2.47	0.47
1:A:144:ARG:HE	1:B:232:ILE:HD11	1.79	0.47
2:C:240:ALA:CB	2:C:277:ILE:HD11	2.44	0.47
2:C:261:THR:O	2:C:265:ASP:N	2.47	0.47
2:C:356:THR:HB	2:C:362:GLU:HB3	1.96	0.47
2:C:1038:ASP:OD1	3:D:520:LYS:HD2	2.14	0.47
3:D:136:ILE:HD11	3:D:235:ILE:CD1	2.44	0.47
3:D:456:VAL:HG22	3:D:460:LEU:HD23	1.95	0.47
6:J:54:TRP:O	6:J:62:GLY:N	2.47	0.47
1:A:93:VAL:HG21	1:A:116:VAL:CG1	2.43	0.47
1:B:50:ALA:O	1:B:140:VAL:HG13	2.14	0.47
1:B:170:PRO:O	1:B:199:LYS:HG2	2.14	0.47
2:C:879:ILE:CD1	2:C:1032:LYS:HE3	2.45	0.47
2:C:956:ALA:HB1	2:C:959:LEU:HD12	1.96	0.47
1:A:194:LEU:CD2	1:A:196:VAL:HG23	2.43	0.47
2:C:214:PHE:CD1	2:C:224:VAL:HG13	2.50	0.47
2:C:240:ALA:CB	2:C:277:ILE:CD1	2.92	0.47
2:C:278:TYR:HD1	2:C:292:ALA:HB3	1.69	0.47
2:C:377:ARG:HB3	2:C:511:PHE:HE1	1.77	0.47
2:C:657:TYR:HA	2:C:670:TYR:O	2.14	0.47
2:C:885:LEU:HD13	2:C:895:ILE:HD11	1.95	0.47
3:D:820:MET:HE2	3:D:822:GLY:HA2	1.97	0.47
7:O:31:DC:H2"	7:O:32:DC:C5	2.50	0.47
8:P:107:DA:H1'	9:M:85:TRP:CZ2	2.48	0.47
9:M:26:THR:CA	9:M:31:GLN:HA	2.44	0.47
2:C:134:PHE:HE1	2:C:153:PHE:HD1	1.61	0.47
2:C:220:ASP:CG	2:C:257:ILE:HG12	2.40	0.47
2:C:455:LEU:HD11	2:C:500:LEU:HD23	1.95	0.47
2:C:1074:TRP:HH2	3:D:875:ARG:HG2	1.80	0.47
3:D:268:PHE:CE2	3:D:270:ILE:HG22	2.50	0.47
3:D:656:TRP:O	3:D:656:TRP:CE3	2.68	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:832:ILE:HG22	3:D:834:ARG:H	1.78	0.47
8:P:107:DA:H1'	9:M:85:TRP:HZ2	1.79	0.47
8:P:119:DC:H2"	8:P:120:DA:C8	2.49	0.47
8:P:130:DA:H2"	8:P:131:DG:C5'	2.44	0.47
3:D:180:ASP:HB3	3:D:197:VAL:HG12	1.95	0.47
3:D:329:GLN:HB3	3:D:335:PHE:HE1	1.79	0.47
3:D:497:LEU:HD21	3:D:559:MET:HE3	1.97	0.47
7:O:64:DG:H2"	7:O:65:DC:C6	2.50	0.47
9:M:74:LEU:HD21	9:M:158:LEU:CD2	2.32	0.47
1:A:95:MET:SD	1:A:110:ILE:HG21	2.55	0.47
1:A:223:ARG:HD3	1:B:216:VAL:HG11	1.97	0.47
1:B:112:PRO:HB2	1:B:116:VAL:HG23	1.96	0.47
1:B:196:VAL:HG22	1:B:198:THR:HG23	1.97	0.47
2:C:231:ARG:O	2:C:232:GLN:HG2	2.15	0.47
2:C:909:ASP:OD2	2:C:1001:LEU:HD11	2.14	0.47
2:C:1051:MET:HE1	5:F:441:ASP:HA	1.97	0.47
2:C:1083:TYR:HE2	4:E:55:ILE:HD11	1.80	0.47
3:D:84:ARG:CD	3:D:86:LYS:HE3	2.43	0.47
3:D:327:MET:HE1	5:F:365:THR:HG22	1.96	0.47
3:D:500:ARG:HH21	3:D:539:ASP:CG	2.23	0.47
3:D:736:VAL:HG22	3:D:799:ILE:HD13	1.97	0.47
3:D:797:ASN:HB3	3:D:800:ILE:CG2	2.38	0.47
3:D:885:ILE:HD11	3:D:887:ARG:HH21	1.79	0.47
3:D:1054:ARG:HB3	3:D:1065:THR:C	2.40	0.47
3:D:1220:TRP:CD1	3:D:1243:ASP:HB2	2.50	0.47
5:F:328:LEU:HD23	5:F:351:ILE:CD1	2.35	0.47
5:F:516:HIS:O	5:F:520:SER:HB3	2.14	0.47
7:O:47:DA:H1'	7:O:48:DT:H5'	1.95	0.47
9:M:139:LEU:CD1	9:M:154:LEU:HD21	2.45	0.47
2:C:255:SER:HB3	2:C:258:MET:CG	2.44	0.47
2:C:343:GLU:O	2:C:346:VAL:HG12	2.14	0.47
2:C:514:THR:HG23	2:C:515:PRO:HD2	1.97	0.47
2:C:727:GLU:H	3:D:725:THR:HG21	1.79	0.47
3:D:14:LEU:HD21	3:D:311:GLY:C	2.40	0.47
3:D:505:HIS:HE1	3:D:507:LEU:HB2	1.78	0.47
3:D:1052:ARG:HB2	3:D:1102:GLY:C	2.40	0.47
5:F:504:ARG:HA	5:F:507:GLU:CG	2.45	0.47
1:B:51:VAL:HG21	1:B:138:LEU:HD23	1.96	0.47
3:D:150:THR:O	3:D:153:ALA:HB3	2.14	0.47
3:D:246:ASP:OD1	3:D:247:ARG:N	2.48	0.47
3:D:527:LEU:HD13	3:D:713:VAL:CG1	2.44	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:981:ARG:HG2	3:D:982:SER:O	2.14	0.47
5:F:333:GLU:HG2	6:J:81:HIS:CD2	2.50	0.47
5:F:442:SER:HB3	6:J:7:ARG:HD3	1.97	0.47
5:F:504:ARG:HA	5:F:507:GLU:HG3	1.97	0.47
7:O:21:DG:H2'	7:O:22:DG:O4'	2.15	0.47
2:C:68:PRO:HA	2:C:71:ARG:HB3	1.97	0.47
2:C:400:VAL:HG12	2:C:404:MET:HE2	1.96	0.47
2:C:461:GLY:N	8:P:97:DT:OP2	2.32	0.47
2:C:736:ILE:CD1	2:C:916:ILE:HB	2.44	0.47
3:D:624:ARG:HG2	3:D:625:GLY:N	2.30	0.47
3:D:753:ALA:HB1	3:D:774:LEU:CD2	2.45	0.47
3:D:1273:GLN:O	4:E:105:GLU:HG2	2.14	0.47
4:E:101:ALA:HB3	4:E:103:LEU:HD13	1.97	0.47
5:F:261:GLN:O	5:F:264:THR:HG22	2.15	0.47
7:O:19:DC:C6	7:O:19:DC:H5'	2.50	0.47
7:O:72:DG:H2"	7:O:73:DC:H5'	1.97	0.47
1:A:108:GLY:HA2	1:A:121:PRO:HB3	1.97	0.46
2:C:408:ASP:OD1	2:C:411:ALA:HB3	2.15	0.46
3:D:137:THR:HG22	3:D:253:THR:O	2.15	0.46
3:D:169:GLU:O	3:D:208:ILE:HD13	2.15	0.46
3:D:916:ILE:HG23	3:D:920:ALA:CB	2.42	0.46
4:E:37:ASN:OD1	4:E:38:PRO:HA	2.15	0.46
2:C:52:GLY:O	2:C:55:ASP:N	2.46	0.46
2:C:584:ARG:O	2:C:584:ARG:HG2	2.14	0.46
2:C:723:ILE:O	2:C:919:THR:OG1	2.33	0.46
2:C:986:GLN:HG3	3:D:733:MET:HE1	1.97	0.46
3:D:230:ALA:HB1	3:D:231:PRO:HD2	1.97	0.46
3:D:278:ARG:O	3:D:281:ILE:HG13	2.15	0.46
3:D:585:LEU:HB2	3:D:693:GLN:HE22	1.80	0.46
3:D:924:THR:HG23	3:D:980:GLY:HA2	1.98	0.46
5:F:341:TYR:CE1	7:O:51:DG:H5"	2.50	0.46
8:P:133:DC:H2'	8:P:134:DC:H4'	1.96	0.46
1:A:40:ARG:HE	1:B:33:THR:CG2	2.23	0.46
1:B:50:ALA:O	1:B:140:VAL:HA	2.15	0.46
1:B:95:MET:O	1:B:137:GLU:HA	2.14	0.46
2:C:244:THR:OG1	2:C:247:GLN:HG3	2.15	0.46
2:C:476:HIS:CG	2:C:477:PRO:HD2	2.50	0.46
2:C:516:TYR:N	2:C:529:VAL:O	2.44	0.46
3:D:219:LEU:O	3:D:222:ILE:HG22	2.15	0.46
3:D:525:HIS:O	3:D:528:VAL:HG22	2.15	0.46
3:D:771:ASN:O	3:D:775:VAL:HG23	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:231:TYR:CE2	5:F:321:ILE:HG21	2.49	0.46
5:F:276:ALA:O	5:F:279:ARG:HG2	2.16	0.46
9:M:75:ARG:NE	9:M:157:VAL:HG13	2.26	0.46
1:A:144:ARG:HD2	1:B:1:MET:HG3	1.97	0.46
1:B:64:THR:O	1:B:65:THR:OG1	2.21	0.46
1:B:105:VAL:HG12	1:B:125:ILE:HG21	1.96	0.46
2:C:397:GLU:OE2	2:C:401:ARG:NH2	2.49	0.46
2:C:484:CYS:SG	2:C:587:VAL:HA	2.55	0.46
2:C:531:LEU:HD22	2:C:535:GLU:HG3	1.96	0.46
2:C:820:LEU:HD13	5:F:479:PHE:HD2	1.79	0.46
3:D:25:TYR:CE2	3:D:91:ARG:HG2	2.50	0.46
3:D:198:ARG:O	3:D:202:GLU:HG2	2.15	0.46
3:D:688:MET:HB3	3:D:693:GLN:HE21	1.81	0.46
9:M:111:LEU:CB	9:M:128:LEU:HD13	2.35	0.46
2:C:281:LEU:HD23	2:C:295:LEU:CD1	2.46	0.46
2:C:296:LEU:HD22	2:C:296:LEU:HA	1.68	0.46
2:C:516:TYR:CD2	2:C:531:LEU:HD12	2.50	0.46
2:C:587:VAL:HG22	2:C:591:THR:HB	1.98	0.46
2:C:1121:PHE:CE1	3:D:1254:ILE:HG22	2.50	0.46
3:D:383:ASP:HB2	3:D:403:SER:OG	2.15	0.46
3:D:567:SER:OG	3:D:574:LEU:HD13	2.16	0.46
3:D:937:ILE:HD12	3:D:955:ALA:HB2	1.97	0.46
1:A:110:ILE:O	1:A:112:PRO:HD3	2.16	0.46
1:A:153:ARG:NH2	2:C:797:ARG:HD3	2.30	0.46
1:B:55:ARG:CG	1:B:137:GLU:HB2	2.43	0.46
2:C:38:ARG:HH21	2:C:712:GLU:CD	2.24	0.46
2:C:43:LYS:HZ1	2:C:984:GLU:CD	2.24	0.46
3:D:66:LYS:C	3:D:67:ARG:HD2	2.41	0.46
3:D:143:MET:HB3	3:D:251:TYR:CE1	2.51	0.46
3:D:468:ASN:ND2	3:D:470:LYS:HB3	2.30	0.46
5:F:470:ARG:O	5:F:474:VAL:HG23	2.15	0.46
2:C:961:ASP:OD1	2:C:962:GLU:N	2.44	0.46
3:D:23:TRP:HB3	3:D:92:MET:HE3	1.98	0.46
3:D:432:VAL:HG23	3:D:526:PRO:HB3	1.97	0.46
3:D:595:ASP:OD1	3:D:596:THR:N	2.48	0.46
3:D:641:ARG:N	3:D:657:GLN:HG3	2.30	0.46
3:D:660:ASP:HB3	3:D:661:ALA:H	1.61	0.46
3:D:940:ARG:NH1	3:D:963:ARG:HH21	2.12	0.46
8:P:90:DG:H2"	8:P:91:DC:O5'	2.16	0.46
8:P:124:DG:H2"	8:P:125:DA:H8	1.78	0.46
1:A:172:LEU:HB3	1:A:197:GLU:O	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:115:VAL:HG11	2:C:129:TYR:CZ	2.51	0.46
2:C:207:SER:H	2:C:308:LEU:HA	1.80	0.46
2:C:480:TYR:CE1	2:C:586:MET:HB3	2.51	0.46
2:C:733:ASP:O	2:C:893:GLY:HA3	2.16	0.46
3:D:174:ALA:O	3:D:178:GLU:HG3	2.16	0.46
3:D:889:HIS:O	3:D:977:THR:HG23	2.16	0.46
3:D:1035:PHE:O	3:D:1161:MET:HE2	2.16	0.46
8:P:103:DT:H2"	8:P:104:DC:O5'	2.15	0.46
9:M:120:LEU:CD2	9:M:124:GLU:HB3	2.44	0.46
1:B:38:LEU:CD2	1:B:194:LEU:HD11	2.40	0.46
1:B:147:VAL:CG1	1:B:166:SER:HB2	2.45	0.46
2:C:571:VAL:HG22	2:C:572:PRO:O	2.16	0.46
3:D:577:PRO:HA	3:D:581:MET:SD	2.56	0.46
3:D:1118:PRO:HA	3:D:1121:VAL:CG1	2.44	0.46
4:E:42:GLU:HA	4:E:45:ASP:OD2	2.15	0.46
1:B:166:SER:HB3	1:B:168:TYR:CE1	2.50	0.46
2:C:103:MET:HE1	2:C:409:VAL:CG1	2.46	0.46
2:C:812:THR:O	2:C:814:LEU:HD22	2.16	0.46
3:D:1088:VAL:HG23	3:D:1098:VAL:N	2.31	0.46
3:D:1169:ASP:HB2	3:D:1202:ALA:CB	2.46	0.46
3:D:1181:ILE:HD11	3:D:1186:PHE:HD1	1.81	0.46
5:F:265:GLU:O	5:F:268:GLU:HG3	2.16	0.46
7:O:65:DC:H2"	7:O:66:DC:C6	2.51	0.46
1:A:182:ARG:HG2	1:A:188:ASP:HB3	1.98	0.45
1:B:147:VAL:HG13	1:B:166:SER:HB2	1.98	0.45
2:C:783:ASP:O	2:C:791:ARG:HG3	2.16	0.45
3:D:866:ARG:HD2	3:D:1010:LEU:O	2.16	0.45
3:D:1190:ASN:CA	3:D:1193:VAL:HG12	2.38	0.45
6:J:76:LYS:H	6:J:76:LYS:CD	2.28	0.45
2:C:73:SER:O	2:C:77:ARG:HD3	2.16	0.45
2:C:160:MET:CG	2:C:164:GLY:HA2	2.46	0.45
2:C:285:GLU:OE1	2:C:285:GLU:HA	2.17	0.45
3:D:199:ASP:O	3:D:203:ARG:HG3	2.16	0.45
3:D:788:ALA:O	3:D:791:GLU:HG3	2.15	0.45
3:D:1086:LEU:HD23	3:D:1099:LEU:CG	2.47	0.45
5:F:376:ILE:HD13	5:F:417:ALA:HB2	1.98	0.45
8:P:137:DG:H2'	8:P:138:DT:C7	2.46	0.45
2:C:593:MET:CE	2:C:713:MET:HG3	2.46	0.45
2:C:600:ASP:OD2	2:C:889:HIS:ND1	2.48	0.45
2:C:918:ASN:OD1	2:C:919:THR:N	2.48	0.45
3:D:31:PRO:HG3	3:D:349:ASN:OD1	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:180:ASP:HB3	3:D:197:VAL:HG11	1.99	0.45
