Full wwPDB X-ray Structure Validation Report (i)

Aug 27, 2023 – 03:41 PM EDT

PDB ID	:	3ICE
Title	:	Rho transcription termination factor bound to RNA and ADP-BeF3
Authors	:	Thomsen, N.D.; Berger, J.M.
Deposited on	:	2009-07-17
Resolution	:	2.80 Å(reported)

This is a Full wwPDB X-ray Structure 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/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

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

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

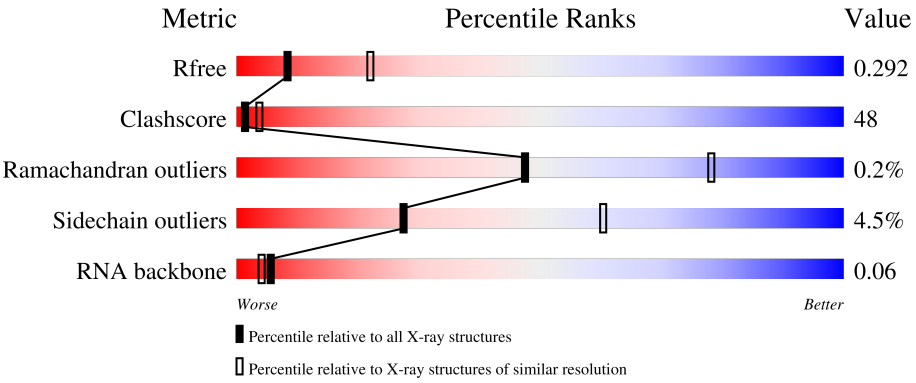
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.35
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.35

1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 2.80 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	3140 (2.80-2.80)
Clashscore	141614	3569 (2.80-2.80)
Ramachandran outliers	138981	3498 (2.80-2.80)
Sidechain outliers	138945	3500 (2.80-2.80)
RNA backbone	3102	1227 (3.10-2.50)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower 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%

Mol	Chain	Length	Quality of chain
1	A	422	35% 56% • 6%
1	B	422	44% 50% • •
1	C	422	39% 58% • •
1	D	422	41% 55% • •
1	E	422	37% 55% • •
1	F	422	29% 62% • 6%

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Mol	Chain	Length	Quality of chain
2	G	12	17% 33% 50%

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
6	SPD	E	504	-	-	X	-

2 Entry composition (i)

There are 7 unique types of molecules in this entry. The entry contains 19558 atoms, of which 0 are hydrogens and 0 are deuteriums.

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

- Molecule 1 is a protein called Transcription termination factor rho.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	398	Total	C	N	O	S	Se	0	0	0
			3133	1974	556	589	1	13			
1	B	408	Total	C	N	O	S	Se	0	1	0
			3214	2024	568	606	1	15			
1	C	413	Total	C	N	O	S	Se	0	0	0
			3251	2047	576	613	1	14			
1	D	410	Total	C	N	O	S	Se	0	1	0
			3230	2035	570	608	1	16			
1	E	407	Total	C	N	O	S	Se	0	0	0
			3202	2017	566	604	1	14			
1	F	396	Total	C	N	O	S	Se	0	1	0
			3111	1959	553	584	1	14			

There are 18 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-2	MSE	-	expression tag	UNP P0AG30
A	-1	GLY	-	expression tag	UNP P0AG30
A	0	HIS	-	expression tag	UNP P0AG30
B	-2	MSE	-	expression tag	UNP P0AG30
B	-1	GLY	-	expression tag	UNP P0AG30
B	0	HIS	-	expression tag	UNP P0AG30
C	-2	MSE	-	expression tag	UNP P0AG30
C	-1	GLY	-	expression tag	UNP P0AG30
C	0	HIS	-	expression tag	UNP P0AG30
D	-2	MSE	-	expression tag	UNP P0AG30
D	-1	GLY	-	expression tag	UNP P0AG30
D	0	HIS	-	expression tag	UNP P0AG30
E	-2	MSE	-	expression tag	UNP P0AG30
E	-1	GLY	-	expression tag	UNP P0AG30
E	0	HIS	-	expression tag	UNP P0AG30
F	-2	MSE	-	expression tag	UNP P0AG30
F	-1	GLY	-	expression tag	UNP P0AG30

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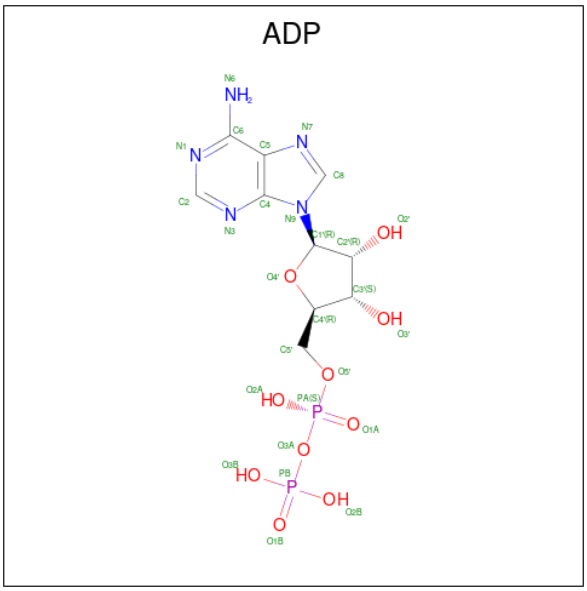
Chain	Residue	Modelled	Actual	Comment	Reference
F	0	HIS	-	expression tag	UNP P0AG30

- Molecule 2 is a RNA chain called 5'-R(P*UP*UP*UP*UP*UP*UP*UP*UP*UP*UP*UP*U)-3'.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	G	6	Total	C	N	O	P	0	0	0
			121	54	12	49	6			

- Molecule 3 is ADENOSINE-5'-DIPHOSPHATE (three-letter code: ADP) (formula: $C_{10}H_{15}N_5O_{10}P_2$).

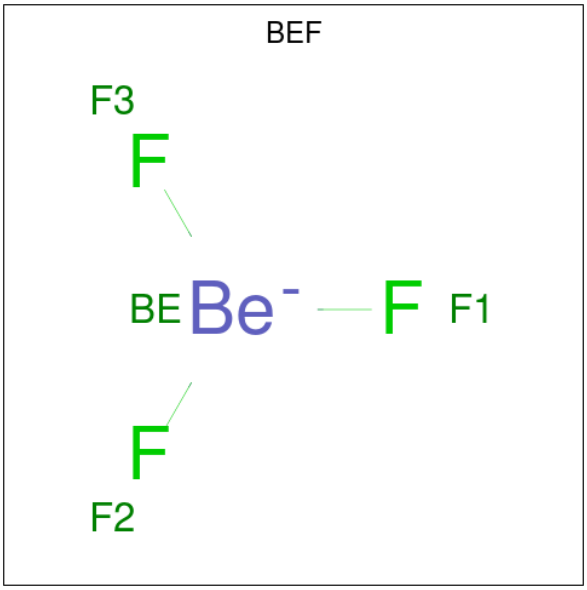


Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
3	A	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
3	B	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
3	C	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
3	D	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
3	E	1	Total	C	N	O	P	0	0
			27	10	5	10	2		
3	F	1	Total	C	N	O	P	0	0
			27	10	5	10	2		

- Molecule 4 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total Mg 1 1	0	0
4	B	1	Total Mg 1 1	0	0
4	C	1	Total Mg 1 1	0	0
4	D	1	Total Mg 1 1	0	0
4	E	1	Total Mg 1 1	0	0
4	F	1	Total Mg 1 1	0	0

- Molecule 5 is BERYLLIUM TRIFLUORIDE ION (three-letter code: BEF) (formula: BeF_3).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total Be F 4 1 3	0	0
5	B	1	Total Be F 4 1 3	0	0
5	C	1	Total Be F 4 1 3	0	0
5	D	1	Total Be F 4 1 3	0	0
5	E	1	Total Be F 4 1 3	0	0

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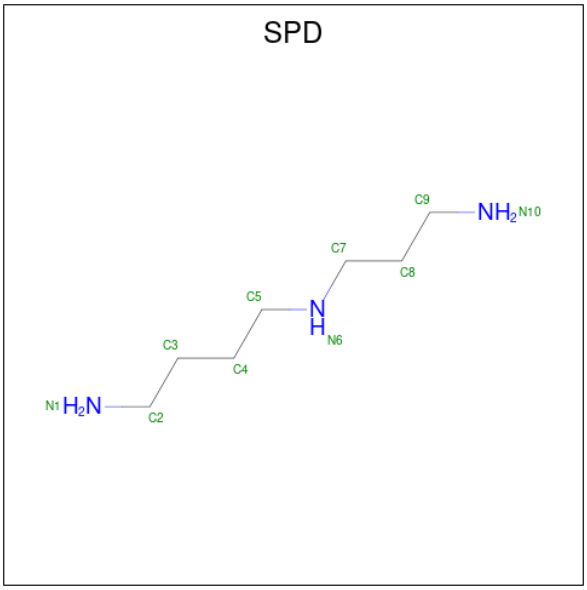
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	F	1	Total Be F 4 1 3	0	0

- Molecule 6 is SPERMIDINE (three-letter code: SPD) (formula: $C_7H_{19}N_3$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	E	1	Total C N 10 7 3	0	0
6	G	1	Total C N 10 7 3	0	0

- Molecule 7 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	18	Total O 18 18	0	0
7	B	19	Total O 19 19	0	0
7	C	19	Total O 19 19	0	0
7	D	13	Total O 13 13	0	0
7	E	9	Total O 9 9	0	0
7	F	4	Total O 4 4	0	0

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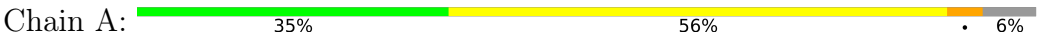
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	G	2	Total O 2 2	0	0

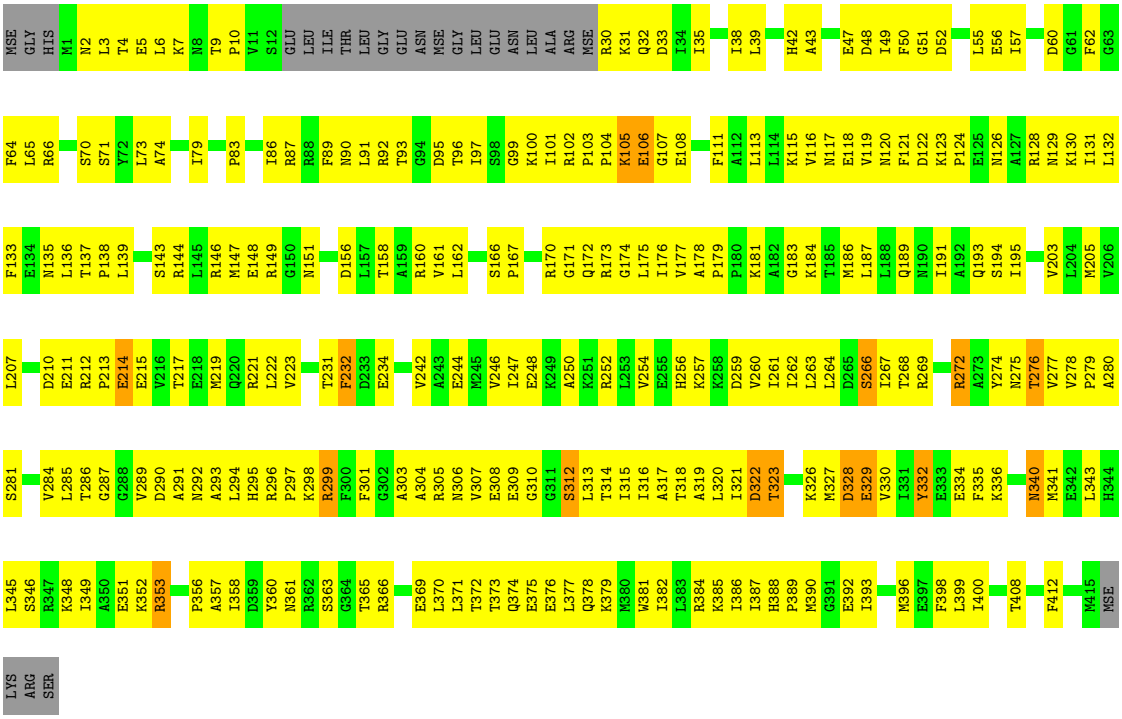
3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. 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. 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: Transcription termination factor rho

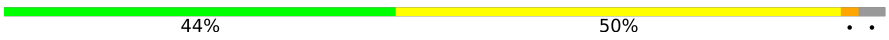
Chain A:

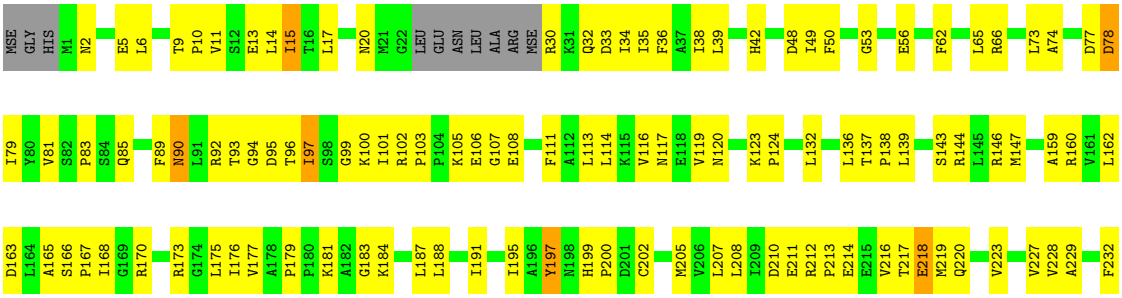


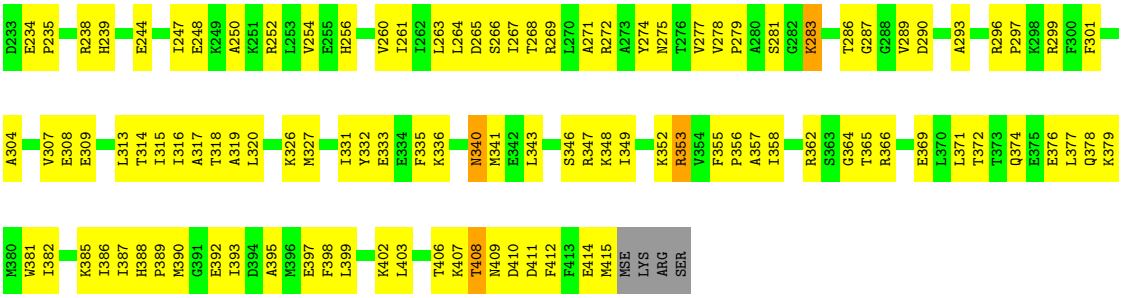


• Molecule 1: Transcription termination factor rho

Chain B:

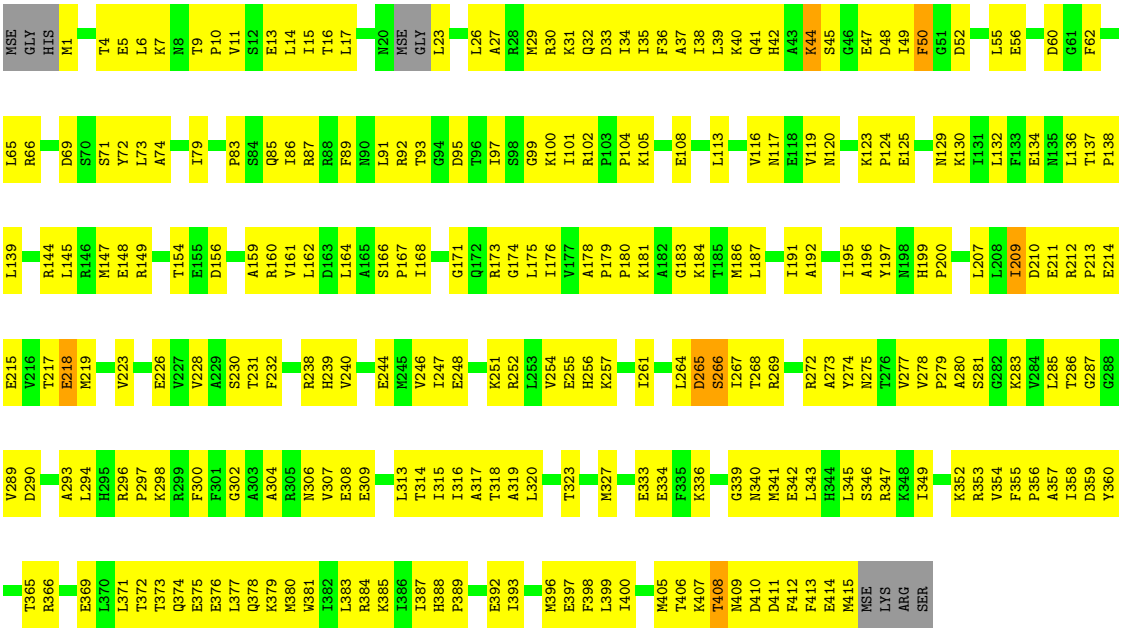






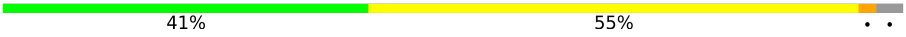
• Molecule 1: Transcription termination factor rho

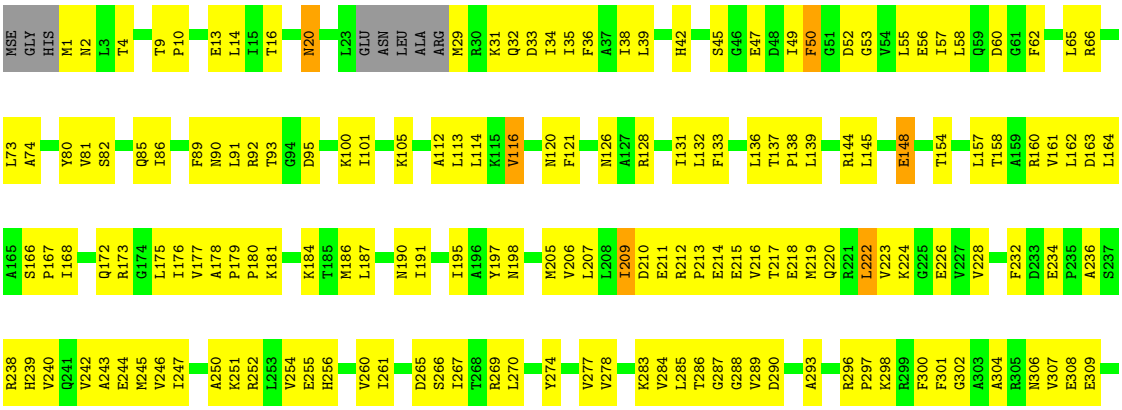
Chain C:

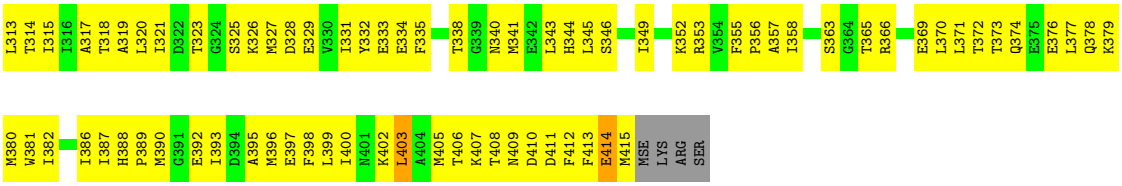


• Molecule 1: Transcription termination factor rho

Chain D:

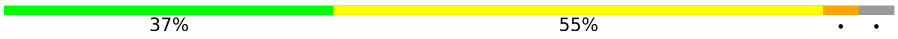


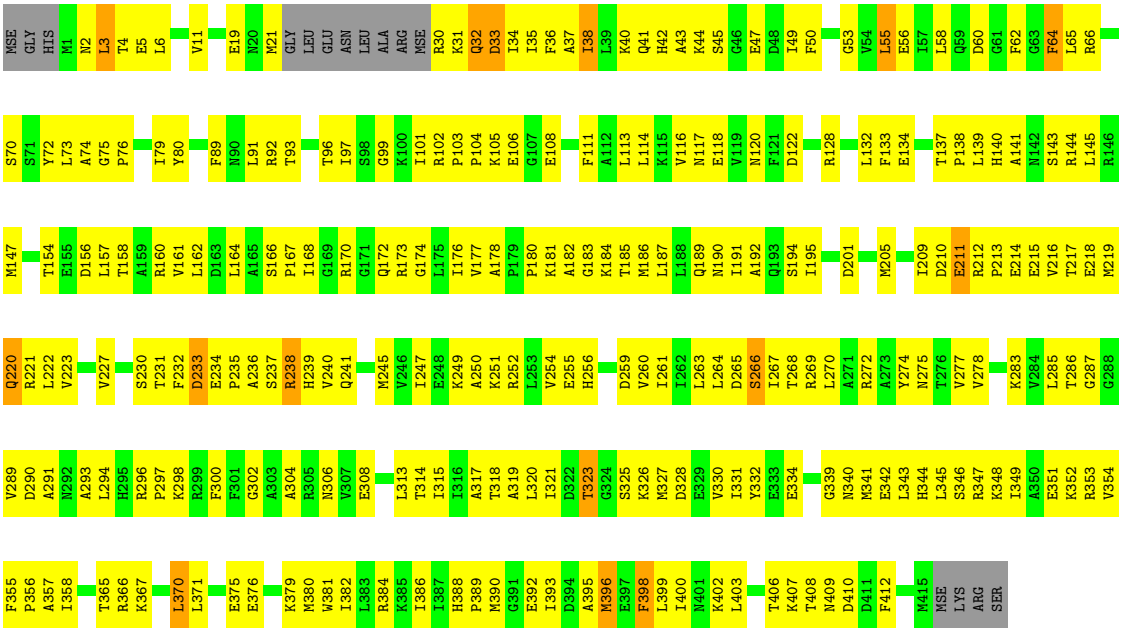




• Molecule 1: Transcription termination factor rho

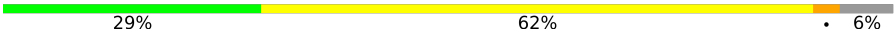
Chain E:

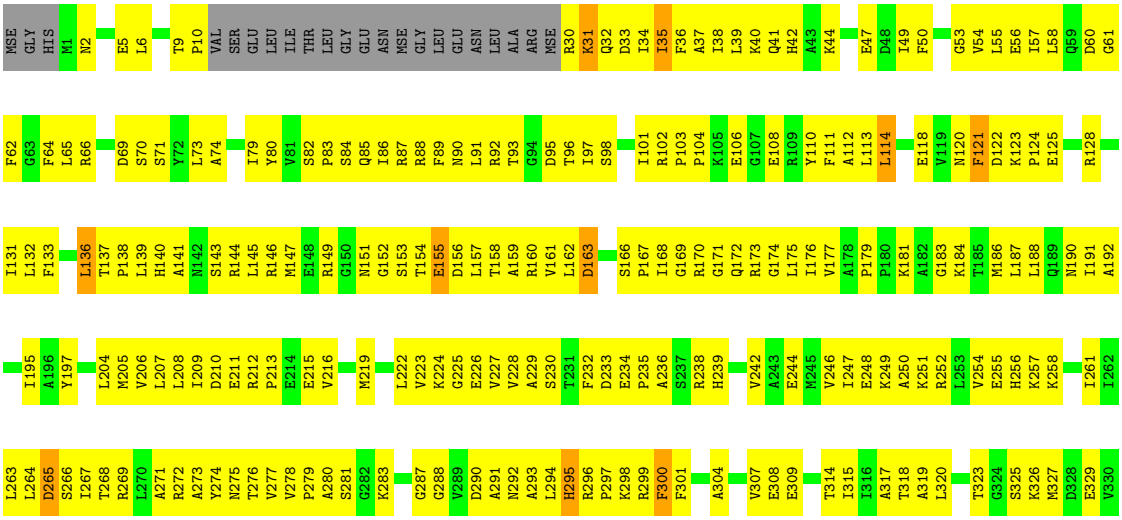


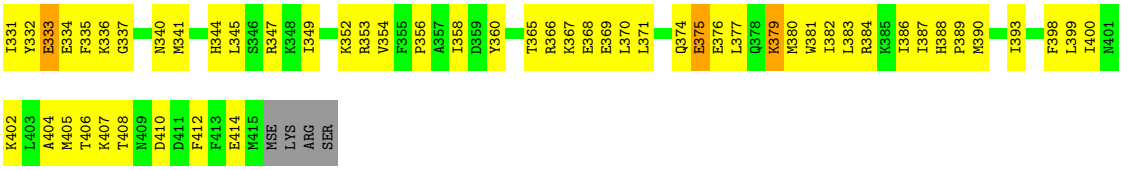


• Molecule 1: Transcription termination factor rho

Chain F:







• Molecule 2: 5'-R(P*UP*UP*UP*UP*UP*UP*UP*UP*UP*UP*UP*U)-3'

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	69.23Å 127.03Å 127.17Å 60.48° 90.26° 89.77°	Depositor
Resolution (Å)	41.88 – 2.80 41.88 – 2.80	Depositor EDS
% Data completeness (in resolution range)	94.7 (41.88-2.80) 91.6 (41.88-2.80)	Depositor EDS
R_{merge}	0.08	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	3.86 (at 2.81Å)	Xtriage
Refinement program	PHENIX	Depositor
R, R_{free}	0.270 , 0.295 0.264 , 0.292	Depositor DCC
R_{free} test set	4440 reflections (5.05%)	wwPDB-VP
Wilson B-factor (Å^2)	49.8	Xtriage
Anisotropy	0.628	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.25 , 5.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.30$, $< L^2 > = 0.13$	Xtriage
Estimated twinning fraction	0.389 for h,k-l,k 0.389 for h,l,-k+l 0.336 for h,-l,k-l 0.336 for h,-k+l,-k 0.317 for h,-k,-l 0.210 for -h,k,k-l 0.208 for -h,-k+l,l 0.208 for -h,-l,-k 0.216 for -h,l,k 0.208 for -h,-k,-k+l 0.208 for -h,k-l,-l	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	19558	wwPDB-VP
Average B, all atoms (Å^2)	70.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.14% of the height of the origin peak. No significant pseudotranslation is detected.*

[1] Intensities estimated from amplitudes.

[2] Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

5 Model quality

5.1 Standard geometry

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

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 5$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	$\#\|Z\| > 5$	RMSZ	$\#\|Z\| > 5$
1	A	0.66	0/3169	0.54	0/4249
1	B	0.66	0/3248	0.52	0/4351
1	C	0.67	0/3286	0.52	0/4405
1	D	0.66	0/3264	0.52	0/4372
1	E	0.63	0/3237	0.53	0/4339
1	F	0.60	0/3149	0.55	0/4220
2	G	0.66	0/132	0.83	0/200
All	All	0.65	0/19485	0.53	0/26136

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3133	0	3201	331	0
1	B	3214	0	3283	251	0
1	C	3251	0	3323	257	0
1	D	3230	0	3303	291	0
1	E	3202	0	3271	356	0
1	F	3111	0	3154	427	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	G	121	0	61	43	0
3	A	27	0	12	3	0
3	B	27	0	12	2	0
3	C	27	0	12	4	0
3	D	27	0	12	4	0
3	E	27	0	12	5	0
3	F	27	0	12	8	0
4	A	1	0	0	0	0
4	B	1	0	0	0	0
4	C	1	0	0	0	0
4	D	1	0	0	0	0
4	E	1	0	0	0	0
4	F	1	0	0	0	0
5	A	4	0	0	0	0
5	B	4	0	0	0	0
5	C	4	0	0	0	0
5	D	4	0	0	0	0
5	E	4	0	0	1	0
5	F	4	0	0	1	0
6	E	10	0	19	32	0
6	G	10	0	19	5	0
7	A	18	0	0	1	0
7	B	19	0	0	3	0
7	C	19	0	0	1	0
7	D	13	0	0	1	0
7	E	9	0	0	2	0
7	F	4	0	0	0	0
7	G	2	0	0	0	0
All	All	19558	0	19706	1871	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 48.

