Full wwPDB EM Validation Report ⓘ

Dec 11, 2022 – 01:18 am GMT

PDB ID	:	6RAZ
EMDB ID	:	EMD-4788
Title	:	D. melanogaster CMG-DNA, State 2B
Authors	:	Eickhoff, P.; Martino, F.; Costa, A.
Deposited on	:	2019-04-08
Resolution	:	4.46 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:

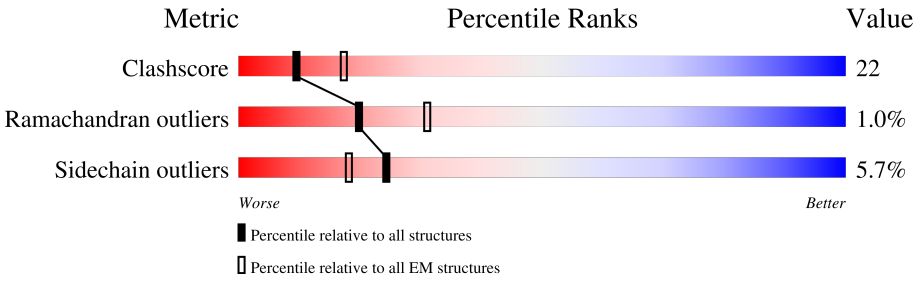
EMDB validation analysis	:	0.0.1.dev43
Mogul	:	1.8.4, CSD as541be (2020)
MolProbity	:	4.02b-467
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ	:	1.9.9
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.31.3

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 4.46 Å.

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



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

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

Mol	Chain	Length	Quality of chain
1	X	21	67% 29% 52% 19%
2	Y	2	100% 100%
3	A	575	6% 55% 33% • 10%
4	H	202	14% 51% 41% • •
5	L	203	• 52% 33% • 12%
6	M	212	6% 37% 31% • 29%
7	N	228	9% 55% 32% • 10%
8	2	887	11% 37% 24% • 37%

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Mol	Chain	Length	Quality of chain
9	5	733	16% 45% 30% 22%
10	6	817	13% 44% 25% 28%
11	3	819	8% 43% 26% 28%
12	4	866	10% 36% 28% 5% 30%
13	7	720	7% 39% 40% 17%

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
15	ATP	7	801	-	-	X	-

2 Entry composition (i)

There are 15 unique types of molecules in this entry. The entry contains 38294 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
1	X	21	425	209	58	137	21	0	0

- Molecule 2 is a DNA chain called DNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
2	Y	2	41	19	8	12	2	0	0

- Molecule 3 is a protein called CDC45L.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	A	519	4190	2685	718	765	22	0	0

- Molecule 4 is a protein called IP07275p.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	H	195	1583	1007	279	289	8	0	0

- Molecule 5 is a protein called Probable DNA replication complex GINS protein PSF2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
5	L	179	1457	939	243	262	13	0	0

- Molecule 6 is a protein called AT18545p.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
6	M	150	1259	806	220	229	4	0	0

- Molecule 7 is a protein called DNA replication complex GINS protein SLD5.

Mol	Chain	Residues	Atoms					AltConf	Trace
7	N	206	Total	C	N	O	S	0	0
			1661	1032	283	333	13		

- Molecule 8 is a protein called DNA replication licensing factor Mcm2.

Mol	Chain	Residues	Atoms					AltConf	Trace
8	2	559	Total	C	N	O	S	0	0
			4442	2811	781	823	27		

- Molecule 9 is a protein called DNA replication licensing factor Mcm5.

Mol	Chain	Residues	Atoms					AltConf	Trace
9	5	571	Total	C	N	O	S	0	0
			4459	2801	790	841	27		

- Molecule 10 is a protein called DNA replication licensing factor Mcm6.

Mol	Chain	Residues	Atoms					AltConf	Trace
10	6	588	Total	C	N	O	S	0	0
			4609	2891	804	892	22		

- Molecule 11 is a protein called DNA replication licensing factor Mcm3.

Mol	Chain	Residues	Atoms					AltConf	Trace
11	3	590	Total	C	N	O	S	0	0
			4585	2857	825	877	26		

- Molecule 12 is a protein called DNA replication licensing factor MCM4.

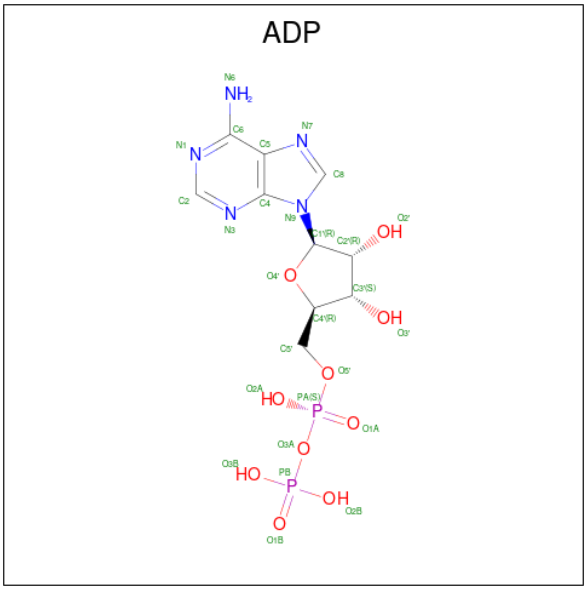
Mol	Chain	Residues	Atoms					AltConf	Trace
12	4	606	Total	C	N	O	S	0	0
			4811	3022	854	913	22		

- Molecule 13 is a protein called DNA replication licensing factor Mcm7.

Mol	Chain	Residues	Atoms					AltConf	Trace
13	7	601	Total	C	N	O	S	0	0
			4594	2876	818	875	25		

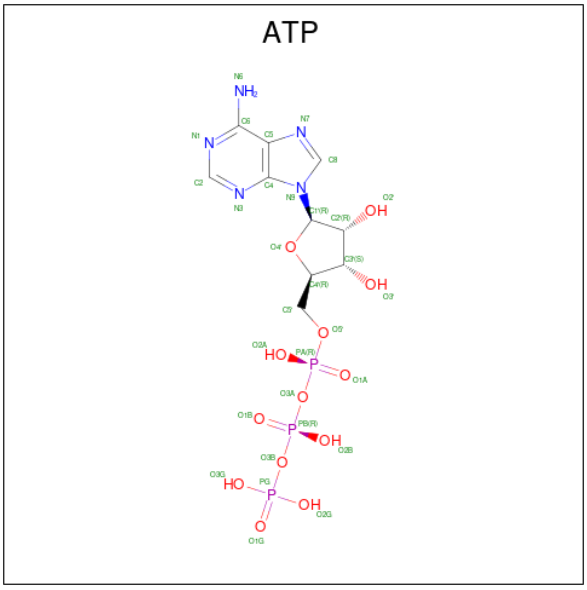
- Molecule 14 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula:

$C_{10}H_{15}N_5O_{10}P_2$) (labeled as "Ligand of Interest" by depositor).



Mol	Chain	Residues	Atoms					AltConf
14	5	1	Total	C	N	O	P	0
			27	10	5	10	2	
14	6	1	Total	C	N	O	P	0
			27	10	5	10	2	

- Molecule 15 is ADENOSINE-5'-TRIPHOSPHATE (three-letter code: ATP) (formula: $C_{10}H_{16}N_5O_{13}P_3$) (labeled as "Ligand of Interest" by depositor).



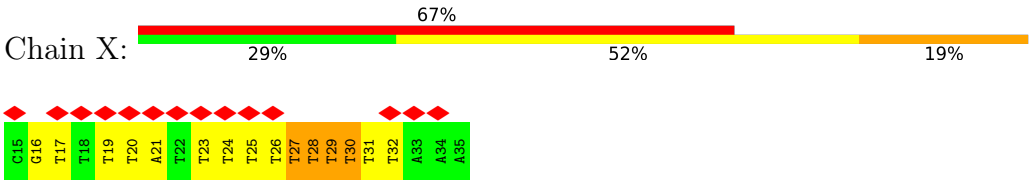
Mol	Chain	Residues	Atoms					AltConf
15	6	1	Total	C	N	O	P	0
			31	10	5	13	3	
15	3	1	Total	C	N	O	P	0
			31	10	5	13	3	
15	4	1	Total	C	N	O	P	0
			31	10	5	13	3	
15	7	1	Total	C	N	O	P	0
			31	10	5	13	3	

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.

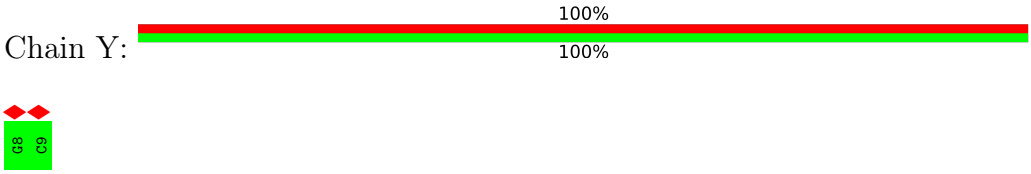
• Molecule 1: DNA

Chain X:



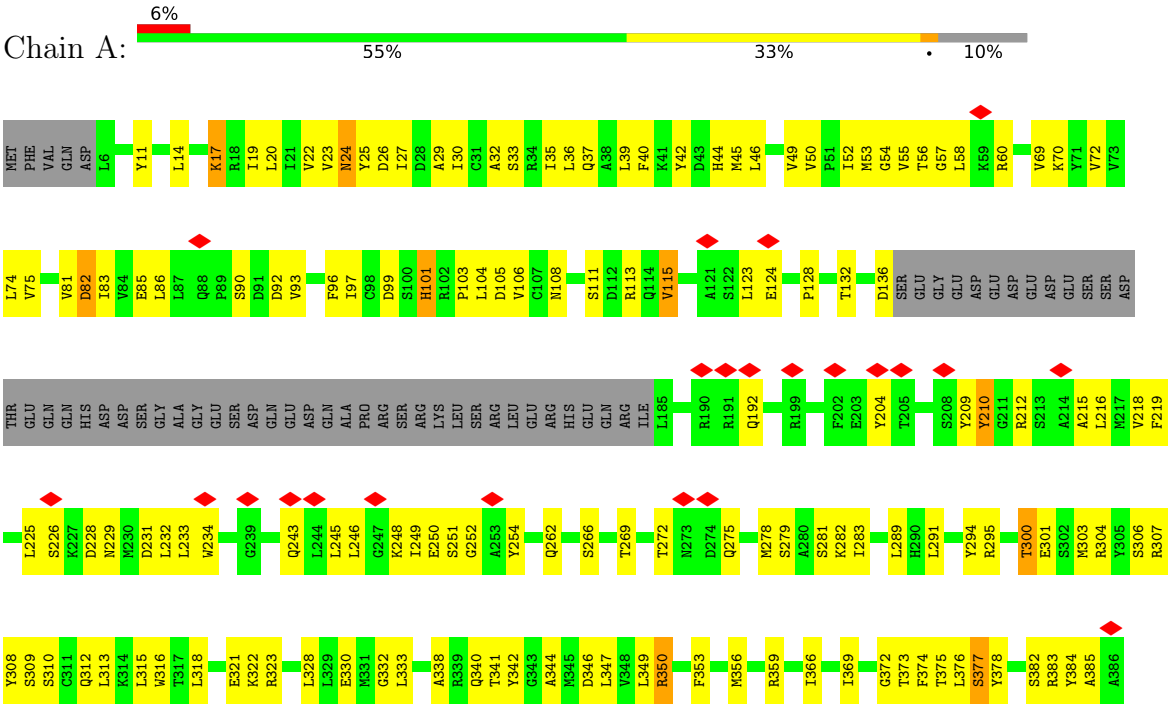
• Molecule 2: DNA

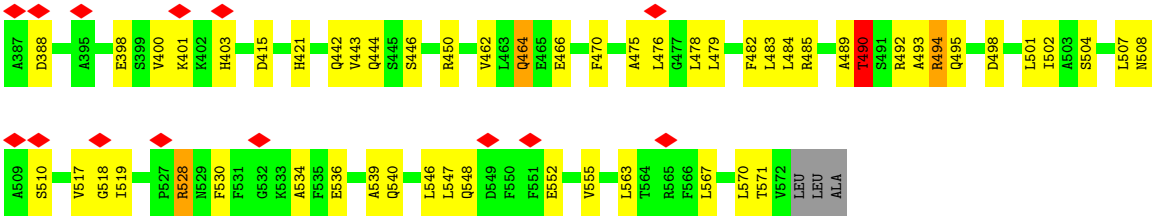
Chain Y:



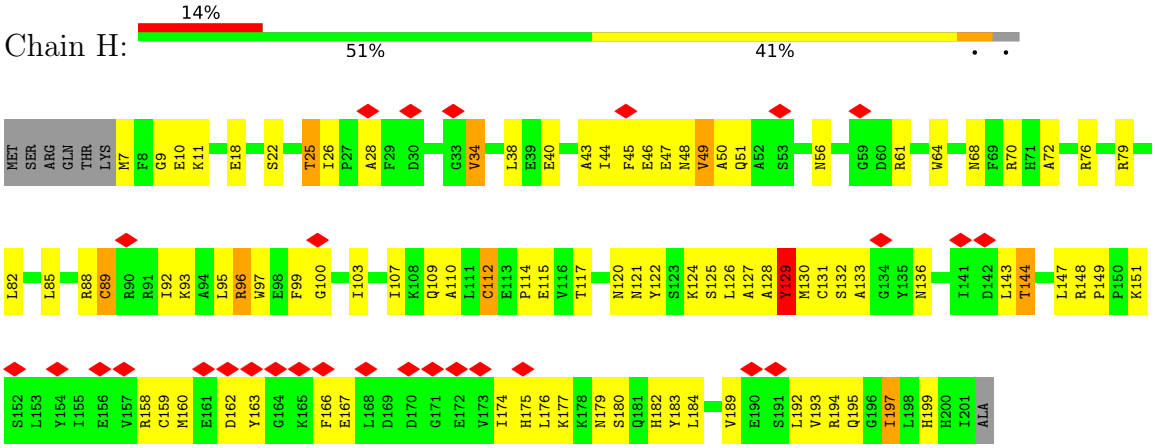
• Molecule 3: CDC45L

Chain A:

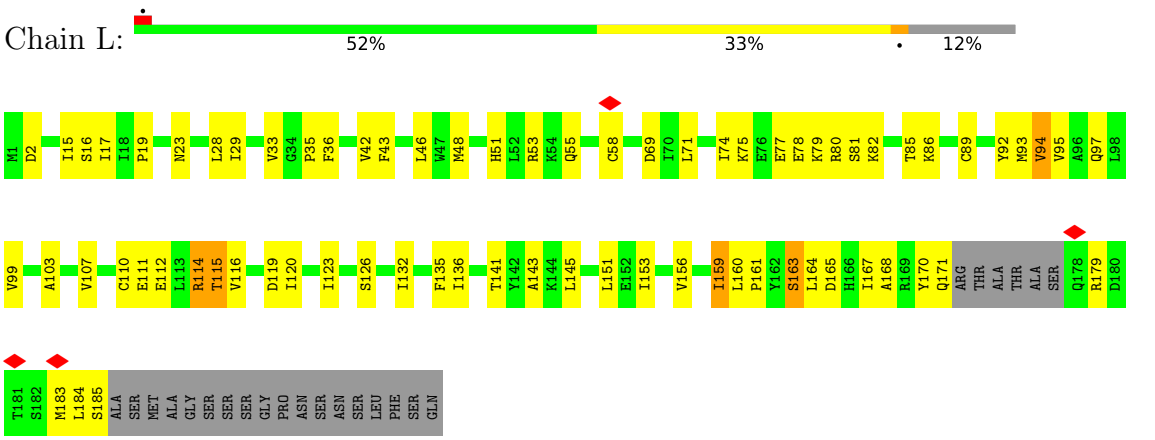




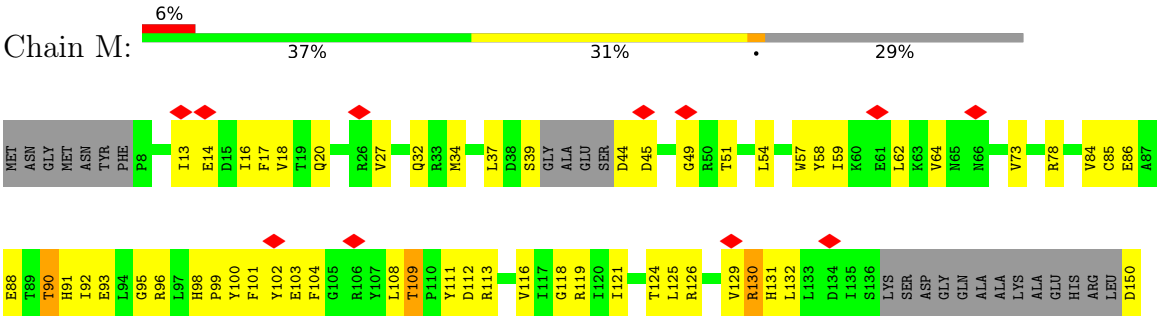
• Molecule 4: IP07275p

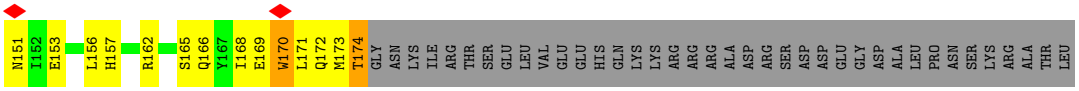


• Molecule 5: Probable DNA replication complex GINS protein PSF2



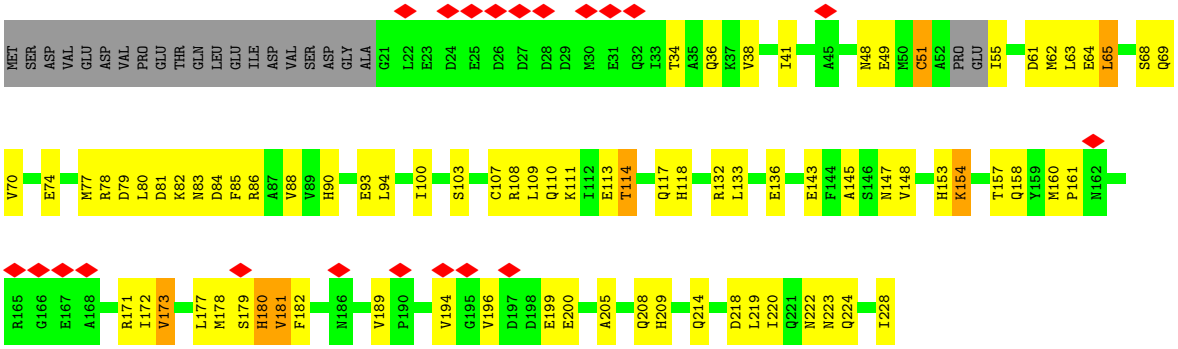
• Molecule 6: AT18545p





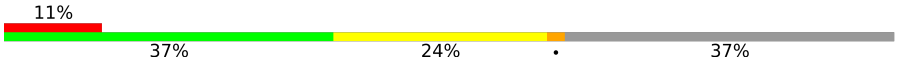
• Molecule 7: DNA replication complex GINS protein SLD5

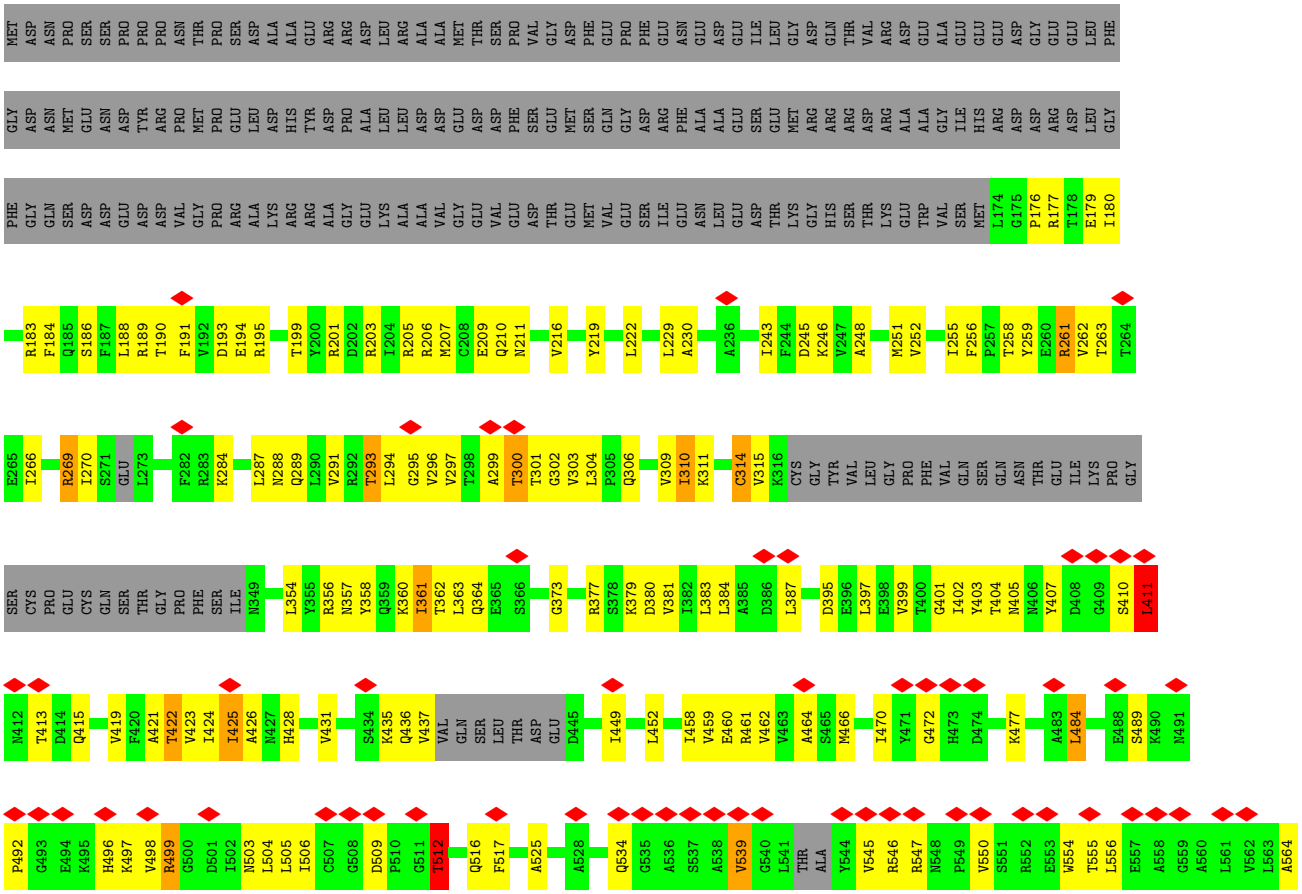
Chain N:

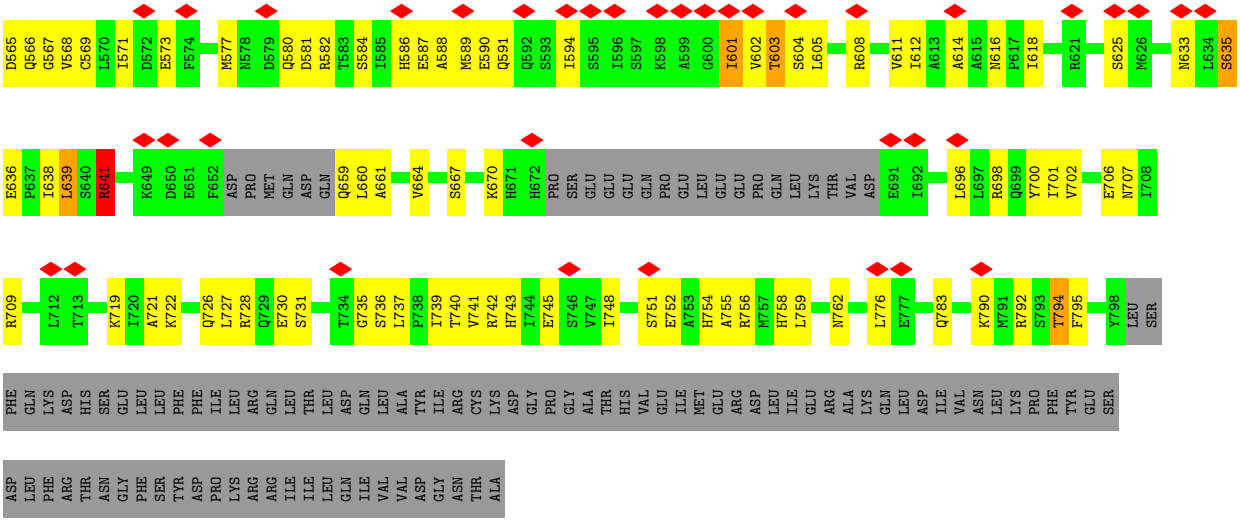


• Molecule 8: DNA replication licensing factor Mcm2

Chain 2:

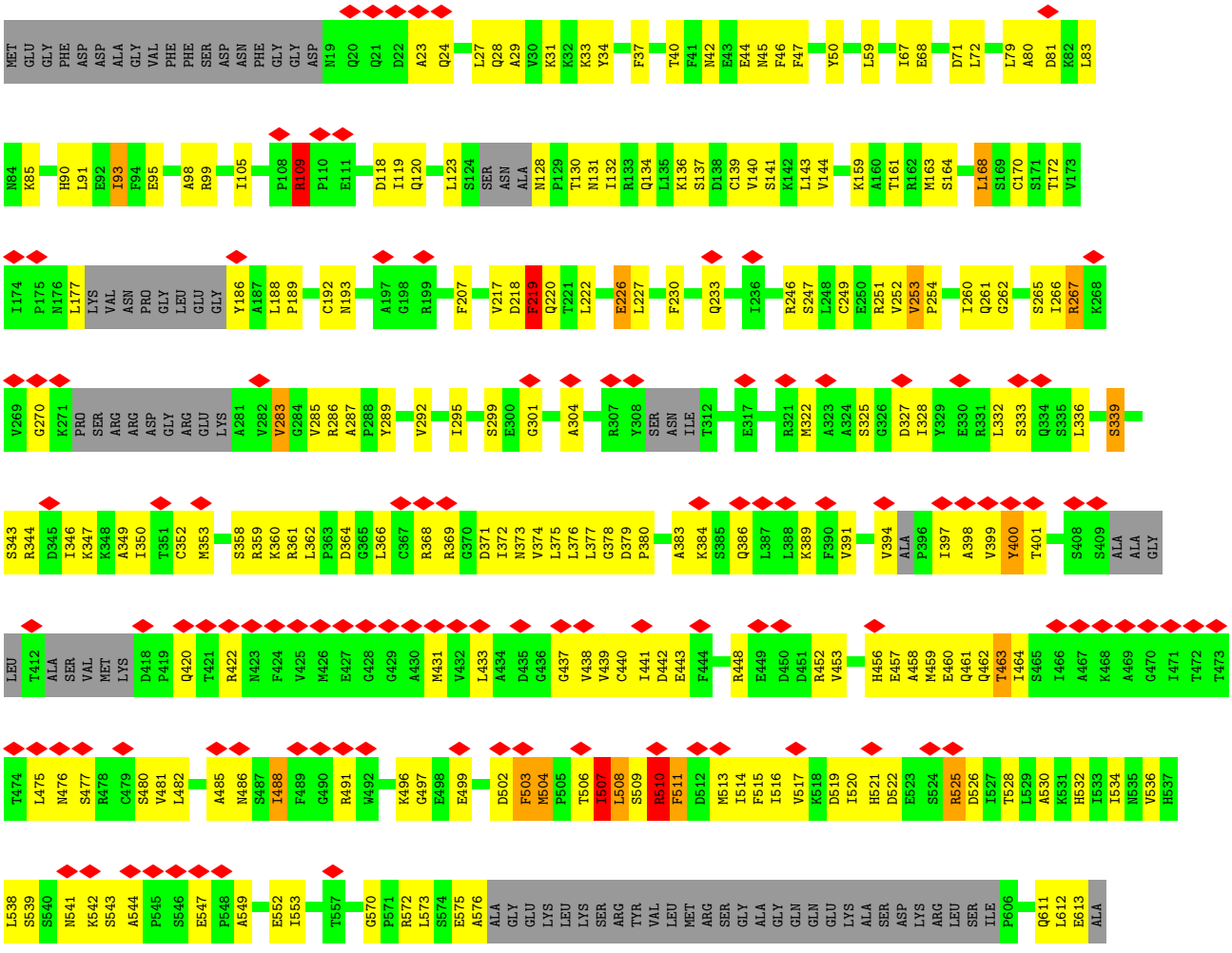


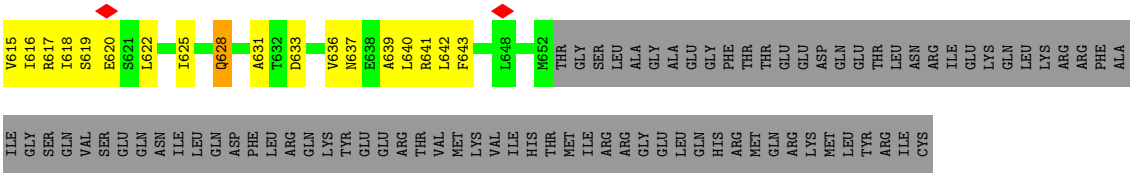




• Molecule 9: DNA replication licensing factor Mcm5

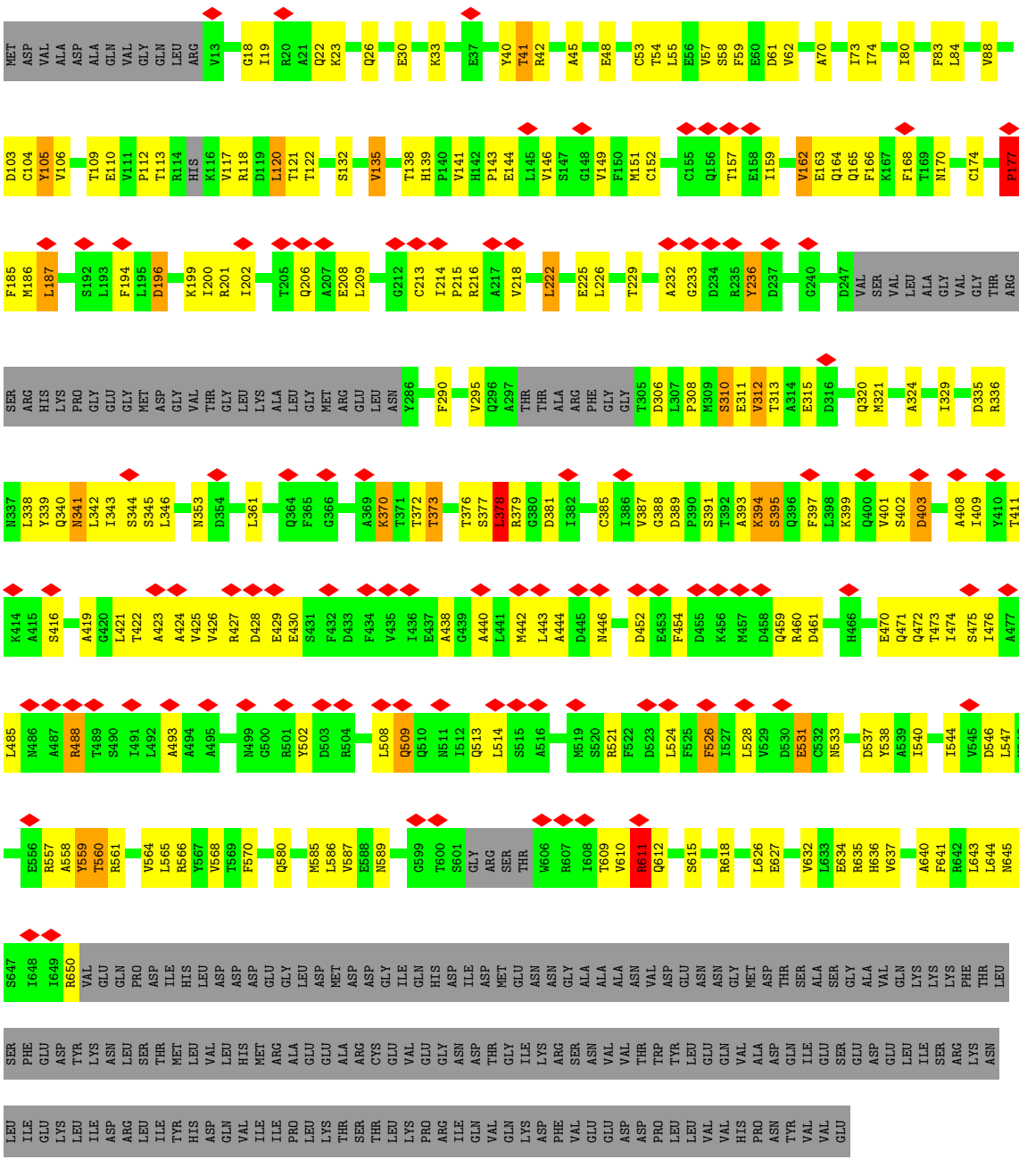
Chain 5:





