



Full wwPDB X-ray Structure Validation Report ⓘ

Aug 29, 2023 – 01:33 PM EDT

PDB ID : 3NC0
Title : Crystal structure of the HIV-1 Rev NES-CRM1-RanGTP nuclear export complex (crystal II)
Authors : Guttler, T.; Madl, T.; Neumann, P.; Deichsel, D.; Corsini, L.; Monecke, T.; Ficner, R.; Sattler, M.; Gorlich, D.
Deposited on : 2010-06-04
Resolution : 2.90 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 : 4.02b-467
Mogul : 1.8.5 (274361), CSD as541be (2020)
Xtrriage (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

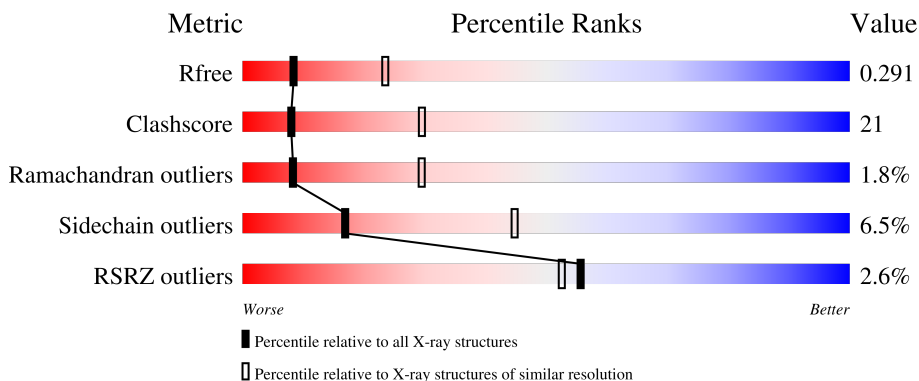
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.90 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	1957 (2.90-2.90)
Clashscore	141614	2172 (2.90-2.90)
Ramachandran outliers	138981	2115 (2.90-2.90)
Sidechain outliers	138945	2117 (2.90-2.90)
RSRZ outliers	127900	1906 (2.90-2.90)

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	1073	 2% 60% 33% 5%
1	D	1073	 3% 57% 35% 5%
2	B	362	 4% 44% 31% 6% 19%
2	E	362	 4% 45% 31% 5% 19%

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Mol	Chain	Length	Quality of chain
3	C	176	
3	F	176	

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	GOL	C	181	-	-	-	X
5	PEG	A	1075	-	-	X	X
5	PEG	A	1077	-	-	-	X
5	PEG	A	1078	-	-	-	X
5	PEG	C	182	-	-	-	X
5	PEG	D	1073	-	-	-	X
5	PEG	D	1074	-	-	-	X
5	PEG	D	1076	-	-	-	X
5	PEG	D	1078	-	-	-	X
5	PEG	L	29	-	-	-	X

2 Entry composition i

There are 9 unique types of molecules in this entry. The entry contains 25190 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 Exportin-1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	1038	8394	5387	1411	1543	53	0	0	0
1	D	1041	8414	5401	1413	1547	53	0	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-1	GLY	-	expression tag	UNP Q6P5F9
A	0	SER	-	expression tag	UNP Q6P5F9
D	-1	GLY	-	expression tag	UNP Q6P5F9
D	0	SER	-	expression tag	UNP Q6P5F9

- Molecule 2 is a protein called Snurportin-1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	293	2350	1498	405	432	15	0	0	0
2	E	294	2357	1502	406	434	15	0	0	0

There are 32 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	-1	GLY	-	expression tag	UNP O95149
B	0	SER	-	expression tag	UNP O95149
B	1	PRO	-	expression tag	UNP O95149
B	2	VAL	-	expression tag	UNP O95149
B	3	PRO	-	expression tag	UNP O95149
B	4	LEU	-	expression tag	UNP O95149
B	5	GLN	-	expression tag	UNP O95149
B	6	LEU	-	expression tag	UNP O95149

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Chain	Residue	Modelled	Actual	Comment	Reference
B	7	PRO	-	expression tag	UNP O95149
B	8	PRO	-	expression tag	UNP O95149
B	9	LEU	-	expression tag	UNP O95149
B	10	GLU	-	expression tag	UNP O95149
B	11	ARG	-	expression tag	UNP O95149
B	12	LEU	-	expression tag	UNP O95149
B	13	THR	-	expression tag	UNP O95149
B	14	LEU	-	expression tag	UNP O95149
E	-1	GLY	-	expression tag	UNP O95149
E	0	SER	-	expression tag	UNP O95149
E	1	PRO	-	expression tag	UNP O95149
E	2	VAL	-	expression tag	UNP O95149
E	3	PRO	-	expression tag	UNP O95149
E	4	LEU	-	expression tag	UNP O95149
E	5	GLN	-	expression tag	UNP O95149
E	6	LEU	-	expression tag	UNP O95149
E	7	PRO	-	expression tag	UNP O95149
E	8	PRO	-	expression tag	UNP O95149
E	9	LEU	-	expression tag	UNP O95149
E	10	GLU	-	expression tag	UNP O95149
E	11	ARG	-	expression tag	UNP O95149
E	12	LEU	-	expression tag	UNP O95149
E	13	THR	-	expression tag	UNP O95149
E	14	LEU	-	expression tag	UNP O95149

- Molecule 3 is a protein called GTP-binding nuclear protein Ran.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	173	1405	914	246	240	5	0	0	0
3	F	173	1405	914	246	240	5	0	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	69	LEU	GLN	engineered mutation	UNP P62826
F	69	LEU	GLN	engineered mutation	UNP P62826

- Molecule 4 is GLYCEROL (three-letter code: GOL) (formula: C₃H₈O₃).



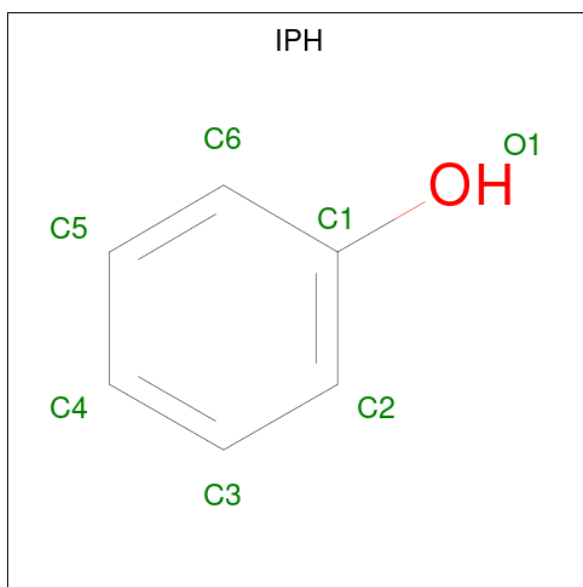
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C O 12 6 6	0	1
4	A	1	Total C O 6 3 3	0	0
4	A	1	Total C O 6 3 3	0	0
4	A	1	Total C O 6 3 3	0	0
4	B	1	Total C O 6 3 3	0	0
4	C	1	Total C O 6 3 3	0	0
4	D	1	Total C O 6 3 3	0	0
4	D	1	Total C O 6 3 3	0	0
4	E	1	Total C O 12 6 6	0	1
4	E	1	Total C O 6 3 3	0	0

- Molecule 5 is DI(HYDROXYETHYL)ETHER (three-letter code: PEG) (formula: C₄H₁₀O₃).



