



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 4, 2026 – 10:21 PM UTC

PDB ID : 5CK3 / pdb_00005ck3
Title : Signal recognition particle receptor SRb-GTP/SRX complex from
Chaetomium thermophilum
Authors : Jadhav, B.R.; Wild, K.; Sinning, I.
Deposited on : 2015-07-15
Resolution : 3.20 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 ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtriage (Phenix) : 2.0
EDS : 3.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

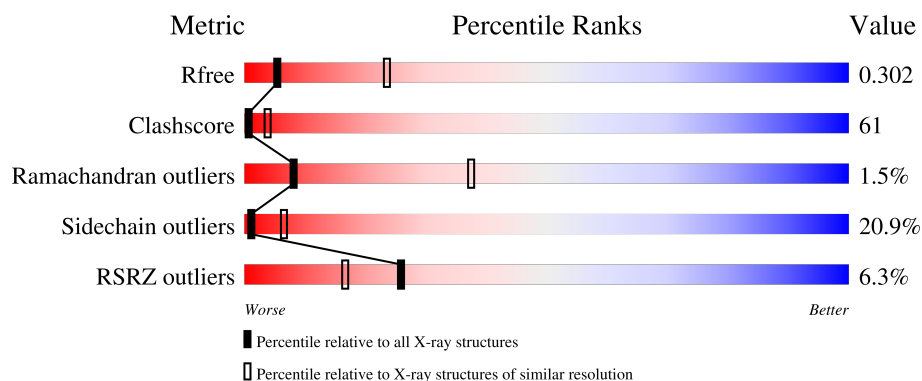
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.20 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}	180053	1466 (3.20-3.20)
Clashscore	190562	1573 (3.20-3.20)
Ramachandran outliers	187476	1548 (3.20-3.20)
Sidechain outliers	187428	1547 (3.20-3.20)
RSRZ outliers	180081	1466 (3.20-3.20)

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 $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	181	
1	C	181	
1	E	181	
2	B	307	
2	D	307	

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Mol	Chain	Length	Quality of chain
2	F	307	

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
4	GTP	B	402	-	-	X	-
4	GTP	F	401	-	-	X	-

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 7908 atoms, of which 8 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 SRX domain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	135	Total	C	N	O	S	0	0	0
			1090	707	178	203	2			
1	C	105	Total	C	N	O	S	0	0	0
			873	576	136	160	1			
1	E	104	Total	C	N	O	S	0	0	0
			843	555	131	155	2			

There are 30 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-7	MET	-	initiating methionine	UNP G0S1R8
A	-6	LYS	-	expression tag	UNP G0S1R8
A	-5	HIS	-	expression tag	UNP G0S1R8
A	-4	HIS	-	expression tag	UNP G0S1R8
A	-3	HIS	-	expression tag	UNP G0S1R8
A	-2	HIS	-	expression tag	UNP G0S1R8
A	-1	HIS	-	expression tag	UNP G0S1R8
A	0	HIS	-	expression tag	UNP G0S1R8
A	1	MET	-	expression tag	UNP G0S1R8
A	2	SER	-	expression tag	UNP G0S1R8
C	-7	MET	-	initiating methionine	UNP G0S1R8
C	-6	LYS	-	expression tag	UNP G0S1R8
C	-5	HIS	-	expression tag	UNP G0S1R8
C	-4	HIS	-	expression tag	UNP G0S1R8
C	-3	HIS	-	expression tag	UNP G0S1R8
C	-2	HIS	-	expression tag	UNP G0S1R8
C	-1	HIS	-	expression tag	UNP G0S1R8
C	0	HIS	-	expression tag	UNP G0S1R8
C	1	MET	-	expression tag	UNP G0S1R8
C	2	SER	-	expression tag	UNP G0S1R8
E	-7	MET	-	initiating methionine	UNP G0S1R8
E	-6	LYS	-	expression tag	UNP G0S1R8
E	-5	HIS	-	expression tag	UNP G0S1R8

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Chain	Residue	Modelled	Actual	Comment	Reference
E	-4	HIS	-	expression tag	UNP G0S1R8
E	-3	HIS	-	expression tag	UNP G0S1R8
E	-2	HIS	-	expression tag	UNP G0S1R8
E	-1	HIS	-	expression tag	UNP G0S1R8
E	0	HIS	-	expression tag	UNP G0S1R8
E	1	MET	-	expression tag	UNP G0S1R8
E	2	SER	-	expression tag	UNP G0S1R8

- Molecule 2 is a protein called Putative signal recognition particle protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	270	Total	C	N	O	S	0	0	0
			2067	1313	362	388	4			
2	D	230	Total	C	N	O	S	0	0	0
			1789	1148	307	330	4			
2	F	147	Total	C	N	O	S	0	0	0
			1128	725	200	202	1			

There are 6 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	41	MET	-	initiating methionine	UNP G0S401
B	42	GLY	-	expression tag	UNP G0S401
D	41	MET	-	initiating methionine	UNP G0S401
D	42	GLY	-	expression tag	UNP G0S401
F	41	MET	-	initiating methionine	UNP G0S401
F	42	GLY	-	expression tag	UNP G0S401

- Molecule 3 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

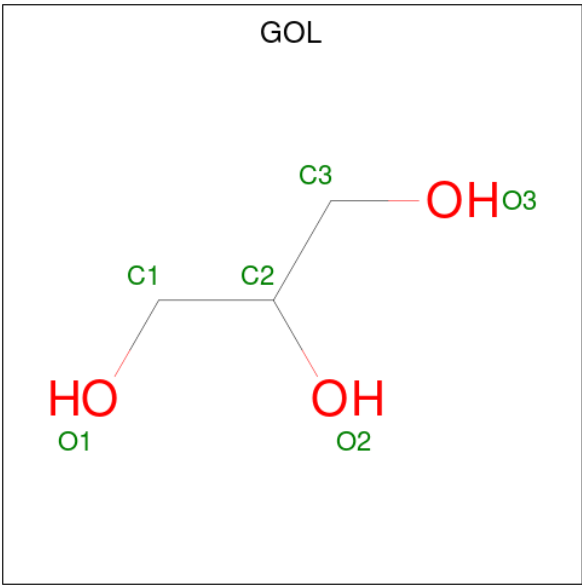
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	B	1	Total	Mg	0	0
			1	1		
3	D	1	Total	Mg	0	0
			1	1		
3	F	1	Total	Mg	0	0
			1	1		

- Molecule 4 is GUANOSINE-5'-TRIPHOSPHATE (CCD ID: GTP) (formula: C₁₀H₁₆N₅O₁₄P₃).



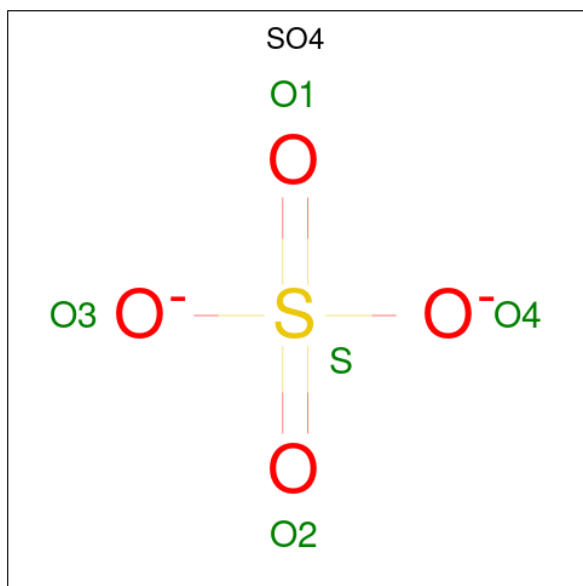
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	B	1	Total	C	N	O	P	0	0
			32	10	5	14	3		
4	D	1	Total	C	N	O	P	0	0
			32	10	5	14	3		
4	F	1	Total	C	N	O	P	0	0
			32	10	5	14	3		

- Molecule 5 is GLYCEROL (CCD ID: GOL) (formula: C₃H₈O₃).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
5	B	1	Total	C	H	O	0	0
			14	3	8	3		

- Molecule 6 is SULFATE ION (CCD ID: SO4) (formula: O₄S).

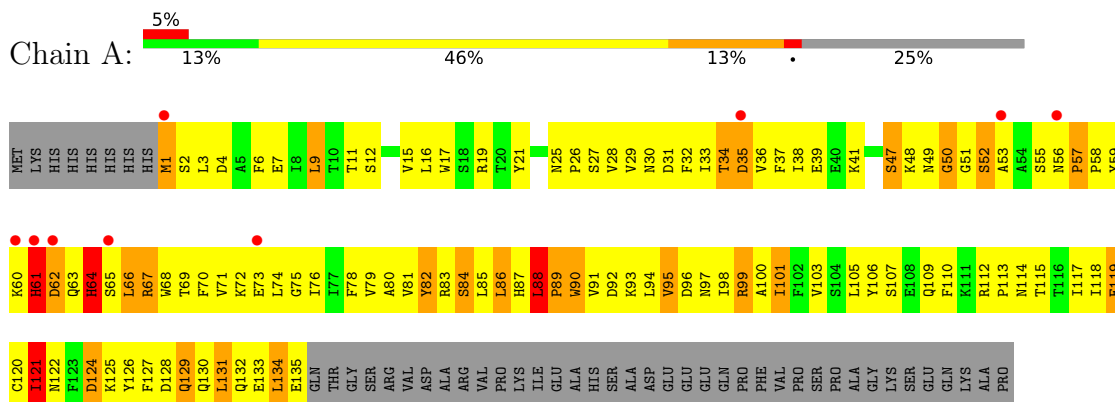


Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	B	1	Total	O	S	0	0
			5	4	1		

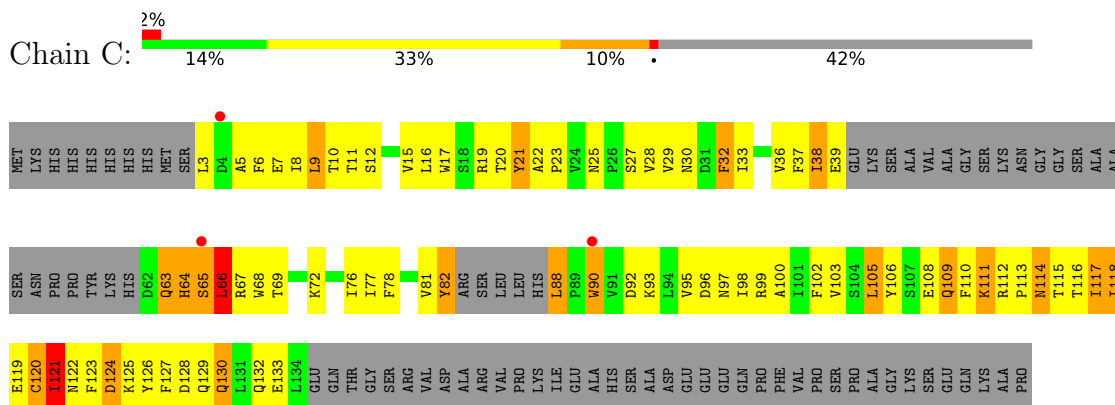
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). 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.

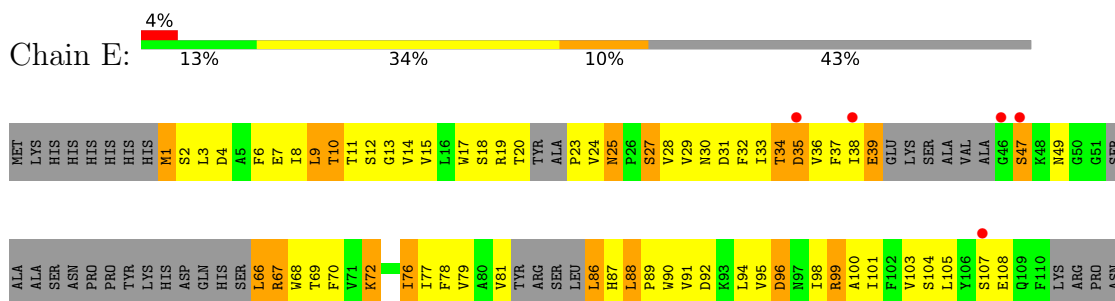
• Molecule 1: SRX domain

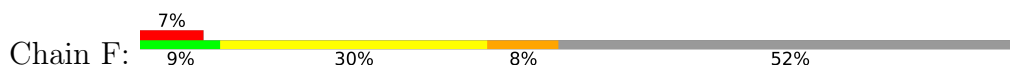


• Molecule 1: SRX domain



• Molecule 1: SRX domain







4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	88.28Å 83.61Å 90.21Å 90.00° 105.23° 90.00°	Depositor
Resolution (Å)	45.47 – 3.20 45.47 – 3.20	Depositor EDS
% Data completeness (in resolution range)	99.2 (45.47-3.20) 99.2 (45.47-3.20)	Depositor EDS
R_{merge}	0.14	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.35 (at 3.19Å)	Xtriage
Refinement program	PHENIX 1.8.2_1309	Depositor
R, R_{free}	0.276 , 0.300 0.277 , 0.302	Depositor DCC
R_{free} test set	1077 reflections (5.10%)	wwPDB-VP
Wilson B-factor (Å ²)	73.2	Xtriage
Anisotropy	0.407	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.34 , 93.1	EDS
L-test for twinning ²	$\langle L \rangle = 0.46$, $\langle L^2 \rangle = 0.29$	Xtriage
Estimated twinning fraction	0.045 for l,-k,h	Xtriage
F_o, F_c correlation	0.86	EDS
Total number of atoms	7908	wwPDB-VP
Average B, all atoms (Å ²)	85.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.21% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

²Theoretical values of $\langle |L| \rangle$, $\langle L^2 \rangle$ 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: GTP, SO4, MG, GOL

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	0.53	0/1118	1.13	10/1522 (0.7%)
1	C	0.39	0/894	0.94	4/1218 (0.3%)
1	E	0.30	0/858	0.85	3/1160 (0.3%)
2	B	0.47	1/2110 (0.0%)	0.88	7/2859 (0.2%)
2	D	0.52	2/1825 (0.1%)	0.96	9/2469 (0.4%)
2	F	0.46	2/1146 (0.2%)	0.97	8/1549 (0.5%)
All	All	0.47	5/7951 (0.1%)	0.95	41/10777 (0.4%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	A	0	2
1	C	0	2
2	D	0	2
All	All	0	6

All (5) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	F	109	VAL	C-N	5.92	1.40	1.33
2	B	109	VAL	C-N	5.68	1.41	1.33
2	F	110	PRO	N-CD	5.30	1.55	1.47
2	D	109	VAL	C-N	5.18	1.40	1.33
2	D	110	PRO	N-CD	5.12	1.54	1.47

All (41) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	65	SER	N-CA-C	10.13	126.02	112.25
1	E	25	ASN	CA-C-N	8.12	128.07	119.05
1	E	25	ASN	C-N-CA	8.12	128.07	119.05
2	F	150	HIS	CA-C-N	7.82	129.61	119.84
2	F	150	HIS	C-N-CA	7.82	129.61	119.84
1	A	61	HIS	N-CA-C	7.61	119.48	111.03
2	B	124	THR	CA-C-N	-7.55	111.22	119.98
2	B	124	THR	C-N-CA	-7.55	111.22	119.98
2	F	109	VAL	CA-C-N	-7.26	113.20	120.31
2	F	109	VAL	C-N-CA	-7.26	113.20	120.31
1	A	57	PRO	CA-C-N	-7.13	111.83	119.24
1	A	57	PRO	C-N-CA	-7.13	111.83	119.24
2	B	109	VAL	CA-C-N	-6.81	112.95	119.76
2	B	109	VAL	C-N-CA	-6.81	112.95	119.76
1	C	64	HIS	N-CA-C	6.75	121.67	113.17
2	D	89	LYS	N-CA-C	-6.48	100.93	110.52
2	D	258	VAL	CA-C-N	6.39	126.89	119.99
2	D	258	VAL	C-N-CA	6.39	126.89	119.99
2	D	146	ASP	N-CA-C	-6.37	102.57	110.41
1	A	4	ASP	CB-CA-C	-6.04	109.62	116.63
1	A	88	LEU	CA-C-N	5.95	127.28	119.84
1	A	88	LEU	C-N-CA	5.95	127.28	119.84
2	D	109	VAL	CA-C-N	-5.88	113.70	119.76
2	D	109	VAL	C-N-CA	-5.88	113.70	119.76
2	D	191	SER	N-CA-C	5.67	118.29	107.75
1	A	50	GLY	N-CA-C	5.52	126.27	113.18
1	A	95	VAL	N-CA-C	5.50	116.23	110.62
1	E	49	ASN	N-CA-C	5.47	116.58	108.86
2	F	147	THR	CA-C-N	-5.44	114.98	120.21
2	F	147	THR	C-N-CA	-5.44	114.98	120.21
2	B	146	ASP	N-CA-C	-5.39	103.28	110.55
2	D	150	HIS	CA-C-N	5.26	124.89	119.05
2	D	150	HIS	C-N-CA	5.26	124.89	119.05
2	F	333	GLY	CA-C-N	5.23	125.28	119.32
2	F	333	GLY	C-N-CA	5.23	125.28	119.32
1	C	121	ILE	CA-C-N	-5.22	114.33	122.05
1	C	121	ILE	C-N-CA	-5.22	114.33	122.05
1	A	121	ILE	N-CA-C	5.20	115.92	110.62
2	B	258	VAL	CA-C-N	5.16	125.08	119.76
2	B	258	VAL	C-N-CA	5.16	125.08	119.76
1	C	116	THR	N-CA-C	-5.03	106.92	113.16

There are no chirality outliers.