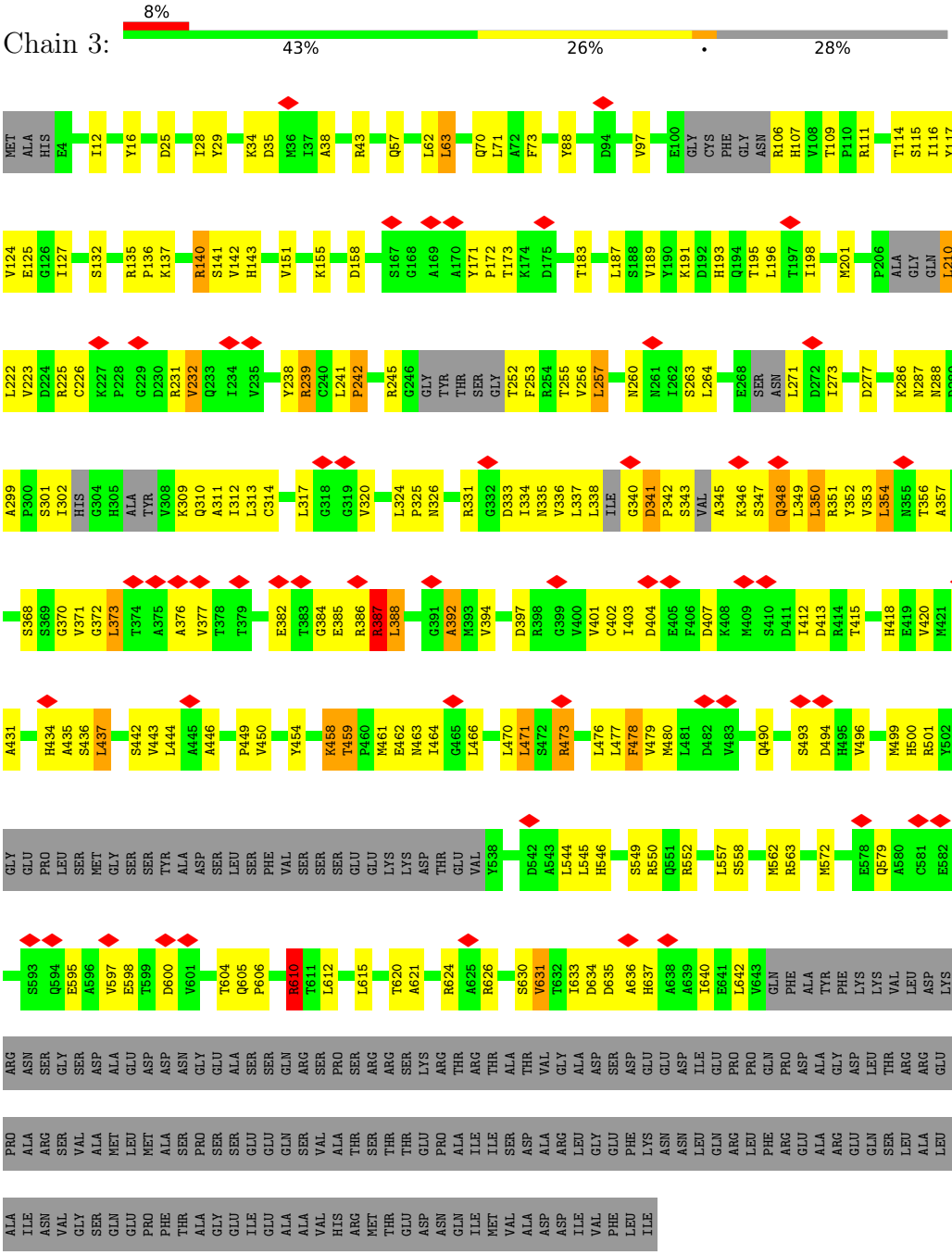
• Molecule 10: DNA replication licensing factor Mcm6

Chain 6:



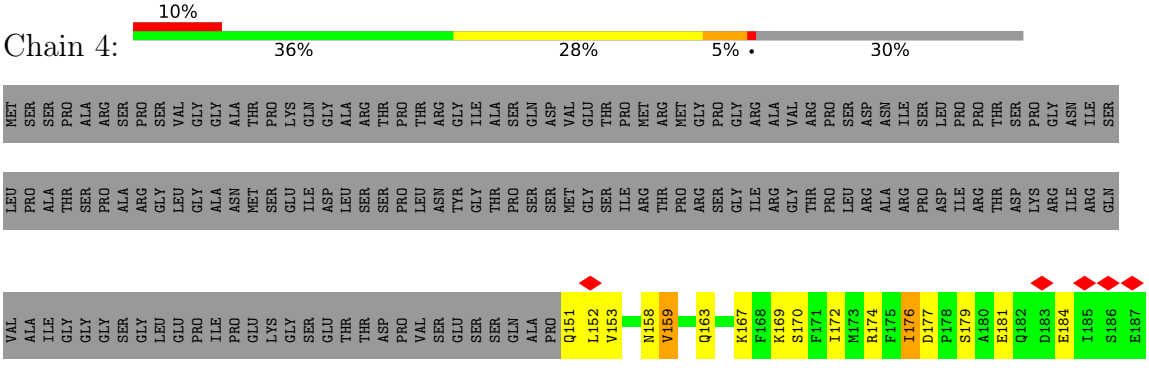
• Molecule 11: DNA replication licensing factor Mcm3

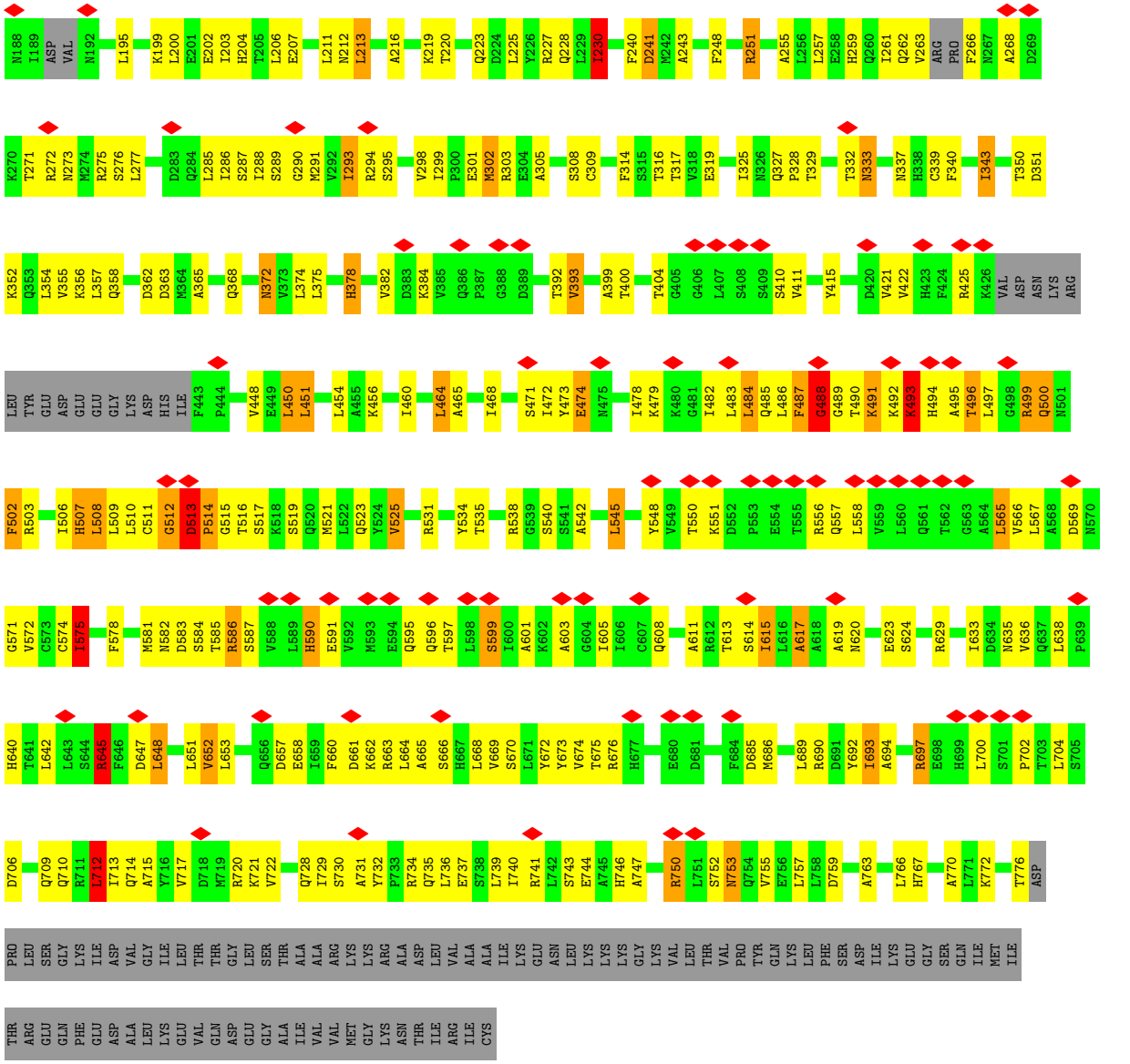
Chain 3:



• Molecule 12: DNA replication licensing factor MCM4

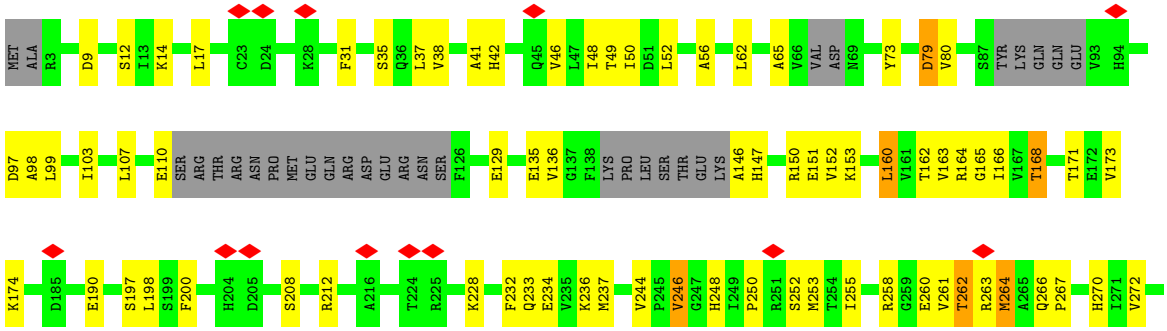
Chain 4:

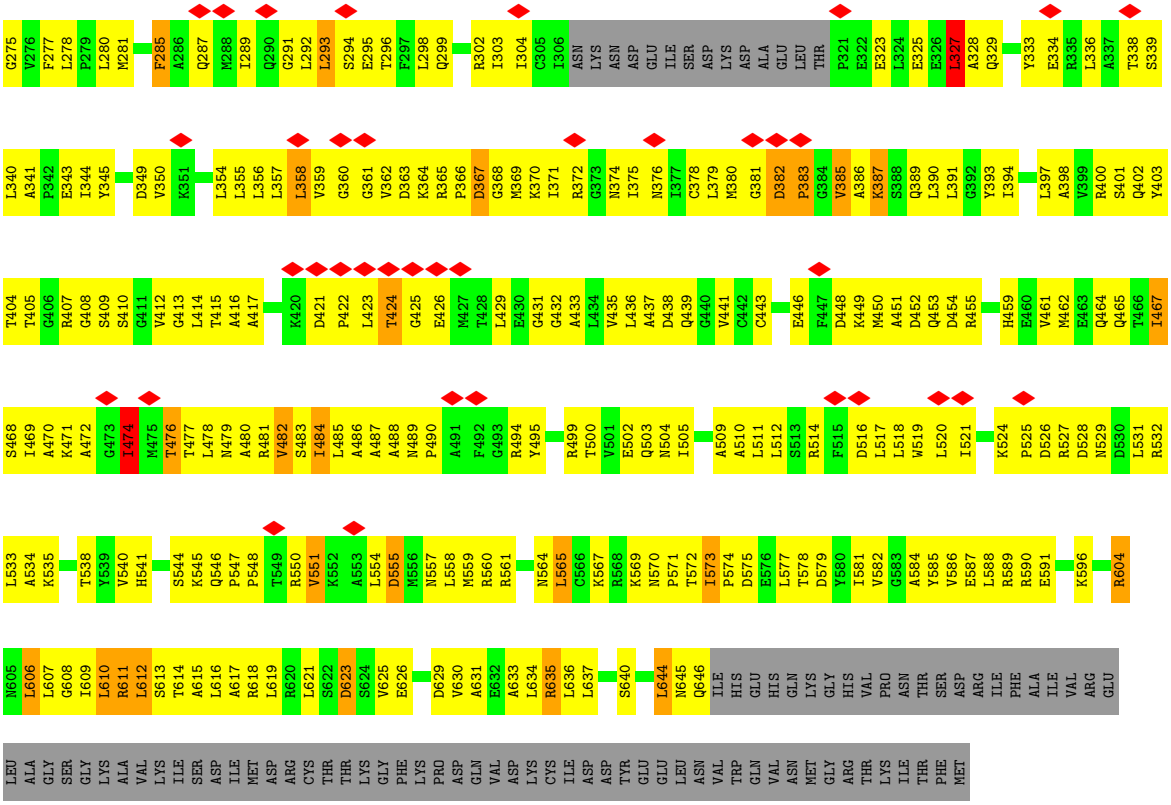




• Molecule 13: DNA replication licensing factor Mcm7

Chain 7:




G275 V276 F277 L278 P279 L280 M281 F285 A286 Q287 M288 I289 Q290 G291 L292 L293 S294 E295 T296 F297 L298 Q299 R302 I303 I304 C305 I306 ASN LYS ASN ASP GLU ILE SER ASP LYS ASP ALA GLU LEU THR P321 E322 E323 L324 E325 E326 L327 A328 Q329 Y333 E334 R335 L336 A337 T338 S339
L340 A341 P342 E343 I344 Y345 D349 V350 K351 L354 L355 L356 L357 L358 V359 G360 G361 V362 D363 K364 R365 P366 D367 G368 M369 K370 I371 R372 G373 N374 I375 N376 I377 C378 L379 M380 G381 D382 P383 G384 V385 A386 K387 S388 Q389 L390 L391 G392 Y393 I394 L397 A398 Y399 R400 S401 Q402 Y403
T404 T405 G406 R407 G408 S409 S410 G411 V412 G413 L414 T415 A416 A417 K420 D421 P422 L423 T424 G425 E426 M427 T428 L429 E430 G431 G432 A433 L434 V435 L436 A437 D438 Q439 G440 V441 C442 C443 E446 F447 D448 K449 M450 A451 D452 Q453 D454 R455 H459 E460 V461 M462 E463 Q464 Q465 T466 I467
S468 I469 A470 K471 A472 G473 T474 M475 T476 T477 L478 N479 A480 R481 V482 S483 I484 L485 A486 A487 A488 N489 P490 A491 F492 G493 R494 Y495 R499 T500 V501 E502 Q503 N504 I505 A509 A510 L511 L512 S513 R514 F515 D516 L517 L518 W519 L520 I521 K524 P525 D526 R527 D528 N529 D530 L531 R532
L533 A534 K535 T538 Y539 V540 H541 S544 K545 Q546 P547 P548 T549 R550 V551 K552 A553 L554 D555 M556 N557 L558 M559 R560 R561 N564 L565 C566 K567 R568 K569 N570 P571 T572 I573 P574 D575 E576 L577 T578 D579 Y580 I581 V582 G583 A584 Y585 V586 E587 L588 R589 R590 E591 K596 R604
N605 L606 L607 G608 I609 L610 R611 L612 S613 T614 A615 L616 A617 R618 L619 R620 L621 S622 D623 S624 V625 E626 D629 V630 A631 E632 A633 L634 R635 L636 L637 S640 L644 N645 Q646 ILE HIS GLU HIS GLN LYS GLY HIS VAL PRO ASN THR SER ASP ARG ILE PHE ALA ILE VAL ARG GLU
LEU ALA GLY SER GLY LYS ALA VAL LYS ILE SER ASP ILE MET ASP ARG CYS THR THR LYS GLY PHE LYS PRO ASP GLN VAL ASP LYS CYS ILE ASP ASP TYR GLU GLU LEU ASN VAL TRP GLN VAL ASN MET GLY ARG THR LYS ILE THR PHE MET

4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	61082	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 ($e^-/Å^2$)	50	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	GATAN K2 SUMMIT (4k x 4k)	Depositor
Maximum map value	0.039	Depositor
Minimum map value	-0.027	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.0045	Depositor
Map size (Å)	414.72003, 414.72003, 414.72003	wwPDB
Map dimensions	384, 384, 384	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.08, 1.08, 1.08	Depositor

5 Model quality

5.1 Standard geometry

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

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	X	0.73	0/471	1.55	6/725 (0.8%)
2	Y	0.49	0/45	0.81	0/67
3	A	0.48	0/4280	0.78	2/5790 (0.0%)
4	H	0.52	1/1618 (0.1%)	0.83	2/2184 (0.1%)
5	L	0.54	0/1492	0.75	0/2017
6	M	0.61	0/1288	0.82	1/1745 (0.1%)
7	N	0.48	0/1685	0.76	1/2277 (0.0%)
8	2	0.48	0/4515	0.90	12/6089 (0.2%)
9	5	0.53	1/4526 (0.0%)	0.96	20/6092 (0.3%)
10	6	0.47	0/4678	0.81	3/6319 (0.0%)
11	3	0.49	0/4641	0.86	4/6251 (0.1%)
12	4	0.62	1/4896 (0.0%)	1.07	41/6626 (0.6%)
13	7	0.41	0/4661	0.71	4/6297 (0.1%)
All	All	0.51	3/38796 (0.0%)	0.88	96/52479 (0.2%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
3	A	0	4
4	H	0	6
5	L	0	1
6	M	0	2
7	N	0	2
8	2	0	5
9	5	0	15
10	6	0	6
11	3	0	12
12	4	0	12

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Mol	Chain	#Chirality outliers	#Planarity outliers
13	7	0	1
All	All	0	66

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
12	4	491	LYS	C-N	-26.85	0.72	1.34
9	5	507	ILE	C-N	-12.81	1.04	1.34
4	H	122	TYR	CD1-CE1	-5.63	1.30	1.39

All (96) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	4	491	LYS	O-C-N	-17.88	94.09	122.70
9	5	507	ILE	C-N-CA	-17.54	77.85	121.70
9	5	507	ILE	CA-C-N	-15.93	82.15	117.20
11	3	610	ARG	NE-CZ-NH2	-15.38	112.61	120.30
1	X	27	DT	P-O3'-C3'	14.84	137.50	119.70
8	2	641	ARG	CD-NE-CZ	13.00	141.81	123.60
12	4	491	LYS	CA-C-N	12.79	145.33	117.20
9	5	510	ARG	CD-NE-CZ	11.94	140.31	123.60
13	7	327	LEU	CA-CB-CG	10.58	139.62	115.30
12	4	645	ARG	NE-CZ-NH2	-9.66	115.47	120.30
8	2	411	LEU	CB-CG-CD1	9.45	127.06	111.00
11	3	610	ARG	CD-NE-CZ	9.08	136.31	123.60
8	2	641	ARG	NE-CZ-NH2	-8.98	115.81	120.30
12	4	241	ASP	CB-CG-OD1	8.97	126.38	118.30
12	4	575	ILE	CG1-CB-CG2	8.84	130.85	111.40
12	4	450	LEU	CB-CG-CD1	8.71	125.80	111.00
3	A	210	TYR	CB-CG-CD1	-8.64	115.82	121.00
12	4	362	ASP	CB-CG-OD1	8.45	125.91	118.30
12	4	545	LEU	CB-CG-CD2	8.42	125.31	111.00
12	4	697	ARG	NE-CZ-NH1	8.35	124.47	120.30
12	4	513	ASP	C-N-CD	-8.16	102.64	120.60
9	5	270	GLY	C-N-CA	8.07	141.87	121.70
8	2	601	ILE	CG1-CB-CG2	8.00	128.99	111.40
12	4	508	LEU	CB-CG-CD2	7.99	124.58	111.00
12	4	572	VAL	CG1-CB-CG2	7.98	123.67	110.90
1	X	27	DT	O3'-P-O5'	7.95	119.10	104.00
8	2	411	LEU	CA-CB-CG	7.80	133.25	115.30
9	5	510	ARG	NE-CZ-NH2	-7.80	116.40	120.30
12	4	567	LEU	CB-CG-CD2	7.74	124.16	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
13	7	79	ASP	CB-CG-OD1	7.63	125.16	118.30
9	5	252	VAL	CG1-CB-CG2	7.57	123.02	110.90
12	4	565	LEU	CB-CG-CD1	7.55	123.83	111.00
12	4	363	ASP	CB-CG-OD1	7.53	125.08	118.30
1	X	28	DT	O4'-C1'-N1	-7.51	102.74	108.00
3	A	210	TYR	CB-CG-CD2	7.47	125.48	121.00
9	5	503	PHE	CB-CG-CD1	-7.44	115.59	120.80
9	5	503	PHE	CB-CG-CD2	7.40	125.98	120.80
10	6	162	VAL	CG1-CB-CG2	7.32	122.62	110.90
12	4	483	LEU	CB-CG-CD1	7.32	123.44	111.00
12	4	365	ALA	C-N-CA	7.18	139.64	121.70
12	4	230	ILE	CG1-CB-CG2	7.16	127.16	111.40
8	2	269	ARG	NE-CZ-NH2	-7.12	116.74	120.30
12	4	491	LYS	C-N-CA	7.02	139.25	121.70
12	4	766	LEU	CB-CG-CD2	6.99	122.89	111.00
12	4	615	ILE	CG1-CB-CG2	6.88	126.55	111.40
12	4	295	SER	C-N-CA	6.87	138.87	121.70
1	X	29	DT	P-O3'-C3'	6.85	127.92	119.70
12	4	712	LEU	CB-CG-CD1	6.85	122.64	111.00
8	2	602	VAL	CG1-CB-CG2	6.74	121.68	110.90
12	4	693	ILE	CG1-CB-CG2	6.71	126.16	111.40
8	2	315	VAL	CG1-CB-CG2	6.58	121.42	110.90
12	4	512	GLY	C-N-CA	6.49	137.93	121.70
9	5	511	PHE	CB-CG-CD1	6.46	125.32	120.80
12	4	652	VAL	CG1-CB-CG2	6.42	121.18	110.90
9	5	109	ARG	NE-CZ-NH1	6.30	123.45	120.30
12	4	464	LEU	CB-CG-CD1	6.30	121.71	111.00
1	X	30	DT	O4'-C1'-N1	6.28	112.40	108.00
9	5	507	ILE	O-C-N	-6.27	112.66	122.70
12	4	293	ILE	CG1-CB-CG2	6.17	124.96	111.40
12	4	706	ASP	C-N-CA	6.08	136.91	121.70
12	4	451	LEU	CB-CG-CD2	6.00	121.20	111.00
9	5	283	VAL	CG1-CB-CG2	5.93	120.40	110.90
9	5	93	ILE	CG1-CB-CG2	-5.89	98.43	111.40
9	5	510	ARG	NE-CZ-NH1	-5.87	117.37	120.30
8	2	269	ARG	NE-CZ-NH1	5.86	123.23	120.30
7	N	65	LEU	CA-CB-CG	5.85	128.76	115.30
11	3	354	LEU	CA-CB-CG	5.79	128.61	115.30
11	3	210	LEU	CB-CG-CD2	5.69	120.68	111.00
13	7	604	ARG	NE-CZ-NH1	-5.68	117.46	120.30
10	6	378	LEU	CA-CB-CG	5.51	127.97	115.30
8	2	410	SER	C-N-CA	5.48	135.39	121.70

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
12	4	617	ALA	CB-CA-C	5.42	118.22	110.10
12	4	692	TYR	CA-CB-CG	5.40	123.66	113.40
12	4	586	ARG	NE-CZ-NH1	5.37	122.99	120.30
12	4	464	LEU	CB-CG-CD2	5.36	120.12	111.00
12	4	525	VAL	CG1-CB-CG2	5.30	119.39	110.90
12	4	451	LEU	CB-CG-CD1	5.24	119.91	111.00
12	4	648	LEU	C-N-CA	5.22	134.75	121.70
12	4	565	LEU	CB-CG-CD2	5.21	119.85	111.00
12	4	343	ILE	CG1-CB-CG2	5.19	122.83	111.40
10	6	611	ARG	NE-CZ-NH2	-5.16	117.72	120.30
9	5	511	PHE	C-N-CA	5.16	134.59	121.70
6	M	130	ARG	NE-CZ-NH1	5.15	122.87	120.30
9	5	219	PHE	CB-CG-CD1	5.11	124.37	120.80
8	2	315	VAL	CA-CB-CG1	5.10	118.56	110.90
8	2	310	ILE	CG1-CB-CG2	5.09	122.61	111.40
4	H	129	TYR	CA-CB-CG	5.08	123.05	113.40
9	5	186	TYR	N-CA-C	5.06	124.66	111.00
13	7	37	LEU	CA-CB-CG	5.06	126.93	115.30
12	4	565	LEU	CA-CB-CG	5.05	126.91	115.30
9	5	525	ARG	NE-CZ-NH1	5.03	122.82	120.30
12	4	567	LEU	CB-CG-CD1	5.03	119.55	111.00
1	X	27	DT	C4'-C3'-O3'	5.02	122.34	112.30
9	5	491	ARG	NE-CZ-NH1	5.01	122.81	120.30
4	H	96	ARG	CA-CB-CG	5.00	124.41	113.40
9	5	511	PHE	CB-CG-CD2	-5.00	117.30	120.80

There are no chirality outliers.

All (66) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
8	2	261	ARG	Peptide
8	2	311	LYS	Peptide
8	2	361	ILE	Peptide
8	2	459	VAL	Peptide
8	2	641	ARG	Sidechain
11	3	201	MET	Peptide
11	3	219	ASP	Peptide
11	3	222	LEU	Peptide
11	3	257	LEU	Peptide
11	3	28	ILE	Peptide
11	3	387	ARG	Sidechain
11	3	392	ALA	Peptide

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Mol	Chain	Res	Type	Group
11	3	462	GLU	Peptide
11	3	473	ARG	Sidechain
11	3	501	ARG	Peptide
11	3	546	HIS	Peptide
11	3	610	ARG	Sidechain
12	4	327	GLN	Peptide
12	4	343	ILE	Peptide
12	4	384	LYS	Peptide
12	4	473	TYR	Peptide
12	4	484	LEU	Peptide
12	4	487	PHE	Peptide
12	4	488	GLY	Peptide
12	4	493	LYS	Peptide
12	4	499	ARG	Peptide
12	4	629	ARG	Peptide
12	4	645	ARG	Sidechain
12	4	750	ARG	Peptide
9	5	109	ARG	Peptide
9	5	193	ASN	Peptide
9	5	251	ARG	Sidechain
9	5	286	ARG	Peptide
9	5	292	VAL	Peptide
9	5	304	ALA	Peptide
9	5	400	TYR	Peptide
9	5	44	GLU	Peptide
9	5	458	ALA	Peptide
9	5	488	ILE	Peptide
9	5	497	GLY	Peptide
9	5	507	ILE	Mainchain
9	5	510	ARG	Sidechain
9	5	552	GLU	Peptide
9	5	628	GLN	Peptide
10	6	106	VAL	Peptide
10	6	312	VAL	Peptide
10	6	373	THR	Peptide
10	6	488	ARG	Peptide
10	6	549	SER	Peptide
10	6	611	ARG	Sidechain
13	7	474	ILE	Peptide
3	A	101	HIS	Peptide
3	A	294	TYR	Peptide
3	A	490	THR	Peptide

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Mol	Chain	Res	Type	Group
3	A	82	ASP	Peptide
4	H	112	CYS	Peptide
4	H	147	LEU	Peptide
4	H	148	ARG	Peptide
4	H	180	SER	Peptide
4	H	197	ILE	Peptide
4	H	34	VAL	Peptide
5	L	145	LEU	Peptide
6	M	96	ARG	Peptide
6	M	98	HIS	Peptide
7	N	154	LYS	Peptide
7	N	180	HIS	Peptide

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	X	425	0	247	26	0
2	Y	41	0	23	0	0
3	A	4190	0	4167	156	0
4	H	1583	0	1567	63	0
5	L	1457	0	1476	59	0
6	M	1259	0	1233	59	0
7	N	1661	0	1609	62	0
8	2	4442	0	4503	166	0
9	5	4459	0	4452	205	0
10	6	4609	0	4509	212	0
11	3	4585	0	4624	197	0
12	4	4811	0	4768	242	0
13	7	4594	0	4509	386	0
14	5	27	0	11	5	0
14	6	27	0	12	5	0
15	3	31	0	12	7	0
15	4	31	0	10	6	0
15	6	31	0	11	6	0
15	7	31	0	9	11	0
All	All	38294	0	37752	1704	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 22.