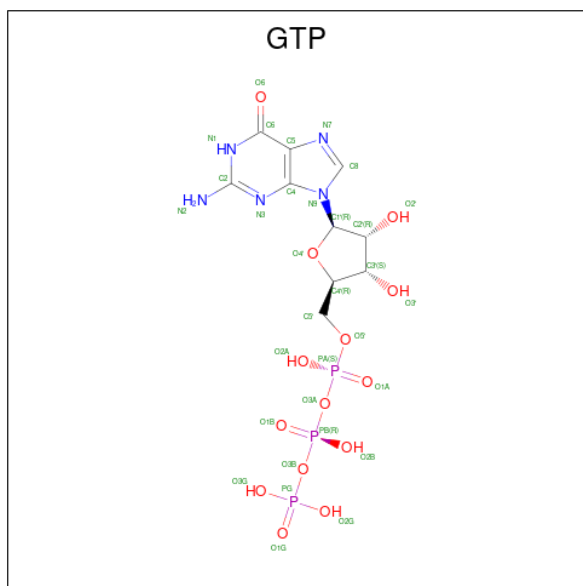
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C O 7 4 3	0	0
5	A	1	Total C O 7 4 3	0	0
5	A	1	Total C O 7 4 3	0	0
5	A	1	Total C O 7 4 3	0	0
5	C	1	Total C O 7 4 3	0	0
5	D	1	Total C O 7 4 3	0	0
5	D	1	Total C O 7 4 3	0	0
5	D	1	Total C O 7 4 3	0	0
5	D	1	Total C O 7 4 3	0	0
5	D	1	Total C O 7 4 3	0	0
5	D	1	Total C O 7 4 3	0	0
5	L	1	Total C O 7 4 3	0	0

- Molecule 6 is PHENOL (three-letter code: IPH) (formula: C₆H₆O).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	B	1	Total	C	O	0	1
			14	12	2		

- Molecule 7 is GUANOSINE-5'-TRIPHOSPHATE (three-letter code: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).



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

- Molecule 8 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
8	C	1	Total 1	Mg 1	0	0
8	F	1	Total 1	Mg 1	0	0

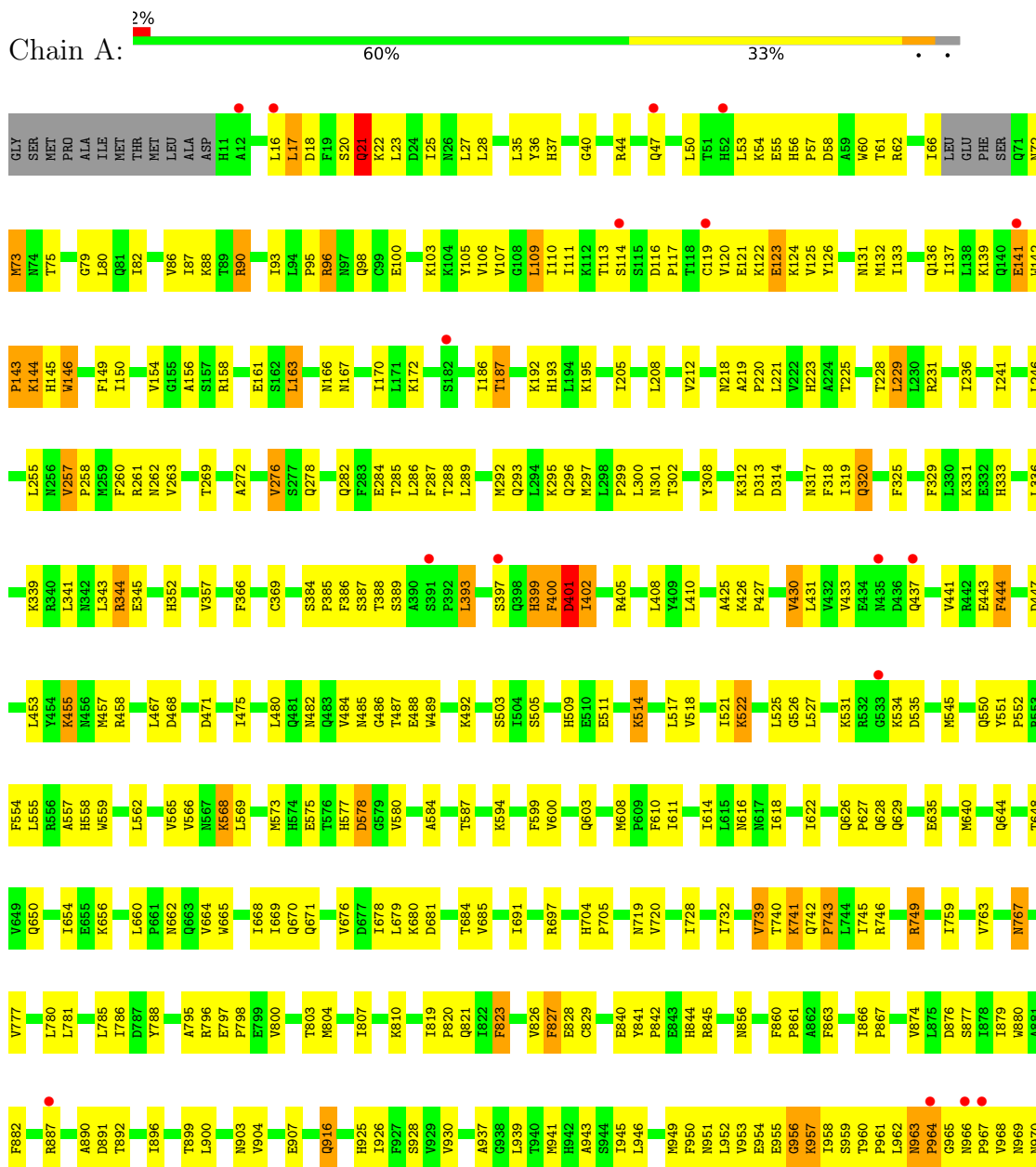
- Molecule 9 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
9	A	230	Total 230	O 230	0	0
9	B	80	Total 80	O 80	0	0
9	C	53	Total 53	O 53	0	0
9	D	183	Total 183	O 183	0	0
9	E	56	Total 56	O 56	0	0
9	F	27	Total 27	O 27	0	0

3 Residue-property plots [i](#)

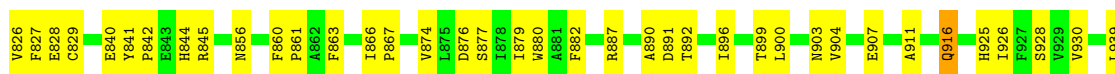
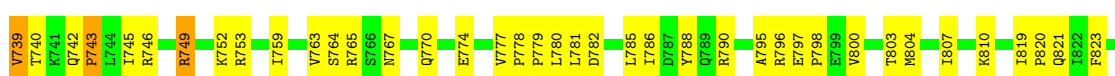
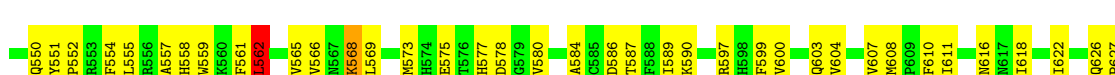
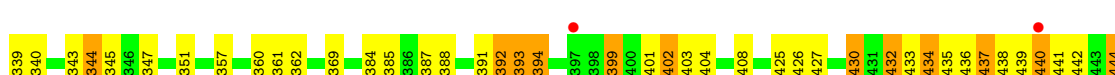
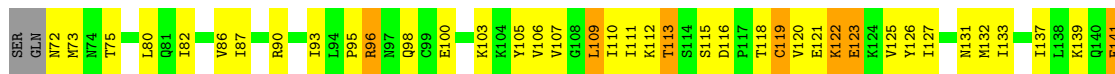
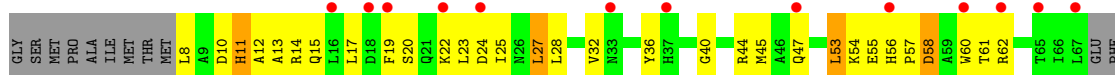
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. 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: Exportin-1