All (1871) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:1:U:C2'	2:G:2:U:H5'	1.52	1.36
1:D:178:ALA:HB3	1:D:184:LYS:CD	1.57	1.33
1:E:241:GLN:NE2	6:E:504:SPD:H71	1.42	1.33
1:D:407:LYS:NZ	1:D:409:ASN:HB3	1.53	1.23
1:A:120:ASN:HB2	1:A:256:HIS:CE1	1.76	1.19

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:58:LEU:HD12	1:F:62:PHE:CD1	1.80	1.16
1:D:178:ALA:HB3	1:D:184:LYS:HD3	1.15	1.15
1:E:396:MSE:HE2	1:E:396:MSE:HA	1.28	1.14
1:E:177:VAL:HG22	1:E:319:ALA:HB3	1.23	1.14
1:F:64:PHE:HD1	1:F:80:TYR:HA	1.09	1.14
1:E:407:LYS:H	1:E:407:LYS:HD2	1.13	1.13
1:E:41:GLN:HA	1:E:44:LYS:HD2	1.28	1.13
1:E:241:GLN:HE22	6:E:504:SPD:C7	1.61	1.13
1:F:386:ILE:HG23	1:F:387:ILE:HD12	1.23	1.11
1:F:294:LEU:HD13	1:F:334:GLU:HG3	1.31	1.11
1:F:333:GLU:HA	1:F:336:LYS:HE2	1.32	1.11
1:F:188:LEU:HD11	1:F:263:LEU:HB3	1.19	1.10
1:E:210:ASP:OD1	1:E:232:PHE:HB3	1.50	1.10
3:C:1000:ADP:O3'	1:D:366:ARG:HB3	1.49	1.09
1:A:90:ASN:HB2	1:A:128:ARG:HD2	1.30	1.07
1:A:90:ASN:HB2	1:A:128:ARG:CD	1.83	1.07
1:E:237:SER:CB	6:E:504:SPD:HN6	1.66	1.07
1:F:204:LEU:HD23	1:F:224:LYS:HB3	1.13	1.06
2:G:1:U:H2'	2:G:2:U:C5'	1.87	1.05
1:B:85:GLN:NE2	1:B:113:LEU:HD11	1.72	1.04
1:E:390:MSE:HE1	1:E:398:PHE:CG	1.94	1.03
1:F:204:LEU:CD2	1:F:224:LYS:HB3	1.87	1.03
2:G:4:U:H2'	2:G:5:U:H5'	1.36	1.03
1:A:285:LEU:O	1:A:286:THR:CG2	2.07	1.02
1:F:66:ARG:NH1	1:F:74:ALA:HA	1.72	1.02
2:G:1:U:C2'	2:G:2:U:C5'	2.36	1.02
1:F:64:PHE:CD1	1:F:80:TYR:HA	1.93	1.02
7:A:1111:HOH:O	1:F:212:ARG:HD3	1.57	1.02
1:E:241:GLN:HE22	6:E:504:SPD:H71	0.85	1.01
1:C:210:ASP:OD1	1:C:232:PHE:HB3	1.61	1.00
1:E:11:VAL:HG22	1:E:31:LYS:HD2	1.44	1.00
1:A:279:PRO:HB3	1:B:283:LYS:HE2	1.43	0.99
1:E:41:GLN:HA	1:E:44:LYS:CD	1.91	0.99
1:F:58:LEU:CD1	1:F:62:PHE:CE1	2.46	0.99
1:E:237:SER:HB2	6:E:504:SPD:HN6	1.23	0.99
2:G:4:U:C2'	2:G:5:U:H5'	1.91	0.98
1:D:178:ALA:HB3	1:D:184:LYS:CG	1.92	0.98
1:F:2:ASN:ND2	1:F:50:PHE:HB3	1.76	0.98
1:C:273:ALA:O	1:C:277:VAL:HG23	1.63	0.98
1:B:120:ASN:HB2	1:B:256:HIS:CE1	1.97	0.97
2:G:1:U:N3	2:G:2:U:C5	2.32	0.96