All (1704) 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)
11:3:422:GLU:HG3	11:3:473:ARG:NH1	1.24	1.41
9:5:460:GLU:CG	9:5:510:ARG:HD2	1.54	1.34
11:3:418:HIS:NE2	11:3:473:ARG:NH2	1.77	1.31
10:6:611:ARG:NH1	14:6:901:ADP:O1B	1.64	1.30
9:5:506:THR:O	9:5:509:SER:CB	1.81	1.29
9:5:506:THR:O	9:5:509:SER:HB2	1.23	1.27
11:3:418:HIS:CD2	11:3:473:ARG:CZ	2.20	1.24
10:6:544:ILE:CG2	10:6:547:LEU:HD23	1.69	1.21
13:7:404:THR:HG21	13:7:414:LEU:CD2	1.72	1.17
10:6:544:ILE:HG23	10:6:547:LEU:HD23	1.21	1.16
10:6:544:ILE:CG1	10:6:547:LEU:HD22	1.79	1.13
10:6:544:ILE:HG12	10:6:547:LEU:CD2	1.80	1.11
11:3:422:GLU:CG	11:3:473:ARG:NH1	2.14	1.09
10:6:611:ARG:HH11	14:6:901:ADP:PB	1.77	1.07
9:5:460:GLU:OE2	9:5:510:ARG:CZ	2.03	1.07
11:3:422:GLU:OE2	11:3:473:ARG:NH2	1.87	1.07
3:A:289:LEU:HD13	3:A:291:LEU:HD12	1.32	1.06
10:6:544:ILE:HG12	10:6:547:LEU:HD22	1.07	1.06
11:3:418:HIS:CD2	11:3:473:ARG:NH1	2.24	1.05
12:4:494:HIS:NE2	12:4:502:PHE:HB2	1.73	1.03
13:7:474:ILE:HG21	13:7:476:THR:HG23	1.39	1.01
10:6:544:ILE:HG23	10:6:547:LEU:CD2	1.90	1.01
13:7:379:LEU:HD13	13:7:387:LYS:HD3	1.40	1.01
9:5:460:GLU:HG2	9:5:510:ARG:CD	1.91	1.00
9:5:375:LEU:HD21	9:5:511:PHE:CD2	1.98	0.98
9:5:391:VAL:HA	9:5:394:VAL:HG22	1.44	0.96
11:3:422:GLU:HG3	11:3:473:ARG:CZ	1.94	0.96
9:5:460:GLU:CG	9:5:510:ARG:CD	2.43	0.96
9:5:460:GLU:HG2	9:5:510:ARG:HD2	0.96	0.96
10:6:544:ILE:HA	10:6:547:LEU:HB2	1.47	0.96
9:5:439:VAL:HG23	9:5:481:VAL:HG13	1.45	0.95
11:3:422:GLU:HG3	11:3:473:ARG:HH12	1.25	0.95
13:7:404:THR:HG21	13:7:414:LEU:HD21	1.48	0.94
12:4:502:PHE:CE2	12:4:737:GLU:OE1	2.21	0.94
9:5:622:LEU:HD22	9:5:636:VAL:HG22	1.49	0.93
11:3:612:LEU:HD23	11:3:615:LEU:HD12	1.48	0.93
13:7:386:ALA:HB1	13:7:389:GLN:HB2	1.52	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:5:369:ARG:NH2	9:5:510:ARG:HB2	1.84	0.92
11:3:422:GLU:CD	11:3:473:ARG:HH22	1.72	0.92
12:4:494:HIS:NE2	12:4:502:PHE:CB	2.32	0.91
9:5:506:THR:O	9:5:509:SER:HB3	1.70	0.91
12:4:590:HIS:O	12:4:590:HIS:CG	2.23	0.91
10:6:546:ASP:HB3	10:6:553:GLU:HA	1.52	0.91
11:3:418:HIS:HD2	11:3:473:ARG:CZ	1.83	0.90
12:4:494:HIS:CE1	12:4:502:PHE:H	1.92	0.87
13:7:416:ALA:HA	13:7:431:GLY:HA2	1.54	0.87
10:6:232:ALA:HB2	10:6:443:LEU:HB3	1.57	0.87
11:3:418:HIS:NE2	11:3:473:ARG:CZ	2.33	0.87
10:6:421:LEU:HD12	10:6:422:THR:HG23	1.58	0.86
13:7:462:MET:HG3	13:7:514:ARG:HG3	1.56	0.85
13:7:387:LYS:CD	13:7:487:ALA:HB1	2.06	0.85
13:7:467:ILE:HG22	13:7:467:ILE:O	1.74	0.85
7:N:110:GLN:O	7:N:114:THR:OG1	1.94	0.85
11:3:394:VAL:HA	11:3:397:ASP:OD1	1.76	0.84
1:X:27:DT:H1'	1:X:28:DT:H5'	1.57	0.84
11:3:600:ASP:O	11:3:604:THR:OG1	1.96	0.83
9:5:375:LEU:HD21	9:5:511:PHE:CG	2.12	0.83
9:5:375:LEU:CD2	9:5:511:PHE:CD2	2.60	0.83
10:6:345:SER:O	10:6:557:ARG:NH2	2.12	0.83
10:6:544:ILE:CG2	10:6:547:LEU:CD2	2.49	0.83
9:5:339:SER:O	9:5:542:LYS:NZ	2.12	0.83
13:7:438:ASP:HB3	13:7:439:GLN:HE21	1.43	0.82
13:7:387:LYS:HA	13:7:390:LEU:HD21	1.59	0.82
4:H:114:PRO:O	4:H:117:THR:OG1	1.97	0.82
8:2:435:LYS:NZ	8:2:525:ALA:O	2.13	0.82
11:3:422:GLU:CD	11:3:473:ARG:NH2	2.33	0.81
13:7:467:ILE:O	13:7:467:ILE:CG2	2.27	0.81
8:2:186:SER:O	8:2:190:THR:OG1	1.98	0.81
9:5:459:MET:HE3	9:5:510:ARG:CG	2.11	0.81
13:7:588:LEU:HD22	13:7:589:ARG:HD2	1.63	0.81
9:5:456:HIS:CD2	9:5:460:GLU:OE2	2.34	0.81
9:5:460:GLU:CD	9:5:510:ARG:CD	2.48	0.81
11:3:263:SER:O	11:3:264:LEU:HG	1.81	0.81
13:7:416:ALA:HB1	13:7:429:LEU:HB2	1.63	0.81
12:4:199:LYS:O	12:4:203:ILE:N	2.14	0.81
13:7:387:LYS:HD2	13:7:487:ALA:HB1	1.63	0.80
10:6:544:ILE:HG21	10:6:547:LEU:HD23	1.63	0.80
12:4:686:MET:O	12:4:690:ARG:NH2	2.15	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:7:383:PRO:HD2	13:7:385:VAL:HG12	1.62	0.80
8:2:641:ARG:NH1	14:5:801:ADP:O1B	2.15	0.80
10:6:611:ARG:NH1	14:6:901:ADP:PB	2.47	0.80
8:2:516:GLN:OE1	14:6:901:ADP:O2A	1.99	0.80
12:4:502:PHE:HE2	12:4:737:GLU:CD	1.84	0.79
3:A:306:SER:O	3:A:310:SER:OG	2.01	0.79
8:2:296:VAL:O	8:2:364:GLN:N	2.15	0.79
12:4:497:LEU:HD21	12:4:499:ARG:HE	1.46	0.79
12:4:672:TYR:OH	13:7:571:PRO:O	2.00	0.79
13:7:439:GLN:HE22	13:7:481:ARG:HD2	1.48	0.79
11:3:422:GLU:CG	11:3:473:ARG:CZ	2.58	0.79
3:A:210:TYR:OH	3:A:552:GLU:OE1	2.01	0.78
9:5:377:LEU:HA	9:5:485:ALA:HB3	1.64	0.78
12:4:531:ARG:NH1	12:4:569:ASP:O	2.16	0.78
7:N:114:THR:O	7:N:117:GLN:NE2	2.15	0.78
9:5:572:ARG:NH2	11:3:500:HIS:O	2.17	0.78
13:7:409:SER:HB3	13:7:414:LEU:HG	1.64	0.78
12:4:623:GLU:OE2	12:4:635:ASN:ND2	2.16	0.78
8:2:625:SER:OG	8:2:783:GLN:O	2.01	0.77
13:7:637:LEU:O	13:7:640:SER:OG	2.01	0.77
8:2:379:LYS:NZ	8:2:380:ASP:O	2.16	0.77
10:6:558:ALA:O	10:6:559:TYR:HB2	1.85	0.77
8:2:577:MET:O	8:2:582:ARG:NH1	2.18	0.77
8:2:728:ARG:NH1	9:5:519:ASP:O	2.17	0.77
3:A:81:VAL:O	3:A:108:ASN:ND2	2.18	0.77
12:4:670:SER:O	12:4:674:VAL:N	2.16	0.77
5:L:170:TYR:OH	5:L:183:MET:SD	2.42	0.77
9:5:459:MET:CE	9:5:510:ARG:CG	2.62	0.77
10:6:174:CYS:HB2	10:6:177:PRO:O	1.85	0.76
9:5:506:THR:HB	9:5:510:ARG:HH22	1.50	0.76
11:3:422:GLU:CG	11:3:473:ARG:HH12	1.90	0.76
10:6:393:ALA:HB2	15:6:902:ATP:H2'	1.66	0.76
11:3:425:ARG:NH2	11:3:436:SER:OG	2.17	0.76
3:A:22:VAL:HG12	3:A:29:ALA:HB1	1.67	0.76
3:A:356:MET:SD	3:A:359:ARG:NH2	2.58	0.76
5:L:93:MET:HB2	5:L:151:LEU:HD22	1.68	0.76
9:5:358:SER:OG	9:5:620:GLU:OE1	2.05	0.76
9:5:460:GLU:CD	9:5:510:ARG:HD2	2.05	0.76
8:2:565:ASP:O	9:5:233:GLN:NE2	2.19	0.75
13:7:467:ILE:HG21	13:7:478:LEU:HD12	1.67	0.75
3:A:234:TRP:HZ2	3:A:376:LEU:HD23	1.52	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:7:404:THR:HG21	13:7:414:LEU:HD22	1.63	0.74
8:2:754:HIS:O	8:2:758:HIS:ND1	2.20	0.74
9:5:520:ILE:O	9:5:525:ARG:NH2	2.19	0.74
12:4:521:MET:O	12:4:525:VAL:HG23	1.88	0.74
13:7:402:GLN:HG2	13:7:433:ALA:HB1	1.66	0.74
9:5:459:MET:HE3	9:5:510:ARG:HG3	1.70	0.74
13:7:452:ASP:HA	13:7:455:ARG:HH11	1.52	0.74
12:4:490:THR:HG21	12:4:702:PRO:HD2	1.70	0.74
8:2:364:GLN:NE2	8:2:377:ARG:O	2.21	0.73
12:4:494:HIS:CE1	12:4:502:PHE:N	2.55	0.73
13:7:386:ALA:HB2	15:7:801:ATP:H3'	1.68	0.73
3:A:17:LYS:NZ	4:H:183:TYR:OH	2.21	0.73
9:5:159:LYS:O	9:5:217:VAL:N	2.21	0.73
5:L:94:VAL:HB	5:L:151:LEU:HD21	1.68	0.73
12:4:538:ARG:N	12:4:581:MET:SD	2.61	0.73
10:6:232:ALA:CB	10:6:443:LEU:HB3	2.18	0.73
15:4:901:ATP:O4'	13:7:604:ARG:NH1	2.13	0.73
13:7:409:SER:CB	13:7:414:LEU:HG	2.19	0.73
11:3:430:LYS:N	13:7:408:GLY:O	2.22	0.73
9:5:384:LYS:HD2	9:5:517:VAL:HG21	1.71	0.73
12:4:502:PHE:CE2	12:4:737:GLU:CD	2.61	0.73
13:7:350:VAL:HG22	13:7:519:TRP:HZ3	1.53	0.73
3:A:466:GLU:OE1	3:A:508:ASN:N	2.22	0.73
8:2:460:GLU:O	8:2:464:ALA:N	2.21	0.72
12:4:514:PRO:HG2	12:4:516:THR:HG23	1.71	0.72
8:2:304:LEU:O	8:2:358:TYR:N	2.22	0.72
10:6:59:PHE:N	10:6:109:THR:O	2.19	0.72
7:N:65:LEU:O	7:N:69:GLN:NE2	2.23	0.72
11:3:626:ARG:NH1	11:3:635:ASP:OD2	2.22	0.72
5:L:79:LYS:O	5:L:82:LYS:NZ	2.23	0.72
8:2:436:GLN:O	8:2:698:ARG:NH2	2.23	0.72
13:7:376:ASN:N	13:7:516:ASP:OD2	2.21	0.72
10:6:118:ARG:HH12	10:6:213:CYS:CB	2.01	0.72
10:6:546:ASP:CB	10:6:553:GLU:HA	2.19	0.72
10:6:426:VAL:O	10:6:427:ARG:NE	2.23	0.72
8:2:184:PHE:O	8:2:188:LEU:HD12	1.90	0.72
9:5:456:HIS:NE2	9:5:460:GLU:OE2	2.23	0.72
11:3:490:GLN:NE2	11:3:493:SER:OG	2.22	0.72
3:A:104:LEU:O	3:A:204:TYR:OH	2.08	0.71
10:6:475:SER:OG	10:6:483:ALA:O	2.04	0.71
10:6:478:ARG:O	10:6:482:ARG:NH2	2.22	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:4:482:ILE:HA	12:4:485:GLN:HE21	1.54	0.71
7:N:79:ASP:O	7:N:82:LYS:NZ	2.22	0.71
10:6:373:THR:OG1	10:6:376:THR:O	2.07	0.71
3:A:281:SER:O	3:A:376:LEU:HD21	1.90	0.71
11:3:454:TYR:O	11:3:463:ASN:ND2	2.24	0.71
8:2:306:GLN:OE1	8:2:356:ARG:NH2	2.22	0.71
12:4:299:ILE:O	12:4:352:LYS:NZ	2.20	0.71
4:H:45:PHE:O	4:H:49:VAL:N	2.23	0.71
9:5:534:ILE:O	9:5:538:LEU:N	2.23	0.71
12:4:507:HIS:HB3	12:4:615:ILE:HB	1.72	0.71
11:3:470:LEU:HA	11:3:473:ARG:HG2	1.73	0.71
12:4:500:GLN:HG3	12:4:502:PHE:HD1	1.55	0.71
1:X:26:DT:O2	12:4:556:ARG:NH2	2.24	0.71
13:7:404:THR:CG2	13:7:414:LEU:HD21	2.21	0.71
3:A:36:LEU:HD13	3:A:39:LEU:HB3	1.71	0.70
3:A:485:ARG:O	3:A:490:THR:OG1	2.09	0.70
10:6:423:ALA:N	10:6:438:ALA:O	2.25	0.70
11:3:335:ASN:OD1	11:3:443:VAL:N	2.24	0.70
3:A:494:ARG:NE	3:A:498:ASP:OD2	2.22	0.70
9:5:459:MET:CE	9:5:510:ARG:HG3	2.21	0.70
13:7:472:ALA:HB3	13:7:474:ILE:HD11	1.73	0.70
4:H:112:CYS:SG	7:N:154:LYS:NZ	2.62	0.70
10:6:544:ILE:HG23	10:6:547:LEU:HB3	1.72	0.70
11:3:333:ASP:OD2	11:3:442:SER:OG	2.07	0.70
10:6:544:ILE:HG23	10:6:547:LEU:CB	2.22	0.69
8:2:509:ASP:O	8:2:512:THR:OG1	2.10	0.69
12:4:642:LEU:HD22	12:4:645:ARG:NH2	2.08	0.69
8:2:566:GLN:N	8:2:608:ARG:O	2.25	0.69
10:6:612:GLN:O	10:6:615:SER:OG	2.10	0.69
12:4:744:GLU:OE1	12:4:744:GLU:N	2.25	0.69
8:2:296:VAL:N	8:2:364:GLN:O	2.26	0.69
13:7:234:GLU:HG3	13:7:255:ILE:O	1.92	0.69
13:7:387:LYS:O	13:7:391:LEU:HG	1.91	0.69
13:7:465:GLN:HA	13:7:480:ALA:N	2.06	0.69
7:N:143:GLU:O	7:N:147:ASN:ND2	2.25	0.69
10:6:540:ILE:O	10:6:544:ILE:HD12	1.92	0.69
3:A:301:GLU:OE1	3:A:301:GLU:N	2.26	0.69
11:3:298:LEU:HB2	11:3:309:LYS:NZ	2.08	0.69
13:7:528:ASP:HA	13:7:531:LEU:HD11	1.74	0.69
3:A:492:ARG:NH1	3:A:495:GLN:OE1	2.25	0.69
4:H:51:GLN:OE1	4:H:56:ASN:ND2	2.25	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:2:571:ILE:O	8:2:614:ALA:N	2.26	0.68
6:M:32:GLN:NE2	6:M:44:ASP:O	2.26	0.68
8:2:735:GLY:O	8:2:783:GLN:NE2	2.27	0.68
3:A:342:TYR:OH	3:A:350:ARG:O	2.10	0.68
11:3:309:LYS:HA	11:3:312:ILE:HD12	1.75	0.68
12:4:710:GLN:HA	12:4:713:ILE:HB	1.75	0.68
13:7:585:TYR:OH	13:7:589:ARG:NH1	2.26	0.68
6:M:173:MET:N	6:M:173:MET:SD	2.67	0.68
8:2:299:ALA:O	8:2:362:THR:OG1	2.07	0.68
9:5:496:LYS:NZ	9:5:499:GLU:OE1	2.26	0.68
11:3:507:GLU:O	11:3:544:LEU:N	2.26	0.68
13:7:379:LEU:O	13:7:488:ALA:N	2.23	0.68
13:7:380:MET:SD	13:7:520:LEU:HG	2.34	0.68
4:H:93:LYS:NZ	7:N:113:GLU:OE1	2.27	0.68
7:N:81:ASP:OD1	7:N:82:LYS:NZ	2.17	0.67
11:3:299:ALA:HB3	11:3:309:LYS:HD2	1.75	0.67
10:6:646:LYS:O	10:6:650:ARG:N	2.27	0.67
12:4:670:SER:OG	13:7:578:THR:OG1	2.12	0.67
13:7:160:LEU:HA	13:7:275:GLY:O	1.94	0.67
1:X:26:DT:H4'	10:6:425:VAL:HG21	1.76	0.67
4:H:47:GLU:OE1	4:H:47:GLU:N	2.27	0.67
8:2:452:LEU:O	8:2:461:ARG:NH2	2.27	0.67
9:5:360:LYS:NZ	9:5:570:GLY:O	2.15	0.67
10:6:394:LYS:NZ	10:6:394:LYS:HB3	2.10	0.67
10:6:557:ARG:NH2	10:6:559:TYR:O	2.27	0.67
12:4:516:THR:C	15:4:901:ATP:H5'1	2.14	0.67
13:7:355:LEU:O	13:7:359:VAL:HG23	1.94	0.67
5:L:93:MET:N	5:L:93:MET:SD	2.68	0.67
12:4:200:LEU:HD21	12:4:248:PHE:HA	1.74	0.67
4:H:167:GLU:HG2	4:H:176:LEU:HD22	1.76	0.67
9:5:459:MET:HE3	9:5:510:ARG:HG2	1.76	0.67
10:6:120:LEU:HD23	10:6:120:LEU:C	2.15	0.67
4:H:79:ARG:NH1	4:H:82:LEU:HD22	2.10	0.67
5:L:151:LEU:HD23	6:M:170:TRP:CH2	2.30	0.67
12:4:472:ILE:HG22	12:4:474:GLU:H	1.59	0.67
3:A:74:LEU:HB3	3:A:97:ILE:HG22	1.77	0.67
13:7:450:MET:HG2	13:7:454:ASP:OD2	1.94	0.67
6:M:88:GLU:OE2	6:M:92:ILE:N	2.28	0.66
9:5:460:GLU:CD	9:5:510:ARG:CZ	2.63	0.66
6:M:129:VAL:HG12	6:M:130:ARG:NH1	2.10	0.66
13:7:604:ARG:HG3	13:7:607:LEU:HD23	1.77	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:H:64:TRP:O	4:H:68:ASN:ND2	2.28	0.66
12:4:454:LEU:O	12:4:460:ILE:HD11	1.95	0.66
12:4:512:GLY:N	12:4:619:ALA:O	2.28	0.66
6:M:34:MET:N	6:M:39:SER:OG	2.29	0.66
8:2:379:LYS:NZ	8:2:422:THR:O	2.20	0.66
8:2:413:THR:N	10:6:168:PHE:O	2.28	0.66
8:2:219:TYR:OH	8:2:229:LEU:O	2.08	0.66
8:2:790:LYS:O	8:2:794:THR:OG1	2.14	0.66
12:4:202:GLU:O	12:4:206:LEU:HD22	1.95	0.66
8:2:436:GLN:HE21	8:2:437:VAL:HG22	1.61	0.66
11:3:336:VAL:O	11:3:444:LEU:HD22	1.96	0.66
13:7:571:PRO:HG3	13:7:617:ALA:HB3	1.77	0.66
4:H:143:LEU:HD12	4:H:144:THR:HG23	1.78	0.65
7:N:83:ASN:OD1	7:N:84:ASP:N	2.29	0.65
8:2:503:ASN:ND2	8:2:589:MET:SD	2.69	0.65
9:5:507:ILE:O	9:5:509:SER:N	2.13	0.65
12:4:163:GLN:O	12:4:167:LYS:HG2	1.96	0.65
3:A:398:GLU:HG3	3:A:400:VAL:HG23	1.77	0.65
4:H:85:LEU:HD11	4:H:115:GLU:HG2	1.77	0.65
7:N:200:GLU:N	7:N:200:GLU:OE1	2.30	0.65
10:6:370:LYS:HD3	10:6:372:THR:HG23	1.77	0.65
3:A:23:VAL:HA	3:A:52:ILE:HD13	1.77	0.65
7:N:220:ILE:O	7:N:223:ASN:ND2	2.30	0.65
10:6:421:LEU:O	10:6:440:ALA:N	2.29	0.65
3:A:246:LEU:HD23	3:A:250:GLU:HA	1.79	0.64
3:A:254:TYR:OH	3:A:372:GLY:N	2.29	0.64
13:7:452:ASP:HA	13:7:455:ARG:NH1	2.12	0.64
8:2:667:SER:O	8:2:670:LYS:NZ	2.23	0.64
9:5:81:ASP:O	9:5:85:LYS:HG2	1.97	0.64
11:3:610:ARG:CB	15:7:801:ATP:H5'2	2.27	0.64
12:4:507:HIS:O	12:4:508:LEU:HD23	1.97	0.64
6:M:153:GLU:HG2	6:M:156:LEU:HD11	1.79	0.64
8:2:189:ARG:NH2	8:2:251:MET:SD	2.70	0.64
12:4:158:ASN:O	12:4:228:GLN:NE2	2.31	0.64
12:4:670:SER:O	12:4:674:VAL:HG13	1.97	0.64
13:7:380:MET:SD	13:7:490:PRO:HG3	2.38	0.64
13:7:244:VAL:HG11	13:7:250:PRO:HG3	1.77	0.64
9:5:514:ILE:HG22	9:5:516:ILE:HD11	1.80	0.64
12:4:514:PRO:HG2	12:4:516:THR:CG2	2.27	0.64
13:7:402:GLN:CG	13:7:433:ALA:HB1	2.28	0.64
6:M:54:LEU:HD23	6:M:58:TYR:OH	1.98	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:M:84:VAL:O	6:M:88:GLU:N	2.26	0.64
8:2:289:GLN:O	8:2:291:VAL:HG23	1.98	0.64
11:3:273:ILE:HG23	11:3:277:ASP:HB3	1.80	0.64
13:7:365:ARG:HG2	13:7:370:LYS:HD3	1.79	0.64
1:X:27:DT:H2"	1:X:28:DT:H71	1.80	0.64
9:5:391:VAL:HA	9:5:394:VAL:CG2	2.22	0.64
5:L:28:LEU:HD22	5:L:35:PRO:HD3	1.80	0.64
8:2:742:ARG:NH1	14:5:801:ADP:O1A	2.30	0.63
13:7:374:ASN:OD1	13:7:464:GLN:NE2	2.30	0.63
9:5:461:GLN:NE2	11:3:347:SER:HB3	2.14	0.63
12:4:410:SER:OG	13:7:200:PHE:O	2.07	0.63
12:4:490:THR:HG21	12:4:702:PRO:CD	2.29	0.63
3:A:53:MET:N	3:A:53:MET:SD	2.70	0.63
4:H:112:CYS:O	4:H:115:GLU:N	2.29	0.63
5:L:48:MET:O	5:L:51:HIS:N	2.31	0.63
8:2:300:THR:OG1	8:2:301:THR:N	2.30	0.63
8:2:776:LEU:HD11	8:2:795:PHE:CD1	2.33	0.63
9:5:460:GLU:CB	9:5:510:ARG:HD2	2.27	0.63
5:L:15:ILE:HG12	5:L:46:LEU:HD21	1.79	0.63
10:6:586:LEU:HD22	10:6:637:VAL:HG11	1.79	0.63
12:4:736:LEU:HA	12:4:739:LEU:HD12	1.80	0.63
13:7:343:GLU:HB2	13:7:389:GLN:NE2	2.13	0.63
5:L:110:CYS:N	5:L:111:GLU:OE1	2.31	0.63
9:5:539:SER:OG	9:5:541:ASN:ND2	2.32	0.63
12:4:272:ARG:HD2	12:4:273:ASN:N	2.14	0.63
12:4:301:GLU:N	12:4:350:THR:O	2.31	0.63
13:7:459:HIS:HA	13:7:462:MET:HG2	1.81	0.63
8:2:203:ARG:NH1	8:2:216:VAL:O	2.31	0.63
10:6:637:VAL:O	10:6:641:PHE:N	2.31	0.63
4:H:162:ASP:OD1	4:H:163:TYR:N	2.32	0.63
9:5:343:SER:O	9:5:347:LYS:N	2.31	0.63
13:7:62:LEU:HA	13:7:65:ALA:HB3	1.80	0.63
13:7:413:GLY:O	13:7:432:GLY:HA3	1.99	0.63
8:2:248:ALA:HB1	8:2:266:ILE:HD13	1.81	0.62
8:2:306:GLN:NE2	9:5:283:VAL:HB	2.14	0.62
11:3:302:ILE:HA	15:3:901:ATP:H2	1.64	0.62
11:3:420:VAL:O	11:3:424:GLY:N	2.32	0.62
13:7:574:PRO:HD2	13:7:625:VAL:O	1.98	0.62
5:L:23:ASN:N	5:L:36:PHE:O	2.32	0.62
12:4:665:ALA:HB1	13:7:582:VAL:HG12	1.81	0.62
12:4:673:TYR:OH	13:7:574:PRO:HA	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
7:N:86:ARG:O	7:N:90:HIS:ND1	2.32	0.62
10:6:470:GLU:N	10:6:472:GLN:OE1	2.33	0.62
4:H:7:MET:N	4:H:11:LYS:HZ3	1.98	0.62
6:M:171:LEU:HD23	9:5:46:PHE:CB	2.30	0.62
9:5:33:LYS:HE2	9:5:79:LEU:HD11	1.82	0.62
11:3:610:ARG:HB3	15:7:801:ATP:H5'2	1.80	0.62
6:M:171:LEU:HD23	9:5:46:PHE:HB2	1.79	0.62
9:5:369:ARG:HH22	9:5:510:ARG:HB2	1.59	0.62
10:6:394:LYS:HB3	10:6:394:LYS:HZ2	1.65	0.62
3:A:291:LEU:HD11	3:A:369:ILE:CG2	2.30	0.62
8:2:222:LEU:HD21	8:2:229:LEU:HB2	1.80	0.62
8:2:745:GLU:HA	8:2:748:ILE:HD12	1.81	0.62
9:5:67:ILE:HG22	9:5:68:GLU:H	1.64	0.62
4:H:10:GLU:HG2	6:M:16:ILE:HG21	1.81	0.62
7:N:110:GLN:OE1	7:N:110:GLN:N	2.30	0.62
13:7:546:GLN:HB3	13:7:547:PRO:HD3	1.81	0.62
7:N:177:LEU:O	7:N:214:GLN:N	2.32	0.62
8:2:776:LEU:HD13	8:2:794:THR:HB	1.81	0.61
10:6:421:LEU:CD1	10:6:422:THR:HG23	2.29	0.61
10:6:474:ILE:HD13	10:6:485:LEU:CB	2.29	0.61
11:3:342:PRO:HG3	11:3:449:PRO:HD2	1.80	0.61
11:3:370:GLY:O	11:3:392:ALA:N	2.33	0.61
13:7:400:ARG:NH2	13:7:437:ALA:HA	2.15	0.61
13:7:433:ALA:HA	13:7:436:LEU:CD2	2.30	0.61
11:3:116:ILE:HG23	11:3:117:TYR:N	2.14	0.61
3:A:99:ASP:OD1	3:A:101:HIS:N	2.30	0.61
10:6:538:TYR:OH	12:4:714:GLN:O	2.16	0.61
13:7:381:GLY:N	13:7:490:PRO:HD3	2.15	0.61
13:7:510:ALA:O	13:7:514:ARG:HG2	2.00	0.61
3:A:278:MET:SD	3:A:279:SER:N	2.73	0.61
12:4:482:ILE:HA	12:4:485:GLN:NE2	2.15	0.61
12:4:642:LEU:HD22	12:4:645:ARG:HH21	1.65	0.61
13:7:626:GLU:N	13:7:629:ASP:OD2	2.29	0.61
9:5:460:GLU:CD	9:5:510:ARG:NE	2.54	0.61
11:3:298:LEU:HB2	11:3:309:LYS:HZ3	1.65	0.61
12:4:305:ALA:HB2	12:4:325:ILE:HD11	1.80	0.61
13:7:546:GLN:O	13:7:548:PRO:HD3	2.00	0.61
3:A:536:GLU:O	3:A:540:GLN:N	2.34	0.61
8:2:300:THR:OG1	8:2:360:LYS:O	2.16	0.61
1:X:29:DT:H1'	1:X:30:DT:C5'	2.30	0.61
7:N:64:GLU:N	7:N:64:GLU:OE2	2.34	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:2:496:HIS:ND1	8:2:497:LYS:O	2.33	0.61
9:5:132:ILE:HD13	9:5:226:GLU:HB3	1.83	0.61
12:4:492:LYS:NZ	12:4:740:ILE:O	2.34	0.61
3:A:446:SER:O	3:A:450:ARG:N	2.34	0.61
9:5:439:VAL:CG2	9:5:481:VAL:HG13	2.28	0.61
13:7:339:SER:OG	13:7:554:LEU:N	2.34	0.61
13:7:415:THR:HA	13:7:435:VAL:HG23	1.83	0.61
3:A:49:VAL:HG12	3:A:50:VAL:H	1.65	0.61
10:6:165:GLN:OE1	10:6:166:PHE:N	2.33	0.61
3:A:373:THR:HG22	3:A:374:PHE:H	1.66	0.60
11:3:429:SER:HB2	11:3:434:HIS:HA	1.83	0.60
12:4:551:LYS:CE	13:7:422:PRO:HA	2.31	0.60
13:7:49:THR:O	13:7:50:ILE:HD13	2.01	0.60
13:7:340:LEU:HD13	13:7:559:MET:HE1	1.82	0.60
3:A:366:ILE:HB	3:A:369:ILE:HD11	1.83	0.60
10:6:544:ILE:CG1	10:6:547:LEU:CD2	2.58	0.60
13:7:482:VAL:HG23	13:7:483:SER:O	2.01	0.60
13:7:363:ASP:HB2	13:7:370:LYS:NZ	2.15	0.60
6:M:174:THR:HG21	9:5:47:PHE:CG	2.35	0.60
9:5:359:ARG:NH1	9:5:477:SER:O	2.35	0.60
9:5:372:ILE:HD12	9:5:618:ILE:HD11	1.83	0.60
11:3:443:VAL:O	11:3:444:LEU:HD23	2.00	0.60
12:4:305:ALA:CB	12:4:325:ILE:HD11	2.31	0.60
12:4:648:LEU:HD11	12:4:770:ALA:HB3	1.83	0.60
12:4:174:ARG:NH1	12:4:220:THR:OG1	2.34	0.60
5:L:132:ILE:O	6:M:130:ARG:NH1	2.33	0.60
8:2:702:VAL:O	8:2:706:GLU:N	2.34	0.60
11:3:239:ARG:O	11:3:255:THR:OG1	2.15	0.60
1:X:29:DT:H2"	1:X:30:DT:OP2	2.00	0.60
9:5:389:LYS:HA	9:5:400:TYR:CE2	2.36	0.60
10:6:627:GLU:OE2	10:6:636:HIS:NE2	2.34	0.60
13:7:345:TYR:O	13:7:532:ARG:NH2	2.34	0.60
13:7:585:TYR:CE1	13:7:589:ARG:HD3	2.37	0.60
13:7:612:LEU:HD21	13:7:633:ALA:HB1	1.84	0.60
10:6:48:GLU:N	10:6:48:GLU:OE2	2.34	0.60
13:7:572:THR:O	13:7:625:VAL:N	2.35	0.60
9:5:72:LEU:HD21	9:5:80:ALA:N	2.16	0.60
13:7:386:ALA:HB2	15:7:801:ATP:C3'	2.31	0.60
3:A:375:THR:OG1	3:A:384:TYR:O	2.14	0.60
8:2:584:SER:O	8:2:594:ILE:HG21	2.02	0.59
10:6:473:THR:HA	10:6:474:ILE:HD12	1.83	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:7:390:LEU:O	13:7:394:ILE:HG22	2.02	0.59
3:A:340:GLN:OE1	9:5:128:ASN:ND2	2.34	0.59
3:A:462:VAL:HG23	3:A:504:SER:CB	2.32	0.59
5:L:29:ILE:HD13	7:N:90:HIS:NE2	2.17	0.59
12:4:673:TYR:CZ	13:7:574:PRO:HA	2.37	0.59
13:7:38:VAL:O	13:7:42:HIS:N	2.35	0.59
3:A:442:GLN:OE1	3:A:442:GLN:N	2.36	0.59
9:5:377:LEU:HG	9:5:485:ALA:CB	2.32	0.59
11:3:418:HIS:HD2	11:3:473:ARG:NH1	1.85	0.59
12:4:153:VAL:HG23	12:4:159:VAL:O	2.01	0.59
12:4:211:LEU:HD23	12:4:212:ASN:N	2.17	0.59
12:4:492:LYS:HZ3	12:4:740:ILE:HG13	1.65	0.59
9:5:227:LEU:HD12	9:5:230:PHE:CE1	2.38	0.59
11:3:341:ASP:OD1	11:3:341:ASP:N	2.27	0.59
12:4:720:ARG:NE	12:4:731:ALA:O	2.36	0.59
12:4:747:ALA:HB1	12:4:752:SER:O	2.02	0.59
13:7:571:PRO:HA	13:7:623:ASP:HA	1.85	0.59
8:2:489:SER:O	8:2:497:LYS:NZ	2.22	0.59
10:6:103:ASP:OD1	10:6:104:CYS:N	2.34	0.59
10:6:339:TYR:CD2	10:6:343:ILE:HD11	2.37	0.59
11:3:458:LYS:NZ	11:3:461:MET:O	2.36	0.59
12:4:169:LYS:HD3	12:4:172:ILE:HD11	1.85	0.59
12:4:179:SER:O	12:4:184:GLU:N	2.36	0.59
9:5:460:GLU:OE2	9:5:510:ARG:NE	2.35	0.59
11:3:302:ILE:HA	15:3:901:ATP:C2	2.37	0.59
11:3:317:LEU:HD13	11:3:621:ALA:HB1	1.83	0.59
8:2:383:LEU:O	8:2:384:LEU:HD12	2.02	0.59
9:5:81:ASP:OD1	9:5:85:LYS:HE3	2.03	0.59
10:6:54:THR:HG21	10:6:225:GLU:HB3	1.83	0.59
10:6:103:ASP:CG	10:6:104:CYS:H	2.06	0.59
13:7:441:VAL:HA	13:7:483:SER:O	2.02	0.59
5:L:29:ILE:HG23	5:L:33:VAL:HG11	1.83	0.59
9:5:431:MET:HG2	9:5:475:LEU:HD21	1.85	0.59
11:3:585:ALA:HB1	13:7:531:LEU:HA	1.85	0.59
7:N:218:ASP:O	7:N:222:ASN:ND2	2.36	0.59
12:4:633:ILE:HD13	12:4:729:ILE:HG21	1.84	0.59
8:2:411:LEU:HD13	10:6:170:ASN:HB2	1.84	0.58
10:6:361:LEU:HD11	10:6:626:LEU:HD21	1.84	0.58
3:A:56:THR:OG1	3:A:57:GLY:N	2.35	0.58
7:N:177:LEU:HD12	7:N:214:GLN:OE1	2.03	0.58
8:2:737:LEU:O	8:2:739:ILE:N	2.35	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:5:547:GLU:OE1	9:5:547:GLU:N	2.36	0.58
9:5:628:GLN:OE1	9:5:631:ALA:HB2	2.04	0.58
7:N:51:CYS:SG	7:N:181:VAL:HG12	2.43	0.58
10:6:544:ILE:HG23	10:6:547:LEU:CG	2.33	0.58
12:4:219:LYS:O	12:4:223:GLN:NE2	2.37	0.58
1:X:26:DT:H4'	10:6:425:VAL:CG2	2.32	0.58
3:A:333:LEU:HD12	3:A:349:LEU:HD13	1.84	0.58
12:4:294:ARG:HB3	12:4:355:VAL:HG13	1.84	0.58
12:4:314:PHE:HE2	12:4:337:ASN:HD22	1.51	0.58
13:7:99:LEU:O	13:7:103:ILE:HD12	2.03	0.58
3:A:22:VAL:HG23	3:A:49:VAL:HG13	1.83	0.58
3:A:228:ASP:OD2	3:A:282:LYS:NZ	2.28	0.58
3:A:492:ARG:NH2	3:A:493:ALA:HB3	2.18	0.58
3:A:501:LEU:HD12	3:A:502:ILE:H	1.67	0.58
13:7:147:HIS:O	13:7:163:VAL:HG12	2.04	0.58
4:H:159:CYS:O	4:H:199:HIS:NE2	2.37	0.58
11:3:325:PRO:CD	13:7:544:SER:HB3	2.34	0.58
12:4:516:THR:HG21	12:4:652:VAL:CG1	2.34	0.58
3:A:289:LEU:HD22	3:A:369:ILE:HG22	1.86	0.58
5:L:153:ILE:HD11	7:N:182:PHE:CD2	2.38	0.58
9:5:266:ILE:O	9:5:289:TYR:OH	2.13	0.58
12:4:301:GLU:O	12:4:350:THR:N	2.37	0.58
12:4:378:HIS:O	12:4:382:VAL:HG13	2.04	0.58
13:7:382:ASP:OD1	13:7:382:ASP:N	2.37	0.58
13:7:464:GLN:HE21	13:7:481:ARG:HA	1.68	0.58
9:5:368:ARG:NH2	9:5:620:GLU:OE2	2.37	0.58
10:6:196:ASP:N	10:6:196:ASP:OD1	2.37	0.58
8:2:413:THR:OG1	10:6:168:PHE:N	2.37	0.58
13:7:604:ARG:H	13:7:604:ARG:HD2	1.69	0.58
6:M:121:ILE:O	6:M:124:THR:OG1	2.21	0.57
10:6:474:ILE:HD13	10:6:485:LEU:HB2	1.86	0.57
4:H:46:GLU:HA	4:H:49:VAL:HG12	1.86	0.57
9:5:260:ILE:HG22	9:5:295:ILE:HG22	1.86	0.57
9:5:459:MET:CE	9:5:510:ARG:HG2	2.33	0.57
10:6:399:LYS:O	10:6:402:SER:OG	2.22	0.57
13:7:363:ASP:HB2	13:7:370:LYS:HZ1	1.68	0.57
6:M:102:TYR:CD1	6:M:125:LEU:HD21	2.39	0.57
11:3:349:LEU:O	11:3:351:ARG:N	2.36	0.57
3:A:83:ILE:HD11	3:A:115:VAL:HG11	1.86	0.57
7:N:179:SER:O	7:N:181:VAL:HG13	2.03	0.57
10:6:544:ILE:HA	10:6:547:LEU:CB	2.28	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:7:555:ASP:OD1	13:7:558:LEU:HB2	2.04	0.57
1:X:29:DT:H1'	1:X:30:DT:H5"	1.85	0.57
8:2:498:VAL:HG12	8:2:499:ARG:HB2	1.87	0.57
8:2:601:ILE:HG12	8:2:603:THR:HG23	1.85	0.57
12:4:620:ASN:OD1	12:4:620:ASN:N	2.36	0.57
13:7:62:LEU:HD23	13:7:65:ALA:HB3	1.86	0.57
13:7:604:ARG:HA	13:7:607:LEU:HB3	1.86	0.57
9:5:265:SER:OG	9:5:266:ILE:N	2.37	0.57
11:3:384:GLY:CA	11:3:387:ARG:HB2	2.34	0.57
3:A:462:VAL:HG22	3:A:464:GLN:OE1	2.04	0.57
3:A:546:LEU:O	3:A:547:LEU:HD23	2.05	0.57
13:7:129:GLU:O	13:7:228:LYS:HE3	2.05	0.57
7:N:194:VAL:HG21	7:N:219:LEU:HD11	1.86	0.57
11:3:585:ALA:HB2	13:7:534:ALA:HB3	1.87	0.57
13:7:356:LEU:HD12	13:7:616:LEU:HD11	1.86	0.57
13:7:404:THR:CG2	13:7:414:LEU:CD2	2.65	0.57
9:5:543:SER:OG	9:5:544:ALA:N	2.38	0.57
12:4:225:LEU:HD11	12:4:240:PHE:HZ	1.68	0.57
13:7:461:VAL:O	13:7:461:VAL:HG12	2.04	0.57
13:7:465:GLN:N	13:7:480:ALA:O	2.34	0.57
13:7:567:LYS:O	13:7:618:ARG:NH2	2.38	0.57
13:7:612:LEU:HD11	13:7:633:ALA:HA	1.87	0.57
3:A:567:LEU:O	3:A:571:THR:N	2.37	0.57
5:L:179:ARG:HD2	5:L:184:LEU:HD13	1.86	0.57
10:6:135:VAL:O	10:6:135:VAL:HG12	2.04	0.57
10:6:561:ARG:HH22	12:4:499:ARG:HH22	1.53	0.57
11:3:43:ARG:NH2	11:3:260:ASN:O	2.35	0.57
11:3:612:LEU:HD23	11:3:615:LEU:CD1	2.31	0.57
12:4:578:PHE:O	12:4:586:ARG:NE	2.38	0.57
13:7:448:ASP:CG	13:7:488:ALA:HB1	2.25	0.57
3:A:295:ARG:NH1	3:A:385:ALA:HB2	2.19	0.56
4:H:128:ALA:HB1	7:N:136:GLU:HB3	1.86	0.56
11:3:412:ILE:O	11:3:415:THR:OG1	2.09	0.56
13:7:340:LEU:HA	13:7:559:MET:HE1	1.86	0.56
7:N:61:ASP:O	7:N:65:LEU:HD13	2.04	0.56
8:2:179:GLU:OE1	8:2:183:ARG:NH1	2.38	0.56
8:2:248:ALA:O	8:2:252:VAL:HG23	2.05	0.56
10:6:141:VAL:HG12	10:6:143:PRO:HD3	1.86	0.56
13:7:631:ALA:HA	13:7:634:LEU:HD21	1.86	0.56
3:A:26:ASP:OD1	3:A:27:ILE:N	2.37	0.56
3:A:72:VAL:O	3:A:96:PHE:N	2.37	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:H:85:LEU:O	4:H:89:CYS:N	2.39	0.56
5:L:71:LEU:HA	5:L:74:ILE:HG22	1.87	0.56
9:5:50:TYR:OH	9:5:71:ASP:OD2	2.23	0.56
11:3:271:LEU:HB3	11:3:273:ILE:HD12	1.86	0.56
11:3:346:LYS:NZ	15:3:901:ATP:O1G	2.38	0.56
12:4:519:SER:O	12:4:523:GLN:N	2.36	0.56
13:7:350:VAL:O	13:7:354:LEU:HG	2.05	0.56
13:7:375:ILE:HD13	13:7:611:ARG:HD3	1.87	0.56
13:7:379:LEU:CB	13:7:487:ALA:HA	2.36	0.56
13:7:400:ARG:HH22	13:7:436:LEU:HD12	1.71	0.56
13:7:407:ARG:HH12	13:7:410:SER:HB2	1.70	0.56
9:5:549:ALA:HB3	9:5:553:ILE:HG23	1.87	0.56
10:6:120:LEU:HD23	10:6:120:LEU:O	2.05	0.56
3:A:83:ILE:HD11	3:A:115:VAL:CG1	2.36	0.56
4:H:34:VAL:HG12	4:H:38:LEU:CD1	2.35	0.56
8:2:499:ARG:NH2	9:5:386:GLN:OE1	2.39	0.56
9:5:481:VAL:HG12	9:5:482:LEU:O	2.06	0.56
13:7:448:ASP:HA	13:7:455:ARG:HH21	1.70	0.56
9:5:398:ALA:HB2	9:5:438:VAL:O	2.04	0.56
9:5:27:LEU:O	9:5:31:LYS:N	2.34	0.56
9:5:507:ILE:HG22	9:5:508:LEU:N	2.21	0.56
13:7:334:GLU:OE1	13:7:334:GLU:N	2.31	0.56
13:7:516:ASP:OD1	13:7:517:LEU:N	2.39	0.56
8:2:269:ARG:NH2	8:2:387:LEU:HD21	2.20	0.56
8:2:580:GLN:OE1	9:5:448:ARG:NH1	2.38	0.56
10:6:393:ALA:H	15:6:902:ATP:H5'1	1.70	0.56
11:3:397:ASP:HB2	13:7:246:VAL:HG23	1.87	0.56
9:5:375:LEU:HD21	9:5:511:PHE:HB3	1.88	0.56
12:4:287:SER:OG	12:4:393:VAL:O	2.11	0.56
13:7:433:ALA:HA	13:7:436:LEU:HG	1.88	0.56
13:7:588:LEU:CD2	13:7:589:ARG:HD2	2.34	0.56
8:2:303:VAL:O	8:2:304:LEU:HD23	2.06	0.55
8:2:752:GLU:OE2	8:2:756:ARG:NH1	2.39	0.55
12:4:203:ILE:O	12:4:207:GLU:N	2.38	0.55
13:7:345:TYR:CD2	13:7:532:ARG:HD3	2.40	0.55
3:A:476:LEU:HD23	3:A:517:VAL:HG12	1.88	0.55
4:H:48:ASN:O	4:H:70:ARG:NH1	2.39	0.55
11:3:377:VAL:O	11:3:377:VAL:HG12	2.05	0.55
3:A:443:VAL:HA	3:A:483:LEU:HD21	1.89	0.55
5:L:28:LEU:HD11	5:L:33:VAL:HG13	1.89	0.55
13:7:604:ARG:HD2	13:7:604:ARG:N	2.21	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:A:17:LYS:HG3	3:A:69:VAL:HG13	1.86	0.55
11:3:572:MET:O	11:3:624:ARG:NH1	2.40	0.55