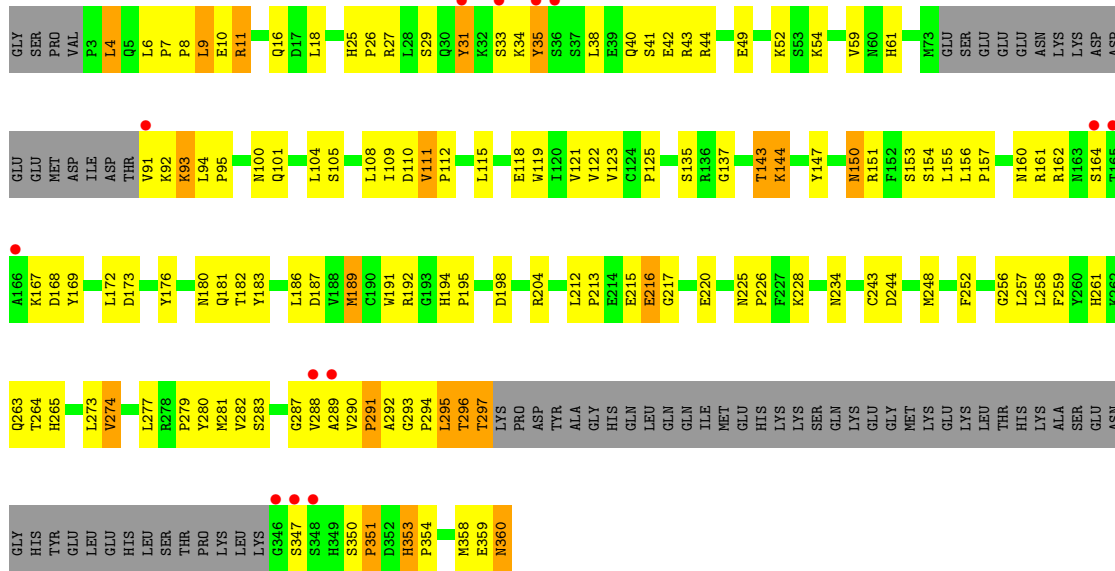
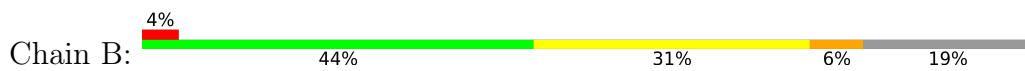




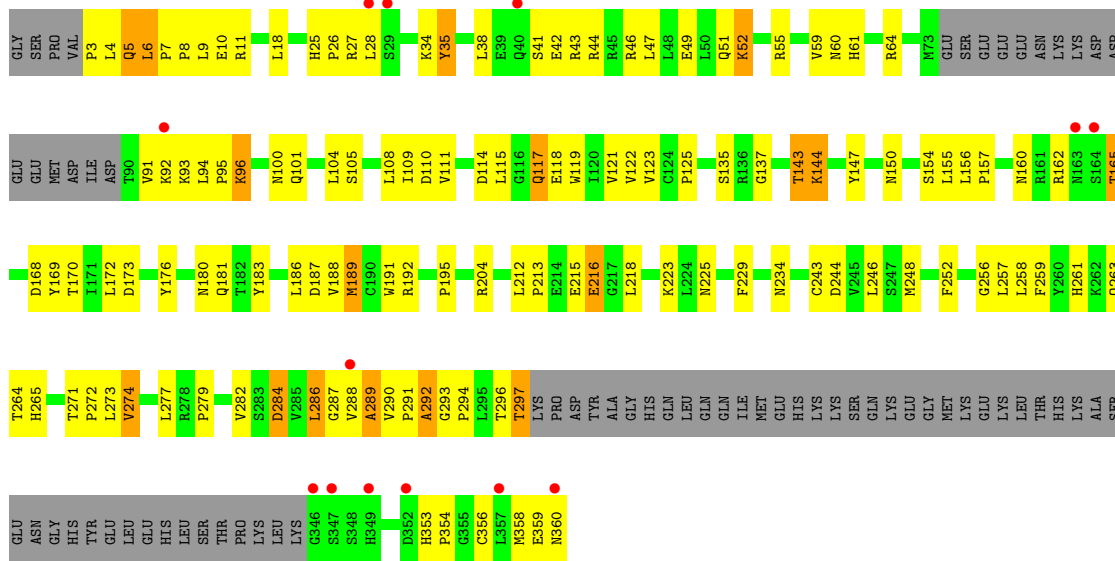
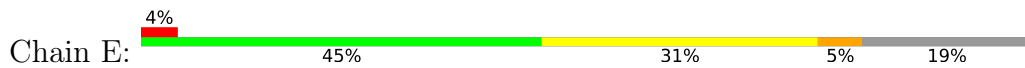
• Molecule 1: Exportin-1



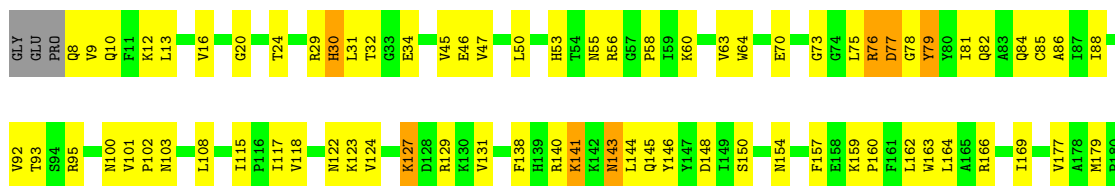
• Molecule 2: Snurportin-1



• Molecule 2: Snurportin-1

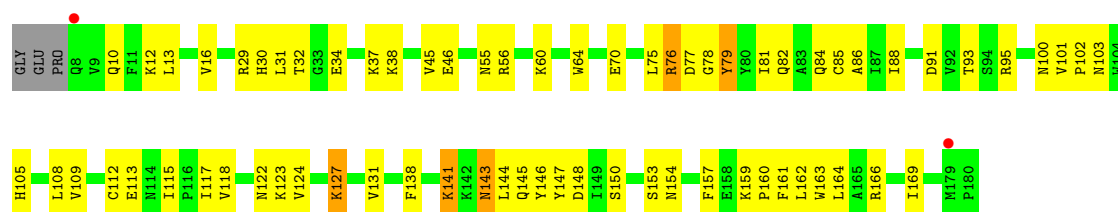


• Molecule 3: GTP-binding nuclear protein Ran



● Molecule 3: GTP-binding nuclear protein Ran

Chain F:  %



4 Data and refinement statistics i

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	73.26Å 225.90Å 163.98Å 90.00° 100.75° 90.00°	Depositor
Resolution (Å)	39.05 – 2.90 39.05 – 2.90	Depositor EDS
% Data completeness (in resolution range)	95.5 (39.05-2.90) 85.6 (39.05-2.90)	Depositor EDS
R_{merge}	0.14	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.94 (at 2.90Å)	Xtrriage
Refinement program	PHENIX 1.6.1_357	Depositor
R, R_{free}	0.242 , 0.295 0.240 , 0.291	Depositor DCC
R_{free} test set	5517 reflections (5.00%)	wwPDB-VP
Wilson B-factor (Å ²)	40.1	Xtrriage
Anisotropy	0.438	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.29 , 31.9	EDS
L-test for twinning ²	$\langle L \rangle = 0.43$, $\langle L^2 \rangle = 0.25$	Xtrriage
Estimated twinning fraction	0.136 for h,-k,-h-l	Xtrriage
F_o, F_c correlation	0.87	EDS
Total number of atoms	25190	wwPDB-VP
Average B, all atoms (Å ²)	49.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.61% 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 i

5.1 Standard geometry i

Bond lengths and bond angles in the following residue types are not validated in this section: GOL, PEG, IPH, GTP, MG

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.25	0/8566	0.42	1/11604 (0.0%)
1	D	0.24	0/8586	0.43	3/11632 (0.0%)
2	B	0.24	0/2415	0.46	0/3278
2	E	0.24	0/2422	0.46	0/3288
3	C	0.32	1/1440 (0.1%)	0.45	0/1945
3	F	0.31	1/1440 (0.1%)	0.44	0/1945
All	All	0.25	2/24869 (0.0%)	0.44	4/33692 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	D	0	1

All (2) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	C	78	GLY	C-N	8.01	1.52	1.34
3	F	78	GLY	C-N	6.95	1.50	1.34

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	562	LEU	CA-CB-CG	5.39	127.71	115.30
1	D	158	ARG	NE-CZ-NH2	-5.39	117.61	120.30
1	A	158	ARG	NE-CZ-NH1	-5.37	117.62	120.30
1	D	158	ARG	NE-CZ-NH1	5.17	122.89	120.30

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	D	119	CYS	Mainchain

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	8394	0	8460	344	0
1	D	8414	0	8483	356	0
2	B	2350	0	2307	115	0
2	E	2357	0	2314	105	0
3	C	1405	0	1432	82	0
3	F	1405	0	1434	74	0
4	A	30	0	40	1	0
4	B	6	0	8	1	0
4	C	6	0	8	0	0
4	D	12	0	16	1	0
4	E	18	0	24	1	0
5	A	28	0	40	14	0
5	C	7	0	10	3	0
5	D	42	0	60	9	0
5	L	7	0	10	0	0
6	B	14	0	12	0	0
7	C	32	0	12	3	0
7	F	32	0	12	1	0
8	C	1	0	0	0	0
8	F	1	0	0	0	0
9	A	230	0	0	12	0
9	B	80	0	0	2	0
9	C	53	0	0	5	0
9	D	183	0	0	9	0
9	E	56	0	0	3	0
9	F	27	0	0	2	0
All	All	25190	0	24682	1055	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 21.