All (6) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	A	61	HIS	Peptide
1	A	64	HIS	Peptide
1	C	63	GLN	Peptide
1	C	65	SER	Peptide
2	D	190	LYS	Peptide
2	D	88	LEU	Peptide

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	1090	0	1076	154	0
1	C	873	0	859	92	0
1	E	843	0	839	123	0
2	B	2067	0	2093	204	0
2	D	1789	0	1821	229	0
2	F	1128	0	1166	232	0
3	B	1	0	0	0	0
3	D	1	0	0	0	0
3	F	1	0	0	0	0
4	B	32	0	12	14	0
4	D	32	0	12	1	0
4	F	32	0	12	15	0
5	B	6	8	8	1	0
6	B	5	0	0	1	0
All	All	7900	8	7898	966	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 61.

All (966) 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:F:197:ILE:HG22	2:F:246:LEU:HB3	1.29	1.15
2:F:111:THR:O	2:F:145:ILE:HG23	1.46	1.14

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:55:LEU:HD21	2:D:146:ASP:HA	1.24	1.13
2:D:246:LEU:HB2	2:D:342:TRP:HZ3	1.03	1.11
2:F:259:PRO:HG2	2:F:262:LEU:HB2	1.24	1.08
2:F:112:SER:HA	2:F:145:ILE:HG12	1.09	1.07
2:B:53:VAL:CG2	2:B:144:LEU:HD12	1.86	1.05
1:A:114:ASN:HB2	2:B:114:GLU:HB3	1.36	1.04
2:D:246:LEU:HB2	2:D:342:TRP:CZ3	1.92	1.04
2:B:67:LEU:HD12	2:B:144:LEU:HD23	1.40	1.03
2:D:158:LEU:HA	2:D:161:LEU:HD12	1.39	1.03
2:F:112:SER:HA	2:F:145:ILE:CG1	1.87	1.03
2:F:56:ILE:HA	2:F:147:THR:HG21	1.40	1.02
2:F:112:SER:CA	2:F:145:ILE:HG12	1.89	1.02
2:F:55:LEU:HD22	2:F:63:LYS:HB3	1.39	1.01
2:D:221:TYR:CD1	2:D:274:ILE:HD13	1.97	1.00
2:B:53:VAL:HG23	2:B:144:LEU:HD12	1.44	0.99
1:E:33:ILE:HG21	2:F:106:THR:HB	1.42	0.98
1:C:112:ARG:HD3	1:C:113:PRO:HD2	1.44	0.97
2:F:55:LEU:CD2	2:F:63:LYS:HB3	1.94	0.97
2:D:146:ASP:OD1	2:D:147:THR:N	1.97	0.97
2:F:344:GLY:O	2:F:347:ILE:HG13	1.66	0.95
2:D:268:GLU:HA	2:D:271:LEU:HD23	1.48	0.95
2:F:271:LEU:HD12	2:F:274:ILE:HD11	1.48	0.95
1:A:86:LEU:HD12	1:A:87:HIS:H	1.32	0.94
1:E:27:SER:HA	1:E:30:ASN:HB2	1.49	0.94
1:A:88:LEU:HD22	1:E:125:LYS:HD3	1.50	0.94
2:F:259:PRO:HG2	2:F:262:LEU:CB	1.98	0.94
2:B:234:ARG:HB2	2:B:240:PRO:HB3	1.48	0.93
2:B:67:LEU:CD1	2:B:144:LEU:HD23	1.98	0.93
2:F:323:GLU:HB3	2:F:342:TRP:HE1	1.33	0.93
2:F:225:LEU:HG	2:F:229:LYS:HE3	1.48	0.92
1:A:88:LEU:CD2	1:E:125:LYS:HD3	1.99	0.91
2:D:50:LEU:HD23	2:D:50:LEU:H	1.34	0.91
1:E:35:ASP:HA	1:E:39:GLU:HB2	1.53	0.91
1:A:93:LYS:O	1:A:97:ASN:ND2	2.03	0.91
1:A:97:ASN:HB2	2:D:262:LEU:HD22	1.54	0.90
2:D:55:LEU:CD2	2:D:146:ASP:HA	2.03	0.88
2:B:82:SER:HB3	2:B:96:ILE:HG22	1.56	0.88
2:D:224:LEU:HA	2:D:227:LEU:HB3	1.55	0.88
2:F:205:LEU:HB2	2:F:258:VAL:HG21	1.53	0.88
2:D:223:VAL:O	2:D:227:LEU:N	2.07	0.88
1:E:19:ARG:HG3	1:E:20:THR:HG23	1.56	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:197:ILE:CG2	2:F:246:LEU:HB3	2.04	0.88
2:D:93:ARG:HG2	2:D:93:ARG:HH11	1.40	0.87
2:D:224:LEU:HD23	2:D:227:LEU:HD23	1.58	0.86
2:D:148:PRO:HG2	2:D:153:LEU:HD22	1.56	0.86
2:F:199:LEU:HD11	2:F:250:ASN:HB2	1.56	0.85
2:D:158:LEU:HA	2:D:161:LEU:CD1	2.06	0.85
2:F:143:LEU:HD12	2:F:144:LEU:H	1.42	0.84
1:E:115:THR:HA	2:F:113:VAL:HG21	1.60	0.84
1:E:38:ILE:HG21	2:F:150:HIS:CD2	2.13	0.84
2:F:68:THR:O	2:F:72:ARG:HB2	1.76	0.84
2:D:228:GLN:HG2	2:D:318:PHE:HE2	1.40	0.83
2:F:111:THR:O	2:F:145:ILE:CG2	2.26	0.83
2:D:77:ASN:HB3	2:D:80:GLY:H	1.43	0.83
1:E:8:ILE:HD12	1:E:17:TRP:HB3	1.58	0.83
2:F:111:THR:C	2:F:145:ILE:HG23	2.03	0.83
2:B:201:ASP:CG	2:B:251:LYS:HG3	2.04	0.83
2:F:108:GLN:O	2:F:153:LEU:HD12	1.79	0.82
2:F:248:ALA:HB1	2:F:339:TRP:CZ2	2.14	0.82
2:D:202:ALA:HB2	2:D:249:ALA:HB1	1.61	0.82
2:F:148:PRO:HG3	2:F:153:LEU:HD12	1.61	0.81
1:A:90:TRP:HD1	1:A:91:VAL:N	1.79	0.81
1:E:115:THR:CA	2:F:113:VAL:HG21	2.11	0.81
2:B:63:LYS:N	4:B:402:GTP:O2B	2.14	0.80
2:D:149:GLY:O	2:D:154:ARG:NH1	2.14	0.80
2:B:255:PHE:CE1	2:B:256:THR:HG23	2.17	0.80
2:B:172:PRO:HG3	2:B:177:ASN:CG	2.06	0.80
2:F:250:ASN:OD1	4:F:401:GTP:N7	2.14	0.80
2:D:279:GLN:HB3	2:D:280:LYS:HD2	1.64	0.80
2:F:153:LEU:O	2:F:156:THR:N	2.14	0.79
1:A:12:SER:OG	2:B:111:THR:OG1	2.00	0.79
1:E:33:ILE:CG2	2:F:106:THR:HB	2.12	0.79
2:F:109:VAL:HG12	2:F:110:PRO:O	1.82	0.79
2:F:247:ILE:HG23	2:F:324:VAL:HB	1.64	0.79
1:C:117:ILE:HD11	2:D:97:VAL:CG1	2.13	0.79
2:F:69:LEU:N	2:F:101:VAL:HG23	1.97	0.79
2:F:107:SER:N	4:F:401:GTP:O1G	2.13	0.79
1:A:119:GLU:OE1	2:B:96:ILE:N	2.14	0.78
2:D:228:GLN:HG2	2:D:318:PHE:CE2	2.17	0.78
1:E:35:ASP:HA	1:E:39:GLU:CB	2.14	0.78
2:F:246:LEU:HD12	2:F:323:GLU:O	1.83	0.78
1:A:114:ASN:HB2	2:B:114:GLU:CB	2.13	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:270:GLU:HA	2:D:273:ARG:CG	2.13	0.78
2:F:94:LYS:HG2	2:F:95:PRO:HD3	1.66	0.78
2:F:108:GLN:O	2:F:153:LEU:CD1	2.32	0.78
2:F:342:TRP:CE3	2:F:343:ILE:HD13	2.18	0.78
1:C:121:ILE:HG13	1:C:122:ASN:N	2.00	0.78
2:F:112:SER:O	2:F:113:VAL:HG22	1.84	0.78
2:B:151:PRO:HA	2:B:154:ARG:HG3	1.65	0.77
1:A:3:LEU:HD13	1:A:90:TRP:HZ2	1.47	0.77
1:E:69:THR:HG22	1:E:95:VAL:HG22	1.65	0.77
2:F:154:ARG:HA	2:F:157:THR:HG23	1.66	0.77
1:A:56:ASN:HB3	1:A:57:PRO:CD	2.14	0.77
2:B:211:ASP:O	2:B:215:GLN:HG2	1.85	0.77
2:B:162:LEU:HG	2:B:226:SER:HB3	1.67	0.77
2:F:325:MET:HE2	2:F:339:TRP:HD1	1.49	0.76
1:A:98:ILE:HD11	1:A:127:PHE:CE1	2.20	0.76
2:B:64:THR:OG1	2:B:107:SER:OG	2.04	0.76
2:B:159:GLN:NE2	6:B:404:SO4:O4	2.17	0.76
1:C:117:ILE:HD11	2:D:97:VAL:HG11	1.65	0.76
1:E:122:ASN:OD1	1:E:125:LYS:HD2	1.86	0.76
2:F:148:PRO:HG3	2:F:153:LEU:CB	2.16	0.76
2:F:329:VAL:N	4:F:401:GTP:O6	2.18	0.76
2:F:56:ILE:HA	2:F:147:THR:CG2	2.16	0.75
1:A:97:ASN:HB2	2:D:262:LEU:CD2	2.16	0.75
2:D:131:ASP:OD1	2:D:132:LEU:N	2.16	0.75
2:D:114:GLU:HA	2:D:143:LEU:HD23	1.69	0.75
2:F:59:SER:N	2:F:149:GLY:HA3	2.02	0.75
2:B:104:THR:OG1	4:B:402:GTP:O1A	2.03	0.75
2:F:259:PRO:CG	2:F:262:LEU:HB2	2.13	0.75
2:B:199:LEU:HD12	2:B:248:ALA:HB3	1.67	0.75
1:A:31:ASP:HB3	1:A:62:ASP:OD2	1.86	0.75
2:B:220:LEU:HD23	2:B:271:LEU:HD21	1.69	0.75
2:D:263:VAL:O	2:D:267:LEU:HD23	1.85	0.74
1:C:88:LEU:CD1	1:C:90:TRP:HB3	2.18	0.74
2:B:164:PRO:C	2:B:166:PRO:HD2	2.12	0.74
1:A:48:LYS:N	1:A:96:ASP:OD2	2.20	0.74
1:C:67:ARG:NE	1:C:92:ASP:OD2	2.19	0.74
2:B:51:PRO:HB2	2:B:142:PHE:HA	1.69	0.74
1:A:3:LEU:HD13	1:A:90:TRP:CZ2	2.22	0.73
2:D:270:GLU:HA	2:D:273:ARG:HG2	1.70	0.73
2:D:77:ASN:HB3	2:D:80:GLY:N	2.03	0.73
2:F:154:ARG:HA	2:F:157:THR:CG2	2.18	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:325:MET:HE2	2:F:339:TRP:CD1	2.23	0.73
2:B:219:TYR:O	2:B:223:VAL:HG23	1.89	0.73
2:B:313:GLU:N	2:B:313:GLU:OE1	2.21	0.73
1:A:12:SER:HG	2:B:111:THR:HG1	1.36	0.72
1:A:78:PHE:CE2	1:A:99:ARG:HA	2.23	0.72
2:B:309:GLU:OE2	2:B:310:PHE:N	2.22	0.72
2:F:64:THR:OG1	2:F:107:SER:OG	2.06	0.72
1:A:103:VAL:O	1:A:107:SER:HB3	1.89	0.72
1:E:126:TYR:O	1:E:130:GLN:NE2	2.21	0.72
2:D:117:VAL:HG12	2:D:340:TRP:CH2	2.25	0.72
2:F:61:ALA:N	4:F:401:GTP:O2B	2.21	0.72
2:F:250:ASN:OD1	2:F:251:LYS:N	2.23	0.72
1:C:108:GLU:OE2	1:C:108:GLU:N	2.22	0.71
1:E:11:THR:O	2:F:108:GLN:HG3	1.90	0.71
2:F:153:LEU:O	2:F:156:THR:HG22	1.89	0.71
2:B:77:ASN:ND2	2:B:83:VAL:HG23	2.06	0.71
2:B:112:SER:OG	2:B:145:ILE:HG12	1.91	0.71
2:D:268:GLU:CA	2:D:271:LEU:HD23	2.20	0.71
2:F:61:ALA:HB3	2:F:63:LYS:CG	2.19	0.71
2:D:314:GLU:HG3	2:D:315:MET:N	2.05	0.70
1:E:27:SER:O	1:E:31:ASP:N	2.16	0.70
1:C:128:ASP:O	1:C:132:GLN:N	2.22	0.70
2:D:68:THR:HG22	2:D:72:ARG:HG3	1.74	0.70
1:A:98:ILE:HD11	1:A:127:PHE:HE1	1.57	0.70
2:D:231:PHE:HE1	2:D:241:SER:HB2	1.55	0.70
1:E:70:PHE:CE2	1:E:72:LYS:HA	2.26	0.70
2:F:62:GLY:HA2	4:F:401:GTP:H5"	1.72	0.69
2:B:67:LEU:HD11	2:B:113:VAL:HG11	1.73	0.69
2:D:244:PRO:HG2	2:D:346:ARG:HG2	1.72	0.69
2:D:275:ARG:O	2:D:279:GLN:HB2	1.92	0.69
1:C:30:ASN:OD1	2:D:106:THR:N	2.25	0.69
1:E:66:LEU:HD12	1:E:81:VAL:HA	1.74	0.69
1:E:70:PHE:HE2	1:E:72:LYS:HA	1.57	0.69
2:B:142:PHE:HE1	2:B:343:ILE:HG21	1.56	0.69
1:C:65:SER:O	1:C:66:LEU:HD23	1.92	0.69
2:D:51:PRO:HA	2:D:192:LYS:O	1.92	0.69
2:D:325:MET:CE	2:D:338:ARG:HB3	2.21	0.69
1:A:32:PHE:CE1	1:A:36:VAL:HG21	2.28	0.69
1:A:70:PHE:HD1	1:A:71:VAL:N	1.91	0.69
1:E:95:VAL:HA	1:E:98:ILE:HG22	1.75	0.69
2:F:220:LEU:O	2:F:224:LEU:HD12	1.93	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:60:GLY:O	2:B:251:LYS:NZ	2.25	0.68
2:D:128:TYR:CE2	2:D:129:LYS:HG3	2.28	0.68
1:E:20:THR:HB	1:E:23:PRO:HD3	1.74	0.68
2:B:194:LYS:O	2:B:244:PRO:HD2	1.93	0.68
2:D:89:LYS:HD2	2:D:92:TYR:C	2.18	0.68
2:D:246:LEU:HD12	2:D:247:ILE:N	2.08	0.68
1:E:4:ASP:O	1:E:20:THR:OG1	2.11	0.68
1:A:131:LEU:HD12	1:A:132:GLN:N	2.08	0.68
2:D:126:THR:HB	2:D:130:VAL:HG21	1.75	0.68
1:E:69:THR:HG22	1:E:95:VAL:CG2	2.23	0.68
2:F:148:PRO:HG3	2:F:153:LEU:HB2	1.76	0.68
2:B:89:LYS:HE2	2:B:92:TYR:CB	2.24	0.68
1:A:33:ILE:HD11	2:B:106:THR:HG22	1.76	0.68
1:A:86:LEU:HD12	1:A:87:HIS:N	2.07	0.68