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:277:VAL:HG13	1:A:278:VAL:HG23	1.47	0.96
1:F:103:PRO:HA	1:F:111:PHE:HD1	1.28	0.96
1:F:102:ARG:HB3	1:F:114:LEU:HD21	1.47	0.95
1:D:407:LYS:HZ2	1:D:409:ASN:HB3	1.12	0.95
1:D:178:ALA:CB	1:D:184:LYS:HD3	1.98	0.94
1:F:386:ILE:HG23	1:F:387:ILE:CD1	1.97	0.94
1:E:105:LYS:HB2	1:E:108:GLU:OE1	1.65	0.94
1:F:58:LEU:HD12	1:F:62:PHE:CE1	2.03	0.94
1:E:390:MSE:HB2	1:E:395:ALA:HB2	1.50	0.93
1:F:30:ARG:NH1	1:F:32:GLN:HB3	1.83	0.93
1:E:238:ARG:HG3	6:E:504:SPD:H31	1.51	0.92
1:B:85:GLN:HE22	1:B:113:LEU:CD1	1.82	0.92
1:B:379:LYS:HE3	1:B:412:PHE:HB2	1.52	0.92
1:F:82:SER:HB3	1:F:85:GLN:HG3	1.50	0.92
1:E:161:VAL:HG11	1:E:356:PRO:HG3	1.50	0.92
1:F:278:VAL:HG11	1:F:291:ALA:HB1	1.51	0.92
1:F:188:LEU:CD1	1:F:263:LEU:HB3	1.99	0.91
1:F:288:GLY:HA3	1:F:327:MSE:HB2	1.52	0.91
1:E:30:ARG:HB3	1:E:33:ASP:HB2	1.53	0.90
1:F:37:ALA:HA	1:F:40:LYS:HD3	1.50	0.90
1:E:241:GLN:CD	6:E:504:SPD:H71	1.92	0.90
1:E:237:SER:HB2	6:E:504:SPD:N6	1.86	0.90
1:E:209:ILE:HG13	1:E:209:ILE:O	1.68	0.90
1:F:102:ARG:CG	1:F:114:LEU:HD11	2.01	0.90
1:F:102:ARG:HD2	1:F:102:ARG:O	1.71	0.89
1:E:238:ARG:H	6:E:504:SPD:H42	1.35	0.89
1:A:143:SER:HB3	1:A:170:ARG:HD2	1.53	0.89
1:A:272:ARG:CG	1:A:327:MSE:HE2	2.03	0.89
1:E:41:GLN:CA	1:E:44:LYS:HD2	2.02	0.89
1:E:241:GLN:NE2	6:E:504:SPD:H91	1.88	0.89
1:A:120:ASN:CB	1:A:256:HIS:CE1	2.55	0.88
1:F:293:ALA:O	1:F:297:PRO:HD2	1.71	0.88
2:G:1:U:H2'	2:G:2:U:H5'	0.90	0.88
1:A:2:ASN:HD21	1:A:50:PHE:HB2	1.37	0.88
1:F:204:LEU:O	1:F:226:GLU:HB3	1.73	0.88
1:F:86:ILE:HA	1:F:91:LEU:HD13	1.53	0.88
1:F:104:PRO:HB2	1:F:108:GLU:HB2	1.53	0.88
1:E:238:ARG:CG	6:E:504:SPD:H31	2.04	0.88
1:E:37:ALA:HA	1:E:40:LYS:HD2	1.54	0.88
2:G:1:U:C2	2:G:2:U:C5	2.61	0.88
1:C:341:MSE:HG2	1:C:365:THR:HG22	1.55	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:237:SER:CB	6:E:504:SPD:N6	2.37	0.87
1:C:176:ILE:HG13	1:C:176:ILE:O	1.73	0.87
1:F:278:VAL:CG1	1:F:291:ALA:CB	2.53	0.87
1:F:58:LEU:HD13	1:F:62:PHE:CE1	2.09	0.87
1:E:356:PRO:HB2	1:E:358:ILE:HG23	1.57	0.87
1:F:293:ALA:O	1:F:297:PRO:CD	2.23	0.87
1:E:407:LYS:HD2	1:E:407:LYS:N	1.90	0.86
1:F:30:ARG:HH12	1:F:32:GLN:HB3	1.38	0.86
1:A:2:ASN:ND2	1:A:50:PHE:HB2	1.90	0.86
1:F:213:PRO:O	1:F:216:VAL:HG12	1.75	0.86
1:A:341:MSE:HG2	1:A:365:THR:HG22	1.58	0.86
2:G:1:U:C2	2:G:2:U:C6	2.63	0.86
1:A:285:LEU:O	1:A:286:THR:HG23	1.72	0.86
1:B:85:GLN:NE2	1:B:113:LEU:CD1	2.36	0.85
1:E:407:LYS:H	1:E:407:LYS:CD	1.90	0.85
1:E:390:MSE:HE1	1:E:398:PHE:CD1	2.11	0.85
1:B:379:LYS:HD2	1:B:412:PHE:CD1	2.11	0.85
1:E:139:LEU:HD11	1:E:308:GLU:HG3	1.58	0.85
1:F:66:ARG:HH11	1:F:74:ALA:HA	1.39	0.85
1:F:294:LEU:HD13	1:F:334:GLU:CG	2.06	0.85
1:E:396:MSE:HA	1:E:396:MSE:CE	2.04	0.85
1:A:148:GLU:HG3	1:A:160:ARG:HG3	1.58	0.85
1:A:166:SER:OG	1:A:341:MSE:HE2	1.76	0.85
1:A:90:ASN:CG	1:A:128:ARG:HD3	1.97	0.84
1:D:407:LYS:HZ1	1:D:409:ASN:HB3	1.40	0.84
1:E:41:GLN:HA	1:E:44:LYS:CG	2.07	0.84
1:F:103:PRO:HA	1:F:111:PHE:CD1	2.12	0.84
1:E:177:VAL:HG22	1:E:319:ALA:CB	2.05	0.84
1:E:209:ILE:CD1	1:E:270:LEU:HB2	2.08	0.84
1:F:268:THR:HG21	1:F:320:LEU:H	1.43	0.84
2:G:1:U:H5	2:G:1:U:OP1	1.60	0.83
1:A:272:ARG:HG3	1:A:327:MSE:HE2	1.57	0.83
1:F:210:ASP:O	1:F:232:PHE:HB3	1.77	0.83
1:A:90:ASN:CB	1:A:128:ARG:CD	2.56	0.83
1:C:266:SER:OG	1:C:269:ARG:HG3	1.79	0.83
1:D:186:MSE:HE2	1:E:367:LYS:HZ1	1.43	0.83
1:F:102:ARG:HD2	1:F:102:ARG:C	1.97	0.83
1:F:149:ARG:HH21	1:F:151:ASN:ND2	1.75	0.83
1:F:102:ARG:HG2	1:F:114:LEU:HD11	1.59	0.83
1:F:141:ALA:O	1:F:370:LEU:HD13	1.79	0.83
1:A:298:LYS:HE2	1:A:334:GLU:HB3	1.57	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:298:LYS:HE2	1:C:334:GLU:HG3	1.60	0.83
2:G:1:U:O5'	2:G:1:U:C6	2.32	0.83
1:A:90:ASN:CB	1:A:128:ARG:HD3	2.09	0.82
1:E:177:VAL:CG2	1:E:319:ALA:HB3	2.08	0.82
1:A:353:ARG:HB3	1:B:381:TRP:CZ3	2.13	0.82
1:E:56:GLU:HA	1:E:93:THR:HG23	1.61	0.82
1:A:285:LEU:O	1:A:286:THR:HG22	1.80	0.82
1:E:323:THR:CG2	1:F:333:GLU:OE2	2.27	0.82
2:G:1:U:OP1	2:G:1:U:C5	2.33	0.82
1:A:162:LEU:HD11	1:A:343:LEU:CD2	2.09	0.82
1:A:128:ARG:NH1	1:A:132:LEU:HD21	1.94	0.82
1:D:207:LEU:HG	1:D:209:ILE:HD12	1.62	0.82
1:A:210:ASP:OD2	1:A:269:ARG:HG3	1.80	0.82
1:E:210:ASP:OD1	1:E:232:PHE:CB	2.26	0.82
2:G:1:U:O2	2:G:2:U:C6	2.32	0.82
1:A:31:LYS:O	1:A:35:ILE:HG13	1.79	0.81
1:E:128:ARG:HA	7:E:607:HOH:O	1.79	0.81
1:A:295:HIS:NE2	1:A:299:ARG:CZ	2.43	0.81
1:B:147:MSE:HE1	1:B:191:ILE:HA	1.60	0.81
1:E:92:ARG:NH2	1:E:252:ARG:HH12	1.78	0.81
1:D:205:MSE:HE2	1:D:260:VAL:HG11	1.63	0.81
1:A:120:ASN:HB2	1:A:256:HIS:HE1	1.37	0.81
1:D:372:THR:HG22	1:D:377:LEU:HG	1.63	0.81
1:B:341:MSE:HG3	1:B:365:THR:HG22	1.61	0.80
1:F:278:VAL:HG12	1:F:291:ALA:CB	2.11	0.80
1:D:56:GLU:HA	1:D:93:THR:HG23	1.62	0.80
1:F:279:PRO:C	1:F:281:SER:H	1.84	0.80
1:B:278:VAL:HG23	7:B:1116:HOH:O	1.82	0.80
1:F:213:PRO:HD3	1:F:232:PHE:CE2	2.16	0.80
1:C:296:ARG:HB2	1:C:297:PRO:HD3	1.64	0.80
1:E:390:MSE:SE	1:E:398:PHE:CD2	2.85	0.80
1:E:238:ARG:N	6:E:504:SPD:H42	1.97	0.80
1:F:222:LEU:HD12	1:F:222:LEU:O	1.81	0.80
1:A:6:LEU:HD13	1:A:35:ILE:HG21	1.63	0.79
1:A:126:ASN:O	1:A:129:ASN:HB2	1.82	0.79
1:E:177:VAL:HG12	1:E:321:ILE:CD1	2.11	0.79
1:A:144:ARG:HD3	1:A:371:LEU:HB3	1.65	0.79
1:F:188:LEU:HD11	1:F:263:LEU:CB	2.08	0.79
1:A:210:ASP:OD2	1:A:269:ARG:CG	2.31	0.79
1:F:102:ARG:CB	1:F:114:LEU:HD21	2.13	0.79
1:F:278:VAL:CG1	1:F:291:ALA:HB1	2.12	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:372:THR:HG23	1:D:376:GLU:HB3	1.65	0.78
1:E:147:MSE:HE3	1:E:194:SER:HB3	1.64	0.78
1:F:30:ARG:NH1	1:F:32:GLN:CB	2.44	0.78
1:B:349:ILE:HB	1:B:357:ALA:HB1	1.65	0.78
1:F:288:GLY:CA	1:F:327:MSE:HB2	2.13	0.78
1:F:287:GLY:HA3	1:F:326:LYS:HB2	1.65	0.78
1:B:266:SER:HB3	1:B:269:ARG:CG	2.14	0.78
1:D:307:VAL:HG12	1:D:309:GLU:H	1.48	0.78
1:E:349:ILE:HG23	1:E:357:ALA:HB1	1.66	0.78
1:F:288:GLY:HA3	1:F:327:MSE:CB	2.12	0.78
1:F:370:LEU:HD12	1:F:371:LEU:HD12	1.66	0.78
1:B:343:LEU:HD11	1:B:358:ILE:HD13	1.66	0.78
1:E:238:ARG:HD3	6:E:504:SPD:H21	1.64	0.78
1:E:105:LYS:CB	1:E:108:GLU:OE1	2.31	0.78
1:D:186:MSE:HE1	3:D:1000:ADP:H2'	1.64	0.78
1:D:392:GLU:HG2	1:D:393:ILE:HD12	1.65	0.78
1:A:166:SER:HB2	1:A:365:THR:HG23	1.65	0.78
1:F:207:LEU:HB3	1:F:264:LEU:HD22	1.64	0.77
1:B:81:VAL:HG22	1:B:113:LEU:HD23	1.65	0.77
1:B:95:ASP:OD1	1:B:252:ARG:HD3	1.85	0.77
1:C:286:THR:HA	2:G:4:U:H5"	1.67	0.77
1:E:261:ILE:HG13	1:E:314:THR:HB	1.66	0.77
1:E:266:SER:HB3	1:E:269:ARG:HG3	1.65	0.77
1:F:9:THR:HB	1:F:10:PRO:HD2	1.65	0.77
1:F:102:ARG:HG3	1:F:114:LEU:HD11	1.67	0.76
1:A:210:ASP:OD1	1:A:210:ASP:O	2.03	0.76
1:A:326:LYS:CE	1:B:286:THR:OG1	2.33	0.76
1:D:325:SER:HA	1:E:286:THR:HG21	1.64	0.76
1:A:213:PRO:HG3	1:A:231:THR:HG21	1.66	0.76
1:B:99:GLY:HA2	1:B:117:ASN:HB2	1.65	0.76
1:A:2:ASN:O	1:A:6:LEU:HG	1.86	0.76
1:D:211:GLU:HG3	1:D:212:ARG:H	1.51	0.76
1:E:209:ILE:HD13	1:E:270:LEU:HB2	1.67	0.76
1:A:128:ARG:HH12	1:A:132:LEU:HD21	1.50	0.76
1:E:341:MSE:HG2	1:E:365:THR:HG22	1.68	0.76
1:B:39:LEU:HB3	1:B:49:ILE:HD11	1.67	0.75
1:B:167:PRO:O	1:B:365:THR:HG21	1.86	0.75
1:E:41:GLN:HA	1:E:44:LYS:HG3	1.67	0.75
1:D:113:LEU:HD21	1:D:116:VAL:HG23	1.67	0.75
1:D:352:LYS:HD3	1:D:393:ILE:HG21	1.67	0.75
1:E:209:ILE:O	1:E:209:ILE:CG1	2.34	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:30:ARG:NH1	1:B:32:GLN:NE2	2.34	0.75
2:G:1:U:O2'	2:G:2:U:C5'	2.34	0.75
1:A:175:LEU:HD11	1:A:335:PHE:HB3	1.66	0.75
1:C:356:PRO:O	1:C:396:MSE:HE2	1.86	0.75
1:F:277:VAL:O	1:F:277:VAL:HG12	1.87	0.75
1:B:287:GLY:HA2	1:B:326:LYS:HB2	1.68	0.75
1:F:64:PHE:HD1	1:F:80:TYR:CA	1.96	0.75
1:F:30:ARG:HH12	1:F:32:GLN:CB	2.00	0.75
1:A:148:GLU:HG3	1:A:160:ARG:CG	2.16	0.74
1:A:353:ARG:HB3	1:B:381:TRP:HZ3	1.51	0.74
1:B:85:GLN:HE22	1:B:113:LEU:HD12	1.51	0.74
1:D:186:MSE:CE	1:E:367:LYS:NZ	2.50	0.74
1:B:73:LEU:HD11	1:B:238:ARG:HE	1.52	0.74
1:B:217:THR:HG21	1:C:138:PRO:O	1.88	0.74
1:B:120:ASN:CB	1:B:256:HIS:CE1	2.71	0.74
1:E:211:GLU:HG3	1:E:212:ARG:H	1.50	0.74
1:E:327:MSE:O	1:E:331:ILE:HG13	1.88	0.74
1:D:341:MSE:HG3	1:D:365:THR:HG22	1.69	0.74
1:F:58:LEU:HD13	1:F:62:PHE:HE1	1.50	0.74
1:B:49:ILE:HG23	1:B:101:ILE:HG12	1.69	0.74
1:A:90:ASN:ND2	1:A:128:ARG:HD3	2.03	0.74
1:C:207:LEU:HG	1:C:209:ILE:HD12	1.70	0.74
1:F:266:SER:HB3	1:F:269:ARG:HB2	1.70	0.74
1:A:6:LEU:HD13	1:A:35:ILE:CG2	2.17	0.73
1:C:162:LEU:HD11	1:C:187:LEU:HD11	1.68	0.73
1:D:222:LEU:O	1:D:222:LEU:HD12	1.87	0.73
1:A:90:ASN:HB2	1:A:128:ARG:HH21	1.52	0.73
1:B:105:LYS:H	1:B:108:GLU:HG3	1.52	0.73
1:B:406:THR:OG1	1:B:410:ASP:HB2	1.88	0.73
1:D:162:LEU:HD21	1:D:343:LEU:HD22	1.70	0.73
1:D:162:LEU:HD11	1:D:187:LEU:HD11	1.71	0.73
1:C:30:ARG:HE	1:C:32:GLN:HB2	1.54	0.73
1:D:352:LYS:HG2	1:E:388:HIS:NE2	2.03	0.73
1:F:102:ARG:HG3	1:F:114:LEU:CD1	2.18	0.73
1:C:39:LEU:HD12	1:C:49:ILE:HD13	1.71	0.73
1:F:37:ALA:O	1:F:41:GLN:HG2	1.89	0.73
1:A:205:MSE:HE3	1:A:260:VAL:HG11	1.69	0.73
1:A:210:ASP:HB3	1:A:269:ARG:HG2	1.69	0.72
1:E:138:PRO:HA	1:E:306:ASN:O	1.89	0.72
1:A:366:ARG:HD3	1:F:212:ARG:NH1	2.04	0.72
1:C:345:LEU:HD23	1:C:358:ILE:HA	1.70	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:144:ARG:HG3	1:B:371:LEU:O	1.89	0.72
1:E:388:HIS:HB3	1:E:389:PRO:HD2	1.72	0.72
1:F:278:VAL:N	1:F:279:PRO:HD3	2.03	0.72
1:A:144:ARG:HE	1:A:167:PRO:HB3	1.53	0.72
1:E:346:SER:HB2	1:E:349:ILE:HG22	1.72	0.72
1:F:167:PRO:HD2	1:F:365:THR:HB	1.71	0.72
1:E:241:GLN:HE22	6:E:504:SPD:C9	2.02	0.72
1:F:349:ILE:HG12	1:F:393:ILE:HD13	1.71	0.72
1:A:66:ARG:NH1	1:A:74:ALA:HA	2.04	0.72
1:A:128:ARG:HH12	1:A:132:LEU:CD2	2.03	0.72
1:A:147:MSE:HE1	1:A:191:ILE:HA	1.72	0.72
1:A:38:ILE:O	1:A:42:HIS:CD2	2.43	0.71
1:A:90:ASN:O	1:A:128:ARG:NH2	2.22	0.71
1:B:36:PHE:HE2	1:B:111:PHE:HE2	1.35	0.71
1:D:349:ILE:HB	1:D:357:ALA:HB1	1.71	0.71
1:E:237:SER:OG	6:E:504:SPD:C4	2.38	0.71
1:A:366:ARG:HD3	1:F:212:ARG:HH12	1.54	0.71
1:E:268:THR:O	1:E:272:ARG:HG3	1.91	0.71
1:F:307:VAL:CG1	1:F:309:GLU:HG2	2.20	0.71
1:A:128:ARG:NH1	1:A:132:LEU:CD2	2.53	0.71
1:A:341:MSE:HG2	1:A:365:THR:CG2	2.21	0.71
1:B:289:VAL:HG22	1:B:327:MSE:HG3	1.73	0.71
1:C:29:MSE:HE2	1:C:33:ASP:HB3	1.72	0.71
1:A:90:ASN:CB	1:A:128:ARG:HH21	2.03	0.71
1:A:162:LEU:HD11	1:A:343:LEU:HD22	1.71	0.71
2:G:1:U:O2'	2:G:2:U:H5"	1.90	0.71
1:A:285:LEU:C	1:A:286:THR:HG22	2.11	0.71
1:E:181:LYS:O	1:E:181:LYS:HG2	1.90	0.71
1:E:238:ARG:HB2	6:E:504:SPD:N1	2.04	0.71
1:B:266:SER:HB3	1:B:269:ARG:HG3	1.72	0.71
1:E:237:SER:OG	6:E:504:SPD:N6	2.24	0.71
1:F:30:ARG:HG3	1:F:31:LYS:N	2.05	0.70
1:F:84:SER:HA	1:F:87:ARG:HD3	1.72	0.70
1:D:177:VAL:HG22	1:D:319:ALA:HB3	1.73	0.70
1:E:388:HIS:HB3	1:E:389:PRO:CD	2.21	0.70
1:F:89:PHE:HB2	1:F:91:LEU:CD1	2.22	0.70
1:D:186:MSE:HE2	1:E:367:LYS:NZ	2.07	0.70
1:D:284:VAL:O	2:G:5:U:H5"	1.92	0.70
1:F:370:LEU:CD1	1:F:371:LEU:HD12	2.22	0.70
1:E:348:LYS:HE3	1:E:392:GLU:OE1	1.90	0.70
1:A:326:LYS:HE3	1:B:286:THR:OG1	1.92	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:369:GLU:HA	1:C:377:LEU:HD11	1.73	0.70
1:D:177:VAL:CG1	1:D:321:ILE:HD13	2.21	0.70
1:B:352:LYS:HD3	1:B:393:ILE:HG21	1.73	0.70
1:C:56:GLU:HA	1:C:93:THR:HG23	1.73	0.70
1:D:290:ASP:HB2	1:E:283:LYS:HE2	1.72	0.70
1:E:168:ILE:HD11	1:E:341:MSE:HE3	1.73	0.70
1:F:278:VAL:HG12	1:F:291:ALA:HB2	1.74	0.70
1:C:281:SER:HB3	1:C:290:ASP:OD1	1.92	0.70
1:E:325:SER:HB3	1:F:333:GLU:OE2	1.92	0.70
1:D:178:ALA:CB	1:D:184:LYS:CG	2.69	0.69
1:B:39:LEU:HD23	1:B:49:ILE:HD11	1.72	0.69
1:D:396:MSE:CE	1:D:399:LEU:HD23	2.22	0.69
1:F:102:ARG:NH2	1:F:112:ALA:HB3	2.07	0.69
1:F:370:LEU:HD12	1:F:371:LEU:CD1	2.22	0.69
1:B:113:LEU:HD12	1:B:113:LEU:O	1.92	0.69
1:D:278:VAL:HG21	1:D:293:ALA:HA	1.73	0.69
1:F:398:PHE:CE1	1:F:402:LYS:HE3	2.26	0.69
1:C:147:MSE:HE1	1:C:191:ILE:HA	1.73	0.69
1:C:160:ARG:HG2	1:C:408:THR:OG1	1.92	0.69
1:A:162:LEU:HD11	1:A:343:LEU:HD21	1.74	0.69
1:E:390:MSE:CE	1:E:398:PHE:CG	2.75	0.69
1:F:205:MSE:HG2	1:F:226:GLU:HG2	1.72	0.69
1:C:173:ARG:HD2	1:C:302:GLY:HA2	1.74	0.69
1:A:222:LEU:HD12	1:A:222:LEU:O	1.92	0.69
1:D:213:PRO:O	1:D:216:VAL:HG22	1.92	0.69
1:E:409:ASN:O	1:E:412:PHE:CD2	2.46	0.69
1:F:278:VAL:HG11	1:F:291:ALA:CB	2.18	0.69
2:G:4:U:C3'	2:G:5:U:H5'	2.22	0.69
1:B:205:MSE:HE3	1:B:260:VAL:HG11	1.73	0.69
1:B:398:PHE:CZ	1:B:402:LYS:HE2	2.28	0.69
1:C:304:ALA:HB2	1:C:315:ILE:HG13	1.74	0.69
1:E:390:MSE:SE	1:E:398:PHE:CE2	2.96	0.69
2:G:5:U:C5	2:G:6:U:C5	2.81	0.69
1:E:147:MSE:HE2	1:E:191:ILE:HG23	1.75	0.69
1:D:186:MSE:CE	1:E:367:LYS:HZ1	2.04	0.68
1:E:289:VAL:N	1:E:327:MSE:HE2	2.08	0.68
1:F:183:GLY:HA2	3:F:1000:ADP:C8	2.29	0.68
1:D:217:THR:HG21	1:E:138:PRO:O	1.94	0.68
1:B:137:THR:HG23	1:B:308:GLU:HB2	1.75	0.68
1:E:147:MSE:HE1	1:E:195:ILE:HG23	1.75	0.68
1:E:174:GLY:HA2	1:E:341:MSE:HB3	1.76	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:2:ASN:HD22	1:F:50:PHE:HB3	1.57	0.68
1:D:101:ILE:HG22	1:D:113:LEU:HA	1.75	0.68
1:E:160:ARG:HH21	1:E:407:LYS:HA	1.57	0.68
1:A:272:ARG:HG2	1:A:327:MSE:HE2	1.73	0.68
1:D:407:LYS:HZ2	1:D:409:ASN:CB	1.98	0.68
1:C:144:ARG:HH21	1:C:144:ARG:HG2	1.58	0.68
1:E:187:LEU:O	1:E:191:ILE:HG13	1.93	0.68
1:E:217:THR:O	1:E:221:ARG:HG3	1.94	0.68
1:F:2:ASN:ND2	1:F:50:PHE:CB	2.54	0.67
1:F:252:ARG:N	1:F:252:ARG:HD3	2.09	0.67
1:B:409:ASN:O	1:B:412:PHE:HB3	1.95	0.67
1:D:396:MSE:HE2	1:D:399:LEU:HD23	1.76	0.67
1:F:145:LEU:HB2	1:F:168:ILE:HG22	1.77	0.67
1:B:341:MSE:CG	1:B:365:THR:HG22	2.25	0.67
1:A:278:VAL:O	1:A:278:VAL:HG12	1.94	0.67
1:B:175:LEU:HD11	1:B:335:PHE:HB3	1.75	0.67
1:F:89:PHE:HB2	1:F:91:LEU:HD11	1.75	0.67
1:B:6:LEU:HD23	1:B:35:ILE:HG23	1.76	0.67
1:C:267:ILE:HB	1:C:317:ALA:HB1	1.77	0.67
1:D:161:VAL:HG13	1:D:399:LEU:HD21	1.76	0.67
1:B:207:LEU:HA	1:B:228:VAL:O	1.94	0.67
1:C:210:ASP:OD1	1:C:232:PHE:CB	2.41	0.67
1:D:45:SER:HB2	1:D:47:GLU:HG2	1.77	0.67
1:A:379:LYS:HG2	1:A:412:PHE:CE1	2.28	0.67
1:B:406:THR:HG23	1:B:407:LYS:O	1.94	0.67
1:C:175:LEU:O	1:C:342:GLU:HA	1.95	0.67
1:F:192:ALA:HB2	1:F:263:LEU:HD12	1.77	0.67
1:C:95:ASP:OD1	1:C:252:ARG:HG3	1.94	0.67
1:D:167:PRO:O	1:D:365:THR:HG21	1.95	0.67
1:F:171:GLY:H	1:F:314:THR:HG22	1.59	0.67
2:G:2:U:N3	6:G:101:SPD:H81	2.09	0.67
1:E:31:LYS:O	1:E:35:ILE:HG12	1.95	0.67
1:E:177:VAL:HG21	1:E:332:TYR:CD1	2.30	0.67
1:A:92:ARG:NH2	1:A:132:LEU:HD22	2.09	0.66
1:C:192:ALA:O	1:C:195:ILE:HG22	1.95	0.66
1:D:341:MSE:CG	1:D:365:THR:HG22	2.25	0.66
1:F:161:VAL:HG11	1:F:356:PRO:HG3	1.76	0.66
1:A:118:GLU:OE2	1:A:121:PHE:C	2.34	0.66
1:B:208:LEU:HB2	1:B:229:ALA:HB1	1.76	0.66
1:C:168:ILE:HD11	1:C:341:MSE:HE2	1.78	0.66
1:C:232:PHE:CE1	1:D:302:GLY:HA3	2.30	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:304:ALA:HB2	1:D:315:ILE:HG13	1.76	0.66
1:F:30:ARG:HG3	1:F:31:LYS:H	1.59	0.66
1:A:62:PHE:HB3	1:A:83:PRO:HG3	1.77	0.66
1:F:89:PHE:HD1	1:F:124:PRO:HB3	1.60	0.66
1:F:149:ARG:HH21	1:F:151:ASN:HD22	1.40	0.66
1:A:2:ASN:HD21	1:A:50:PHE:CB	2.07	0.66
1:E:235:PRO:HD2	6:E:504:SPD:H22	1.77	0.66
1:F:344:HIS:O	1:F:345:LEU:HD12	1.95	0.66
1:A:172:GLN:O	1:A:314:THR:HG23	1.96	0.66
1:F:183:GLY:CA	3:F:1000:ADP:C8	2.79	0.66
1:A:56:GLU:HA	1:A:93:THR:HG23	1.77	0.66
1:E:73:LEU:HD23	1:E:74:ALA:N	2.10	0.66
1:F:58:LEU:HD12	1:F:62:PHE:HD1	1.54	0.65
1:C:349:ILE:HD11	1:C:392:GLU:HB3	1.78	0.65
2:G:1:U:O5’	2:G:1:U:H6	1.78	0.65
1:C:281:SER:HB3	1:C:290:ASP:CG	2.17	0.65
1:E:141:ALA:O	1:E:370:LEU:HD13	1.96	0.65
1:E:161:VAL:HG11	1:E:356:PRO:CG	2.24	0.65
1:E:241:GLN:HE22	6:E:504:SPD:C8	2.09	0.65
1:B:102:ARG:HG3	1:B:102:ARG:HH11	1.62	0.65
1:B:139:LEU:CD1	1:B:308:GLU:HG3	2.26	0.65
1:C:207:LEU:HG	1:C:209:ILE:CD1	2.26	0.65
1:C:275:ASN:HA	1:C:293:ALA:HB1	1.76	0.65
1:B:139:LEU:HD11	1:B:308:GLU:HG3	1.78	0.65
1:B:287:GLY:CA	1:B:326:LYS:HB2	2.26	0.65
1:D:164:LEU:O	1:D:380:MSE:HE3	1.96	0.65
1:D:267:ILE:HB	1:D:317:ALA:HB1	1.78	0.65
1:F:144:ARG:NH1	1:F:163:ASP:OD1	2.28	0.65
1:C:144:ARG:HD2	1:C:371:LEU:O	1.97	0.65
1:F:370:LEU:CD1	1:F:371:LEU:CD1	2.74	0.65
1:A:139:LEU:O	1:A:306:ASN:HB3	1.96	0.65
1:E:213:PRO:HA	1:E:216:VAL:HG23	1.78	0.65
1:A:89:PHE:CE1	1:A:124:PRO:HB2	2.32	0.65
1:C:211:GLU:HG3	1:C:265:ASP:OD2	1.97	0.65
1:D:234:GLU:HB3	1:D:238:ARG:HD3	1.79	0.65
1:F:60:ASP:HB2	1:F:62:PHE:CD2	2.32	0.65
1:D:13:GLU:O	1:D:16:THR:HG22	1.96	0.65
1:E:21:MSE:HE3	1:E:41:GLN:HB3	1.78	0.65
1:F:379:LYS:HE2	1:F:412:PHE:CD1	2.32	0.65
1:C:340:ASN:HA	1:C:366:ARG:HD3	1.79	0.64
1:E:92:ARG:NH2	1:E:132:LEU:HD22	2.11	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:210:ASP:CB	1:A:269:ARG:HG2	2.27	0.64
1:F:274:TYR:CD2	1:F:297:PRO:HG3	2.32	0.64
1:D:346:SER:HB2	1:D:349:ILE:HG13	1.79	0.64
1:E:40:LYS:O	1:E:44:LYS:HG3	1.96	0.64
1:E:290:ASP:HB3	1:E:293:ALA:HB2	1.78	0.64
1:E:352:LYS:O	1:E:353:ARG:HB2	1.96	0.64
1:F:209:ILE:HG23	1:F:239:HIS:HB3	1.77	0.64
1:F:320:LEU:HG	1:F:323:THR:HG22	1.79	0.64
1:A:387:ILE:HD13	1:A:390:MSE:SE	2.48	0.64
1:D:327:MSE:O	1:D:331:ILE:HG13	1.97	0.64
1:A:6:LEU:HD12	1:A:7:LYS:N	2.12	0.64
1:A:210:ASP:CG	1:A:269:ARG:HG2	2.18	0.64
1:D:2:ASN:OD1	1:D:4:THR:HG22	1.97	0.64
1:D:224:LYS:HA	1:D:224:LYS:CE	2.27	0.64
1:E:177:VAL:O	1:E:344:HIS:HA	1.97	0.64
1:A:172:GLN:HB3	1:A:314:THR:HG23	1.78	0.64
1:B:208:LEU:HB2	1:B:229:ALA:CB	2.27	0.64
1:E:210:ASP:N	1:E:230:SER:O	2.28	0.64
1:E:238:ARG:HB2	6:E:504:SPD:C2	2.28	0.64
1:F:207:LEU:HD12	1:F:229:ALA:HA	1.79	0.64
1:C:354:VAL:HG11	1:C:397:GLU:HG3	1.78	0.64
1:D:266:SER:HB3	1:D:269:ARG:CG	2.28	0.64
1:F:277:VAL:O	1:F:277:VAL:CG1	2.46	0.64
1:D:403:LEU:HD22	1:D:411:ASP:CG	2.18	0.64
1:E:235:PRO:HG3	1:F:295:HIS:CE1	2.33	0.64
1:E:266:SER:CB	1:E:269:ARG:HG3	2.28	0.64
1:F:390:MSE:HE1	1:F:398:PHE:CD2	2.32	0.64
1:B:219:MSE:O	1:B:223:VAL:HG22	1.98	0.64
1:D:9:THR:OG1	1:D:14:LEU:HD21	1.97	0.64
1:A:38:ILE:O	1:A:42:HIS:HD2	1.80	0.63
1:A:307:VAL:HG12	1:A:310:GLY:H	1.61	0.63
1:A:393:ILE:H	1:A:393:ILE:HD12	1.63	0.63
1:D:1:MSE:HG3	1:D:50:PHE:HE2	1.63	0.63
1:F:398:PHE:CE1	1:F:402:LYS:NZ	2.66	0.63
1:F:398:PHE:HE1	1:F:402:LYS:NZ	1.96	0.63
2:G:1:U:N3	2:G:2:U:H5	1.94	0.63
1:A:102:ARG:HG3	1:A:102:ARG:O	1.98	0.63
2:G:4:U:C5	2:G:5:U:C4	2.86	0.63
1:B:381:TRP:CZ2	1:B:385:LYS:HD3	2.33	0.63
1:C:307:VAL:HG12	1:C:309:GLU:H	1.62	0.63
1:F:279:PRO:C	1:F:281:SER:N	2.49	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:2:U:C4	2:G:3:U:C5	2.87	0.63
1:A:66:ARG:HH11	1:A:74:ALA:HA	1.64	0.63
1:A:170:ARG:HG2	1:A:312:SER:HB3	1.81	0.63
1:F:271:ALA:HB3	1:F:331:ILE:HD13	1.79	0.63
1:C:10:PRO:HG2	1:C:13:GLU:HG3	1.78	0.63
1:B:144:ARG:NH1	1:B:146:ARG:HA	2.14	0.63
1:E:177:VAL:HG12	1:E:321:ILE:HD13	1.79	0.63
1:E:177:VAL:CG1	1:E:321:ILE:HD13	2.28	0.63
1:E:241:GLN:HE22	6:E:504:SPD:H91	1.50	0.63
1:F:287:GLY:O	1:F:326:LYS:HB2	1.99	0.63
1:A:341:MSE:CG	1:A:365:THR:HG22	2.27	0.63
1:B:56:GLU:HA	1:B:93:THR:HG23	1.79	0.63
1:C:105:LYS:HB2	1:C:108:GLU:HG3	1.79	0.63
1:E:41:GLN:CB	1:E:44:LYS:HD2	2.28	0.63
1:A:131:ILE:HG23	1:A:132:LEU:O	1.99	0.63
1:A:277:VAL:CG1	1:A:278:VAL:HG23	2.24	0.63
1:C:247:ILE:HB	1:C:300:PHE:CE1	2.34	0.63
1:E:254:VAL:HG21	1:E:313:LEU:HB2	1.80	0.63
1:A:38:ILE:HD12	1:A:42:HIS:CD2	2.33	0.62
1:B:10:PRO:O	1:B:14:LEU:HD23	1.99	0.62
3:B:1000:ADP:O3'	1:C:366:ARG:HB3	1.99	0.62
1:D:42:HIS:CD2	1:D:47:GLU:HB2	2.33	0.62
1:F:204:LEU:CD2	1:F:224:LYS:CB	2.72	0.62
1:B:278:VAL:HG11	1:B:293:ALA:HA	1.81	0.62
1:E:113:LEU:HD21	1:E:116:VAL:HG12	1.81	0.62
1:E:237:SER:OG	6:E:504:SPD:C5	2.47	0.62
1:D:245:MSE:HE2	1:D:245:MSE:HA	1.81	0.62
1:D:407:LYS:NZ	1:D:409:ASN:CB	2.47	0.62
1:F:222:LEU:O	1:F:222:LEU:CD1	2.47	0.62
1:A:379:LYS:HG2	1:A:412:PHE:HE1	1.63	0.62
1:B:216:VAL:O	1:B:220:GLN:HB2	1.99	0.62
1:C:353:ARG:HB3	1:D:381:TRP:CH2	2.34	0.62
1:D:286:THR:CG2	1:D:326:LYS:HD3	2.29	0.62
1:E:154:THR:O	1:E:157:LEU:HD22	1.98	0.62
1:E:220:GLN:HA	1:E:227:VAL:HG21	1.81	0.62
1:C:298:LYS:CE	1:C:334:GLU:HG3	2.28	0.62
1:A:254:VAL:HG21	1:A:313:LEU:HB2	1.82	0.62
1:E:66:ARG:HG3	1:E:245:MSE:HE2	1.81	0.62
1:C:29:MSE:HG3	1:C:33:ASP:HB2	1.82	0.62
1:F:210:ASP:OD2	1:F:269:ARG:HD2	2.00	0.62
1:B:211:GLU:HG3	1:B:265:ASP:OD2	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:347:ARG:NH2	1:C:336:LYS:NZ	2.46	0.62
1:C:145:LEU:HB3	1:C:199:HIS:CE1	2.35	0.62
1:C:37:ALA:HA	1:C:40:LYS:HE3	1.81	0.62
1:E:348:LYS:HB2	1:E:392:GLU:OE1	2.00	0.62