13:7:359:VAL:O	13:7:567:LYS:HG2	2.05	0.55
13:7:381:GLY:H	13:7:490:PRO:HD3	1.71	0.55
3:A:262:GLN:O	3:A:266:SER:N	2.34	0.55
5:L:114:ARG:NH1	9:5:42:ASN:OD1	2.39	0.55
8:2:206:ARG:O	8:2:210:GLN:NE2	2.39	0.55
10:6:310:SER:OG	10:6:311:GLU:N	2.39	0.55
11:3:633:ILE:O	11:3:636:ALA:HB3	2.06	0.55
12:4:464:LEU:HG	12:4:465:ALA:N	2.21	0.55
13:7:366:PRO:O	13:7:369:MET:HG2	2.06	0.55
13:7:626:GLU:O	13:7:629:ASP:HB2	2.06	0.55
3:A:332:GLY:O	8:2:261:ARG:NH2	2.40	0.55
7:N:55:ILE:HD11	7:N:132:ARG:O	2.06	0.55
9:5:143:LEU:HD12	9:5:262:GLY:O	2.06	0.55
10:6:70:ALA:HA	10:6:73:ILE:HG22	1.87	0.55
10:6:329:ILE:HD11	10:6:566:ARG:NH1	2.21	0.55
10:6:561:ARG:NH2	12:4:499:ARG:HH22	2.05	0.55
13:7:376:ASN:HD22	13:7:484:ILE:H	1.54	0.55
4:H:88:ARG:O	4:H:92:ILE:HD12	2.06	0.55
7:N:219:LEU:O	7:N:223:ASN:N	2.39	0.55
13:7:417:ALA:O	13:7:429:LEU:HA	2.05	0.55
13:7:462:MET:SD	13:7:514:ARG:HB3	2.46	0.55
3:A:303:MET:O	3:A:315:LEU:HD13	2.07	0.55
5:L:141:THR:HG21	7:N:199:GLU:HB2	1.89	0.55
7:N:68:SER:OG	7:N:69:GLN:NE2	2.40	0.55
10:6:340:GLN:HA	10:6:343:ILE:HD12	1.88	0.55
11:3:310:GLN:O	11:3:313:LEU:HD23	2.07	0.55
11:3:463:ASN:N	11:3:464:ILE:HD12	2.22	0.55
12:4:694:ALA:HA	12:4:697:ARG:HH12	1.71	0.55
13:7:585:TYR:CZ	13:7:589:ARG:HD3	2.41	0.55
6:M:156:LEU:HD12	6:M:157:HIS:N	2.22	0.55
8:2:262:VAL:HG12	8:2:263:THR:HG23	1.88	0.55
10:6:421:LEU:HD12	10:6:422:THR:H	1.72	0.55
12:4:545:LEU:HD23	12:4:565:LEU:HD13	1.88	0.55
13:7:31:PHE:O	13:7:35:SER:OG	2.23	0.55
13:7:429:LEU:HD23	13:7:429:LEU:H	1.72	0.55
4:H:18:GLU:OE2	4:H:88:ARG:NH2	2.39	0.55
4:H:167:GLU:HG3	4:H:174:ILE:HD11	1.89	0.55
7:N:107:CYS:SG	7:N:111:LYS:NZ	2.66	0.55
9:5:29:ALA:HB1	9:5:34:TYR:CD2	2.41	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:6:139:HIS:CE1	10:6:430:GLU:HG3	2.42	0.55
11:3:350:LEU:H	11:3:350:LEU:HD23	1.72	0.55
12:4:261:ILE:HG22	12:4:262:GLN:O	2.07	0.55
12:4:538:ARG:NH2	13:7:453:GLN:HB2	2.22	0.55
13:7:387:LYS:HA	13:7:390:LEU:CD2	2.32	0.55
5:L:97:GLN:NE2	6:M:172:GLN:OE1	2.40	0.54
6:M:168:ILE:HG23	9:5:47:PHE:CZ	2.41	0.54
8:2:604:SER:OG	8:2:605:LEU:N	2.38	0.54
11:3:549:SER:OG	11:3:550:ARG:NH2	2.40	0.54
12:4:497:LEU:HD21	12:4:499:ARG:NE	2.19	0.54
13:7:208:SER:O	13:7:212:ARG:N	2.40	0.54
13:7:323:GLU:HG2	13:7:323:GLU:O	2.06	0.54
13:7:382:ASP:OD1	13:7:490:PRO:HD2	2.07	0.54
8:2:288:ASN:N	8:2:403:TYR:O	2.36	0.54
9:5:322:MET:O	9:5:325:SER:OG	2.12	0.54
12:4:693:ILE:O	12:4:697:ARG:NH1	2.39	0.54
13:7:372:ARG:NH2	13:7:462:MET:O	2.39	0.54
4:H:95:LEU:HD13	4:H:99:PHE:CZ	2.43	0.54
9:5:364:ASP:OD2	11:3:301:SER:HB3	2.08	0.54
11:3:238:TYR:CD2	11:3:257:LEU:HD11	2.42	0.54
12:4:633:ILE:HD11	12:4:640:HIS:HA	1.89	0.54
3:A:382:SER:OG	3:A:383:ARG:N	2.39	0.54
13:7:237:MET:O	13:7:252:SER:HA	2.07	0.54
13:7:532:ARG:HD2	13:7:533:LEU:N	2.22	0.54
3:A:309:SER:CB	3:A:315:LEU:HD11	2.38	0.54
9:5:120:GLN:NE2	9:5:247:SER:OG	2.39	0.54
8:2:199:THR:O	8:2:203:ARG:N	2.31	0.54
12:4:271:THR:HG21	12:4:288:ILE:CD1	2.38	0.54
13:7:380:MET:O	13:7:521:ILE:HG22	2.08	0.54
13:7:402:GLN:NE2	13:7:436:LEU:HD11	2.23	0.54
6:M:86:GLU:OE1	6:M:119:ARG:NH1	2.41	0.54
7:N:158:GLN:OE1	7:N:158:GLN:N	2.38	0.54
9:5:616:ILE:O	9:5:619:SER:OG	2.12	0.54
7:N:118:HIS:ND1	7:N:172:ILE:HG23	2.23	0.54
10:6:387:VAL:HG12	10:6:388:GLY:H	1.73	0.54
11:3:388:LEU:O	11:3:388:LEU:HG	2.08	0.54
13:7:500:THR:O	13:7:504:ASN:N	2.31	0.54
13:7:526:ASP:HB3	13:7:529:ASN:HB3	1.90	0.54
1:X:25:DT:H2"	1:X:26:DT:H72	1.88	0.54
1:X:27:DT:C1'	1:X:28:DT:H5'	2.33	0.54
10:6:370:LYS:CD	10:6:372:THR:HG23	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:3:463:ASN:H	11:3:464:ILE:HD12	1.72	0.54
12:4:540:SER:OG	13:7:470:ALA:N	2.30	0.54
3:A:346:ASP:OD1	3:A:347:LEU:HD23	2.08	0.54
5:L:78:GLU:CD	5:L:85:THR:HG21	2.28	0.54
8:2:564:ALA:O	8:2:567:GLY:N	2.40	0.54
10:6:139:HIS:HB2	10:6:199:LYS:O	2.06	0.54
13:7:387:LYS:HD2	13:7:487:ALA:CB	2.36	0.54
13:7:433:ALA:HA	13:7:436:LEU:HD21	1.89	0.54
13:7:509:ALA:HA	13:7:512:LEU:HD13	1.88	0.54
13:7:581:ILE:HG13	13:7:582:VAL:N	2.23	0.54
3:A:74:LEU:CB	3:A:97:ILE:HG22	2.38	0.53
3:A:462:VAL:HG23	3:A:504:SER:HB2	1.90	0.53
9:5:343:SER:O	9:5:343:SER:OG	2.24	0.53
10:6:557:ARG:NH1	10:6:561:ARG:HD3	2.23	0.53
3:A:309:SER:OG	3:A:315:LEU:HD11	2.08	0.53
9:5:375:LEU:HD22	9:5:511:PHE:CD2	2.42	0.53
10:6:321:MET:HA	10:6:324:ALA:HB2	1.91	0.53
12:4:595:GLN:O	12:4:597:THR:HG23	2.09	0.53
13:7:577:LEU:O	13:7:581:ILE:HG23	2.08	0.53
9:5:431:MET:CE	9:5:464:ILE:HD11	2.38	0.53
10:6:54:THR:HG21	10:6:225:GLU:CB	2.38	0.53
13:7:364:LYS:H	13:7:371:ILE:HG12	1.73	0.53
4:H:9:GLY:O	4:H:76:ARG:NE	2.42	0.53
8:2:509:ASP:N	8:2:512:THR:OG1	2.42	0.53
8:2:741:VAL:HG21	14:5:801:ADP:H1'	1.90	0.53
10:6:80:ILE:O	10:6:83:PHE:N	2.41	0.53
10:6:226:LEU:O	10:6:229:THR:HG22	2.07	0.53
13:7:381:GLY:HA3	13:7:521:ILE:CG2	2.37	0.53
13:7:433:ALA:O	13:7:436:LEU:HG	2.08	0.53
8:2:741:VAL:O	8:2:745:GLU:N	2.37	0.53
9:5:72:LEU:HD21	9:5:79:LEU:HB2	1.91	0.53
11:3:336:VAL:HG11	11:3:476:LEU:HD12	1.91	0.53
12:4:293:ILE:HD11	12:4:356:LYS:HB3	1.90	0.53
12:4:305:ALA:CB	12:4:325:ILE:CD1	2.86	0.53
13:7:403:TYR:HE1	13:7:405:THR:HG22	1.73	0.53
5:L:112:GLU:O	5:L:116:VAL:HG13	2.09	0.53
8:2:407:TYR:HE2	9:5:283:VAL:HG13	1.74	0.53
3:A:234:TRP:CZ2	3:A:376:LEU:HD23	2.40	0.53
4:H:160:MET:N	4:H:197:ILE:O	2.41	0.53
10:6:446:ASN:OD1	10:6:488:ARG:NH2	2.41	0.53
12:4:276:SER:C	12:4:277:LEU:HD22	2.29	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:7:590:ARG:CZ	13:7:591:GLU:HG2	2.39	0.53
8:2:436:GLN:NE2	8:2:437:VAL:HG22	2.23	0.53
8:2:573:GLU:OE2	8:2:616:ASN:ND2	2.42	0.53
11:3:552:ARG:NH2	11:3:557:LEU:HD13	2.23	0.53
12:4:712:LEU:HD23	12:4:712:LEU:O	2.09	0.53
13:7:574:PRO:O	13:7:577:LEU:HD23	2.09	0.53
9:5:217:VAL:HG12	9:5:218:ASP:H	1.73	0.53
11:3:137:LYS:NZ	13:7:293:LEU:HA	2.22	0.53
12:4:575:ILE:O	12:4:617:ALA:HA	2.09	0.53
13:7:451:ALA:HB3	13:7:454:ASP:OD2	2.08	0.53
11:3:256:VAL:C	11:3:257:LEU:HD12	2.29	0.52
13:7:416:ALA:CA	13:7:431:GLY:HA2	2.35	0.52
13:7:449:LYS:HE2	13:7:489:ASN:OD1	2.09	0.52
1:X:16:DG:H2"	1:X:17:DT:C6	2.45	0.52
7:N:83:ASN:OD1	7:N:85:PHE:N	2.41	0.52
9:5:488:ILE:HD11	9:5:499:GLU:O	2.10	0.52
11:3:231:ARG:C	11:3:232:VAL:CG1	2.77	0.52
12:4:502:PHE:CD2	12:4:737:GLU:OE1	2.63	0.52
1:X:24:DT:H5"	8:2:554:TRP:HD1	1.74	0.52
1:X:31:DT:H2"	1:X:32:DT:O5'	2.10	0.52
3:A:50:VAL:HB	3:A:52:ILE:HD11	1.91	0.52
10:6:146:VAL:HG22	10:6:164:GLN:CG	2.38	0.52
11:3:135:ARG:O	11:3:193:HIS:HB3	2.09	0.52
12:4:585:THR:HG22	12:4:586:ARG:HG2	1.91	0.52
13:7:379:LEU:HB2	13:7:487:ALA:HA	1.91	0.52
3:A:11:TYR:HA	3:A:14:LEU:HD13	1.91	0.52
8:2:219:TYR:OH	8:2:230:ALA:HB2	2.09	0.52
11:3:171:TYR:CD1	11:3:183:THR:HG22	2.45	0.52
12:4:542:ALA:HB2	12:4:585:THR:HG23	1.91	0.52
12:4:551:LYS:HE3	13:7:422:PRO:HA	1.92	0.52
13:7:511:LEU:HD12	13:7:512:LEU:N	2.24	0.52
9:5:375:LEU:HD21	9:5:511:PHE:CB	2.39	0.52
9:5:637:ASN:ND2	9:5:640:LEU:HD22	2.24	0.52
13:7:584:ALA:HA	13:7:587:GLU:OE1	2.09	0.52
3:A:132:THR:HG23	3:A:192:GLN:OE1	2.09	0.52
3:A:308:TYR:O	3:A:312:GLN:NE2	2.40	0.52
9:5:384:LYS:NZ	9:5:485:ALA:O	2.23	0.52
10:6:342:LEU:HD21	10:6:559:TYR:HE2	1.75	0.52
12:4:535:THR:N	12:4:574:CYS:O	2.42	0.52
13:7:462:MET:HG3	13:7:514:ARG:CG	2.34	0.52
3:A:269:THR:O	3:A:272:THR:OG1	2.24	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:2:554:TRP:O	8:2:556:LEU:HD12	2.10	0.52
8:2:590:GLU:HB2	8:2:641:ARG:HE	1.73	0.52
8:2:707:ASN:O	8:2:709:ARG:NH1	2.43	0.52
9:5:349:ALA:HB2	9:5:642:LEU:CD2	2.40	0.52
9:5:374:VAL:HG12	9:5:375:LEU:H	1.74	0.52
11:3:407:ASP:N	11:3:407:ASP:OD1	2.42	0.52
13:7:472:ALA:HB3	13:7:474:ILE:CD1	2.39	0.52
13:7:538:THR:HA	13:7:541:HIS:HD2	1.73	0.52
3:A:35:ILE:HD12	3:A:36:LEU:HD23	1.92	0.52
4:H:107:ILE:HD12	4:H:110:ALA:H	1.74	0.52
9:5:536:VAL:HG13	9:5:542:LYS:HE2	1.92	0.52
12:4:590:HIS:O	12:4:590:HIS:CD2	2.61	0.52
13:7:146:ALA:N	13:7:162:THR:HG1	2.07	0.52
13:7:606:LEU:HA	13:7:609:ILE:HG12	1.91	0.52
13:7:613:SER:CB	13:7:630:VAL:HG22	2.39	0.52
3:A:507:LEU:HD22	3:A:510:SER:OG	2.10	0.52
7:N:61:ASP:OD1	7:N:62:MET:N	2.42	0.52
9:5:72:LEU:HD21	9:5:80:ALA:H	1.74	0.52
11:3:241:LEU:N	11:3:242:PRO:HD2	2.25	0.52
11:3:320:VAL:HB	11:3:620:THR:HG21	1.90	0.52
12:4:503:ARG:HG2	12:4:596:GLN:HE22	1.74	0.52
12:4:763:ALA:O	12:4:767:HIS:N	2.37	0.52
13:7:365:ARG:HD2	13:7:370:LYS:HA	1.92	0.52
13:7:528:ASP:HA	13:7:531:LEU:CD1	2.39	0.52
3:A:567:LEU:O	3:A:570:LEU:N	2.43	0.51
9:5:227:LEU:HD12	9:5:230:PHE:CD1	2.44	0.51
9:5:440:CYS:C	9:5:441:ILE:HD12	2.31	0.51
10:6:612:GLN:OE1	10:6:612:GLN:N	2.43	0.51
11:3:353:VAL:CG2	11:3:357:ALA:HB2	2.40	0.51
12:4:571:GLY:O	12:4:613:THR:OG1	2.28	0.51
13:7:340:LEU:HD13	13:7:559:MET:CE	2.39	0.51
13:7:532:ARG:NH2	13:7:533:LEU:HD13	2.25	0.51
13:7:571:PRO:HB3	13:7:623:ASP:HA	1.92	0.51
3:A:243:GLN:CD	3:A:249:ILE:HD13	2.31	0.51
5:L:19:PRO:HD3	5:L:42:VAL:HG22	1.93	0.51
8:2:516:GLN:NE2	14:6:901:ADP:O1A	2.40	0.51
8:2:696:LEU:O	8:2:698:ARG:N	2.43	0.51
9:5:132:ILE:HD13	9:5:226:GLU:CB	2.38	0.51
9:5:325:SER:OG	9:5:327:ASP:OD1	2.29	0.51
9:5:378:GLY:HA3	9:5:517:VAL:HB	1.91	0.51
11:3:331:ARG:NH2	11:3:420:VAL:O	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:3:384:GLY:HA3	11:3:387:ARG:HB2	1.91	0.51
12:4:216:ALA:HB2	12:4:268:ALA:CB	2.40	0.51
12:4:516:THR:O	15:4:901:ATP:H5'1	2.10	0.51
12:4:704:LEU:HD12	12:4:755:VAL:HG11	1.91	0.51
13:7:375:ILE:CD1	13:7:611:ARG:HD3	2.39	0.51
5:L:29:ILE:HD13	7:N:90:HIS:CE1	2.46	0.51
9:5:549:ALA:HB3	9:5:553:ILE:CG2	2.40	0.51
10:6:403:ASP:OD1	10:6:403:ASP:N	2.44	0.51
11:3:70:GLN:HG3	11:3:71:LEU:H	1.76	0.51
11:3:252:THR:HG22	11:3:253:PHE:H	1.75	0.51
12:4:538:ARG:HH21	13:7:453:GLN:HB2	1.75	0.51
3:A:231:ASP:N	3:A:231:ASP:OD1	2.41	0.51
5:L:95:VAL:O	5:L:99:VAL:HG23	2.11	0.51
6:M:102:TYR:N	6:M:103:GLU:OE1	2.43	0.51
8:2:248:ALA:CB	8:2:266:ILE:HD13	2.40	0.51
9:5:99:ARG:NH1	9:5:118:ASP:OD1	2.44	0.51
9:5:522:ASP:O	9:5:526:ASP:N	2.42	0.51
11:3:310:GLN:NE2	11:3:311:ALA:HB2	2.25	0.51
12:4:468:ILE:HD13	12:4:482:ILE:HG21	1.93	0.51
4:H:34:VAL:HG12	4:H:38:LEU:HD11	1.92	0.51
5:L:163:SER:OG	5:L:164:LEU:N	2.42	0.51
9:5:400:TYR:O	9:5:401:THR:HG23	2.10	0.51
11:3:35:ASP:O	11:3:88:TYR:OH	2.24	0.51
11:3:426:VAL:HB	11:3:437:LEU:HD21	1.91	0.51
12:4:271:THR:HG21	12:4:288:ILE:HG12	1.93	0.51
12:4:636:VAL:CG1	12:4:638:LEU:HD23	2.40	0.51
13:7:400:ARG:HA	13:7:400:ARG:HH11	1.76	0.51
13:7:495:TYR:OH	13:7:644:LEU:HD22	2.09	0.51
4:H:68:ASN:O	4:H:72:ALA:N	2.39	0.51
4:H:95:LEU:HD13	4:H:99:PHE:HZ	1.75	0.51
10:6:214:ILE:O	10:6:216:ARG:N	2.43	0.51
10:6:580:GLN:NE2	10:6:632:VAL:O	2.44	0.51
12:4:308:SER:OG	12:4:309:CYS:N	2.43	0.51
12:4:516:THR:CA	15:4:901:ATP:H5'1	2.40	0.51
13:7:429:LEU:HD12	13:7:478:LEU:HD11	1.92	0.51
1:X:27:DT:H5"	10:6:424:ALA:CB	2.40	0.51
3:A:485:ARG:HA	3:A:489:ALA:HB3	1.92	0.51
8:2:517:PHE:CD2	8:2:614:ALA:HB2	2.44	0.51
9:5:168:LEU:HD12	9:5:170:CYS:SG	2.49	0.51
11:3:387:ARG:HH21	11:3:387:ARG:CG	2.24	0.51
4:H:25:THR:OG1	4:H:25:THR:O	2.29	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:85:THR:OG1	5:L:86:LYS:N	2.44	0.51
7:N:93:GLU:OE1	7:N:94:LEU:N	2.44	0.51
13:7:433:ALA:HA	13:7:436:LEU:CG	2.41	0.51
3:A:32:ALA:HB1	3:A:215:ALA:HB2	1.93	0.51
10:6:370:LYS:HB3	10:6:378:LEU:HD11	1.93	0.51
11:3:340:GLY:HA2	11:3:480:MET:O	2.10	0.51
13:7:524:LYS:HB3	13:7:525:PRO:HD2	1.92	0.51
3:A:563:LEU:HD23	3:A:563:LEU:H	1.76	0.51
8:2:199:THR:HB	8:2:203:ARG:HE	1.75	0.51
8:2:489:SER:OG	8:2:608:ARG:NH2	2.44	0.51
8:2:698:ARG:O	8:2:701:ILE:HG12	2.11	0.51
10:6:526:PHE:HZ	10:6:643:LEU:HD12	1.75	0.51
10:6:585:MET:O	10:6:589:ASN:ND2	2.42	0.51
11:3:34:LYS:NZ	11:3:35:ASP:OD1	2.44	0.51
6:M:99:PRO:O	6:M:101:PHE:N	2.43	0.50
8:2:659:GLN:N	8:2:659:GLN:OE1	2.44	0.50
9:5:453:VAL:HG22	9:5:457:GLU:OE1	2.10	0.50
11:3:353:VAL:HG22	11:3:357:ALA:HB2	1.93	0.50
11:3:579:GLN:OE1	11:3:579:GLN:N	2.43	0.50
13:7:397:LEU:HD12	13:7:560:ARG:NH1	2.27	0.50
3:A:29:ALA:O	3:A:33:SER:OG	2.19	0.50
10:6:41:THR:O	10:6:45:ALA:N	2.38	0.50
10:6:476:ILE:HD11	10:6:478:ARG:HG2	1.94	0.50
4:H:158:ARG:NH1	4:H:179:ASN:OD1	2.44	0.50
13:7:46:VAL:O	13:7:135:GLU:N	2.44	0.50
13:7:151:GLU:O	13:7:153:LYS:N	2.44	0.50
13:7:365:ARG:HG2	13:7:370:LYS:CD	2.42	0.50
15:7:801:ATP:H3'	15:7:801:ATP:O2A	2.11	0.50
3:A:309:SER:O	3:A:313:LEU:N	2.44	0.50
5:L:111:GLU:O	5:L:115:THR:OG1	2.19	0.50
6:M:112:ASP:OD1	6:M:113:ARG:N	2.45	0.50
8:2:776:LEU:HD13	8:2:794:THR:CB	2.41	0.50
13:7:343:GLU:OE1	13:7:343:GLU:N	2.44	0.50
13:7:567:LYS:HA	13:7:618:ARG:HB3	1.92	0.50
13:7:619:LEU:O	13:7:619:LEU:HG	2.11	0.50
1:X:26:DT:H2"	1:X:27:DT:H71	1.93	0.50
4:H:136:ASN:HA	7:N:63:LEU:HD11	1.94	0.50
12:4:714:GLN:O	12:4:714:GLN:NE2	2.44	0.50
3:A:243:GLN:OE1	3:A:249:ILE:HD13	2.12	0.50
6:M:172:GLN:CD	9:5:45:ASN:HA	2.32	0.50
8:2:361:ILE:HG21	8:2:381:VAL:HB	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:3:476:LEU:HD13	11:3:478:PHE:CE2	2.47	0.50
12:4:176:ILE:HD12	12:4:181:GLU:HB3	1.92	0.50
12:4:722:VAL:HG23	12:4:730:SER:HB3	1.93	0.50
13:7:381:GLY:HA3	13:7:521:ILE:HG23	1.93	0.50
13:7:644:LEU:HD12	13:7:645:ASN:H	1.77	0.50
1:X:29:DT:H1'	1:X:30:DT:H5'	1.94	0.50
3:A:30:ILE:HD12	3:A:30:ILE:H	1.77	0.50
6:M:150:ASP:OD1	6:M:151:ASN:N	2.43	0.50
8:2:458:ILE:O	8:2:462:VAL:N	2.42	0.50
9:5:532:HIS:O	9:5:536:VAL:HG21	2.12	0.50
10:6:146:VAL:HG22	10:6:164:GLN:HG3	1.94	0.50
10:6:308:PRO:HG2	10:6:312:VAL:HG21	1.93	0.50
10:6:473:THR:CA	10:6:474:ILE:HD12	2.41	0.50
12:4:468:ILE:CD1	12:4:482:ILE:HG21	2.42	0.50
13:7:266:GLN:OE1	13:7:267:PRO:HD2	2.12	0.50
13:7:344:ILE:HG23	15:7:801:ATP:N6	2.27	0.50
13:7:401:SER:OG	13:7:402:GLN:N	2.42	0.50
3:A:40:PHE:O	3:A:45:MET:N	2.43	0.50
3:A:307:ARG:O	3:A:310:SER:N	2.45	0.50
7:N:219:LEU:O	7:N:224:GLN:N	2.44	0.50
10:6:55:LEU:CD2	10:6:57:VAL:HG13	2.42	0.50
13:7:571:PRO:HG2	13:7:625:VAL:HG23	1.94	0.50
3:A:58:LEU:HD13	3:A:86:LEU:HD21	1.93	0.50
3:A:248:LYS:C	3:A:249:ILE:HD12	2.32	0.50
10:6:470:GLU:OE1	10:6:521:ARG:NH1	2.44	0.50
12:4:290:GLY:N	12:4:357:LEU:HD21	2.27	0.50
13:7:325:GLU:O	13:7:328:ALA:HB3	2.12	0.50
13:7:358:LEU:O	13:7:358:LEU:HD12	2.12	0.50
3:A:328:LEU:O	3:A:332:GLY:N	2.45	0.49
7:N:178:MET:O	7:N:180:HIS:ND1	2.36	0.49
8:2:207:MET:O	8:2:211:ASN:N	2.45	0.49
8:2:484:LEU:HD13	8:2:701:ILE:HD12	1.93	0.49
8:2:504:LEU:HD23	8:2:505:LEU:N	2.27	0.49
9:5:79:LEU:O	9:5:83:LEU:N	2.39	0.49
9:5:383:ALA:HB2	14:5:801:ADP:C4	2.47	0.49
13:7:422:PRO:O	13:7:423:LEU:HD12	2.12	0.49
13:7:459:HIS:NE2	13:7:510:ALA:O	2.44	0.49
13:7:633:ALA:O	13:7:636:LEU:HG	2.11	0.49
6:M:13:ILE:HD12	6:M:13:ILE:H	1.77	0.49
6:M:174:THR:HG21	9:5:47:PHE:CD1	2.47	0.49
8:2:193:ASP:OD1	8:2:194:GLU:N	2.45	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:2:251:MET:CE	8:2:255:ILE:HD11	2.43	0.49
10:6:109:THR:OG1	10:6:110:GLU:N	2.44	0.49
12:4:314:PHE:HE2	12:4:337:ASN:ND2	2.10	0.49
3:A:291:LEU:HD11	3:A:369:ILE:HG23	1.94	0.49
6:M:168:ILE:HG23	9:5:47:PHE:HZ	1.77	0.49
8:2:397:LEU:HD13	8:2:431:VAL:HA	1.94	0.49
8:2:635:SER:HB3	8:2:638:ILE:HG22	1.94	0.49
10:6:201:ARG:HH11	12:4:605:ILE:HD11	1.77	0.49
10:6:402:SER:HA	10:6:408:ALA:HB3	1.95	0.49
11:3:171:TYR:CE1	11:3:183:THR:HG22	2.47	0.49
13:7:345:TYR:HD2	13:7:532:ARG:HD3	1.75	0.49
5:L:167:ILE:HG22	5:L:171:GLN:CG	2.42	0.49
11:3:325:PRO:HG2	13:7:545:LYS:HD3	1.95	0.49
12:4:298:VAL:C	12:4:299:ILE:HD12	2.32	0.49
13:7:394:ILE:CD1	13:7:398:ALA:HB2	2.42	0.49
13:7:402:GLN:OE1	13:7:402:GLN:HA	2.12	0.49
13:7:468:SER:HA	13:7:476:THR:O	2.13	0.49
13:7:572:THR:OG1	13:7:623:ASP:O	2.21	0.49
10:6:163:GLU:N	10:6:164:GLN:OE1	2.46	0.49
11:3:633:ILE:HG23	11:3:634:ASP:OD1	2.13	0.49
13:7:386:ALA:N	15:7:801:ATP:O2A	2.46	0.49
13:7:448:ASP:OD1	13:7:449:LYS:N	2.45	0.49
13:7:512:LEU:H	13:7:512:LEU:HD12	1.76	0.49
13:7:571:PRO:CB	13:7:623:ASP:HA	2.43	0.49
3:A:20:LEU:HD13	3:A:37:GLN:OE1	2.13	0.49
3:A:111:SER:O	3:A:113:ARG:N	2.42	0.49
5:L:78:GLU:O	5:L:81:SER:OG	2.13	0.49
8:2:755:ALA:O	8:2:759:LEU:N	2.42	0.49
9:5:168:LEU:CD2	9:5:188:LEU:HD11	2.43	0.49
10:6:18:GLY:O	10:6:22:GLN:N	2.45	0.49
10:6:201:ARG:NH1	12:4:605:ILE:HD11	2.27	0.49
12:4:225:LEU:HD11	12:4:240:PHE:CZ	2.47	0.49
12:4:728:GLN:CD	12:4:776:THR:HG21	2.33	0.49
13:7:431:GLY:HA3	13:7:435:VAL:HG11	1.95	0.49
3:A:82:ASP:O	3:A:85:GLU:N	2.34	0.49
10:6:122:THR:HG23	12:4:351:ASP:OD2	2.13	0.49
13:7:550:ARG:O	13:7:550:ARG:HD2	2.12	0.49
1:X:31:DT:H2"	1:X:32:DT:C5'	2.42	0.49
9:5:397:ILE:HG12	9:5:433:LEU:HG	1.95	0.49
9:5:442:ASP:OD1	9:5:443:GLU:N	2.45	0.49
11:3:57:GLN:OE1	11:3:57:GLN:N	2.42	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:4:651:LEU:HD12	12:4:652:VAL:N	2.28	0.49
13:7:302:ARG:HG3	13:7:304:ILE:HG13	1.94	0.49
7:N:157:THR:HA	7:N:160:MET:HB3	1.95	0.49
8:2:301:THR:OG1	8:2:302:GLY:N	2.44	0.49
12:4:291:MET:N	12:4:358:GLN:O	2.40	0.49
12:4:571:GLY:O	12:4:614:SER:OG	2.31	0.49
9:5:347:LYS:HD2	9:5:350:ILE:HD12	1.93	0.49
9:5:371:ASP:OD2	9:5:462:GLN:NE2	2.42	0.49
10:6:609:THR:OG1	10:6:610:VAL:N	2.45	0.49
13:7:386:ALA:HB1	13:7:389:GLN:CB	2.33	0.49
13:7:477:THR:HG23	13:7:478:LEU:H	1.78	0.49
13:7:612:LEU:HD11	13:7:633:ALA:CB	2.43	0.49
3:A:55:VAL:HG23	3:A:58:LEU:HD12	1.94	0.48
4:H:129:TYR:O	4:H:133:ALA:N	2.38	0.48
5:L:15:ILE:HD11	5:L:46:LEU:HD11	1.94	0.48
10:6:550:ASN:ND2	12:4:496:THR:OG1	2.46	0.48
13:7:107:LEU:HD12	13:7:110:GLU:HB2	1.95	0.48
13:7:234:GLU:HA	13:7:255:ILE:O	2.12	0.48
13:7:571:PRO:CA	13:7:623:ASP:HA	2.43	0.48
4:H:124:LYS:O	4:H:127:ALA:HB3	2.13	0.48
10:6:117:VAL:O	10:6:216:ARG:NH1	2.47	0.48
10:6:336:ARG:NH1	10:6:627:GLU:OE1	2.46	0.48
11:3:127:ILE:O	11:3:198:ILE:HG23	2.13	0.48
11:3:335:ASN:ND2	11:3:442:SER:OG	2.47	0.48
12:4:415:TYR:O	13:7:174:LYS:HD2	2.13	0.48
12:4:471:SER:OG	13:7:367:ASP:OD2	2.31	0.48
13:7:386:ALA:HB2	15:7:801:ATP:H2'	1.94	0.48
3:A:19:ILE:HD12	3:A:69:VAL:HG11	1.94	0.48
9:5:299:SER:O	9:5:301:GLY:N	2.45	0.48
9:5:431:MET:HE3	9:5:464:ILE:HD11	1.94	0.48
10:6:202:ILE:HD11	10:6:290:PHE:HZ	1.77	0.48
12:4:722:VAL:HG11	12:4:772:LYS:NZ	2.28	0.48
9:5:639:ALA:O	9:5:643:PHE:N	2.46	0.48
12:4:151:GLN:O	12:4:152:LEU:HD23	2.12	0.48
12:4:514:PRO:O	12:4:516:THR:N	2.46	0.48
3:A:23:VAL:HG11	3:A:75:VAL:O	2.14	0.48
3:A:212:ARG:NH1	3:A:216:LEU:HD22	2.29	0.48
6:M:14:GLU:O	6:M:17:PHE:N	2.45	0.48
6:M:103:GLU:OE1	6:M:103:GLU:N	2.46	0.48
7:N:34:THR:HG22	7:N:36:GLN:H	1.78	0.48
8:2:252:VAL:O	8:2:256:PHE:N	2.32	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:5:267:ARG:HG2	9:5:287:ALA:HB1	1.94	0.48
10:6:419:ALA:O	12:4:603:ALA:HB2	2.13	0.48
10:6:557:ARG:HH12	10:6:561:ARG:HD3	1.79	0.48
12:4:509:LEU:C	12:4:510:LEU:HD22	2.34	0.48
12:4:558:LEU:HD23	12:4:558:LEU:H	1.79	0.48
13:7:173:VAL:HA	13:7:232:PHE:O	2.14	0.48
13:7:462:MET:SD	13:7:514:ARG:CB	3.02	0.48
3:A:475:ALA:HA	3:A:478:LEU:HD12	1.95	0.48
12:4:664:LEU:HD22	12:4:668:LEU:HD11	1.96	0.48
13:7:386:ALA:HB2	15:7:801:ATP:C2'	2.43	0.48
13:7:446:GLU:CD	13:7:488:ALA:HA	2.34	0.48
13:7:453:GLN:OE1	13:7:453:GLN:N	2.44	0.48
7:N:38:VAL:HG13	7:N:41:ILE:HD11	1.96	0.48
8:2:554:TRP:CZ3	8:2:556:LEU:HD13	2.49	0.48
9:5:373:ASN:ND2	9:5:481:VAL:O	2.47	0.48
10:6:84:LEU:O	10:6:88:VAL:HG23	2.13	0.48
10:6:471:GLN:O	10:6:473:THR:HG23	2.14	0.48
13:7:367:ASP:N	13:7:367:ASP:OD1	2.47	0.48
13:7:570:ASN:HA	13:7:618:ARG:NH1	2.29	0.48
3:A:376:LEU:O	3:A:384:TYR:N	2.47	0.48
6:M:39:SER:OG	6:M:39:SER:O	2.24	0.48
11:3:450:VAL:HG23	11:3:464:ILE:O	2.14	0.48
13:7:362:VAL:HG13	13:7:362:VAL:O	2.13	0.48
3:A:322:LYS:NZ	8:2:209:GLU:OE1	2.47	0.48
3:A:470:PHE:CZ	3:A:479:LEU:HD11	2.48	0.48
4:H:143:LEU:CD1	4:H:144:THR:HG23	2.41	0.48
4:H:182:HIS:O	4:H:184:LEU:N	2.47	0.48
6:M:18:VAL:N	6:M:20:GLN:OE1	2.45	0.48
8:2:670:LYS:HB2	10:6:372:THR:HG22	1.95	0.48
10:6:222:LEU:N	10:6:222:LEU:HD23	2.29	0.48
1:X:31:DT:H2'	1:X:32:DT:C6	2.49	0.48
8:2:199:THR:OG1	8:2:203:ARG:NH2	2.47	0.48
9:5:361:ARG:O	9:5:362:LEU:HD23	2.14	0.48
11:3:317:LEU:CD1	11:3:621:ALA:HB1	2.43	0.48
11:3:386:ARG:O	11:3:386:ARG:HG2	2.14	0.48
11:3:590:ARG:NE	13:7:527:ARG:HH12	2.11	0.48
11:3:590:ARG:NH2	13:7:527:ARG:HH22	2.12	0.48
12:4:271:THR:HG21	12:4:288:ILE:HD11	1.96	0.48
13:7:338:THR:HG21	13:7:551:VAL:HB	1.96	0.48
13:7:495:TYR:CD1	13:7:520:LEU:HD11	2.49	0.48
13:7:613:SER:HB3	13:7:629:ASP:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:77:GLU:O	5:L:80:ARG:NH1	2.47	0.47
5:L:179:ARG:CD	5:L:184:LEU:HD13	2.44	0.47
8:2:284:LYS:NZ	10:6:194:PHE:O	2.43	0.47
10:6:138:THR:OG1	10:6:200:ILE:HG22	2.13	0.47
11:3:298:LEU:HB3	11:3:352:TYR:HB3	1.94	0.47
11:3:595:GLU:HG2	11:3:604:THR:HG23	1.96	0.47
12:4:339:CYS:SG	12:4:340:PHE:N	2.86	0.47
13:7:48:ILE:HG22	13:7:49:THR:H	1.79	0.47
13:7:358:LEU:HD13	13:7:358:LEU:HA	1.68	0.47
5:L:119:ASP:O	5:L:123:ILE:HD13	2.14	0.47
8:2:726:GLN:O	8:2:730:GLU:N	2.43	0.47
9:5:140:VAL:O	9:5:141:SER:OG	2.26	0.47
10:6:218:VAL:HG22	10:6:290:PHE:CE1	2.48	0.47
10:6:340:GLN:O	10:6:344:SER:N	2.47	0.47
10:6:381:ASP:O	10:6:618:ARG:NH1	2.47	0.47
12:4:746:HIS:HB2	12:4:759:ASP:OD2	2.14	0.47
13:7:9:ASP:OD1	13:7:12:SER:OG	2.29	0.47
6:M:59:ILE:HA	6:M:62:LEU:HB2	1.97	0.47
8:2:413:THR:OG1	10:6:168:PHE:O	2.22	0.47
9:5:90:HIS:O	9:5:93:ILE:HG22	2.14	0.47
10:6:122:THR:HG23	12:4:351:ASP:CG	2.35	0.47
11:3:585:ALA:HB2	13:7:534:ALA:CB	2.45	0.47
12:4:285:LEU:C	12:4:286:ILE:HD12	2.35	0.47
13:7:14:LYS:HE2	13:7:17:LEU:HD21	1.95	0.47
6:M:93:GLU:OE2	6:M:95:GLY:N	2.47	0.47
8:2:402:ILE:H	8:2:424:ILE:HG23	1.79	0.47
10:6:339:TYR:HD2	10:6:343:ILE:HD11	1.79	0.47
11:3:107:HIS:ND1	11:3:107:HIS:O	2.47	0.47
11:3:345:ALA:HB1	11:3:348:GLN:HE22	1.78	0.47
13:7:596:LYS:HA	13:7:596:LYS:HE3	1.96	0.47
10:6:310:SER:O	10:6:312:VAL:N	2.47	0.47
10:6:544:ILE:CB	10:6:547:LEU:CD2	2.93	0.47
11:3:221:ASP:OD1	11:3:221:ASP:N	2.47	0.47
11:3:223:VAL:O	11:3:225:ARG:NH2	2.48	0.47
12:4:170:SER:O	12:4:174:ARG:N	2.42	0.47
12:4:305:ALA:HB2	12:4:325:ILE:CD1	2.44	0.47
13:7:504:ASN:OD1	13:7:505:ILE:HG13	2.15	0.47
6:M:27:VAL:O	6:M:49:GLY:N	2.47	0.47
7:N:153:HIS:O	7:N:157:THR:OG1	2.33	0.47
8:2:539:VAL:HA	8:2:581:ASP:OD1	2.14	0.47
9:5:220:GLN:HG2	9:5:222:LEU:HD23	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:6:413:GLY:N	10:6:452:ASP:O	2.46	0.47
12:4:177:ASP:O	12:4:181:GLU:N	2.48	0.47
12:4:302:MET:HG3	12:4:303:ARG:N	2.29	0.47
12:4:508:LEU:HD21	12:4:647:ASP:OD1	2.13	0.47
13:7:499:ARG:HB3	13:7:504:ASN:HB3	1.96	0.47
13:7:538:THR:HA	13:7:541:HIS:CD2	2.50	0.47
1:X:23:DT:H2"	1:X:24:DT:C5	2.49	0.47
3:A:32:ALA:O	3:A:35:ILE:HD11	2.15	0.47
3:A:57:GLY:HA2	3:A:60:ARG:HE	1.80	0.47
5:L:53:ARG:NH1	5:L:58:CYS:O	2.48	0.47
5:L:78:GLU:CG	5:L:85:THR:HG21	2.45	0.47
11:3:241:LEU:H	11:3:242:PRO:HD2	1.79	0.47
11:3:637:HIS:HA	11:3:640:ILE:HG22	1.97	0.47
12:4:354:LEU:HD11	12:4:374:LEU:HB2	1.97	0.47
12:4:465:ALA:HB1	12:4:479:LYS:HB3	1.96	0.47
12:4:608:GLN:O	12:4:608:GLN:HG2	2.15	0.47
12:4:658:GLU:CB	13:7:586:VAL:HG13	2.45	0.47
6:M:34:MET:HG2	6:M:37:LEU:HD22	1.96	0.47
6:M:64:VAL:HG22	6:M:113:ARG:HD2	1.97	0.47
7:N:189:VAL:HG23	7:N:205:ALA:H	1.79	0.47
10:6:185:PHE:HB3	10:6:187:LEU:HD23	1.96	0.47
10:6:345:SER:O	10:6:557:ARG:CZ	2.62	0.47
11:3:255:THR:OG1	11:3:256:VAL:N	2.47	0.47
11:3:343:SER:HA	15:3:901:ATP:O3A	2.15	0.47
11:3:386:ARG:O	11:3:388:LEU:N	2.48	0.47
11:3:493:SER:OG	11:3:494:ASP:N	2.47	0.47
12:4:177:ASP:HB2	12:4:195:LEU:HD21	1.97	0.47
12:4:213:LEU:HD23	12:4:263:VAL:HG13	1.96	0.47
12:4:545:LEU:CD2	12:4:565:LEU:HD13	2.45	0.47
3:A:49:VAL:O	4:H:158:ARG:NH2	2.48	0.47
9:5:333:SER:OG	9:5:344:ARG:O	2.33	0.47
9:5:376:LEU:HD13	9:5:517:VAL:HG21	1.97	0.47
11:3:324:LEU:HD12	11:3:325:PRO:CD	2.44	0.47
4:H:174:ILE:HG22	4:H:184:LEU:HD11	1.97	0.47
8:2:413:THR:HG1	10:6:168:PHE:C	2.16	0.47
8:2:591:GLN:HE21	9:5:389:LYS:HE2	1.79	0.47
9:5:461:GLN:CD	11:3:347:SER:HB3	2.35	0.47
11:3:310:GLN:HE21	11:3:311:ALA:HB2	1.78	0.47
12:4:204:HIS:CE1	12:4:255:ALA:HB1	2.49	0.47
12:4:263:VAL:HG12	12:4:266:PHE:CD1	2.50	0.47
12:4:272:ARG:HH22	12:4:276:SER:HB3	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:4:548:TYR:CE2	13:7:472:ALA:HA	2.49	0.47
12:4:740:ILE:O	12:4:743:SER:OG	2.28	0.47
13:7:526:ASP:OD2	13:7:529:ASN:HB2	2.15	0.47
6:M:129:VAL:HG12	6:M:130:ARG:HH11	1.80	0.46
9:5:188:LEU:HD13	9:5:207:PHE:CE2	2.50	0.46
9:5:377:LEU:HA	9:5:485:ALA:CB	2.40	0.46
10:6:53:CYS:O	10:6:105:TYR:CB	2.62	0.46
10:6:640:ALA:O	10:6:644:LEU:HD12	2.15	0.46
12:4:448:VAL:HA	12:4:451:LEU:HD23	1.97	0.46
12:4:550:THR:CG2	13:7:426:GLU:HG2	2.45	0.46
1:X:24:DT:H2"	1:X:25:DT:H71	1.97	0.46
3:A:132:THR:OG1	3:A:192:GLN:NE2	2.48	0.46
6:M:73:VAL:HG11	6:M:78:ARG:N	2.30	0.46
6:M:108:LEU:O	6:M:111:TYR:N	2.46	0.46
10:6:33:LYS:NZ	10:6:61:ASP:OD1	2.47	0.46
11:3:325:PRO:HG3	13:7:544:SER:HB3	1.97	0.46
11:3:422:GLU:CD	11:3:473:ARG:HH12	2.17	0.46
12:4:213:LEU:HD21	12:4:263:VAL:HG22	1.96	0.46
13:7:569:LYS:HG3	13:7:621:LEU:HA	1.98	0.46
13:7:571:PRO:HG2	13:7:625:VAL:CG2	2.45	0.46
5:L:103:ALA:O	5:L:107:VAL:HG23	2.14	0.46
8:2:287:LEU:HD22	8:2:403:TYR:HD2	1.80	0.46
8:2:411:LEU:HD11	10:6:186:MET:HE1	1.96	0.46
9:5:28:GLN:O	9:5:28:GLN:NE2	2.47	0.46
9:5:386:GLN:HA	9:5:389:LYS:HB3	1.98	0.46
9:5:457:GLU:O	9:5:463:THR:N	2.46	0.46
12:4:356:LYS:NZ	12:4:374:LEU:HD22	2.30	0.46
12:4:700:LEU:HD21	12:4:753:ASN:HB3	1.97	0.46
13:7:340:LEU:HD12	13:7:393:TYR:CE1	2.51	0.46
13:7:378:CYS:HA	13:7:486:ALA:HB3	1.97	0.46
13:7:416:ALA:CB	13:7:429:LEU:HB2	2.41	0.46
13:7:615:ALA:O	13:7:618:ARG:HG2	2.16	0.46
5:L:135:PHE:O	6:M:130:ARG:NH2	2.49	0.46
5:L:160:LEU:HD12	5:L:161:PRO:HG3	1.97	0.46
10:6:537:ASP:HA	10:6:540:ILE:HD13	1.97	0.46
11:3:382:GLU:O	13:7:422:PRO:HD2	2.15	0.46
12:4:177:ASP:CG	12:4:195:LEU:HD11	2.35	0.46
12:4:709:GLN:OE1	12:4:709:GLN:N	2.47	0.46
13:7:409:SER:HB2	13:7:414:LEU:HG	1.95	0.46
3:A:58:LEU:CD1	3:A:86:LEU:HD21	2.45	0.46
4:H:107:ILE:HD12	4:H:109:GLN:H	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:M:131:HIS:HB3	6:M:132:LEU:HD12	1.96	0.46
8:2:259:TYR:O	8:2:261:ARG:N	2.45	0.46
8:2:573:GLU:OE1	8:2:573:GLU:N	2.49	0.46