3:D:917:GLU:HG2	3:D:921:TYR:CE2	2.52	0.45
5:F:336:ASP:OD1	5:F:337:TYR:N	2.50	0.45
5:F:491:GLU:HA	5:F:494:GLN:HG3	1.98	0.45
1:A:35:GLY:HA2	1:A:192:LEU:HD21	1.98	0.45
1:A:56:ILE:HG12	1:A:136:VAL:HB	1.99	0.45
2:C:141:ASN:HD22	2:C:142:ASN:N	2.15	0.45
2:C:175:VAL:CG1	2:C:381:VAL:HG23	2.43	0.45
2:C:926:MET:HE3	3:D:840:PHE:CD2	2.51	0.45
3:D:24:SER:HA	3:D:92:MET:O	2.17	0.45
3:D:430:ILE:HG21	3:D:541:MET:HG3	1.98	0.45
3:D:532:PHE:CE2	3:D:541:MET:HE1	2.52	0.45
3:D:603:SER:HA	3:D:606:HIS:O	2.17	0.45
3:D:1166:THR:HB	3:D:1206:VAL:CG1	2.46	0.45
4:E:56:TYR:CE2	4:E:99:ILE:HG12	2.51	0.45
9:M:26:THR:HA	9:M:30:GLU:O	2.16	0.45
2:C:53:LEU:HD12	2:C:637:ASP:HB2	1.99	0.45
2:C:122:CYS:HA	2:C:127:MET:HB2	1.98	0.45
2:C:146:GLU:CG	9:M:48:VAL:HG22	2.46	0.45
2:C:179:LEU:HD23	2:C:378:LEU:HD13	1.98	0.45
2:C:519:VAL:HG12	2:C:577:ASP:C	2.40	0.45
2:C:717:LYS:HG3	2:C:746:VAL:O	2.17	0.45
3:D:356:ARG:HH21	5:F:326:LEU:HD13	1.82	0.45
3:D:373:MET:SD	5:F:318:LEU:HB3	2.57	0.45
3:D:902:ALA:CB	3:D:912:ARG:HA	2.47	0.45
3:D:1010:LEU:HD23	3:D:1028:LEU:CA	2.46	0.45
5:F:466:THR:OG1	5:F:519:ARG:NH1	2.49	0.45
6:J:31:ARG:HG2	6:J:41:GLU:CG	2.27	0.45
2:C:61:PHE:CE2	2:C:65:ILE:HD11	2.52	0.45
2:C:296:LEU:C	2:C:298:ASN:N	2.69	0.45
2:C:611:MET:HB3	2:C:1033:LEU:HD21	1.99	0.45
2:C:611:MET:SD	2:C:892:LYS:HD3	2.56	0.45
2:C:822:ARG:NH1	2:C:828:LYS:O	2.49	0.45
3:D:887:ARG:NH1	3:D:972:THR:HB	2.30	0.45
3:D:921:TYR:HE1	3:D:949:ILE:HG13	1.80	0.45
5:F:342:LYS:HB3	7:O:52:DA:H5"	1.98	0.45
5:F:376:ILE:HG12	5:F:413:ILE:HG23	1.98	0.45
8:P:97:DT:O2	8:P:97:DT:H2'	2.17	0.45
1:A:216:VAL:HG13	1:B:216:VAL:HG23	1.97	0.45
1:B:110:ILE:O	1:B:112:PRO:HD3	2.17	0.45
2:C:167:ILE:O	2:C:168:ILE:HD13	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:136:ILE:HD11	3:D:235:ILE:HD11	1.97	0.45
5:F:333:GLU:HG2	6:J:81:HIS:CG	2.52	0.45
1:A:18:ARG:HB3	1:A:197:GLU:HA	1.99	0.45
1:A:61:HIS:CD2	1:A:63:PHE:HB2	2.52	0.45
1:B:63:PHE:O	1:B:73:VAL:HB	2.17	0.45
2:C:597:LEU:HB3	2:C:976:VAL:CG1	2.40	0.45
2:C:882:GLY:HA3	2:C:1037:VAL:CG2	2.47	0.45
2:C:894:VAL:HG11	3:D:429:VAL:CG2	2.47	0.45
2:C:1043:ALA:HB2	3:D:447:MET:HG3	1.98	0.45
2:C:1049:TYR:OH	2:C:1099:ARG:HD2	2.16	0.45
3:D:439:HIS:CD2	4:E:35:ILE:HG22	2.52	0.45
3:D:500:ARG:CD	3:D:534:ALA:HB2	2.46	0.45
3:D:575:ALA:HB1	3:D:713:VAL:HG11	1.99	0.45
3:D:821:LYS:HB3	3:D:836:VAL:HG11	1.99	0.45
3:D:826:ASN:OD1	3:D:832:ILE:HD11	2.16	0.45
3:D:1064:ILE:HG21	3:D:1111:LEU:HD23	1.99	0.45
2:C:50:VAL:HG22	2:C:503:TYR:CE1	2.39	0.45
3:D:864:ALA:O	3:D:867:THR:HG22	2.17	0.45
3:D:1053:VAL:HG12	3:D:1103:ASP:N	2.23	0.45
3:D:1085:ARG:HB2	3:D:1113:GLU:CD	2.42	0.45
7:O:57:DC:H1'	7:O:58:DA:O5'	2.17	0.45
1:B:183:VAL:CA	1:B:188:ASP:H	2.25	0.45
2:C:218:LYS:HE2	2:C:219:ARG:HH11	1.82	0.45
2:C:886:ALA:HB3	2:C:1033:LEU:CD1	2.47	0.45
2:C:1074:TRP:NE1	3:D:878:VAL:HG11	2.31	0.45
3:D:76:GLU:OE2	6:J:48:ALA:HB1	2.16	0.45
3:D:101:VAL:HG13	3:D:375:GLN:CD	2.41	0.45
3:D:416:ASN:HD22	3:D:417:LEU:H	1.64	0.45
3:D:1221:LEU:HD23	3:D:1250:GLU:HB3	1.97	0.45
7:O:65:DC:OP2	7:O:65:DC:H6	2.00	0.45
8:P:86:DC:H1'	8:P:87:DG:C5'	2.44	0.45
8:P:110:DC:H2"	8:P:111:DA:OP2	2.16	0.45
9:M:74:LEU:HD23	9:M:74:LEU:O	2.17	0.45
2:C:117:ALA:HB3	2:C:122:CYS:SG	2.57	0.44
2:C:792:ILE:HD12	2:C:792:ILE:H	1.81	0.44
2:C:889:HIS:NE2	2:C:933:GLU:OE1	2.48	0.44
2:C:1088:LEU:O	3:D:422:VAL:HG12	2.16	0.44
3:D:17:ALA:O	3:D:21:ARG:HG2	2.17	0.44
3:D:88:ARG:O	3:D:323:GLU:HG2	2.17	0.44
3:D:107:PHE:CE2	3:D:129:ILE:HD11	2.52	0.44
3:D:302:PHE:CE1	3:D:309:PRO:HA	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:444:PRO:HB3	3:D:520:LYS:HA	1.99	0.44
3:D:612:TYR:CE2	3:D:627:LEU:HD21	2.52	0.44
2:C:102:SER:HB2	2:C:143:ASN:ND2	2.32	0.44
2:C:234:VAL:O	2:C:238:LEU:HD23	2.17	0.44
2:C:334:THR:HG23	2:C:337:ASP:N	2.24	0.44
2:C:809:LYS:HB3	2:C:831:GLU:O	2.16	0.44
2:C:820:LEU:HD11	2:C:824:ILE:HD11	1.99	0.44
3:D:656:TRP:O	3:D:656:TRP:CD2	2.70	0.44
5:F:456:LEU:HA	5:F:526:TYR:CE2	2.52	0.44
7:O:42:DT:H2"	7:O:43:DT:O5'	2.16	0.44
9:M:100:ASP:OD2	9:M:102:ASN:HB2	2.17	0.44
1:A:33:THR:CG2	1:B:37:SER:HA	2.46	0.44
2:C:482:ARG:HH11	2:C:532:THR:C	2.26	0.44
2:C:659:THR:HA	2:C:668:ARG:O	2.17	0.44
3:D:674:ASN:ND2	3:D:684:VAL:H	2.14	0.44
3:D:1222:SER:HB2	3:D:1250:GLU:OE2	2.17	0.44
5:F:386:LEU:HD13	5:F:398:GLU:OE1	2.17	0.44
7:O:60:DG:H2"	7:O:61:DG:H8	1.82	0.44
8:P:124:DG:H8	8:P:124:DG:OP2	2.00	0.44
1:A:211:ALA:O	1:A:215:LEU:HD23	2.17	0.44
1:B:30:PHE:CD1	1:B:33:THR:HG21	2.53	0.44
1:B:71:GLU:HG2	1:B:75:GLU:CG	2.48	0.44
2:C:133:LEU:CB	2:C:154:MET:HB3	2.47	0.44
2:C:378:LEU:HD11	2:C:455:LEU:HD22	1.97	0.44
3:D:12:ILE:HG23	3:D:1237:ALA:HA	1.98	0.44
3:D:97:LEU:HD11	3:D:317:VAL:HG23	1.97	0.44
3:D:138:SER:O	3:D:252:PHE:HB2	2.17	0.44
3:D:435:GLN:OE1	3:D:435:GLN:N	2.41	0.44
3:D:944:LEU:HD22	3:D:949:ILE:CD1	2.48	0.44
3:D:1088:VAL:HG23	3:D:1097:ARG:C	2.42	0.44
5:F:376:ILE:HG12	5:F:413:ILE:CG2	2.48	0.44
7:O:25:DT:H2'	7:O:25:DT:OP2	2.18	0.44
9:M:27:ILE:CG2	9:M:32:LYS:HD2	2.47	0.44
9:M:53:ALA:C	9:M:58:VAL:HG12	2.42	0.44
2:C:707:CYS:O	2:C:714:ALA:N	2.49	0.44
3:D:58:TRP:CE2	3:D:68:VAL:HG22	2.52	0.44
3:D:89:ARG:HD2	3:D:324:LEU:HD21	1.99	0.44
3:D:676:LEU:HD12	3:D:715:LYS:CB	2.38	0.44
4:E:83:VAL:HG13	4:E:97:ARG:HH21	1.81	0.44
9:M:36:VAL:HG13	9:M:36:VAL:O	2.18	0.44
9:M:105:ALA:HA	9:M:108:VAL:HG22	1.99	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3:ILE:O	1:A:3:ILE:HG13	2.17	0.44
1:A:221:LEU:O	1:A:225:LEU:HB2	2.18	0.44
2:C:148:LYS:HB3	2:C:414:PRO:CD	2.36	0.44
2:C:377:ARG:NH1	2:C:379:ARG:HG2	2.33	0.44
2:C:1137:VAL:HG11	3:D:0:ALA:O	2.18	0.44
3:D:497:LEU:HD23	3:D:511:ALA:HB2	1.99	0.44
3:D:579:LEU:CD2	3:D:808:THR:HB	2.47	0.44
3:D:736:VAL:HG22	3:D:799:ILE:HD11	1.99	0.44
3:D:1176:LEU:O	3:D:1179:SER:OG	2.26	0.44
5:F:346:TYR:HB2	7:O:50:DA:N3	2.33	0.44
5:F:491:GLU:HG3	5:F:494:GLN:HE21	1.83	0.44
7:O:62:DT:H1'	7:O:63:DT:H5'	2.00	0.44
8:P:130:DA:H2"	8:P:131:DG:H5'	1.99	0.44
8:P:132:DA:H2'	8:P:132:DA:OP2	2.18	0.44
1:B:105:VAL:O	1:B:125:ILE:HG22	2.16	0.44
1:B:111:VAL:O	1:B:111:VAL:HG13	2.18	0.44
2:C:516:TYR:CD2	2:C:531:LEU:HB2	2.53	0.44
2:C:541:VAL:HG11	2:C:562:ARG:NH2	2.33	0.44
3:D:989:VAL:HG23	3:D:993:GLU:HG3	1.99	0.44
3:D:1120:GLU:O	3:D:1124:VAL:HG23	2.18	0.44
8:P:133:DC:C2'	8:P:134:DC:H4'	2.48	0.44
9:M:9:VAL:HG11	9:M:37:LEU:HD11	1.98	0.44
1:B:167:ILE:HD11	3:D:617:GLU:CD	2.42	0.44
2:C:270:THR:OG1	2:C:271:ASP:N	2.50	0.44
2:C:592:ALA:CB	2:C:630:MET:HG3	2.47	0.44
2:C:1044:ARG:HH21	2:C:1047:GLY:H	1.64	0.44
3:D:37:ARG:CG	3:D:38:THR:H	2.28	0.44
3:D:228:LYS:O	3:D:233:GLN:NE2	2.32	0.44
3:D:739:PRO:HG2	3:D:742:LYS:HB2	1.99	0.44
3:D:741:ARG:HD3	3:D:745:ILE:HD11	1.99	0.44
3:D:746:LEU:HD23	3:D:746:LEU:HA	1.80	0.44
8:P:109:DA:H1'	8:P:110:DC:H5'	1.99	0.44
9:M:53:ALA:HB1	9:M:58:VAL:CG1	2.47	0.44
2:C:267:THR:HG23	2:C:272:GLU:OE2	2.17	0.44
3:D:65:TYR:CD2	3:D:75:CYS:HB2	2.53	0.44
3:D:212:ALA:O	3:D:216:LEU:HG	2.18	0.44
3:D:925:LEU:HD12	3:D:938:VAL:HG12	2.00	0.44
6:J:27:ARG:HB2	6:J:44:PHE:O	2.18	0.44
7:O:72:DG:C2'	7:O:73:DC:H2'	2.44	0.44
8:P:88:DG:H2"	8:P:89:DG:O5'	2.17	0.44
8:P:123:DG:H2"	8:P:124:DG:C8	2.53	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:27:GLU:O	1:A:30:PHE:HB3	2.18	0.43
2:C:122:CYS:HB3	2:C:127:MET:O	2.17	0.43
2:C:275:LEU:HD12	2:C:275:LEU:H	1.82	0.43
2:C:349:HIS:ND1	2:C:349:HIS:O	2.51	0.43
2:C:413:THR:HG22	2:C:416:THR:CG2	2.43	0.43
2:C:460:PRO:HA	8:P:97:DT:OP2	2.18	0.43
2:C:475:VAL:O	2:C:475:VAL:HG23	2.17	0.43
2:C:824:ILE:HA	5:F:511:MET:HE3	2.00	0.43
3:D:130:TYR:CD1	3:D:387:ARG:NH2	2.85	0.43
3:D:340:LEU:HD11	3:D:405:LEU:HD12	2.00	0.43
3:D:432:VAL:CG2	3:D:526:PRO:HB3	2.48	0.43
2:C:486:ILE:HD11	3:D:849:TYR:HE2	1.83	0.43
2:C:862:PRO:HG2	2:C:865:VAL:HG21	2.01	0.43
2:C:1091:ILE:CG2	2:C:1115:PRO:HB3	2.45	0.43
3:D:56:ARG:HG2	6:J:13:ALA:H	1.82	0.43
3:D:124:ASP:HB3	3:D:234:LEU:HD22	2.00	0.43
3:D:453:LYS:HA	3:D:456:VAL:HG12	1.99	0.43
3:D:589:THR:HG21	3:D:688:MET:CG	2.48	0.43
3:D:629:VAL:HG21	3:D:723:TRP:CH2	2.52	0.43
3:D:656:TRP:HE3	3:D:658:PRO:HG2	1.83	0.43
3:D:1028:LEU:HB3	3:D:1029:PRO:HD3	2.00	0.43
3:D:1051:GLY:C	3:D:1104:HIS:HA	2.43	0.43
3:D:1267:TYR:CD1	4:E:52:ALA:HB2	2.54	0.43
4:E:95:ALA:O	4:E:99:ILE:HG13	2.18	0.43
9:M:70:VAL:HG11	9:M:101:VAL:CG1	2.49	0.43
1:A:43:LEU:HA	1:A:171:VAL:HG11	2.00	0.43
1:B:54:ILE:HD13	1:B:80:LEU:HD12	1.99	0.43
2:C:256:GLU:O	2:C:259:ARG:HG2	2.18	0.43
3:D:237:ASP:C	3:D:238:GLU:HG3	2.43	0.43
3:D:335:PHE:HB2	5:F:420:PRO:HG3	2.00	0.43
3:D:1054:ARG:CB	3:D:1065:THR:HB	2.48	0.43
5:F:310:TYR:HD2	5:F:355:ILE:CG2	2.32	0.43