1:F:92:ARG:NH2	1:F:132:LEU:HD12	2.14	0.62
1:F:184:LYS:HD2	1:F:318:THR:HB	1.82	0.62
1:C:406:THR:OG1	1:C:410:ASP:HB2	1.99	0.61
1:F:35:ILE:O	1:F:39:LEU:HG	2.00	0.61
1:C:73:LEU:HD11	1:C:238:ARG:HG3	1.82	0.61
1:C:265:ASP:O	1:C:266:SER:HB2	2.00	0.61
1:C:290:ASP:HB3	1:C:293:ALA:HB2	1.80	0.61
1:D:406:THR:HG23	1:D:411:ASP:HB2	1.82	0.61
1:F:102:ARG:NH1	1:F:104:PRO:HA	2.15	0.61
1:A:388:HIS:HB3	1:A:389:PRO:HD3	1.82	0.61
1:B:266:SER:HB3	1:B:269:ARG:HG2	1.82	0.61
1:F:205:MSE:HE2	1:F:246:VAL:HG13	1.81	0.61
1:F:360:TYR:OH	1:F:383:LEU:HG	1.98	0.61
1:A:79:ILE:HD13	1:A:101:ILE:HG21	1.81	0.61
2:G:1:U:O2'	2:G:2:U:H5'	1.95	0.61
1:B:296:ARG:HB2	1:B:297:PRO:HD3	1.82	0.61
1:D:29:MSE:HB3	1:D:34:ILE:CD1	2.30	0.61
1:E:139:LEU:HD21	1:E:308:GLU:OE1	2.01	0.61
1:E:143:SER:HB2	1:E:170:ARG:HG3	1.81	0.61
1:E:170:ARG:HD3	1:E:259:ASP:OD1	2.01	0.61
1:F:320:LEU:HG	1:F:323:THR:CG2	2.30	0.61
1:A:179:PRO:HG3	1:A:322:ASP:OD2	2.00	0.61
1:B:379:LYS:CE	1:B:412:PHE:HB2	2.30	0.61
1:D:392:GLU:HG2	1:D:393:ILE:N	2.16	0.61
1:E:147:MSE:HE2	1:E:191:ILE:CG2	2.31	0.61
1:E:358:ILE:HD11	1:E:396:MSE:HE3	1.83	0.61
1:F:173:ARG:HG2	1:F:304:ALA:HB3	1.83	0.61
1:A:103:PRO:HA	1:A:111:PHE:CD1	2.36	0.61
1:C:183:GLY:HA2	3:C:1000:ADP:C8	2.35	0.61
1:F:210:ASP:O	1:F:232:PHE:CB	2.48	0.61
1:A:149:ARG:HH11	1:A:194:SER:HA	1.66	0.61
1:B:346:SER:HB3	1:B:349:ILE:HG13	1.83	0.61
1:F:304:ALA:HB2	1:F:315:ILE:HG13	1.83	0.61
1:A:102:ARG:NH1	1:A:103:PRO:O	2.32	0.61
1:E:89:PHE:HB2	1:E:91:LEU:HD21	1.83	0.61
1:E:286:THR:HG23	1:E:330:VAL:HG21	1.82	0.61
1:B:179:PRO:HB3	7:B:1109:HOH:O	2.00	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:341:MSE:CG	1:C:365:THR:HG22	2.29	0.60
1:D:219:MSE:HE3	1:D:223:VAL:HG21	1.83	0.60
1:F:379:LYS:HE2	1:F:412:PHE:CG	2.35	0.60
1:D:207:LEU:HG	1:D:209:ILE:CD1	2.30	0.60
1:E:173:ARG:HG2	1:E:339:GLY:HA2	1.82	0.60
1:E:241:GLN:OE1	6:E:504:SPD:H71	2.01	0.60
1:F:9:THR:O	1:F:10:PRO:C	2.40	0.60
1:F:133:PHE:CD2	1:F:251:LYS:HD3	2.36	0.60
1:B:176:ILE:HG22	1:B:184:LYS:HG3	1.81	0.60
1:D:213:PRO:HD3	1:D:232:PHE:CE2	2.36	0.60
1:D:406:THR:CG2	1:D:411:ASP:HB2	2.32	0.60
1:F:171:GLY:N	1:F:314:THR:HG22	2.15	0.60
1:A:60:ASP:HB2	1:A:62:PHE:CE2	2.37	0.60
1:A:326:LYS:HA	1:A:329:GLU:HG2	1.82	0.60
1:D:57:ILE:HD11	1:D:86:ILE:HG12	1.82	0.60
1:D:228:VAL:HG21	1:D:246:VAL:HG21	1.83	0.60
1:E:341:MSE:O	1:E:341:MSE:SE	2.69	0.60
1:F:160:ARG:NH1	1:F:407:LYS:HA	2.16	0.60
1:C:274:TYR:O	1:C:278:VAL:HG23	2.01	0.60
1:A:42:HIS:HA	1:A:47:GLU:OE1	2.01	0.60
1:A:43:ALA:HB2	1:A:49:ILE:HD12	1.82	0.60
1:B:48:ASP:HB3	1:B:50:PHE:HE2	1.67	0.60
1:C:281:SER:HB3	1:C:290:ASP:OD2	2.01	0.60
1:C:381:TRP:CE2	1:C:385:LYS:HD2	2.37	0.60
1:D:177:VAL:HG12	1:D:321:ILE:CD1	2.30	0.60
1:F:293:ALA:O	1:F:297:PRO:HD3	2.02	0.60
1:A:296:ARG:HB2	1:A:297:PRO:CD	2.31	0.60
1:A:326:LYS:CD	1:B:286:THR:OG1	2.50	0.60
1:D:172:GLN:O	1:D:314:THR:HG23	2.02	0.60
1:E:158:THR:OG1	1:E:190:ASN:ND2	2.35	0.60
1:E:176:ILE:HG23	1:E:343:LEU:HD23	1.82	0.60
1:A:211:GLU:OE1	1:A:211:GLU:HA	2.02	0.60
1:A:366:ARG:HG3	1:F:181:LYS:HE2	1.83	0.60
1:C:164:LEU:O	1:C:380:MSE:HE3	2.02	0.60
1:D:379:LYS:HD2	1:D:412:PHE:CD1	2.36	0.60
1:E:241:GLN:NE2	6:E:504:SPD:C9	2.61	0.60
1:F:6:LEU:HD22	1:F:39:LEU:HD23	1.83	0.60
1:A:268:THR:HG21	1:A:320:LEU:H	1.67	0.60
1:D:296:ARG:HB2	1:D:297:PRO:HD3	1.83	0.60
1:E:189:GLN:HG2	1:E:219:MSE:SE	2.52	0.60
1:F:92:ARG:HD2	1:F:252:ARG:NH2	2.16	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:398:PHE:CE1	1:F:402:LYS:CE	2.84	0.60
1:A:281:SER:HB2	1:A:292:ASN:ND2	2.17	0.59
1:C:1:MSE:HE3	1:C:50:PHE:CE2	2.37	0.59
1:C:343:LEU:HD11	1:C:358:ILE:HD13	1.84	0.59
1:D:177:VAL:HG11	1:D:321:ILE:HD13	1.83	0.59
1:E:101:ILE:HA	1:E:114:LEU:HB2	1.83	0.59
1:F:184:LYS:NZ	1:F:320:LEU:HD13	2.17	0.59
1:F:211:GLU:CG	1:F:266:SER:OG	2.51	0.59
1:A:352:LYS:HD3	1:A:393:ILE:HG21	1.84	0.59
1:D:157:LEU:O	1:D:161:VAL:HG23	2.02	0.59
1:D:289:VAL:CG2	1:D:327:MSE:HG3	2.33	0.59
1:F:287:GLY:O	1:F:327:MSE:N	2.35	0.59
1:F:368:GLU:OE2	1:F:381:TRP:CZ2	2.55	0.59
1:A:298:LYS:CE	1:A:334:GLU:HB3	2.28	0.59
1:B:160:ARG:HG2	1:B:408:THR:HB	1.85	0.59
1:C:405:MSE:O	1:C:406:THR:HG22	2.03	0.59
1:E:180:PRO:O	1:E:181:LYS:HB3	2.01	0.59
1:F:175:LEU:HD13	1:F:301:PHE:HE1	1.68	0.59
1:F:288:GLY:HA3	1:F:327:MSE:CA	2.33	0.59
1:A:35:ILE:O	1:A:38:ILE:HG13	2.02	0.59
1:B:102:ARG:HB3	1:B:114:LEU:CD2	2.33	0.59
1:C:167:PRO:O	1:C:365:THR:HG21	2.03	0.59
1:D:406:THR:OG1	1:D:410:ASP:HB2	2.01	0.59
1:E:304:ALA:HB2	1:E:315:ILE:HG13	1.84	0.59
1:F:55:LEU:HA	1:F:65:LEU:HD23	1.85	0.59
1:F:278:VAL:HG12	1:F:278:VAL:O	2.00	0.59
1:C:346:SER:HB3	1:C:349:ILE:HG13	1.85	0.59
1:D:353:ARG:HB2	1:E:381:TRP:CH2	2.38	0.59
1:F:36:PHE:CD1	1:F:111:PHE:HZ	2.21	0.59
1:A:332:TYR:O	1:A:336:LYS:HB2	2.02	0.59
1:F:210:ASP:HB3	1:F:269:ARG:HB3	1.85	0.59
1:B:340:ASN:HA	1:B:366:ARG:HD3	1.84	0.59
1:D:216:VAL:O	1:D:220:GLN:HG3	2.03	0.59
1:D:358:ILE:HB	1:D:396:MSE:HE3	1.84	0.59
1:A:210:ASP:CG	1:A:269:ARG:CG	2.71	0.58
1:E:138:PRO:O	1:E:139:LEU:HD23	2.03	0.58
1:F:183:GLY:CA	3:F:1000:ADP:H8	2.14	0.58
1:A:172:GLN:HB3	1:A:314:THR:CG2	2.34	0.58
1:A:175:LEU:HD11	1:A:335:PHE:CB	2.32	0.58
1:D:261:ILE:HD13	1:D:314:THR:HB	1.85	0.58
1:E:323:THR:HG22	1:F:333:GLU:OE2	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:370:LEU:HD12	1:E:371:LEU:HG	1.84	0.58
1:A:205:MSE:HE3	1:A:260:VAL:CG1	2.33	0.58
1:D:212:ARG:HD2	1:D:215:GLU:OE2	2.03	0.58
1:E:66:ARG:HB3	1:E:72:TYR:HA	1.86	0.58
1:E:144:ARG:HD2	1:E:371:LEU:O	2.04	0.58
1:E:323:THR:HG21	1:F:333:GLU:OE2	2.01	0.58
2:G:2:U:C4	2:G:3:U:C4	2.91	0.58
1:A:43:ALA:HB2	1:A:49:ILE:CD1	2.32	0.58
1:A:123:LYS:HB2	1:A:126:ASN:ND2	2.18	0.58
1:B:138:PRO:O	1:B:139:LEU:HG	2.03	0.58
1:A:30:ARG:HG3	1:A:33:ASP:H	1.67	0.58
1:A:356:PRO:O	1:A:396:MSE:HE2	2.02	0.58
1:D:286:THR:HG22	1:D:326:LYS:HD3	1.86	0.58
1:E:237:SER:O	1:E:241:GLN:OE1	2.22	0.58
1:E:396:MSE:SE	1:E:400:ILE:HG13	2.53	0.58
1:E:267:ILE:HB	1:E:317:ALA:HB1	1.85	0.58
1:A:101:ILE:HG22	1:A:113:LEU:HA	1.84	0.58
1:B:268:THR:HG21	1:B:320:LEU:H	1.67	0.58
1:C:26:LEU:HD12	1:C:26:LEU:O	2.03	0.58
1:A:326:LYS:HD2	1:B:286:THR:OG1	2.04	0.58
1:B:11:VAL:O	1:B:15:ILE:HD13	2.03	0.58
1:C:173:ARG:CD	1:C:302:GLY:HA2	2.34	0.58
1:F:144:ARG:HG2	1:F:146:ARG:NH2	2.19	0.58
1:F:405:MSE:HG3	1:F:406:THR:HG23	1.86	0.58
1:B:316:ILE:HD12	1:B:341:MSE:HE1	1.85	0.58
1:E:205:MSE:HE2	1:E:249:LYS:HE2	1.86	0.58
1:B:188:LEU:HD22	1:B:263:LEU:HB3	1.85	0.58
1:D:29:MSE:HB3	1:D:34:ILE:HD11	1.86	0.58
1:F:195:ILE:HD13	1:F:261:ILE:HG21	1.86	0.58
1:F:277:VAL:C	1:F:279:PRO:HD3	2.23	0.58
1:A:73:LEU:HD11	1:A:242:VAL:HG22	1.85	0.57
1:A:297:PRO:HB2	1:A:335:PHE:HZ	1.69	0.57
1:F:333:GLU:OE1	1:F:336:LYS:NZ	2.32	0.57
1:F:42:HIS:CE1	1:F:47:GLU:HG2	2.39	0.57
1:F:209:ILE:CG2	1:F:239:HIS:HB3	2.34	0.57
1:F:369:GLU:HA	1:F:377:LEU:HD22	1.86	0.57
1:A:340:ASN:HA	1:A:366:ARG:HD2	1.85	0.57
1:B:2:ASN:HB3	1:B:5:GLU:HG3	1.86	0.57
1:D:369:GLU:HA	1:D:377:LEU:HD11	1.85	0.57
2:G:1:U:C3'	2:G:2:U:H5'	2.29	0.57
1:B:214:GLU:O	1:B:217:THR:HG22	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:378:GLN:O	1:B:382:ILE:HG13	2.03	0.57
1:C:349:ILE:HB	1:C:357:ALA:HB1	1.87	0.57
1:D:1:MSE:HE3	1:D:50:PHE:HZ	1.69	0.57
1:D:298:LYS:NZ	1:D:338:THR:HB	2.19	0.57
1:F:273:ALA:O	1:F:276:THR:HG22	2.04	0.57
1:A:177:VAL:HG12	1:A:321:ILE:HG12	1.85	0.57
1:A:384:ARG:HG2	1:F:353:ARG:HD3	1.87	0.57
1:B:5:GLU:O	1:B:9:THR:HG23	2.05	0.57
1:E:42:HIS:O	1:E:47:GLU:HB2	2.04	0.57
1:B:304:ALA:HB2	1:B:315:ILE:HG13	1.86	0.57
1:D:158:THR:HG23	1:D:356:PRO:HB3	1.86	0.57
1:F:379:LYS:NZ	1:F:412:PHE:HB2	2.18	0.57
1:A:174:GLY:HA3	1:A:341:MSE:HB3	1.87	0.57
1:C:278:VAL:HG21	1:C:293:ALA:HA	1.87	0.57
1:F:147:MSE:HB2	1:F:163:ASP:OD2	2.05	0.57
1:D:1:MSE:HG3	1:D:50:PHE:CE2	2.39	0.57
1:F:136:LEU:HD13	1:F:307:VAL:HG22	1.85	0.57
1:F:388:HIS:HB3	1:F:389:PRO:HD3	1.86	0.57
1:C:160:ARG:NH1	1:C:407:LYS:HA	2.20	0.57
1:D:372:THR:CG2	1:D:376:GLU:HB3	2.34	0.57
1:B:66:ARG:NH1	1:B:74:ALA:HA	2.19	0.57
1:C:374:GLN:O	1:C:378:GLN:HG3	2.05	0.57
1:D:144:ARG:HH11	1:D:167:PRO:HB3	1.69	0.57
1:D:191:ILE:O	1:D:195:ILE:HG13	2.05	0.57
1:A:55:LEU:HA	1:A:65:LEU:HD23	1.87	0.56
1:A:89:PHE:HB2	1:A:91:LEU:HG	1.86	0.56
1:B:412:PHE:HA	1:B:415[A]:MSE:HE2	1.87	0.56
1:F:2:ASN:O	1:F:6:LEU:HD12	2.05	0.56
1:B:9:THR:OG1	1:B:14:LEU:HD21	2.05	0.56
1:E:192:ALA:HB2	1:E:263:LEU:HD12	1.87	0.56
1:A:3:LEU:HB2	1:A:50:PHE:O	2.06	0.56
1:A:42:HIS:O	1:A:47:GLU:HG2	2.04	0.56
1:A:213:PRO:HG3	1:A:231:THR:CG2	2.35	0.56
1:B:281:SER:HB3	1:B:290:ASP:OD2	2.06	0.56
1:C:161:VAL:CG1	1:C:358:ILE:HD12	2.35	0.56
1:D:349:ILE:HG21	1:D:396:MSE:HG3	1.87	0.56
1:E:70:SER:O	1:E:73:LEU:HB2	2.05	0.56
1:A:293:ALA:O	1:A:297:PRO:HD2	2.06	0.56
1:B:348:LYS:HE2	1:B:392:GLU:OE1	2.05	0.56
1:E:177:VAL:CG1	1:E:321:ILE:CD1	2.82	0.56
1:E:274:TYR:CD2	1:E:297:PRO:HG3	2.40	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:104:PRO:CB	1:F:108:GLU:HB2	2.30	0.56
1:F:234:GLU:OE1	1:F:238:ARG:HG2	2.06	0.56
1:C:36:PHE:O	1:C:40:LYS:HG2	2.05	0.56
1:C:161:VAL:HG13	1:C:399:LEU:HD21	1.88	0.56
3:C:1000:ADP:HO3'	1:D:366:ARG:HB3	1.67	0.56
1:E:247:ILE:HB	1:E:300:PHE:CE1	2.41	0.56
1:E:406:THR:HB	1:E:410:ASP:HB2	1.87	0.56
1:F:91:LEU:H	1:F:91:LEU:HD12	1.70	0.56
1:A:144:ARG:HH21	1:A:144:ARG:HG3	1.70	0.56
1:B:35:ILE:O	1:B:39:LEU:HD12	2.06	0.56
1:D:66:ARG:NH1	1:D:74:ALA:HA	2.21	0.56
1:D:352:LYS:O	1:D:353:ARG:HB2	2.06	0.56
1:C:9:THR:OG1	1:C:14:LEU:HD21	2.06	0.56
1:C:11:VAL:HG13	1:C:15:ILE:HD11	1.88	0.56
1:C:102:ARG:NH1	1:C:105:LYS:HG2	2.21	0.56
1:E:157:LEU:HD23	1:E:158:THR:H	1.71	0.56
1:E:267:ILE:HG22	1:E:318:THR:O	2.05	0.56
1:F:71:SER:HB3	1:F:238:ARG:HH21	1.70	0.56
1:F:158:THR:O	1:F:161:VAL:HG12	2.06	0.56
1:A:346:SER:HB3	1:A:349:ILE:HG13	1.86	0.56
1:B:168:ILE:HG12	1:B:341:MSE:HE2	1.86	0.56
1:B:213:PRO:HD3	1:B:232:PHE:CZ	2.41	0.56
1:C:218:GLU:CG	1:C:219:MSE:N	2.69	0.56
1:D:144:ARG:NH1	1:D:167:PRO:HB3	2.21	0.56
1:D:148:GLU:O	1:D:148:GLU:HG3	2.06	0.56
1:D:205:MSE:HE1	1:D:250:ALA:HB2	1.86	0.56
1:C:195:ILE:CD1	1:C:261:ILE:HG21	2.35	0.56
1:D:207:LEU:HA	1:D:228:VAL:HG23	1.88	0.56
1:E:406:THR:CB	1:E:410:ASP:HB2	2.36	0.56
1:F:153:SER:HB3	1:F:155:GLU:OE2	2.06	0.56
1:A:89:PHE:CE1	1:A:124:PRO:CB	2.89	0.56
1:A:290:ASP:O	1:A:294:LEU:HD12	2.05	0.56
1:B:34:ILE:HG22	1:B:38:ILE:HD11	1.88	0.56
1:C:181:LYS:HE3	1:D:366:ARG:HG2	1.88	0.56
1:C:308:GLU:HG2	1:C:308:GLU:O	2.06	0.56
1:C:379:LYS:HG3	1:C:380:MSE:N	2.20	0.56
1:F:206:VAL:HG21	1:F:219:MSE:HE2	1.88	0.56
1:F:207:LEU:HA	1:F:228:VAL:O	2.05	0.56
1:B:347:ARG:HH21	1:C:336:LYS:HZ3	1.54	0.55
1:E:137:THR:HG23	1:E:308:GLU:HB2	1.88	0.55
1:E:185:THR:CG2	1:E:215:GLU:OE1	2.54	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:376:GLU:O	1:F:380:MSE:HG3	2.06	0.55
1:F:407:LYS:HD2	1:F:408:THR:H	1.70	0.55
1:B:393:ILE:O	1:B:397:GLU:HG3	2.06	0.55
1:C:42:HIS:CD2	1:C:47:GLU:HB2	2.41	0.55
1:D:254:VAL:HG21	1:D:313:LEU:HB2	1.88	0.55
1:B:212:ARG:HD3	1:C:173:ARG:HH21	1.71	0.55
1:C:247:ILE:O	1:C:251:LYS:HG3	2.05	0.55
1:D:93:THR:CG2	1:D:245:MSE:HE1	2.36	0.55
1:D:407:LYS:HE3	1:D:410:ASP:OD1	2.06	0.55
1:A:64:PHE:HB2	1:A:66:ARG:HE	1.70	0.55
1:A:183:GLY:HA2	3:A:1000:ADP:C8	2.42	0.55
1:B:374:GLN:O	1:B:378:GLN:HG3	2.07	0.55
1:D:232:PHE:CZ	1:E:302:GLY:HA3	2.42	0.55
1:E:167:PRO:O	1:E:365:THR:HG21	2.06	0.55
1:E:326:LYS:O	1:E:330:VAL:HG23	2.06	0.55
1:B:92:ARG:NH1	1:B:132:LEU:HD22	2.22	0.55
1:F:30:ARG:HB3	1:F:33:ASP:OD2	2.06	0.55
1:F:161:VAL:HG23	1:F:399:LEU:HD21	1.89	0.55
1:B:36:PHE:CE2	1:B:111:PHE:HE2	2.22	0.55
1:E:102:ARG:NH1	1:E:104:PRO:HA	2.20	0.55
1:A:295:HIS:NE2	1:A:299:ARG:NH2	2.54	0.55
1:C:4:THR:CG2	1:C:52:ASP:OD2	2.55	0.55
1:C:289:VAL:HG22	1:C:327:MSE:HG3	1.89	0.55
1:D:161:VAL:CG1	1:D:358:ILE:HD12	2.36	0.55
1:D:378:GLN:HA	1:D:381:TRP:HB3	1.87	0.55
1:E:30:ARG:NH1	1:E:32:GLN:HB3	2.22	0.55
1:E:32:GLN:HG3	1:E:36:PHE:CZ	2.41	0.55
1:E:161:VAL:CG1	1:E:356:PRO:HG3	2.32	0.55
1:F:60:ASP:HB2	1:F:62:PHE:HD2	1.71	0.55
1:F:211:GLU:HG3	1:F:265:ASP:OD1	2.07	0.55
1:F:267:ILE:HB	1:F:317:ALA:HB1	1.89	0.55
1:F:356:PRO:HD2	1:F:400:ILE:HD11	1.89	0.55
1:F:398:PHE:HE1	1:F:402:LYS:CE	2.20	0.55
1:B:119:VAL:O	1:B:256:HIS:HE1	1.89	0.55
1:C:30:ARG:NE	1:C:32:GLN:HB2	2.20	0.55
1:C:281:SER:CB	1:C:290:ASP:OD1	2.54	0.55
1:D:374:GLN:NE2	1:D:378:GLN:OE1	2.36	0.55
1:F:120:ASN:HB2	1:F:256:HIS:NE2	2.22	0.55
1:B:39:LEU:CB	1:B:49:ILE:HD11	2.36	0.55
1:C:261:ILE:HD13	1:C:314:THR:HB	1.88	0.55
1:D:178:ALA:CB	1:D:184:LYS:CD	2.53	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:335:PHE:O	1:D:338:THR:HG22	2.07	0.55
1:F:252:ARG:O	1:F:256:HIS:ND1	2.40	0.55
1:C:209:ILE:O	1:C:209:ILE:HG22	2.07	0.54
1:D:162:LEU:CD1	1:D:187:LEU:HD11	2.37	0.54
1:E:147:MSE:HE3	1:E:194:SER:CB	2.35	0.54
1:E:296:ARG:HB2	1:E:297:PRO:HD3	1.89	0.54
1:A:104:PRO:HB2	1:A:108:GLU:HB2	1.90	0.54
1:A:211:GLU:HG2	1:A:266:SER:HB2	1.88	0.54
1:D:136:LEU:HD13	1:D:307:VAL:HG21	1.89	0.54
1:F:294:LEU:O	1:F:298:LYS:HB2	2.07	0.54
1:A:348:LYS:HE2	1:A:392:GLU:OE1	2.08	0.54
1:B:39:LEU:HB3	1:B:49:ILE:CD1	2.36	0.54
1:E:269:ARG:HH22	1:F:337:GLY:HA3	1.72	0.54
1:E:285:LEU:HG	1:E:291:ALA:HA	1.89	0.54
1:F:188:LEU:HD12	1:F:263:LEU:HD13	1.89	0.54
1:C:211:GLU:HA	1:C:211:GLU:OE2	2.06	0.54
1:D:93:THR:HG22	1:D:245:MSE:HE1	1.89	0.54
1:D:166:SER:HB2	1:D:365:THR:CG2	2.37	0.54
1:E:233:ASP:OD1	1:F:299:ARG:HA	2.08	0.54
1:C:228:VAL:HG21	1:C:246:VAL:HG21	1.89	0.54
1:D:14:LEU:HD11	1:D:31:LYS:HE2	1.89	0.54
1:D:224:LYS:HA	1:D:224:LYS:HE2	1.89	0.54
1:B:92:ARG:NH1	1:B:252:ARG:NH2	2.56	0.54
1:F:223:VAL:HG11	1:F:227:VAL:CG2	2.37	0.54
1:F:406:THR:HB	1:F:410:ASP:HB2	1.89	0.54
1:B:30:ARG:NH2	1:B:33:ASP:OD1	2.40	0.54
1:C:147:MSE:HB3	1:C:159:ALA:HB1	1.88	0.54
1:E:352:LYS:HB3	1:E:354:VAL:HG23	1.90	0.54
1:F:239:HIS:H	1:F:239:HIS:CD2	2.25	0.54
1:A:378:GLN:O	1:A:382:ILE:HG13	2.08	0.54
1:B:35:ILE:HG22	1:B:39:LEU:CD1	2.37	0.54
1:A:120:ASN:CB	1:A:256:HIS:ND1	2.71	0.54
1:C:217:THR:HG21	1:D:138:PRO:HD2	1.90	0.54
1:F:141:ALA:HB3	1:F:371:LEU:HD11	1.89	0.54
1:F:279:PRO:O	1:F:281:SER:N	2.41	0.54
1:D:42:HIS:NE2	1:D:47:GLU:HB2	2.23	0.54
1:D:177:VAL:CG1	1:D:321:ILE:CD1	2.86	0.54
1:E:30:ARG:HH11	1:E:32:GLN:HB3	1.73	0.54
1:E:219:MSE:HG3	1:E:223:VAL:HG21	1.90	0.54
1:E:287:GLY:O	1:E:327:MSE:HE3	2.08	0.54
1:F:154:THR:HA	1:F:157:LEU:HD12	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:207:LEU:HD13	1:F:228:VAL:HG12	1.90	0.54
1:F:257:LYS:HE2	1:F:309:GLU:O	2.07	0.54
1:A:4:THR:OG1	1:A:52:ASP:CG	2.47	0.53
1:A:212:ARG:HB3	1:A:214:GLU:OE2	2.09	0.53
1:E:41:GLN:CA	1:E:44:LYS:HG3	2.38	0.53
1:E:355:PHE:HA	1:E:356:PRO:C	2.28	0.53
1:B:381:TRP:CH2	1:B:385:LYS:HD3	2.44	0.53
1:E:233:ASP:CG	1:F:299:ARG:HD2	2.29	0.53
1:F:151:ASN:OD1	1:F:152:GLY:N	2.42	0.53
1:D:176:ILE:HG22	1:D:176:ILE:O	2.06	0.53
1:D:274:TYR:O	1:D:278:VAL:HG23	2.08	0.53
1:F:216:VAL:HG21	1:F:229:ALA:HB3	1.89	0.53
1:F:288:GLY:HA3	1:F:327:MSE:HA	1.91	0.53
1:A:119:VAL:O	1:A:256:HIS:HE1	1.92	0.53
1:A:274:TYR:HA	1:A:277:VAL:HG12	1.91	0.53
1:B:102:ARG:HB3	1:B:114:LEU:HD21	1.90	0.53
1:F:30:ARG:NH1	1:F:32:GLN:HB2	2.23	0.53
1:F:34:ILE:O	1:F:38:ILE:HG13	2.09	0.53
1:F:216:VAL:CG2	1:F:229:ALA:HB3	2.38	0.53
1:B:272:ARG:HG2	1:B:327:MSE:SE	2.58	0.53
1:D:92:ARG:HH11	1:D:132:LEU:HD22	1.73	0.53
1:E:53:GLY:HA3	1:E:65:LEU:HB3	1.91	0.53
1:E:79:ILE:HD13	1:E:101:ILE:HG21	1.90	0.53
1:F:125:GLU:HA	1:F:128:ARG:CD	2.39	0.53
1:B:48:ASP:HB3	1:B:50:PHE:CE2	2.44	0.53
1:C:173:ARG:HG2	1:C:339:GLY:HA2	1.89	0.53
1:D:288:GLY:O	1:E:283:LYS:HB3	2.09	0.53
1:E:240:VAL:HG13	1:E:274:TYR:HE1	1.73	0.53
1:E:264:LEU:O	1:E:317:ALA:HA	2.09	0.53
1:E:353:ARG:HD3	1:F:381:TRP:CH2	2.43	0.53
1:A:120:ASN:HB3	1:A:256:HIS:ND1	2.23	0.53
1:A:387:ILE:HD11	1:A:398:PHE:CD2	2.44	0.53
1:B:38:ILE:O	1:B:42:HIS:HD2	1.92	0.53
1:C:136:LEU:HB3	1:C:307:VAL:HG13	1.90	0.53
1:D:4:THR:HG21	1:D:52:ASP:OD2	2.09	0.53
1:D:396:MSE:O	1:D:400:ILE:HG13	2.09	0.53
1:E:180:PRO:HB3	5:E:503:BEF:F2	1.99	0.53
1:E:340:ASN:HA	1:E:366:ARG:HD2	1.91	0.53
1:E:399:LEU:HG	1:E:403:LEU:HG	1.91	0.53
1:A:291:ALA:HA	1:A:294:LEU:HD13	1.91	0.53
1:B:414:GLU:O	1:B:415[A]:MSE:C	2.47	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:45:SER:OG	1:C:47:GLU:HG2	2.08	0.53
1:D:181:LYS:NZ	1:E:342:GLU:HB3	2.24	0.53
1:D:224:LYS:HA	1:D:224:LYS:HE3	1.91	0.53
1:F:287:GLY:CA	1:F:326:LYS:HB2	2.36	0.53
2:G:4:U:C5	2:G:5:U:C5	2.97	0.53
1:B:347:ARG:NH2	1:C:336:LYS:HZ3	2.05	0.53
1:E:178:ALA:CB	1:E:345:LEU:HB2	2.39	0.53
1:F:57:ILE:H	1:F:57:ILE:HD12	1.74	0.53
1:F:219:MSE:HE3	1:F:223:VAL:HG21	1.89	0.53
1:A:267:ILE:CG2	1:A:268:THR:N	2.71	0.53
1:C:267:ILE:HG22	1:C:318:THR:O	2.08	0.53
1:E:55:LEU:C	1:E:55:LEU:HD12	2.29	0.53
1:F:307:VAL:HG12	1:F:309:GLU:H	1.73	0.53
1:F:387:ILE:HA	1:F:390:MSE:HE2	1.90	0.53
1:F:398:PHE:HE1	1:F:402:LYS:HZ2	1.49	0.53
1:C:48:ASP:HB3	1:C:100:LYS:CD	2.39	0.52
1:C:281:SER:CB	1:C:290:ASP:CG	2.78	0.52
1:C:405:MSE:C	1:C:406:THR:CG2	2.77	0.52
1:D:392:GLU:CG	1:D:393:ILE:HD12	2.37	0.52
1:E:118:GLU:HG2	1:E:122:ASP:C	2.29	0.52
1:E:185:THR:HG23	1:E:215:GLU:OE1	2.09	0.52
1:A:328:ASP:OD1	1:A:328:ASP:N	2.41	0.52
1:B:160:ARG:NH2	1:B:406:THR:O	2.43	0.52
1:D:222:LEU:HD12	1:D:222:LEU:C	2.29	0.52
1:F:123:LYS:HB3	1:F:124:PRO:HD2	1.90	0.52
1:B:94:GLY:C	1:B:252:ARG:HG3	2.29	0.52
1:B:177:VAL:HG11	1:B:332:TYR:CE1	2.44	0.52
1:C:174:GLY:HA2	1:C:341:MSE:HB3	1.91	0.52
1:E:235:PRO:HG3	1:F:295:HIS:NE2	2.23	0.52
1:F:212:ARG:HA	1:F:232:PHE:CD2	2.44	0.52
1:F:278:VAL:N	1:F:279:PRO:CD	2.71	0.52
1:B:212:ARG:HA	1:B:232:PHE:CE2	2.44	0.52
1:C:29:MSE:O	1:C:34:ILE:HD11	2.09	0.52
1:E:181:LYS:HA	3:E:501:ADP:H5'1	1.91	0.52
1:E:349:ILE:HD11	1:E:396:MSE:HG2	1.90	0.52
1:E:375:GLU:O	1:E:379:LYS:HG2	2.10	0.52
1:A:144:ARG:HH21	1:A:144:ARG:CG	2.23	0.52
1:A:263:LEU:HD22	1:A:316:ILE:HB	1.92	0.52
1:B:223:VAL:HG21	1:B:227:VAL:HG22	1.91	0.52
1:C:34:ILE:O	1:C:38:ILE:HG13	2.09	0.52
1:D:209:ILE:HG22	1:D:209:ILE:O	2.10	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:177:VAL:CG1	1:E:321:ILE:HG12	2.39	0.52
1:E:211:GLU:HG3	1:E:212:ARG:N	2.21	0.52
1:F:101:ILE:HG22	1:F:113:LEU:HA	1.90	0.52
1:A:83:PRO:O	1:A:87:ARG:HG3	2.10	0.52
1:C:316:ILE:HD12	1:C:341:MSE:HE3	1.91	0.52
1:D:325:SER:HA	1:E:286:THR:CG2	2.37	0.52
1:E:34:ILE:O	1:E:38:ILE:HD13	2.09	0.52
1:F:325:SER:O	1:F:329:GLU:HG2	2.09	0.52
1:A:279:PRO:O	1:A:280:ALA:HB3	2.08	0.52
1:D:113:LEU:HD21	1:D:116:VAL:CG2	2.37	0.52
1:E:128:ARG:HD3	1:E:128:ARG:N	2.25	0.52
1:A:167:PRO:O	1:A:365:THR:HG21	2.10	0.52
1:B:136:LEU:HD22	1:B:307:VAL:HG11	1.90	0.52
1:C:176:ILE:O	1:C:176:ILE:CG1	2.52	0.52
1:D:160:ARG:HH21	1:D:407:LYS:HG3	1.75	0.52
1:D:205:MSE:HG2	1:D:226:GLU:HB2	1.92	0.52
1:D:402:LYS:C	1:D:403:LEU:HD23	2.30	0.52
1:C:244:GLU:O	1:C:248:GLU:HG2	2.10	0.52
1:E:2:ASN:OD1	1:E:50:PHE:HB2	2.10	0.52
1:F:30:ARG:HG2	1:F:30:ARG:HH11	1.74	0.52
1:F:223:VAL:CG1	1:F:224:LYS:N	2.73	0.52
1:A:156:ASP:O	1:A:160:ARG:HD3	2.10	0.52
1:A:183:GLY:O	1:A:187:LEU:HB2	2.10	0.52
1:B:175:LEU:HG	1:B:301:PHE:CZ	2.45	0.52
1:C:156:ASP:O	1:C:160:ARG:HB2	2.10	0.52
1:F:121:PHE:CD2	1:F:121:PHE:N	2.78	0.52
1:F:155:GLU:CD	1:F:155:GLU:H	2.12	0.52
1:A:279:PRO:CB	1:B:283:LYS:HE2	2.27	0.51
1:F:71:SER:HB3	1:F:238:ARG:NH2	2.25	0.51
1:F:84:SER:O	1:F:88:ARG:HG2	2.10	0.51
1:F:102:ARG:CG	1:F:114:LEU:HD21	2.39	0.51
1:B:205:MSE:HE3	1:B:260:VAL:CG1	2.38	0.51
1:D:358:ILE:HB	1:D:396:MSE:CE	2.40	0.51
1:D:388:HIS:HB3	1:D:389:PRO:HD3	1.91	0.51
1:F:244:GLU:O	1:F:248:GLU:HG2	2.10	0.51
1:B:30:ARG:HD2	1:B:32:GLN:HE21	1.75	0.51
1:C:162:LEU:HD21	1:C:343:LEU:HD22	1.91	0.51
1:D:236:ALA:O	1:D:240:VAL:HG23	2.10	0.51
1:E:241:GLN:NE2	6:E:504:SPD:C7	2.35	0.51
1:F:121:PHE:N	1:F:121:PHE:HD2	2.08	0.51
1:B:197:TYR:HD2	1:B:197:TYR:O	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:393:ILE:H	1:B:393:ILE:HD12	1.75	0.51
1:C:34:ILE:H	1:C:34:ILE:HD12	1.76	0.51
1:C:104:PRO:HB2	1:C:108:GLU:HB2	1.91	0.51
1:F:30:ARG:CG	1:F:31:LYS:N	2.72	0.51
1:F:183:GLY:HA2	3:F:1000:ADP:H8	1.71	0.51
1:C:268:THR:HG21	1:C:320:LEU:H	1.76	0.51
1:A:167:PRO:HD2	1:A:365:THR:OG1	2.10	0.51
1:A:210:ASP:HB3	1:A:269:ARG:CG	2.39	0.51