2:B:67:LEU:HD11	2:B:113:VAL:CG1	2.23	0.68
2:B:234:ARG:O	2:B:238:ARG:N	2.27	0.68
1:C:121:ILE:HG13	1:C:122:ASN:H	1.58	0.68
2:D:66:LEU:CD2	2:D:199:LEU:HD11	2.23	0.68
2:F:342:TRP:CZ3	2:F:343:ILE:HD13	2.27	0.68
2:F:258:VAL:HG13	2:F:259:PRO:HD2	1.75	0.68
1:E:133:GLU:HB2	1:E:134:LEU:HD13	1.76	0.68
2:D:270:GLU:O	2:D:274:ILE:HG13	1.95	0.67
2:D:271:LEU:O	2:D:275:ARG:HG2	1.94	0.67
1:E:32:PHE:HE1	1:E:79:VAL:HG11	1.60	0.67
2:B:77:ASN:HD21	2:B:83:VAL:HG23	1.57	0.67
2:B:242:SER:OG	2:B:319:ASP:O	2.11	0.67
2:D:63:LYS:HE3	4:D:401:GTP:O2B	1.94	0.67
2:D:258:VAL:HG12	2:D:263:VAL:HG22	1.75	0.67
1:A:33:ILE:HD11	2:B:106:THR:CG2	2.24	0.67
2:F:151:PRO:HA	2:F:154:ARG:NE	2.09	0.67
2:F:271:LEU:HA	2:F:274:ILE:HD13	1.75	0.67
2:B:90:ASN:HB2	2:B:91:PRO:HD3	1.75	0.67
1:A:91:VAL:O	1:A:95:VAL:N	2.21	0.67
1:E:9:LEU:HD11	2:F:105:HIS:HB2	1.76	0.67
2:F:151:PRO:O	2:F:154:ARG:HG3	1.95	0.67
2:B:228:GLN:HG3	2:B:318:PHE:CD1	2.30	0.67
1:C:5:ALA:HB1	1:C:20:THR:HG22	1.77	0.67
2:D:224:LEU:O	2:D:228:GLN:HB2	1.94	0.66
2:F:271:LEU:O	2:F:274:ILE:HG12	1.95	0.66
2:B:72:ARG:NH2	5:B:403:GOL:O2	2.27	0.66
1:C:38:ILE:O	1:C:39:GLU:HG2	1.96	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:113:VAL:HA	2:F:143:LEU:HD11	1.78	0.66
2:D:75:LEU:CD2	2:D:97:VAL:HG22	2.24	0.66
1:E:7:GLU:OE1	2:F:105:HIS:NE2	2.28	0.66
2:B:63:LYS:HB2	2:B:63:LYS:NZ	2.08	0.66
2:F:151:PRO:HA	2:F:154:ARG:CD	2.26	0.66
2:F:219:TYR:O	2:F:223:VAL:HG23	1.96	0.66
2:D:343:ILE:HA	2:D:346:ARG:HH12	1.61	0.66
2:F:199:LEU:HD12	2:F:200:LEU:H	1.60	0.66
1:E:115:THR:HA	2:F:113:VAL:HG11	1.78	0.66
2:D:270:GLU:HA	2:D:273:ARG:HG3	1.78	0.65
2:F:332:ASP:OD2	2:F:332:ASP:N	2.28	0.65
2:F:63:LYS:HG3	4:F:401:GTP:O2B	1.95	0.65
1:A:95:VAL:O	1:A:98:ILE:HG22	1.96	0.65
1:C:12:SER:HB2	2:D:111:THR:OG1	1.97	0.65
2:B:118:GLY:O	2:B:126:THR:N	2.30	0.65
1:C:6:PHE:HD1	1:C:7:GLU:N	1.94	0.65
1:C:124:ASP:OD1	1:C:124:ASP:N	2.28	0.65
2:B:127:SER:OG	2:B:129:LYS:HG3	1.97	0.65
1:C:69:THR:HG22	1:C:95:VAL:HG12	1.79	0.65
2:D:258:VAL:CG1	2:D:263:VAL:HG22	2.27	0.65
2:D:259:PRO:O	2:D:263:VAL:HG23	1.96	0.65
2:F:65:ALA:N	4:F:401:GTP:O1A	2.24	0.65
2:F:271:LEU:CD1	2:F:274:ILE:HD11	2.24	0.65
2:B:172:PRO:HG3	2:B:177:ASN:CB	2.27	0.65
1:C:21:TYR:O	1:C:23:PRO:HD3	1.97	0.65
2:B:205:LEU:HD12	2:B:212:TYR:HD2	1.62	0.64
2:D:77:ASN:ND2	2:D:78:PRO:HD2	2.12	0.64
2:D:148:PRO:CG	2:D:153:LEU:HD22	2.27	0.64
1:A:90:TRP:HZ3	1:A:135:GLU:C	2.05	0.64
1:A:90:TRP:CD1	1:A:91:VAL:N	2.66	0.64
2:D:315:MET:O	2:D:318:PHE:N	2.28	0.64
2:F:148:PRO:HG3	2:F:153:LEU:CD1	2.28	0.64
2:F:150:HIS:CG	2:F:151:PRO:HD2	2.33	0.64
2:D:340:TRP:CE3	2:D:343:ILE:HD11	2.33	0.64
2:F:344:GLY:O	2:F:347:ILE:N	2.30	0.64
2:B:89:LYS:HE2	2:B:92:TYR:HB2	1.79	0.64
1:C:96:ASP:O	1:C:99:ARG:HG2	1.97	0.64
1:C:111:LYS:O	1:C:111:LYS:HD3	1.97	0.64
1:A:88:LEU:CD1	1:E:126:TYR:CE1	2.81	0.64
2:F:63:LYS:NZ	4:F:401:GTP:O3G	2.31	0.64
1:A:1:MET:HG2	1:A:2:SER:H	1.63	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:98:ILE:CD1	1:E:127:PHE:HD1	2.10	0.64
1:C:99:ARG:HG3	1:C:100:ALA:N	2.10	0.63
2:B:93:ARG:O	2:B:93:ARG:HG3	1.97	0.63
2:D:89:LYS:O	2:D:93:ARG:HB3	1.97	0.63
2:B:82:SER:CB	2:B:96:ILE:HG22	2.26	0.63
1:E:116:THR:HG23	2:F:113:VAL:CG2	2.27	0.63
2:F:66:LEU:HD12	2:F:329:VAL:HG22	1.80	0.63
1:A:35:ASP:CG	1:A:55:SER:HB2	2.24	0.63
2:F:61:ALA:HB3	2:F:63:LYS:HG2	1.80	0.63
2:B:121:GLU:OE1	2:B:122:ASP:N	2.31	0.62
1:A:56:ASN:HB3	1:A:57:PRO:HD2	1.80	0.62
2:B:54:LEU:HD12	2:B:193:LEU:HD11	1.81	0.62
2:B:223:VAL:O	2:B:227:LEU:HD13	1.99	0.62
2:B:346:ARG:CG	2:B:346:ARG:HH11	2.12	0.62
1:C:25:ASN:O	1:C:28:VAL:HG23	2.00	0.62
2:D:72:ARG:HA	2:D:75:LEU:HD11	1.81	0.62
2:D:204:ALA:HB1	2:D:212:TYR:CD2	2.35	0.62
2:F:54:LEU:O	2:F:196:VAL:HA	2.00	0.62
2:B:109:VAL:HG12	2:B:110:PRO:O	2.00	0.62
2:F:197:ILE:HG22	2:F:246:LEU:CB	2.19	0.62
2:D:244:PRO:CG	2:D:346:ARG:HG2	2.29	0.62
2:F:111:THR:O	2:F:145:ILE:HG12	2.00	0.62
2:D:126:THR:HB	2:D:130:VAL:CG2	2.30	0.62
1:E:115:THR:OG1	1:E:116:THR:N	2.32	0.62
2:F:225:LEU:HG	2:F:229:LYS:CE	2.24	0.62
2:B:264:LYS:O	2:B:268:GLU:HG3	2.00	0.61
1:E:117:ILE:C	1:E:118:ILE:HD12	2.24	0.61
2:F:72:ARG:NH1	2:F:99:SER:O	2.33	0.61
2:B:172:PRO:HG3	2:B:177:ASN:HB2	1.80	0.61
2:D:75:LEU:HD13	2:D:75:LEU:H	1.65	0.61
2:D:223:VAL:HG12	2:D:227:LEU:HD22	1.82	0.61
2:D:244:PRO:HB3	2:D:321:GLU:HB3	1.81	0.61
1:E:69:THR:CG2	1:E:95:VAL:HG22	2.28	0.61
1:A:30:ASN:O	1:A:34:THR:OG1	2.17	0.61
2:D:126:THR:CB	2:D:130:VAL:HG21	2.31	0.61
2:F:267:LEU:O	2:F:271:LEU:HB3	2.01	0.61
1:C:112:ARG:HD3	1:C:113:PRO:CD	2.26	0.61
1:A:88:LEU:HD21	1:E:125:LYS:HD3	1.79	0.61
2:F:247:ILE:HG23	2:F:324:VAL:CB	2.30	0.61
2:F:66:LEU:HD12	2:F:329:VAL:CG2	2.30	0.61
1:C:109:GLN:NE2	1:C:119:GLU:O	2.32	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:88:LEU:HD11	1:C:90:TRP:HB3	1.81	0.60
1:C:125:LYS:O	1:C:129:GLN:HG3	2.01	0.60
2:B:63:LYS:HG3	4:B:402:GTP:O2B	2.01	0.60
2:D:126:THR:CG2	2:D:130:VAL:HG21	2.31	0.60
2:B:67:LEU:HD12	2:B:144:LEU:CD2	2.24	0.60
2:B:77:ASN:HB3	2:B:78:PRO:HD2	1.83	0.60
2:F:339:TRP:O	2:F:343:ILE:HG12	2.00	0.60
2:D:158:LEU:CA	2:D:161:LEU:HD12	2.22	0.60
1:E:130:GLN:O	1:E:134:LEU:HD22	2.02	0.60
2:F:268:GLU:O	2:F:272:GLY:N	2.34	0.60
2:D:117:VAL:HG12	2:D:340:TRP:CZ2	2.35	0.60
2:D:74:PRO:HG3	2:D:128:TYR:O	2.02	0.60
2:F:200:LEU:HD12	2:F:201:ASP:O	2.02	0.60
2:B:107:SER:N	4:B:402:GTP:O1G	2.27	0.60
1:A:88:LEU:O	1:A:90:TRP:N	2.35	0.59
1:A:98:ILE:CD1	1:A:127:PHE:HE1	2.14	0.59
1:C:19:ARG:HH12	1:C:124:ASP:HB3	1.67	0.59
2:D:220:LEU:CD1	2:D:267:LEU:CD1	2.80	0.59
1:A:119:GLU:OE1	2:B:96:ILE:HG13	2.02	0.59
2:D:225:LEU:HD12	2:D:229:LYS:HE2	1.84	0.59
1:E:13:GLY:O	2:F:104:THR:HB	2.02	0.59
2:F:55:LEU:O	2:F:56:ILE:HG13	2.01	0.59
2:F:246:LEU:HB2	2:F:342:TRP:CZ2	2.38	0.59
2:D:140:ARG:HH21	2:D:347:ILE:C	2.09	0.59
2:D:197:ILE:HA	2:D:246:LEU:HB3	1.84	0.59
2:F:65:ALA:O	2:F:68:THR:OG1	2.20	0.59
2:B:72:ARG:HG2	2:B:97:VAL:HG21	1.84	0.59
2:B:232:HIS:ND1	2:B:232:HIS:O	2.36	0.59
1:C:32:PHE:O	1:C:36:VAL:HG12	2.02	0.59
1:C:112:ARG:CD	1:C:113:PRO:HD2	2.28	0.59
1:E:115:THR:C	2:F:113:VAL:HG21	2.27	0.59
1:A:73:GLU:HG3	1:A:74:LEU:HD23	1.85	0.59
1:A:95:VAL:C	1:A:98:ILE:HG22	2.27	0.59
2:B:341:ARG:O	2:B:345:GLU:HG3	2.03	0.59
2:B:163:ASN:HB3	2:B:166:PRO:HG2	1.85	0.59
2:D:66:LEU:HD23	2:D:199:LEU:HD11	1.84	0.59
2:F:260:ALA:HA	2:F:263:VAL:HG12	1.85	0.59
2:B:172:PRO:CG	2:B:177:ASN:HB2	2.33	0.59
2:D:55:LEU:HA	2:D:197:ILE:O	2.03	0.58
2:D:150:HIS:CG	2:D:151:PRO:HD2	2.38	0.58
2:F:55:LEU:HD21	2:F:63:LYS:HB3	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:346:ARG:HH11	2:B:346:ARG:HG3	1.67	0.58
2:D:258:VAL:HG12	2:D:263:VAL:CG2	2.33	0.58
1:E:38:ILE:HG21	2:F:150:HIS:HD2	1.64	0.58
1:C:123:PHE:CE1	1:C:127:PHE:HB2	2.38	0.58
1:A:17:TRP:NE1	1:A:124:ASP:OD1	2.34	0.58
2:D:346:ARG:NH1	2:D:346:ARG:HB2	2.18	0.58
2:D:66:LEU:HD22	2:D:199:LEU:HD11	1.86	0.58
2:D:203:ALA:HB1	2:D:256:THR:HG23	1.86	0.58
2:D:224:LEU:O	2:D:228:GLN:N	2.36	0.58
2:B:63:LYS:HZ2	4:B:402:GTP:PB	2.27	0.58
1:C:21:TYR:HD1	1:C:22:ALA:H	1.49	0.58
1:E:32:PHE:HE2	1:E:36:VAL:HG21	1.67	0.58
2:F:113:VAL:HA	2:F:143:LEU:CD1	2.34	0.58
2:F:324:VAL:HG23	2:F:325:MET:N	2.19	0.58
1:C:130:GLN:HE21	1:C:130:GLN:HA	1.66	0.57
2:D:67:LEU:HD13	2:D:144:LEU:HD23	1.86	0.57
2:D:198:PHE:N	2:D:246:LEU:O	2.34	0.57
2:D:219:TYR:O	2:D:223:VAL:HG23	2.04	0.57
2:D:279:GLN:C	2:D:280:LYS:HD2	2.28	0.57
1:A:19:ARG:HD3	1:A:21:TYR:CE2	2.39	0.57
1:A:19:ARG:HD2	1:A:127:PHE:CE2	2.39	0.57
2:B:89:LYS:NZ	2:B:92:TYR:HB3	2.19	0.57
2:B:175:ALA:HB1	2:B:176:PRO:HD2	1.86	0.57
2:D:218:SER:O	2:D:222:ASP:N	2.30	0.57
1:E:12:SER:OG	1:E:14:VAL:HG22	2.04	0.57
2:F:59:SER:CA	2:F:149:GLY:HA3	2.35	0.57
2:F:67:LEU:HD23	2:F:67:LEU:O	2.04	0.57
2:F:69:LEU:CA	2:F:101:VAL:HG23	2.34	0.57
1:C:19:ARG:NH2	1:C:128:ASP:OD1	2.37	0.57
1:A:128:ASP:O	1:A:131:LEU:HG	2.05	0.57
1:C:115:THR:OG1	2:D:71:GLU:OE2	2.23	0.57
2:D:50:LEU:H	2:D:50:LEU:CD2	2.13	0.57
2:D:75:LEU:H	2:D:75:LEU:CD1	2.17	0.57
2:F:267:LEU:HD13	2:F:267:LEU:C	2.30	0.57
1:A:11:THR:N	1:A:75:GLY:O	2.38	0.57
2:B:154:ARG:HD2	2:B:219:TYR:CE1	2.40	0.57
1:C:65:SER:HB3	1:C:82:TYR:HD2	1.70	0.57
2:D:227:LEU:HD21	2:D:245:VAL:HG21	1.87	0.57
2:D:318:PHE:O	2:D:319:ASP:HB2	2.05	0.57
2:F:323:GLU:HB3	2:F:342:TRP:NE1	2.11	0.57
2:B:154:ARG:O	2:B:158:LEU:HD12	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:65:SER:CB	1:C:82:TYR:H	2.17	0.57
2:D:225:LEU:HD12	2:D:225:LEU:O	2.04	0.57
1:E:47:SER:HB3	1:E:96:ASP:HB3	1.86	0.57
2:F:148:PRO:CG	2:F:153:LEU:HB2	2.35	0.57
2:D:225:LEU:CD1	2:D:229:LYS:HE2	2.35	0.56
2:B:55:LEU:O	2:B:147:THR:OG1	2.20	0.56