2:C:46:GLU:O	2:C:46:GLU:HG2	2.18	0.43
2:C:584:ARG:HH22	2:C:975:PRO:CB	2.29	0.43
2:C:672:MET:HE1	2:C:703:ALA:HB2	2.01	0.43
2:C:884:LYS:HD3	2:C:1035:HIS:HD2	1.82	0.43
2:C:926:MET:HE1	3:D:817:LEU:N	2.32	0.43
3:D:129:ILE:HG22	3:D:261:ILE:HG13	2.01	0.43
3:D:204:GLU:O	3:D:207:GLN:HB3	2.18	0.43
3:D:591:GLU:OE2	3:D:632:LYS:HB2	2.18	0.43
3:D:672:MET:HE1	3:D:723:TRP:CZ2	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:729:VAL:HG23	3:D:729:VAL:O	2.17	0.43
3:D:940:ARG:HH11	3:D:963:ARG:HH21	1.67	0.43
3:D:1262:THR:HG22	4:E:51:TYR:HB3	1.99	0.43
5:F:333:GLU:OE1	6:J:84:MET:CE	2.65	0.43
7:O:19:DC:C2'	7:O:20:DT:H71	2.44	0.43
2:C:902:GLU:OE1	2:C:902:GLU:N	2.42	0.43
2:C:1078:ALA:HB3	3:D:506:ARG:HG3	1.99	0.43
3:D:203:ARG:O	3:D:206:ARG:HG2	2.17	0.43
5:F:460:LEU:O	5:F:464:LEU:HD13	2.19	0.43
1:A:61:HIS:CD2	1:A:63:PHE:H	2.35	0.43
2:C:294:THR:C	2:C:298:ASN:OD1	2.58	0.43
2:C:549:ASP:N	2:C:553:ARG:O	2.32	0.43
3:D:642:PRO:HB2	3:D:643:PRO:HD2	2.01	0.43
5:F:477:LEU:O	5:F:487:ARG:HB2	2.19	0.43
7:O:15:DG:H2"	7:O:16:DA:OP2	2.16	0.43
7:O:35:DT:C1'	7:O:36:DG:H5'	2.47	0.43
1:B:117:THR:HG23	1:B:117:THR:O	2.19	0.43
1:B:183:VAL:O	1:B:187:THR:HA	2.19	0.43
2:C:235:THR:O	2:C:239:LYS:HG3	2.18	0.43
2:C:275:LEU:HD21	2:C:289:LYS:HA	2.01	0.43
2:C:881:ASP:OD1	2:C:881:ASP:N	2.51	0.43
2:C:885:LEU:HD13	2:C:895:ILE:CG1	2.48	0.43
2:C:1057:LEU:HD12	2:C:1057:LEU:HA	1.85	0.43
3:D:95:ILE:HD13	3:D:348:ILE:HD11	2.00	0.43
6:J:20:ARG:HH11	6:J:23:ASP:HB3	1.83	0.43
6:J:109:ARG:HH11	6:J:110:ARG:NH2	2.17	0.43
7:O:42:DT:C1'	7:O:43:DT:H5'	2.36	0.43
2:C:41:PHE:CE2	2:C:980:ALA:HB2	2.54	0.43
2:C:61:PHE:HB2	2:C:160:MET:CE	2.49	0.43
2:C:204:VAL:O	2:C:206:PRO:HD3	2.19	0.43
2:C:285:GLU:CD	2:C:286:PRO:N	2.76	0.43
2:C:435:GLN:HE21	2:C:460:PRO:CD	2.28	0.43
2:C:758:ASP:HB3	2:C:868:LEU:CD2	2.42	0.43
2:C:989:LEU:HD21	2:C:1006:GLY:HA2	2.01	0.43
3:D:148:LEU:O	3:D:148:LEU:HD13	2.19	0.43
3:D:195:ARG:HD2	3:D:198:ARG:NH1	2.32	0.43
3:D:877:LEU:HA	3:D:877:LEU:HD23	1.73	0.43
3:D:915:TYR:CE2	3:D:1143:ARG:HD3	2.52	0.43
3:D:925:LEU:CD2	3:D:944:LEU:HD11	2.48	0.43
4:E:83:VAL:HG11	4:E:97:ARG:HE	1.84	0.43
5:F:342:LYS:HG2	7:O:53:DC:OP2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:F:470:ARG:HD3	5:F:506:ILE:CD1	2.41	0.43
2:C:102:SER:O	2:C:141:ASN:ND2	2.50	0.43
2:C:187:PHE:CE1	2:C:202:VAL:HB	2.54	0.43
3:D:566:LEU:HD23	3:D:573:PRO:CA	2.49	0.43
3:D:826:ASN:OD1	3:D:827:PRO:HD2	2.18	0.43
3:D:913:ASP:CG	3:D:914:PRO:HD2	2.43	0.43
3:D:991:ILE:HG22	3:D:991:ILE:O	2.19	0.43
7:O:26:DT:H2"	7:O:27:DG:O5'	2.18	0.43
8:P:128:DC:H2"	8:P:129:DA:H8	1.83	0.43
9:M:70:VAL:HG11	9:M:101:VAL:HG12	2.01	0.43
9:M:70:VAL:HG12	9:M:102:ASN:ND2	2.34	0.43
1:B:28:PRO:HD3	1:B:189:PHE:HD1	1.84	0.43
1:B:87:SER:OG	1:B:116:VAL:HG12	2.19	0.43
2:C:206:PRO:CB	2:C:308:LEU:HB3	2.49	0.43
2:C:388:GLN:HG3	2:C:430:PHE:HB2	2.01	0.43
2:C:822:ARG:O	2:C:826:GLY:N	2.52	0.43
2:C:904:MET:HG2	2:C:913:VAL:O	2.19	0.43
2:C:955:TRP:NE1	2:C:987:GLY:HA3	2.34	0.43
2:C:1044:ARG:NH2	2:C:1048:PRO:O	2.49	0.43
3:D:33:THR:HG23	3:D:47:PHE:HE2	1.80	0.43
3:D:48:CYS:SG	3:D:50:LYS:HB3	2.59	0.43
3:D:52:PHE:CG	3:D:322:PRO:HD3	2.54	0.43
3:D:281:ILE:HD12	3:D:282:ARG:N	2.34	0.43
3:D:491:ILE:HG23	3:D:514:PRO:HG2	2.00	0.43
3:D:673:PHE:O	3:D:676:LEU:HB2	2.18	0.43
3:D:753:ALA:HB1	3:D:774:LEU:HD22	2.00	0.43
3:D:874:THR:OG1	3:D:1004:GLY:HA3	2.19	0.43
5:F:449:ASP:OD1	5:F:450:ALA:N	2.52	0.43
7:O:28:DA:OP2	7:O:28:DA:H3'	2.19	0.43
7:O:36:DG:H1'	7:O:37:DC:H5'	2.00	0.43
9:M:34:TYR:CE1	9:M:49:PRO:HG3	2.54	0.43
1:B:210:SER:O	1:B:214:THR:HG23	2.19	0.42
2:C:63:TRP:HD1	2:C:70:TRP:CE2	2.37	0.42
2:C:163:LYS:HE3	2:C:639:GLY:O	2.19	0.42
2:C:485:PRO:HD2	2:C:586:MET:O	2.19	0.42
2:C:598:GLU:OE1	2:C:598:GLU:N	2.43	0.42
2:C:738:SER:N	2:C:914:ASP:O	2.40	0.42
2:C:993:LEU:HD12	2:C:993:LEU:O	2.19	0.42
3:D:268:PHE:HE2	3:D:270:ILE:HG22	1.83	0.42
3:D:1066:ILE:HD11	3:D:1077:TYR:HE2	1.84	0.42
3:D:1080:ILE:HD11	3:D:1112:MET:SD	2.59	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1164:ARG:NE	3:D:1208:MET:HE1	2.33	0.42
5:F:271:GLU:OE2	5:F:274:PRO:HD3	2.18	0.42
9:M:156:GLU:OE2	9:M:157:VAL:HG23	2.18	0.42
1:B:81:LYS:HE3	3:D:613:SER:HB3	2.01	0.42
1:B:203:SER:HB2	1:B:204:PRO:HD2	2.00	0.42
2:C:135:VAL:HG21	2:C:154:MET:HE3	2.00	0.42
2:C:296:LEU:O	2:C:298:ASN:N	2.52	0.42
2:C:886:ALA:HB3	2:C:1033:LEU:HD11	2.00	0.42
2:C:961:ASP:C	2:C:962:GLU:HG3	2.44	0.42
2:C:974:THR:O	2:C:974:THR:OG1	2.35	0.42
2:C:1077:GLN:NE2	10:C:1201:C0L:O33	2.51	0.42
3:D:285:LYS:HD3	3:D:285:LYS:H	1.85	0.42
3:D:389:ARG:NH1	7:O:58:DA:N7	2.51	0.42
3:D:635:VAL:HG23	3:D:637:LEU:HG	2.01	0.42
5:F:254:GLU:OE1	6:J:89:ARG:NH1	2.52	0.42
5:F:461:GLN:OE1	5:F:476:ARG:NH2	2.52	0.42
8:P:116:DC:H1'	8:P:117:DG:H5'	2.01	0.42
8:P:138:DT:H1'	8:P:139:DT:O5'	2.18	0.42
1:A:87:SER:OG	1:A:88:GLU:N	2.53	0.42
1:B:102:PRO:HD3	1:B:131:LYS:N	2.29	0.42
2:C:347:ARG:HD3	2:C:355:MET:HG3	2.02	0.42
2:C:413:THR:HG23	2:C:416:THR:H	1.83	0.42
2:C:542:ALA:HB3	2:C:579:MET:HA	2.00	0.42
2:C:681:GLY:O	2:C:751:HIS:HA	2.19	0.42
2:C:756:GLU:CD	2:C:870:ARG:HD3	2.44	0.42
3:D:460:LEU:HD11	3:D:472:ALA:CB	2.50	0.42
3:D:590:THR:CG2	3:D:630:ARG:HD2	2.50	0.42
3:D:1264:ILE:HD11	3:D:1267:TYR:HE2	1.83	0.42
4:E:33:LEU:HD12	4:E:33:LEU:O	2.19	0.42
5:F:395:THR:OG1	5:F:398:GLU:HB2	2.20	0.42
5:F:516:HIS:O	5:F:520:SER:CB	2.67	0.42
9:M:83:THR:O	9:M:84:ASN:HB2	2.19	0.42
1:B:66:VAL:HB	1:B:69:VAL:CG2	2.49	0.42
2:C:147:ILE:HG12	9:M:47:ARG:H	1.84	0.42
2:C:516:TYR:CE2	2:C:531:LEU:HB2	2.55	0.42
2:C:541:VAL:HA	2:C:578:TYR:O	2.18	0.42
2:C:1044:ARG:HH12	2:C:1057:LEU:H	1.66	0.42
2:C:1138:LEU:HD11	3:D:11:ARG:CZ	2.48	0.42
3:D:33:THR:HG23	3:D:47:PHE:CD2	2.53	0.42
3:D:103:HIS:HB3	3:D:106:TYR:HD2	1.84	0.42
3:D:409:LYS:O	3:D:409:LYS:HD3	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:550:GLU:OE2	4:E:62:ARG:HD2	2.19	0.42
2:C:756:GLU:CG	2:C:870:ARG:HG2	2.49	0.42
3:D:25:TYR:CD2	3:D:91:ARG:HD3	2.53	0.42
3:D:82:VAL:O	3:D:82:VAL:HG13	2.19	0.42
3:D:505:HIS:CD2	3:D:1005:GLU:HG3	2.54	0.42
3:D:736:VAL:HG12	3:D:818:ALA:HB2	2.01	0.42
3:D:1191:ARG:O	3:D:1194:VAL:HG22	2.20	0.42
3:D:1267:TYR:O	4:E:55:ILE:HG21	2.18	0.42
5:F:478:ARG:NH2	8:P:126:DG:OP1	2.44	0.42
9:M:88:ARG:HH21	9:M:114:ARG:CZ	2.33	0.42
2:C:150:GLN:CD	2:C:414:PRO:HG2	2.44	0.42
2:C:357:VAL:CG1	2:C:360:GLY:HA3	2.48	0.42
2:C:737:LEU:CD1	2:C:895:ILE:HD13	2.50	0.42
2:C:879:ILE:HD12	2:C:879:ILE:HA	1.96	0.42
3:D:39:LEU:HA	3:D:39:LEU:HD23	1.82	0.42
3:D:104:ILE:HD12	3:D:379:ASP:HB3	2.01	0.42
3:D:383:ASP:HA	3:D:403:SER:OG	2.20	0.42
3:D:573:PRO:C	3:D:574:LEU:HD12	2.44	0.42
3:D:736:VAL:CG1	3:D:841:ARG:HD2	2.49	0.42
5:F:386:LEU:HB3	5:F:394:PRO:HG2	2.01	0.42
1:A:111:VAL:HG13	1:A:111:VAL:O	2.20	0.42
2:C:205:ILE:HG22	2:C:211:TRP:CD2	2.54	0.42
2:C:259:ARG:O	2:C:263:GLU:HG2	2.20	0.42
2:C:294:THR:O	2:C:298:ASN:CB	2.68	0.42
2:C:646:GLU:HB3	2:C:662:HIS:ND1	2.35	0.42
2:C:719:LEU:HD13	2:C:1030:ILE:HG12	2.01	0.42
2:C:728:GLY:O	2:C:731:TYR:HB2	2.19	0.42
3:D:1122:LEU:HD13	3:D:1130:VAL:HG11	2.02	0.42
5:F:510:THR:O	5:F:514:LEU:HD23	2.19	0.42
9:M:134:ILE:HD12	9:M:135:LEU:N	2.35	0.42
1:B:89:GLU:OE1	1:B:89:GLU:N	2.52	0.42
2:C:222:VAL:CG2	2:C:234:VAL:H	2.33	0.42
2:C:483:MET:HE3	2:C:498:GLY:CA	2.42	0.42
3:D:173:ARG:CG	3:D:205:MET:HB2	2.49	0.42
3:D:525:HIS:HE1	3:D:527:LEU:HD12	1.84	0.42
3:D:963:ARG:HB3	3:D:978:CYS:HA	2.02	0.42
3:D:1056:GLU:N	3:D:1063:LYS:O	2.53	0.42
5:F:296:LEU:HD21	5:F:329:ILE:HA	2.00	0.42
9:M:25:ARG:O	9:M:32:LYS:N	2.53	0.42
9:M:141:LEU:HA	9:M:141:LEU:HD23	1.76	0.42
1:A:153:ARG:HH21	2:C:797:ARG:CD	2.33	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:41:THR:OG1	1:B:215:LEU:HD21	2.20	0.42
1:B:84:VAL:HG23	1:B:199:LYS:HD3	2.01	0.42
2:C:230:ARG:O	2:C:231:ARG:HG2	2.20	0.42
2:C:356:THR:HG23	2:C:356:THR:O	2.20	0.42
3:D:500:ARG:HD2	3:D:534:ALA:HB2	2.02	0.42
5:F:257:LEU:HD21	6:J:81:HIS:ND1	2.35	0.42
5:F:439:ILE:HG12	6:J:6:LEU:CD1	2.50	0.42
8:P:131:DG:H2"	8:P:132:DA:H8	1.83	0.42
9:M:151:GLU:HA	9:M:154:LEU:HD12	2.02	0.42
1:B:145:GLY:O	1:B:168:TYR:HB2	2.20	0.42
1:B:213:LYS:HA	1:B:216:VAL:HG12	2.01	0.42
2:C:139:PHE:CE1	2:C:412:ILE:HD11	2.55	0.42
2:C:345:LEU:O	2:C:345:LEU:HD22	2.20	0.42
2:C:357:VAL:HG23	2:C:358:PRO:HD2	2.02	0.42
2:C:884:LYS:HD3	2:C:1035:HIS:CD2	2.55	0.42
2:C:1092:LYS:HE2	3:D:547:LEU:CD1	2.50	0.42
3:D:52:PHE:CB	3:D:322:PRO:HG3	2.49	0.42
3:D:199:ASP:HB3	3:D:203:ARG:NH1	2.35	0.42
3:D:1045:PRO:O	3:D:1111:LEU:HD13	2.20	0.42
3:D:1167:ILE:HG21	3:D:1175:PHE:HB3	2.02	0.42
4:E:86:GLY:N	4:E:89:GLU:OE1	2.36	0.42
5:F:400:ALA:HB2	5:F:410:VAL:HG21	2.02	0.42