1:A:232:PHE:O	1:B:299:ARG:NH2	2.44	0.51
1:B:6:LEU:HG	1:B:14:LEU:HD11	1.92	0.51
1:B:35:ILE:HA	1:B:38:ILE:HD12	1.93	0.51
1:D:138:PRO:HA	1:D:306:ASN:O	2.11	0.51
1:A:162:LEU:CD1	1:A:343:LEU:HD21	2.39	0.51
1:A:181:LYS:HE2	1:B:366:ARG:HG3	1.92	0.51
1:B:144:ARG:HH11	1:B:146:ARG:HA	1.75	0.51
1:D:372:THR:CG2	1:D:373:THR:N	2.73	0.51
1:E:174:GLY:CA	1:E:341:MSE:HB3	2.40	0.51
1:E:298:LYS:HZ3	1:E:334:GLU:HG3	1.76	0.51
1:A:105:LYS:H	1:A:108:GLU:HG3	1.75	0.51
1:A:207:LEU:HD13	1:A:246:VAL:HG21	1.93	0.51
1:A:264:LEU:O	1:A:317:ALA:HA	2.11	0.51
1:D:39:LEU:HD22	1:D:49:ILE:HD13	1.92	0.51
1:E:43:ALA:HB2	1:E:49:ILE:HD11	1.93	0.51
1:E:186:MSE:HE1	3:E:501:ADP:C5	2.45	0.51
1:F:118:GLU:HA	1:F:122:ASP:O	2.11	0.51
1:C:207:LEU:O	1:C:264:LEU:HD12	2.11	0.51
1:C:285:LEU:HB2	1:C:289:VAL:O	2.11	0.51
1:D:212:ARG:HB2	1:D:215:GLU:HG3	1.93	0.51
1:F:212:ARG:HG3	1:F:215:GLU:OE1	2.11	0.51
1:B:106:GLU:HG3	1:B:107:GLY:N	2.26	0.51
1:B:353:ARG:HB3	1:C:381:TRP:CZ3	2.46	0.51
1:D:50:PHE:CD2	1:D:50:PHE:N	2.78	0.51
1:E:347:ARG:O	1:E:351:GLU:HG2	2.10	0.51
1:A:144:ARG:HH22	1:A:146:ARG:HA	1.76	0.50
1:A:244:GLU:O	1:A:247:ILE:HG22	2.11	0.50
1:B:184:LYS:HG2	1:B:318:THR:HB	1.92	0.50
1:B:406:THR:HG21	1:B:411:ASP:N	2.25	0.50
1:C:65:LEU:HD12	1:C:79:ILE:HB	1.93	0.50
1:D:289:VAL:HG22	1:D:327:MSE:HG3	1.92	0.50
1:D:396:MSE:HE2	1:D:399:LEU:CD2	2.39	0.50
1:E:341:MSE:HG2	1:E:365:THR:CG2	2.38	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:66:ARG:NH1	1:F:74:ALA:CA	2.59	0.50
1:F:121:PHE:CD1	1:F:258:LYS:NZ	2.79	0.50
1:F:171:GLY:H	1:F:314:THR:CG2	2.23	0.50
1:A:116:VAL:HG22	1:A:117:ASN:N	2.26	0.50
1:A:148:GLU:CG	1:A:160:ARG:HG3	2.35	0.50
1:B:234:GLU:HA	1:B:234:GLU:OE2	2.11	0.50
1:C:405:MSE:O	1:C:406:THR:CG2	2.59	0.50
1:D:396:MSE:O	1:D:397:GLU:C	2.48	0.50
1:F:147:MSE:HB3	1:F:159:ALA:HB1	1.91	0.50
1:F:184:LYS:HZ1	1:F:320:LEU:HD13	1.77	0.50
2:G:4:U:C4	2:G:5:U:C4	2.98	0.50
1:A:276:THR:HB	7:B:1115:HOH:O	2.10	0.50
1:B:173:ARG:NH1	1:B:304:ALA:O	2.45	0.50
1:E:50:PHE:HE1	1:E:117:ASN:ND2	2.09	0.50
1:E:390:MSE:HB2	1:E:395:ALA:CB	2.34	0.50
1:A:118:GLU:HG2	1:A:122:ASP:N	2.27	0.50
1:D:137:THR:HB	1:D:308:GLU:HB3	1.93	0.50
1:D:250:ALA:O	1:D:254:VAL:HG23	2.12	0.50
1:E:268:THR:HG21	1:E:320:LEU:H	1.75	0.50
1:F:307:VAL:HG12	1:F:309:GLU:HG2	1.93	0.50
1:A:38:ILE:C	1:A:42:HIS:HD2	2.14	0.50
1:C:294:LEU:C	1:C:297:PRO:HD2	2.31	0.50
1:C:333:GLU:HA	1:C:333:GLU:OE1	2.10	0.50
1:F:37:ALA:O	1:F:40:LYS:HG2	2.12	0.50
1:F:333:GLU:O	1:F:336:LYS:HB2	2.11	0.50
1:A:106:GLU:HG3	1:A:107:GLY:N	2.27	0.50
1:A:396:MSE:HE3	1:A:400:ILE:HG13	1.92	0.50
1:C:37:ALA:HA	1:C:40:LYS:CE	2.42	0.50
1:D:161:VAL:HG11	1:D:358:ILE:HD12	1.93	0.50
1:E:3:LEU:HD13	1:E:4:THR:N	2.26	0.50
1:F:207:LEU:HG	1:F:209:ILE:HD11	1.94	0.50
1:F:210:ASP:HA	1:F:232:PHE:HA	1.92	0.50
1:A:151:ASN:HB2	1:A:156:ASP:OD2	2.10	0.50
1:B:10:PRO:HG2	1:B:13:GLU:HB2	1.94	0.50
1:B:102:ARG:HG3	1:B:102:ARG:NH1	2.26	0.50
1:B:261:ILE:HG13	1:B:314:THR:HB	1.94	0.50
1:C:161:VAL:HG12	1:C:358:ILE:HD12	1.94	0.50
1:D:340:ASN:HA	1:D:366:ARG:CD	2.42	0.50
1:E:30:ARG:O	1:E:34:ILE:HG13	2.11	0.50
1:E:294:LEU:C	1:E:297:PRO:HD2	2.32	0.50
1:A:3:LEU:HB3	1:A:51:GLY:HA2	1.94	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:179:PRO:O	1:D:180:PRO:C	2.48	0.50
1:D:343:LEU:HD12	1:D:363:SER:HB3	1.94	0.50
1:F:79:ILE:HD13	1:F:101:ILE:HG21	1.93	0.50
1:F:223:VAL:HG12	1:F:225:GLY:H	1.76	0.50
1:A:326:LYS:HE3	1:B:286:THR:CG2	2.42	0.50
1:A:326:LYS:CA	1:A:329:GLU:HG2	2.41	0.50
1:E:133:PHE:CE2	1:E:251:LYS:HD2	2.47	0.50
1:F:222:LEU:O	1:F:223:VAL:HG23	2.12	0.50
2:G:1:U:C3'	2:G:2:U:C5'	2.89	0.50
1:A:277:VAL:C	1:A:279:PRO:HD3	2.33	0.49
1:B:274:TYR:CD2	1:B:297:PRO:HG3	2.47	0.49
1:E:233:ASP:O	1:F:299:ARG:HD3	2.11	0.49
1:E:342:GLU:HG2	1:E:343:LEU:N	2.26	0.49
1:F:30:ARG:HB3	1:F:33:ASP:CG	2.32	0.49
1:A:30:ARG:HD2	1:A:32:GLN:HB2	1.92	0.49
1:C:55:LEU:HD22	1:C:91:LEU:HB3	1.95	0.49
1:D:120:ASN:O	1:D:121:PHE:HB2	2.12	0.49
1:D:285:LEU:HB2	1:D:289:VAL:O	2.12	0.49
1:A:248:GLU:O	1:A:252:ARG:HG2	2.11	0.49
1:A:398:PHE:CD2	1:A:398:PHE:C	2.86	0.49
1:B:307:VAL:HG12	1:B:309:GLU:H	1.77	0.49
1:C:30:ARG:HG2	1:C:33:ASP:OD1	2.11	0.49
1:E:105:LYS:HG2	1:E:108:GLU:OE1	2.12	0.49
1:F:283:LYS:O	1:F:290:ASP:OD1	2.29	0.49
2:G:2:U:H3	6:G:101:SPD:H81	1.76	0.49
1:A:32:GLN:HA	1:A:35:ILE:HD12	1.94	0.49
1:A:287:GLY:HA3	2:G:2:U:O3'	2.12	0.49
1:B:53:GLY:HA3	1:B:65:LEU:HB3	1.94	0.49
1:B:95:ASP:HB3	1:B:97:ILE:HD11	1.94	0.49
1:C:407:LYS:HE2	1:C:409:ASN:HB3	1.93	0.49
1:E:277:VAL:HG12	1:E:277:VAL:O	2.11	0.49
1:F:271:ALA:CB	1:F:331:ILE:HD13	2.43	0.49
1:B:388:HIS:HB3	1:B:389:PRO:HD3	1.95	0.49
1:D:323:THR:OG1	1:D:328:ASP:OD2	2.26	0.49
1:A:138:PRO:HA	1:A:306:ASN:O	2.11	0.49
1:A:174:GLY:CA	1:A:341:MSE:HB3	2.41	0.49
1:D:82:SER:OG	1:D:85:GLN:HG3	2.13	0.49
1:D:160:ARG:O	1:D:164:LEU:HG	2.12	0.49
1:F:93:THR:HG23	1:F:248:GLU:HG3	1.95	0.49
1:A:133:PHE:HE2	1:A:305:ARG:NE	2.10	0.49
1:A:351:GLU:OE2	1:B:362:ARG:HG2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:191:ILE:O	1:B:195:ILE:HG12	2.12	0.49
1:B:353:ARG:HB3	1:C:381:TRP:CH2	2.47	0.49
1:C:213:PRO:HD3	1:C:232:PHE:CE2	2.48	0.49
1:E:176:ILE:HA	1:E:343:LEU:HB3	1.94	0.49
1:A:118:GLU:HG2	1:A:122:ASP:C	2.33	0.49
1:C:396:MSE:HE3	1:C:400:ILE:HG13	1.94	0.49
1:F:368:GLU:HG3	1:F:377:LEU:HD11	1.94	0.49
1:B:39:LEU:CD2	1:B:49:ILE:HD11	2.43	0.49
1:B:160:ARG:HG2	1:B:408:THR:CB	2.43	0.49
1:C:101:ILE:HG22	1:C:113:LEU:HD12	1.93	0.49
1:C:218:GLU:HG3	1:C:219:MSE:N	2.28	0.49
1:C:405:MSE:SE	1:C:414:GLU:OE2	2.81	0.49
1:D:32:GLN:HG2	1:D:33:ASP:H	1.76	0.49
1:E:274:TYR:HD2	1:E:297:PRO:HG3	1.77	0.49
1:F:35:ILE:HA	1:F:38:ILE:HD12	1.94	0.49
1:A:161:VAL:HG22	1:A:399:LEU:HD22	1.94	0.49
1:A:379:LYS:HE2	1:A:412:PHE:HE1	1.78	0.49
1:C:412:PHE:O	1:C:415:MSE:HG2	2.13	0.49
1:E:102:ARG:HH12	1:E:105:LYS:H	1.61	0.49
1:E:388:HIS:CB	1:E:389:PRO:CD	2.89	0.49
1:F:58:LEU:HB2	1:F:62:PHE:O	2.12	0.49
2:G:4:U:C4	2:G:5:U:N3	2.81	0.49
2:G:5:U:O4	2:G:6:U:O4	2.31	0.49
1:A:257:LYS:NZ	1:A:309:GLU:O	2.45	0.48
1:B:187:LEU:HD21	1:B:343:LEU:CD2	2.43	0.48
1:B:387:ILE:HG23	1:B:395:ALA:HB1	1.95	0.48
1:D:382:ILE:O	1:D:386:ILE:HD13	2.12	0.48
1:E:99:GLY:HA2	1:E:117:ASN:HB2	1.95	0.48
1:E:104:PRO:HD3	1:E:111:PHE:CD1	2.48	0.48
1:A:360:TYR:CE2	1:A:384:ARG:HD3	2.48	0.48
1:A:375:GLU:O	1:A:379:LYS:HD3	2.12	0.48
1:C:407:LYS:CE	1:C:409:ASN:HB3	2.43	0.48
1:D:402:LYS:O	1:D:403:LEU:HD23	2.13	0.48
1:E:289:VAL:CA	1:E:327:MSE:HE2	2.43	0.48
1:F:41:GLN:O	1:F:44:LYS:HG2	2.13	0.48
1:F:263:LEU:O	1:F:264:LEU:HD23	2.12	0.48
1:F:304:ALA:HB2	1:F:315:ILE:CG1	2.43	0.48
1:F:340:ASN:HA	1:F:366:ARG:HH12	1.78	0.48
1:F:379:LYS:O	1:F:382:ILE:HG22	2.13	0.48
1:B:30:ARG:HH11	1:B:32:GLN:NE2	2.07	0.48
1:C:336:LYS:HZ1	1:C:342:GLU:CD	2.15	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:187:LEU:O	1:D:191:ILE:HG13	2.12	0.48
1:D:392:GLU:HG2	1:D:393:ILE:H	1.77	0.48
1:E:238:ARG:CD	6:E:504:SPD:H31	2.43	0.48
1:E:390:MSE:HE1	1:E:398:PHE:CB	2.42	0.48
2:G:1:U:C2	6:G:101:SPD:H22	2.48	0.48
1:A:144:ARG:NE	1:A:167:PRO:HB3	2.24	0.48
1:B:62:PHE:HB3	1:B:83:PRO:HG3	1.94	0.48
1:C:405:MSE:C	1:C:406:THR:HG23	2.32	0.48
1:D:340:ASN:HA	1:D:366:ARG:HD2	1.94	0.48
1:E:238:ARG:O	1:E:239:HIS:C	2.52	0.48
1:F:131:ILE:HG21	1:F:136:LEU:HB3	1.94	0.48
1:F:133:PHE:CD1	1:F:251:LYS:HG2	2.49	0.48
1:F:287:GLY:HA3	1:F:326:LYS:HD2	1.95	0.48
1:A:4:THR:OG1	1:A:52:ASP:OD2	2.32	0.48
1:A:234:GLU:OE2	1:A:234:GLU:HA	2.14	0.48
1:B:347:ARG:NH1	1:C:333:GLU:OE2	2.46	0.48
1:C:355:PHE:HA	1:C:356:PRO:C	2.34	0.48
1:D:206:VAL:HG11	1:D:219:MSE:HE2	1.95	0.48
1:D:218:GLU:OE2	1:E:140:HIS:CD2	2.65	0.48
1:E:161:VAL:HG13	1:E:162:LEU:N	2.28	0.48
1:E:185:THR:HG21	1:E:215:GLU:CD	2.34	0.48
1:F:173:ARG:HB3	1:F:301:PHE:HE2	1.79	0.48
1:A:4:THR:HG1	1:A:52:ASP:CG	2.16	0.48
1:B:260:VAL:C	1:B:261:ILE:HD12	2.34	0.48
1:C:210:ASP:OD1	1:C:210:ASP:O	2.31	0.48
1:D:396:MSE:CE	1:D:399:LEU:CD2	2.90	0.48
1:E:89:PHE:CE2	1:E:116:VAL:HG21	2.47	0.48
1:F:118:GLU:HG3	1:F:122:ASP:O	2.14	0.48
1:F:235:PRO:O	1:F:239:HIS:HD2	1.97	0.48
1:F:272:ARG:O	1:F:275:ASN:HB3	2.14	0.48
1:F:386:ILE:CG2	1:F:387:ILE:CD1	2.83	0.48
1:A:289:VAL:HG12	1:A:294:LEU:HD11	1.95	0.48
1:B:183:GLY:HA2	3:B:1000:ADP:C8	2.48	0.48
1:E:40:LYS:O	1:E:44:LYS:CG	2.61	0.48
1:E:102:ARG:HB3	1:E:114:LEU:HD13	1.96	0.48
1:E:209:ILE:HD11	1:E:266:SER:O	2.13	0.48
1:F:139:LEU:HD11	1:F:308:GLU:HB2	1.96	0.48
1:F:387:ILE:HD11	1:F:398:PHE:HE2	1.78	0.48
1:A:117:ASN:O	1:A:124:PRO:HD3	2.14	0.48
1:B:197:TYR:O	1:B:197:TYR:CD2	2.66	0.48
1:B:267:ILE:HG22	1:B:318:THR:O	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:383:LEU:O	1:C:387:ILE:HG12	2.14	0.48
1:D:53:GLY:HA3	1:D:65:LEU:HB3	1.94	0.48
1:D:352:LYS:HD3	1:D:393:ILE:HG12	1.96	0.48
1:E:65:LEU:HD12	1:E:79:ILE:HB	1.95	0.48
1:E:326:LYS:O	1:E:327:MSE:C	2.51	0.48
1:F:136:LEU:HD13	1:F:307:VAL:CG2	2.43	0.48
1:C:219:MSE:HE3	1:C:223:VAL:HG21	1.96	0.48
1:C:247:ILE:HB	1:C:300:PHE:HE1	1.78	0.48
1:D:49:ILE:O	1:D:100:LYS:HA	2.14	0.48
1:E:264:LEU:HB3	1:E:317:ALA:HB2	1.96	0.48
1:F:55:LEU:CD2	1:F:91:LEU:HB3	2.44	0.48
1:F:290:ASP:OD1	1:F:291:ALA:N	2.47	0.48
1:F:379:LYS:HE2	1:F:412:PHE:HB2	1.96	0.48
1:C:92:ARG:NH1	1:C:132:LEU:HD22	2.29	0.48
1:C:265:ASP:O	1:C:266:SER:CB	2.61	0.48
1:D:403:LEU:HD22	1:D:411:ASP:OD2	2.13	0.48
1:E:402:LYS:HD3	1:E:402:LYS:N	2.29	0.48
1:F:60:ASP:HB2	1:F:62:PHE:CE2	2.49	0.48
1:F:85:GLN:O	1:F:89:PHE:HD2	1.97	0.48
1:A:379:LYS:HE2	1:A:412:PHE:CE1	2.49	0.47
1:C:287:GLY:O	1:C:327:MSE:HB2	2.14	0.47
1:A:187:LEU:O	1:A:191:ILE:HG13	2.14	0.47
1:A:396:MSE:O	1:A:400:ILE:HG13	2.14	0.47
1:B:340:ASN:HA	1:B:366:ARG:CD	2.44	0.47
1:C:44:LYS:HG3	1:C:45:SER:N	2.29	0.47
1:C:178:ALA:HB3	1:C:184:LYS:HE3	1.96	0.47
1:D:216:VAL:CG2	1:D:217:THR:N	2.76	0.47
1:E:370:LEU:HD12	1:E:371:LEU:N	2.29	0.47
1:F:176:ILE:O	1:F:176:ILE:HG22	2.14	0.47
1:F:188:LEU:CD1	1:F:263:LEU:HD13	2.44	0.47
1:F:381:TRP:CE3	1:F:384:ARG:HG3	2.49	0.47
2:G:3:U:H5"	2:G:4:U:OP2	2.14	0.47
1:A:92:ARG:HH21	1:A:252:ARG:HH12	1.62	0.47
1:A:379:LYS:CD	1:A:379:LYS:N	2.78	0.47
1:A:388:HIS:ND1	1:A:388:HIS:C	2.67	0.47
1:B:184:LYS:CG	1:B:318:THR:HB	2.44	0.47
1:C:4:THR:HG23	1:C:52:ASP:OD2	2.14	0.47
1:C:13:GLU:O	1:C:16:THR:OG1	2.24	0.47
1:D:186:MSE:CE	1:E:367:LYS:HZ3	2.25	0.47
1:F:370:LEU:HD12	1:F:371:LEU:N	2.29	0.47
2:G:4:U:O4	2:G:5:U:N3	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:160:ARG:HG2	1:A:408:THR:OG1	2.14	0.47
1:A:250:ALA:O	1:A:254:VAL:HG23	2.15	0.47
1:A:330:VAL:O	1:A:334:GLU:HG2	2.14	0.47
1:C:5:GLU:O	1:C:9:THR:HG23	2.14	0.47
1:C:211:GLU:HG2	1:C:266:SER:OG	2.15	0.47
1:E:120:ASN:HB2	1:E:256:HIS:CE1	2.50	0.47
1:E:298:LYS:NZ	1:E:334:GLU:HG3	2.29	0.47
1:A:217:THR:HG21	1:B:138:PRO:HD2	1.95	0.47
1:E:105:LYS:CG	1:E:108:GLU:OE1	2.62	0.47
1:E:156:ASP:OD1	1:E:160:ARG:HG3	2.14	0.47
1:F:80:TYR:OH	1:F:82:SER:HB2	2.15	0.47
1:A:139:LEU:HD11	1:A:308:GLU:HB2	1.95	0.47
1:A:177:VAL:CG1	1:A:321:ILE:CG2	2.93	0.47
1:B:147:MSE:HE2	1:B:162:LEU:HD23	1.97	0.47
1:B:213:PRO:HD3	1:B:232:PHE:CE2	2.48	0.47
1:C:360:TYR:HE2	1:C:384:ARG:HG2	1.78	0.47
1:D:326:LYS:HA	1:D:329:GLU:HG2	1.96	0.47
1:D:387:ILE:HG23	1:D:395:ALA:HB1	1.96	0.47
1:F:92:ARG:HH11	1:F:252:ARG:NH1	2.13	0.47
1:F:132:LEU:H	1:F:132:LEU:HD22	1.80	0.47
1:F:275:ASN:HD22	1:F:327:MSE:HE1	1.79	0.47
1:A:30:ARG:CG	1:A:33:ASP:H	2.28	0.47
1:A:105:LYS:O	1:A:108:GLU:CG	2.63	0.47
1:A:118:GLU:OE2	1:A:121:PHE:O	2.33	0.47
1:A:211:GLU:HG2	1:A:266:SER:CB	2.43	0.47
1:A:222:LEU:HD12	1:A:222:LEU:C	2.35	0.47
1:B:14:LEU:O	1:B:17:LEU:HB3	2.14	0.47
1:B:217:THR:HG23	1:B:218:GLU:N	2.29	0.47
1:B:347:ARG:HH22	1:C:336:LYS:NZ	2.12	0.47
1:C:183:GLY:HA2	3:C:1000:ADP:H8	1.79	0.47
1:D:131:ILE:HG23	1:D:136:LEU:HD21	1.96	0.47
1:D:198:ASN:N	1:D:198:ASN:HD22	2.12	0.47
1:D:344:HIS:O	1:D:345:LEU:HD23	2.15	0.47
1:D:407:LYS:HG2	1:D:408:THR:N	2.30	0.47
1:E:380:MSE:HE2	1:E:380:MSE:HB3	1.89	0.47
1:F:9:THR:O	1:F:10:PRO:O	2.31	0.47
1:F:31:LYS:O	1:F:35:ILE:HG22	2.14	0.47
1:F:36:PHE:HD1	1:F:111:PHE:HZ	1.61	0.47
1:F:92:ARG:O	1:F:95:ASP:CG	2.53	0.47
1:F:98:SER:OG	1:F:118:GLU:HB3	2.14	0.47
1:F:151:ASN:OD1	1:F:156:ASP:HB2	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:369:GLU:HG2	1:F:370:LEU:N	2.30	0.47
1:A:173:ARG:NH1	1:A:304:ALA:O	2.48	0.47
1:A:177:VAL:HG11	1:A:321:ILE:HG21	1.97	0.47
1:C:83:PRO:O	1:C:87:ARG:HG3	2.15	0.47
1:C:136:LEU:HD13	1:C:307:VAL:HG21	1.97	0.47
1:D:92:ARG:NH1	1:D:132:LEU:HD22	2.30	0.47
1:D:101:ILE:HB	1:D:112:ALA:O	2.15	0.47
1:E:32:GLN:HA	1:E:32:GLN:NE2	2.28	0.47
1:E:210:ASP:O	1:E:232:PHE:N	2.48	0.47
1:E:235:PRO:O	6:E:504:SPD:N1	2.48	0.47
1:E:344:HIS:O	1:E:345:LEU:HD23	2.14	0.47
1:E:358:ILE:HD11	1:E:396:MSE:CE	2.44	0.47
1:F:242:VAL:O	1:F:246:VAL:HG23	2.15	0.47
1:F:398:PHE:HE1	1:F:402:LYS:HE3	1.73	0.47
1:A:144:ARG:NH2	1:A:146:ARG:HA	2.29	0.47
1:A:352:LYS:HD3	1:A:393:ILE:CG2	2.45	0.47
1:A:361:ASN:OD1	1:A:388:HIS:HA	2.14	0.47
1:C:407:LYS:HG2	1:C:408:THR:N	2.30	0.47
1:E:73:LEU:HD23	1:E:74:ALA:H	1.80	0.47
1:E:237:SER:OG	6:E:504:SPD:H41	2.14	0.47
1:F:30:ARG:NH1	1:F:30:ARG:HG2	2.30	0.47
1:F:32:GLN:HA	1:F:35:ILE:CG2	2.45	0.47
1:F:292:ASN:OD1	1:F:292:ASN:O	2.33	0.47
1:F:331:ILE:HG23	1:F:335:PHE:HE1	1.80	0.47
1:A:349:ILE:HB	1:A:357:ALA:HB1	1.97	0.47
3:A:1000:ADP:O3'	1:B:366:ARG:HG2	2.15	0.47
1:B:38:ILE:HG22	1:B:42:HIS:NE2	2.30	0.47
1:B:184:LYS:CD	1:B:318:THR:HB	2.44	0.47
1:C:31:LYS:O	1:C:35:ILE:HG12	2.14	0.47
1:C:47:GLU:OE1	1:C:47:GLU:HA	2.15	0.47
1:C:274:TYR:CD2	1:C:297:PRO:HG3	2.50	0.47
1:C:281:SER:CB	1:C:290:ASP:OD2	2.63	0.47
1:C:393:ILE:HG22	1:C:397:GLU:OE1	2.15	0.47
1:E:240:VAL:HG13	1:E:274:TYR:CE1	2.50	0.47
1:A:178:ALA:HB2	1:A:345:LEU:HB2	1.97	0.46
1:D:145:LEU:HD12	1:D:168:ILE:HG22	1.97	0.46
1:F:32:GLN:HA	1:F:35:ILE:HG22	1.96	0.46
1:F:96:THR:O	1:F:97:ILE:HD12	2.14	0.46
1:A:89:PHE:CZ	1:A:116:VAL:HG11	2.50	0.46
1:A:285:LEU:O	1:A:286:THR:C	2.50	0.46
1:B:89:PHE:CE2	1:B:116:VAL:HG21	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:179:PRO:HG2	1:C:347:ARG:HB2	1.98	0.46
1:D:175:LEU:HD12	1:D:317:ALA:O	2.15	0.46
1:D:247:ILE:O	1:D:251:LYS:HG3	2.15	0.46
1:F:70:SER:O	1:F:71:SER:HB3	2.16	0.46
1:F:120:ASN:CB	1:F:256:HIS:NE2	2.79	0.46
1:F:158:THR:HB	1:F:190:ASN:ND2	2.30	0.46
1:A:90:ASN:CB	1:A:128:ARG:NH2	2.76	0.46
1:A:275:ASN:OD1	1:A:289:VAL:HA	2.15	0.46
1:A:326:LYS:HE3	1:B:286:THR:HG21	1.98	0.46
1:B:160:ARG:O	1:B:163:ASP:HB2	2.16	0.46
1:D:178:ALA:CB	1:D:184:LYS:HG2	2.45	0.46
1:D:320:LEU:O	1:D:328:ASP:HB3	2.15	0.46
1:D:386:ILE:O	1:D:390:MSE:HE3	2.16	0.46
1:E:184:LYS:HE2	7:E:604:HOH:O	2.15	0.46
1:E:231:THR:HG23	1:E:234:GLU:HG2	1.97	0.46
1:F:183:GLY:HA3	3:F:1000:ADP:C8	2.50	0.46
1:F:211:GLU:HG2	1:F:266:SER:OG	2.15	0.46
1:A:83:PRO:HB2	1:A:87:ARG:NH2	2.30	0.46
1:A:130:LYS:HE2	1:A:257:LYS:HE2	1.98	0.46
1:C:352:LYS:HB3	1:C:354:VAL:HG23	1.98	0.46
1:C:393:ILE:H	1:C:393:ILE:HD12	1.80	0.46
1:D:55:LEU:HD22	1:D:91:LEU:HB3	1.96	0.46
1:D:379:LYS:HD2	1:D:412:PHE:CG	2.51	0.46
1:F:36:PHE:CD1	1:F:111:PHE:CZ	3.02	0.46
1:A:99:GLY:HA3	1:A:115:LYS:O	2.15	0.46
1:A:187:LEU:HD21	1:A:343:LEU:HD21	1.96	0.46
1:B:99:GLY:CA	1:B:117:ASN:HB2	2.41	0.46
1:D:172:GLN:HE21	1:D:341:MSE:HB2	1.81	0.46
1:E:230:SER:OG	1:E:239:HIS:CD2	2.69	0.46
1:F:149:ARG:HD2	1:F:197:TYR:HD2	1.81	0.46
1:A:60:ASP:HB2	1:A:62:PHE:CD2	2.51	0.46
1:B:267:ILE:HB	1:B:317:ALA:HB1	1.97	0.46
1:D:95:ASP:OD1	1:D:252:ARG:HD2	2.15	0.46
1:D:352:LYS:HD3	1:D:393:ILE:CG2	2.43	0.46
1:D:369:GLU:HG2	1:D:370:LEU:HD23	1.97	0.46
1:E:60:ASP:HB2	1:E:62:PHE:CD2	2.51	0.46
1:E:213:PRO:HA	1:E:216:VAL:CG2	2.44	0.46
1:F:102:ARG:HH12	1:F:104:PRO:HA	1.79	0.46
1:F:296:ARG:CB	1:F:297:PRO:HD3	2.46	0.46
1:A:104:PRO:HB2	1:A:108:GLU:CB	2.46	0.46
1:A:181:LYS:HA	3:A:1000:ADP:H5'1	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:284:VAL:O	2:G:1:U:O2'	2.32	0.46
1:C:48:ASP:HB3	1:C:100:LYS:HD2	1.98	0.46
1:D:81:VAL:HG12	1:D:86:ILE:HD12	1.96	0.46
1:E:2:ASN:HB2	1:E:5:GLU:HG3	1.97	0.46
1:F:6:LEU:HB3	1:F:35:ILE:HD11	1.96	0.46
1:F:195:ILE:CD1	1:F:261:ILE:HG21	2.45	0.46
1:C:268:THR:HG23	1:C:319:ALA:HA	1.97	0.46
1:D:160:ARG:HG2	1:D:408:THR:OG1	2.15	0.46
1:F:65:LEU:HD21	1:F:97:ILE:HB	1.97	0.46
1:F:376:GLU:HG2	1:F:380:MSE:HE2	1.97	0.46
1:A:95:ASP:OD1	1:A:252:ARG:HD2	2.15	0.46
1:C:17:LEU:C	1:C:17:LEU:HD23	2.36	0.46
1:D:81:VAL:HG22	1:D:113:LEU:HD22	1.96	0.46
1:D:131:ILE:HG23	1:D:136:LEU:CD2	2.46	0.46
1:D:166:SER:HB2	1:D:365:THR:HG23	1.97	0.46
1:D:177:VAL:HG21	1:D:332:TYR:CE1	2.50	0.46
1:D:205:MSE:HE2	1:D:260:VAL:CG1	2.40	0.46
1:D:238:ARG:O	1:D:242:VAL:HG23	2.16	0.46
1:E:178:ALA:HB2	1:E:345:LEU:HB2	1.98	0.46
1:F:137:THR:HA	1:F:138:PRO:HD3	1.79	0.46
1:F:283:LYS:O	1:F:291:ALA:N	2.39	0.46
1:D:215:GLU:O	1:D:218:GLU:HG2	2.16	0.46
1:E:395:ALA:O	1:E:398:PHE:HB3	2.15	0.46
1:F:157:LEU:HD21	1:F:404:ALA:HA	1.98	0.46
1:F:379:LYS:CE	1:F:412:PHE:HB2	2.46	0.46
1:B:123:LYS:HE2	1:B:124:PRO:HD2	1.97	0.45
1:B:181:LYS:NZ	1:C:342:GLU:HG2	2.31	0.45
1:B:289:VAL:HG12	1:B:290:ASP:N	2.31	0.45
1:C:7:LYS:HD3	1:C:69:ASP:OD2	2.15	0.45
1:C:230:SER:HB3	1:C:239:HIS:HD2	1.81	0.45
1:C:353:ARG:HB3	1:D:381:TRP:CZ3	2.51	0.45
1:E:55:LEU:HA	1:E:65:LEU:HD23	1.98	0.45
1:E:183:GLY:HA3	3:E:501:ADP:C8	2.51	0.45
1:F:206:VAL:HG11	1:F:219:MSE:HE2	1.98	0.45
1:F:410:ASP:O	1:F:414:GLU:HG3	2.16	0.45
1:A:70:SER:O	1:A:73:LEU:HB2	2.16	0.45
1:B:111:PHE:N	1:B:111:PHE:CD2	2.85	0.45
1:C:278:VAL:HG21	1:C:293:ALA:CB	2.47	0.45
1:C:360:TYR:OH	1:C:383:LEU:HD23	2.16	0.45
1:C:388:HIS:HB3	1:C:389:PRO:HD3	1.98	0.45
1:E:178:ALA:O	1:E:320:LEU:HD23	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:289:VAL:HB	1:E:327:MSE:HG3	1.97	0.45
1:A:132:LEU:HB2	1:A:135:ASN:OD1	2.17	0.45
1:E:19:GLU:OE1	1:E:19:GLU:HA	2.16	0.45
1:E:37:ALA:O	1:E:40:LYS:HG2	2.16	0.45
1:F:64:PHE:HE1	1:F:80:TYR:HB2	1.81	0.45
1:F:113:LEU:C	1:F:113:LEU:HD12	2.37	0.45
1:A:219:MSE:SE	1:A:223:VAL:HG21	2.66	0.45
1:B:34:ILE:O	1:B:38:ILE:HG13	2.17	0.45
1:C:48:ASP:OD1	1:C:48:ASP:N	2.48	0.45
1:D:126:ASN:C	1:D:128:ARG:H	2.20	0.45
1:F:64:PHE:CE1	1:F:80:TYR:HB2	2.52	0.45
1:F:162:LEU:HD12	1:F:162:LEU:O	2.17	0.45
1:A:39:LEU:HG	1:A:49:ILE:HD13	1.97	0.45
1:A:172:GLN:NE2	1:A:340:ASN:OD1	2.50	0.45
1:A:272:ARG:HG2	1:A:327:MSE:CE	2.45	0.45
1:B:406:THR:OG1	1:B:410:ASP:CB	2.62	0.45
1:C:254:VAL:HG21	1:C:313:LEU:HB2	1.98	0.45
1:F:187:LEU:O	1:F:191:ILE:HG13	2.16	0.45
1:F:279:PRO:O	1:F:280:ALA:HB3	2.16	0.45
1:A:118:GLU:HG2	1:A:122:ASP:CA	2.47	0.45
1:A:385:LYS:NZ	1:F:354:VAL:HG22	2.31	0.45
1:B:139:LEU:HD12	1:B:308:GLU:HG3	1.97	0.45
1:B:250:ALA:O	1:B:254:VAL:HG23	2.16	0.45
1:C:99:GLY:HA2	1:C:117:ASN:HB2	1.98	0.45
1:C:137:THR:OG1	1:C:308:GLU:HB3	2.16	0.45
1:C:145:LEU:HD22	1:C:199:HIS:NE2	2.31	0.45
1:C:212:ARG:HA	1:C:213:PRO:HD3	1.82	0.45
1:C:272:ARG:HG2	1:C:327:MSE:HE2	1.98	0.45
1:D:34:ILE:O	1:D:38:ILE:HG12	2.16	0.45
1:D:186:MSE:HE1	3:D:1000:ADP:C2'	2.41	0.45
1:D:209:ILE:HG12	1:D:270:LEU:HD13	1.98	0.45
1:D:274:TYR:CD2	1:D:297:PRO:HG3	2.52	0.45
1:E:89:PHE:HB2	1:E:91:LEU:CD2	2.47	0.45
1:E:209:ILE:CD1	1:E:270:LEU:CB	2.89	0.45
1:E:236:ALA:O	1:E:240:VAL:HG23	2.17	0.45
1:E:406:THR:OG1	1:E:410:ASP:HB2	2.16	0.45
1:F:212:ARG:HE	1:F:215:GLU:CD	2.19	0.45
1:F:232:PHE:C	1:F:232:PHE:CD1	2.90	0.45
1:F:398:PHE:O	1:F:402:LYS:HG2	2.16	0.45
1:F:406:THR:CB	1:F:410:ASP:HB2	2.45	0.45
1:A:105:LYS:O	1:A:106:GLU:C	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:307:VAL:HB	1:A:310:GLY:O	2.16	0.45
1:B:97:ILE:HD12	1:B:119:VAL:HG22	1.98	0.45
1:E:186:MSE:HE1	3:E:501:ADP:C6	2.51	0.45
1:F:49:ILE:N	1:F:49:ILE:HD12	2.32	0.45
1:F:125:GLU:HG3	1:F:128:ARG:CZ	2.47	0.45
1:F:205:MSE:HE3	1:F:249:LYS:HD2	1.98	0.45
1:F:276:THR:HG23	1:F:277:VAL:N	2.31	0.45
2:G:2:U:O4	2:G:3:U:C4	2.69	0.45
1:A:212:ARG:HD2	1:A:215:GLU:OE2	2.17	0.45
1:A:299:ARG:NH1	1:F:233:ASP:O	2.50	0.45
1:B:202:CYS:HB3	1:B:261:ILE:HD13	1.99	0.45
1:C:86:ILE:HG23	1:C:91:LEU:HB2	1.99	0.45
1:D:172:GLN:HB3	1:D:314:THR:HG23	1.98	0.45
1:D:266:SER:HB3	1:D:269:ARG:HG3	1.99	0.45
1:D:308:GLU:O	1:D:308:GLU:CG	2.65	0.45
1:E:275:ASN:O	1:E:278:VAL:HG12	2.17	0.45
1:F:169:GLY:O	1:F:172:GLN:HB2	2.17	0.45