All (1055) 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)
1:A:386:PHE:CZ	5:A:1075:PEG:H21	1.75	1.22
1:D:53:LEU:HG	1:D:54:LYS:H	1.17	1.08
3:C:76:ARG:HD2	5:C:182:PEG:H21	1.39	1.04
1:A:386:PHE:CZ	5:A:1075:PEG:H31	1.97	0.98
1:D:119:CYS:C	1:D:121:GLU:H	1.63	0.98
1:D:388:THR:HG21	1:D:402:ILE:HD13	1.46	0.98
1:A:386:PHE:HZ	5:A:1075:PEG:H21	1.14	0.97
1:A:21:GLN:H	1:A:21:GLN:HE21	1.09	0.97
1:D:119:CYS:C	1:D:121:GLU:N	2.15	0.96
1:D:966:ASN:HB3	1:D:967:PRO:HD3	1.46	0.95
3:F:45:VAL:HB	3:F:79:TYR:CE2	2.05	0.92
1:A:66:ILE:HG21	1:A:72:ASN:CB	2.00	0.91
1:D:116:ASP:HB2	1:D:119:CYS:HB2	1.51	0.91
3:C:45:VAL:HB	3:C:79:TYR:CE2	2.06	0.90
1:D:509:HIS:HD2	1:D:511:GLU:H	1.13	0.90
1:A:509:HIS:HD2	1:A:511:GLU:H	1.15	0.89
1:D:28:LEU:HD12	1:D:75:THR:HG21	1.54	0.89
1:A:962:LEU:HD12	1:A:968:VAL:HG11	1.56	0.88
3:F:75:LEU:O	3:F:79:TYR:CD1	2.25	0.88
3:F:45:VAL:HB	3:F:79:TYR:HE2	1.38	0.87
1:D:53:LEU:HG	1:D:54:LYS:N	1.89	0.87
2:B:191:TRP:CD1	2:B:192:ARG:HG3	2.10	0.86
2:E:104:LEU:HD21	2:E:144:LYS:HD2	1.55	0.86
1:A:386:PHE:CE2	5:A:1075:PEG:H21	2.11	0.85
3:F:29:ARG:HB3	3:F:157:PHE:HZ	1.39	0.85
3:C:29:ARG:HB3	3:C:157:PHE:HZ	1.40	0.85
2:E:191:TRP:CD1	2:E:192:ARG:HG3	2.12	0.85
3:C:45:VAL:HB	3:C:79:TYR:HE2	1.38	0.85
2:B:11:ARG:HH11	2:B:11:ARG:HB3	1.42	0.84
1:A:21:GLN:H	1:A:21:GLN:NE2	1.74	0.83
1:D:150:ILE:HD11	1:D:205:ILE:HD11	1.60	0.83
1:A:386:PHE:CZ	5:A:1075:PEG:C2	2.62	0.83
3:C:75:LEU:O	3:C:79:TYR:CD1	2.32	0.83
1:A:555:LEU:HB3	1:A:562:LEU:HD12	1.61	0.83
1:A:1043:ARG:HH11	1:A:1046:GLN:HG2	1.44	0.83
2:B:104:LEU:HD21	2:B:144:LYS:HD2	1.59	0.83
1:D:753:ARG:HH22	5:D:1076:PEG:H21	1.44	0.82
3:F:75:LEU:O	3:F:79:TYR:HD1	1.60	0.82
1:A:388:THR:HG21	1:A:402:ILE:HD13	1.59	0.82
1:A:66:ILE:HG21	1:A:72:ASN:HB2	1.61	0.82