1:E:77:ILE:N	1:E:77:ILE:HD12	2.20	0.56
2:F:200:LEU:HD12	2:F:201:ASP:C	2.30	0.56
1:A:9:LEU:HD13	1:A:9:LEU:H	1.70	0.56
2:B:270:GLU:O	2:B:274:ILE:HG13	2.05	0.56
1:C:29:VAL:HA	1:C:32:PHE:HB3	1.86	0.56
2:F:197:ILE:HG22	2:F:246:LEU:CD2	2.36	0.56
2:B:251:LYS:HD3	4:B:402:GTP:C5	2.40	0.56
1:E:124:ASP:OD1	1:E:124:ASP:N	2.36	0.56
2:B:248:ALA:HB1	2:B:339:TRP:CE2	2.41	0.56
2:D:58:PRO:HG2	2:D:212:TYR:OH	2.05	0.56
2:B:82:SER:CB	2:B:96:ILE:CG2	2.84	0.56
2:B:248:ALA:HA	2:B:325:MET:O	2.06	0.56
1:C:109:GLN:HE21	1:C:119:GLU:H	1.54	0.56
2:F:58:PRO:HG3	2:F:216:THR:HG22	1.87	0.56
2:F:56:ILE:HG23	2:F:219:TYR:OH	2.05	0.56
1:A:90:TRP:CZ3	1:A:135:GLU:C	2.84	0.55
2:F:101:VAL:HG11	2:F:329:VAL:CG1	2.36	0.55
1:C:76:ILE:HD11	1:C:110:PHE:CZ	2.42	0.55
1:A:87:HIS:CE1	1:A:89:PRO:HA	2.41	0.55
2:B:273:ARG:O	2:B:277:THR:OG1	2.20	0.55
1:C:66:LEU:O	1:C:66:LEU:HG	2.07	0.55
2:D:268:GLU:O	2:D:271:LEU:HG	2.06	0.55
2:F:56:ILE:O	2:F:198:PHE:HA	2.04	0.55
2:F:111:THR:C	2:F:145:ILE:HG12	2.31	0.55
2:D:271:LEU:HD12	2:D:271:LEU:C	2.31	0.55
2:D:72:ARG:NH2	2:D:102:ALA:HB2	2.22	0.55
1:E:14:VAL:HA	2:F:104:THR:HG22	1.89	0.55
2:F:328:ASN:OD1	2:F:335:GLY:N	2.39	0.55
1:A:51:GLY:HA2	1:A:68:TRP:HE1	1.70	0.55
2:B:202:ALA:HB2	2:B:249:ALA:HB1	1.87	0.55
1:C:65:SER:HB3	1:C:81:VAL:HA	1.89	0.55
1:E:129:GLN:O	1:E:133:GLU:HG3	2.07	0.55
1:A:119:GLU:CD	2:B:93:ARG:HH12	2.14	0.55
2:F:56:ILE:CD1	2:F:196:VAL:HG13	2.37	0.55
2:B:302:LEU:HD12	2:B:303:GLY:N	2.22	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:52:SER:O	2:D:193:LEU:HD12	2.06	0.55
2:F:201:ASP:OD1	2:F:204:ALA:N	2.38	0.55
1:C:130:GLN:HE21	1:C:130:GLN:CA	2.18	0.54
2:D:248:ALA:HB1	2:D:339:TRP:CE2	2.42	0.54
2:D:220:LEU:CD1	2:D:267:LEU:HD12	2.37	0.54
1:E:68:TRP:HA	1:E:78:PHE:O	2.06	0.54
1:A:90:TRP:CD1	1:A:91:VAL:HG13	2.42	0.54
1:A:130:GLN:OE1	1:A:134:LEU:HD11	2.08	0.54
2:B:330:ILE:HG22	2:B:331:GLY:N	2.22	0.54
1:C:21:TYR:HD1	1:C:22:ALA:N	2.06	0.54
1:C:99:ARG:O	1:C:103:VAL:HG23	2.07	0.54
2:D:121:GLU:OE2	2:D:121:GLU:N	2.40	0.54
2:D:264:LYS:O	2:D:268:GLU:HG2	2.07	0.54
2:D:279:GLN:O	2:D:280:LYS:NZ	2.41	0.54
2:F:57:GLY:O	2:F:149:GLY:HA2	2.07	0.54
1:A:88:LEU:CD1	1:E:126:TYR:HE1	2.21	0.54
2:B:165:SER:N	2:B:166:PRO:HD2	2.22	0.54
2:D:75:LEU:O	2:D:75:LEU:HD22	2.07	0.54
1:E:6:PHE:HD2	1:E:7:GLU:N	2.05	0.54
1:E:88:LEU:N	1:E:88:LEU:HD23	2.22	0.54
1:E:115:THR:HA	2:F:113:VAL:CG2	2.35	0.54
2:B:131:ASP:O	2:B:132:LEU:HD23	2.08	0.54
2:B:113:VAL:HG12	2:B:144:LEU:O	2.08	0.54
2:D:270:GLU:CA	2:D:273:ARG:HG2	2.37	0.54
2:D:274:ILE:HD12	2:D:275:ARG:N	2.23	0.54
1:E:105:LEU:HD11	1:E:126:TYR:CD2	2.43	0.54
2:F:148:PRO:CG	2:F:153:LEU:HD12	2.35	0.54
1:A:47:SER:O	1:A:48:LYS:HB3	2.08	0.54
1:A:96:ASP:O	1:A:99:ARG:HG2	2.08	0.54
1:E:14:VAL:HG12	2:F:104:THR:CG2	2.38	0.54
2:F:56:ILE:HD12	2:F:196:VAL:HG13	1.90	0.54
1:A:37:PHE:HE1	1:A:70:PHE:CD2	2.26	0.53
2:F:218:SER:O	2:F:222:ASP:N	2.31	0.53
1:A:115:THR:OG1	1:A:117:ILE:HG13	2.08	0.53
2:B:246:LEU:HD11	2:B:325:MET:HB3	1.88	0.53
2:D:265:SER:HA	2:D:268:GLU:OE2	2.08	0.53
2:F:216:THR:O	2:F:219:TYR:HB3	2.08	0.53
1:C:5:ALA:CB	1:C:20:THR:HG22	2.39	0.53
2:D:116:ALA:HA	2:D:140:ARG:O	2.08	0.53
2:F:342:TRP:O	2:F:346:ARG:HG2	2.08	0.53
1:A:2:SER:C	1:A:3:LEU:HD12	2.33	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:172:PRO:CD	2:B:177:ASN:HB2	2.39	0.53
1:C:82:TYR:N	1:C:82:TYR:CD2	2.77	0.53
2:D:119:ALA:HA	2:D:125:PRO:HA	1.90	0.53
2:D:271:LEU:HD13	2:D:310:PHE:CE1	2.42	0.53
2:F:112:SER:N	2:F:145:ILE:HG12	2.23	0.53
2:B:252:GLN:HB2	2:B:327:GLY:O	2.07	0.53
1:E:96:ASP:OD1	1:E:96:ASP:N	2.27	0.53
2:F:108:GLN:O	2:F:153:LEU:HD11	2.08	0.53
2:B:217:ALA:HB3	2:B:270:GLU:HG2	1.90	0.53
2:D:126:THR:HG21	2:D:130:VAL:HG21	1.90	0.53
1:A:122:ASN:O	1:A:125:LYS:HG3	2.07	0.53
1:E:70:PHE:HD1	1:E:77:ILE:HG13	1.73	0.53
2:B:228:GLN:HG3	2:B:318:PHE:CE1	2.43	0.53
2:D:57:GLY:C	2:D:63:LYS:HE2	2.34	0.53
2:F:58:PRO:HG3	2:F:216:THR:CG2	2.39	0.53
2:F:72:ARG:CZ	2:F:102:ALA:HB2	2.38	0.53
1:C:78:PHE:CE1	1:C:99:ARG:HA	2.43	0.53
1:E:67:ARG:HD2	1:E:92:ASP:OD2	2.09	0.52
1:C:9:LEU:N	1:C:9:LEU:HD12	2.24	0.52
2:D:244:PRO:HG2	2:D:346:ARG:CG	2.39	0.52
2:B:75:LEU:O	2:B:83:VAL:HB	2.08	0.52
2:D:72:ARG:HH22	2:D:102:ALA:HB2	1.73	0.52
1:A:98:ILE:HD11	1:A:127:PHE:CD1	2.44	0.52
2:B:128:TYR:HB3	2:B:340:TRP:CD2	2.45	0.52
2:F:147:THR:OG1	2:F:148:PRO:HD2	2.09	0.52
1:A:76:ILE:HG13	1:A:78:PHE:HE1	1.74	0.52
1:E:131:LEU:C	1:E:131:LEU:HD23	2.35	0.52
2:F:266:ARG:CZ	2:F:270:GLU:HG3	2.40	0.52
1:A:115:THR:HB	2:B:114:GLU:OE1	2.09	0.52
2:B:117:VAL:HG12	2:B:340:TRP:CZ2	2.45	0.52
2:D:50:LEU:HD23	2:D:50:LEU:N	2.15	0.52
1:E:35:ASP:O	1:E:39:GLU:HB3	2.10	0.52
1:A:131:LEU:HD12	1:A:131:LEU:C	2.35	0.52
1:E:78:PHE:CE2	1:E:99:ARG:HB2	2.45	0.52
1:E:122:ASN:O	1:E:125:LYS:HB2	2.10	0.52
2:B:89:LYS:HE2	2:B:92:TYR:HB3	1.92	0.51
2:F:55:LEU:HD23	2:F:56:ILE:N	2.25	0.51
2:F:112:SER:C	2:F:113:VAL:HG13	2.35	0.51
2:F:259:PRO:O	2:F:263:VAL:HB	2.11	0.51
1:A:38:ILE:HG21	2:B:150:HIS:CD2	2.45	0.51
2:B:162:LEU:HD23	2:B:229:LYS:HB2	1.92	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:72:ARG:HD2	2:D:97:VAL:HG11	1.92	0.51
2:F:55:LEU:CD2	2:F:63:LYS:HD2	2.40	0.51
2:F:146:ASP:OD1	2:F:147:THR:N	2.43	0.51
2:F:225:LEU:CG	2:F:229:LYS:HE3	2.32	0.51
1:C:82:TYR:HD2	1:C:82:TYR:N	2.08	0.51
2:B:235:LYS:HA	2:B:238:ARG:N	2.26	0.51
2:B:214:SER:HA	2:B:270:GLU:OE2	2.11	0.51
2:D:146:ASP:OD1	2:D:147:THR:O	2.29	0.51
2:D:202:ALA:HB1	2:D:258:VAL:O	2.11	0.51
2:B:302:LEU:HD11	2:B:315:MET:SD	2.51	0.51
2:D:151:PRO:O	2:D:154:ARG:HG2	2.11	0.51
1:E:67:ARG:HA	1:E:67:ARG:HH21	1.76	0.51
2:F:250:ASN:HA	2:F:327:GLY:O	2.11	0.51
2:B:54:LEU:CD1	2:B:193:LEU:HD11	2.41	0.51
1:C:130:GLN:HA	1:C:130:GLN:NE2	2.26	0.51
1:E:15:VAL:HG11	1:E:18:SER:OG	2.11	0.51
2:F:58:PRO:O	2:F:61:ALA:HB2	2.11	0.51
2:F:251:LYS:HG2	4:F:401:GTP:C8	2.45	0.51
1:A:130:GLN:O	1:A:134:LEU:HD12	2.11	0.51
1:E:32:PHE:HE1	1:E:79:VAL:CG1	2.23	0.51
1:E:122:ASN:HD21	1:E:125:LYS:CD	2.24	0.51
2:F:63:LYS:HE2	2:F:147:THR:O	2.11	0.51
1:A:56:ASN:HB3	1:A:57:PRO:HD3	1.92	0.51
2:F:336:ALA:O	2:F:339:TRP:HB2	2.10	0.51
1:C:115:THR:HG21	1:C:117:ILE:HG22	1.92	0.50
2:D:76:LEU:O	2:D:77:ASN:HB2	2.09	0.50
2:D:151:PRO:HA	2:D:154:ARG:NH1	2.26	0.50
2:D:231:PHE:HE1	2:D:241:SER:CB	2.24	0.50
1:E:86:LEU:HA	1:E:88:LEU:HD21	1.93	0.50
2:F:325:MET:HE3	2:F:338:ARG:HB3	1.93	0.50
1:A:76:ILE:CG2	1:A:110:PHE:HE1	2.24	0.50
2:B:263:VAL:O	2:B:267:LEU:HG	2.12	0.50
2:D:57:GLY:O	2:D:63:LYS:HE2	2.10	0.50
2:F:111:THR:O	2:F:145:ILE:CB	2.59	0.50
2:F:150:HIS:O	2:F:154:ARG:HG2	2.11	0.50
2:B:264:LYS:HG3	2:B:312:PHE:CE2	2.46	0.50
2:D:150:HIS:C	2:D:154:ARG:HH11	2.20	0.50
2:D:201:ASP:HB3	2:D:204:ALA:CB	2.41	0.50
1:E:29:VAL:HB	2:F:105:HIS:CE1	2.47	0.50
2:B:217:ALA:CB	2:B:270:GLU:HG2	2.42	0.50
2:D:343:ILE:HA	2:D:346:ARG:NH1	2.25	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:67:LEU:HD11	2:F:113:VAL:O	2.11	0.50
2:B:165:SER:O	2:B:168:LEU:HD22	2.12	0.50
2:B:246:LEU:HB2	2:B:342:TRP:CE2	2.46	0.50
1:E:24:VAL:CG1	1:E:28:VAL:HG21	2.42	0.50
2:B:82:SER:HB3	2:B:96:ILE:CG2	2.33	0.50
1:E:9:LEU:HD23	1:E:10:THR:O	2.11	0.50
2:F:259:PRO:HG3	2:F:262:LEU:HG	1.92	0.50
1:A:109:GLN:HB3	1:A:112:ARG:NH2	2.25	0.50
2:B:275:ARG:O	2:B:279:GLN:HB2	2.11	0.50
2:B:342:TRP:O	2:B:346:ARG:HG3	2.12	0.50
2:B:274:ILE:O	2:B:278:ARG:N	2.35	0.50
2:D:75:LEU:HD22	2:D:97:VAL:HG22	1.94	0.50
2:D:120:ASN:HB2	2:D:121:GLU:CD	2.37	0.50
1:A:98:ILE:CD1	1:A:127:PHE:CE1	2.90	0.50
2:B:146:ASP:OD1	2:B:147:THR:N	2.45	0.50
2:D:93:ARG:HG2	2:D:93:ARG:NH1	2.16	0.50
1:A:11:THR:HG22	2:B:108:GLN:HG2	1.94	0.49
1:A:88:LEU:HD11	1:E:126:TYR:CE1	2.46	0.49
2:D:231:PHE:O	2:D:232:HIS:HB2	2.11	0.49
2:D:280:LYS:HE3	2:D:280:LYS:HA	1.94	0.49
1:E:31:ASP:O	1:E:34:THR:OG1	2.24	0.49
2:F:260:ALA:O	2:F:263:VAL:HG12	2.12	0.49
1:C:69:THR:HG22	1:C:95:VAL:CG1	2.42	0.49
2:D:244:PRO:HG2	2:D:346:ARG:CD	2.41	0.49
1:E:90:TRP:CD1	1:E:91:VAL:H	2.30	0.49
1:A:62:ASP:O	1:A:63:GLN:HB2	2.11	0.49
1:A:106:TYR:CE1	1:A:120:CYS:HA	2.47	0.49
2:B:164:PRO:HG3	2:B:233:SER:HB3	1.93	0.49
2:F:271:LEU:HA	2:F:274:ILE:CD1	2.40	0.49
2:D:69:LEU:HA	2:D:100:PRO:O	2.12	0.49
2:D:197:ILE:HD11	2:D:343:ILE:CG2	2.42	0.49
1:A:7:GLU:OE1	2:B:105:HIS:NE2	2.44	0.49
2:B:128:TYR:HB3	2:B:340:TRP:CE2	2.48	0.49
2:B:167:SER:O	2:B:168:LEU:HB2	2.13	0.49
2:B:193:LEU:HD23	2:B:243:ILE:HD12	1.95	0.49
1:E:20:THR:HB	1:E:23:PRO:CD	2.42	0.49
1:E:134:LEU:HD13	1:E:134:LEU:N	2.27	0.49
2:D:128:TYR:HE2	2:D:129:LYS:HG3	1.74	0.49
2:D:251:LYS:HB3	2:D:254:LEU:HD12	1.95	0.49
1:A:97:ASN:O	1:A:100:ALA:HB3	2.12	0.49