1:A:5:GLU:O	1:A:9:THR:N	2.50	0.45
1:A:326:LYS:HA	1:A:329:GLU:CG	2.45	0.45
1:B:166:SER:HB2	1:B:365:THR:HG23	1.98	0.45
1:C:71:SER:O	1:C:72:TYR:HB2	2.17	0.45
1:C:95:ASP:OD1	1:C:252:ARG:CG	2.64	0.45
1:D:244:GLU:HA	1:D:247:ILE:HG22	1.98	0.45
1:E:209:ILE:HD12	1:E:270:LEU:CA	2.46	0.45
1:F:133:PHE:CE1	1:F:251:LYS:HG2	2.52	0.45
1:F:139:LEU:CD1	1:F:308:GLU:HB2	2.47	0.45
1:F:186:MSE:HE2	3:F:1000:ADP:H2'	1.99	0.45
1:F:219:MSE:HE3	1:F:223:VAL:CG2	2.46	0.45
1:A:171:GLY:HA2	1:A:313:LEU:O	2.17	0.45
1:B:286:THR:CG2	1:B:287:GLY:N	2.80	0.45
1:C:186:MSE:SE	7:C:1112:HOH:O	2.85	0.45
1:C:353:ARG:HG3	1:C:355:PHE:HE2	1.81	0.45
1:F:91:LEU:HD12	1:F:91:LEU:N	2.31	0.45
1:A:99:GLY:HA2	1:A:117:ASN:CG	2.37	0.44
1:B:113:LEU:HD12	1:B:113:LEU:C	2.37	0.44
1:C:207:LEU:CG	1:C:209:ILE:CD1	2.94	0.44
1:D:29:MSE:HB3	1:D:34:ILE:HD12	1.98	0.44
1:E:164:LEU:HD21	1:E:408:THR:HB	2.00	0.44
1:E:222:LEU:HG	1:E:222:LEU:O	2.17	0.44
1:F:92:ARG:HH22	1:F:132:LEU:HD12	1.82	0.44
1:F:274:TYR:HD2	1:F:297:PRO:HG3	1.78	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:231:THR:O	1:A:234:GLU:HG2	2.17	0.44
1:B:17:LEU:HD22	1:B:38:ILE:HD13	1.99	0.44
1:B:212:ARG:O	1:B:216:VAL:HG23	2.17	0.44
1:C:308:GLU:O	1:C:308:GLU:CG	2.65	0.44
1:D:144:ARG:HG2	1:D:145:LEU:H	1.82	0.44
1:E:92:ARG:NH2	1:E:255:GLU:OE2	2.50	0.44
1:E:144:ARG:HH11	1:E:167:PRO:HB3	1.82	0.44
1:F:73:LEU:HB2	1:F:238:ARG:CZ	2.47	0.44
1:F:261:ILE:HG23	1:F:314:THR:OG1	2.18	0.44
1:F:345:LEU:HD11	1:F:358:ILE:HG12	1.99	0.44
1:A:131:ILE:HG21	1:A:136:LEU:HD23	1.98	0.44
1:B:271:ALA:HB3	1:B:331:ILE:HD13	1.99	0.44
1:D:209:ILE:O	1:D:210:ASP:CB	2.62	0.44
1:D:374:GLN:O	1:D:378:GLN:HG2	2.17	0.44
1:E:382:ILE:O	1:E:386:ILE:HG13	2.17	0.44
1:F:153:SER:HB2	1:F:155:GLU:HG2	1.99	0.44
1:B:176:ILE:HG22	1:B:176:ILE:O	2.17	0.44
1:D:216:VAL:HG23	1:D:217:THR:N	2.32	0.44
1:D:232:PHE:CE1	1:E:302:GLY:HA3	2.52	0.44
1:E:101:ILE:HG22	1:E:113:LEU:HA	1.99	0.44
1:E:260:VAL:C	1:E:261:ILE:HD12	2.38	0.44
1:E:294:LEU:HA	1:E:297:PRO:HG2	1.99	0.44
1:F:160:ARG:CD	1:F:408:THR:HG23	2.46	0.44
1:F:174:GLY:HA3	1:F:341:MSE:SE	2.67	0.44
1:A:386:ILE:O	1:A:389:PRO:HD2	2.17	0.44
1:B:248:GLU:O	1:B:252:ARG:HG2	2.17	0.44
1:B:278:VAL:HG11	1:B:293:ALA:CA	2.46	0.44
1:B:349:ILE:HD11	1:B:392:GLU:HB3	1.98	0.44
1:E:210:ASP:OD1	1:E:210:ASP:C	2.55	0.44
1:E:221:ARG:NH1	1:F:139:LEU:HD21	2.32	0.44
1:F:102:ARG:C	1:F:102:ARG:CD	2.78	0.44
1:A:250:ALA:HB2	1:A:262:ILE:HD11	2.00	0.44
1:A:371:LEU:HD12	1:A:371:LEU:N	2.32	0.44
1:C:336:LYS:NZ	1:C:342:GLU:OE2	2.46	0.44
1:D:181:LYS:HE3	1:E:366:ARG:NH1	2.33	0.44
1:E:172:GLN:N	1:E:314:THR:HG23	2.32	0.44
1:F:132:LEU:HD22	1:F:132:LEU:N	2.32	0.44
1:A:71:SER:HB2	1:A:73:LEU:HD13	1.99	0.44
1:A:103:PRO:HA	1:A:111:PHE:CE1	2.52	0.44
1:C:199:HIS:N	1:C:200:PRO:HD3	2.32	0.44
1:D:1:MSE:HE3	1:D:50:PHE:CZ	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:139:LEU:HD11	1:D:308:GLU:HB2	1.99	0.44
1:D:355:PHE:HA	1:D:356:PRO:C	2.38	0.44
1:E:32:GLN:O	1:E:36:PHE:CD1	2.71	0.44
1:E:55:LEU:HA	1:E:64:PHE:O	2.18	0.44
1:E:353:ARG:HD3	1:F:381:TRP:CZ2	2.53	0.44
1:F:210:ASP:O	1:F:210:ASP:OD1	2.35	0.44
1:F:236:ALA:HA	1:F:239:HIS:CD2	2.53	0.44
3:F:1000:ADP:O1B	5:F:1002:BEF:F2	2.26	0.44
1:A:268:THR:HG23	1:A:319:ALA:HA	2.00	0.44
1:B:234:GLU:OE2	1:B:234:GLU:CA	2.66	0.44
1:B:379:LYS:HD2	1:B:412:PHE:HD1	1.77	0.44
1:C:289:VAL:CG2	1:C:327:MSE:HG3	2.48	0.44
1:D:120:ASN:HB2	1:D:256:HIS:NE2	2.33	0.44
1:D:136:LEU:HB3	1:D:307:VAL:HG13	2.00	0.44
1:F:136:LEU:HD12	1:F:136:LEU:O	2.17	0.44
1:F:141:ALA:O	1:F:370:LEU:CD1	2.61	0.44
1:F:267:ILE:HG22	1:F:318:THR:O	2.18	0.44
1:A:323:THR:O	1:B:333:GLU:HG2	2.18	0.44
1:B:15:ILE:CD1	1:B:15:ILE:N	2.81	0.44
1:B:355:PHE:HA	1:B:356:PRO:C	2.38	0.44
1:C:6:LEU:CD1	1:C:39:LEU:HD21	2.47	0.44
1:C:48:ASP:HB3	1:C:100:LYS:HD3	1.98	0.44
1:C:268:THR:O	1:C:272:ARG:HG3	2.18	0.44
1:C:380:MSE:O	1:C:384:ARG:HG3	2.18	0.44
1:D:32:GLN:O	1:D:36:PHE:CD1	2.70	0.44
1:E:41:GLN:CG	1:E:44:LYS:HD2	2.48	0.44
1:E:50:PHE:HE1	1:E:117:ASN:HD22	1.64	0.44
1:E:177:VAL:HG21	1:E:332:TYR:HD1	1.81	0.44
1:E:177:VAL:CG1	1:E:321:ILE:CG1	2.96	0.44
1:E:241:GLN:OE1	6:E:504:SPD:C7	2.66	0.44
1:F:381:TRP:CE3	1:F:381:TRP:HA	2.52	0.44
1:F:387:ILE:HG13	1:F:390:MSE:CE	2.48	0.44
1:A:102:ARG:O	1:A:102:ARG:NH1	2.51	0.43
1:A:279:PRO:HB3	1:B:283:LYS:CE	2.31	0.43
1:B:254:VAL:HG21	1:B:313:LEU:HB2	1.99	0.43
1:B:336:LYS:HB3	1:B:336:LYS:HE3	1.84	0.43
1:C:358:ILE:HG22	1:C:359:ASP:N	2.32	0.43
1:C:372:THR:HG22	1:C:376:GLU:CD	2.37	0.43
1:D:133:PHE:CE1	1:D:251:LYS:HA	2.53	0.43
1:D:144:ARG:HG3	1:D:371:LEU:HB3	1.99	0.43
1:D:340:ASN:O	1:D:366:ARG:HG3	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:177:VAL:HG12	1:E:321:ILE:CG1	2.48	0.43
1:E:342:GLU:OE1	1:E:344:HIS:CD2	2.71	0.43
1:F:287:GLY:HA3	1:F:326:LYS:CB	2.43	0.43
1:F:370:LEU:CD1	1:F:371:LEU:HD13	2.48	0.43
1:A:267:ILE:HG23	1:A:268:THR:N	2.33	0.43
1:B:36:PHE:HE2	1:B:111:PHE:CE2	2.25	0.43
1:C:195:ILE:CG2	1:C:196:ALA:N	2.81	0.43
1:C:340:ASN:HA	1:C:366:ARG:CD	2.48	0.43
1:E:209:ILE:O	1:E:210:ASP:HB3	2.18	0.43
1:E:409:ASN:O	1:E:412:PHE:CE2	2.71	0.43
1:F:234:GLU:HA	1:F:235:PRO:HD3	1.89	0.43
1:C:66:ARG:HH11	1:C:74:ALA:HA	1.83	0.43
1:C:129:ASN:O	1:C:130:LYS:HG2	2.18	0.43
1:C:212:ARG:HB2	1:C:215:GLU:HG3	2.00	0.43
1:E:201:ASP:OD1	1:E:201:ASP:N	2.52	0.43
1:E:252:ARG:O	1:E:255:GLU:HB2	2.17	0.43
1:E:392:GLU:HG3	1:E:393:ILE:H	1.83	0.43
1:F:64:PHE:CD1	1:F:80:TYR:CA	2.81	0.43
1:A:232:PHE:O	1:B:299:ARG:CZ	2.66	0.43
1:A:321:ILE:O	1:A:322:ASP:OD2	2.36	0.43
1:B:78:ASP:OD2	1:B:78:ASP:N	2.51	0.43
1:B:184:LYS:HD2	1:B:318:THR:HB	2.00	0.43
1:C:102:ARG:HH12	1:C:105:LYS:HG2	1.84	0.43
1:D:168:ILE:HD11	1:D:341:MSE:HE2	2.00	0.43
1:E:247:ILE:O	1:E:251:LYS:HG3	2.18	0.43
1:A:195:ILE:HD13	1:A:261:ILE:HD13	2.00	0.43
1:A:323:THR:C	1:B:333:GLU:HG2	2.38	0.43
1:B:73:LEU:HD11	1:B:238:ARG:NE	2.27	0.43
1:B:234:GLU:HB2	1:B:239:HIS:CE1	2.53	0.43
1:C:352:LYS:HG3	1:D:388:HIS:CD2	2.53	0.43
1:C:375:GLU:CD	1:C:375:GLU:H	2.21	0.43
1:D:308:GLU:O	1:D:308:GLU:HG2	2.19	0.43
1:E:212:ARG:HA	1:E:232:PHE:CE2	2.53	0.43
1:E:234:GLU:HA	1:F:299:ARG:NH1	2.34	0.43
1:A:186:MSE:O	1:A:189:GLN:HB2	2.18	0.43
1:B:372:THR:HB	1:B:376:GLU:HB3	1.99	0.43
1:E:212:ARG:NH2	1:F:366:ARG:CZ	2.82	0.43
1:E:219:MSE:HG3	1:E:223:VAL:CG2	2.47	0.43
1:A:102:ARG:NH2	1:A:108:GLU:OE2	2.52	0.43
1:A:144:ARG:CG	1:A:144:ARG:NH2	2.81	0.43
1:A:297:PRO:HB2	1:A:335:PHE:CZ	2.50	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:172:GLN:HB3	1:D:314:THR:CG2	2.48	0.43
1:E:162:LEU:HD21	1:E:168:ILE:HD11	2.00	0.43
1:E:396:MSE:HG3	1:E:400:ILE:HD11	1.99	0.43
1:F:2:ASN:HD22	1:F:50:PHE:CB	2.25	0.43
1:F:55:LEU:HD12	1:F:56:GLU:N	2.34	0.43
1:F:96:THR:C	1:F:97:ILE:HD12	2.39	0.43
1:F:175:LEU:HD22	1:F:335:PHE:HB3	2.01	0.43
1:F:177:VAL:HG13	1:F:319:ALA:HB3	2.00	0.43
1:F:288:GLY:HA2	1:F:327:MSE:HB2	1.98	0.43
1:F:340:ASN:HA	1:F:366:ARG:NH1	2.34	0.43
1:A:48:ASP:HA	1:A:100:LYS:HE3	2.00	0.43
1:A:189:GLN:O	1:A:193:GLN:HG3	2.17	0.43
1:B:165:ALA:O	1:B:364:GLY:HA2	2.19	0.43
1:B:399:LEU:O	1:B:403:LEU:HB2	2.19	0.43
1:C:72:TYR:OH	1:C:226:GLU:OE2	2.36	0.43
1:D:224:LYS:CE	1:D:224:LYS:CA	2.95	0.43
1:E:43:ALA:CB	1:E:103:PRO:HG3	2.48	0.43
1:E:137:THR:HA	1:E:138:PRO:HD3	1.84	0.43
1:F:375:GLU:H	1:F:375:GLU:CD	2.21	0.43
1:A:131:ILE:CG2	1:A:136:LEU:HD23	2.49	0.43
1:A:343:LEU:HD12	1:A:363:SER:HB3	1.99	0.43
1:C:387:ILE:HD11	1:C:398:PHE:CE2	2.54	0.43
1:D:80:TYR:CZ	1:D:82:SER:HA	2.54	0.43
1:D:178:ALA:HB3	1:D:184:LYS:HD2	1.79	0.43
1:D:287:GLY:CA	1:D:326:LYS:HB2	2.48	0.43
1:E:41:GLN:HG3	1:E:44:LYS:HD2	2.00	0.43
1:E:162:LEU:HD21	1:E:168:ILE:CD1	2.48	0.43
1:F:172:GLN:NE2	1:F:341:MSE:HB2	2.34	0.43
1:A:89:PHE:CD1	1:A:124:PRO:HB3	2.54	0.43
1:B:244:GLU:O	1:B:247:ILE:HG22	2.17	0.43
1:B:264:LEU:O	1:B:317:ALA:HA	2.19	0.43
1:B:369:GLU:HA	1:B:377:LEU:HD22	2.00	0.43
1:C:145:LEU:HD22	1:C:199:HIS:CD2	2.54	0.43
1:E:92:ARG:HH21	1:E:252:ARG:HH12	1.64	0.43
1:E:101:ILE:HA	1:E:114:LEU:H	1.84	0.43
1:F:349:ILE:CG1	1:F:393:ILE:HD13	2.45	0.43
1:A:184:LYS:CD	1:A:318:THR:HB	2.49	0.42
1:B:143:SER:HB2	1:B:170:ARG:HG3	2.00	0.42
1:D:144:ARG:HG2	1:D:145:LEU:N	2.34	0.42
1:D:178:ALA:HA	1:D:179:PRO:HD3	1.67	0.42
1:D:236:ALA:HA	1:D:239:HIS:CD2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:92:ARG:NH2	1:E:252:ARG:NH1	2.57	0.42
1:E:133:PHE:HB2	1:E:255:GLU:HG3	2.01	0.42
1:F:244:GLU:HA	1:F:247:ILE:CG2	2.49	0.42
1:F:294:LEU:HD21	1:F:331:ILE:HG12	2.01	0.42
1:F:383:LEU:O	1:F:387:ILE:HD13	2.19	0.42
1:A:170:ARG:HG2	1:A:312:SER:CB	2.48	0.42
1:A:296:ARG:HB2	1:A:297:PRO:HD3	1.99	0.42
1:C:6:LEU:HD13	1:C:39:LEU:HD21	1.99	0.42
1:C:60:ASP:HB2	1:C:62:PHE:CE2	2.54	0.42
1:C:180:PRO:HG2	1:D:333:GLU:OE2	2.19	0.42
1:E:55:LEU:HB3	1:E:97:ILE:HD13	2.01	0.42
1:E:250:ALA:O	1:E:254:VAL:HG23	2.18	0.42
1:A:158:THR:HG23	1:A:356:PRO:HB3	2.02	0.42
1:B:160:ARG:CG	1:B:408:THR:HB	2.49	0.42
1:B:278:VAL:CG1	1:B:293:ALA:HA	2.48	0.42
1:C:166:SER:HA	1:C:365:THR:HG23	2.02	0.42
1:C:195:ILE:C	1:C:197:TYR:H	2.23	0.42
1:D:34:ILE:HD12	1:D:34:ILE:N	2.34	0.42
1:D:58:LEU:HB2	1:D:62:PHE:O	2.19	0.42
1:F:207:LEU:H	1:F:264:LEU:CD2	2.33	0.42
1:A:304:ALA:HB2	1:A:315:ILE:HG13	2.01	0.42
1:B:30:ARG:NH1	1:B:32:GLN:HE22	2.14	0.42
1:B:105:LYS:HB2	1:B:108:GLU:HG2	2.01	0.42
1:B:176:ILE:CG2	1:B:184:LYS:HG3	2.50	0.42
1:B:379:LYS:HE2	1:B:415[A]:MSE:HE1	2.01	0.42
1:C:278:VAL:CG1	1:C:279:PRO:HD2	2.50	0.42
1:C:290:ASP:HB3	1:C:293:ALA:CB	2.49	0.42
1:E:166:SER:OG	1:E:341:MSE:HE2	2.18	0.42
1:E:173:ARG:NH1	1:E:304:ALA:O	2.53	0.42
1:F:53:GLY:HA3	1:F:65:LEU:HB3	2.00	0.42
1:F:54:VAL:HG21	1:F:249:LYS:NZ	2.34	0.42
1:F:92:ARG:O	1:F:95:ASP:OD2	2.36	0.42
1:F:250:ALA:O	1:F:254:VAL:HG23	2.19	0.42
1:F:275:ASN:HD22	1:F:327:MSE:CE	2.32	0.42
1:F:301:PHE:C	1:F:301:PHE:CD2	2.92	0.42
1:A:96:THR:C	1:A:97:ILE:HG13	2.39	0.42
1:B:403:LEU:HD23	1:B:403:LEU:HA	1.92	0.42
1:C:123:LYS:HA	1:C:124:PRO:HD3	1.87	0.42
1:C:139:LEU:HD11	1:C:308:GLU:HB2	2.00	0.42
1:C:257:LYS:HD3	1:C:309:GLU:O	2.19	0.42
1:C:304:ALA:HB2	1:C:315:ILE:CG1	2.47	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:55:LEU:CD2	1:D:91:LEU:HB3	2.48	0.42
1:D:173:ARG:HD2	1:D:302:GLY:HA2	2.02	0.42
1:D:252:ARG:HG2	1:D:252:ARG:NH1	2.34	0.42
1:E:290:ASP:HB3	1:E:293:ALA:CB	2.48	0.42
2:G:2:U:N3	6:G:101:SPD:C8	2.81	0.42
1:B:6:LEU:HD21	1:B:38:ILE:CD1	2.50	0.42
1:B:147:MSE:O	1:B:159:ALA:HB1	2.19	0.42
1:B:278:VAL:HA	1:B:279:PRO:HD3	1.76	0.42
1:B:278:VAL:HG21	1:B:293:ALA:HB2	2.02	0.42
1:C:280:ALA:O	1:C:281:SER:HB3	2.20	0.42
1:D:2:ASN:OD1	1:D:2:ASN:C	2.58	0.42
1:D:31:LYS:O	1:D:35:ILE:HG22	2.19	0.42
1:F:9:THR:CB	1:F:10:PRO:HD2	2.32	0.42
1:F:296:ARG:HB2	1:F:297:PRO:HD3	2.01	0.42
1:A:130:LYS:HE2	1:A:257:LYS:CE	2.50	0.42
1:A:373:THR:O	1:A:374:GLN:C	2.57	0.42
1:B:272:ARG:O	1:B:275:ASN:HB3	2.19	0.42
1:B:398:PHE:C	1:B:398:PHE:CD2	2.92	0.42
1:C:15:ILE:HG23	1:C:27:ALA:CB	2.50	0.42
1:C:26:LEU:HD12	1:C:26:LEU:C	2.40	0.42
1:D:148:GLU:OE1	1:D:408:THR:OG1	2.36	0.42
1:E:144:ARG:NH1	1:E:167:PRO:HB3	2.35	0.42
1:E:323:THR:HG22	1:E:325:SER:H	1.85	0.42
1:F:31:LYS:HG2	1:F:32:GLN:H	1.85	0.42
1:F:211:GLU:OE1	1:F:269:ARG:HG3	2.20	0.42
1:A:184:LYS:NZ	1:A:320:LEU:HG	2.34	0.42
1:B:212:ARG:HD3	1:C:173:ARG:NH2	2.33	0.42
1:C:379:LYS:NZ	1:C:412:PHE:HB2	2.34	0.42
1:D:10:PRO:O	1:D:14:LEU:HG	2.20	0.42
1:D:105:LYS:HB2	1:D:105:LYS:HE2	1.89	0.42
1:D:173:ARG:HD2	1:D:301:PHE:O	2.19	0.42
1:D:266:SER:HB3	1:D:269:ARG:HG2	2.01	0.42
1:E:145:LEU:HD12	1:E:168:ILE:HG22	2.01	0.42
1:E:162:LEU:HD23	1:E:162:LEU:C	2.40	0.42
1:E:285:LEU:HB2	1:E:289:VAL:HG13	2.02	0.42
1:E:294:LEU:HD12	1:E:334:GLU:HG2	2.02	0.42
1:E:376:GLU:O	1:E:379:LYS:HG3	2.20	0.42
1:F:84:SER:HA	1:F:87:ARG:CD	2.46	0.42
1:A:9:THR:HG23	1:A:10:PRO:O	2.19	0.42
1:A:332:TYR:CE2	1:A:336:LYS:HE2	2.55	0.42
1:B:408:THR:CG2	1:B:409:ASN:N	2.83	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:278:VAL:HG21	1:C:293:ALA:CA	2.49	0.42
1:D:86:ILE:HA	1:D:91:LEU:HD12	2.02	0.42
1:D:128:ARG:HA	7:D:1108:HOH:O	2.19	0.42
1:D:166:SER:HB2	1:D:365:THR:HG22	2.00	0.42
1:D:284:VAL:HG12	2:G:5:U:H4'	2.01	0.42
1:E:186:MSE:CE	3:E:501:ADP:C5	3.02	0.42
1:F:104:PRO:HD3	1:F:111:PHE:CD1	2.55	0.42
1:A:336:LYS:NZ	1:F:323:THR:O	2.53	0.42
1:A:369:GLU:HG2	1:A:370:LEU:HD23	2.02	0.42
1:B:175:LEU:HG	1:B:301:PHE:HZ	1.85	0.42
1:C:144:ARG:HH21	1:C:144:ARG:CG	2.31	0.42
1:D:89:PHE:O	1:D:90:ASN:C	2.57	0.42
1:E:111:PHE:CD2	1:E:111:PHE:N	2.88	0.42
1:E:116:VAL:O	1:E:116:VAL:HG23	2.20	0.42
1:F:2:ASN:HB3	1:F:5:GLU:HG3	2.00	0.42
1:F:55:LEU:HD11	1:F:57:ILE:HG13	2.02	0.42
1:F:101:ILE:HA	1:F:113:LEU:HA	2.02	0.42
1:F:125:GLU:HA	1:F:128:ARG:NE	2.35	0.42
1:F:131:ILE:HG21	1:F:309:GLU:HG3	2.02	0.42
1:A:39:LEU:HD23	1:A:111:PHE:CZ	2.55	0.41
1:B:90:ASN:OD1	1:B:90:ASN:N	2.52	0.41
1:B:102:ARG:HA	1:B:103:PRO:HD3	1.93	0.41
1:B:283:LYS:H	1:B:283:LYS:HG3	1.60	0.41
1:B:299:ARG:HD3	1:B:299:ARG:HA	1.80	0.41
1:C:35:ILE:HG22	1:C:39:LEU:CD2	2.49	0.41
1:C:119:VAL:O	1:C:119:VAL:HG13	2.20	0.41
1:C:138:PRO:HA	1:C:306:ASN:O	2.20	0.41
1:D:144:ARG:NH1	1:D:163:ASP:OD1	2.52	0.41
1:D:300:PHE:CD2	1:D:300:PHE:C	2.93	0.41
1:D:352:LYS:O	1:D:353:ARG:CB	2.68	0.41
1:E:2:ASN:O	1:E:6:LEU:HD13	2.20	0.41
1:E:21:MSE:HE3	1:E:41:GLN:CB	2.48	0.41
1:E:349:ILE:HD11	1:E:396:MSE:CG	2.50	0.41
1:F:179:PRO:HB2	1:F:347:ARG:HB2	2.02	0.41
1:F:264:LEU:O	1:F:317:ALA:HA	2.19	0.41
1:A:349:ILE:HD11	1:A:392:GLU:HB3	2.01	0.41
1:B:234:GLU:HA	1:B:235:PRO:HD3	1.78	0.41
1:D:387:ILE:HA	1:D:390:MSE:HE3	2.02	0.41
1:E:44:LYS:HG3	1:E:44:LYS:H	1.64	0.41
1:E:267:ILE:HB	1:E:317:ALA:CB	2.48	0.41
1:E:396:MSE:SE	1:E:400:ILE:CG1	3.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:332:TYR:CE2	1:F:336:LYS:HD3	2.55	0.41
1:F:367:LYS:HD2	1:F:367:LYS:HA	1.83	0.41
1:A:57:ILE:HG12	1:A:86:ILE:HD13	2.02	0.41
1:A:96:THR:C	1:A:97:ILE:CG1	2.88	0.41
1:A:221:ARG:NH1	1:B:308:GLU:OE2	2.53	0.41
1:B:96:THR:O	1:B:97:ILE:HD13	2.20	0.41
1:D:372:THR:HG22	1:D:373:THR:O	2.20	0.41
1:E:209:ILE:HD11	1:E:270:LEU:N	2.35	0.41
1:E:214:GLU:O	1:E:218:GLU:HG2	2.20	0.41
1:F:42:HIS:O	1:F:47:GLU:HB3	2.20	0.41
1:F:61:GLY:C	1:F:83:PRO:HG3	2.40	0.41
2:G:1:U:O2	6:G:101:SPD:H22	2.20	0.41
1:A:307:VAL:HG12	1:A:309:GLU:N	2.35	0.41
1:A:358:ILE:O	1:A:396:MSE:HG2	2.21	0.41
1:B:120:ASN:HB3	1:B:256:HIS:ND1	2.35	0.41
1:C:211:GLU:HG2	1:C:266:SER:CB	2.50	0.41
1:C:336:LYS:HE3	1:C:342:GLU:OE2	2.20	0.41
1:D:178:ALA:HB3	1:D:184:LYS:HG2	1.91	0.41
1:E:218:GLU:HG3	1:F:140:HIS:CE1	2.55	0.41
1:F:90:ASN:ND2	1:F:90:ASN:N	2.65	0.41
1:F:131:ILE:HD13	1:F:136:LEU:HA	2.03	0.41
1:F:344:HIS:C	1:F:345:LEU:HD12	2.41	0.41
1:A:177:VAL:CG1	1:A:321:ILE:HG23	2.51	0.41
1:C:120:ASN:CB	1:C:256:HIS:CD2	3.03	0.41
1:C:162:LEU:HD23	1:C:343:LEU:HD13	2.02	0.41
1:E:30:ARG:HH11	1:E:32:GLN:CB	2.32	0.41
1:E:75:GLY:HA2	1:E:76:PRO:HD3	1.93	0.41
1:E:265:ASP:O	1:E:266:SER:HB2	2.21	0.41
1:F:58:LEU:CD1	1:F:62:PHE:HE1	2.09	0.41
1:F:80:TYR:HD2	1:F:112:ALA:HB1	1.84	0.41
1:F:160:ARG:HD2	1:F:408:THR:HG23	2.01	0.41
1:F:208:LEU:HB3	1:F:265:ASP:OD2	2.20	0.41
1:F:252:ARG:HD2	1:F:255:GLU:OE1	2.21	0.41
2:G:1:U:O2	2:G:2:U:H6	1.99	0.41
1:A:210:ASP:CB	1:A:269:ARG:CG	2.96	0.41
1:B:101:ILE:HA	1:B:114:LEU:H	1.85	0.41
1:C:4:THR:HG21	1:C:52:ASP:OD2	2.19	0.41
1:C:132:LEU:HA	1:C:255:GLU:OE2	2.20	0.41
1:C:148:GLU:O	1:C:149:ARG:HG3	2.21	0.41
1:C:323:THR:O	1:D:333:GLU:HG3	2.21	0.41
1:D:20:ASN:OD1	1:D:20:ASN:C	2.59	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:60:ASP:HB2	1:D:62:PHE:CD2	2.56	0.41
3:D:1000:ADP:H4'	1:E:366:ARG:HG2	2.03	0.41
1:A:277:VAL:CG1	1:A:278:VAL:N	2.84	0.41
1:A:352:LYS:CD	1:A:393:ILE:HG21	2.50	0.41
1:B:89:PHE:HE2	1:B:116:VAL:HG21	1.85	0.41
1:B:111:PHE:H	1:B:111:PHE:HD2	1.68	0.41
1:B:210:ASP:HB3	1:B:269:ARG:HB3	2.03	0.41
1:B:212:ARG:HA	1:B:213:PRO:HD3	1.80	0.41
1:C:171:GLY:HA2	1:C:313:LEU:O	2.20	0.41
1:C:346:SER:HB3	1:C:349:ILE:CG1	2.50	0.41
1:D:49:ILE:HG22	1:D:50:PHE:N	2.35	0.41
1:D:101:ILE:HA	1:D:114:LEU:HB2	2.03	0.41
1:D:374:GLN:HA	1:D:377:LEU:HD12	2.01	0.41
1:E:58:LEU:HD23	1:E:58:LEU:HA	1.86	0.41
1:E:134:GLU:H	1:E:134:GLU:CD	2.23	0.41
1:E:177:VAL:HG11	1:E:321:ILE:HD13	2.00	0.41
1:F:166:SER:OG	1:F:341:MSE:HE2	2.20	0.41
1:A:102:ARG:HH12	1:A:104:PRO:HA	1.85	0.41
1:C:173:ARG:NH1	1:C:304:ALA:O	2.52	0.41
1:C:388:HIS:N	1:C:389:PRO:CD	2.84	0.41
1:D:214:GLU:O	1:D:217:THR:CG2	2.69	0.41
1:D:352:LYS:HB3	1:D:352:LYS:HE2	1.80	0.41
1:D:353:ARG:HE	1:E:384:ARG:HD2	1.86	0.41
1:D:406:THR:HG21	1:D:411:ASP:HB2	2.03	0.41
1:F:32:GLN:O	1:F:35:ILE:HG23	2.21	0.41
1:A:102:ARG:NH1	1:A:103:PRO:C	2.73	0.41
1:A:177:VAL:CG1	1:A:321:ILE:HG21	2.51	0.41
1:A:203:VAL:HG23	1:A:259:ASP:O	2.21	0.41
1:A:267:ILE:HB	1:A:317:ALA:HB1	2.03	0.41
1:A:326:LYS:O	1:A:327:MSE:C	2.59	0.41
1:B:268:THR:HG23	1:B:319:ALA:HA	2.03	0.41
1:C:101:ILE:HG22	1:C:113:LEU:HA	2.03	0.41
1:C:144:ARG:HG2	1:C:144:ARG:NH2	2.29	0.41
1:C:148:GLU:HA	1:C:156:ASP:OD1	2.21	0.41
1:C:373:THR:O	1:C:374:GLN:C	2.59	0.41
1:C:393:ILE:HD12	1:C:393:ILE:N	2.36	0.41
1:D:209:ILE:HD11	1:D:243:ALA:HB2	2.03	0.41
1:D:211:GLU:HG3	1:D:212:ARG:N	2.28	0.41
1:D:372:THR:CG2	1:D:377:LEU:HG	2.40	0.41
1:E:182:ALA:HB1	1:E:345:LEU:HB2	2.03	0.41
1:E:238:ARG:HB2	6:E:504:SPD:C3	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:261:ILE:HA	1:F:314:THR:OG1	2.21	0.41
1:F:278:VAL:HG12	1:F:281:SER:CB	2.51	0.41
1:F:379:LYS:HZ1	1:F:412:PHE:HB2	1.85	0.41
1:F:387:ILE:HD12	1:F:387:ILE:N	2.35	0.41
1:A:103:PRO:HA	1:A:111:PHE:HD1	1.82	0.41
1:A:264:LEU:HD23	1:A:267:ILE:HG13	2.01	0.41
1:A:320:LEU:HD12	1:A:320:LEU:N	2.36	0.41
1:D:184:LYS:NZ	3:D:1000:ADP:PB	2.94	0.41
1:D:214:GLU:HA	1:D:217:THR:HG22	2.02	0.41
1:D:414:GLU:O	1:D:415[B]:MSE:C	2.59	0.41
1:E:104:PRO:HG3	1:E:111:PHE:HA	2.02	0.41
1:E:238:ARG:CB	6:E:504:SPD:H31	2.51	0.41
1:F:82:SER:O	1:F:86:ILE:HG13	2.20	0.41
1:A:137:THR:HA	1:A:138:PRO:HD3	1.86	0.40
1:A:184:LYS:HZ1	1:A:320:LEU:HG	1.86	0.40
1:B:386:ILE:O	1:B:390:MSE:HE3	2.20	0.40
1:C:23:LEU:HD21	1:C:41:GLN:HB2	2.03	0.40
1:C:35:ILE:O	1:C:39:LEU:HD23	2.20	0.40
1:C:85:GLN:HE22	1:C:113:LEU:HD23	1.86	0.40
1:D:158:THR:CG2	1:D:187:LEU:HD13	2.51	0.40
1:F:161:VAL:HG13	1:F:358:ILE:HD12	2.03	0.40
1:F:173:ARG:HG2	1:F:304:ALA:CB	2.51	0.40
1:A:301:PHE:C	1:A:303:ALA:H	2.25	0.40
1:A:372:THR:HB	1:A:376:GLU:HG2	2.03	0.40
1:A:384:ARG:NH1	1:F:353:ARG:NH1	2.70	0.40
1:D:73:LEU:HD11	1:D:238:ARG:HG3	2.02	0.40
1:D:144:ARG:HD2	1:D:371:LEU:O	2.20	0.40
1:D:267:ILE:HG22	1:D:318:THR:O	2.21	0.40
1:D:395:ALA:O	1:D:398:PHE:HB3	2.21	0.40
1:F:30:ARG:HH11	1:F:32:GLN:CB	2.33	0.40
1:F:131:ILE:CG2	1:F:136:LEU:HB3	2.51	0.40
1:A:3:LEU:CD2	1:A:51:GLY:HA3	2.52	0.40
1:A:173:ARG:HB2	1:A:304:ALA:HB3	2.03	0.40
1:A:369:GLU:HA	1:A:377:LEU:HD22	2.02	0.40
1:A:381:TRP:CE2	1:F:353:ARG:HB3	2.56	0.40
1:B:79:ILE:HD13	1:B:101:ILE:HG21	2.02	0.40
1:B:100:LYS:O	1:B:114:LEU:N	2.53	0.40
1:C:89:PHE:CE2	1:C:116:VAL:HB	2.56	0.40
1:C:134:GLU:CD	1:C:134:GLU:H	2.24	0.40
1:D:334:GLU:HA	1:D:334:GLU:OE2	2.21	0.40
1:E:300:PHE:CD2	1:E:300:PHE:C	2.94	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:374:GLN:HG2	1:F:375:GLU:N	2.36	0.40
1:A:60:ASP:HB2	1:A:62:PHE:HE2	1.82	0.40
1:A:92:ARG:HH21	1:A:252:ARG:NH1	2.19	0.40
1:A:176:ILE:HD12	1:A:176:ILE:N	2.36	0.40
1:A:272:ARG:O	1:A:275:ASN:N	2.55	0.40
1:A:379:LYS:HG3	1:A:382:ILE:HD12	2.01	0.40
1:B:199:HIS:N	1:B:200:PRO:HD3	2.36	0.40
1:C:184:LYS:CD	1:C:318:THR:HB	2.51	0.40
1:C:240:VAL:HG21	1:C:277:VAL:HG21	2.02	0.40
1:F:143:SER:OG	1:F:170:ARG:HB2	2.21	0.40
1:F:175:LEU:HD12	1:F:317:ALA:O	2.21	0.40
1:F:247:ILE:HD12	1:F:300:PHE:HD1	1.87	0.40
3:F:1000:ADP:O1A	3:F:1000:ADP:O3B	2.39	0.40
1:A:214:GLU:OE2	1:B:173:ARG:NH2	2.55	0.40
1:C:66:ARG:NH1	1:C:74:ALA:HA	2.37	0.40
1:C:97:ILE:HD13	1:C:119:VAL:HG23	2.03	0.40
1:D:234:GLU:CB	1:D:238:ARG:HD3	2.50	0.40
1:D:298:LYS:HZ2	1:D:338:THR:HB	1.85	0.40
1:E:50:PHE:CE1	1:E:117:ASN:ND2	2.89	0.40
1:F:277:VAL:C	1:F:279:PRO:CD	2.90	0.40
1:F:352:LYS:CG	1:F:354:VAL:HG23	2.51	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 X-ray entries followed by that with respect to entries of similar resolution.