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:77:ASP:OD1	9:C:495:HOH:O	1.98	0.81
3:C:10:GLN:HB3	3:C:60:LYS:HB3	1.63	0.79
1:A:131:ASN:HD21	1:A:166:ASN:HD21	1.28	0.79
1:D:393:LEU:HD23	1:D:394:LEU:H	1.46	0.79
1:D:131:ASN:HD21	1:D:166:ASN:HD21	1.29	0.79
2:B:293:GLY:N	2:B:294:PRO:HD2	1.98	0.78
3:F:10:GLN:HB3	3:F:60:LYS:HB3	1.64	0.78
1:A:150:ILE:HD11	1:A:205:ILE:HD11	1.66	0.77
1:A:336:LEU:HB2	1:A:339:LYS:HE2	1.66	0.77
1:D:518:VAL:O	1:D:522:LYS:HB2	1.84	0.77
1:D:739:VAL:HG23	1:D:745:ILE:HG13	1.64	0.77
3:C:75:LEU:HB2	3:C:79:TYR:CE1	2.19	0.77
3:F:29:ARG:HB3	3:F:157:PHE:CZ	2.20	0.77
1:A:739:VAL:HG23	1:A:745:ILE:HG13	1.66	0.76
1:A:1003:SER:HA	1:A:1046:GLN:HE21	1.48	0.76
1:A:518:VAL:O	1:A:522:LYS:HB2	1.85	0.76
3:C:29:ARG:HB3	3:C:157:PHE:CZ	2.21	0.76
1:D:430:VAL:HG23	1:D:444:PHE:HE1	1.49	0.76
1:D:753:ARG:NH2	5:D:1076:PEG:H21	2.01	0.76
1:D:565:VAL:O	1:D:569:LEU:HD12	1.85	0.76
1:D:25:ILE:HD12	1:D:25:ILE:H	1.51	0.76
1:A:25:ILE:HD12	1:A:25:ILE:H	1.51	0.76
2:E:353:HIS:CD2	2:E:354:PRO:HD2	2.21	0.76
1:D:272:ALA:HB1	1:D:329:PHE:HD1	1.50	0.76
3:F:75:LEU:HB2	3:F:79:TYR:CE1	2.22	0.75
1:A:272:ALA:HB1	1:A:329:PHE:HD1	1.51	0.75
2:E:212:LEU:HB2	2:E:213:PRO:HD3	1.67	0.74
1:A:1003:SER:HA	1:A:1046:GLN:NE2	2.02	0.74
2:B:212:LEU:HB2	2:B:213:PRO:HD3	1.68	0.74
1:D:509:HIS:CD2	1:D:511:GLU:H	2.02	0.74
3:C:75:LEU:HB2	3:C:79:TYR:HE1	1.53	0.74
1:D:55:GLU:C	1:D:57:PRO:HD3	2.08	0.74
1:D:962:LEU:HG	1:D:963:ASN:H	1.52	0.73
3:C:75:LEU:O	3:C:79:TYR:HD1	1.70	0.73
1:A:16:LEU:HD22	1:A:53:LEU:HD12	1.68	0.73
1:D:235:TRP:HA	5:D:1077:PEG:H11	1.70	0.72
9:D:1142:HOH:O	3:F:37:LYS:HE2	1.89	0.72
1:D:223:HIS:NE2	1:D:263:VAL:HG21	2.05	0.72
1:A:565:VAL:O	1:A:569:LEU:HD12	1.89	0.72
1:D:27:LEU:HD21	1:D:62:ARG:HD3	1.72	0.72
2:E:173:ASP:HB2	2:E:189:MET:HE1	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:28:LEU:CD1	1:D:75:THR:HG21	2.20	0.72
1:A:509:HIS:CD2	1:A:511:GLU:H	2.04	0.72
1:A:962:LEU:HG	1:A:973:PHE:CD2	2.25	0.71
1:D:990:GLN:HE21	1:D:1033:LEU:HD11	1.53	0.71
1:A:887:ARG:HH11	1:A:937:ALA:HB3	1.55	0.71
3:C:123:LYS:HE2	7:C:217:GTP:C4	2.26	0.71
1:D:295:LYS:HE3	1:D:300:LEU:HD12	1.71	0.71
1:A:430:VAL:HG23	1:A:444:PHE:HE1	1.54	0.70
1:A:386:PHE:CE2	5:A:1075:PEG:C2	2.73	0.70
3:F:138:PHE:HA	3:F:141:LYS:HE3	1.72	0.70
1:D:626:GLN:H	1:D:629:GLN:HE21	1.38	0.70
1:A:331:LYS:HD3	9:A:1215:HOH:O	1.92	0.70
1:D:15:GLN:HE22	1:D:27:LEU:HB2	1.54	0.70
3:F:145:GLN:HE21	3:F:146:TYR:H	1.39	0.69
1:A:225:THR:HA	1:A:228:THR:HG22	1.74	0.69
1:A:552:PRO:HG2	1:A:594:LYS:HD2	1.75	0.69
1:A:107:VAL:O	1:A:111:ILE:HG12	1.92	0.69
1:D:697:ARG:HD3	9:D:1115:HOH:O	1.93	0.69
3:C:85:CYS:HB2	3:C:164:LEU:HD22	1.75	0.69
3:F:85:CYS:HB2	3:F:164:LEU:HD22	1.75	0.69
2:B:92:LYS:HB3	2:B:93:LYS:HD2	1.75	0.68
2:E:353:HIS:HD2	2:E:354:PRO:HD2	1.55	0.68
1:A:113:THR:HA	1:A:116:ASP:HB2	1.73	0.68
1:D:28:LEU:HG	1:D:72:ASN:HD22	1.57	0.68
3:C:81:ILE:HG22	3:C:82:GLN:HG3	1.75	0.68
1:A:900:LEU:O	1:A:904:VAL:HG23	1.93	0.68
3:F:162:LEU:HD21	3:F:166:ARG:HH21	1.59	0.68
1:D:509:HIS:HD2	1:D:511:GLU:N	1.90	0.68
1:D:223:HIS:CD2	1:D:263:VAL:HG21	2.29	0.67
1:A:23:LEU:HD23	1:A:23:LEU:H	1.58	0.67
1:A:295:LYS:HE3	1:A:300:LEU:HD12	1.74	0.67
1:A:626:GLN:H	1:A:629:GLN:HE21	1.38	0.67
1:D:225:THR:HA	1:D:228:THR:HG22	1.76	0.67
1:D:1051:LYS:HG3	1:D:1052:LEU:HG	1.77	0.67
3:F:123:LYS:HE2	7:F:217:GTP:C4	2.29	0.67
1:A:96:ARG:NH2	1:A:145:HIS:HB3	2.10	0.67
2:B:61:HIS:CE1	2:B:94:LEU:HB3	2.29	0.67
1:D:1047:GLU:HA	1:D:1050:HIS:HB2	1.74	0.67
2:B:290:VAL:N	2:B:291:PRO:HD3	2.10	0.67
3:C:145:GLN:HE21	3:C:146:TYR:H	1.42	0.67
1:A:50:LEU:O	1:A:53:LEU:HG	1.95	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:219:ALA:HB3	1:A:220:PRO:HD3	1.78	0.66
1:A:509:HIS:HD2	1:A:511:GLU:N	1.92	0.66
1:D:107:VAL:O	1:D:111:ILE:HG12	1.95	0.66
2:E:154:SER:O	2:E:160:ASN:HB3	1.95	0.66
3:F:81:ILE:HG22	3:F:82:GLN:HG3	1.77	0.66
1:D:430:VAL:HG23	1:D:444:PHE:CE1	2.30	0.66
1:D:899:THR:HG22	1:D:903:ASN:HD21	1.60	0.66
1:D:150:ILE:O	1:D:154:VAL:HG23	1.95	0.66
1:A:35:LEU:O	1:A:36:TYR:HD2	1.78	0.65
1:D:440:VAL:HG23	9:D:1151:HOH:O	1.95	0.65
2:E:61:HIS:CE1	2:E:94:LEU:HB3	2.32	0.65
1:A:856:ASN:HB2	1:A:863:PHE:HE1	1.61	0.65
1:A:962:LEU:HB3	1:A:964:PRO:HD2	1.78	0.65
1:D:55:GLU:HG2	1:D:56:HIS:H	1.60	0.65
1:A:150:ILE:O	1:A:154:VAL:HG23	1.95	0.65
3:F:32:THR:OG1	3:F:34:GLU:HG2	1.97	0.65
1:A:223:HIS:NE2	1:A:263:VAL:HG21	2.12	0.65
2:B:105:SER:HB3	2:B:274:VAL:HG22	1.77	0.65
1:A:258:PRO:O	1:A:261:ARG:HG2	1.97	0.65
3:C:162:LEU:O	3:C:166:ARG:HG2	1.96	0.65
1:A:430:VAL:HG23	1:A:444:PHE:CE1	2.32	0.64
1:A:939:LEU:HD21	1:A:1016:ARG:HD2	1.79	0.64
1:D:684:THR:HG22	2:E:181:GLN:HE22	1.62	0.64
1:A:899:THR:HG22	1:A:903:ASN:HD21	1.62	0.64
1:D:56:HIS:CG	1:D:56:HIS:O	2.51	0.64
1:D:218:ASN:OD1	1:D:220:PRO:HD2	1.97	0.64
1:D:939:LEU:HD21	1:D:1016:ARG:HD2	1.80	0.64