6:J:50:ILE:HG22	6:J:64:LEU:HD12	2.02	0.42
7:O:72:DG:C1'	7:O:73:DC:H5'	2.48	0.42
9:M:25:ARG:HH12	9:M:47:ARG:HD3	1.85	0.42
1:A:45:SER:HB3	1:B:232:ILE:HD11	2.02	0.41
1:A:175:THR:HB	2:C:910:GLY:N	2.35	0.41
1:B:150:VAL:HG13	1:B:150:VAL:O	2.20	0.41
2:C:213:GLU:OE1	2:C:213:GLU:N	2.53	0.41
2:C:272:GLU:CD	2:C:272:GLU:C	2.84	0.41
2:C:344:TYR:CE1	2:C:365:VAL:HA	2.55	0.41
2:C:452:LYS:O	2:C:453:ARG:HB2	2.20	0.41
2:C:894:VAL:HG22	3:D:536:PHE:O	2.19	0.41
2:C:904:MET:HG3	2:C:913:VAL:HG22	2.01	0.41
3:D:1127:PRO:O	3:D:1130:VAL:HG12	2.20	0.41
3:D:1272:VAL:HG22	4:E:56:TYR:HD1	1.84	0.41
5:F:331:ALA:HB2	5:F:350:TRP:HB2	2.02	0.41
9:M:9:VAL:HG23	9:M:59:ARG:O	2.20	0.41
1:A:2:LEU:HD12	1:A:2:LEU:O	2.21	0.41
1:A:56:ILE:HB	1:A:59:VAL:HG21	2.01	0.41
1:B:43:LEU:HA	1:B:171:VAL:CG2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:105:VAL:HA	1:B:109:ASP:OD2	2.21	0.41
2:C:94:SER:HA	2:C:95:PRO:HA	1.77	0.41
2:C:281:LEU:HD12	2:C:281:LEU:HA	1.58	0.41
2:C:294:THR:H	2:C:294:THR:HG23	1.58	0.41
3:D:417:LEU:HD23	3:D:417:LEU:HA	1.91	0.41
3:D:497:LEU:CD2	3:D:511:ALA:HB2	2.50	0.41
3:D:524:LEU:HD12	3:D:524:LEU:HA	1.72	0.41
3:D:591:GLU:OE2	3:D:632:LYS:HD2	2.21	0.41
3:D:683:PHE:CD2	3:D:685:ASN:HB2	2.55	0.41
3:D:844:LEU:HD12	3:D:844:LEU:N	2.35	0.41
3:D:1174:GLU:O	3:D:1174:GLU:HG3	2.19	0.41
3:D:1245:LEU:CD2	3:D:1250:GLU:HB3	2.50	0.41
5:F:310:TYR:HD2	5:F:355:ILE:HG21	1.85	0.41
5:F:382:ILE:HG22	5:F:399:LEU:CD2	2.49	0.41
9:M:136:VAL:HG22	9:M:154:LEU:CD1	2.51	0.41
1:A:183:VAL:HG22	1:A:184:GLU:H	1.86	0.41
1:B:194:LEU:HD23	1:B:194:LEU:HA	1.86	0.41
2:C:165:THR:HG21	2:C:440:MET:SD	2.60	0.41
2:C:201:SER:OG	2:C:202:VAL:N	2.52	0.41
2:C:587:VAL:CG2	2:C:591:THR:HB	2.51	0.41
2:C:980:ALA:HA	2:C:984:GLU:OE1	2.20	0.41
3:D:990:ASP:CG	4:E:49:SER:HB2	2.45	0.41
8:P:137:DG:H2'	8:P:138:DT:H72	2.02	0.41
1:B:85:VAL:O	1:B:85:VAL:HG13	2.19	0.41
2:C:112:PHE:CZ	2:C:133:LEU:HD21	2.55	0.41
2:C:131:ALA:HA	2:C:132:PRO:HD3	1.90	0.41
2:C:147:ILE:O	2:C:147:ILE:HG13	2.19	0.41
2:C:148:LYS:O	2:C:414:PRO:HG3	2.20	0.41
2:C:183:PRO:HB2	2:C:206:PRO:HA	2.02	0.41
2:C:234:VAL:HG21	2:C:258:MET:SD	2.60	0.41
2:C:288:THR:CG2	2:C:291:SER:CB	2.85	0.41
2:C:507:ASN:HD22	2:C:511:PHE:HB2	1.85	0.41
2:C:1076:MET:HG3	3:D:509:ILE:CD1	2.51	0.41
3:D:386:ARG:CG	3:D:386:ARG:HH11	2.33	0.41
3:D:557:ILE:HD13	4:E:53:LEU:HD13	2.01	0.41
3:D:1152:LYS:O	3:D:1156:VAL:HG23	2.21	0.41
5:F:323:GLU:HG3	5:F:358:ALA:CB	2.50	0.41
5:F:342:LYS:HB2	7:O:52:DA:H5"	2.01	0.41
1:A:71:GLU:HG2	1:A:75:GLU:HG2	2.02	0.41
1:A:105:VAL:O	1:A:125:ILE:HB	2.20	0.41
1:A:217:GLU:HB3	1:B:234:ILE:CD1	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:84:VAL:O	1:B:84:VAL:HG13	2.21	0.41
2:C:1094:ASP:O	2:C:1119:GLU:HB2	2.20	0.41
3:D:827:PRO:HG3	3:D:854:HIS:ND1	2.36	0.41
3:D:937:ILE:CD1	3:D:955:ALA:HB2	2.51	0.41
3:D:1265:ASN:OD1	3:D:1268:ARG:NH2	2.41	0.41
5:F:378:LYS:HB3	5:F:403:MET:HE3	2.03	0.41
8:P:94:DC:H2"	8:P:95:DC:C6	2.56	0.41
9:M:44:LEU:HD23	9:M:44:LEU:H	1.84	0.41
9:M:88:ARG:HH21	9:M:114:ARG:NH2	2.18	0.41
2:C:41:PHE:HE1	2:C:963:LEU:HD22	1.85	0.41
2:C:271:ASP:O	2:C:275:LEU:HD11	2.05	0.41
2:C:295:LEU:O	2:C:295:LEU:HG	2.18	0.41
2:C:475:VAL:HG23	3:D:854:HIS:ND1	2.35	0.41
2:C:476:HIS:ND1	2:C:477:PRO:HD2	2.36	0.41
2:C:777:SER:OG	2:C:778:ASP:N	2.53	0.41
2:C:1117:ILE:CG2	2:C:1118:PRO:HD2	2.50	0.41
3:D:140:ASP:O	3:D:143:MET:N	2.53	0.41
3:D:273:GLU:OE2	3:D:295:ARG:NH2	2.39	0.41
3:D:329:GLN:HB3	3:D:335:PHE:CD1	2.56	0.41
3:D:456:VAL:HG23	3:D:486:VAL:HG12	2.03	0.41
3:D:645:GLU:OE1	3:D:645:GLU:N	2.50	0.41
3:D:741:ARG:CD	3:D:745:ILE:HD11	2.50	0.41
5:F:386:LEU:HB2	5:F:394:PRO:HG2	2.02	0.41
8:P:108:DT:H1'	8:P:109:DA:H5'	2.02	0.41
9:M:53:ALA:O	9:M:56:VAL:HG12	2.20	0.41
9:M:153:ILE:O	9:M:157:VAL:HG23	2.21	0.41
1:A:150:VAL:O	1:A:150:VAL:HG13	2.20	0.41
2:C:128:THR:O	2:C:128:THR:HG23	2.20	0.41
2:C:428:LYS:HE2	2:C:428:LYS:HB3	1.92	0.41
3:D:824:VAL:HG11	3:D:852:ASN:HA	2.03	0.41
5:F:338:THR:HG23	6:J:89:ARG:NH2	2.35	0.41
6:J:11:LEU:HD23	6:J:11:LEU:HA	1.85	0.41
9:M:132:ARG:NH2	9:M:151:GLU:HB3	2.36	0.41
9:M:153:ILE:HA	9:M:156:GLU:CG	2.51	0.41
1:A:11:GLU:OE2	1:A:19:SER:HB2	2.21	0.41
1:A:45:SER:HB3	1:B:232:ILE:CD1	2.50	0.41
2:C:307:ASP:O	2:C:309:ALA:N	2.52	0.41
2:C:400:VAL:O	2:C:404:MET:HB2	2.21	0.41
2:C:617:PRO:HA	2:C:707:CYS:SG	2.60	0.41
2:C:928:ILE:HD11	3:D:841:ARG:HA	2.02	0.41
2:C:928:ILE:HG21	3:D:817:LEU:HD22	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:967:GLN:HB3	2:C:968:PRO:HD2	2.01	0.41
2:C:1070:GLU:HG2	2:C:1074:TRP:CE2	2.55	0.41
3:D:37:ARG:H	3:D:37:ARG:HG2	1.62	0.41
3:D:748:HIS:CE1	3:D:752:ARG:HD2	2.55	0.41
3:D:1063:LYS:HD2	3:D:1078:ASP:OD1	2.20	0.41
6:J:80:THR:O	6:J:83:ASP:HB2	2.20	0.41
2:C:126:ASP:O	2:C:169:ASN:HA	2.20	0.41
2:C:278:TYR:C	2:C:280:LYS:N	2.79	0.41
2:C:281:LEU:CD2	2:C:295:LEU:CD1	2.98	0.41
2:C:546:SER:HA	2:C:547:PRO:HD3	1.93	0.41
2:C:568:VAL:HB	3:D:834:ARG:HD2	2.02	0.41
2:C:723:ILE:O	2:C:723:ILE:HG22	2.21	0.41
2:C:848:ILE:HD11	2:C:874:ALA:CB	2.50	0.41
3:D:91:ARG:O	3:D:321:PRO:HG3	2.21	0.41
3:D:193:ALA:O	3:D:197:VAL:HG23	2.20	0.41
3:D:357:LEU:HD23	3:D:357:LEU:HA	1.90	0.41
3:D:797:ASN:ND2	3:D:798:PRO:HD2	2.31	0.41
3:D:817:LEU:HA	3:D:817:LEU:HD23	1.92	0.41
3:D:1054:ARG:HB3	3:D:1065:THR:O	2.20	0.41
3:D:1139:GLN:HB3	3:D:1143:ARG:NH1	2.36	0.41
5:F:277:GLN:O	5:F:281:MET:HG2	2.20	0.41
5:F:317:PHE:O	5:F:321:ILE:HG13	2.21	0.41
8:P:120:DA:H2'	8:P:120:DA:P	2.61	0.41
8:P:138:DT:C6	8:P:139:DT:H72	2.55	0.41
1:A:80:LEU:HD23	1:A:80:LEU:HA	1.86	0.41
2:C:281:LEU:HD23	2:C:295:LEU:HD22	2.00	0.41
2:C:1051:MET:HE2	5:F:441:ASP:HA	2.02	0.41
2:C:1057:LEU:HG	2:C:1058:GLY:H	1.85	0.41
3:D:822:GLY:O	3:D:835:PRO:HB2	2.21	0.41
3:D:925:LEU:HD21	3:D:944:LEU:HD11	2.03	0.41
3:D:1046:ILE:HD11	3:D:1124:VAL:CG2	2.50	0.41
4:E:60:ARG:HH22	4:E:80:GLY:CA	2.31	0.41
7:O:64:DG:H2"	7:O:65:DC:OP2	2.21	0.41
1:A:69:VAL:HG23	1:A:71:GLU:O	2.21	0.40
1:B:100:GLN:HA	1:B:132:GLY:O	2.21	0.40
2:C:282:ARG:HE	2:C:282:ARG:HB3	1.54	0.40
2:C:721:VAL:HG23	2:C:915:ILE:HG13	2.03	0.40
2:C:934:THR:HG23	2:C:1026:GLY:HA3	2.03	0.40
3:D:270:ILE:CD1	3:D:303:GLN:HA	2.49	0.40
3:D:527:LEU:CD1	3:D:713:VAL:HG12	2.50	0.40
3:D:1055:LEU:HB3	3:D:1101:ASP:HB2	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:1215:LEU:HD21	3:D:1227:GLN:HB3	2.03	0.40
3:D:1268:ARG:HD2	3:D:1268:ARG:O	2.21	0.40
5:F:244:GLU:HG2	5:F:245:GLU:N	2.36	0.40
5:F:305:SER:OG	7:O:54:DT:C4'	2.54	0.40
8:P:129:DA:H2"	8:P:130:DA:H8	1.86	0.40
2:C:503:TYR:HD2	2:C:581:VAL:HG21	1.86	0.40
2:C:1051:MET:HE3	3:D:328:VAL:HG21	2.02	0.40
3:D:336:ALA:HA	5:F:421:ILE:O	2.21	0.40
3:D:473:LYS:O	3:D:477:GLU:HG2	2.22	0.40
3:D:1005:GLU:HB3	3:D:1006:PRO:CD	2.51	0.40
5:F:273:LEU:HD22	5:F:278:ARG:HB2	2.03	0.40
5:F:478:ARG:NH1	5:F:489:LEU:HG	2.36	0.40
8:P:107:DA:H5'	9:M:121:SER:HB3	2.03	0.40
2:C:532:THR:HG23	2:C:534:ASP:H	1.86	0.40
2:C:720:LEU:HD12	2:C:720:LEU:HA	1.81	0.40
3:D:140:ASP:O	3:D:141:GLU:C	2.64	0.40
3:D:314:LEU:HA	3:D:314:LEU:HD12	1.80	0.40
3:D:336:ALA:HB1	5:F:423:LEU:CD2	2.50	0.40
3:D:487:LEU:HG	3:D:491:ILE:CD1	2.51	0.40
6:J:38:GLU:HG3	6:J:58:ASN:ND2	2.36	0.40
7:O:45:DG:H2"	7:O:46:DT:O5'	2.22	0.40
8:P:125:DA:H2"	8:P:126:DG:H8	1.86	0.40
1:A:14:LEU:HB2	1:A:18:ARG:CD	2.51	0.40
1:A:172:LEU:HB2	1:A:199:LYS:HB3	2.04	0.40
1:B:60:LEU:CD2	1:B:159:ILE:HD13	2.43	0.40
1:B:168:TYR:O	1:B:170:PRO:HD3	2.21	0.40
2:C:163:LYS:HE3	2:C:639:GLY:C	2.47	0.40
2:C:442:GLN:O	2:C:442:GLN:HG3	2.21	0.40
2:C:624:PRO:HB3	2:C:1029:TYR:CE1	2.57	0.40
3:D:329:GLN:O	3:D:329:GLN:HG3	2.21	0.40
3:D:389:ARG:O	3:D:390:PRO:C	2.60	0.40
3:D:457:MET:O	3:D:461:VAL:HG23	2.22	0.40
5:F:214:GLN:HA	5:F:217:LYS:NZ	2.36	0.40
7:O:23:DT:H2'	7:O:23:DT:H6	1.75	0.40
8:P:108:DT:H4'	9:M:85:TRP:CD1	2.57	0.40
1:A:183:VAL:HG22	1:A:184:GLU:N	2.37	0.40
1:B:112:PRO:HA	1:B:113:PRO:HD2	1.99	0.40
1:B:167:ILE:HD11	3:D:617:GLU:HB2	2.03	0.40
2:C:219:ARG:O	2:C:221:THR:N	2.54	0.40
2:C:284:GLY:HA2	5:F:219:ALA:O	2.21	0.40
2:C:882:GLY:HA3	2:C:1037:VAL:HG21	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:20:ILE:HG23	3:D:318:PRO:HB3	2.02	0.40
3:D:505:HIS:HB3	3:D:1005:GLU:HG3	2.02	0.40
3:D:819:GLY:N	3:D:839:SER:HB3	2.37	0.40
3:D:1045:PRO:HB3	3:D:1077:TYR:CE1	2.56	0.40
3:D:1210:ILE:HG13	3:D:1211:THR:N	2.37	0.40
4:E:70:GLN:HG2	4:E:70:GLN:O	2.22	0.40
5:F:492:ILE:O	5:F:495:VAL:HG12	2.21	0.40
6:J:64:LEU:CD2	6:J:66:GLU:H	2.20	0.40
8:P:83:DC:C2'	8:P:84:DT:H71	2.51	0.40
9:M:12:PRO:HA	9:M:13:HIS:HA	1.53	0.40
9:M:103:LYS:O	9:M:107:VAL:HG23	2.21	0.40
9:M:139:LEU:HD12	9:M:154:LEU:HD21	2.04	0.40