10:6:531:GLU:OE2	10:6:533:ASN:N	2.49	0.46
12:4:375:LEU:HD12	12:4:421:VAL:HG12	1.97	0.46
13:7:571:PRO:HD3	13:7:618:ARG:NE	2.30	0.46
13:7:612:LEU:HD11	13:7:633:ALA:CA	2.45	0.46
7:N:48:ASN:OD1	7:N:49:GLU:N	2.48	0.46
9:5:188:LEU:HD22	9:5:207:PHE:CZ	2.51	0.46
10:6:509:GLN:O	10:6:513:GLN:N	2.43	0.46
11:3:106:ARG:HB2	11:3:122:VAL:HG12	1.98	0.46
12:4:288:ILE:HG22	12:4:289:SER:H	1.80	0.46
13:7:500:THR:O	13:7:503:GLN:HB2	2.15	0.46
3:A:309:SER:HB2	3:A:315:LEU:HD11	1.97	0.46
8:2:590:GLU:HB2	8:2:641:ARG:HG2	1.98	0.46
9:5:534:ILE:HG23	9:5:538:LEU:HD12	1.97	0.46
11:3:499:MET:O	11:3:503:ARG:N	2.47	0.46
11:3:558:SER:O	11:3:562:MET:N	2.49	0.46
12:4:213:LEU:CD2	12:4:263:VAL:HG13	2.45	0.46
12:4:484:LEU:HD21	12:4:506:ILE:HD11	1.96	0.46
12:4:590:HIS:O	12:4:590:HIS:ND1	2.47	0.46
12:4:596:GLN:HB2	12:4:611:ALA:O	2.15	0.46
13:7:357:LEU:HD23	13:7:357:LEU:O	2.16	0.46
13:7:614:THR:OG1	13:7:625:VAL:HG21	2.15	0.46
13:7:634:LEU:HD12	13:7:635:ARG:N	2.31	0.46
4:H:193:VAL:HG23	4:H:194:ARG:N	2.31	0.46
5:L:141:THR:O	7:N:209:HIS:ND1	2.49	0.46
8:2:205:ARG:O	8:2:209:GLU:N	2.45	0.46
10:6:19:ILE:O	10:6:23:LYS:N	2.47	0.46
10:6:206:GLN:NE2	10:6:209:LEU:HD21	2.30	0.46
10:6:236:TYR:HB3	10:6:295:VAL:HG13	1.98	0.46
13:7:52:LEU:O	13:7:56:ALA:HB2	2.16	0.46
3:A:23:VAL:HG11	3:A:75:VAL:H	1.81	0.46
3:A:295:ARG:HH12	3:A:385:ALA:HB2	1.80	0.46
8:2:505:LEU:HD23	8:2:506:ILE:C	2.35	0.46
8:2:545:VAL:HG23	8:2:545:VAL:O	2.16	0.46
9:5:328:ILE:HG23	9:5:332:LEU:HD13	1.96	0.46
9:5:377:LEU:CA	9:5:485:ALA:HB3	2.40	0.46
11:3:387:ARG:CG	11:3:387:ARG:NH2	2.79	0.46
13:7:376:ASN:HB3	13:7:484:ILE:HG22	1.98	0.46
13:7:636:LEU:HD12	13:7:637:LEU:N	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:2:591:GLN:NE2	9:5:389:LYS:HE2	2.31	0.46
9:5:352:CYS:HA	9:5:625:ILE:HD11	1.98	0.46
10:6:26:GLN:NE2	10:6:30:GLU:OE1	2.45	0.46
10:6:428:ASP:O	10:6:430:GLU:N	2.46	0.46
11:3:610:ARG:HB2	15:7:801:ATP:H5'2	1.97	0.46
13:7:412:VAL:O	13:7:417:ALA:HB2	2.16	0.46
13:7:439:GLN:NE2	13:7:481:ARG:HH11	2.13	0.46
7:N:77:MET:CE	7:N:80:LEU:HD12	2.46	0.45
7:N:171:ARG:C	7:N:172:ILE:HD12	2.35	0.45
8:2:361:ILE:O	8:2:362:THR:HG23	2.16	0.45
9:5:137:SER:O	9:5:140:VAL:HG23	2.16	0.45
10:6:341:ASN:OD1	10:6:341:ASN:N	2.49	0.45
12:4:694:ALA:HA	12:4:697:ARG:NH1	2.31	0.45
13:7:291:GLY:O	13:7:292:LEU:HB2	2.16	0.45
13:7:340:LEU:CD1	13:7:559:MET:HE1	2.46	0.45
13:7:555:ASP:OD2	13:7:557:ASN:HB2	2.16	0.45
3:A:229:ASN:O	3:A:232:LEU:N	2.49	0.45
3:A:385:ALA:HB3	3:A:388:ASP:HB2	1.98	0.45
3:A:484:LEU:HD12	3:A:485:ARG:N	2.31	0.45
5:L:160:LEU:HD12	5:L:161:PRO:CD	2.47	0.45
6:M:168:ILE:HG22	6:M:169:GLU:OE1	2.16	0.45
8:2:288:ASN:ND2	8:2:403:TYR:O	2.50	0.45
9:5:164:SER:HA	9:5:172:THR:HG23	1.98	0.45
10:6:546:ASP:HB3	10:6:553:GLU:CA	2.36	0.45
11:3:368:SER:HA	11:3:371:VAL:HG23	1.98	0.45
12:4:213:LEU:CD2	12:4:263:VAL:HG22	2.46	0.45
12:4:672:TYR:CE2	13:7:573:ILE:HG22	2.50	0.45
13:7:365:ARG:HD2	13:7:369:MET:C	2.36	0.45
13:7:502:GLU:H	13:7:505:ILE:HD12	1.82	0.45
3:A:44:HIS:CE1	7:N:88:VAL:HG21	2.50	0.45
3:A:415:ASP:O	3:A:421:HIS:ND1	2.44	0.45
5:L:123:ILE:O	5:L:126:SER:OG	2.31	0.45
8:2:472:GLY:O	8:2:477:LYS:NZ	2.44	0.45
10:6:393:ALA:HB2	15:6:902:ATP:C2'	2.40	0.45
11:3:125:GLU:OE1	11:3:125:GLU:N	2.50	0.45
12:4:372:ASN:OD1	12:4:372:ASN:N	2.49	0.45
12:4:633:ILE:HD13	12:4:729:ILE:HD13	1.97	0.45
12:4:657:ASP:OD1	12:4:658:GLU:N	2.49	0.45
13:7:407:ARG:HH12	13:7:410:SER:CB	2.28	0.45
13:7:533:LEU:HD21	15:7:801:ATP:N7	2.31	0.45
1:X:20:DT:H2"	13:7:285:PHE:CZ	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:6:149:VAL:HG22	10:6:159:ILE:O	2.17	0.45
10:6:385:CYS:HA	10:6:493:ALA:HB3	1.98	0.45
10:6:461:ASP:N	10:6:461:ASP:OD1	2.49	0.45
10:6:565:LEU:O	10:6:568:VAL:HG12	2.16	0.45
11:3:422:GLU:CD	11:3:473:ARG:NH1	2.68	0.45
12:4:200:LEU:HD23	12:4:251:ARG:HB2	1.97	0.45
13:7:361:GLY:O	13:7:614:THR:HG22	2.16	0.45
3:A:229:ASN:CB	3:A:232:LEU:HD22	2.46	0.45
3:A:377:SER:OG	3:A:378:TYR:N	2.48	0.45
4:H:93:LYS:O	4:H:97:TRP:N	2.49	0.45
4:H:120:ASN:OD1	4:H:121:ASN:N	2.50	0.45
9:5:378:GLY:HA3	9:5:517:VAL:O	2.17	0.45
10:6:132:SER:HB3	10:6:236:TYR:O	2.17	0.45
11:3:356:THR:O	11:3:563:ARG:NH1	2.49	0.45
12:4:211:LEU:CD2	12:4:213:LEU:HB3	2.46	0.45
13:7:455:ARG:O	13:7:459:HIS:HB2	2.16	0.45
7:N:196:VAL:HG12	7:N:200:GLU:HB3	1.97	0.45
8:2:601:ILE:CG1	8:2:603:THR:HG23	2.47	0.45
9:5:40:THR:O	9:5:42:ASN:N	2.49	0.45
9:5:379:ASP:HB2	9:5:380:PRO:HD2	1.97	0.45
10:6:394:LYS:NZ	10:6:394:LYS:CB	2.76	0.45
11:3:404:ASP:HA	11:3:446:ALA:HB2	1.98	0.45
13:7:540:VAL:CG2	13:7:546:GLN:HB2	2.47	0.45
13:7:540:VAL:O	13:7:540:VAL:HG12	2.15	0.45
13:7:645:ASN:CG	13:7:646:GLN:HG2	2.36	0.45
5:L:164:LEU:HA	5:L:167:ILE:HD12	1.98	0.45
5:L:165:ASP:O	5:L:168:ALA:N	2.49	0.45
8:2:509:ASP:HB3	8:2:512:THR:HG23	1.99	0.45
9:5:144:VAL:O	9:5:261:GLN:NE2	2.50	0.45
11:3:434:HIS:NE2	13:7:403:TYR:O	2.42	0.45
12:4:651:LEU:HD12	12:4:652:VAL:H	1.81	0.45
13:7:262:THR:HG23	13:7:263:ARG:N	2.31	0.45
13:7:378:CYS:HB3	13:7:518:LEU:HA	1.97	0.45
8:2:589:MET:SD	8:2:611:VAL:HG21	2.57	0.45
9:5:28:GLN:HA	9:5:31:LYS:HB3	1.99	0.45
10:6:341:ASN:O	10:6:345:SER:N	2.43	0.45
10:6:560:THR:O	10:6:564:VAL:HG23	2.17	0.45
10:6:627:GLU:OE2	10:6:635:ARG:NH1	2.50	0.45
12:4:248:PHE:HB3	12:4:257:LEU:HD21	1.98	0.45
13:7:302:ARG:HD3	13:7:303:ILE:H	1.81	0.45
13:7:355:LEU:O	13:7:355:LEU:HD12	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:7:464:GLN:O	13:7:465:GLN:HG3	2.16	0.45
4:H:44:ILE:O	4:H:48:ASN:ND2	2.50	0.45
9:5:504:MET:HG3	9:5:507:ILE:HG12	1.99	0.45
10:6:397:PHE:O	10:6:401:VAL:HG23	2.17	0.45
11:3:496:VAL:HG12	11:3:500:HIS:NE2	2.31	0.45
13:7:400:ARG:NH2	13:7:436:LEU:HD12	2.32	0.45
13:7:619:LEU:C	13:7:621:LEU:HD12	2.38	0.45
3:A:92:ASP:OD1	3:A:113:ARG:NH2	2.49	0.45
3:A:105:ASP:OD1	3:A:106:VAL:N	2.49	0.45
5:L:16:SER:HA	5:L:43:PHE:HA	1.98	0.45
7:N:74:GLU:O	7:N:78:ARG:N	2.46	0.45
8:2:363:LEU:HD21	8:2:379:LYS:HB3	1.99	0.45
8:2:618:ILE:HD13	8:2:633:ASN:OD1	2.17	0.45
10:6:385:CYS:HB3	10:6:493:ALA:HB3	1.99	0.45
10:6:394:LYS:O	10:6:395:SER:OG	2.33	0.45
10:6:586:LEU:CD2	10:6:637:VAL:HG11	2.46	0.45
12:4:583:ASP:OD1	12:4:584:SER:N	2.49	0.45
12:4:685:ASP:O	12:4:689:LEU:HD22	2.17	0.45
13:7:455:ARG:HD2	13:7:455:ARG:N	2.32	0.45
13:7:644:LEU:HD12	13:7:645:ASN:N	2.31	0.45
4:H:22:SER:CB	4:H:26:ILE:HG23	2.46	0.44
4:H:131:CYS:SG	4:H:132:SER:N	2.90	0.44
8:2:176:PRO:O	8:2:180:ILE:HD12	2.18	0.44
8:2:177:ARG:HD3	8:2:243:ILE:HD11	1.98	0.44
9:5:98:ALA:HB3	9:5:119:ILE:HD12	1.99	0.44
9:5:349:ALA:HB2	9:5:642:LEU:HD23	1.99	0.44
9:5:372:ILE:HG22	9:5:617:ARG:HH11	1.82	0.44
10:6:385:CYS:CB	10:6:493:ALA:HB3	2.47	0.44
12:4:399:ALA:C	12:4:400:THR:HG23	2.37	0.44
12:4:670:SER:C	12:4:674:VAL:HG13	2.37	0.44
13:7:261:VAL:O	13:7:264:MET:HG3	2.17	0.44
13:7:446:GLU:OE2	13:7:489:ASN:N	2.49	0.44
13:7:461:VAL:O	13:7:461:VAL:CG1	2.65	0.44
13:7:464:GLN:HE21	13:7:481:ARG:CA	2.30	0.44
3:A:530:PHE:O	3:A:534:ALA:N	2.48	0.44
8:2:177:ARG:CD	8:2:243:ILE:HD11	2.47	0.44
9:5:95:GLU:HA	9:5:119:ILE:HD11	2.00	0.44
9:5:374:VAL:O	9:5:482:LEU:HD12	2.16	0.44
9:5:506:THR:O	9:5:510:ARG:NH2	2.51	0.44
10:6:346:LEU:HD23	10:6:346:LEU:H	1.82	0.44
13:7:402:GLN:CD	13:7:436:LEU:HD11	2.38	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:7:421:ASP:OD1	13:7:424:THR:HG22	2.18	0.44
3:A:245:LEU:HD23	3:A:248:LYS:HG2	1.99	0.44
8:2:361:ILE:HG22	8:2:381:VAL:O	2.18	0.44
8:2:383:LEU:HD12	8:2:387:LEU:O	2.17	0.44
9:5:23:ALA:HB3	9:5:24:GLN:NE2	2.32	0.44
9:5:260:ILE:HG22	9:5:295:ILE:CG2	2.48	0.44
10:6:139:HIS:HE1	10:6:430:GLU:HG3	1.82	0.44
11:3:418:HIS:CD2	11:3:473:ARG:NH2	2.43	0.44
12:4:582:ASN:ND2	12:4:584:SER:OG	2.46	0.44
13:7:97:ASP:OD1	13:7:98:ALA:N	2.50	0.44
13:7:381:GLY:CA	13:7:490:PRO:HD3	2.47	0.44
3:A:46:LEU:HD12	4:H:151:LYS:HB2	1.99	0.44
3:A:316:TRP:O	3:A:444:GLN:NE2	2.50	0.44
9:5:475:LEU:HD12	9:5:476:ASN:H	1.82	0.44
10:6:335:ASP:O	10:6:338:LEU:HD23	2.17	0.44
11:3:324:LEU:HD12	11:3:325:PRO:HD2	1.99	0.44
13:7:364:LYS:O	13:7:371:ILE:HG12	2.18	0.44
6:M:109:THR:HG21	6:M:118:GLY:HA2	1.99	0.44
10:6:550:ASN:HB3	12:4:496:THR:HG21	1.99	0.44
10:6:641:PHE:O	10:6:645:ASN:N	2.48	0.44
11:3:286:LYS:O	11:3:288:ASN:ND2	2.51	0.44
13:7:135:GLU:OE1	13:7:260:GLU:HG2	2.18	0.44
13:7:482:VAL:O	13:7:482:VAL:HG22	2.17	0.44
5:L:156:VAL:HA	5:L:159:ILE:HD11	1.98	0.44
8:2:295:GLY:HA3	8:2:363:LEU:HD12	2.00	0.44
11:3:402:CYS:O	11:3:403:ILE:HG23	2.18	0.44
11:3:557:LEU:HD23	11:3:557:LEU:H	1.81	0.44
13:7:356:LEU:O	13:7:359:VAL:HB	2.17	0.44
13:7:554:LEU:HB3	13:7:559:MET:HG3	1.99	0.44
3:A:90:SER:HA	3:A:93:VAL:HG12	2.00	0.44
8:2:740:THR:OG1	8:2:743:HIS:N	2.50	0.44
9:5:322:MET:HE1	9:5:553:ILE:HD11	1.99	0.44
9:5:366:LEU:CD2	11:3:301:SER:HB2	2.48	0.44
9:5:461:GLN:HE22	11:3:347:SER:HB3	1.83	0.44
11:3:386:ARG:O	11:3:386:ARG:CG	2.64	0.44
12:4:319:GLU:OE1	12:4:319:GLU:N	2.48	0.44
12:4:356:LYS:HZ3	12:4:374:LEU:HD22	1.83	0.44
13:7:38:VAL:HA	13:7:41:ALA:HB3	2.00	0.44
13:7:302:ARG:CG	13:7:304:ILE:HG13	2.48	0.44
13:7:333:TYR:OH	13:7:616:LEU:HB3	2.17	0.44
6:M:64:VAL:HG22	6:M:113:ARG:CD	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:5:131:ASN:HB2	9:5:134:GLN:NE2	2.33	0.44
10:6:544:ILE:CA	10:6:547:LEU:HB2	2.33	0.44
11:3:584:ILE:HD11	13:7:538:THR:HG21	2.00	0.44
12:4:647:ASP:OD1	12:4:647:ASP:N	2.50	0.44
13:7:365:ARG:HD2	13:7:370:LYS:CA	2.48	0.44
13:7:469:ILE:HG23	13:7:471:LYS:HB2	1.99	0.44
1:X:27:DT:H5"	10:6:424:ALA:HB1	2.00	0.44
4:H:175:HIS:O	4:H:177:LYS:N	2.51	0.44
8:2:297:VAL:N	8:2:395:ASP:O	2.39	0.44
10:6:421:LEU:HD12	10:6:422:THR:N	2.33	0.44
13:7:277:PHE:CZ	13:7:296:THR:HG21	2.53	0.44
13:7:327:LEU:CD2	13:7:565:LEU:HG	2.48	0.44
13:7:484:ILE:HA	13:7:484:ILE:HD13	1.69	0.44
1:X:26:DT:C2'	1:X:27:DT:H71	2.48	0.43
10:6:144:GLU:OE2	10:6:146:VAL:HG23	2.19	0.43
11:3:187:LEU:O	11:3:189:VAL:HG13	2.18	0.43
12:4:534:TYR:O	13:7:468:SER:OG	2.27	0.43
13:7:387:LYS:O	13:7:390:LEU:HG	2.18	0.43
13:7:561:ARG:O	13:7:564:ASN:HB2	2.18	0.43
13:7:610:LEU:HD23	13:7:611:ARG:N	2.33	0.43
7:N:114:THR:CB	7:N:173:VAL:HG21	2.48	0.43
10:6:393:ALA:CB	15:6:902:ATP:H2'	2.41	0.43
10:6:430:GLU:OE2	12:4:557:GLN:NE2	2.51	0.43
11:3:373:LEU:HD11	11:3:413:ASP:OD1	2.17	0.43
12:4:328:PRO:HG3	12:4:333:ASN:HD22	1.82	0.43
13:7:500:THR:N	13:7:503:GLN:HB2	2.34	0.43
3:A:300:THR:HG23	3:A:338:ALA:O	2.18	0.43
3:A:548:GLN:NE2	3:A:555:VAL:O	2.51	0.43
8:2:399:VAL:HG22	8:2:401:GLY:N	2.34	0.43
12:4:478:ILE:HD12	12:4:478:ILE:HA	1.89	0.43
13:7:470:ALA:HA	13:7:474:ILE:O	2.17	0.43
13:7:608:GLY:O	13:7:611:ARG:HG2	2.18	0.43
5:L:136:ILE:HG22	6:M:126:ARG:NH2	2.34	0.43
7:N:114:THR:CA	7:N:173:VAL:HG21	2.48	0.43
7:N:153:HIS:HA	7:N:157:THR:HG21	1.99	0.43
8:2:293:THR:HG22	8:2:294:LEU:H	1.84	0.43
8:2:588:ALA:N	8:2:594:ILE:HG23	2.34	0.43
9:5:67:ILE:HG22	9:5:68:GLU:N	2.31	0.43
10:6:561:ARG:HH22	12:4:499:ARG:NH2	2.16	0.43
12:4:450:LEU:HG	12:4:451:LEU:N	2.22	0.43
13:7:48:ILE:HB	13:7:136:VAL:HG22	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:7:350:VAL:HG22	13:7:519:TRP:CZ3	2.43	0.43
13:7:359:VAL:HG11	13:7:616:LEU:HA	2.01	0.43
13:7:631:ALA:HA	13:7:634:LEU:CD2	2.48	0.43
1:X:21:DA:C6	13:7:287:GLN:HG3	2.53	0.43
3:A:42:TYR:OH	5:L:55:GLN:O	2.37	0.43
3:A:225:LEU:O	3:A:226:SER:OG	2.33	0.43
3:A:251:SER:OG	3:A:252:GLY:N	2.52	0.43
4:H:121:ASN:O	4:H:125:SER:N	2.51	0.43
8:2:547:ARG:HH22	8:2:603:THR:HG21	1.84	0.43
10:6:388:GLY:N	10:6:502:TYR:OH	2.52	0.43
11:3:507:GLU:O	11:3:545:LEU:N	2.52	0.43
12:4:421:VAL:HG23	12:4:421:VAL:O	2.19	0.43
13:7:526:ASP:HB3	13:7:529:ASN:CB	2.48	0.43
1:X:27:DT:OP2	10:6:478:ARG:NE	2.51	0.43
3:A:443:VAL:HG13	3:A:483:LEU:HD21	1.99	0.43
6:M:174:THR:OG1	9:5:45:ASN:ND2	2.46	0.43
11:3:140:ARG:HG3	11:3:155:LYS:HA	2.01	0.43
11:3:605:GLN:HB2	11:3:606:PRO:HD3	2.00	0.43
13:7:277:PHE:CE2	13:7:296:THR:HG21	2.54	0.43
13:7:359:VAL:HG12	13:7:360:GLY:O	2.18	0.43
4:H:28:ALA:HB1	4:H:107:ILE:HG21	2.01	0.43
7:N:189:VAL:HA	7:N:205:ALA:H	1.83	0.43
9:5:397:ILE:HD11	9:5:433:LEU:HD11	1.99	0.43
9:5:462:GLN:O	9:5:464:ILE:HD12	2.19	0.43
10:6:151:MET:SD	10:6:152:CYS:N	2.91	0.43
10:6:561:ARG:O	10:6:565:LEU:HD23	2.18	0.43
15:6:902:ATP:O3B	12:4:734:ARG:NH1	2.50	0.43
11:3:349:LEU:O	11:3:349:LEU:HD12	2.19	0.43
12:4:517:SER:OG	15:4:901:ATP:H2'	2.18	0.43
13:7:146:ALA:N	13:7:162:THR:OG1	2.51	0.43
8:2:550:VAL:HG13	8:2:555:THR:HA	2.01	0.43
8:2:722:LYS:O	8:2:726:GLN:N	2.51	0.43
9:5:349:ALA:HB1	9:5:513:MET:SD	2.59	0.43
9:5:397:ILE:HD11	9:5:433:LEU:CD1	2.49	0.43
11:3:109:THR:C	11:3:111:ARG:H	2.22	0.43
11:3:325:PRO:CG	13:7:544:SER:HB3	2.47	0.43
11:3:338:LEU:HD23	11:3:479:VAL:O	2.19	0.43
11:3:458:LYS:O	11:3:459:THR:HG23	2.18	0.43
12:4:503:ARG:HG2	12:4:596:GLN:NE2	2.33	0.43
12:4:674:VAL:O	12:4:675:THR:OG1	2.33	0.43
13:7:336:LEU:H	13:7:336:LEU:HD12	1.84	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
13:7:338:THR:HG22	13:7:551:VAL:HG11	2.00	0.43
13:7:443:CYS:HA	13:7:485:LEU:HB3	2.00	0.43
13:7:535:LYS:HA	13:7:535:LYS:HD2	1.76	0.43
3:A:283:ILE:CB	3:A:376:LEU:HD22	2.49	0.43
4:H:184:LEU:HD23	4:H:189:VAL:HG12	2.00	0.43
8:2:287:LEU:HD22	8:2:403:TYR:CD2	2.53	0.43
8:2:404:THR:HG23	8:2:423:VAL:HG23	2.00	0.43
13:7:233:GLN:OE1	13:7:263:ARG:HA	2.19	0.43
13:7:263:ARG:O	13:7:263:ARG:HG2	2.18	0.43
13:7:512:LEU:HD23	13:7:518:LEU:CD2	2.48	0.43
3:A:215:ALA:HB1	3:A:218:VAL:HB	2.00	0.43
3:A:275:GLN:N	3:A:275:GLN:OE1	2.52	0.43
10:6:117:VAL:HG23	10:6:118:ARG:HD3	2.01	0.43
10:6:157:THR:HB	10:6:187:LEU:HD11	2.01	0.43
12:4:493:LYS:HZ1	12:4:495:ALA:HB2	1.83	0.43
13:7:168:THR:HG23	13:7:236:LYS:O	2.19	0.43
13:7:479:ASN:HD22	13:7:479:ASN:HA	1.62	0.43
13:7:527:ARG:O	13:7:531:LEU:HD21	2.19	0.43
13:7:619:LEU:O	13:7:621:LEU:HD12	2.19	0.43
3:A:375:THR:HG21	3:A:383:ARG:NH1	2.34	0.42
9:5:611:GLN:O	9:5:615:VAL:HG12	2.19	0.42
10:6:353:ASN:HB3	10:6:528:LEU:HD13	2.00	0.42
10:6:508:LEU:HD11	10:6:650:ARG:O	2.18	0.42
11:3:302:ILE:HG23	15:3:901:ATP:N1	2.34	0.42
11:3:343:SER:HA	15:3:901:ATP:PB	2.59	0.42
11:3:361:ILE:HG22	11:3:362:PRO:O	2.19	0.42
12:4:288:ILE:HG22	12:4:289:SER:N	2.34	0.42
3:A:23:VAL:CA	3:A:52:ILE:HD13	2.46	0.42
3:A:103:PRO:HD3	3:A:209:TYR:O	2.19	0.42
7:N:147:ASN:OD1	7:N:148:VAL:N	2.52	0.42
8:2:504:LEU:HB3	8:2:612:ILE:HD13	2.01	0.42
8:2:721:ALA:HB2	9:5:530:ALA:CB	2.49	0.42
10:6:18:GLY:HA3	10:6:80:ILE:HD13	2.01	0.42
11:3:302:ILE:HG23	15:3:901:ATP:C2	2.54	0.42
11:3:579:GLN:NE2	11:3:631:VAL:O	2.51	0.42
12:4:482:ILE:O	12:4:482:ILE:HG22	2.18	0.42
12:4:492:LYS:HZ3	12:4:740:ILE:CG1	2.29	0.42
12:4:669:VAL:HG21	13:7:581:ILE:HD11	2.02	0.42
1:X:19:DT:C6	1:X:19:DT:H5"	2.55	0.42
3:A:510:SER:OG	3:A:510:SER:O	2.32	0.42
5:L:69:ASP:N	5:L:69:ASP:OD1	2.51	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:80:ARG:O	5:L:82:LYS:N	2.46	0.42
6:M:51:THR:O	6:M:51:THR:HG23	2.17	0.42
8:2:449:ILE:HD12	8:2:700:TYR:HB2	2.01	0.42
9:5:528:THR:O	9:5:532:HIS:N	2.52	0.42
10:6:40:TYR:CE2	10:6:57:VAL:HG12	2.54	0.42
10:6:226:LEU:HD12	10:6:226:LEU:N	2.34	0.42
11:3:12:ILE:HG22	11:3:16:TYR:CE2	2.54	0.42
11:3:109:THR:C	11:3:111:ARG:N	2.72	0.42
11:3:114:THR:O	11:3:115:SER:OG	2.29	0.42
13:7:365:ARG:NE	13:7:368:GLY:O	2.51	0.42
13:7:572:THR:H	13:7:623:ASP:C	2.22	0.42
3:A:74:LEU:N	3:A:96:PHE:O	2.52	0.42
5:L:156:VAL:O	5:L:156:VAL:HG12	2.19	0.42
8:2:466:MET:HG2	8:2:477:LYS:HA	2.02	0.42
10:6:229:THR:O	10:6:229:THR:HG23	2.19	0.42
13:7:376:ASN:ND2	13:7:484:ILE:H	2.15	0.42
13:7:402:GLN:NE2	13:7:436:LEU:HD21	2.34	0.42
13:7:529:ASN:O	13:7:532:ARG:HG3	2.20	0.42
5:L:143:ALA:HB3	7:N:208:GLN:HG2	2.02	0.42
8:2:586:HIS:CE1	8:2:641:ARG:HH21	2.37	0.42
11:3:298:LEU:HB2	11:3:309:LYS:HZ1	1.81	0.42
11:3:428:ILE:HA	13:7:408:GLY:HA3	2.01	0.42
12:4:491:LYS:CD	12:4:493:LYS:HG2	2.49	0.42
13:7:278:LEU:HA	13:7:278:LEU:HD23	1.84	0.42
3:A:507:LEU:HD22	3:A:510:SER:CB	2.49	0.42
4:H:192:LEU:HD22	4:H:195:GLN:NE2	2.35	0.42
6:M:100:TYR:O	6:M:104:PHE:N	2.52	0.42
8:2:245:ASP:OD1	8:2:246:LYS:N	2.52	0.42
8:2:425:ILE:HG22	8:2:426:ALA:H	1.84	0.42
9:5:397:ILE:HG23	9:5:437:GLY:HA3	2.01	0.42
9:5:521:HIS:ND1	9:5:521:HIS:O	2.53	0.42
10:6:416:SER:HA	12:4:601:ALA:O	2.20	0.42
11:3:143:HIS:NE2	11:3:172:PRO:O	2.52	0.42
11:3:422:GLU:CG	11:3:473:ARG:NH2	2.79	0.42
11:3:477:LEU:HD21	11:3:605:GLN:NE2	2.35	0.42
6:M:58:TYR:O	6:M:62:LEU:HD12	2.19	0.42
6:M:90:THR:OG1	6:M:91:HIS:N	2.52	0.42
8:2:415:GLN:NE2	8:2:419:VAL:HG23	2.34	0.42
14:5:801:ADP:N3	14:5:801:ADP:H2'	2.34	0.42
10:6:70:ALA:O	10:6:74:ILE:N	2.40	0.42
10:6:546:ASP:C	10:6:553:GLU:HB2	2.40	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:3:198:ILE:HD11	11:3:216:ILE:HD13	2.02	0.42
12:4:494:HIS:NE2	12:4:502:PHE:CA	2.83	0.42
12:4:633:ILE:CD1	12:4:729:ILE:HG21	2.48	0.42
13:7:387:LYS:O	13:7:391:LEU:CG	2.65	0.42
3:A:123:LEU:N	3:A:124:GLU:OE2	2.53	0.42
8:2:727:LEU:O	8:2:731:SER:OG	2.37	0.42
9:5:502:ASP:OD1	9:5:502:ASP:N	2.53	0.42
9:5:576:ALA:O	9:5:633:ASP:N	2.53	0.42
10:6:393:ALA:N	15:6:902:ATP:H5'1	2.34	0.42
11:3:287:ASN:O	11:3:290:ILE:HG23	2.19	0.42
11:3:293:LEU:O	11:3:297:SER:OG	2.34	0.42
12:4:493:LYS:NZ	12:4:495:ALA:HB2	2.34	0.42
12:4:494:HIS:NE2	12:4:502:PHE:HB3	2.28	0.42
13:7:62:LEU:HD22	13:7:73:TYR:CE2	2.55	0.42
13:7:341:ALA:HA	13:7:393:TYR:CZ	2.55	0.42
13:7:524:LYS:HB3	13:7:525:PRO:CD	2.50	0.42
13:7:612:LEU:HD11	13:7:633:ALA:HB2	2.02	0.42
3:A:22:VAL:CG1	3:A:29:ALA:HB1	2.42	0.42
4:H:114:PRO:CD	7:N:154:LYS:HZ3	2.33	0.42
9:5:253:VAL:HG22	9:5:254:PRO:HD2	2.01	0.42
9:5:507:ILE:CG2	9:5:508:LEU:N	2.63	0.42
10:6:315:GLU:C	10:6:324:ALA:HB1	2.40	0.42
10:6:412:SER:HB3	12:4:599:SER:HB3	2.01	0.42
11:3:362:PRO:HA	11:3:401:VAL:HG13	2.01	0.42
12:4:316:THR:O	12:4:317:THR:HG23	2.20	0.42
12:4:666:SER:CA	13:7:582:VAL:HG11	2.50	0.42
3:A:385:ALA:HB3	3:A:388:ASP:OD2	2.20	0.42
4:H:192:LEU:HD13	4:H:195:GLN:HE21	1.85	0.42
5:L:78:GLU:HB2	9:5:109:ARG:CZ	2.50	0.42
6:M:165:SER:OG	6:M:166:GLN:NE2	2.52	0.42
8:2:191:PHE:O	8:2:201:ARG:NH1	2.40	0.42
8:2:309:VAL:HB	8:2:354:LEU:HD21	2.01	0.42
9:5:159:LYS:HZ2	9:5:219:PHE:HE1	1.62	0.42
9:5:161:THR:HG22	9:5:177:LEU:HD21	2.02	0.42
9:5:612:LEU:HD23	9:5:613:GLU:N	2.34	0.42
11:3:427:THR:HG23	11:3:435:ALA:O	2.20	0.42
13:7:512:LEU:HB3	13:7:518:LEU:HD21	2.01	0.42
3:A:90:SER:CB	3:A:93:VAL:HG12	2.50	0.41
3:A:563:LEU:HD23	3:A:563:LEU:N	2.34	0.41
4:H:50:ALA:HB3	4:H:70:ARG:HH22	1.85	0.41
5:L:94:VAL:CB	5:L:151:LEU:HD21	2.42	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:2:405:ASN:ND2	8:2:421:ALA:O	2.49	0.41
9:5:369:ARG:HD3	9:5:617:ARG:NH2	2.35	0.41
11:3:136:PRO:HA	11:3:191:LYS:O	2.19	0.41
12:4:661:ASP:N	12:4:661:ASP:OD1	2.53	0.41
12:4:670:SER:O	12:4:673:TYR:N	2.53	0.41
12:4:736:LEU:O	12:4:740:ILE:HG23	2.20	0.41
15:4:901:ATP:HO3'	15:4:901:ATP:HO2'	1.50	0.41
13:7:166:ILE:HD11	13:7:270:HIS:HD2	1.85	0.41
13:7:361:GLY:HA3	13:7:618:ARG:HG3	2.02	0.41
6:M:45:ASP:OD1	6:M:45:ASP:N	2.53	0.41
6:M:102:TYR:CG	6:M:125:LEU:HD21	2.55	0.41
8:2:199:THR:CB	8:2:203:ARG:HE	2.33	0.41
10:6:174:CYS:CB	10:6:177:PRO:O	2.63	0.41
11:3:326:ASN:HD21	13:7:545:LYS:HE3	1.84	0.41
12:4:551:LYS:HD2	13:7:425:GLY:O	2.19	0.41
13:7:165:GLY:C	13:7:166:ILE:HD12	2.40	0.41
3:A:443:VAL:HG13	3:A:483:LEU:CG	2.51	0.41
4:H:184:LEU:HD23	4:H:189:VAL:CG1	2.50	0.41
9:5:188:LEU:HD13	9:5:207:PHE:CD2	2.56	0.41
9:5:374:VAL:HG12	9:5:375:LEU:N	2.36	0.41
11:3:338:LEU:HD23	11:3:479:VAL:C	2.41	0.41
11:3:340:GLY:HA3	11:3:480:MET:SD	2.60	0.41
11:3:418:HIS:O	11:3:473:ARG:NH1	2.53	0.41
12:4:666:SER:HA	13:7:582:VAL:HG11	2.02	0.41
13:7:299:GLN:HA	13:7:299:GLN:OE1	2.20	0.41
3:A:19:ILE:HD12	3:A:69:VAL:CG1	2.49	0.41
3:A:318:LEU:O	3:A:321:GLU:N	2.49	0.41
3:A:401:LYS:O	3:A:401:LYS:HD3	2.20	0.41
4:H:40:GLU:O	4:H:43:ALA:HB3	2.20	0.41
6:M:169:GLU:OE1	6:M:169:GLU:N	2.53	0.41
6:M:171:LEU:HD22	9:5:47:PHE:CE1	2.56	0.41
7:N:65:LEU:O	7:N:68:SER:OG	2.23	0.41
8:2:270:ILE:O	8:2:428:HIS:ND1	2.54	0.41
8:2:373:GLY:HA2	10:6:442:MET:HG3	2.03	0.41
10:6:185:PHE:HD1	10:6:185:PHE:HA	1.78	0.41
12:4:169:LYS:HG2	12:4:243:ALA:HB1	2.02	0.41
12:4:227:ARG:O	12:4:230:ILE:N	2.53	0.41
12:4:624:SER:HB3	13:7:509:ALA:HB3	2.02	0.41
13:7:261:VAL:O	13:7:261:VAL:HG12	2.20	0.41
5:L:167:ILE:HG22	5:L:171:GLN:CD	2.41	0.41
7:N:182:PHE:HB3	7:N:228:ILE:HD12	2.01	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:2:776:LEU:HD11	8:2:795:PHE:HD1	1.82	0.41
9:5:380:PRO:HD3	9:5:486:ASN:ND2	2.36	0.41
10:6:40:TYR:CD2	10:6:57:VAL:HG12	2.55	0.41
11:3:550:ARG:O	11:3:552:ARG:N	2.51	0.41
11:3:597:VAL:HG12	11:3:598:GLU:N	2.36	0.41
12:4:375:LEU:N	12:4:375:LEU:HD23	2.35	0.41
12:4:486:LEU:O	12:4:488:GLY:HA2	2.20	0.41
12:4:513:ASP:N	12:4:514:PRO:CD	2.84	0.41
12:4:566:VAL:O	12:4:566:VAL:HG12	2.20	0.41
13:7:197:SER:O	13:7:198:LEU:HD23	2.20	0.41
13:7:446:GLU:OE1	13:7:488:ALA:HA	2.20	0.41
3:A:341:THR:O	3:A:344:ALA:N	2.46	0.41
8:2:661:ALA:CB	10:6:587:VAL:HG12	2.51	0.41
9:5:120:GLN:NE2	9:5:246:ARG:HB2	2.35	0.41
10:6:308:PRO:CG	10:6:312:VAL:HG21	2.50	0.41
11:3:142:VAL:HG12	11:3:151:VAL:HG13	2.02	0.41
13:7:372:ARG:HG3	13:7:464:GLN:OE1	2.20	0.41
3:A:536:GLU:HA	3:A:539:ALA:HB3	2.01	0.41
3:A:546:LEU:C	3:A:547:LEU:HD23	2.41	0.41
10:6:459:GLN:OE1	10:6:460:ARG:NH2	2.53	0.41
12:4:712:LEU:HA	12:4:715:ALA:HB3	2.01	0.41
13:7:164:ARG:HA	13:7:272:VAL:HA	2.02	0.41
13:7:451:ALA:HB3	13:7:454:ASP:CG	2.41	0.41
5:L:164:LEU:O	5:L:168:ALA:HB2	2.21	0.41
6:M:172:GLN:CB	9:5:45:ASN:HA	2.50	0.41
10:6:306:ASP:OD1	10:6:320:GLN:N	2.54	0.41
10:6:634:GLU:OE1	10:6:634:GLU:N	2.44	0.41
11:3:34:LYS:O	11:3:38:ALA:N	2.54	0.41
11:3:136:PRO:O	13:7:294:SER:HB2	2.21	0.41
11:3:429:SER:O	11:3:431:ALA:N	2.49	0.41
12:4:494:HIS:CE1	12:4:502:PHE:CA	3.04	0.41
3:A:24:ASN:OD1	3:A:25:TYR:N	2.50	0.41
3:A:219:PHE:CE1	3:A:233:LEU:HD21	2.56	0.41
4:H:93:LYS:HA	4:H:96:ARG:HB3	2.02	0.41
4:H:126:LEU:O	4:H:130:MET:N	2.45	0.41
7:N:145:ALA:HA	7:N:148:VAL:HG12	2.02	0.41
8:2:492:PRO:CD	8:2:498:VAL:HG23	2.51	0.41
8:2:762:ASN:OD1	8:2:762:ASN:N	2.54	0.41
9:5:459:MET:SD	9:5:511:PHE:HE1	2.44	0.41
9:5:516:ILE:HD12	9:5:516:ILE:N	2.35	0.41
10:6:149:VAL:HG13	10:6:159:ILE:H	1.85	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
10:6:559:TYR:CE2	10:6:564:VAL:HG22	2.56	0.41
11:3:132:SER:OG	11:3:195:THR:O	2.26	0.41
11:3:471:LEU:HD23	11:3:606:PRO:HA	2.03	0.41
12:4:399:ALA:O	12:4:400:THR:HG23	2.20	0.41
13:7:261:VAL:O	13:7:264:MET:HB2	2.21	0.41
13:7:280:LEU:HB3	13:7:295:GLU:O	2.21	0.41
3:A:330:GLU:O	8:2:258:THR:HG21	2.21	0.41
4:H:103:ILE:HG23	4:H:166:PHE:HB3	2.03	0.41
8:2:310:ILE:O	8:2:310:ILE:HG22	2.21	0.41
10:6:208:GLU:OE2	10:6:209:LEU:N	2.54	0.41
11:3:137:LYS:HZ1	13:7:293:LEU:HA	1.86	0.41
11:3:331:ARG:HE	11:3:423:GLN:C	2.24	0.41
12:4:275:ARG:NH2	12:4:368:GLN:OE1	2.51	0.41
12:4:374:LEU:N	12:4:374:LEU:HD23	2.36	0.41
13:7:462:MET:CG	13:7:514:ARG:HB3	2.51	0.41
13:7:570:ASN:H	13:7:618:ARG:CZ	2.34	0.41
13:7:612:LEU:CD2	13:7:633:ALA:HB1	2.51	0.41
3:A:403:HIS:ND1	3:A:403:HIS:O	2.54	0.40
10:6:62:VAL:O	10:6:62:VAL:HG12	2.20	0.40
10:6:162:VAL:HA	10:6:164:GLN:OE1	2.21	0.40
11:3:62:LEU:HD12	11:3:63:LEU:CA	2.51	0.40
11:3:298:LEU:HD22	11:3:352:TYR:HB3	2.03	0.40
11:3:430:LYS:HA	13:7:409:SER:HA	2.03	0.40
12:4:732:TYR:O	12:4:735:GLN:NE2	2.54	0.40
3:A:54:GLY:O	3:A:57:GLY:N	2.50	0.40
4:H:192:LEU:HD13	4:H:195:GLN:NE2	2.35	0.40
8:2:568:VAL:HG12	8:2:569:CYS:N	2.36	0.40
8:2:636:GLU:O	8:2:639:LEU:N	2.54	0.40
9:5:136:LYS:O	9:5:139:CYS:N	2.47	0.40
10:6:544:ILE:O	10:6:547:LEU:HB3	2.20	0.40
11:3:116:ILE:HG12	11:3:117:TYR:H	1.86	0.40
12:4:672:TYR:HE2	13:7:573:ILE:HG22	1.86	0.40
13:7:349:ASP:OD1	13:7:350:VAL:N	2.54	0.40
13:7:459:HIS:CE1	13:7:514:ARG:HD3	2.55	0.40
13:7:459:HIS:HE1	13:7:514:ARG:HH11	1.69	0.40
3:A:106:VAL:O	3:A:106:VAL:HG12	2.22	0.40
3:A:128:PRO:O	3:A:132:THR:N	2.54	0.40
5:L:151:LEU:HD23	6:M:170:TRP:CZ2	2.57	0.40
6:M:162:ARG:O	6:M:165:SER:OG	2.23	0.40
7:N:49:GLU:OE2	7:N:108:ARG:NH2	2.55	0.40
10:6:377:SER:O	10:6:379:ARG:NH1	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
12:4:717:VAL:HG22	12:4:721:LYS:HZ1	1.86	0.40
13:7:262:THR:CG2	13:7:263:ARG:N	2.84	0.40
13:7:379:LEU:HB2	13:7:486:ALA:O	2.21	0.40
13:7:477:THR:HG23	13:7:478:LEU:N	2.36	0.40
13:7:528:ASP:O	13:7:531:LEU:HG	2.21	0.40
3:A:70:LYS:HB3	3:A:93:VAL:HG23	2.02	0.40
3:A:482:PHE:C	3:A:483:LEU:HD12	2.42	0.40
3:A:517:VAL:HG22	3:A:518:GLY:H	1.85	0.40
5:L:92:TYR:OH	5:L:120:ILE:HG21	2.21	0.40
9:5:346:ILE:HD11	9:5:515:PHE:CZ	2.57	0.40
9:5:349:ALA:HB2	9:5:642:LEU:HD22	2.02	0.40
9:5:366:LEU:HD21	11:3:301:SER:HB2	2.03	0.40
9:5:480:SER:OG	9:5:481:VAL:N	2.54	0.40
10:6:551:ILE:N	10:6:551:ILE:HD12	2.36	0.40
11:3:314:CYS:HB2	11:3:334:ILE:HD13	2.04	0.40
11:3:422:GLU:CD	11:3:473:ARG:CZ	2.82	0.40
12:4:503:ARG:CB	12:4:596:GLN:HE22	2.35	0.40
12:4:583:ASP:O	12:4:587:SER:OG	2.33	0.40
12:4:648:LEU:HD22	12:4:767:HIS:HA	2.04	0.40
13:7:400:ARG:HA	13:7:400:ARG:HD2	1.86	0.40
13:7:439:GLN:HE22	13:7:481:ARG:HH11	1.67	0.40
7:N:100:ILE:O	7:N:103:SER:OG	2.39	0.40
10:6:409:ILE:HG22	10:6:411:THR:HG23	2.03	0.40
12:4:490:THR:HG21	12:4:702:PRO:CG	2.52	0.40
12:4:499:ARG:O	12:4:500:GLN:NE2	2.55	0.40
12:4:660:PHE:HA	12:4:663:ARG:HD3	2.04	0.40
13:7:446:GLU:N	13:7:487:ALA:O	2.43	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	
3	A	515/575 (90%)	424 (82%)	88 (17%)	3 (1%)	25	65
4	H	193/202 (96%)	155 (80%)	36 (19%)	2 (1%)	15	54
5	L	175/203 (86%)	143 (82%)	32 (18%)	0	100	100
6	M	144/212 (68%)	115 (80%)	28 (19%)	1 (1%)	22	62
7	N	202/228 (89%)	169 (84%)	32 (16%)	1 (0%)	29	68
8	2	543/887 (61%)	453 (83%)	88 (16%)	2 (0%)	34	72
9	5	550/733 (75%)	429 (78%)	117 (21%)	4 (1%)	22	62
10	6	578/817 (71%)	461 (80%)	107 (18%)	10 (2%)	9	43
11	3	570/819 (70%)	461 (81%)	103 (18%)	6 (1%)	14	52
12	4	598/866 (69%)	482 (81%)	105 (18%)	11 (2%)	8	42
13	7	589/720 (82%)	498 (85%)	86 (15%)	5 (1%)	19	60
All	All	4657/6262 (74%)	3790 (81%)	822 (18%)	45 (1%)	20	54