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	394/422 (93%)	351 (89%)	42 (11%)	1 (0%)	41 72
1	B	404/422 (96%)	388 (96%)	15 (4%)	1 (0%)	47 78
1	C	409/422 (97%)	385 (94%)	23 (6%)	1 (0%)	47 78
1	D	406/422 (96%)	366 (90%)	39 (10%)	1 (0%)	47 78

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	E	403/422 (96%)	384 (95%)	19 (5%)	0	100 100
1	F	392/422 (93%)	375 (96%)	17 (4%)	0	100 100
All	All	2408/2532 (95%)	2249 (93%)	155 (6%)	4 (0%)	47 78

All (4) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	414	GLU
1	A	322	ASP
1	B	218	GLU
1	C	231	THR

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 X-ray entries followed by that with respect to entries of similar resolution.

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	341/344 (99%)	326 (96%)	15 (4%)	28 61
1	B	350/344 (102%)	338 (97%)	12 (3%)	37 71
1	C	354/344 (103%)	341 (96%)	13 (4%)	34 68
1	D	352/344 (102%)	336 (96%)	16 (4%)	27 60
1	E	349/344 (102%)	329 (94%)	20 (6%)	20 50
1	F	334/344 (97%)	317 (95%)	17 (5%)	24 55
All	All	2080/2064 (101%)	1987 (96%)	93 (4%)	27 60

All (93) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	105	LYS
1	A	106	GLU
1	A	214	GLU
1	A	232	PHE
1	A	266	SER
1	A	272	ARG

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Mol	Chain	Res	Type
1	A	276	THR
1	A	299	ARG
1	A	312	SER
1	A	323	THR
1	A	328	ASP
1	A	329	GLU
1	A	332	TYR
1	A	340	ASN
1	A	353	ARG
1	B	15	ILE
1	B	20	ASN
1	B	77	ASP
1	B	78	ASP
1	B	90	ASN
1	B	97	ILE
1	B	197	TYR
1	B	277	VAL
1	B	283	LYS
1	B	340	ASN
1	B	353	ARG
1	B	408	THR
1	C	44	LYS
1	C	50	PHE
1	C	125	GLU
1	C	154	THR
1	C	209	ILE
1	C	214	GLU
1	C	218	GLU
1	C	265	ASP
1	C	266	SER
1	C	283	LYS
1	C	408	THR
1	C	411	ASP
1	C	413	PHE
1	D	20	ASN
1	D	50	PHE
1	D	116	VAL
1	D	148	GLU
1	D	154	THR
1	D	190	ASN
1	D	197	TYR
1	D	209	ILE

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Mol	Chain	Res	Type
1	D	222	LEU
1	D	255	GLU
1	D	265	ASP
1	D	277	VAL
1	D	283	LYS
1	D	403	LEU
1	D	405	MSE
1	D	413	PHE
1	E	3	LEU
1	E	32	GLN
1	E	33	ASP
1	E	38	ILE
1	E	45	SER
1	E	55	LEU
1	E	64	PHE
1	E	80	TYR
1	E	96	THR
1	E	106	GLU
1	E	211	GLU
1	E	220	GLN
1	E	233	ASP
1	E	238	ARG
1	E	266	SER
1	E	323	THR
1	E	328	ASP
1	E	370	LEU
1	E	396	MSE
1	E	398	PHE
1	F	31	LYS
1	F	35	ILE
1	F	69	ASP
1	F	106	GLU
1	F	110	TYR
1	F	114	LEU
1	F	121	PHE
1	F	136	LEU
1	F	155	GLU
1	F	163	ASP
1	F	230	SER
1	F	265	ASP
1	F	295	HIS
1	F	300	PHE

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Mol	Chain	Res	Type
1	F	333	GLU
1	F	375	GLU
1	F	379	LYS

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (14) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	2	ASN
1	A	126	ASN
1	A	239	HIS
1	B	32	GLN
1	B	85	GLN
1	B	241	GLN
1	B	256	HIS
1	C	59	GLN
1	C	388	HIS
1	C	401	ASN
1	E	190	ASN
1	E	239	HIS
1	F	90	ASN
1	F	189	GLN

5.3.3 RNA

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
2	G	5/12 (41%)	4 (80%)	0

All (4) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
2	G	2	U
2	G	3	U
2	G	5	U
2	G	6	U

There are no RNA pucker outliers to report.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 20 ligands modelled in this entry, 6 are monoatomic - leaving 14 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
5	BEF	A	1002	3	0,3,3	-	-	-		
5	BEF	E	503	3	0,3,3	-	-	-		
5	BEF	D	1002	3	0,3,3	-	-	-		
3	ADP	B	1000	4,5	24,29,29	1.01	2 (8%)	29,45,45	1.44	6 (20%)
3	ADP	F	1000	4,5	24,29,29	1.03	2 (8%)	29,45,45	1.66	9 (31%)
5	BEF	C	1002	3	0,3,3	-	-	-		
3	ADP	D	1000	4,5	24,29,29	0.99	1 (4%)	29,45,45	1.44	4 (13%)
6	SPD	E	504	-	9,9,9	0.61	0	8,8,8	0.77	0
3	ADP	A	1000	4,5	24,29,29	0.99	1 (4%)	29,45,45	1.43	5 (17%)
5	BEF	B	1002	3	0,3,3	-	-	-		
3	ADP	E	501	4,5	24,29,29	1.01	2 (8%)	29,45,45	1.47	5 (17%)
3	ADP	C	1000	4,5	24,29,29	1.12	3 (12%)	29,45,45	1.34	4 (13%)
6	SPD	G	101	-	9,9,9	0.61	0	8,8,8	0.52	0
5	BEF	F	1002	3	0,3,3	-	-	-		

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
3	ADP	B	1000	4,5	-	3/12/32/32	0/3/3/3
3	ADP	F	1000	4,5	-	6/12/32/32	0/3/3/3
3	ADP	D	1000	4,5	-	0/12/32/32	0/3/3/3
6	SPD	E	504	-	-	5/7/7/7	-
3	ADP	A	1000	4,5	-	2/12/32/32	0/3/3/3
3	ADP	E	501	4,5	-	0/12/32/32	0/3/3/3
3	ADP	C	1000	4,5	-	4/12/32/32	0/3/3/3
6	SPD	G	101	-	-	3/7/7/7	-

All (11) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	D	1000	ADP	C5-C4	2.52	1.47	1.40
3	E	501	ADP	C5-C4	2.48	1.47	1.40
3	F	1000	ADP	O4'-C1'	2.44	1.44	1.41
3	F	1000	ADP	C5-C4	2.42	1.47	1.40
3	B	1000	ADP	C5-C4	2.35	1.47	1.40
3	A	1000	ADP	C5-C4	2.35	1.47	1.40
3	C	1000	ADP	C2-N3	2.30	1.35	1.32
3	C	1000	ADP	C5-C4	2.28	1.47	1.40
3	E	501	ADP	C2-N3	2.05	1.35	1.32
3	C	1000	ADP	O4'-C1'	2.03	1.43	1.41
3	B	1000	ADP	O4'-C1'	2.02	1.43	1.41

All (33) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	B	1000	ADP	N3-C2-N1	-3.71	122.89	128.68
3	D	1000	ADP	N3-C2-N1	-3.68	122.93	128.68
3	E	501	ADP	N3-C2-N1	-3.67	122.94	128.68
3	F	1000	ADP	N3-C2-N1	-3.66	122.96	128.68
3	A	1000	ADP	N3-C2-N1	-3.66	122.96	128.68
3	C	1000	ADP	N3-C2-N1	-3.32	123.49	128.68
3	E	501	ADP	PA-O3A-PB	-3.29	121.54	132.83
3	C	1000	ADP	C3'-C2'-C1'	3.28	105.91	100.98
3	D	1000	ADP	PA-O3A-PB	-3.20	121.85	132.83
3	F	1000	ADP	PA-O3A-PB	-3.18	121.90	132.83
3	A	1000	ADP	C3'-C2'-C1'	3.17	105.75	100.98
3	D	1000	ADP	C3'-C2'-C1'	3.09	105.62	100.98
3	E	501	ADP	C3'-C2'-C1'	3.08	105.61	100.98
3	B	1000	ADP	C3'-C2'-C1'	3.05	105.57	100.98
3	C	1000	ADP	C4-C5-N7	-2.90	106.38	109.40

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
3	F	1000	ADP	C5'-C4'-C3'	-2.88	104.38	115.18
3	B	1000	ADP	C4-C5-N7	-2.85	106.43	109.40
3	D	1000	ADP	C4-C5-N7	-2.77	106.51	109.40
3	E	501	ADP	C4-C5-N7	-2.77	106.52	109.40
3	A	1000	ADP	PA-O3A-PB	-2.73	123.45	132.83
3	F	1000	ADP	C3'-C2'-C1'	2.69	105.03	100.98
3	B	1000	ADP	PA-O3A-PB	-2.50	124.26	132.83
3	A	1000	ADP	C4-C5-N7	-2.45	106.85	109.40
3	F	1000	ADP	C2'-C3'-C4'	2.40	107.31	102.64
3	F	1000	ADP	O4'-C4'-C5'	2.10	116.29	109.37
3	F	1000	ADP	C4-C5-N7	-2.10	107.21	109.40
3	C	1000	ADP	PA-O3A-PB	-2.09	125.64	132.83
3	B	1000	ADP	C2-N1-C6	2.05	122.27	118.75
3	F	1000	ADP	C2-N1-C6	2.05	122.26	118.75
3	A	1000	ADP	C2-N1-C6	2.04	122.25	118.75
3	B	1000	ADP	O3B-PB-O2B	2.04	115.42	107.64
3	F	1000	ADP	O5'-C5'-C4'	2.00	115.89	108.99
3	E	501	ADP	C2-N1-C6	2.00	122.18	118.75

There are no chirality outliers.

All (23) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	C	1000	ADP	PA-O3A-PB-O3B
3	C	1000	ADP	O4'-C4'-C5'-O5'
3	F	1000	ADP	C5'-O5'-PA-O1A
3	F	1000	ADP	C5'-O5'-PA-O2A
6	G	101	SPD	C3-C4-C5-N6
3	A	1000	ADP	O4'-C4'-C5'-O5'
3	C	1000	ADP	C3'-C4'-C5'-O5'
6	E	504	SPD	C3-C4-C5-N6
6	G	101	SPD	N6-C7-C8-C9
6	E	504	SPD	N6-C7-C8-C9
3	A	1000	ADP	C3'-C4'-C5'-O5'
6	E	504	SPD	N1-C2-C3-C4
3	B	1000	ADP	O4'-C4'-C5'-O5'
3	F	1000	ADP	PA-O3A-PB-O1B
3	F	1000	ADP	PA-O3A-PB-O3B
3	B	1000	ADP	PA-O3A-PB-O1B
3	B	1000	ADP	C3'-C4'-C5'-O5'
3	F	1000	ADP	C3'-C4'-C5'-O5'
6	G	101	SPD	C2-C3-C4-C5

Continued on next page...

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Mol	Chain	Res	Type	Atoms
6	E	504	SPD	C8-C7-N6-C5
3	C	1000	ADP	PA-O3A-PB-O2B
3	F	1000	ADP	C5'-O5'-PA-O3A
6	E	504	SPD	C7-C8-C9-N10

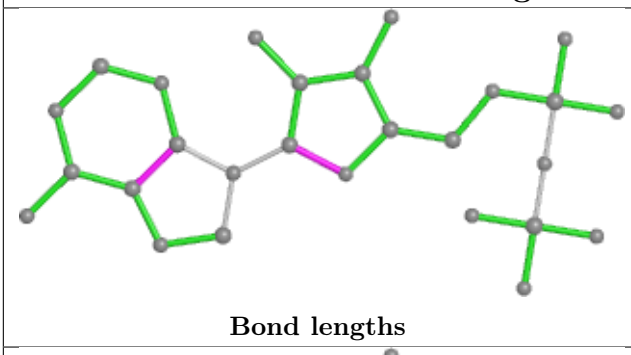
There are no ring outliers.