There are no symmetry-related clashes.

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	223/347 (64%)	197 (88%)	26 (12%)	0	100	100
1	B	235/347 (68%)	194 (83%)	41 (17%)	0	100	100
2	C	1109/1179 (94%)	937 (84%)	168 (15%)	4 (0%)	30	62
3	D	1260/1326 (95%)	1141 (91%)	115 (9%)	4 (0%)	37	67
4	E	81/110 (74%)	76 (94%)	5 (6%)	0	100	100
5	F	317/531 (60%)	296 (93%)	20 (6%)	1 (0%)	37	67
6	J	106/111 (96%)	87 (82%)	19 (18%)	0	100	100
9	M	157/162 (97%)	144 (92%)	12 (8%)	1 (1%)	22	56
All	All	3488/4113 (85%)	3072 (88%)	406 (12%)	10 (0%)	38	67

All (10) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	D	418	LEU
3	D	658	PRO
2	C	274	LEU
3	D	653	HIS
2	C	53	LEU
2	C	278	TYR
9	M	83	THR
2	C	297	GLU
3	D	238	GLU
5	F	307	ALA

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	194/297 (65%)	194 (100%)	0	100	100
1	B	194/297 (65%)	194 (100%)	0	100	100
2	C	935/997 (94%)	927 (99%)	8 (1%)	75	87
3	D	1042/1103 (94%)	1036 (99%)	6 (1%)	84	92
4	E	69/89 (78%)	69 (100%)	0	100	100
5	F	264/429 (62%)	262 (99%)	2 (1%)	79	89
6	J	93/97 (96%)	93 (100%)	0	100	100
9	M	129/131 (98%)	129 (100%)	0	100	100
All	All	2920/3440 (85%)	2904 (100%)	16 (0%)	85	93