All (45) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
8	2	512	THR
9	5	508	LEU
10	6	233	GLY
11	3	376	ALA
11	3	387	ARG
11	3	388	LEU
12	4	511	CYS
12	4	513	ASP
12	4	514	PRO
13	7	152	VAL
13	7	190	GLU
10	6	444	ALA
10	6	559	TYR
12	4	333	ASN
12	4	487	PHE
12	4	489	GLY
12	4	515	GLY
12	4	591	GLU
6	M	57	TRP
7	N	161	PRO
8	2	314	CYS
10	6	310	SER
10	6	395	SER

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Mol	Chain	Res	Type
12	4	474	GLU
12	4	488	GLY
12	4	599	SER
13	7	281	MET
13	7	289	ILE
3	A	24	ASN
3	A	528	ARG
9	5	575	GLU
10	6	105	TYR
3	A	353	PHE
10	6	112	PRO
10	6	113	THR
11	3	242	PRO
11	3	471	LEU
4	H	100	GLY
11	3	372	GLY
4	H	149	PRO
10	6	177	PRO
13	7	383	PRO
9	5	189	PRO
9	5	507	ILE
10	6	215	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	A	451/501 (90%)	438 (97%)	13 (3%)	42	64
4	H	170/176 (97%)	164 (96%)	6 (4%)	36	60
5	L	166/184 (90%)	156 (94%)	10 (6%)	19	46
6	M	138/188 (73%)	132 (96%)	6 (4%)	29	55
7	N	185/205 (90%)	178 (96%)	7 (4%)	33	58
8	2	492/781 (63%)	466 (95%)	26 (5%)	22	49
9	5	486/630 (77%)	458 (94%)	28 (6%)	20	47