2:F:69:LEU:HB2	2:F:101:VAL:CG2	2.43	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:144:LEU:HD12	2:F:145:ILE:N	2.28	0.49
2:F:145:ILE:HG22	2:F:146:ASP:O	2.11	0.49
2:F:260:ALA:HA	2:F:263:VAL:CG1	2.42	0.49
1:A:48:LYS:O	1:A:48:LYS:HG2	2.12	0.49
2:B:162:LEU:CD2	2:B:229:LYS:HB2	2.43	0.49
2:B:198:PHE:CD1	2:B:220:LEU:HD13	2.48	0.49
2:B:274:ILE:HG22	2:B:278:ARG:HG3	1.95	0.49
2:B:275:ARG:O	2:B:279:GLN:N	2.38	0.49
1:C:88:LEU:HD12	1:C:90:TRP:N	2.28	0.49
2:D:76:LEU:HA	2:D:82:SER:H	1.77	0.49
1:A:83:ARG:HH21	1:E:104:SER:HB2	1.78	0.49
1:A:87:HIS:NE2	1:A:91:VAL:HG22	2.27	0.49
1:A:90:TRP:CD1	1:A:90:TRP:C	2.91	0.49
2:D:128:TYR:HE1	2:D:336:ALA:HB3	1.78	0.49
1:E:122:ASN:HD21	1:E:125:LYS:HE3	1.78	0.49
1:A:25:ASN:OD1	1:A:26:PRO:HD2	2.12	0.49
1:A:121:ILE:HG13	1:A:121:ILE:O	2.12	0.49
1:C:93:LYS:O	1:C:97:ASN:HB2	2.13	0.49
2:B:200:LEU:HD12	2:B:200:LEU:C	2.38	0.48
2:F:61:ALA:HB3	2:F:63:LYS:HG3	1.93	0.48
2:F:94:LYS:CG	2:F:95:PRO:HD3	2.41	0.48
1:C:114:ASN:HB2	2:D:112:SER:O	2.13	0.48
1:C:129:GLN:O	1:C:133:GLU:HG3	2.12	0.48
2:D:330:ILE:HG22	2:D:331:GLY:N	2.27	0.48
1:A:99:ARG:O	1:A:103:VAL:HG23	2.14	0.48
1:C:67:ARG:HD3	1:C:68:TRP:H	1.78	0.48
2:D:271:LEU:CD1	2:D:310:PHE:CE1	2.95	0.48
1:E:95:VAL:HA	1:E:98:ILE:CG2	2.42	0.48
2:B:261:SER:O	2:B:265:SER:OG	2.29	0.48
1:C:111:LYS:HD3	1:C:111:LYS:C	2.38	0.48
2:B:251:LYS:HD3	4:B:402:GTP:C4	2.48	0.48
2:F:197:ILE:HG22	2:F:246:LEU:HD23	1.93	0.48
1:A:16:LEU:CD1	1:A:118:ILE:HD12	2.44	0.48
1:C:65:SER:HB3	1:C:82:TYR:CD2	2.49	0.48
2:D:75:LEU:HD21	2:D:97:VAL:HG22	1.93	0.48
1:E:15:VAL:HG11	2:F:103:GLN:NE2	2.29	0.48
2:D:72:ARG:NH1	2:D:102:ALA:HB2	2.29	0.48
1:E:33:ILE:HD12	1:E:37:PHE:CD2	2.49	0.48
1:E:121:ILE:HG12	2:F:96:ILE:HD12	1.96	0.48
1:A:91:VAL:HA	1:A:94:LEU:HB3	1.96	0.48
2:D:221:TYR:HE2	2:D:278:ARG:CZ	2.27	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:30:ASN:O	1:E:33:ILE:HG22	2.13	0.48
2:B:346:ARG:CG	2:B:346:ARG:NH1	2.74	0.48
2:D:271:LEU:HG	2:D:272:GLY:N	2.29	0.48
2:D:340:TRP:O	2:D:343:ILE:HG12	2.14	0.48
1:E:76:ILE:C	1:E:77:ILE:HD12	2.38	0.48
1:A:119:GLU:HG2	1:A:119:GLU:O	2.14	0.48
2:B:302:LEU:HD12	2:B:303:GLY:H	1.79	0.48
2:F:248:ALA:HB1	2:F:339:TRP:CE2	2.46	0.48
1:C:106:TYR:CE2	1:C:120:CYS:HB3	2.49	0.47
2:D:221:TYR:CE2	2:D:278:ARG:HG3	2.48	0.47
1:E:90:TRP:HD1	1:E:91:VAL:H	1.61	0.47
1:E:101:ILE:O	1:E:105:LEU:HG	2.14	0.47
2:F:143:LEU:HD12	2:F:144:LEU:N	2.21	0.47
1:A:36:VAL:HB	1:A:37:PHE:CD2	2.49	0.47
1:A:119:GLU:CD	2:B:96:ILE:HG13	2.39	0.47
2:D:89:LYS:HD2	2:D:92:TYR:O	2.13	0.47
2:B:225:LEU:O	2:B:228:GLN:HB3	2.14	0.47
2:B:250:ASN:HD21	2:B:329:VAL:HG23	1.78	0.47
2:B:270:GLU:OE1	2:B:273:ARG:NH2	2.33	0.47
2:D:272:GLY:O	2:D:276:LYS:HG2	2.14	0.47
2:B:76:LEU:CD2	2:B:97:VAL:HG12	2.44	0.47
2:B:205:LEU:HD12	2:B:212:TYR:CD2	2.45	0.47
2:B:308:LYS:HG2	2:B:309:GLU:H	1.79	0.47
2:D:75:LEU:O	2:D:76:LEU:HG	2.14	0.47
2:F:199:LEU:HD12	2:F:200:LEU:N	2.28	0.47
2:F:259:PRO:CG	2:F:262:LEU:HG	2.44	0.47
2:F:261:SER:O	2:F:264:LYS:HB3	2.14	0.47
2:B:163:ASN:HB2	2:B:167:SER:OG	2.14	0.47
2:F:101:VAL:HG11	2:F:329:VAL:HG12	1.95	0.47
1:A:87:HIS:CG	1:A:88:LEU:N	2.83	0.47
1:A:88:LEU:HD11	1:E:126:TYR:CD1	2.49	0.47
2:B:250:ASN:CG	2:B:251:LYS:H	2.23	0.47
1:C:65:SER:CB	1:C:81:VAL:HA	2.45	0.47
2:D:51:PRO:CB	2:D:194:LYS:HG3	2.45	0.47
2:F:253:ASP:OD2	2:F:328:ASN:ND2	2.38	0.47
1:A:19:ARG:HD2	1:A:127:PHE:HE2	1.80	0.47
1:A:33:ILE:HD11	2:B:106:THR:HG23	1.97	0.47
1:A:90:TRP:O	1:A:94:LEU:N	2.45	0.47
2:B:76:LEU:HD23	2:B:97:VAL:HG12	1.97	0.47
2:B:89:LYS:CE	2:B:92:TYR:HB3	2.44	0.47
1:C:10:THR:OG1	1:C:12:SER:OG	2.26	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:105:LEU:HD13	1:C:106:TYR:CE2	2.50	0.47
2:D:89:LYS:HG2	2:D:90:ASN:N	2.28	0.47
2:F:199:LEU:HD13	2:F:248:ALA:HB3	1.96	0.47
1:A:101:ILE:HG22	1:A:105:LEU:HD13	1.96	0.47
2:D:246:LEU:CB	2:D:342:TRP:HZ3	1.96	0.47
1:E:90:TRP:CD1	1:E:91:VAL:N	2.83	0.47
1:E:92:ASP:O	1:E:95:VAL:HG12	2.15	0.47
2:F:148:PRO:HG3	2:F:153:LEU:CG	2.44	0.47
1:A:101:ILE:O	1:A:105:LEU:HD12	2.15	0.47
1:A:16:LEU:HD11	1:A:118:ILE:HD12	1.97	0.47
1:A:95:VAL:HA	1:A:98:ILE:HG22	1.97	0.47
2:B:67:LEU:CD1	2:B:113:VAL:HG11	2.41	0.47
1:C:33:ILE:HG23	2:D:108:GLN:NE2	2.30	0.47
1:C:65:SER:OG	1:C:82:TYR:N	2.29	0.47
2:D:64:THR:OG1	2:D:146:ASP:OD2	2.33	0.47
2:D:115:LEU:HB2	2:D:142:PHE:CE2	2.50	0.47
2:F:259:PRO:HG2	2:F:262:LEU:CG	2.44	0.47
2:D:274:ILE:HD12	2:D:275:ARG:H	1.79	0.46
1:E:95:VAL:O	1:E:99:ARG:HB3	2.16	0.46
2:F:260:ALA:C	2:F:263:VAL:HG12	2.40	0.46
1:A:61:HIS:O	1:A:62:ASP:CB	2.62	0.46
1:A:67:ARG:HD3	1:A:92:ASP:CG	2.40	0.46
2:B:71:GLU:CD	2:B:113:VAL:CG2	2.88	0.46
2:B:142:PHE:HE1	2:B:343:ILE:CG2	2.26	0.46
2:D:203:ALA:HB1	2:D:256:THR:CG2	2.44	0.46
2:B:155:GLY:HA2	2:B:158:LEU:HD12	1.96	0.46
2:D:250:ASN:HD22	2:D:251:LYS:HG2	1.81	0.46
1:E:25:ASN:O	1:E:28:VAL:HG23	2.16	0.46
1:A:19:ARG:HH22	1:A:124:ASP:HB3	1.79	0.46
2:B:62:GLY:HA2	4:B:402:GTP:O2A	2.15	0.46
2:B:108:GLN:HG2	2:B:109:VAL:HG23	1.98	0.46
1:C:37:PHE:CZ	1:C:77:ILE:HG12	2.51	0.46
2:D:118:GLY:O	2:D:125:PRO:HA	2.15	0.46
2:D:220:LEU:HD11	2:D:267:LEU:CD1	2.45	0.46
2:F:260:ALA:CA	2:F:263:VAL:HG12	2.45	0.46
2:B:107:SER:OG	4:B:402:GTP:O1G	2.33	0.46
1:C:90:TRP:CD1	1:C:90:TRP:C	2.93	0.46
2:D:202:ALA:O	2:D:258:VAL:HG23	2.15	0.46
2:D:203:ALA:CB	2:D:256:THR:HG23	2.45	0.46
2:D:271:LEU:O	2:D:274:ILE:CD1	2.64	0.46
1:E:18:SER:OG	2:F:103:GLN:NE2	2.48	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:105:LEU:HD11	1:E:126:TYR:HD2	1.80	0.46
2:F:54:LEU:O	2:F:56:ILE:HD12	2.15	0.46
1:C:118:ILE:O	1:C:118:ILE:HG13	2.16	0.46
2:D:70:PHE:CE1	2:D:340:TRP:HB2	2.51	0.46
2:D:316:MET:HE2	2:D:316:MET:O	2.15	0.46
2:B:175:ALA:HB1	2:B:176:PRO:CD	2.45	0.46
2:B:193:LEU:HD23	2:B:243:ILE:CD1	2.46	0.46
1:C:39:GLU:OE2	1:C:39:GLU:HA	2.16	0.46
1:E:1:MET:CG	1:E:2:SER:H	2.29	0.46
2:F:202:ALA:HB3	2:F:250:ASN:O	2.15	0.46
2:F:342:TRP:CE3	2:F:343:ILE:HA	2.50	0.46
1:A:119:GLU:OE2	2:B:93:ARG:NH2	2.48	0.46
1:E:8:ILE:HD12	1:E:17:TRP:CB	2.38	0.46
1:E:66:LEU:HD23	1:E:66:LEU:N	2.31	0.46
2:F:64:THR:HB	4:F:401:GTP:O2A	2.15	0.46
2:F:151:PRO:HA	2:F:154:ARG:CG	2.45	0.46
2:F:342:TRP:HE3	2:F:343:ILE:HD13	1.75	0.46
1:A:32:PHE:HE1	1:A:36:VAL:HG21	1.76	0.46
2:B:264:LYS:HA	2:B:324:VAL:HG21	1.98	0.46
1:C:29:VAL:O	1:C:32:PHE:HB3	2.16	0.46
2:F:221:TYR:CD1	2:F:221:TYR:C	2.94	0.46
1:A:97:ASN:O	1:A:100:ALA:N	2.48	0.46
1:A:129:GLN:O	1:A:133:GLU:HG3	2.15	0.46
2:D:150:HIS:O	2:D:154:ARG:HD3	2.16	0.46
2:F:342:TRP:HE3	2:F:343:ILE:N	2.14	0.46
1:C:21:TYR:C	1:C:23:PRO:HD3	2.41	0.45
2:D:66:LEU:HD23	2:D:199:LEU:CD1	2.45	0.45
2:D:217:ALA:HB2	2:D:270:GLU:HG2	1.98	0.45
2:F:347:ILE:O	2:F:347:ILE:HG22	2.16	0.45
1:A:74:LEU:HD23	1:A:74:LEU:N	2.30	0.45
1:C:8:ILE:C	1:C:9:LEU:HD12	2.42	0.45
1:E:9:LEU:CD1	2:F:105:HIS:HD2	2.30	0.45
2:B:201:ASP:OD2	2:B:251:LYS:HG3	2.14	0.45
1:E:89:PRO:O	1:E:92:ASP:HB3	2.17	0.45
1:E:98:ILE:CD1	1:E:127:PHE:CD1	2.97	0.45
1:A:95:VAL:HA	1:A:98:ILE:CG2	2.47	0.45
2:B:165:SER:N	2:B:166:PRO:CD	2.79	0.45
1:E:115:THR:HG23	1:E:117:ILE:HG22	1.99	0.45
1:A:110:PHE:CE1	1:A:118:ILE:CD1	3.00	0.45
2:B:62:GLY:HA3	4:B:402:GTP:C8	2.52	0.45
1:E:94:LEU:O	1:E:98:ILE:HG22	2.16	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:27:SER:HA	1:A:30:ASN:HB3	1.97	0.45
1:A:71:VAL:O	1:A:75:GLY:N	2.47	0.45
1:A:83:ARG:NH2	1:E:104:SER:HB2	2.31	0.45
2:D:220:LEU:HD13	2:D:267:LEU:HD12	1.98	0.45
1:E:103:VAL:O	1:E:107:SER:HB3	2.16	0.45
1:A:70:PHE:CD1	1:A:71:VAL:N	2.79	0.45
1:A:99:ARG:HG3	1:A:100:ALA:N	2.26	0.45
2:B:109:VAL:HG12	2:B:110:PRO:N	2.31	0.45
2:D:128:TYR:HB3	2:D:340:TRP:CD2	2.51	0.45
2:F:153:LEU:O	2:F:155:GLY:N	2.50	0.45
1:A:81:VAL:HG12	1:A:82:TYR:O	2.17	0.45
1:A:83:ARG:HB3	1:A:86:LEU:HD23	1.98	0.45
2:D:72:ARG:HH12	2:D:102:ALA:HB2	1.82	0.45
2:D:269:HIS:O	2:D:273:ARG:HG2	2.17	0.45
2:D:325:MET:HE1	2:D:338:ARG:HB3	1.97	0.45
1:E:14:VAL:HG12	2:F:104:THR:HG21	1.99	0.45
2:F:57:GLY:CA	2:F:63:LYS:HD3	2.47	0.45
2:F:94:LYS:CB	2:F:95:PRO:CD	2.95	0.45
2:F:323:GLU:HB2	2:F:346:ARG:HH21	1.81	0.45
1:A:67:ARG:HD3	1:A:92:ASP:OD1	2.16	0.45
2:B:62:GLY:HA3	4:B:402:GTP:H8	1.82	0.45
2:B:68:THR:HG21	2:B:102:ALA:H	1.81	0.45
2:B:92:TYR:OH	2:B:133:ASP:OD2	2.16	0.45
2:D:198:PHE:CZ	2:D:220:LEU:HG	2.51	0.45
2:B:255:PHE:CD1	2:B:256:THR:HG23	2.52	0.45
2:D:154:ARG:HG2	2:D:154:ARG:H	1.51	0.45
2:D:224:LEU:HA	2:D:227:LEU:CB	2.38	0.45
2:F:153:LEU:C	2:F:155:GLY:N	2.74	0.45
1:A:73:GLU:C	1:A:74:LEU:HD23	2.42	0.44
1:C:17:TRP:HH2	1:C:127:PHE:CD2	2.34	0.44
2:D:107:SER:O	2:D:148:PRO:HB3	2.17	0.44
1:E:8:ILE:CD1	1:E:17:TRP:HB3	2.40	0.44
2:B:270:GLU:CD	2:B:273:ARG:HH22	2.23	0.44