2:E:105:SER:HB3	2:E:274:VAL:HG22	1.79	0.64
3:C:32:THR:OG1	3:C:34:GLU:HG2	1.98	0.64
2:E:137:GLY:HA3	4:E:362:GOL:H32	1.80	0.64
1:A:40:GLY:O	1:A:44:ARG:HG2	1.98	0.64
1:D:53:LEU:CG	1:D:54:LYS:N	2.59	0.64
1:A:344:ARG:HE	1:A:408:LEU:HD22	1.63	0.64
3:C:138:PHE:HA	3:C:141:LYS:HE3	1.79	0.64
1:A:55:GLU:HG2	1:A:56:HIS:H	1.63	0.63
1:D:388:THR:CG2	1:D:402:ILE:HD13	2.26	0.63
3:F:75:LEU:CA	3:F:79:TYR:HE1	2.11	0.63
1:A:35:LEU:HD21	9:C:1:HOH:O	1.98	0.63
1:A:949:MET:O	1:A:953:VAL:HG23	1.98	0.63
1:D:308:TYR:HD1	1:D:319:ILE:HD12	1.63	0.63
1:D:949:MET:O	1:D:953:VAL:HG23	1.98	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:23:LEU:HD23	1:D:23:LEU:H	1.63	0.63
1:D:36:TYR:HA	5:D:1074:PEG:H32	1.80	0.63
1:D:62:ARG:HG3	1:D:62:ARG:HH11	1.63	0.63
3:F:75:LEU:HB2	3:F:79:TYR:HE1	1.63	0.63
3:F:75:LEU:C	3:F:79:TYR:CE1	2.72	0.63
1:A:569:LEU:HD21	1:A:587:THR:HB	1.79	0.63
1:A:569:LEU:HD23	1:A:584:ALA:O	1.99	0.63
1:D:258:PRO:O	1:D:261:ARG:HG2	1.99	0.63
2:E:291:PRO:O	2:E:292:ALA:HB2	1.98	0.63
1:A:263:VAL:HG23	9:A:1130:HOH:O	1.96	0.63
2:B:11:ARG:HH11	2:B:11:ARG:CB	2.12	0.63
1:D:80:LEU:HD11	1:D:126:TYR:CE1	2.33	0.63
1:D:996:LEU:HG	1:D:1035:LEU:HD21	1.81	0.63
1:A:431:LEU:HG	1:A:433:VAL:HG12	1.81	0.63
3:F:162:LEU:O	3:F:166:ARG:HG2	1.98	0.63
1:D:15:GLN:NE2	1:D:27:LEU:HB2	2.14	0.62
1:D:926:ILE:O	1:D:930:VAL:HG23	1.98	0.62
1:D:963:ASN:HB2	1:D:964:PRO:HD3	1.81	0.62
3:C:75:LEU:CB	3:C:79:TYR:HE1	2.11	0.62
1:D:40:GLY:O	1:D:44:ARG:HG2	1.99	0.62
1:D:219:ALA:HB3	1:D:220:PRO:HD3	1.82	0.62
1:D:856:ASN:HB2	1:D:863:PHE:HE1	1.64	0.62
1:A:73:MET:HE1	1:A:123:GLU:HB2	1.80	0.62
1:A:386:PHE:CZ	5:A:1075:PEG:C3	2.78	0.62
1:D:344:ARG:HE	1:D:408:LEU:HD22	1.64	0.62
1:A:966:ASN:N	1:A:967:PRO:HD2	2.15	0.62
2:B:38:LEU:HD12	2:B:44:ARG:NH1	2.14	0.62
2:B:52:LYS:HE2	2:B:265:HIS:ND1	2.15	0.62
2:B:259:PHE:O	2:B:274:VAL:HA	1.99	0.62
1:D:569:LEU:HD23	1:D:584:ALA:O	2.00	0.62
2:E:108:LEU:HD23	2:E:277:LEU:HD11	1.81	0.62
1:A:740:THR:HA	1:A:745:ILE:HG21	1.81	0.61
1:D:119:CYS:O	1:D:121:GLU:N	2.32	0.61
3:C:122:ASN:O	3:C:123:LYS:HB2	1.99	0.61
1:D:12:ALA:HB3	1:D:14:ARG:HG3	1.82	0.61
2:E:92:LYS:HG3	2:E:93:LYS:O	2.00	0.61
2:B:156:LEU:HD21	2:B:172:LEU:HD11	1.83	0.61
1:D:900:LEU:O	1:D:904:VAL:HG23	2.00	0.61
1:A:684:THR:HG22	2:B:181:GLN:HE22	1.66	0.60
1:A:386:PHE:CE2	5:A:1075:PEG:H31	2.35	0.60
1:D:96:ARG:HH22	1:D:145:HIS:CB	2.14	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:285:THR:O	1:D:289:LEU:HB2	2.01	0.60
1:D:739:VAL:O	1:D:742:GLN:HG2	2.01	0.60
2:E:52:LYS:HE2	2:E:265:HIS:HB2	1.83	0.60
3:F:75:LEU:O	3:F:79:TYR:CE1	2.54	0.60
2:B:290:VAL:HA	2:B:294:PRO:HG3	1.83	0.60
1:A:599:PHE:HB2	1:A:640:MET:HG2	1.82	0.60
3:C:75:LEU:C	3:C:79:TYR:CE1	2.75	0.60
1:A:962:LEU:HB3	1:A:964:PRO:CD	2.32	0.60
2:E:38:LEU:HD12	2:E:44:ARG:NH1	2.16	0.60
1:D:299:PRO:HB2	1:D:302:THR:HG23	1.82	0.60
1:A:56:HIS:N	1:A:57:PRO:HD3	2.17	0.60
1:A:887:ARG:NH1	1:A:937:ALA:HB3	2.16	0.60
2:B:40:GLN:O	2:B:40:GLN:HG2	2.01	0.60
1:D:569:LEU:HD21	1:D:587:THR:HB	1.81	0.60
3:F:122:ASN:O	3:F:123:LYS:HB2	2.01	0.60
1:A:892:THR:O	1:A:896:ILE:HG13	2.02	0.60
3:F:31:LEU:HD12	3:F:32:THR:H	1.67	0.60
1:A:21:GLN:HE21	1:A:21:GLN:N	1.90	0.59
1:A:626:GLN:H	1:A:629:GLN:NE2	2.00	0.59
2:B:59:VAL:HA	2:B:195:PRO:HG2	1.84	0.59
1:D:554:PHE:CE1	1:D:558:HIS:CD2	2.90	0.59
1:A:308:TYR:HD1	1:A:319:ILE:HD12	1.67	0.59
3:C:162:LEU:HD21	3:C:166:ARG:HH21	1.67	0.59
2:B:108:LEU:HD23	2:B:277:LEU:HD11	1.83	0.59
1:D:626:GLN:H	1:D:629:GLN:NE2	2.00	0.59
1:A:926:ILE:O	1:A:930:VAL:HG23	2.02	0.59
3:C:75:LEU:CA	3:C:79:TYR:HE1	2.15	0.59
1:D:139:LYS:HE2	1:D:186:ILE:HD11	1.84	0.59
3:F:95:ARG:NH1	9:F:439:HOH:O	2.35	0.59
1:D:116:ASP:C	1:D:118:THR:H	2.05	0.59
1:A:684:THR:HG22	2:B:181:GLN:NE2	2.18	0.59
1:A:285:THR:O	1:A:289:LEU:HB2	2.02	0.59
1:A:963:ASN:HD22	1:A:964:PRO:HD3	1.67	0.59
2:B:280:TYR:CG	2:B:296:THR:HB	2.38	0.59
3:C:31:LEU:HD12	3:C:32:THR:H	1.68	0.59
1:D:975:GLN:HG2	1:D:1002:PHE:CE1	2.37	0.59
1:A:557:ALA:C	1:A:558:HIS:HD1	2.05	0.59
1:A:943:ALA:HB1	1:A:1011:PHE:HD2	1.68	0.59
1:A:1033:LEU:HG	1:A:1034:PHE:H	1.68	0.59
1:D:1040:THR:O	1:D:1043:ARG:HG2	2.02	0.58
2:B:154:SER:O	2:B:160:ASN:HB3	2.03	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:471:ASP:O	1:D:475:ILE:HG12	2.02	0.58
1:D:892:THR:O	1:D:896:ILE:HG13	2.04	0.58
3:F:75:LEU:N	3:F:79:TYR:HE1	2.02	0.58
1:A:664:VAL:CG1	1:A:691:ILE:HD11	2.33	0.58
1:A:393:LEU:H	1:A:393:LEU:HD23	1.68	0.58
1:A:393:LEU:HD23	1:A:393:LEU:N	2.18	0.58
1:D:58:ASP:HB3	1:D:62:ARG:NH2	2.18	0.58
1:A:223:HIS:CD2	1:A:263:VAL:HG21	2.39	0.58
1:A:299:PRO:HB2	1:A:302:THR:HG23	1.84	0.58
1:A:788:TYR:CE1	1:A:796:ARG:HB3	2.39	0.58
2:E:95:PRO:HG2	2:E:100:ASN:O	2.03	0.58
1:D:578:ASP:HB2	9:D:1090:HOH:O	2.04	0.58
1:D:684:THR:HG22	2:E:181:GLN:NE2	2.18	0.58
2:E:156:LEU:HD21	2:E:172:LEU:HD11	1.86	0.58
1:A:192:LYS:HE2	1:A:195:LYS:HD2	1.85	0.58