All (16) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	C	271	ASP
2	C	279	ARG
2	C	282	ARG
2	C	288	THR
2	C	293	GLN
2	C	295	LEU

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Mol	Chain	Res	Type
2	C	296	LEU
2	C	466	GLU
3	D	37	ARG
3	D	140	ASP
3	D	386	ARG
3	D	387	ARG
3	D	418	LEU
3	D	656	TRP
5	F	305	SER
5	F	306	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (50) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	36	ASN
1	A	61	HIS
1	B	79	ASN
1	B	124	HIS
1	B	185	GLN
1	B	226	ASN
2	C	81	ASN
2	C	141	ASN
2	C	150	GLN
2	C	232	GLN
2	C	419	ASN
2	C	435	GLN
2	C	685	ASN
2	C	875	GLN
2	C	920	HIS
2	C	1035	HIS
2	C	1054	GLN
3	D	5	ASN
3	D	207	GLN
3	D	239	ASN
3	D	267	ASN
3	D	303	GLN
3	D	307	ASN
3	D	416	ASN
3	D	494	HIS
3	D	505	HIS
3	D	540	GLN
3	D	564	ASN

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Mol	Chain	Res	Type
3	D	657	GLN
3	D	674	ASN
3	D	687	GLN
3	D	693	GLN
3	D	748	HIS
3	D	767	HIS
3	D	787	GLN
3	D	797	ASN
3	D	1001	GLN
3	D	1084	GLN
3	D	1139	GLN
3	D	1145	GLN
4	E	65	ASN
4	E	69	ASN
4	E	106	HIS
5	F	234	GLN
5	F	322	GLN
5	F	325	ASN
5	F	388	GLN
5	F	425	GLN
9	M	14	HIS
9	M	102	ASN

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

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	$\#\|Z\| > 2$
10	C0L	C	1201	-	37,38,38	2.65	13 (35%)	37,49,49	2.80	12 (32%)

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
10	C0L	C	1201	-	-	20/38/57/57	0/1/1/1

All (13) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
10	C	1201	C0L	O24-C23	8.85	1.39	1.21
10	C	1201	C0L	O19-C18	5.65	1.39	1.24
10	C	1201	C0L	C17-C16	4.82	1.50	1.39
10	C	1201	C0L	O36-C16	-4.54	1.18	1.33
10	C	1201	C0L	C17-C18	-4.20	1.35	1.45
10	C	1201	C0L	C13-C12	3.91	1.56	1.42
10	C	1201	C0L	C20-C18	-3.79	1.34	1.44
10	C	1201	C0L	C32-N31	3.60	1.43	1.37
10	C	1201	C0L	O34-C35	-3.20	1.38	1.45
10	C	1201	C0L	C17-C23	-2.64	1.38	1.45
10	C	1201	C0L	O34-C32	2.62	1.38	1.34
10	C	1201	C0L	O38-C08	-2.24	1.38	1.42
10	C	1201	C0L	O22-C23	-2.12	1.35	1.39

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
10	C	1201	C0L	O34-C32-N31	9.68	120.28	109.15
10	C	1201	C0L	C35-O34-C32	-6.27	108.38	115.63
10	C	1201	C0L	O22-C21-C25	5.53	116.21	111.35
10	C	1201	C0L	O36-C16-C17	4.94	128.90	120.03
10	C	1201	C0L	C23-C17-C18	4.42	121.98	119.41
10	C	1201	C0L	O33-C32-N31	-4.34	119.36	125.44

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
10	C	1201	C0L	C12-C13-C14	-2.96	122.15	126.48
10	C	1201	C0L	O34-C32-O33	-2.93	120.35	124.62
10	C	1201	C0L	C28-C27-C25	-2.79	109.25	114.40
10	C	1201	C0L	O19-C18-C17	-2.62	119.33	123.08
10	C	1201	C0L	O22-C23-O24	2.12	119.07	115.24
10	C	1201	C0L	C15-C14-C16	2.06	120.98	115.36

There are no chirality outliers.

All (20) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
10	C	1201	C0L	C13-C14-C16-O36
10	C	1201	C0L	C15-C14-C16-O36
10	C	1201	C0L	C14-C16-C17-C18
10	C	1201	C0L	C14-C16-C17-C23
10	C	1201	C0L	O36-C16-C17-C18
10	C	1201	C0L	O36-C16-C17-C23
10	C	1201	C0L	C20-C21-C25-C26
10	C	1201	C0L	O22-C21-C25-C26
10	C	1201	C0L	O22-C21-C25-C27
10	C	1201	C0L	N31-C32-O34-C35
10	C	1201	C0L	O33-C32-O34-C35
10	C	1201	C0L	O34-C32-N31-C30
10	C	1201	C0L	C05-C06-C08-C09
10	C	1201	C0L	C07-C06-C08-C09
10	C	1201	C0L	O33-C32-N31-C30
10	C	1201	C0L	C07-C06-C08-O38
10	C	1201	C0L	C06-C08-C09-C10
10	C	1201	C0L	C02-C03-C04-C05
10	C	1201	C0L	C27-C28-C29-C30
10	C	1201	C0L	C05-C06-C08-O38

There are no ring outliers.

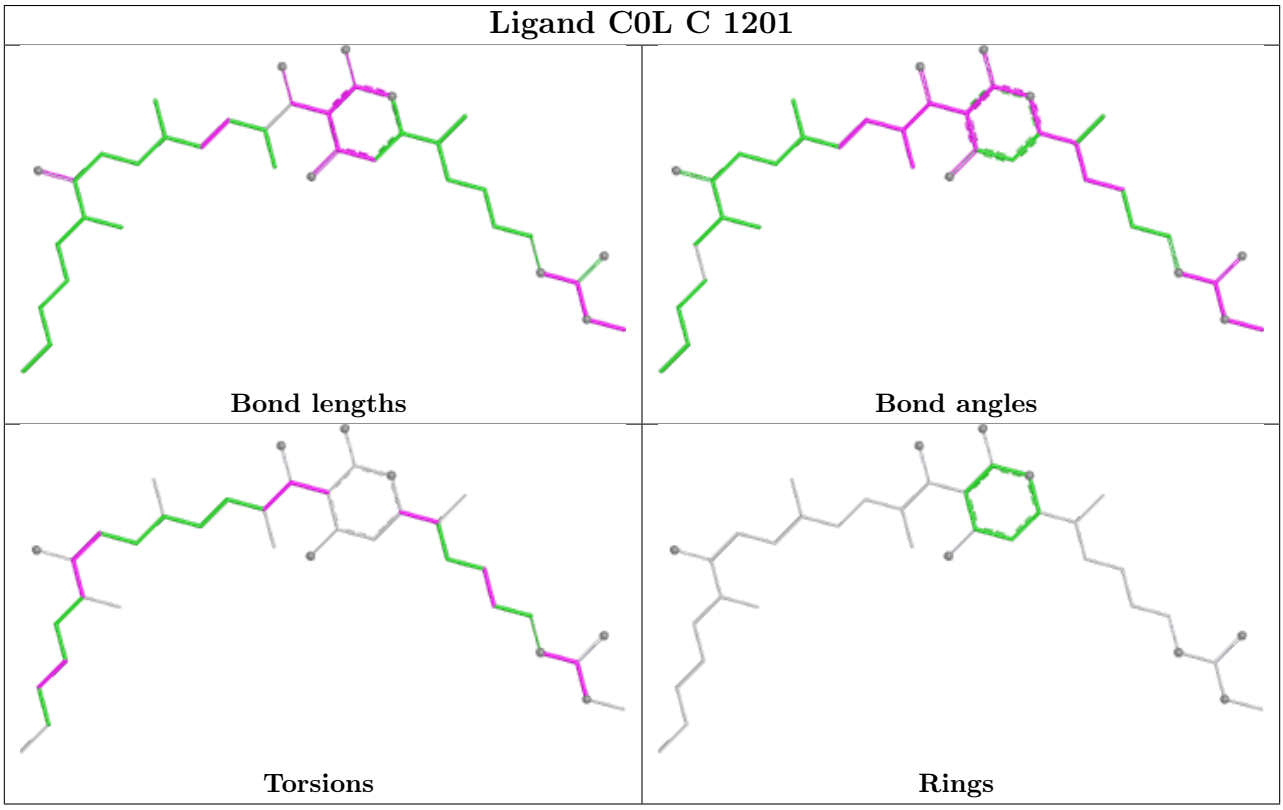
1 monomer is involved in 1 short contact:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
10	C	1201	C0L	1	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 C0L C 1201



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

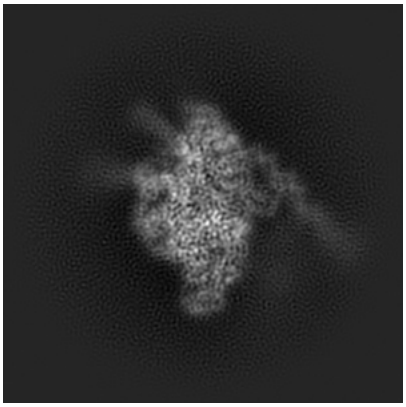
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-9041. These allow visual inspection of the internal detail of the map and identification of artifacts.

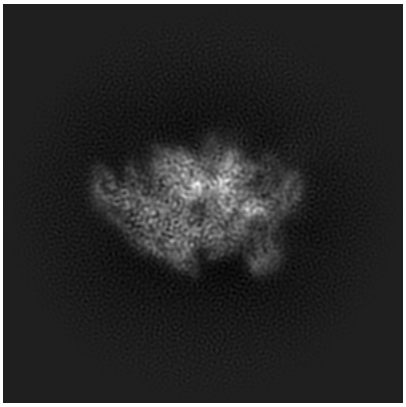
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

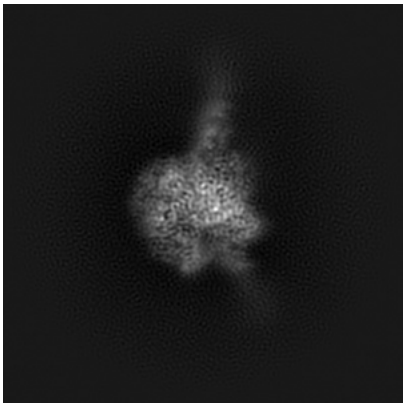
6.1.1 Primary map



X



Y

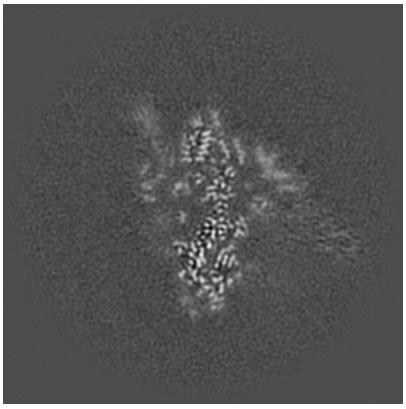


Z

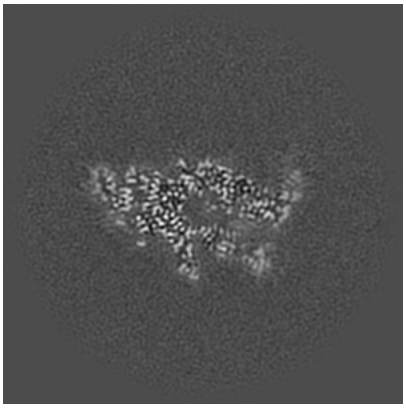
The images above show the map projected in three orthogonal directions.