1:C:98:ILE:HG13	1:C:123:PHE:HZ	1.82	0.44
2:D:342:TRP:CZ3	2:D:346:ARG:NH2	2.86	0.44
1:E:10:THR:OG1	1:E:14:VAL:HG23	2.17	0.44
1:E:14:VAL:HG12	2:F:104:THR:HG22	1.98	0.44
2:F:57:GLY:C	2:F:219:TYR:HE2	2.25	0.44
1:A:6:PHE:CE1	1:A:80:ALA:HB2	2.52	0.44
2:B:101:VAL:HG11	2:B:330:ILE:HG12	2.00	0.44
2:B:227:LEU:O	2:B:230:ARG:HB3	2.18	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:267:LEU:O	2:B:271:LEU:HG	2.17	0.44
2:D:67:LEU:HD11	2:D:113:VAL:HB	1.99	0.44
2:D:72:ARG:O	2:D:75:LEU:HD13	2.17	0.44
2:F:107:SER:OG	4:F:401:GTP:O1G	2.36	0.44
2:D:225:LEU:HD12	2:D:225:LEU:C	2.43	0.44
2:D:244:PRO:CG	2:D:346:ARG:HD2	2.48	0.44
1:A:19:ARG:NH1	1:A:127:PHE:HD2	2.16	0.44
1:A:56:ASN:CB	1:A:57:PRO:CD	2.88	0.44
2:B:127:SER:O	2:B:130:VAL:HG12	2.18	0.44
2:D:209:ASP:OD1	2:D:209:ASP:N	2.48	0.44
2:D:267:LEU:N	2:D:267:LEU:CD2	2.81	0.44
1:A:66:LEU:HD13	1:A:66:LEU:N	2.32	0.44
1:A:132:GLN:O	1:A:135:GLU:HG3	2.18	0.44
2:B:63:LYS:HG3	2:B:63:LYS:H	1.55	0.44
2:B:264:LYS:HG3	2:B:312:PHE:CD2	2.53	0.44
1:E:35:ASP:OD1	1:E:35:ASP:N	2.34	0.44
1:E:95:VAL:CA	1:E:98:ILE:HG22	2.45	0.44
1:A:91:VAL:O	1:A:95:VAL:HG12	2.18	0.44
2:B:244:PRO:HG3	2:B:346:ARG:HD3	2.00	0.44
2:F:67:LEU:HD21	2:F:113:VAL:O	2.17	0.44
2:B:61:ALA:HB3	2:B:63:LYS:CG	2.48	0.44
1:C:21:TYR:CD1	1:C:21:TYR:N	2.84	0.44
1:C:38:ILE:HG22	1:C:39:GLU:N	2.33	0.44
1:E:70:PHE:CD1	1:E:77:ILE:HG13	2.50	0.44
2:F:152:LYS:HD3	2:F:152:LYS:C	2.42	0.44
2:F:253:ASP:OD2	2:F:328:ASN:HB2	2.16	0.44
1:A:53:ALA:O	1:A:64:HIS:HA	2.18	0.43
2:B:94:LYS:HZ3	2:B:131:ASP:CG	2.26	0.43
2:B:262:LEU:HD23	2:B:262:LEU:HA	1.80	0.43
1:C:16:LEU:HD13	1:C:118:ILE:HG12	1.99	0.43
2:D:231:PHE:CE1	2:D:241:SER:HB2	2.45	0.43
2:F:72:ARG:HB3	2:F:100:PRO:O	2.18	0.43
2:F:111:THR:N	2:F:145:ILE:HG23	2.33	0.43
2:B:251:LYS:HA	4:B:402:GTP:C6	2.53	0.43
1:C:102:PHE:HD2	1:C:123:PHE:CE2	2.36	0.43
1:E:8:ILE:HD12	1:E:17:TRP:CE3	2.53	0.43
1:E:99:ARG:O	1:E:103:VAL:HG12	2.18	0.43
1:E:115:THR:HA	2:F:113:VAL:CG1	2.47	0.43
2:F:199:LEU:HD21	2:F:250:ASN:HD22	1.83	0.43
2:F:255:PHE:CD1	2:F:255:PHE:N	2.86	0.43
1:A:7:GLU:HB2	1:A:79:VAL:CG2	2.48	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:35:ASP:OD2	1:A:55:SER:HB2	2.18	0.43
1:A:76:ILE:CG2	1:A:110:PHE:CE1	3.01	0.43
2:B:242:SER:OG	2:B:319:ASP:HB3	2.18	0.43
1:C:38:ILE:CG2	1:C:39:GLU:N	2.78	0.43
1:A:29:VAL:O	1:A:32:PHE:HB3	2.18	0.43
1:C:8:ILE:HD13	1:C:78:PHE:CE1	2.54	0.43
2:D:258:VAL:HA	2:D:259:PRO:HD3	1.68	0.43
2:D:342:TRP:O	2:D:346:ARG:NH1	2.50	0.43
2:F:153:LEU:O	2:F:154:ARG:C	2.61	0.43
2:F:153:LEU:O	2:F:156:THR:CG2	2.62	0.43
2:B:157:THR:O	2:B:160:HIS:HB2	2.19	0.43
2:B:246:LEU:HB2	2:B:342:TRP:CD2	2.52	0.43
2:D:243:ILE:O	2:D:243:ILE:HD12	2.19	0.43
2:D:271:LEU:HA	2:D:274:ILE:HD11	2.00	0.43
2:F:111:THR:O	2:F:145:ILE:HA	2.18	0.43
2:F:148:PRO:CG	2:F:153:LEU:CB	2.91	0.43
2:F:152:LYS:HD3	2:F:152:LYS:O	2.18	0.43
1:A:6:PHE:CZ	1:A:98:ILE:HG21	2.54	0.43
2:B:188:PRO:C	2:B:189:TYR:HD1	2.26	0.43
2:D:56:ILE:O	2:D:198:PHE:HA	2.18	0.43
2:D:120:ASN:C	2:D:121:GLU:HG2	2.44	0.43
1:A:90:TRP:CD1	1:A:91:VAL:CG1	3.02	0.43
2:D:51:PRO:HB3	2:D:194:LYS:HG3	1.99	0.43
2:F:64:THR:HA	2:F:146:ASP:OD2	2.19	0.43
1:A:82:TYR:C	1:A:82:TYR:CD2	2.91	0.43
2:D:75:LEU:CD1	2:D:75:LEU:N	2.81	0.43
2:D:219:TYR:HD1	2:D:219:TYR:HA	1.63	0.43
2:D:316:MET:HA	2:D:320:MET:O	2.19	0.43
2:D:247:ILE:HB	2:D:324:VAL:HG22	1.99	0.43
2:B:76:LEU:HA	2:B:81:THR:O	2.18	0.43
1:C:11:THR:O	2:D:108:GLN:HG3	2.19	0.43
2:D:223:VAL:O	2:D:227:LEU:HB2	2.18	0.43
2:F:64:THR:OG1	4:F:401:GTP:O1B	2.37	0.43
1:A:67:ARG:HG3	1:A:67:ARG:HH11	1.84	0.42
2:B:218:SER:O	2:B:221:TYR:HB3	2.19	0.42
2:D:128:TYR:C	2:D:128:TYR:CD2	2.97	0.42
2:D:244:PRO:CG	2:D:346:ARG:CD	2.97	0.42
2:B:262:LEU:HA	2:B:265:SER:OG	2.20	0.42
1:E:4:ASP:HB2	1:E:81:VAL:HG12	2.01	0.42
2:D:64:THR:HA	2:D:146:ASP:OD2	2.18	0.42
1:E:33:ILE:HD11	2:F:108:GLN:OE1	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:71:GLU:CD	2:B:113:VAL:HG21	2.44	0.42
2:D:310:PHE:O	2:D:311:LYS:HG2	2.19	0.42
2:F:197:ILE:HD13	2:F:343:ILE:CD1	2.49	0.42
2:F:322:VAL:HG12	2:F:322:VAL:O	2.20	0.42
2:D:73:GLY:N	2:D:74:PRO:CD	2.82	0.42
2:D:244:PRO:CG	2:D:346:ARG:CG	2.96	0.42
1:E:1:MET:HG3	1:E:90:TRP:CH2	2.54	0.42
1:E:9:LEU:O	1:E:76:ILE:HG22	2.19	0.42
2:F:59:SER:HA	2:F:149:GLY:HA3	2.01	0.42
1:A:15:VAL:HG23	2:B:104:THR:HA	2.01	0.42
1:A:55:SER:HB3	1:A:62:ASP:HB2	2.00	0.42
1:A:86:LEU:HD22	1:E:101:ILE:HG23	2.01	0.42
2:B:51:PRO:O	2:B:143:LEU:N	2.33	0.42
2:B:77:ASN:HD21	2:B:83:VAL:CG2	2.29	0.42
2:B:124:THR:HB	2:B:125:PRO:HD2	2.02	0.42
2:D:201:ASP:HB3	2:D:204:ALA:HB2	2.01	0.42
1:E:76:ILE:H	1:E:76:ILE:HG13	1.60	0.42
1:A:37:PHE:HB3	2:B:108:GLN:NE2	2.34	0.42
2:B:62:GLY:N	4:B:402:GTP:O2B	2.52	0.42
2:D:310:PHE:HB2	2:D:311:LYS:H	1.50	0.42
2:D:227:LEU:HD11	2:D:243:ILE:HD11	2.01	0.42
2:B:150:HIS:ND1	2:B:151:PRO:HD2	2.35	0.42
2:D:201:ASP:HB3	2:D:204:ALA:HB3	2.01	0.42
2:B:234:ARG:HB2	2:B:240:PRO:CB	2.34	0.42
1:C:9:LEU:HD21	1:C:29:VAL:HG11	2.02	0.42
1:E:32:PHE:CE2	1:E:36:VAL:HG21	2.50	0.42
2:D:72:ARG:CZ	2:D:102:ALA:HB2	2.49	0.41
1:E:99:ARG:HG3	1:E:100:ALA:N	2.28	0.41
2:F:72:ARG:NH2	2:F:102:ALA:HB2	2.35	0.41
2:D:274:ILE:HG13	2:D:274:ILE:H	1.67	0.41
2:F:341:ARG:NH1	2:F:345:GLU:HG3	2.35	0.41
1:A:25:ASN:HB3	1:A:28:VAL:HG23	2.01	0.41
2:B:171:ILE:O	2:B:171:ILE:HG13	2.20	0.41
1:C:5:ALA:HB1	1:C:20:THR:CG2	2.47	0.41
1:C:5:ALA:O	1:C:81:VAL:HG22	2.20	0.41
2:F:246:LEU:HB2	2:F:342:TRP:CE2	2.54	0.41
2:F:259:PRO:CG	2:F:262:LEU:CG	2.98	0.41
1:A:57:PRO:N	1:A:58:PRO:CD	2.83	0.41
1:A:90:TRP:HB2	1:A:134:LEU:HB3	2.02	0.41
1:A:105:LEU:HD21	1:A:126:TYR:CE2	2.55	0.41
1:C:5:ALA:HB3	1:C:81:VAL:CG2	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:15:VAL:CG2	2:D:105:HIS:HD2	2.33	0.41
1:C:115:THR:OG1	1:C:117:ILE:HG22	2.21	0.41
1:A:27:SER:O	1:A:31:ASP:N	2.32	0.41
2:B:178:LYS:HD3	2:B:178:LYS:HA	1.68	0.41
2:B:246:LEU:HB2	2:B:342:TRP:CZ2	2.55	0.41
2:B:254:LEU:N	2:B:254:LEU:HD13	2.35	0.41
2:D:68:THR:CG2	2:D:72:ARG:HG3	2.45	0.41
2:D:280:LYS:HD2	2:D:280:LYS:N	2.35	0.41
2:D:337:GLU:OE1	2:D:337:GLU:HA	2.20	0.41
2:F:55:LEU:HD23	2:F:55:LEU:C	2.45	0.41
2:F:259:PRO:HB2	2:F:262:LEU:H	1.85	0.41
2:D:81:THR:O	2:D:82:SER:OG	2.30	0.41
1:A:66:LEU:HB3	1:A:80:ALA:O	2.21	0.41
2:D:267:LEU:HD23	2:D:267:LEU:H	1.85	0.41
2:F:227:LEU:CD2	2:F:245:VAL:CG2	2.99	0.41
2:F:265:SER:O	2:F:269:HIS:N	2.35	0.41
2:B:142:PHE:CE1	2:B:343:ILE:HG21	2.46	0.41
2:D:271:LEU:CD1	2:D:310:PHE:CZ	3.04	0.41
2:F:64:THR:HB	4:F:401:GTP:PA	2.60	0.41
2:F:64:THR:HB	4:F:401:GTP:O1A	2.21	0.41
1:A:50:GLY:C	1:A:67:ARG:HH12	2.29	0.41
1:A:95:VAL:CA	1:A:98:ILE:HG22	2.51	0.41
2:B:89:LYS:O	2:B:93:ARG:HB3	2.21	0.41
2:B:124:THR:HB	2:B:125:PRO:CD	2.51	0.41
2:B:258:VAL:HA	2:B:259:PRO:HD3	1.93	0.41
2:D:224:LEU:CA	2:D:227:LEU:HB3	2.39	0.41
2:D:248:ALA:HB1	2:D:339:TRP:CZ2	2.56	0.41
1:E:89:PRO:O	1:E:92:ASP:N	2.53	0.41
2:F:62:GLY:H	4:F:401:GTP:PB	2.44	0.41
2:F:67:LEU:HD23	2:F:67:LEU:C	2.46	0.41
2:F:111:THR:O	2:F:145:ILE:CG1	2.66	0.41
2:F:244:PRO:O	2:F:342:TRP:CZ2	2.74	0.41
1:A:63:GLN:HB3	1:A:64:HIS:H	1.71	0.41
2:B:59:SER:HB3	4:B:402:GTP:O2G	2.21	0.41
1:C:113:PRO:HG2	1:C:114:ASN:H	1.86	0.41
2:F:249:ALA:HB3	2:F:326:GLY:HA2	2.03	0.41
1:A:19:ARG:NH2	1:A:124:ASP:HB3	2.37	0.40
1:A:34:THR:O	1:A:38:ILE:HB	2.21	0.40
2:B:161:LEU:HD22	2:B:227:LEU:HD11	2.03	0.40
2:D:262:LEU:HD12	2:D:262:LEU:O	2.22	0.40
1:A:19:ARG:HD3	1:A:21:TYR:HE2	1.85	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:52:SER:O	1:A:53:ALA:HB2	2.21	0.40
1:A:83:ARG:O	1:A:84:SER:C	2.63	0.40
1:C:8:ILE:O	1:C:16:LEU:N	2.48	0.40
1:C:126:TYR:N	1:C:126:TYR:CD1	2.88	0.40
1:E:1:MET:HB3	1:E:1:MET:HE2	1.72	0.40
2:F:323:GLU:HB2	2:F:346:ARG:NH2	2.37	0.40
1:A:74:LEU:HB3	1:A:110:PHE:CD1	2.56	0.40
2:B:174:ASN:O	2:B:175:ALA:HB2	2.21	0.40
2:B:262:LEU:O	2:B:266:ARG:HG3	2.21	0.40
2:B:308:LYS:HG2	2:B:309:GLU:N	2.36	0.40
1:E:134:LEU:N	1:E:134:LEU:CD1	2.84	0.40
2:F:220:LEU:O	2:F:224:LEU:CD1	2.65	0.40
1:A:15:VAL:HG23	2:B:103:GLN:O	2.22	0.40
1:C:7:GLU:OE1	2:D:105:HIS:NE2	2.55	0.40
1:C:12:SER:O	2:D:107:SER:HB3	2.22	0.40
2:D:272:GLY:O	2:D:276:LYS:HE3	2.21	0.40
1:A:1:MET:HG2	1:A:2:SER:N	2.33	0.40
1:A:51:GLY:HA2	1:A:68:TRP:NE1	2.36	0.40
2:B:320:MET:HE2	2:B:320:MET:HB3	1.85	0.40
1:E:9:LEU:CD1	2:F:105:HIS:CD2	3.05	0.40
2:F:217:ALA:O	2:F:221:TYR:N	2.52	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	133/181 (74%)	111 (84%)	18 (14%)	4 (3%)	3	23
1	C	99/181 (55%)	90 (91%)	7 (7%)	2 (2%)	6	31
1	E	92/181 (51%)	88 (96%)	4 (4%)	0	100	100
2	B	260/307 (85%)	237 (91%)	18 (7%)	5 (2%)	6	33