1:D:32:VAL:O	1:D:36:TYR:HD1	1.86	0.58
1:D:425:ALA:HB2	1:D:457:MET:HE3	1.84	0.58
3:F:117:ILE:HB	3:F:144:LEU:HD22	1.85	0.58
2:B:243:CYS:SG	2:B:288:VAL:HG13	2.43	0.58
2:E:259:PHE:O	2:E:274:VAL:HA	2.04	0.58
1:A:192:LYS:HA	1:A:192:LYS:HE3	1.86	0.57
1:A:399:HIS:HB3	1:A:401:ASP:H	1.69	0.57
1:D:943:ALA:HB1	1:D:1011:PHE:HD2	1.69	0.57
1:D:82:ILE:O	1:D:86:VAL:HG23	2.04	0.57
1:D:555:LEU:HB3	1:D:562:LEU:CD2	2.34	0.57
3:F:75:LEU:C	3:F:79:TYR:HE1	2.08	0.57
3:F:143:ASN:N	3:F:143:ASN:HD22	2.02	0.57
1:D:446:LYS:HD2	3:F:127:LYS:HG3	1.85	0.57
2:E:296:THR:O	2:E:297:THR:HG23	2.05	0.57
1:D:58:ASP:HB3	1:D:62:ARG:HH21	1.69	0.57
1:A:739:VAL:O	1:A:742:GLN:HG2	2.03	0.57
1:D:966:ASN:HB3	1:D:967:PRO:CD	2.28	0.57
1:A:963:ASN:ND2	1:A:964:PRO:HD3	2.19	0.57
1:A:968:VAL:O	1:A:968:VAL:HG13	2.05	0.57
2:B:288:VAL:HG12	2:B:289:ALA:N	2.19	0.57
3:C:143:ASN:N	3:C:143:ASN:HD22	2.03	0.57
1:D:534:LYS:HD3	1:D:577:HIS:HB2	1.86	0.57
3:C:141:LYS:H	3:C:141:LYS:HD2	1.70	0.57
1:A:739:VAL:CG2	1:A:745:ILE:HG13	2.33	0.57
3:C:117:ILE:HB	3:C:144:LEU:HD22	1.86	0.57
1:D:966:ASN:CB	1:D:967:PRO:HD3	2.28	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:996:LEU:HG	1:D:1035:LEU:CD2	2.35	0.57
3:F:141:LYS:H	3:F:141:LYS:HD2	1.70	0.57
1:A:425:ALA:HB2	1:A:457:MET:HE3	1.86	0.57
1:A:534:LYS:HD3	1:A:577:HIS:HB2	1.86	0.57
1:A:975:GLN:HG2	1:A:1002:PHE:CE1	2.39	0.57
1:A:887:ARG:HD3	1:A:937:ALA:HB3	1.86	0.56
1:A:963:ASN:N	1:A:964:PRO:HD3	2.20	0.56
1:D:276:VAL:HG13	1:D:278:GLN:H	1.69	0.56
1:A:887:ARG:HD3	1:A:937:ALA:CB	2.35	0.56
3:C:70:GLU:O	3:C:76:ARG:NH2	2.38	0.56
1:D:569:LEU:O	1:D:573:MET:HG3	2.05	0.56
3:F:31:LEU:HD12	3:F:32:THR:N	2.20	0.56
3:F:45:VAL:CB	3:F:79:TYR:HE2	2.16	0.56
1:A:956:GLY:O	1:A:958:ILE:HG23	2.05	0.56
1:D:36:TYR:CA	5:D:1074:PEG:H32	2.34	0.56
1:D:453:LEU:HD11	1:D:457:MET:HE2	1.88	0.56
2:E:59:VAL:HA	2:E:195:PRO:HG2	1.87	0.56
2:E:92:LYS:HG2	9:E:368:HOH:O	2.05	0.56
3:F:45:VAL:HB	3:F:79:TYR:CD2	2.41	0.56
1:A:569:LEU:O	1:A:573:MET:HG3	2.06	0.56
1:D:55:GLU:CG	1:D:56:HIS:H	2.18	0.56
1:D:161:GLU:HG3	1:D:221:LEU:HD22	1.86	0.56
1:A:73:MET:CE	1:A:125:VAL:HB	2.36	0.56
1:A:187:THR:HG23	9:A:1178:HOH:O	2.05	0.56
1:A:400:PHE:O	1:A:400:PHE:CG	2.58	0.56
1:A:568:LYS:HE3	1:A:568:LYS:HA	1.88	0.56
2:E:117:GLN:HG3	2:E:117:GLN:O	2.06	0.56
1:A:276:VAL:HG13	1:A:278:GLN:H	1.70	0.56
1:D:297:MET:O	1:D:299:PRO:HD3	2.05	0.56
1:D:840:GLU:O	1:D:845:ARG:NH1	2.39	0.56
1:A:218:ASN:OD1	1:A:220:PRO:HD2	2.05	0.56
1:A:840:GLU:O	1:A:845:ARG:NH1	2.39	0.56
1:A:969:ASN:OD1	1:A:972:MET:HB2	2.06	0.56
3:C:100:ASN:HD22	3:C:103:ASN:ND2	2.04	0.56
1:A:139:LYS:HE2	1:A:186:ILE:HD11	1.87	0.55
1:A:471:ASP:O	1:A:475:ILE:HG12	2.05	0.55
1:A:961:PRO:HD3	1:A:970:ASN:ND2	2.20	0.55
3:C:31:LEU:HD12	3:C:32:THR:N	2.21	0.55
1:D:746:ARG:HG2	5:D:1076:PEG:H11	1.88	0.55
1:D:788:TYR:CE1	1:D:796:ARG:HB3	2.41	0.55
1:A:123:GLU:HB3	1:A:125:VAL:HG23	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:119:CYS:O	1:D:122:LYS:N	2.38	0.55
1:A:105:TYR:O	1:A:109:LEU:HB2	2.05	0.55
1:A:866:ILE:HB	1:A:867:PRO:HD2	1.88	0.55
1:A:1043:ARG:HA	1:A:1046:GLN:HB3	1.87	0.55
1:D:568:LYS:HE3	1:D:568:LYS:HA	1.88	0.55
1:D:575:GLU:HG2	1:D:580:VAL:HG11	1.88	0.55
1:D:1038:ARG:NH2	1:D:1042:LEU:HD21	2.20	0.55
1:A:44:ARG:O	1:A:47:GLN:HG2	2.06	0.55
2:E:96:LYS:HE3	2:E:96:LYS:HA	1.87	0.55
2:E:176:TYR:HB2	2:E:183:TYR:CE1	2.41	0.55
3:F:159:LYS:HB2	3:F:160:PRO:HD3	1.87	0.55
1:A:35:LEU:O	1:A:36:TYR:CD2	2.58	0.55
1:A:1043:ARG:NH1	1:A:1046:GLN:HG2	2.17	0.55
1:D:953:VAL:HG11	1:D:974:ILE:HG21	1.89	0.55
1:A:120:VAL:O	1:A:123:GLU:HA	2.07	0.55
1:D:105:TYR:O	1:D:109:LEU:HB2	2.06	0.55
3:F:75:LEU:CB	3:F:79:TYR:HE1	2.20	0.55
1:A:82:ILE:O	1:A:86:VAL:HG23	2.07	0.55
1:A:678:ILE:C	1:A:680:LYS:H	2.10	0.55
3:C:75:LEU:O	3:C:79:TYR:CE1	2.60	0.55
1:D:517:LEU:HD11	1:D:551:TYR:CG	2.42	0.55
1:D:759:ILE:HD13	1:D:780:LEU:HD21	1.89	0.55
1:A:517:LEU:HD11	1:A:551:TYR:CG	2.42	0.55
1:A:616:ASN:OD1	1:A:656:LYS:HE2	2.06	0.55
3:C:45:VAL:HB	3:C:79:TYR:CD2	2.42	0.55
1:D:80:LEU:HD11	1:D:126:TYR:HE1	1.72	0.55
3:F:100:ASN:HD22	3:F:103:ASN:HD22	1.55	0.54
1:A:953:VAL:HG11	1:A:974:ILE:HG21	1.89	0.54
1:D:555:LEU:HB3	1:D:562:LEU:HD23	1.88	0.54
2:E:290:VAL:N	2:E:291:PRO:HD2	2.22	0.54
1:A:123:GLU:C	1:A:125:VAL:N	2.60	0.54
1:A:297:MET:O	1:A:299:PRO:HD3	2.06	0.54
3:C:100:ASN:HD22	3:C:103:ASN:HD22	1.53	0.54
1:D:44:ARG:O	1:D:47:GLN:HG2	2.07	0.54
1:A:916:GLN:HE22	1:A:959:SER:HB3	1.72	0.54
1:A:957:LYS:NZ	1:A:961:PRO:HB3	2.22	0.54
2:B:11:ARG:NH1	2:B:35:TYR:OH	2.40	0.54
2:B:111:VAL:HG11	9:B:731:HOH:O	2.07	0.54
1:D:739:VAL:CG2	1:D:745:ILE:HG13	2.35	0.54
1:D:765:ARG:CZ	5:D:1075:PEG:H31	2.38	0.54
3:C:159:LYS:HB2	3:C:160:PRO:HD3	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:124:VAL:HG22	3:F:150:SER:HB2	1.90	0.54
1:A:785:LEU:HD21	1:A:804:MET:HE2	1.90	0.54