6.2 Central slices

6.2.1 Primary map



X Index: 125



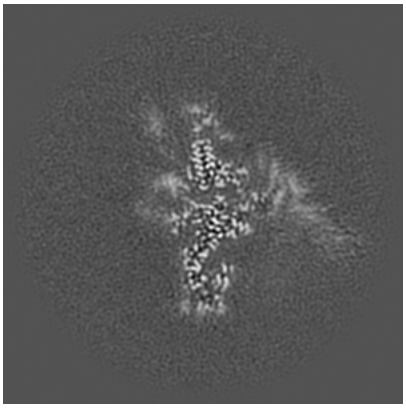
Y Index: 125

Z Index: 125

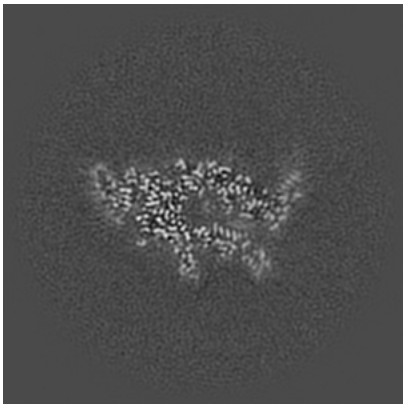
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

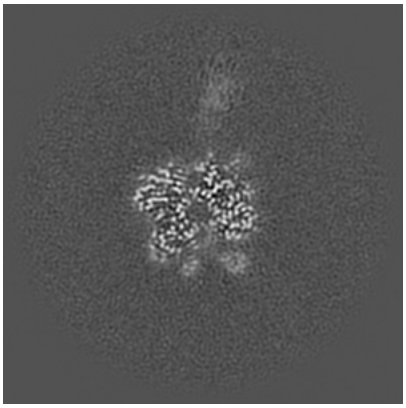
6.3.1 Primary map



X Index: 132



Y Index: 124

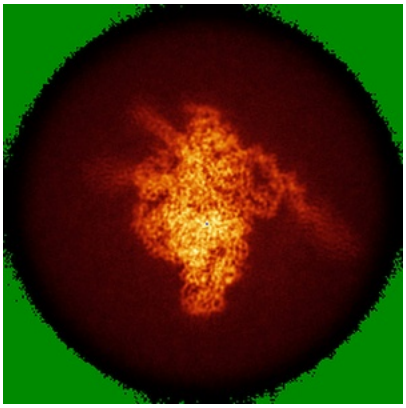


Z Index: 113

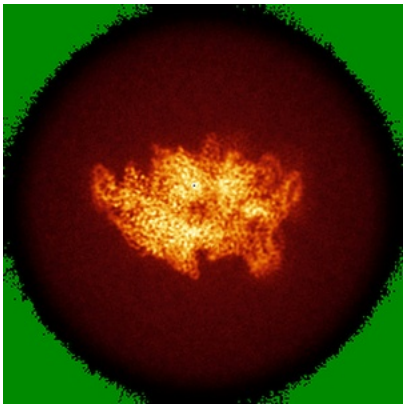
The images above show the largest variance slices of the map in three orthogonal directions.

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

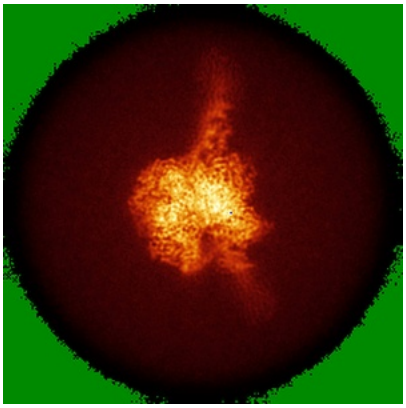
6.4.1 Primary map



X



Y

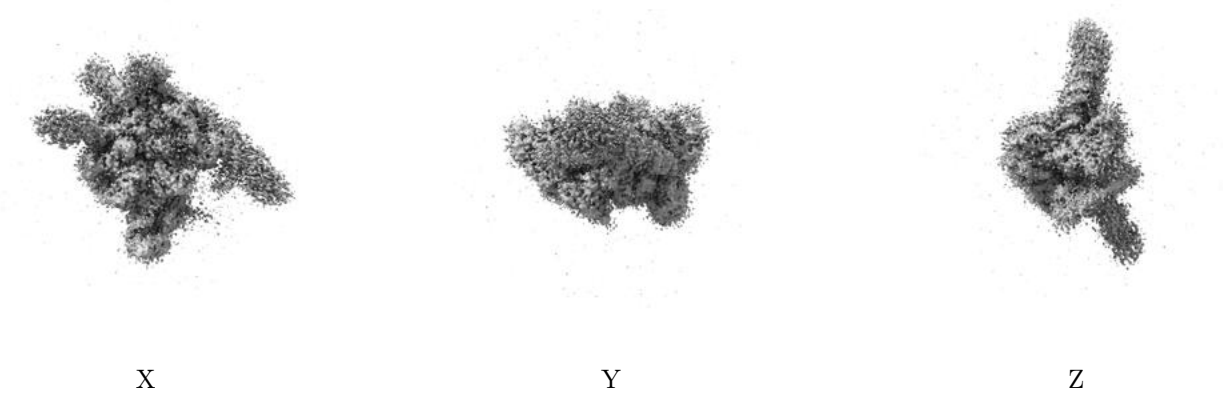


Z

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

6.5 Orthogonal surface views (i)

6.5.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.3. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

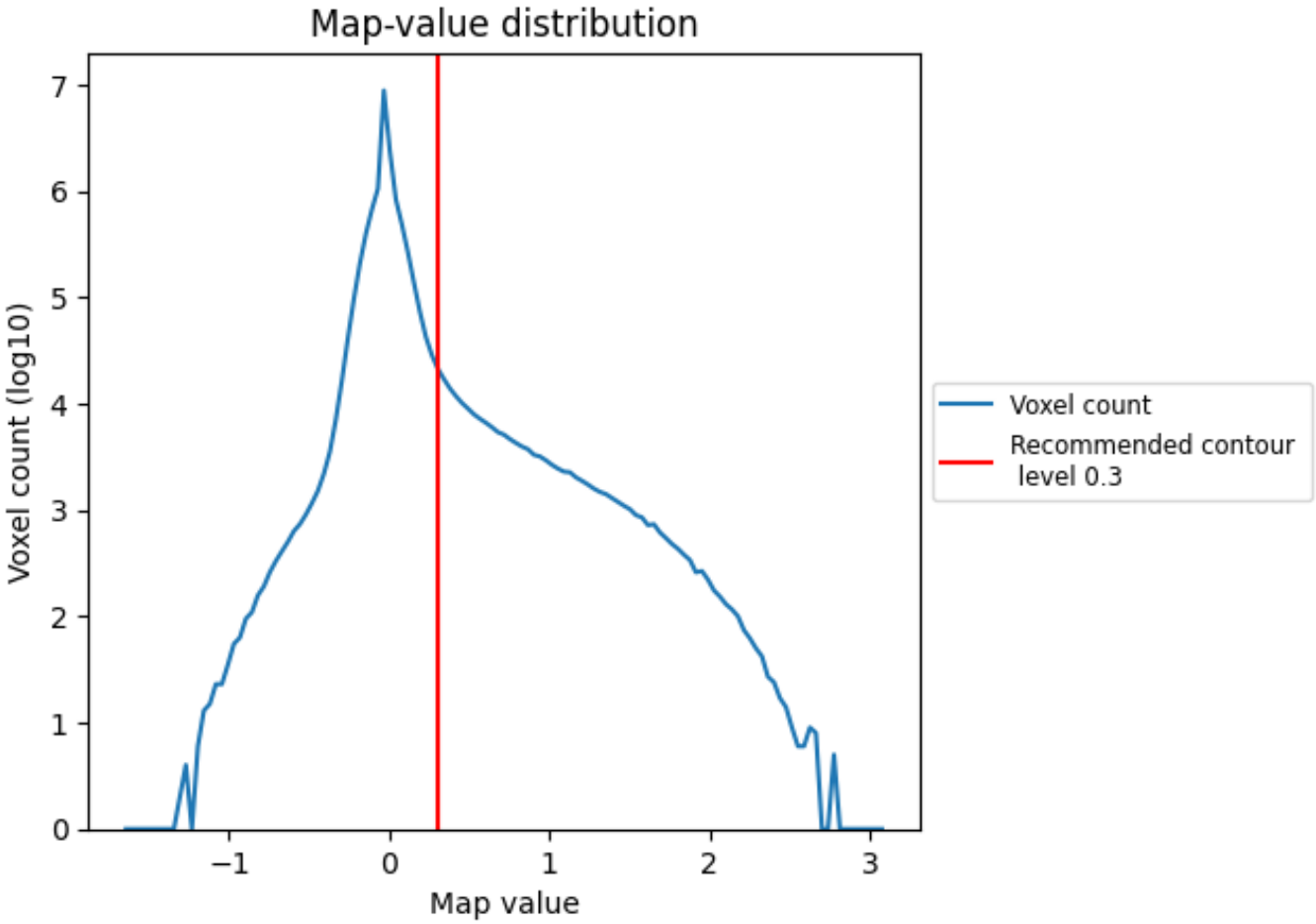
6.6 Mask visualisation (i)

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

7 Map analysis

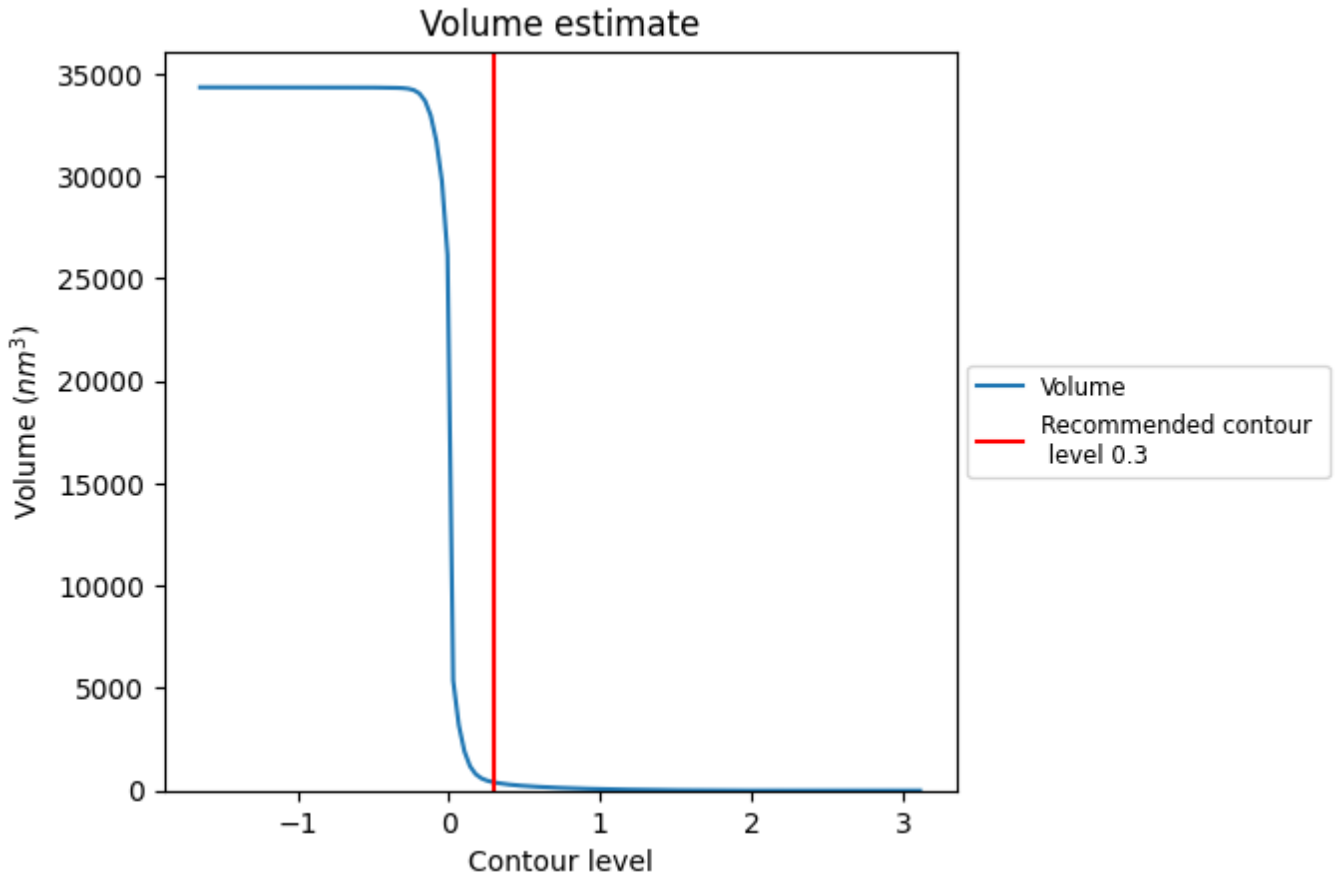
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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