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	D	216/307 (70%)	204 (94%)	10 (5%)	2 (1%)	14	47
2	F	131/307 (43%)	116 (88%)	14 (11%)	1 (1%)	16	50
All	All	931/1464 (64%)	846 (91%)	71 (8%)	14 (2%)	8	37

All (14) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	164	PRO
1	A	84	SER
2	B	124	THR
1	C	121	ILE
1	A	62	ASP
2	B	79	ASP
1	C	66	LEU
2	B	188	PRO
2	D	90	ASN
1	A	89	PRO
1	A	113	PRO
2	B	175	ALA
2	D	77	ASN
2	F	154	ARG

5.3.2 Protein sidechains ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	122/161 (76%)	93 (76%)	29 (24%)	1	4
1	C	99/161 (62%)	76 (77%)	23 (23%)	1	5
1	E	96/161 (60%)	75 (78%)	21 (22%)	1	5
2	B	225/255 (88%)	185 (82%)	40 (18%)	2	10
2	D	196/255 (77%)	155 (79%)	41 (21%)	1	6
2	F	122/255 (48%)	96 (79%)	26 (21%)	1	6
All	All	860/1248 (69%)	680 (79%)	180 (21%)	1	6

All (180) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1	MET
1	A	9	LEU
1	A	34	THR
1	A	35	ASP
1	A	39	GLU
1	A	41	LYS
1	A	47	SER
1	A	49	ASN
1	A	52	SER
1	A	59	TYR
1	A	60	LYS
1	A	64	HIS
1	A	66	LEU
1	A	67	ARG
1	A	69	THR
1	A	72	LYS
1	A	82	TYR
1	A	85	LEU
1	A	86	LEU
1	A	88	LEU
1	A	90	TRP
1	A	99	ARG
1	A	101	ILE
1	A	119	GLU
1	A	121	ILE
1	A	124	ASP
1	A	129	GLN
1	A	131	LEU
1	A	134	LEU
2	B	63	LYS
2	B	76	LEU
2	B	82	SER
2	B	83	VAL
2	B	92	TYR
2	B	93	ARG
2	B	96	ILE
2	B	103	GLN
2	B	107	SER
2	B	108	GLN
2	B	111	THR
2	B	114	GLU
2	B	117	VAL

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Mol	Chain	Res	Type
2	B	124	THR
2	B	129	LYS
2	B	133	ASP
2	B	142	PHE
2	B	146	ASP
2	B	167	SER
2	B	168	LEU
2	B	178	LYS
2	B	186	SER
2	B	187	ASP
2	B	191	SER
2	B	193	LEU
2	B	205	LEU
2	B	208	SER
2	B	209	ASP
2	B	232	HIS
2	B	234	ARG
2	B	235	LYS
2	B	236	ASN
2	B	254	LEU
2	B	265	SER
2	B	274	ILE
2	B	275	ARG
2	B	277	THR
2	B	309	GLU
2	B	337	GLU
2	B	346	ARG
1	C	3	LEU
1	C	9	LEU
1	C	21	TYR
1	C	27	SER
1	C	32	PHE
1	C	38	ILE
1	C	63	GLN
1	C	64	HIS
1	C	66	LEU
1	C	72	LYS
1	C	82	TYR
1	C	88	LEU
1	C	90	TRP
1	C	105	LEU
1	C	109	GLN

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Mol	Chain	Res	Type
1	C	111	LYS
1	C	114	ASN
1	C	117	ILE
1	C	118	ILE
1	C	120	CYS
1	C	121	ILE
1	C	124	ASP
1	C	130	GLN
2	D	48	THR
2	D	50	LEU
2	D	75	LEU
2	D	77	ASN
2	D	81	THR
2	D	93	ARG
2	D	108	GLN
2	D	120	ASN
2	D	121	GLU
2	D	126	THR
2	D	128	TYR
2	D	152	LYS
2	D	153	LEU
2	D	154	ARG
2	D	161	LEU
2	D	163	ASN
2	D	165	SER
2	D	189	TYR
2	D	199	LEU
2	D	207	ASP
2	D	208	SER
2	D	209	ASP
2	D	219	TYR
2	D	225	LEU
2	D	261	SER
2	D	265	SER
2	D	267	LEU
2	D	268	GLU
2	D	271	LEU
2	D	273	ARG
2	D	274	ILE
2	D	277	THR
2	D	280	LYS
2	D	310	PHE

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Mol	Chain	Res	Type
2	D	314	GLU
2	D	315	MET
2	D	316	MET
2	D	317	GLU
2	D	325	MET
2	D	345	GLU
2	D	346	ARG
1	E	1	MET
1	E	3	LEU
1	E	9	LEU
1	E	10	THR
1	E	27	SER
1	E	34	THR
1	E	35	ASP
1	E	39	GLU
1	E	47	SER
1	E	66	LEU
1	E	67	ARG
1	E	72	LYS
1	E	76	ILE
1	E	86	LEU
1	E	87	HIS
1	E	88	LEU
1	E	96	ASP
1	E	99	ARG
1	E	108	GLU
1	E	124	ASP
1	E	134	LEU
2	F	59	SER
2	F	68	THR
2	F	72	ARG
2	F	101	VAL
2	F	108	GLN
2	F	113	VAL
2	F	143	LEU
2	F	144	LEU
2	F	153	LEU
2	F	154	ARG
2	F	159	GLN
2	F	197	ILE
2	F	200	LEU
2	F	215	GLN

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Mol	Chain	Res	Type
2	F	223	VAL
2	F	226	SER
2	F	246	LEU
2	F	247	ILE
2	F	253	ASP
2	F	267	LEU
2	F	270	GLU
2	F	271	LEU
2	F	274	ILE
2	F	324	VAL
2	F	325	MET
2	F	332	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (13) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	49	ASN
1	A	63	GLN
2	B	77	ASN
2	B	252	GLN
1	C	97	ASN
1	C	130	GLN
1	C	132	GLN
2	D	77	ASN
2	D	250	ASN
2	D	252	GLN
1	E	122	ASN
2	F	108	GLN
2	F	150	HIS

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 8 ligands modelled in this entry, 3 are monoatomic - leaving 5 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
4	GTP	D	401	3	33,34,34	0.85	0	50,54,54	1.62	10 (20%)
5	GOL	B	403	-	5,5,5	0.42	0	5,5,5	0.32	0
4	GTP	B	402	3	33,34,34	0.97	1 (3%)	50,54,54	1.56	9 (18%)
6	SO4	B	404	-	4,4,4	0.26	0	6,6,6	0.09	0
4	GTP	F	401	3	33,34,34	0.96	1 (3%)	50,54,54	1.66	9 (18%)

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
4	GTP	D	401	3	-	3/22/38/38	0/3/3/3
4	GTP	F	401	3	-	3/22/38/38	0/3/3/3
4	GTP	B	402	3	-	2/22/38/38	0/3/3/3
5	GOL	B	403	-	-	4/4/4/4	-

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	B	402	GTP	PA-O3A	2.78	1.62	1.59
4	F	401	GTP	C2-N3	2.27	1.38	1.33

All (28) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	F	401	GTP	C5-C4-N3	-5.31	119.94	128.39
4	B	402	GTP	C5-C4-N3	-4.81	120.74	128.39
4	B	402	GTP	C2-N3-C4	4.80	120.56	112.30
4	F	401	GTP	C2-N3-C4	4.70	120.40	112.30
4	D	401	GTP	C2-N3-C4	4.60	120.22	112.30
4	D	401	GTP	C5-C4-N3	-4.33	121.51	128.39
4	F	401	GTP	N9-C4-N3	3.50	132.95	125.95
4	D	401	GTP	N9-C8-N7	-3.17	107.52	113.40
4	F	401	GTP	C2-N1-C6	-3.04	119.60	125.11
4	B	402	GTP	C2-N1-C6	-2.96	119.74	125.11
4	D	401	GTP	C2-N1-C6	-2.81	120.02	125.11
4	D	401	GTP	O6-C6-C5	-2.75	119.27	126.53
4	B	402	GTP	N9-C4-N3	2.71	131.38	125.95
4	D	401	GTP	C8-N7-C5	2.67	109.02	104.26
4	B	402	GTP	N9-C8-N7	-2.64	108.50	113.40
4	B	402	GTP	C5-C6-N1	2.61	119.90	113.25
4	D	401	GTP	C5-C6-N1	2.59	119.85	113.25
4	D	401	GTP	N9-C4-N3	2.58	131.12	125.95
4	F	401	GTP	O6-C6-C5	-2.58	119.72	126.53
4	F	401	GTP	C5-C6-N1	2.56	119.78	113.25
4	B	402	GTP	C8-N7-C5	2.51	108.74	104.26
4	F	401	GTP	N9-C8-N7	-2.44	108.88	113.40
4	F	401	GTP	C8-N7-C5	2.42	108.58	104.26
4	B	402	GTP	O6-C6-C5	-2.37	120.27	126.53
4	F	401	GTP	C3'-C2'-C1'	2.16	105.54	101.46
4	D	401	GTP	N2-C2-N1	2.10	121.20	116.76
4	D	401	GTP	N1-C2-N3	-2.05	119.58	123.32
4	B	402	GTP	C4-C5-N7	-2.03	107.46	110.67

There are no chirality outliers.

All (12) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	D	401	GTP	C5'-O5'-PA-O1A
5	B	403	GOL	O1-C1-C2-C3
5	B	403	GOL	C1-C2-C3-O3
4	F	401	GTP	O4'-C4'-C5'-O5'
4	F	401	GTP	C3'-C4'-C5'-O5'
5	B	403	GOL	O1-C1-C2-O2
5	B	403	GOL	O2-C2-C3-O3
4	D	401	GTP	C5'-O5'-PA-O3A
4	D	401	GTP	C5'-O5'-PA-O2A
4	B	402	GTP	PB-O3A-PA-O2A

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Mol	Chain	Res	Type	Atoms
4	F	401	GTP	PB-O3B-PG-O2G
4	B	402	GTP	PB-O3A-PA-O1A

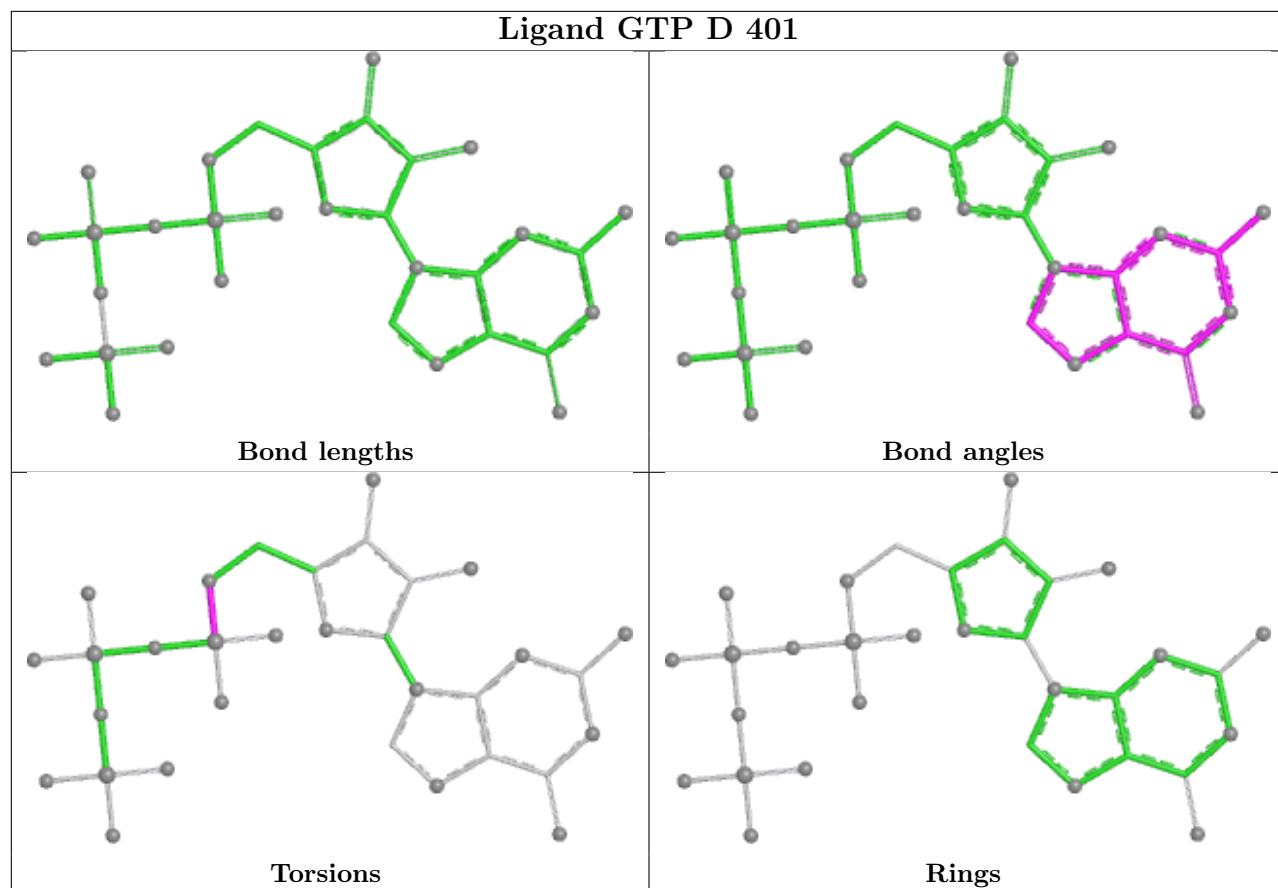
There are no ring outliers.