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
10	6	494/718 (69%)	466 (94%)	28 (6%)	20 48
11	3	500/699 (72%)	465 (93%)	35 (7%)	15 41
12	4	531/759 (70%)	497 (94%)	34 (6%)	17 44
13	7	482/630 (76%)	440 (91%)	42 (9%)	10 34
All	All	4095/5471 (75%)	3860 (94%)	235 (6%)	24 48

All (235) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
3	A	17	LYS
3	A	115	VAL
3	A	136	ASP
3	A	300	THR
3	A	304	ARG
3	A	323	ARG
3	A	350	ARG
3	A	377	SER
3	A	464	GLN
3	A	490	THR
3	A	494	ARG
3	A	519	ILE
3	A	528	ARG
4	H	25	THR
4	H	49	VAL
4	H	61	ARG
4	H	89	CYS
4	H	129	TYR
4	H	144	THR
5	L	2	ASP
5	L	17	ILE
5	L	75	LYS
5	L	89	CYS
5	L	94	VAL
5	L	114	ARG
5	L	115	THR
5	L	159	ILE
5	L	163	SER
5	L	185	SER
6	M	85	CYS
6	M	90	THR
6	M	109	THR

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Mol	Chain	Res	Type
6	M	116	VAL
6	M	170	TRP
6	M	174	THR
7	N	51	CYS
7	N	70	VAL
7	N	109	LEU
7	N	114	THR
7	N	133	LEU
7	N	173	VAL
7	N	181	VAL
8	2	195	ARG
8	2	293	THR
8	2	300	THR
8	2	314	CYS
8	2	357	ASN
8	2	411	LEU
8	2	422	THR
8	2	425	ILE
8	2	470	ILE
8	2	484	LEU
8	2	499	ARG
8	2	512	THR
8	2	534	GLN
8	2	539	VAL
8	2	546	ARG
8	2	587	GLU
8	2	603	THR
8	2	635	SER
8	2	639	LEU
8	2	660	LEU
8	2	664	VAL
8	2	719	LYS
8	2	736	SER
8	2	751	SER
8	2	792	ARG
8	2	794	THR
9	5	37	PHE
9	5	59	LEU
9	5	91	LEU
9	5	105	ILE
9	5	123	LEU
9	5	130	THR

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Mol	Chain	Res	Type
9	5	163	MET
9	5	168	LEU
9	5	192	CYS
9	5	219	PHE
9	5	226	GLU
9	5	249	CYS
9	5	253	VAL
9	5	267	ARG
9	5	285	VAL
9	5	336	LEU
9	5	339	SER
9	5	353	MET
9	5	399	VAL
9	5	420	GLN
9	5	422	ARG
9	5	452	ARG
9	5	463	THR
9	5	503	PHE
9	5	504	MET
9	5	510	ARG
9	5	573	LEU
9	5	641	ARG
10	6	41	THR
10	6	42	ARG
10	6	58	SER
10	6	120	LEU
10	6	121	THR
10	6	135	VAL
10	6	177	PRO
10	6	187	LEU
10	6	196	ASP
10	6	222	LEU
10	6	236	TYR
10	6	313	THR
10	6	341	ASN
10	6	370	LYS
10	6	378	LEU
10	6	389	ASP
10	6	391	SER
10	6	394	LYS
10	6	403	ASP
10	6	429	GLU

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Mol	Chain	Res	Type
10	6	454	PHE
10	6	509	GLN
10	6	514	LEU
10	6	524	LEU
10	6	526	PHE
10	6	531	GLU
10	6	560	THR
10	6	570	PHE
11	3	25	ASP
11	3	29	TYR
11	3	63	LEU
11	3	73	PHE
11	3	97	VAL
11	3	124	VAL
11	3	140	ARG
11	3	141	SER
11	3	158	ASP
11	3	173	THR
11	3	196	LEU
11	3	210	LEU
11	3	219	ASP
11	3	221	ASP
11	3	226	CYS
11	3	232	VAL
11	3	239	ARG
11	3	245	ARG
11	3	337	LEU
11	3	341	ASP
11	3	348	GLN
11	3	350	LEU
11	3	354	LEU
11	3	373	LEU
11	3	385	GLU
11	3	387	ARG
11	3	437	LEU
11	3	458	LYS
11	3	459	THR
11	3	466	LEU
11	3	478	PHE
11	3	504	ASN
11	3	630	SER
11	3	631	VAL

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Mol	Chain	Res	Type
11	3	642	LEU
12	4	159	VAL
12	4	176	ILE
12	4	213	LEU
12	4	230	ILE
12	4	241	ASP
12	4	251	ARG
12	4	259	HIS
12	4	302	MET
12	4	329	THR
12	4	332	THR
12	4	372	ASN
12	4	378	HIS
12	4	392	THR
12	4	393	VAL
12	4	404	THR
12	4	411	VAL
12	4	422	VAL
12	4	425	ARG
12	4	456	LYS
12	4	493	LYS
12	4	496	THR
12	4	500	GLN
12	4	502	PHE
12	4	507	HIS
12	4	575	ILE
12	4	590	HIS
12	4	653	LEU
12	4	662	LYS
12	4	676	ARG
12	4	712	LEU
12	4	741	ARG
12	4	750	ARG
12	4	753	ASN
12	4	757	LEU
13	7	79	ASP
13	7	80	VAL
13	7	150	ARG
13	7	160	LEU
13	7	168	THR
13	7	171	THR
13	7	246	VAL

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Mol	Chain	Res	Type
13	7	248	HIS
13	7	253	MET
13	7	258	ARG
13	7	262	THR
13	7	264	MET
13	7	285	PHE
13	7	293	LEU
13	7	298	LEU
13	7	327	LEU
13	7	329	GLN
13	7	358	LEU
13	7	367	ASP
13	7	382	ASP
13	7	385	VAL
13	7	387	LYS
13	7	424	THR
13	7	467	ILE
13	7	474	ILE
13	7	476	THR
13	7	482	VAL
13	7	484	ILE
13	7	494	ARG
13	7	551	VAL
13	7	555	ASP
13	7	565	LEU
13	7	573	ILE
13	7	575	ASP
13	7	579	ASP
13	7	606	LEU
13	7	610	LEU
13	7	611	ARG
13	7	612	LEU
13	7	623	ASP
13	7	635	ARG
13	7	644	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (94) such sidechains are listed below:

Mol	Chain	Res	Type
3	A	101	HIS
3	A	108	ASN
3	A	262	GLN

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Mol	Chain	Res	Type
3	A	290	HIS
3	A	325	HIS
3	A	537	GLN
3	A	548	GLN
4	H	36	GLN
4	H	68	ASN
4	H	182	HIS
4	H	195	GLN
4	H	200	HIS
5	L	27	HIS
5	L	97	GLN
5	L	171	GLN
6	M	53	ASN
6	M	98	HIS
6	M	166	GLN
6	M	172	GLN
7	N	36	GLN
7	N	69	GLN
7	N	72	HIS
7	N	76	GLN
7	N	164	GLN
7	N	170	GLN
7	N	223	ASN
8	2	210	GLN
8	2	211	ASN
8	2	288	ASN
8	2	436	GLN
8	2	534	GLN
8	2	591	GLN
8	2	659	GLN
8	2	694	GLN
9	5	21	GLN
9	5	24	GLN
9	5	60	ASN
9	5	120	GLN
9	5	128	ASN
9	5	134	GLN
9	5	176	ASN
9	5	193	ASN
9	5	196	GLN
9	5	239	HIS
9	5	373	ASN

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Mol	Chain	Res	Type
9	5	423	ASN
9	5	476	ASN
9	5	486	ASN
9	5	535	ASN
9	5	541	ASN
9	5	635	HIS
10	6	67	GLN
10	6	181	ASN
10	6	320	GLN
10	6	383	ASN
10	6	550	ASN
10	6	645	ASN
11	3	47	ASN
11	3	55	ASN
11	3	199	GLN
11	3	288	ASN
11	3	310	GLN
11	3	326	ASN
11	3	348	GLN
11	3	463	ASN
11	3	490	GLN
11	3	605	GLN
12	4	204	HIS
12	4	212	ASN
12	4	310	ASN
12	4	333	ASN
12	4	337	ASN
12	4	338	HIS
12	4	344	HIS
12	4	345	ASN
12	4	379	ASN
12	4	423	HIS
12	4	485	GLN
12	4	500	GLN
12	4	523	GLN
12	4	596	GLN
12	4	625	GLN
12	4	710	GLN
12	4	735	GLN
12	4	746	HIS
12	4	753	ASN
13	7	45	GLN

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Mol	Chain	Res	Type
13	7	439	GLN
13	7	465	GLN
13	7	479	ASN
13	7	541	HIS
13	7	543	HIS
13	7	557	ASN
13	7	564	ASN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

6 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
15	ATP	4	901	13,12	26,33,33	0.89	1 (3%)	31,52,52	1.62	7 (22%)
14	ADP	6	901	-	24,29,29	1.49	4 (16%)	29,45,45	1.83	4 (13%)
15	ATP	6	902	10	26,33,33	0.94	1 (3%)	31,52,52	1.87	5 (16%)
15	ATP	3	901	-	26,33,33	0.87	1 (3%)	31,52,52	1.56	4 (12%)
15	ATP	7	801	13	26,33,33	0.96	1 (3%)	31,52,52	1.79	7 (22%)
14	ADP	5	801	9	24,29,29	0.97	1 (4%)	29,45,45	1.56	6 (20%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
15	ATP	4	901	13,12	-	6/18/38/38	0/3/3/3
14	ADP	6	901	-	-	0/12/32/32	0/3/3/3
15	ATP	6	902	10	-	5/18/38/38	0/3/3/3
15	ATP	3	901	-	-	5/18/38/38	0/3/3/3
15	ATP	7	801	13	-	5/18/38/38	0/3/3/3
14	ADP	5	801	9	-	0/12/32/32	0/3/3/3

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
14	6	901	ADP	PB-O1B	3.32	1.61	1.50
14	6	901	ADP	O4'-C1'	3.21	1.45	1.41
14	6	901	ADP	PA-O1A	3.20	1.62	1.50
15	4	901	ATP	C5-C4	2.55	1.47	1.40
14	5	801	ADP	C5-C4	2.51	1.47	1.40
15	6	902	ATP	C5-C4	2.39	1.47	1.40
15	3	901	ATP	C5-C4	2.32	1.47	1.40
15	7	801	ATP	C5-C4	2.28	1.47	1.40
14	6	901	ADP	C8-N7	-2.19	1.30	1.34

All (33) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
14	6	901	ADP	PA-O3A-PB	-6.58	110.23	132.83
15	7	801	ATP	PA-O3A-PB	-4.93	115.91	132.83
15	6	902	ATP	PA-O3A-PB	-4.80	116.37	132.83
15	6	902	ATP	PB-O3B-PG	-4.71	116.67	132.83
14	6	901	ADP	N3-C2-N1	-4.62	121.45	128.68
14	5	801	ADP	PA-O3A-PB	-4.33	117.95	132.83
15	6	902	ATP	C3'-C2'-C1'	4.08	107.12	100.98
15	7	801	ATP	PB-O3B-PG	-3.90	119.45	132.83
15	3	901	ATP	PA-O3A-PB	-3.54	120.69	132.83
15	3	901	ATP	PB-O3B-PG	-3.45	120.97	132.83
14	5	801	ADP	N3-C2-N1	-3.45	123.29	128.68
15	4	901	ATP	N3-C2-N1	-3.31	123.51	128.68
15	4	901	ATP	C4-C5-N7	-3.29	105.97	109.40
15	7	801	ATP	N3-C2-N1	-3.17	123.73	128.68
15	6	902	ATP	N3-C2-N1	-3.16	123.73	128.68

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
15	3	901	ATP	C3'-C2'-C1'	3.04	105.56	100.98
15	3	901	ATP	N3-C2-N1	-2.92	124.11	128.68
14	5	801	ADP	C4-C5-N7	-2.86	106.42	109.40
15	6	902	ATP	C4-C5-N7	-2.85	106.43	109.40
14	6	901	ADP	C3'-C2'-C1'	2.83	105.24	100.98
15	7	801	ATP	C3'-C2'-C1'	2.80	105.19	100.98
15	4	901	ATP	PB-O3B-PG	-2.79	123.25	132.83
14	5	801	ADP	C3'-C2'-C1'	2.68	105.01	100.98
15	7	801	ATP	C4-C5-N7	-2.41	106.89	109.40
14	6	901	ADP	PA-O5'-C5'	-2.29	108.25	121.68
15	4	901	ATP	C3'-C2'-C1'	2.25	104.37	100.98
15	7	801	ATP	C2'-C3'-C4'	2.19	106.89	102.64
15	4	901	ATP	C2-N1-C6	2.16	122.44	118.75
14	5	801	ADP	O3B-PB-O2B	2.15	115.86	107.64
15	4	901	ATP	O2A-PA-O5'	2.14	117.70	107.75
15	4	901	ATP	O2A-PA-O1A	2.13	122.75	112.24
14	5	801	ADP	O2A-PA-O1A	2.10	122.60	112.24
15	7	801	ATP	O3G-PG-O2G	2.00	115.29	107.64

There are no chirality outliers.

All (21) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
15	6	902	ATP	C5'-O5'-PA-O1A
15	6	902	ATP	C5'-O5'-PA-O2A
15	3	901	ATP	C5'-O5'-PA-O1A
15	3	901	ATP	C5'-O5'-PA-O2A
15	4	901	ATP	C5'-O5'-PA-O2A
15	7	801	ATP	C5'-O5'-PA-O1A
15	7	801	ATP	C5'-O5'-PA-O2A
15	4	901	ATP	O4'-C4'-C5'-O5'
15	4	901	ATP	C5'-O5'-PA-O3A
15	6	902	ATP	C4'-C5'-O5'-PA
15	3	901	ATP	C4'-C5'-O5'-PA
15	7	801	ATP	C4'-C5'-O5'-PA
15	4	901	ATP	C5'-O5'-PA-O1A
15	4	901	ATP	C4'-C5'-O5'-PA
15	6	902	ATP	O4'-C4'-C5'-O5'
15	3	901	ATP	O4'-C4'-C5'-O5'
15	7	801	ATP	O4'-C4'-C5'-O5'
15	6	902	ATP	C5'-O5'-PA-O3A
15	3	901	ATP	C5'-O5'-PA-O3A

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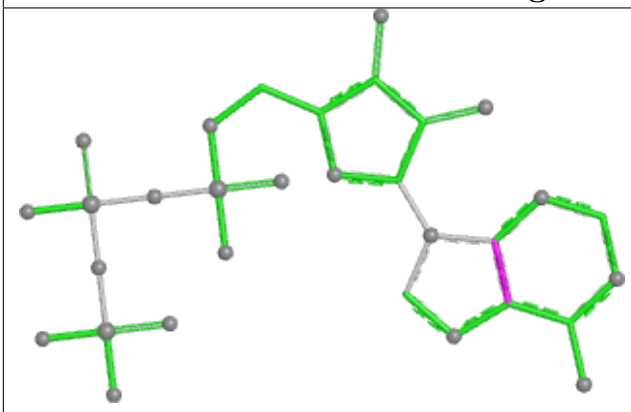
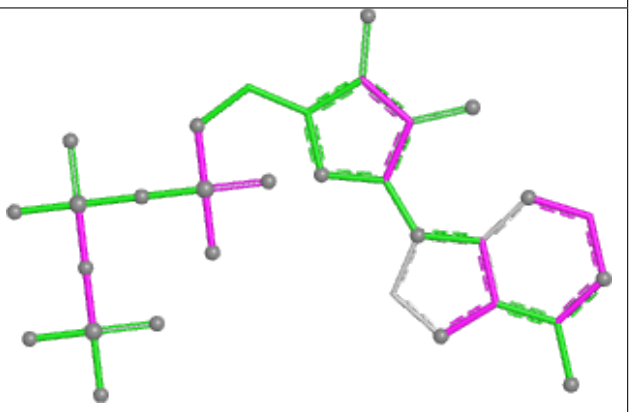
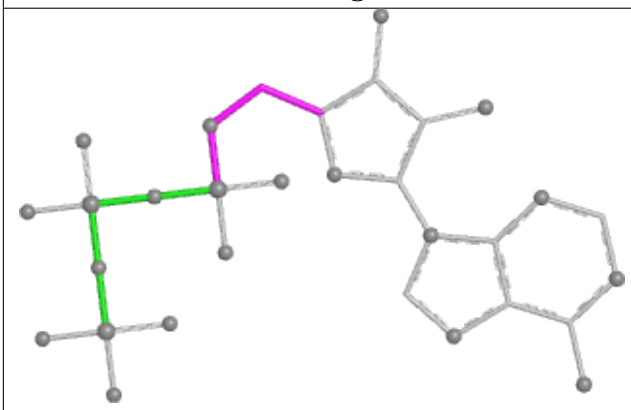
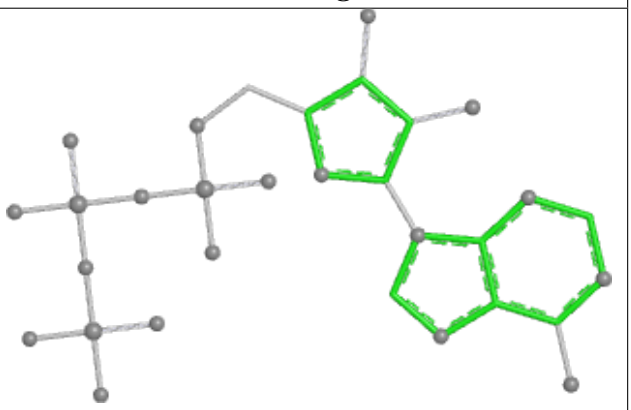
Mol	Chain	Res	Type	Atoms
15	7	801	ATP	C5'-O5'-PA-O3A
15	4	901	ATP	C3'-C4'-C5'-O5'

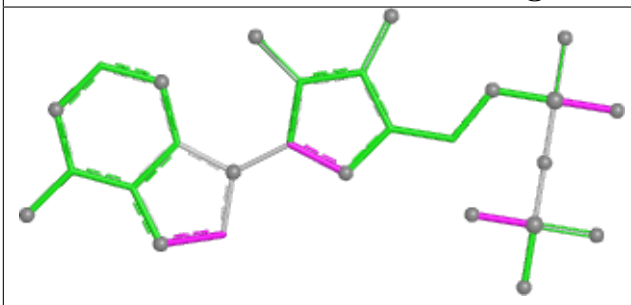
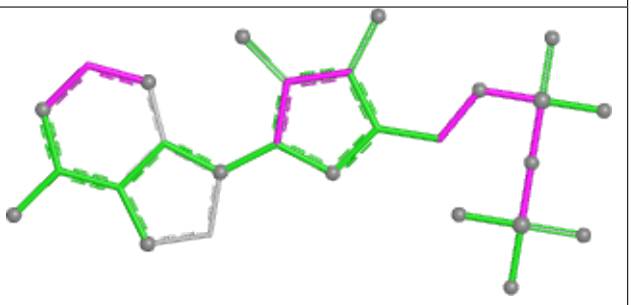
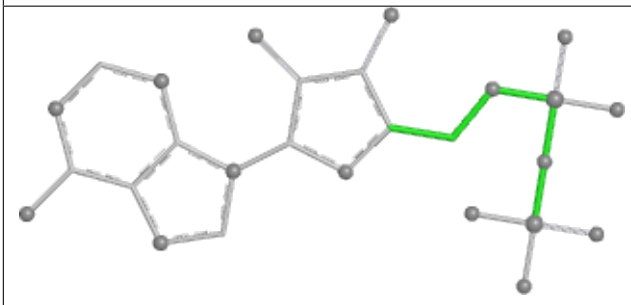
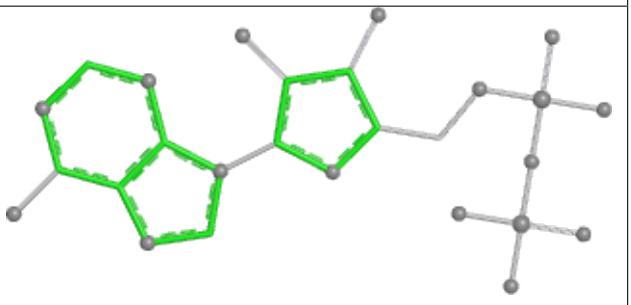
There are no ring outliers.

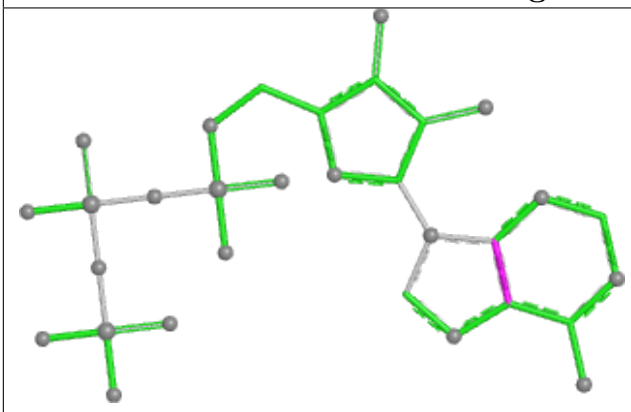
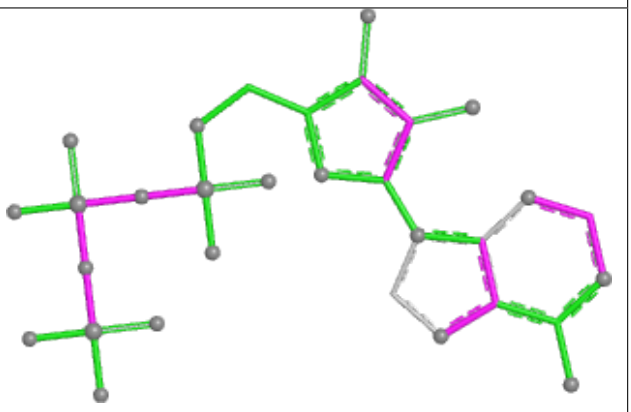
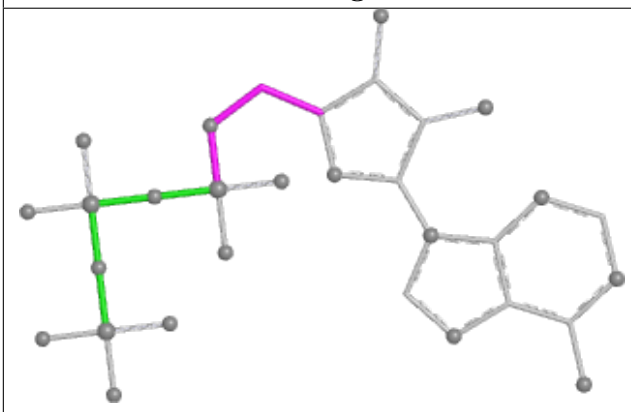
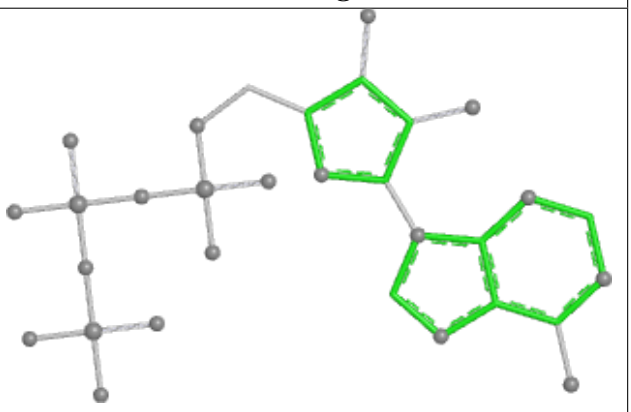
6 monomers are involved in 40 short contacts:

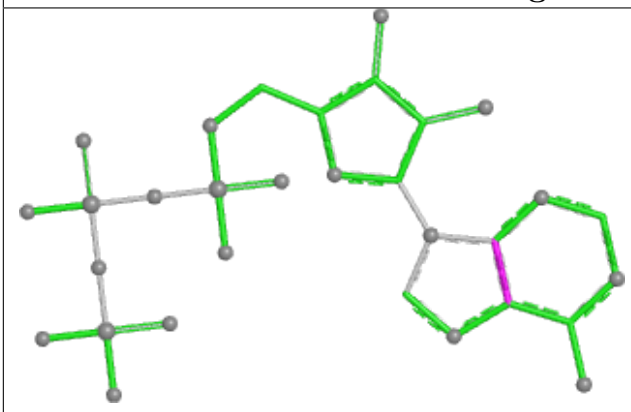
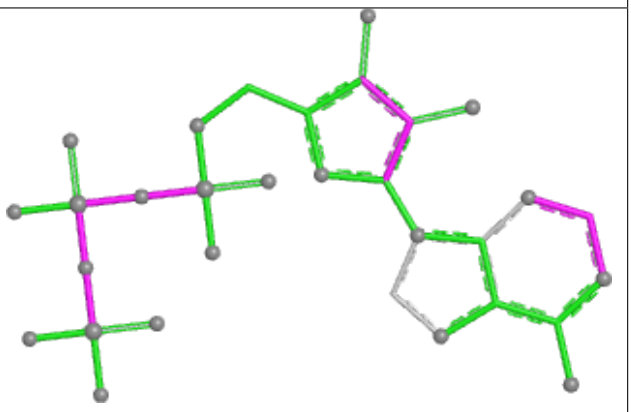
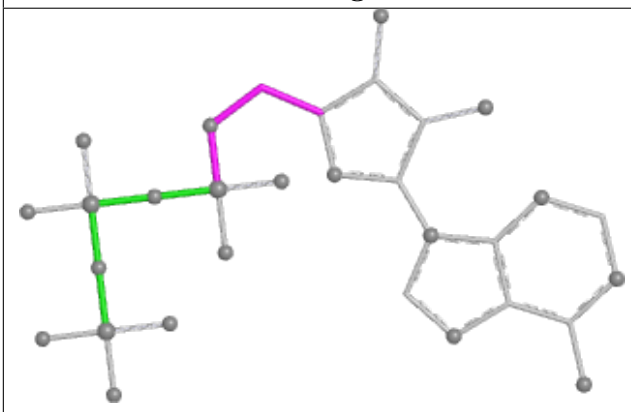
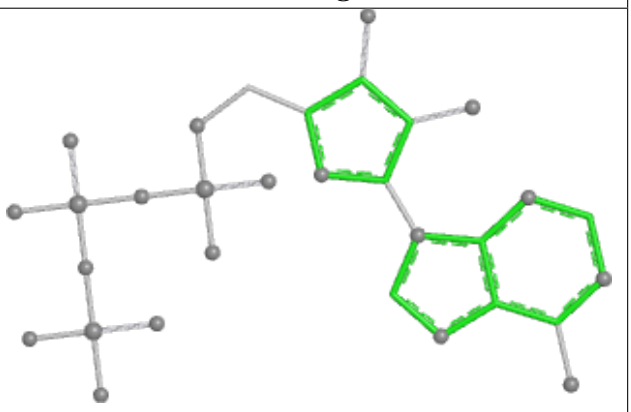
Mol	Chain	Res	Type	Clashes	Symm-Clashes
15	4	901	ATP	6	0
14	6	901	ADP	5	0
15	6	902	ATP	6	0
15	3	901	ATP	7	0
15	7	801	ATP	11	0
14	5	801	ADP	5	0

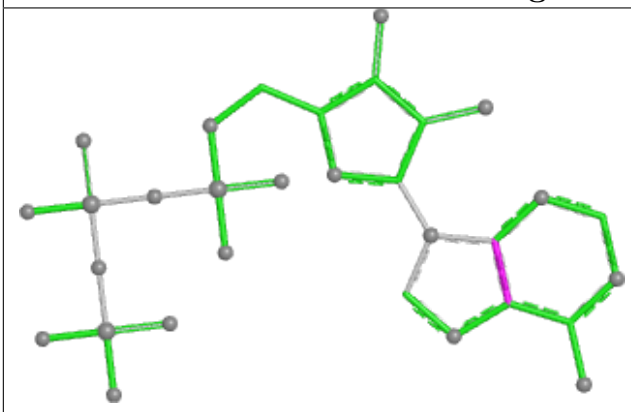
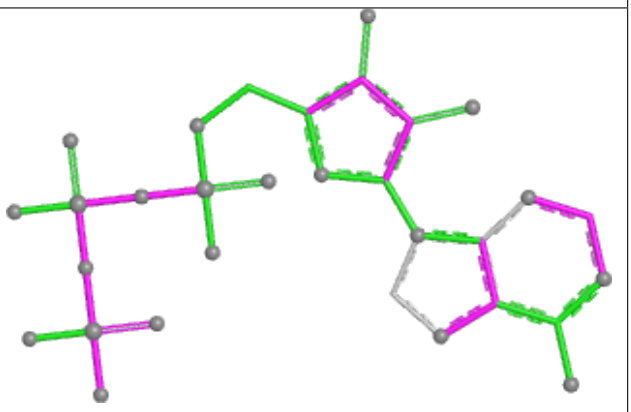
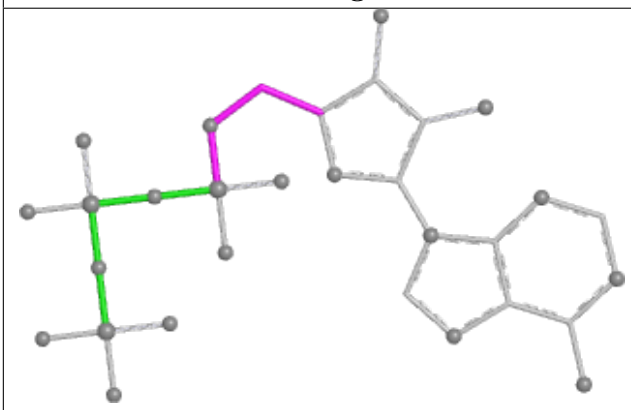
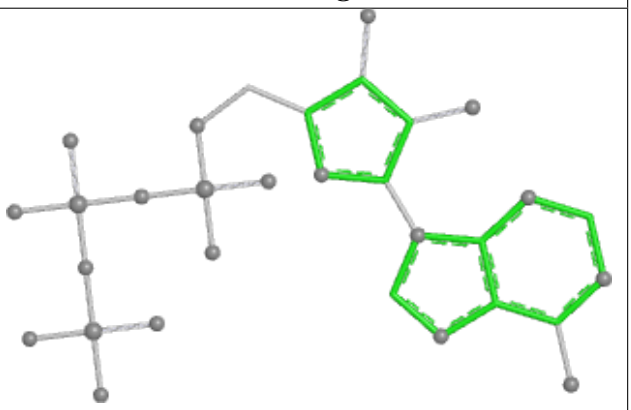
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. 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.

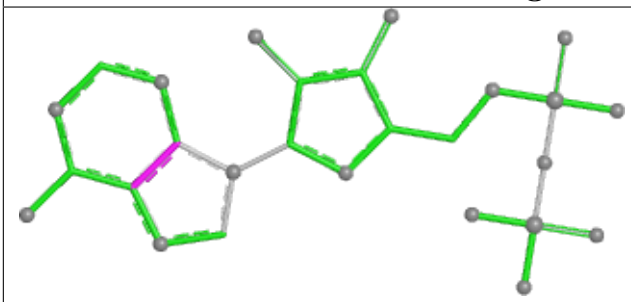
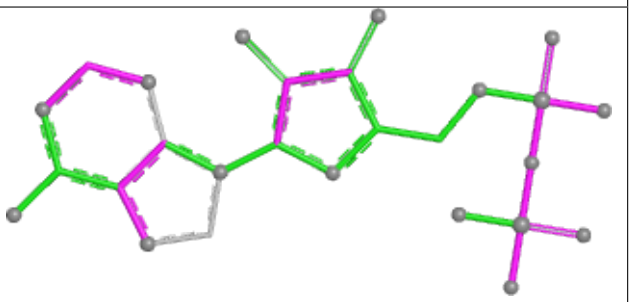
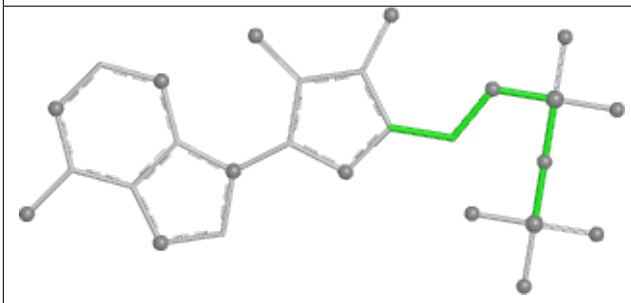
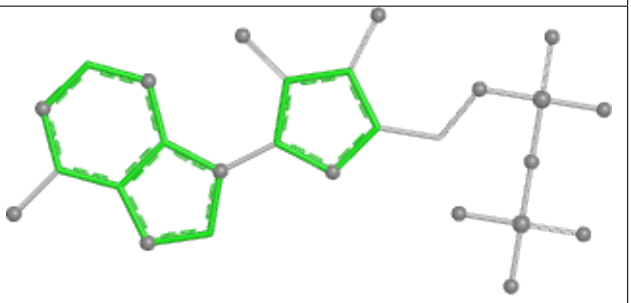
Ligand ATP 4 901	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand ADP 6 901	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand ATP 6 902	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand ATP 3 901	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand ATP 7 801	
 Bond lengths	 Bond angles
 Torsions	 Rings

Ligand ADP 5 801	
 Bond lengths	 Bond angles
 Torsions	 Rings

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

The following chains have linkage breaks:

Mol	Chain	Number of breaks
9	5	2
8	2	1
12	4	1

All chain breaks are listed below:

Model	Chain	Residue-1	Atom-1	Residue-2	Atom-2	Distance (Å)
1	5	405:GLY	C	408:SER	N	5.55
1	2	435:LYS	C	436:GLN	N	4.80
1	5	507:ILE	C	508:LEU	N	1.04
1	4	491:LYS	C	492:LYS	N	0.72

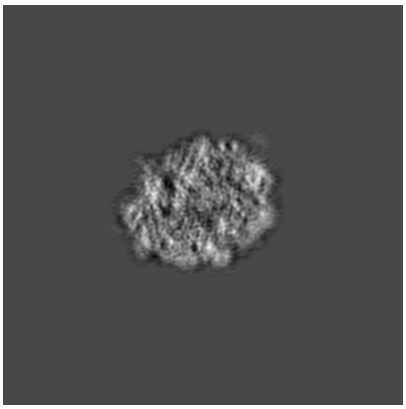
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-4788. These allow visual inspection of the internal detail of the map and identification of artifacts.