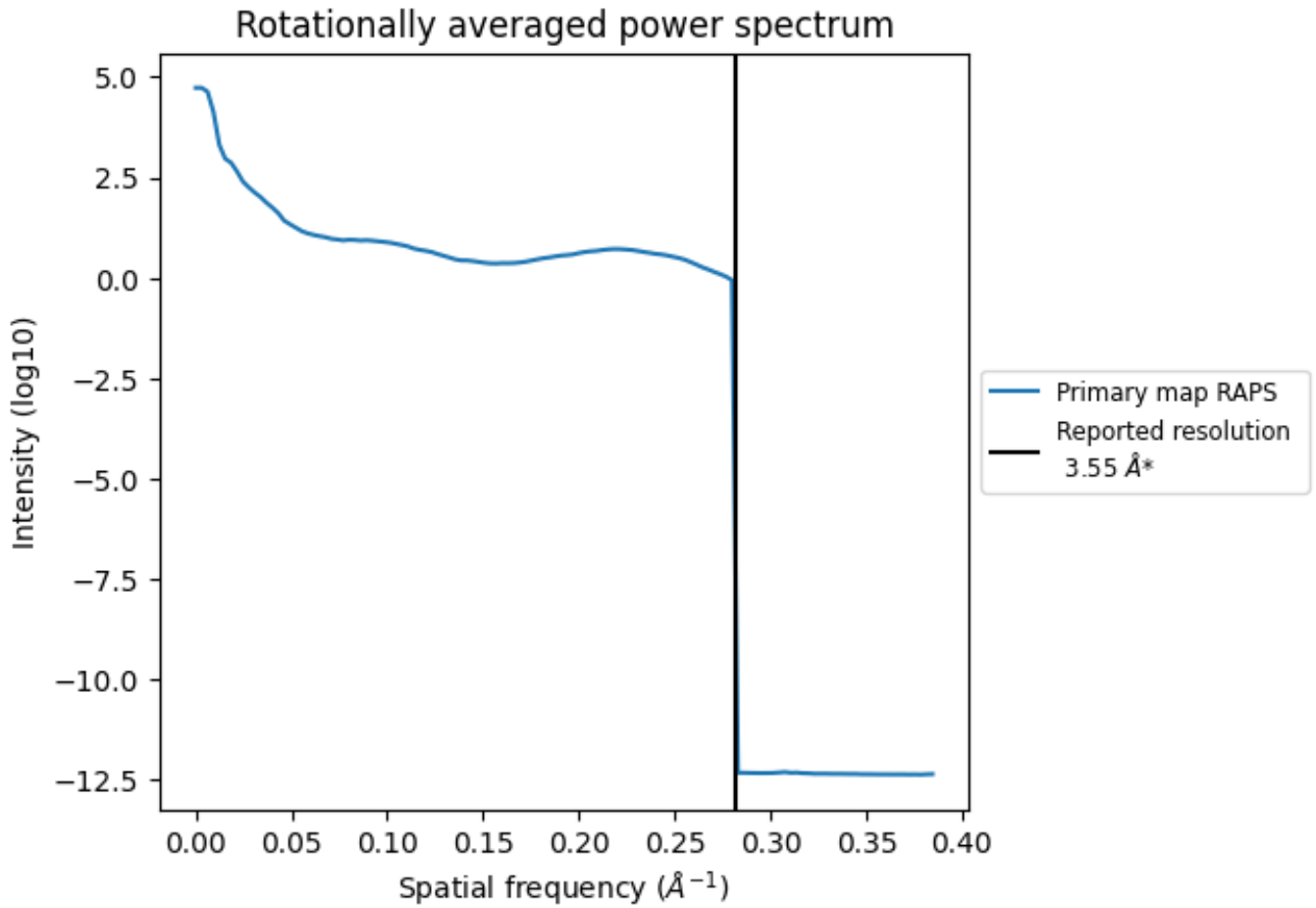
7.2 Volume estimate



The volume at the recommended contour level is 401 nm^3; this corresponds to an approximate mass of 362 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum (i)



*Reported resolution corresponds to spatial frequency of 0.282 $Å^{-1}$

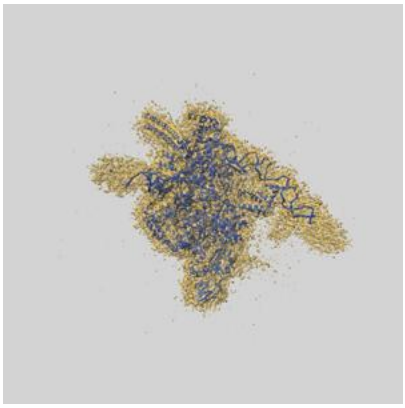
8 Fourier-Shell correlation

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

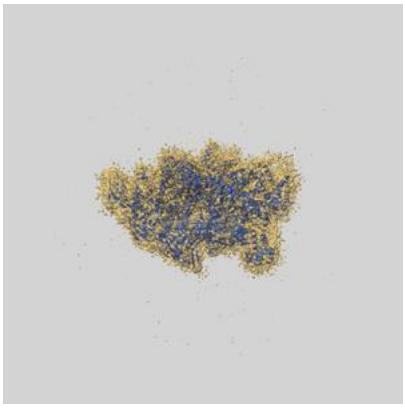
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-9041 and PDB model 6EEC. Per-residue inclusion information can be found in section 3 on page 8.

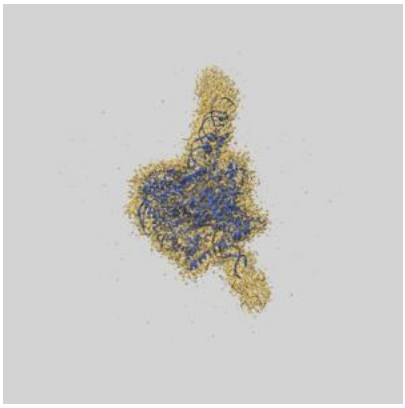
9.1 Map-model overlay



X



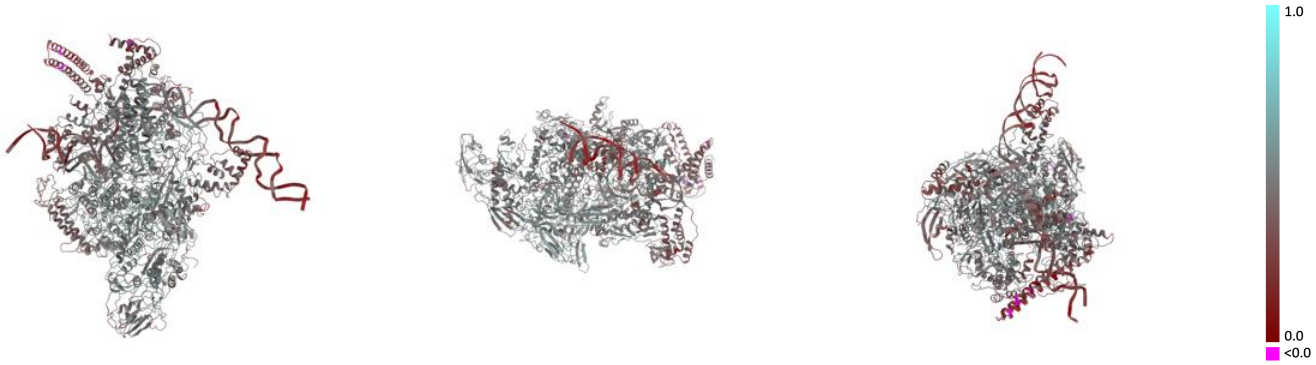
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.3 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

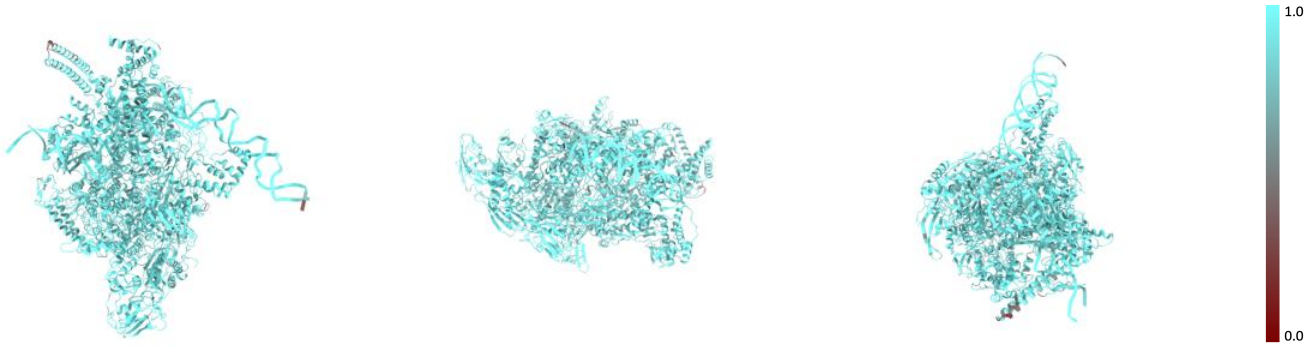
9.2 Q-score mapped to coordinate model (i)



X Y Z

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

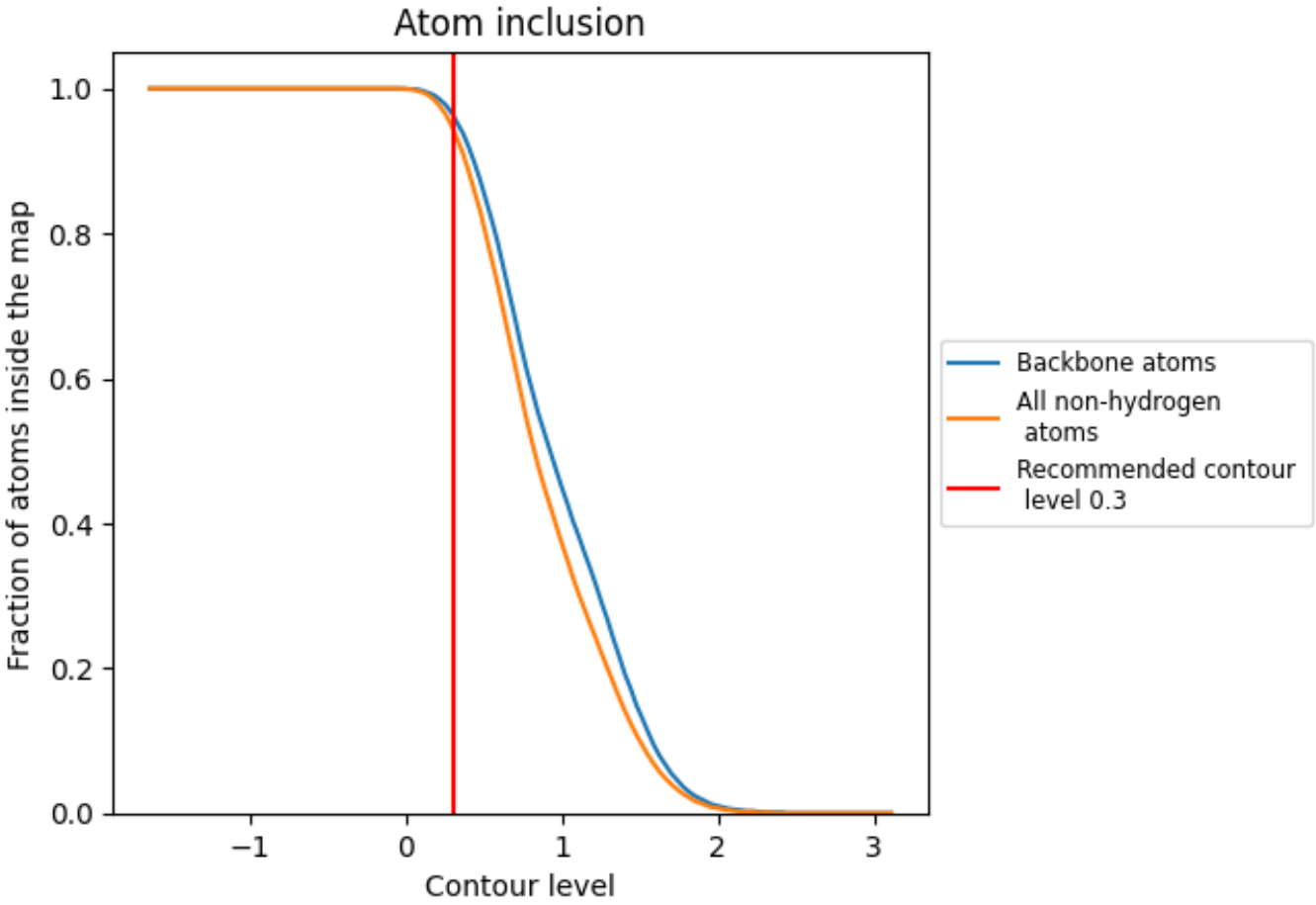
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.3).

9.4 Atom inclusion (i)



At the recommended contour level, 96% of all backbone atoms, 94% 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 (0.3) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.9450	0.4480
A	0.9670	0.4860
B	0.9500	0.4650
C	0.9520	0.4860
D	0.9440	0.4640
E	0.9020	0.4470
F	0.9310	0.4170
J	0.9390	0.4170
M	0.9160	0.3740
O	0.9510	0.3070
P	0.9660	0.3020