5 monomers are involved in 32 short contacts:

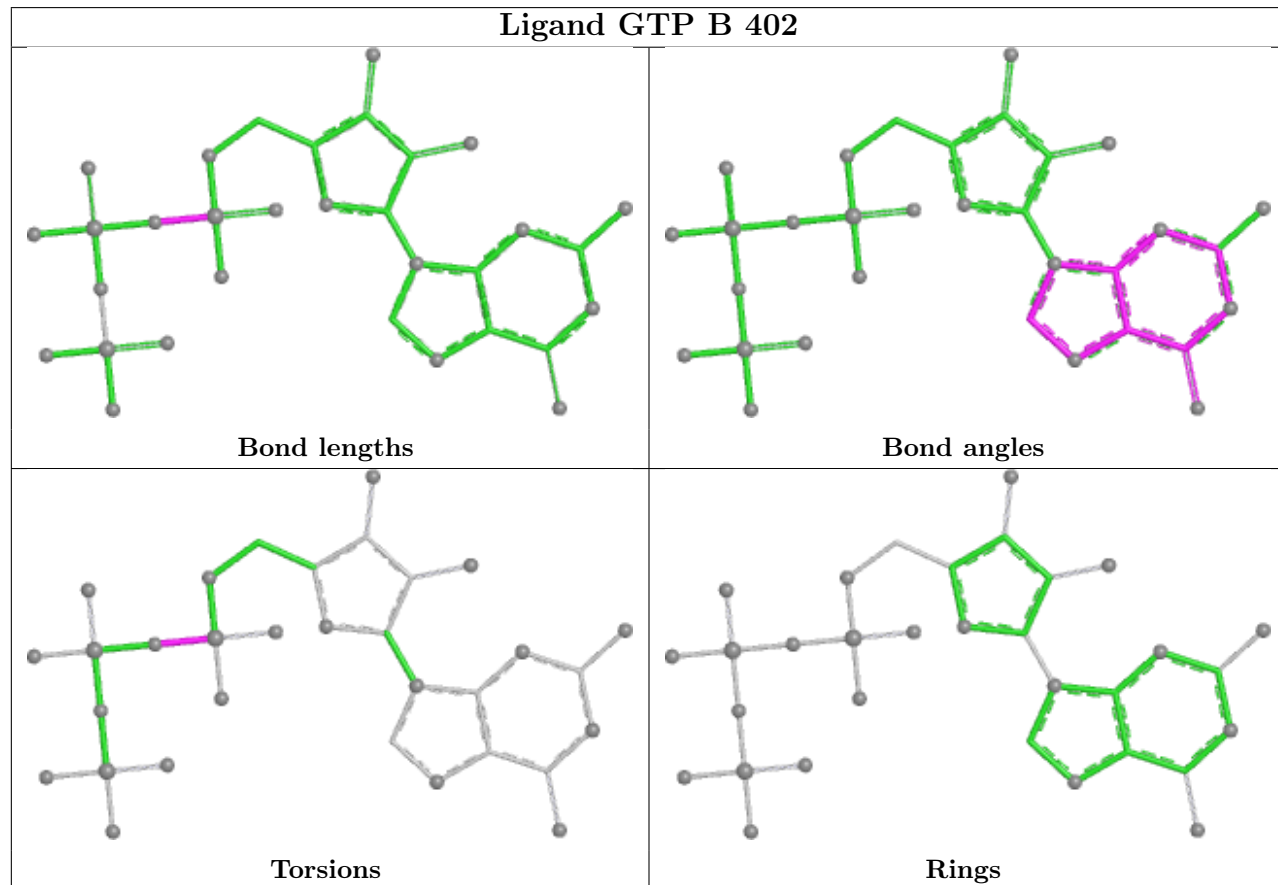
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	D	401	GTP	1	0
5	B	403	GOL	1	0
4	B	402	GTP	14	0
6	B	404	SO4	1	0
4	F	401	GTP	15	0

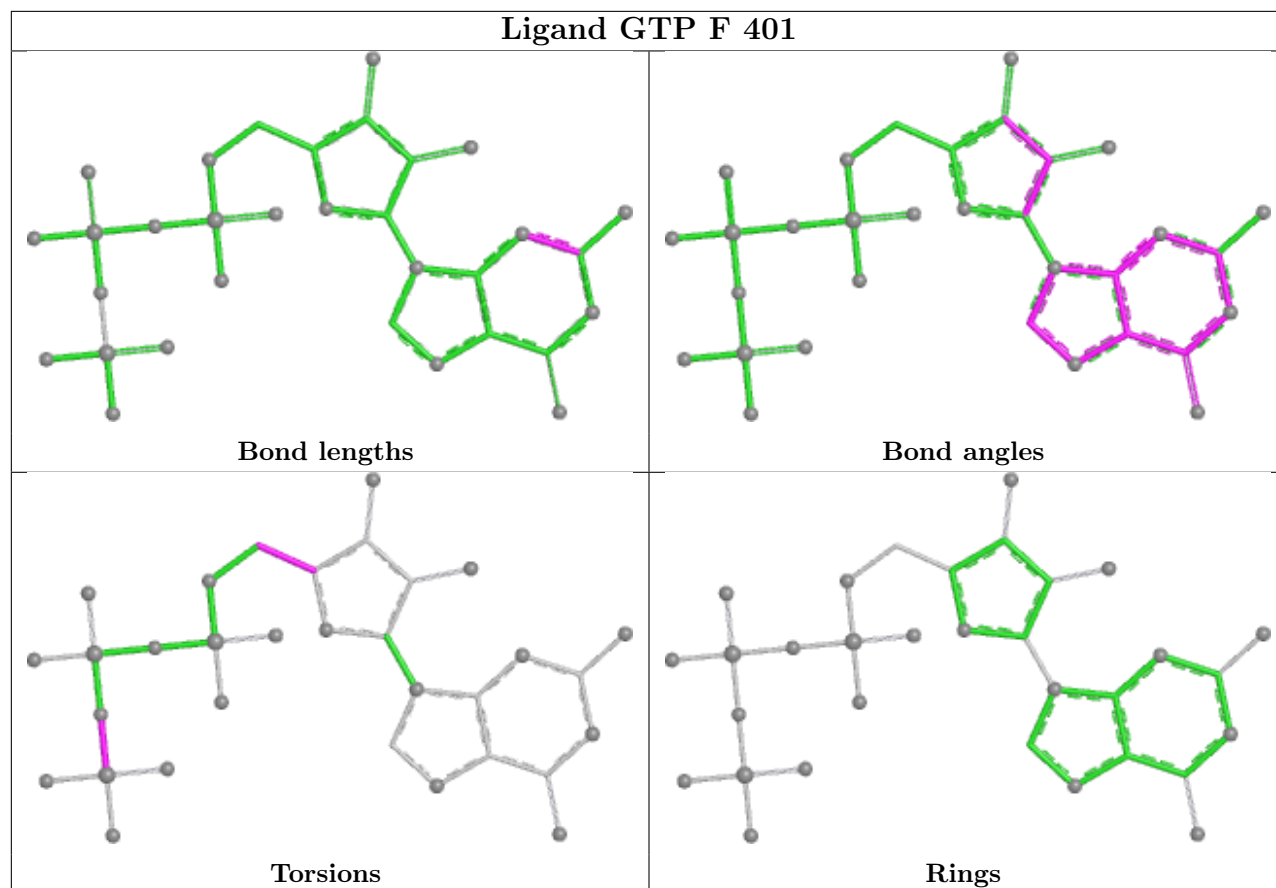
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 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 GTP D 401



Ligand GTP B 402





5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled ‘Q < 0.9’ lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ > 2			OWAB(Å ²)	Q < 0.9
1	A	135/181 (74%)	0.75	9 (6%)	24	15	36, 74, 119, 132	0
1	C	105/181 (58%)	0.58	3 (2%)	53	35	40, 68, 96, 105	0
1	E	104/181 (57%)	0.81	8 (7%)	19	13	72, 94, 112, 117	0
2	B	270/307 (87%)	0.55	11 (4%)	41	25	37, 66, 112, 131	0
2	D	230/307 (74%)	0.70	10 (4%)	40	24	47, 81, 121, 135	0
2	F	147/307 (47%)	1.16	21 (14%)	6	5	84, 121, 153, 160	0
All	All	991/1464 (67%)	0.73	62 (6%)	26	17	36, 83, 129, 160	0

All (62) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	E	38	ILE	4.0
1	A	62	ASP	4.0
2	F	220	LEU	4.0
2	F	97	VAL	3.8
2	B	79	ASP	3.7
2	D	149	GLY	3.7
1	A	53	ALA	3.6
2	D	226	SER	3.2
2	F	324	VAL	3.2
2	F	260	ALA	3.1
1	E	120	CYS	3.1
2	D	312	PHE	3.1
2	B	208	SER	3.0
2	F	96	ILE	2.9
1	A	56	ASN	2.9
1	E	35	ASP	2.9
2	F	271	LEU	2.8
2	F	216	THR	2.8
2	B	168	LEU	2.8

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Mol	Chain	Res	Type	RSRZ
2	F	221	TYR	2.7
1	A	60	LYS	2.7
1	C	65	SER	2.7
1	E	47	SER	2.7
2	B	167	SER	2.6
2	B	222	ASP	2.6
2	B	122	ASP	2.6
2	F	263	VAL	2.6
2	F	112	SER	2.5
2	F	55	LEU	2.5
1	A	61	HIS	2.5
2	D	275	ARG	2.5
2	D	223	VAL	2.4
2	F	329	VAL	2.4
2	B	223	VAL	2.4
2	B	53	VAL	2.3
2	F	196	VAL	2.3
1	A	65	SER	2.3
1	E	107	SER	2.3
2	B	137	ALA	2.3
2	F	70	PHE	2.3
1	E	121	ILE	2.3
1	E	46	GLY	2.3
2	F	214	SER	2.2
2	D	188	PRO	2.2
2	F	198	PHE	2.1
1	C	4	ASP	2.1
2	D	206	ALA	2.1
1	C	90	TRP	2.1
2	F	322	VAL	2.1
2	F	261	SER	2.1
1	A	35	ASP	2.1
2	F	205	LEU	2.1
1	E	129	GLN	2.1
2	F	269	HIS	2.1
1	A	73	GLU	2.1
2	D	141	LYS	2.0
2	F	217	ALA	2.0
2	D	220	LEU	2.0
1	A	1	MET	2.0
2	B	124	THR	2.0
2	D	246	LEU	2.0

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Mol	Chain	Res	Type	RSRZ
2	B	347	ILE	2.0

6.2 Non-standard residues in protein, DNA, RNA chains [i](#)

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

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

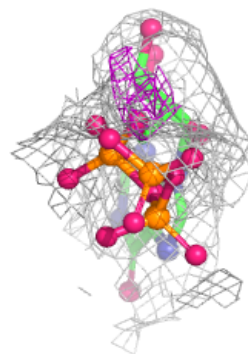
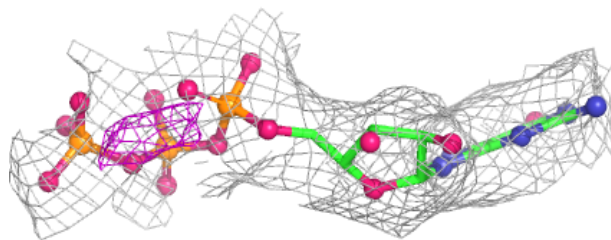
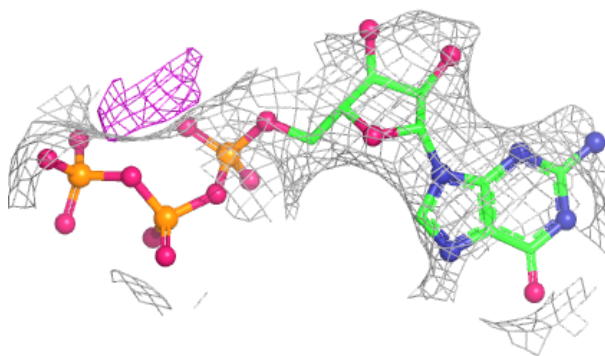
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
6	SO4	B	404	5/5	0.79	0.14	111,113,123,128	0
5	GOL	B	403	6/6	0.84	0.14	50,68,78,81	0
4	GTP	F	401	32/32	0.86	0.10	86,108,117,121	0
4	GTP	D	401	32/32	0.93	0.10	49,58,67,78	0
3	MG	F	400	1/1	0.96	0.05	104,104,104,104	0
4	GTP	B	402	32/32	0.96	0.08	26,42,51,59	0
3	MG	D	400	1/1	0.97	0.05	53,53,53,53	0
3	MG	B	401	1/1	0.98	0.05	42,42,42,42	0

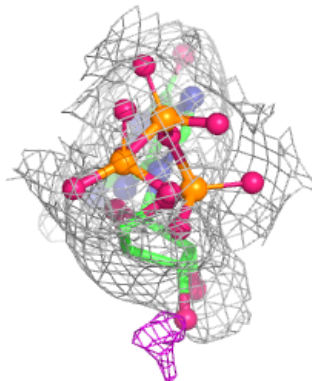
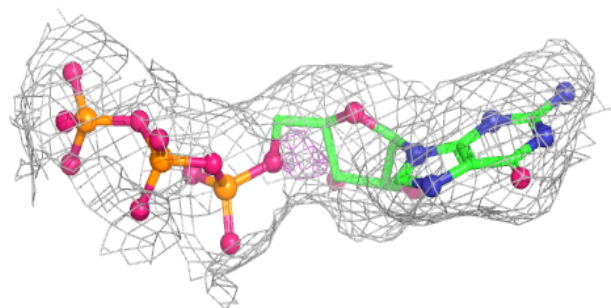
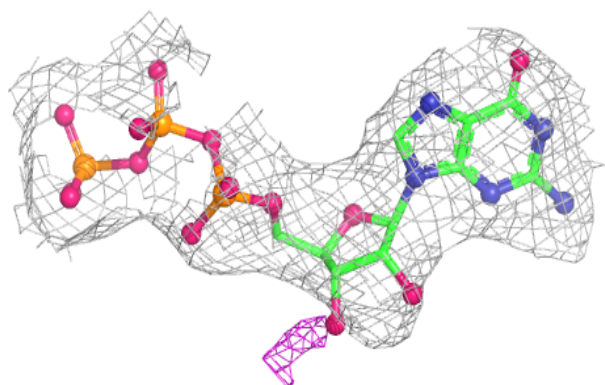
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

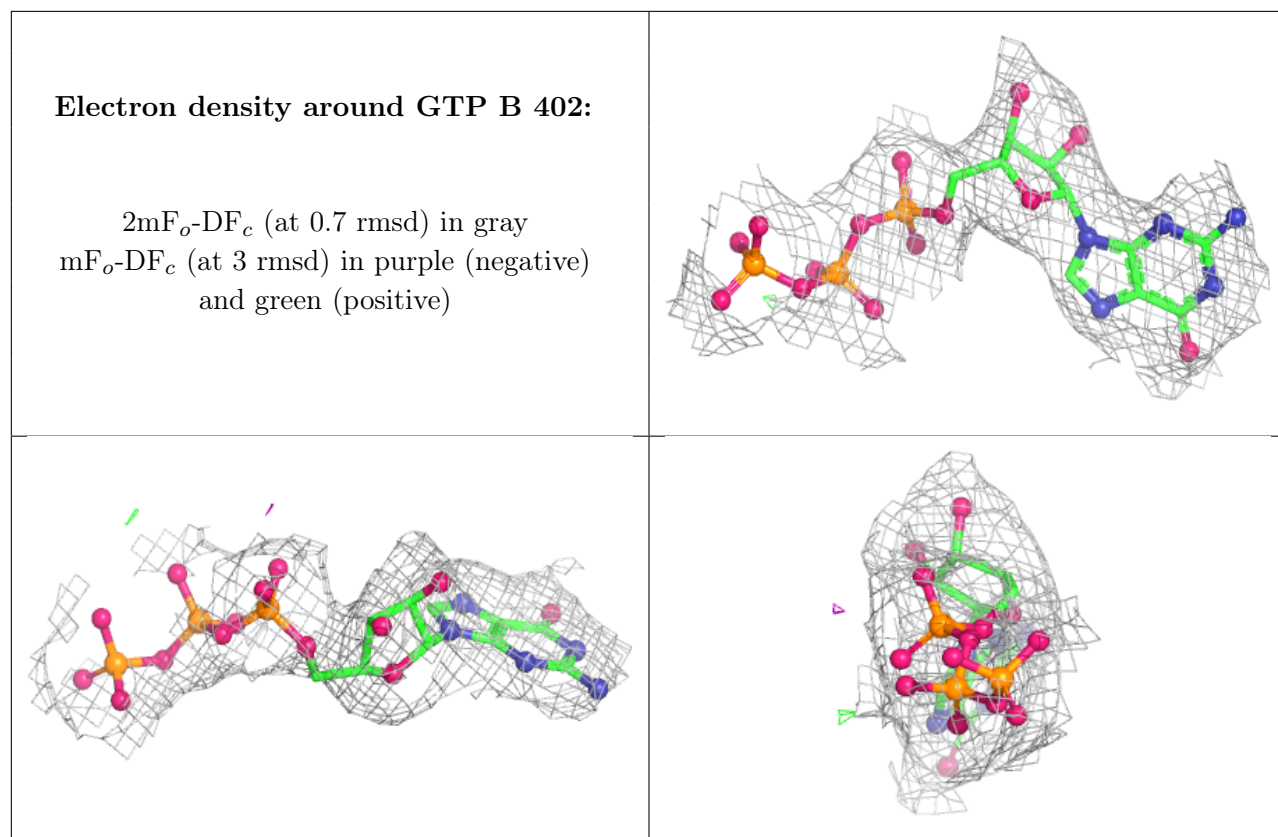
Electron density around GTP F 401:

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

**Electron density around GTP D 401:**

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





6.5 Other polymers [i](#)

There are no such residues in this entry.