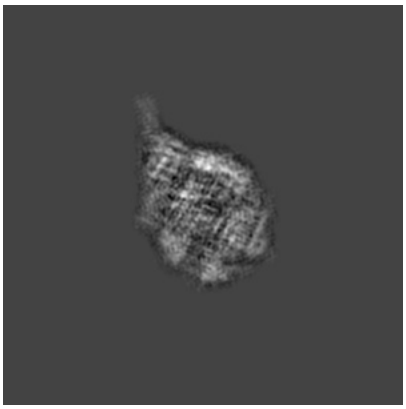
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections

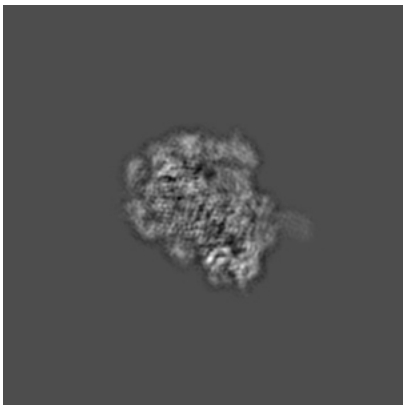
6.1.1 Primary map



X

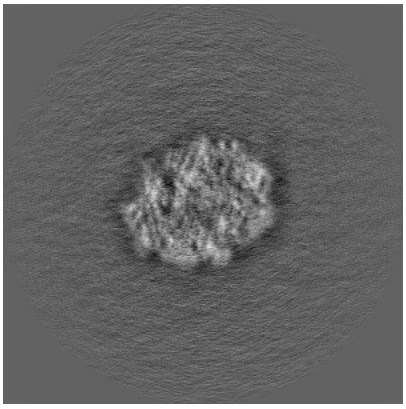


Y

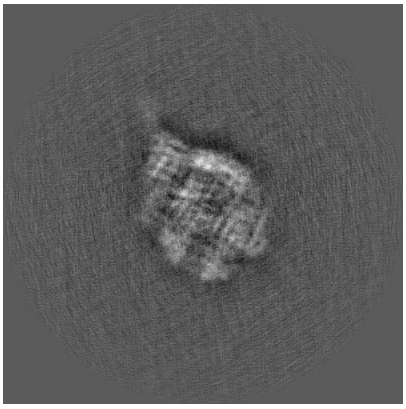


Z

6.1.2 Raw map



X



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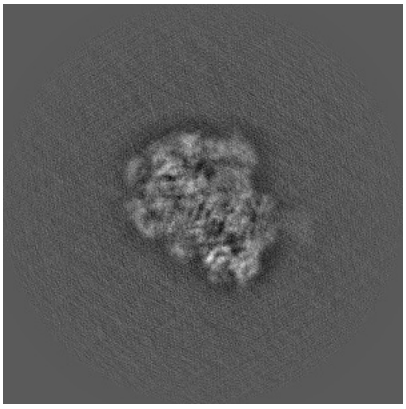
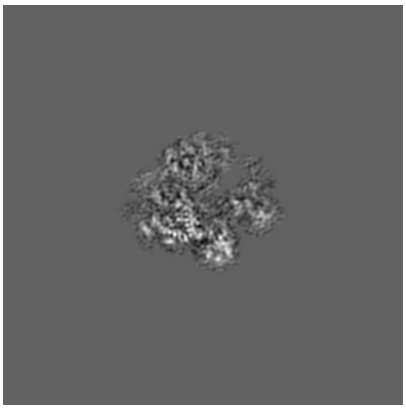


Z

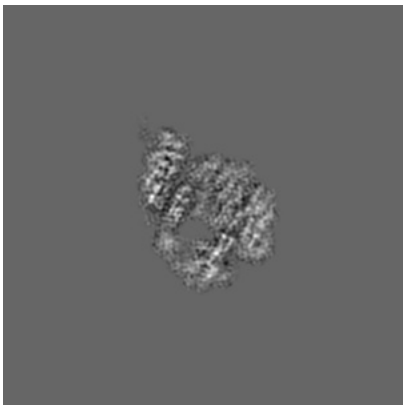
The images above show the map projected in three orthogonal directions.

6.2 Central slices (i)

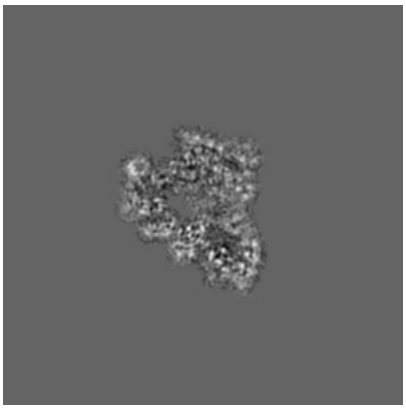
6.2.1 Primary map



X Index: 192

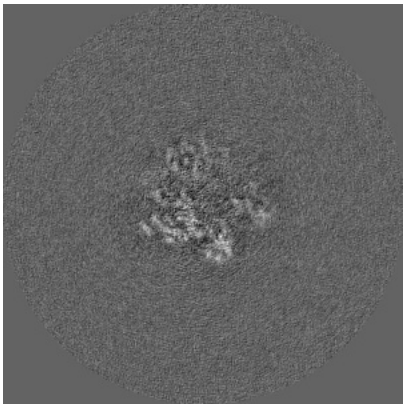


Y Index: 192



Z Index: 192

6.2.2 Raw map



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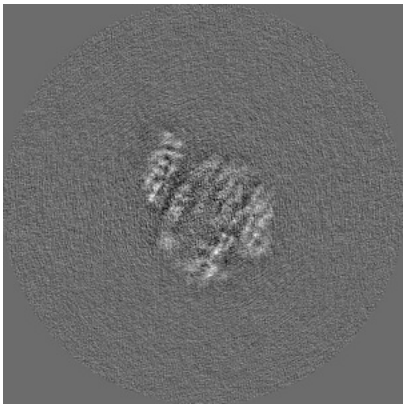
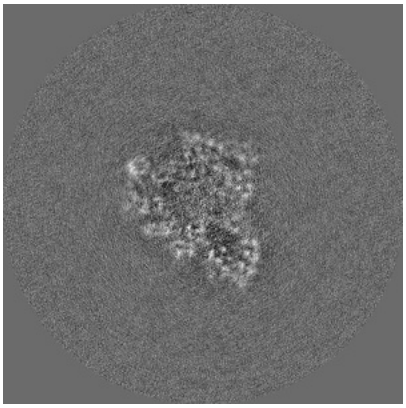


Y Index: 192

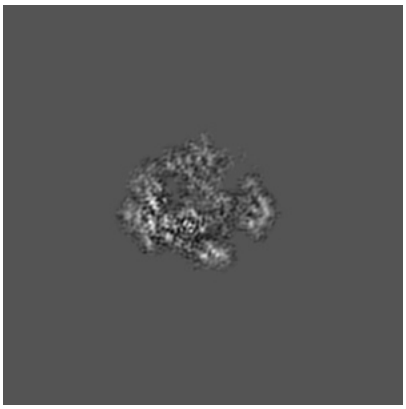


Z Index: 192

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

6.3 Largest variance slices (i)

6.3.1 Primary map



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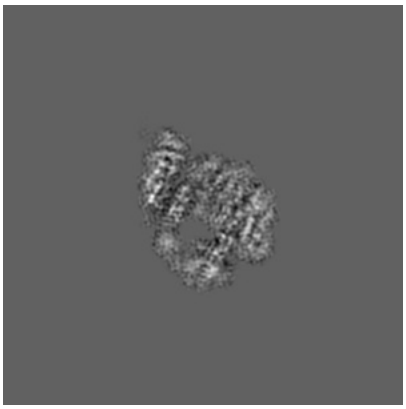
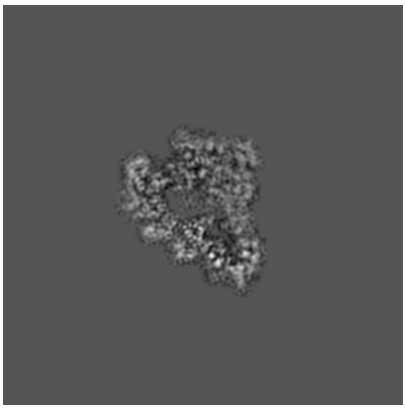
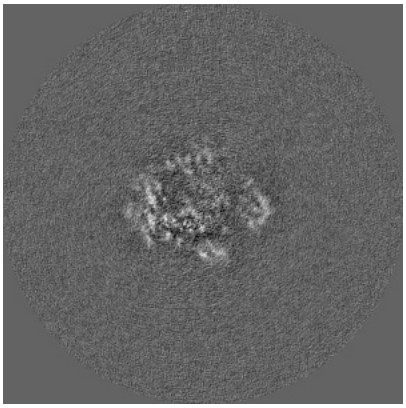


Y Index: 193

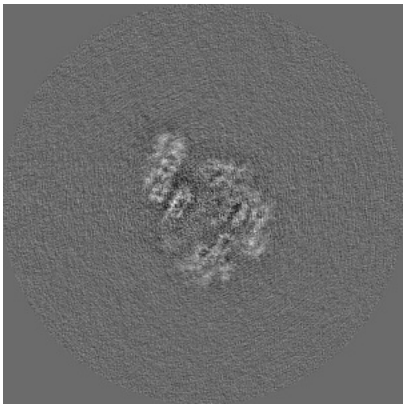


Z Index: 195

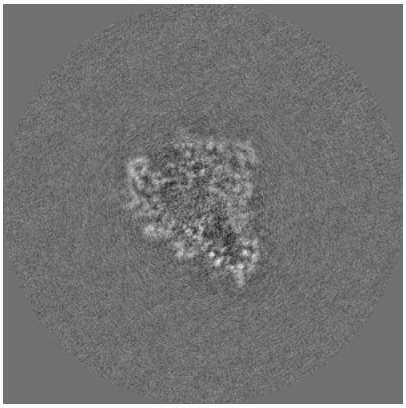
6.3.2 Raw map



X Index: 199



Y Index: 189

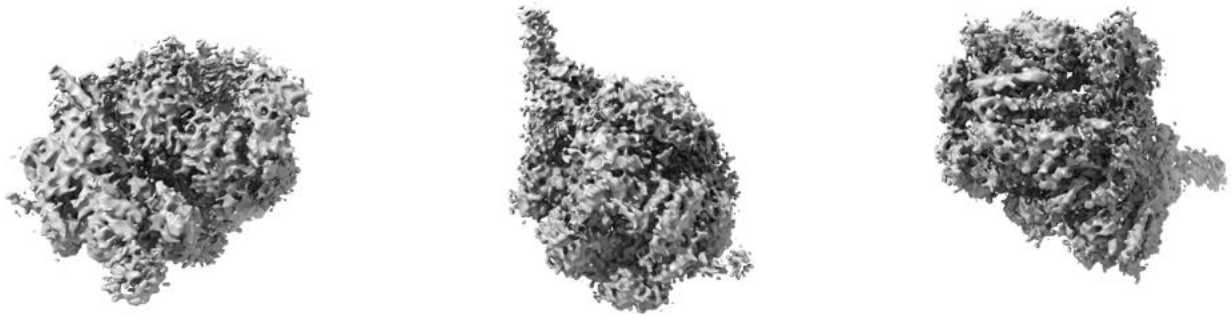


Z Index: 195

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

6.4 Orthogonal surface views (i)

6.4.1 Primary map



X Y Z

The images above show the 3D surface view of the map at the recommended contour level 0.0045. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.4.2 Raw map

X Y Z

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

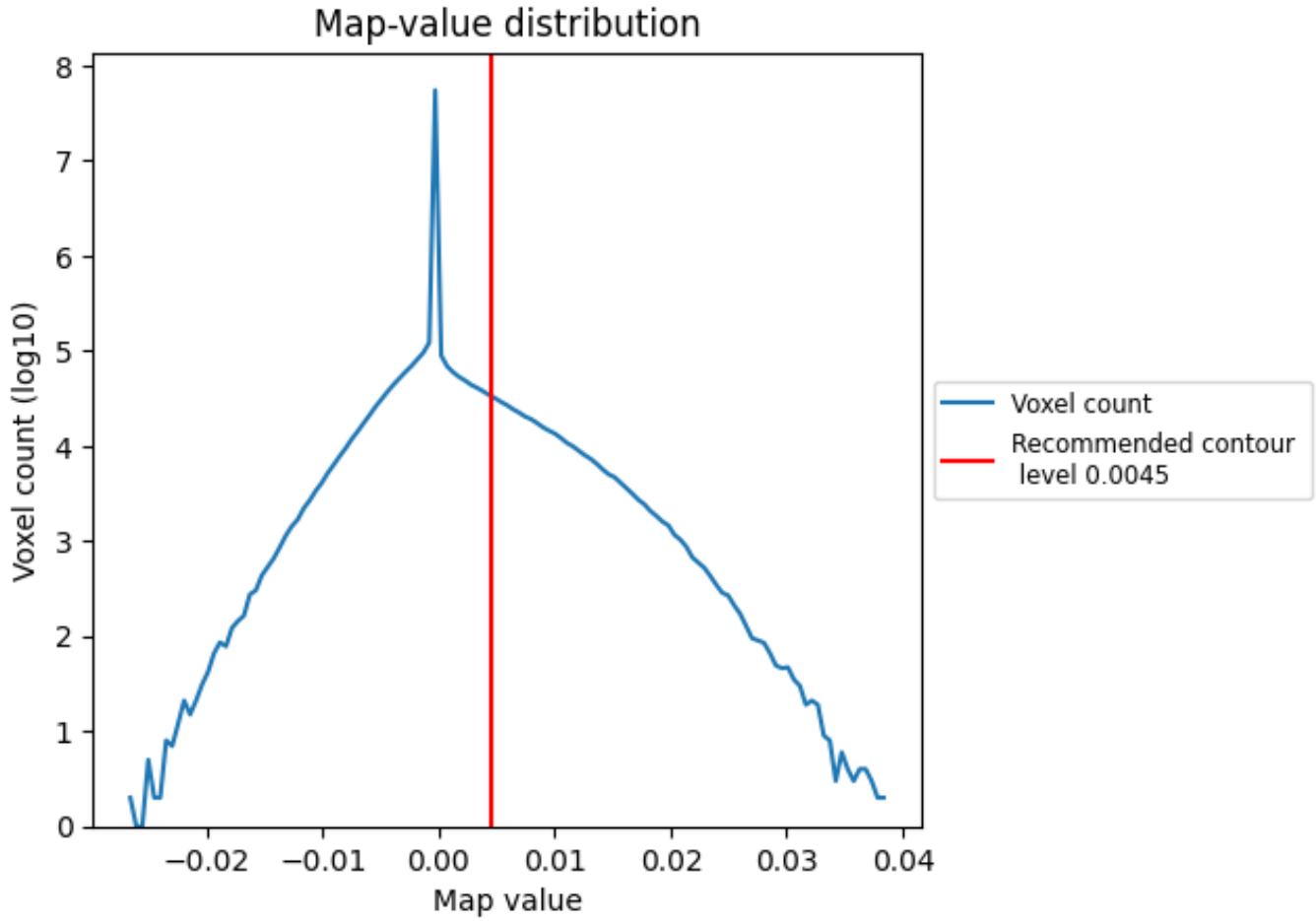
6.5 Mask visualisation (i)

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

7 Map analysis

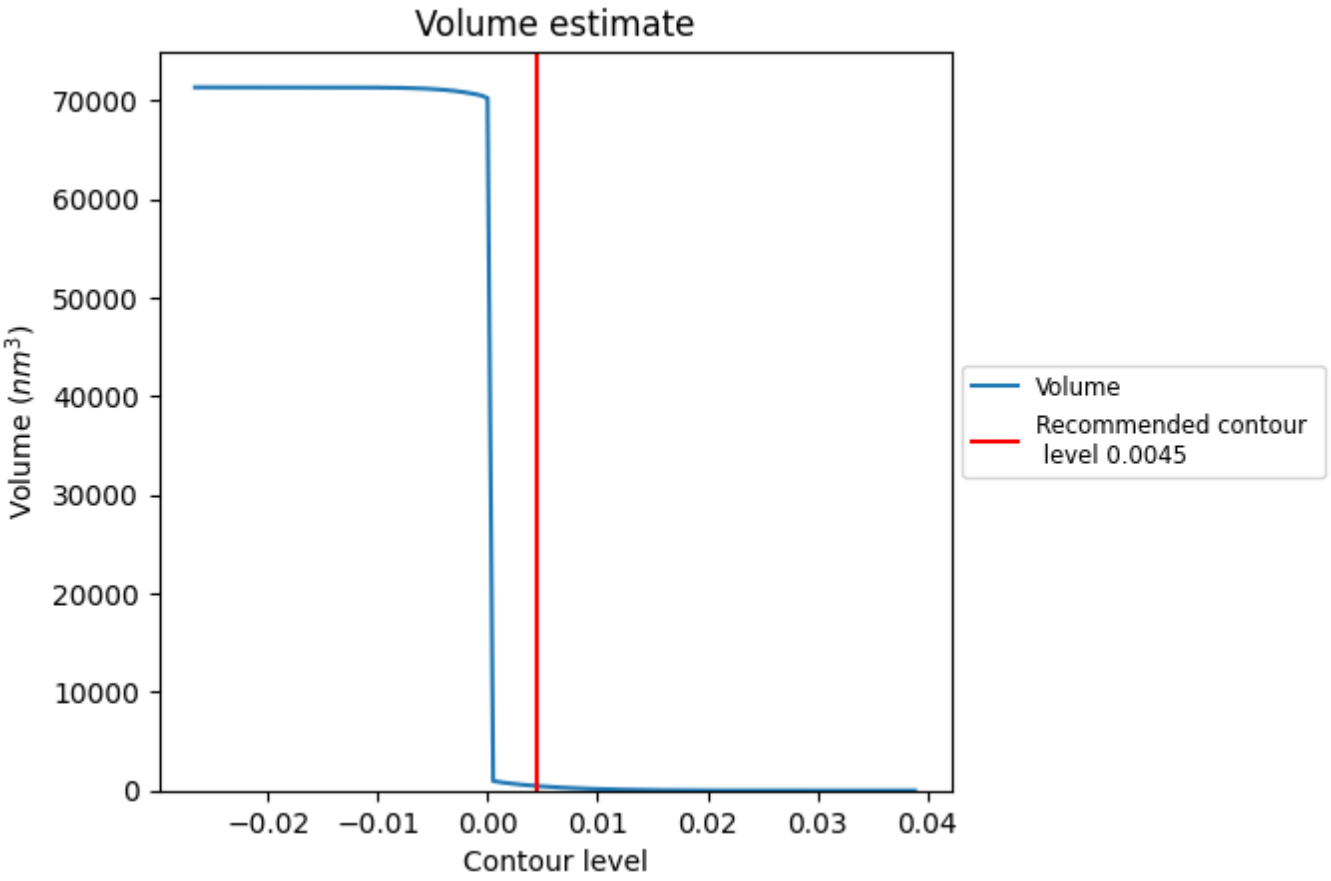
This section contains the results of statistical analysis of the map.

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.

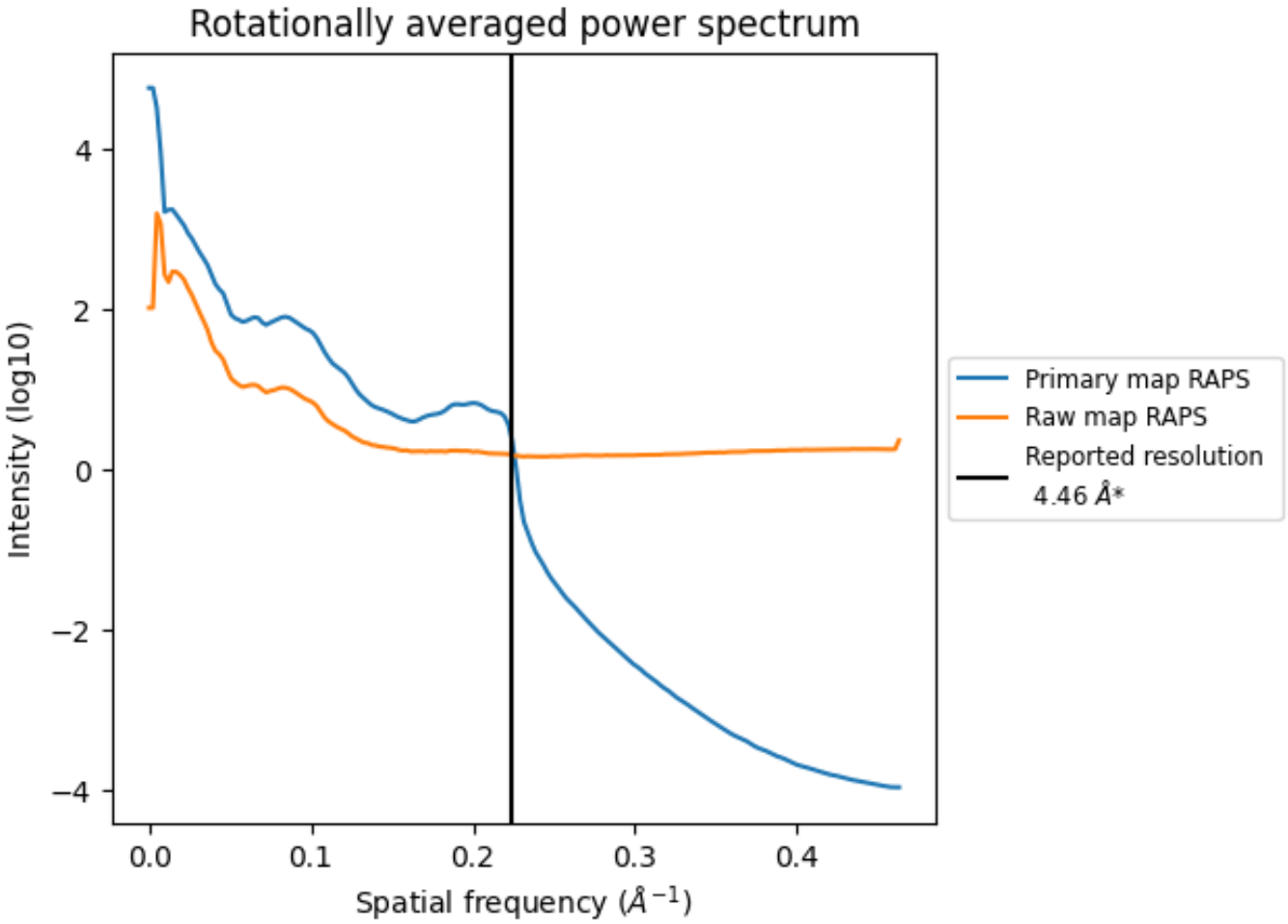
7.2 Volume estimate



The volume at the recommended contour level is 463 nm^3; this corresponds to an approximate mass of 418 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)

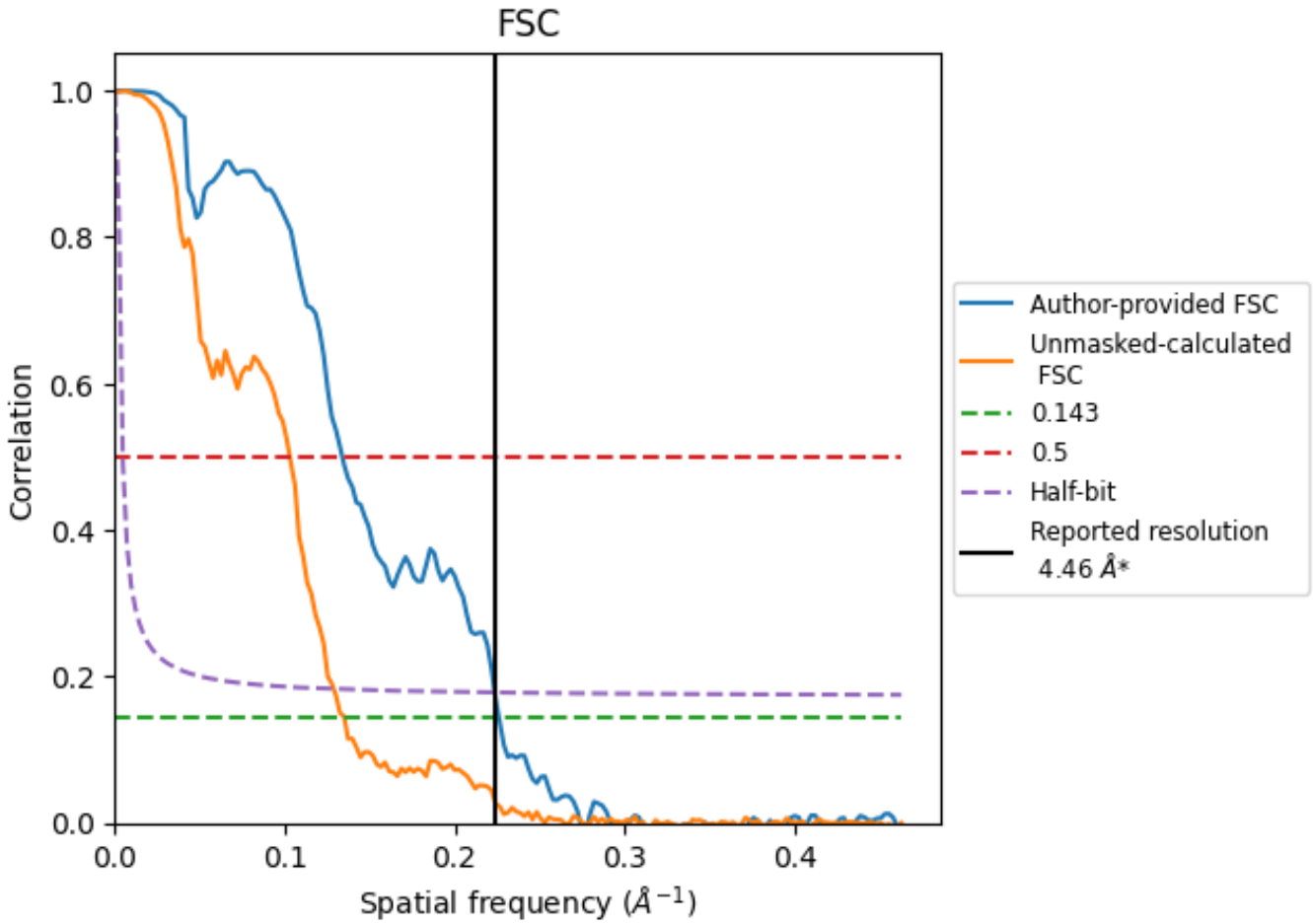


*Reported resolution corresponds to spatial frequency of 0.224 Å^{-1}

8 Fourier-Shell correlation

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

8.1 FSC



*Reported resolution corresponds to spatial frequency of 0.224 Å^{-1}

8.2 Resolution estimates (i)

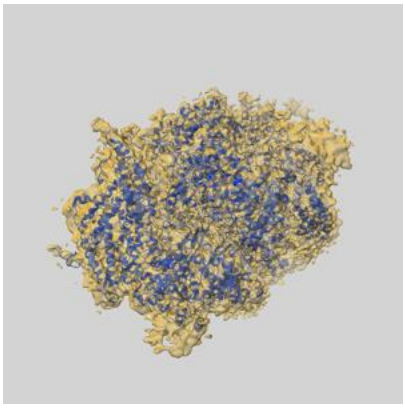
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	4.46	-	-
Author-provided FSC curve	4.42	7.46	4.47
Unmasked-calculated*	7.40	9.71	7.76

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 7.40 differs from the reported value 4.46 by more than 10 %

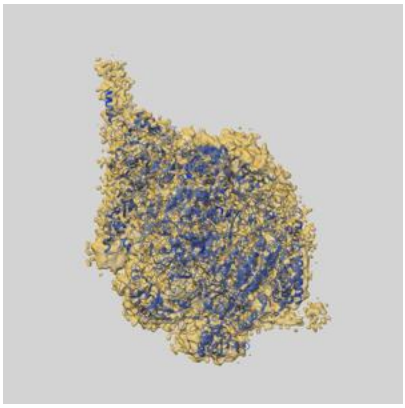
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-4788 and PDB model 6RAZ. Per-residue inclusion information can be found in section 3 on page 8.

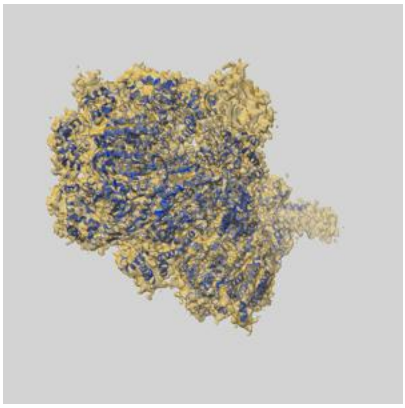
9.1 Map-model overlay



X



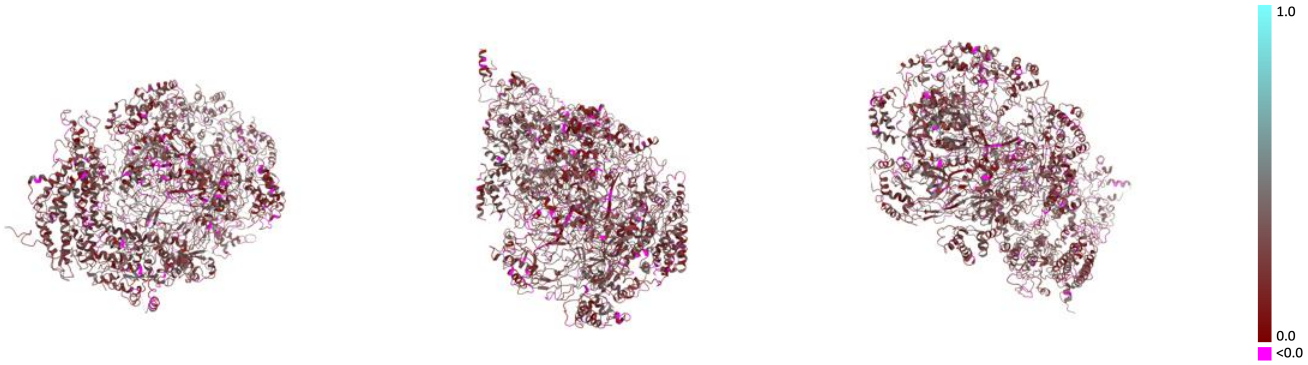
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 0.0045 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

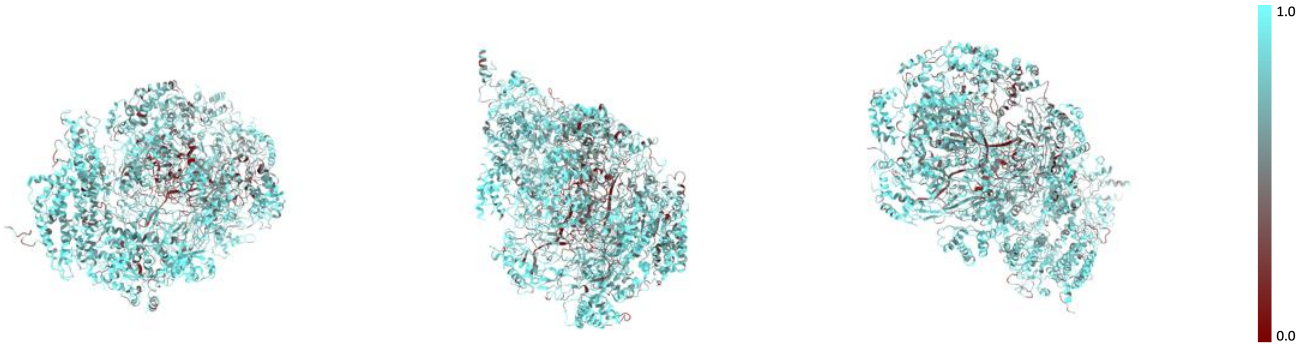
9.2 Q-score mapped to coordinate model



X Y Z

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

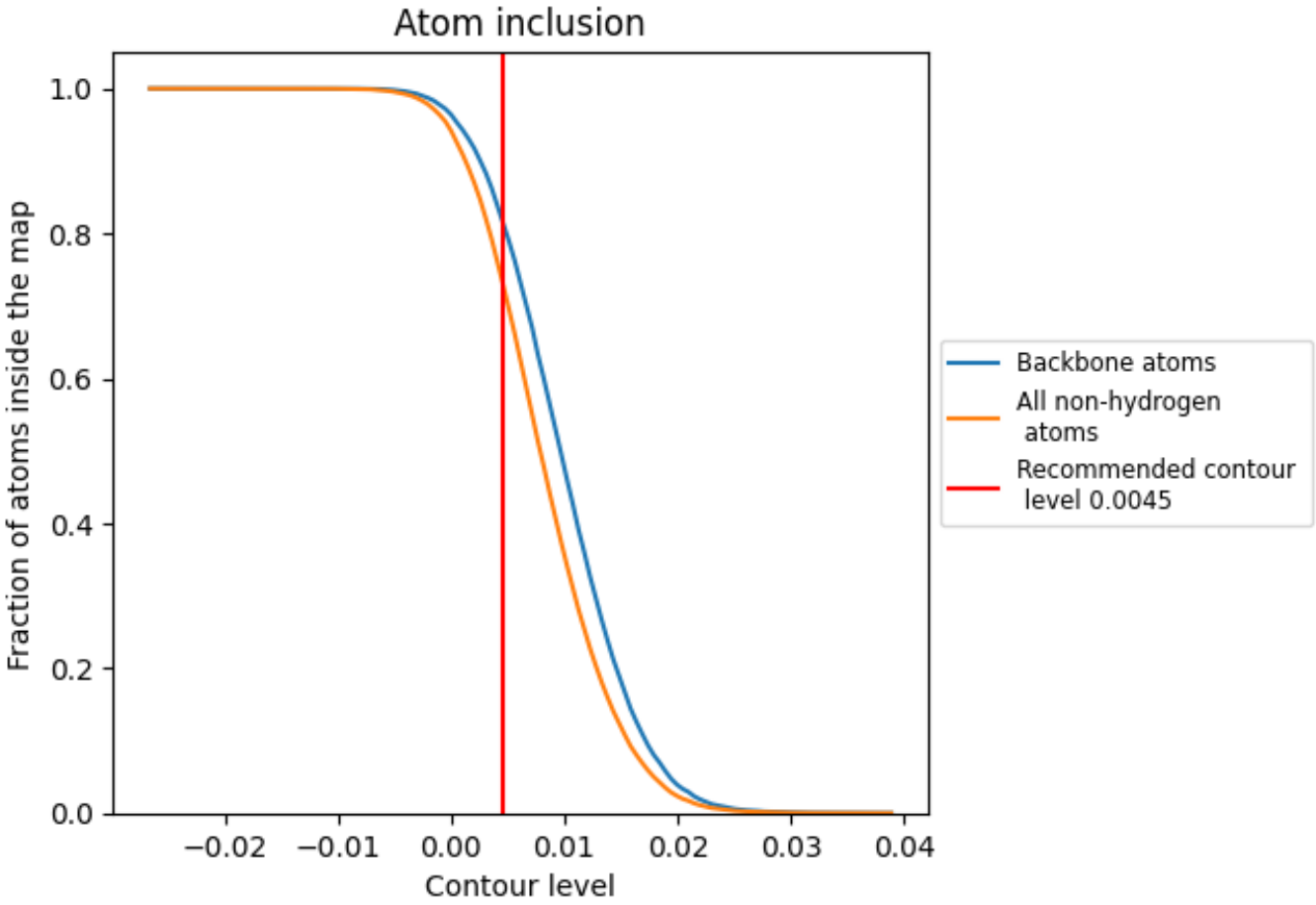
9.3 Atom inclusion mapped to coordinate model



X Y Z

The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.0045).

9.4 Atom inclusion (i)



At the recommended contour level, 82% of all backbone atoms, 73% 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 (0.0045) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7345	0.2460
2	0.7075	0.2360
3	0.7459	0.2630
4	0.7374	0.2460
5	0.6753	0.2360
6	0.6967	0.2250
7	0.7645	0.2680
A	0.8023	0.2700
H	0.7370	0.1920
L	0.8361	0.2760
M	0.7711	0.2610
N	0.7957	0.2460
X	0.2659	0.0990
Y	0.1951	0.1090