10 monomers are involved in 64 short contacts:

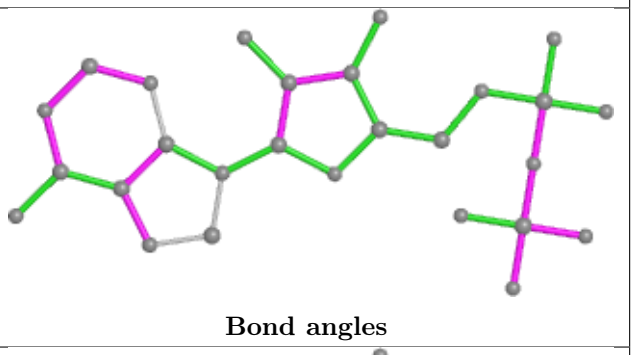
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	E	503	BEF	1	0
3	B	1000	ADP	2	0
3	F	1000	ADP	8	0
3	D	1000	ADP	4	0
6	E	504	SPD	32	0
3	A	1000	ADP	3	0
3	E	501	ADP	5	0
3	C	1000	ADP	4	0
6	G	101	SPD	5	0
5	F	1002	BEF	1	0

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

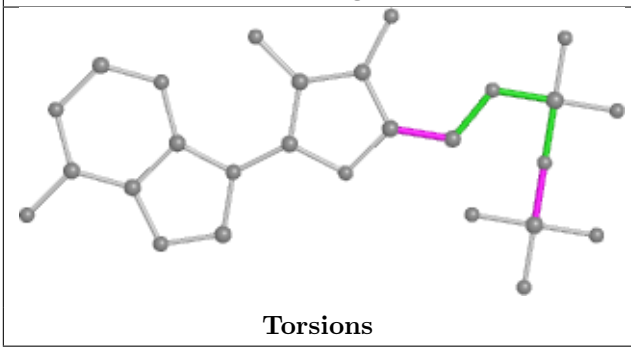
Ligand ADP B 1000



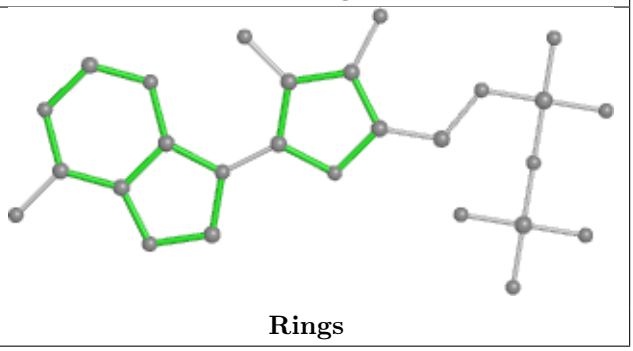
Bond lengths



Bond angles

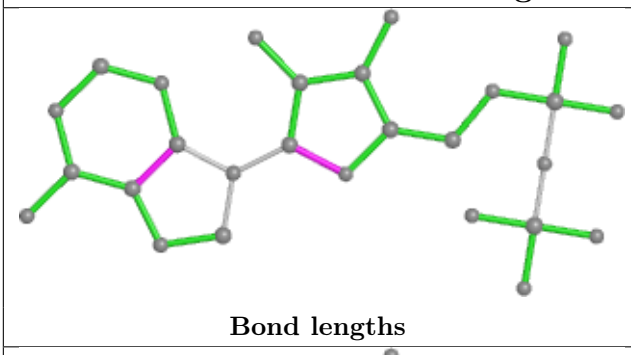


Torsions

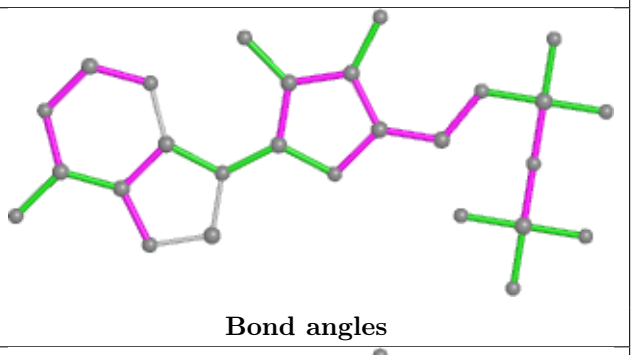


Rings

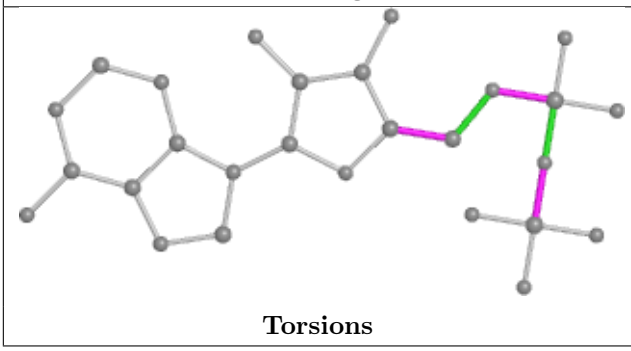
Ligand ADP F 1000



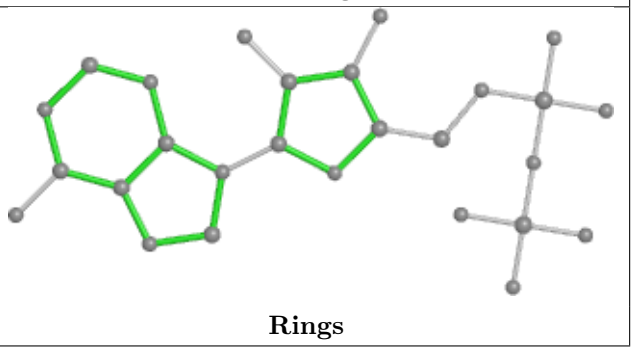
Bond lengths



Bond angles

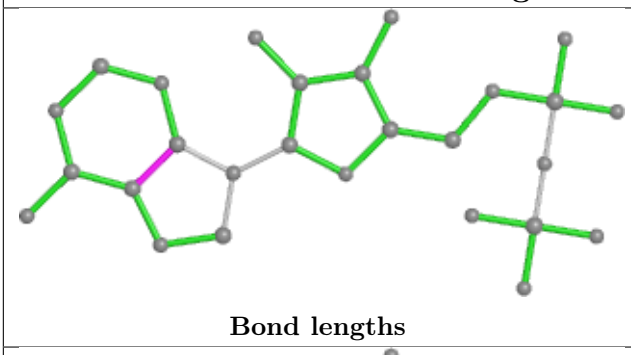


Torsions

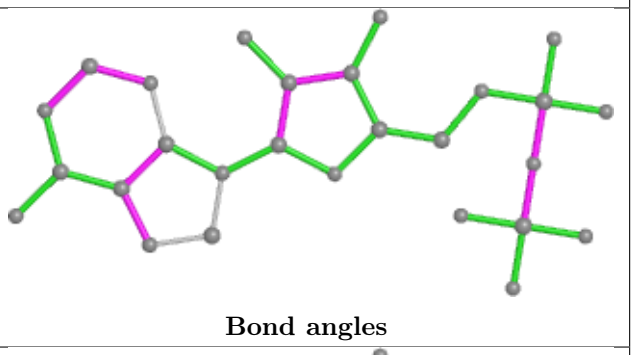


Rings

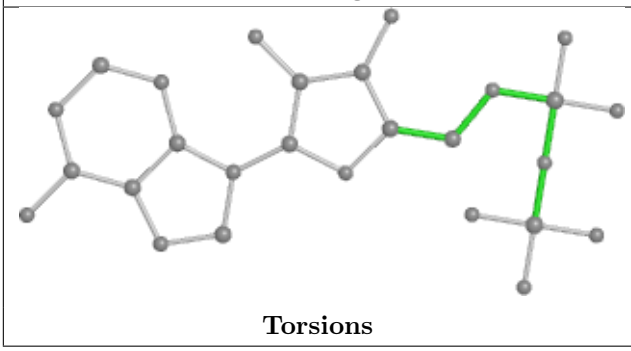
Ligand ADP D 1000



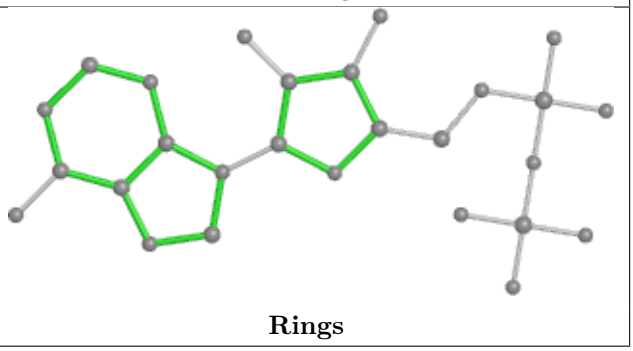
Bond lengths



Bond angles

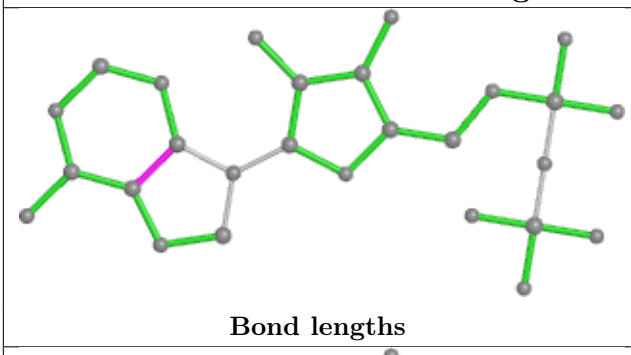


Torsions

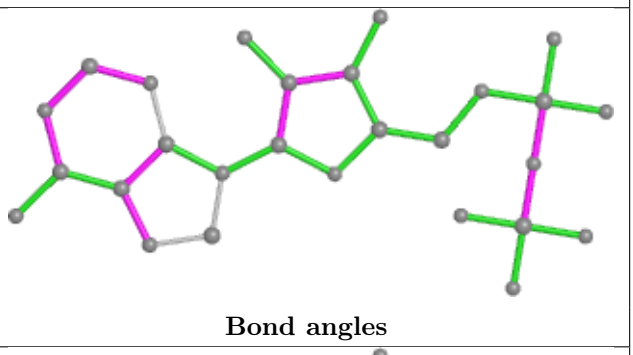


Rings

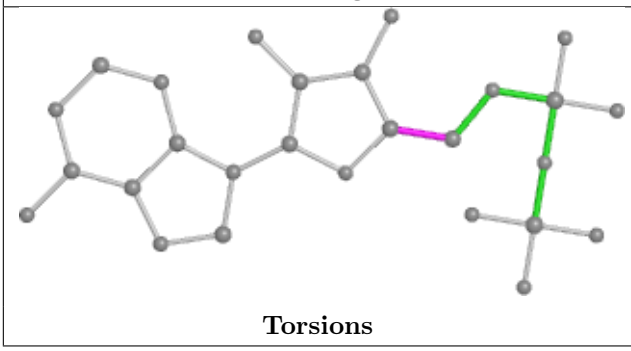
Ligand ADP A 1000



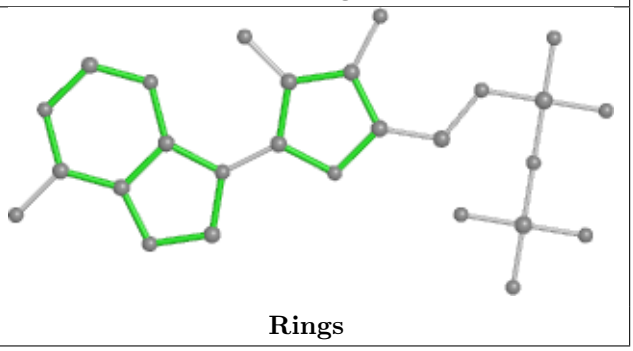
Bond lengths



Bond angles

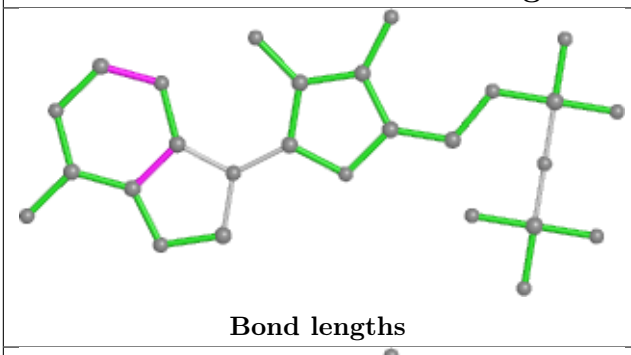


Torsions

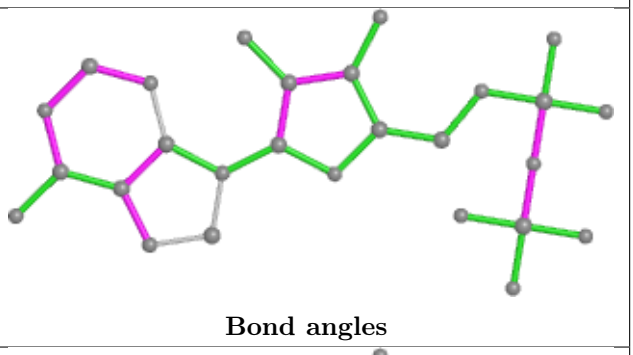


Rings

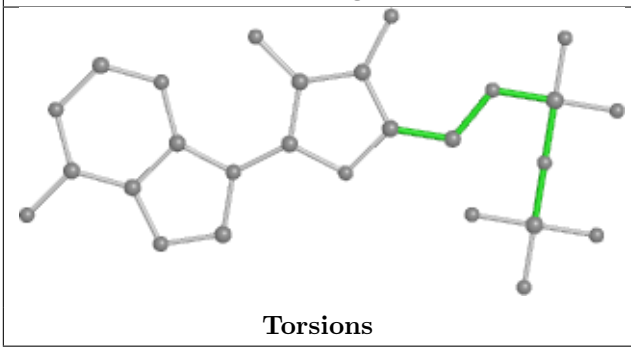
Ligand ADP E 501



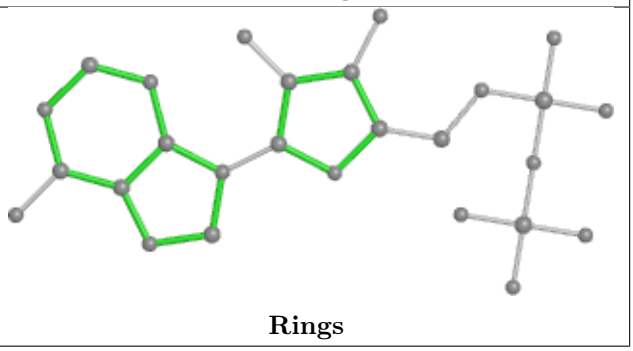
Bond lengths



Bond angles

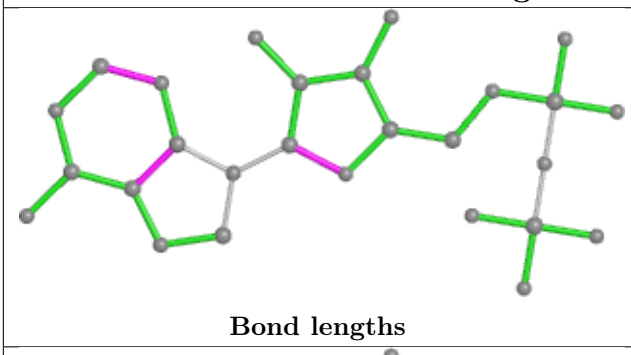


Torsions

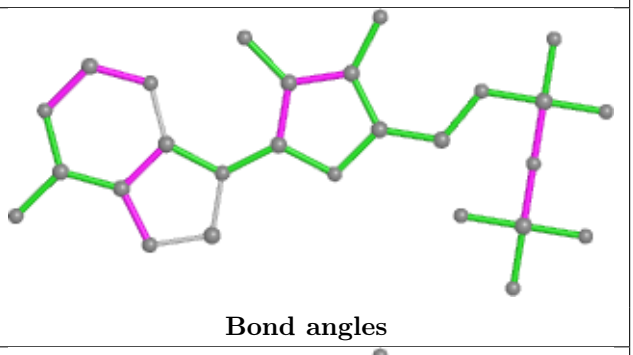


Rings

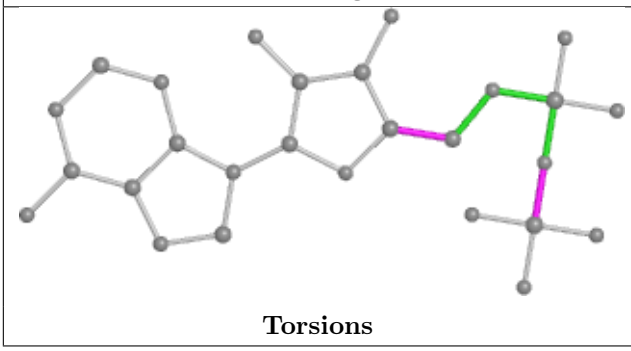
Ligand ADP C 1000



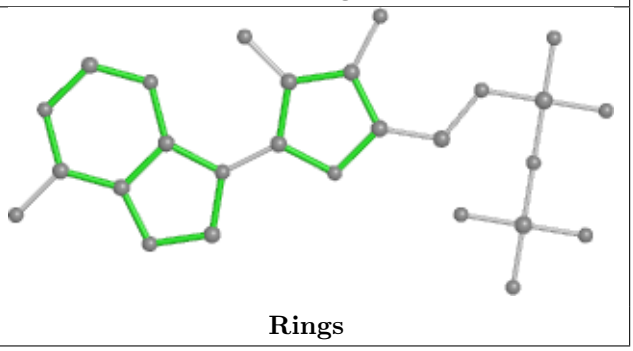
Bond lengths



Bond angles



Torsions



Rings

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

Unable to reproduce the depositors R factor - this section is therefore empty.

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

Unable to reproduce the depositors R factor - this section is therefore empty.

6.3 Carbohydrates

Unable to reproduce the depositors R factor - this section is therefore empty.

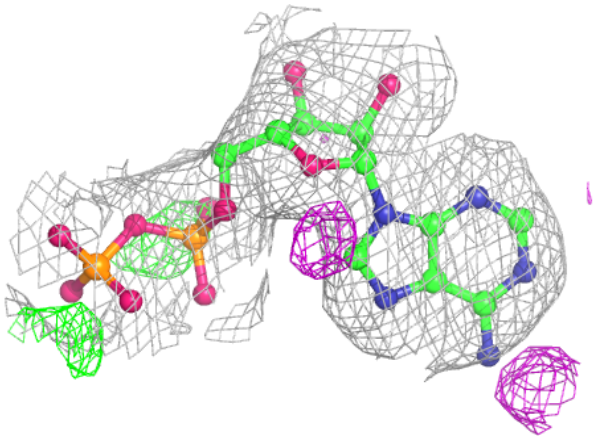
6.4 Ligands

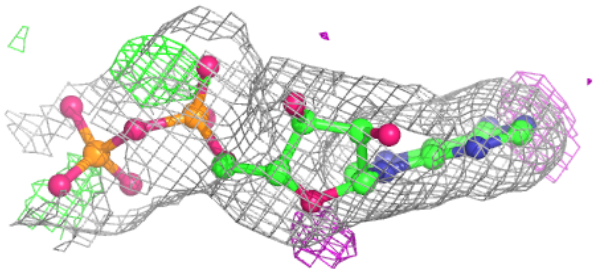
Unable to reproduce the depositors R factor - this section is therefore empty.

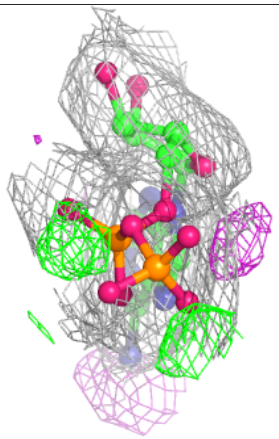
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around ADP A 1000:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

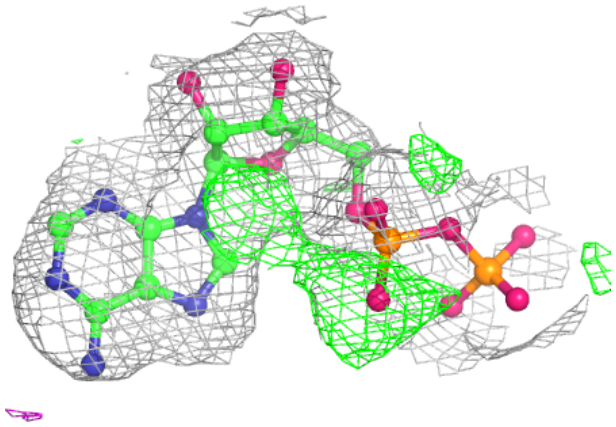


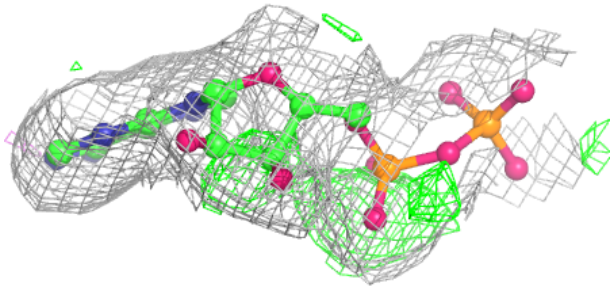


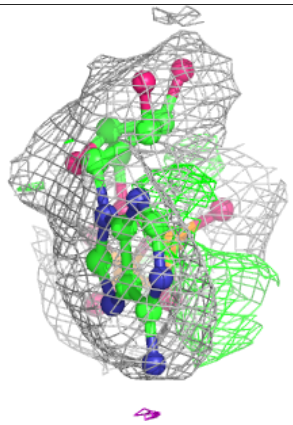


Electron density around ADP B 1000:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

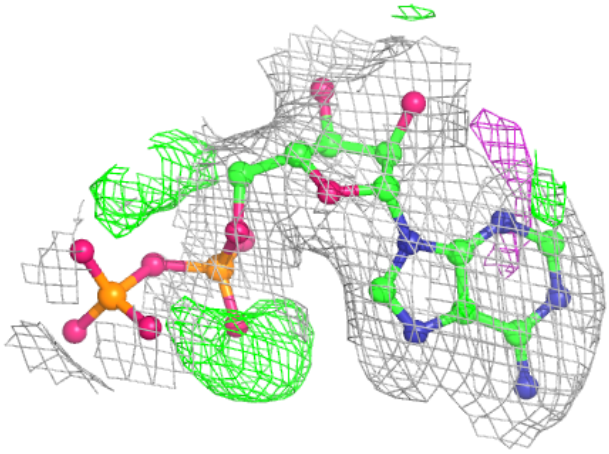


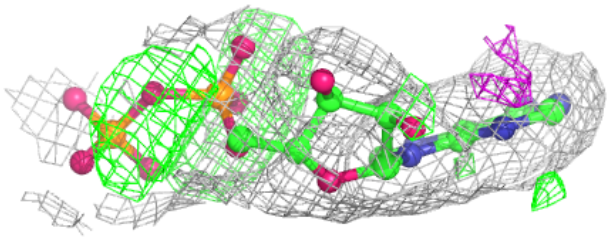


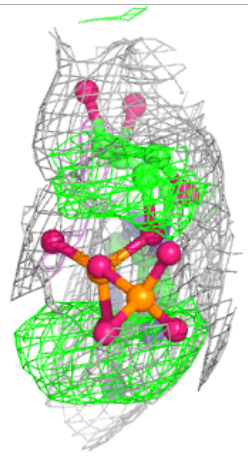


Electron density around ADP C 1000:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

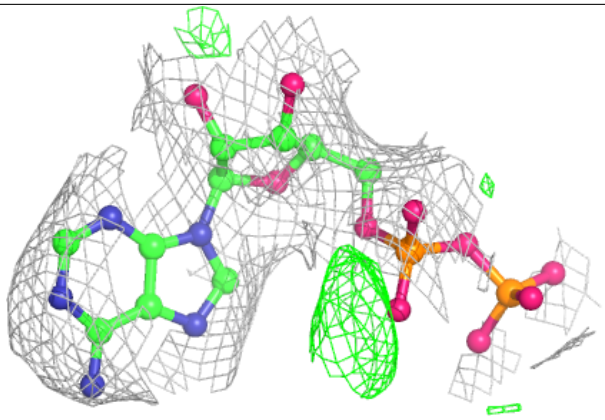


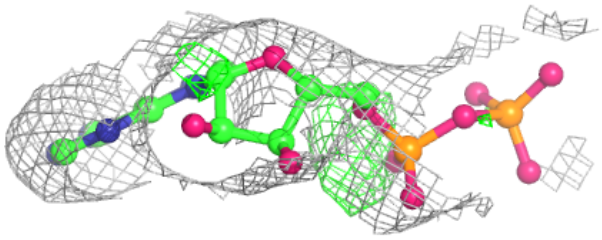


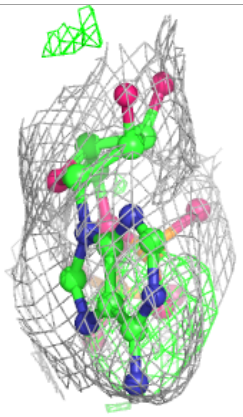


Electron density around ADP D 1000:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

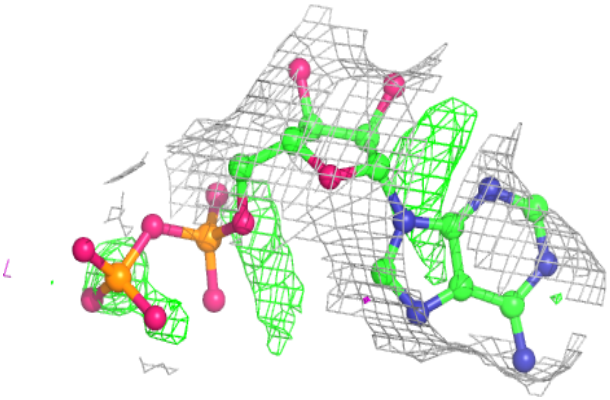


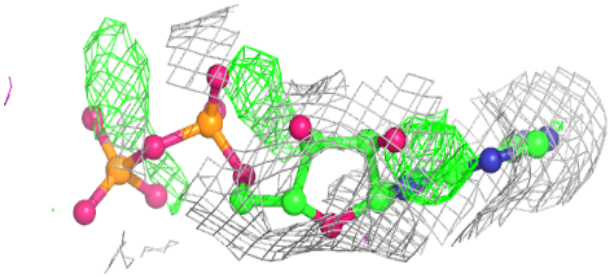


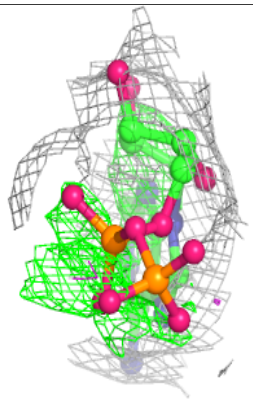


Electron density around ADP E 501:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

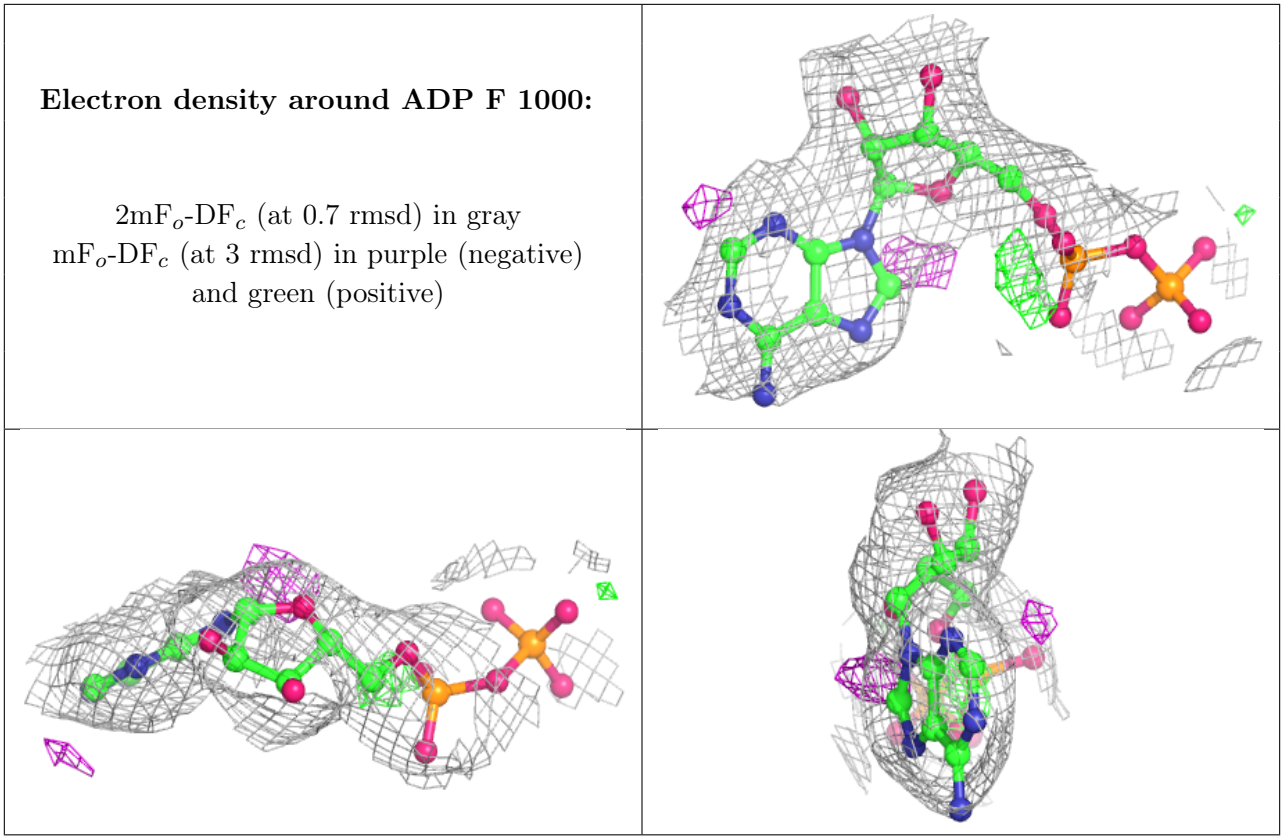






Electron density around ADP F 1000:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



6.5 Other polymers (i)

Unable to reproduce the depositors R factor - this section is therefore empty.