1:A:966:ASN:N	1:A:967:PRO:CD	2.70	0.54
1:A:161:GLU:HG3	1:A:221:LEU:HD22	1.89	0.54
1:D:27:LEU:CD2	1:D:62:ARG:HD3	2.37	0.54
1:D:393:LEU:CD2	1:D:394:LEU:H	2.19	0.54
1:D:866:ILE:HB	1:D:867:PRO:HD2	1.90	0.54
1:D:1036:GLU:O	1:D:1040:THR:HG23	2.08	0.54
1:A:133:ILE:O	1:A:136:GLN:HB2	2.07	0.54
1:A:665:TRP:O	1:A:669:ILE:HG12	2.08	0.54
1:D:945:ILE:O	1:D:949:MET:HG3	2.08	0.54
1:D:1033:LEU:O	1:D:1034:PHE:HB2	2.07	0.54
1:A:963:ASN:N	1:A:964:PRO:CD	2.71	0.54
1:D:441:VAL:HG22	1:D:442:ARG:N	2.23	0.54
3:F:100:ASN:HD22	3:F:103:ASN:ND2	2.07	0.53
1:A:660:LEU:HD13	9:A:1123:HOH:O	2.08	0.53
1:A:759:ILE:HD13	1:A:780:LEU:HD21	1.90	0.53
2:B:160:ASN:ND2	2:B:162:ARG:H	2.06	0.53
1:A:453:LEU:HD11	1:A:457:MET:HE2	1.91	0.53
1:D:444:PHE:HB2	9:D:1165:HOH:O	2.09	0.53
2:E:27:ARG:HG3	2:E:27:ARG:O	2.08	0.53
1:A:110:ILE:O	1:A:114:SER:N	2.28	0.53
2:B:38:LEU:HD12	2:B:44:ARG:HH11	1.74	0.53
2:B:176:TYR:HB2	2:B:183:TYR:CE1	2.44	0.53
1:A:20:SER:HB2	1:A:22:LYS:HD3	1.91	0.53
1:D:525:LEU:HD21	2:E:9:LEU:HA	1.90	0.53
1:D:785:LEU:HD21	1:D:804:MET:HE2	1.91	0.53
2:E:95:PRO:HB2	2:E:101:GLN:NE2	2.23	0.53
1:A:1046:GLN:HE22	1:A:1049:LYS:NZ	2.07	0.53
3:C:9:VAL:HG12	3:C:10:GLN:H	1.73	0.53
3:F:70:GLU:O	3:F:76:ARG:NH2	2.42	0.53
1:A:66:ILE:HG21	1:A:72:ASN:CG	2.29	0.53
1:A:95:PRO:HG2	1:A:98:GLN:HE21	1.74	0.53
3:C:88:ILE:HG21	3:C:101:VAL:HG13	1.90	0.53
1:D:293:GLN:O	1:D:297:MET:HG3	2.08	0.53
1:D:616:ASN:OD1	1:D:656:LYS:HE2	2.08	0.53
2:B:280:TYR:CD2	2:B:296:THR:HB	2.44	0.53
2:E:38:LEU:HD12	2:E:44:ARG:HH11	1.74	0.53
1:A:741:LYS:HG3	1:A:746:ARG:NH1	2.24	0.53
1:D:599:PHE:HB2	1:D:640:MET:HG2	1.90	0.53
1:D:954:GLU:O	1:D:955:GLU:HG3	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:525:LEU:HD21	2:B:9:LEU:HA	1.91	0.53
1:D:521:ILE:HD11	2:E:7:PRO:HG2	1.90	0.53
1:A:262:ASN:HD21	1:A:318:PHE:HA	1.73	0.52
1:D:559:TRP:CD2	1:D:603:GLN:HG3	2.44	0.52
1:A:386:PHE:CE2	5:A:1075:PEG:C3	2.93	0.52
1:D:664:VAL:CG1	1:D:691:ILE:HD11	2.39	0.52
1:D:798:PRO:HG3	1:D:844:HIS:NE2	2.24	0.52
1:D:916:GLN:HE22	1:D:959:SER:HB3	1.74	0.52
2:E:41:SER:HB2	2:E:110:ASP:HB3	1.91	0.52
2:E:160:ASN:HD21	2:E:162:ARG:HB2	1.72	0.52
1:A:900:LEU:HA	1:A:903:ASN:HD22	1.74	0.52
1:D:361:GLU:HB3	4:D:1079:GOL:O3	2.08	0.52
1:D:956:GLY:O	1:D:958:ILE:HG23	2.08	0.52
1:A:954:GLU:O	1:A:955:GLU:HG3	2.10	0.52
1:D:121:GLU:O	1:D:123:GLU:N	2.43	0.52
1:D:262:ASN:HD21	1:D:318:PHE:HA	1.74	0.52
2:E:8:PRO:O	2:E:11:ARG:HG2	2.10	0.52
1:A:1018:PHE:O	1:A:1022:ILE:HG23	2.09	0.52
1:D:565:VAL:HG22	2:E:9:LEU:CD2	2.40	0.52
1:A:786:ILE:HD13	1:D:645:THR:HG21	1.91	0.52
1:D:393:LEU:HG	1:D:399:HIS:CE1	2.45	0.52
3:F:95:ARG:HG2	3:F:131:VAL:HG22	1.92	0.52
2:B:288:VAL:CG1	2:B:289:ALA:N	2.72	0.52
3:C:145:GLN:NE2	3:C:146:TYR:H	2.08	0.52
2:B:293:GLY:N	2:B:294:PRO:CD	2.70	0.52
2:E:49:GLU:HA	2:E:52:LYS:HG2	1.92	0.52
1:D:957:LYS:NZ	1:D:961:PRO:HB3	2.24	0.52
1:A:458:ARG:HG3	1:A:503:SER:HB2	1.91	0.51
1:A:521:ILE:HD11	2:B:7:PRO:HG2	1.90	0.51
1:A:559:TRP:CD2	1:A:603:GLN:HG3	2.45	0.51
1:D:961:PRO:HD3	1:D:970:ASN:ND2	2.25	0.51
1:A:95:PRO:CG	1:A:98:GLN:HE21	2.23	0.51
1:A:719:ASN:OD1	2:B:358:MET:HB2	2.10	0.51
2:B:4:LEU:O	2:B:4:LEU:HD23	2.10	0.51
1:D:907:GLU:O	1:D:911:ALA:HB2	2.10	0.51
2:E:115:LEU:HD12	2:E:119:TRP:CG	2.45	0.51
1:A:80:LEU:HD11	1:A:126:TYR:CE1	2.45	0.51
1:A:664:VAL:O	1:A:668:ILE:HG13	2.11	0.51
1:A:971:GLN:O	1:A:975:GLN:HG3	2.10	0.51
3:C:75:LEU:N	3:C:79:TYR:HE1	2.09	0.51
1:D:24:ASP:O	1:D:28:LEU:HD13	2.09	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:87:ILE:HD13	1:A:137:ILE:HG13	1.92	0.51
1:A:257:VAL:HG21	1:A:260:PHE:HD2	1.74	0.51
1:A:293:GLN:O	1:A:297:MET:HG3	2.10	0.51
1:D:257:VAL:HG21	1:D:260:PHE:HD2	1.74	0.51
1:D:455:LYS:HD2	1:D:458:ARG:HH22	1.76	0.51
1:A:455:LYS:HD2	1:A:458:ARG:HH22	1.76	0.51
1:A:785:LEU:HD21	1:A:804:MET:CE	2.40	0.51
1:D:13:ALA:HB3	1:D:47:GLN:HE22	1.75	0.51
1:A:116:ASP:OD2	1:A:117:PRO:HD2	2.10	0.51
1:A:399:HIS:O	1:A:400:PHE:HB3	2.11	0.51
3:C:31:LEU:HD13	3:C:32:THR:HG23	1.93	0.51
1:D:781:LEU:HD11	1:D:821:GLN:HB3	1.93	0.51
1:D:882:PHE:HA	1:D:890:ALA:HA	1.93	0.51
1:D:961:PRO:HB2	1:D:973:PHE:CE1	2.46	0.51
1:A:55:GLU:CG	1:A:56:HIS:H	2.24	0.51
2:B:115:LEU:HD12	2:B:119:TRP:CG	2.46	0.51
3:F:115:ILE:O	3:F:117:ILE:HG13	2.11	0.51
1:A:400:PHE:O	1:A:400:PHE:CD2	2.64	0.51
1:A:600:VAL:HG11	1:A:640:MET:O	2.11	0.51
1:D:600:VAL:HB	1:D:644:GLN:HG2	1.93	0.51
3:C:124:VAL:HG22	3:C:150:SER:HB2	1.93	0.51
3:F:169:ILE:O	3:F:169:ILE:HG22	2.11	0.51
1:A:21:GLN:NE2	1:A:21:GLN:N	2.54	0.50
1:A:676:VAL:HG12	1:A:676:VAL:O	2.11	0.50
2:B:52:LYS:HE2	2:B:265:HIS:HB2	1.92	0.50
3:C:73:GLY:HA2	9:C:2:HOH:O	2.11	0.50
1:D:27:LEU:HD22	1:D:62:ARG:CZ	2.41	0.50
3:F:31:LEU:CD1	3:F:32:THR:HG23	2.41	0.50
1:A:156:ALA:HB1	1:A:163:LEU:HD22	1.93	0.50
1:A:229:LEU:HD11	1:A:246:LEU:HD11	1.93	0.50
1:D:484:VAL:HA	1:D:527:LEU:HD13	1.92	0.50
1:A:300:LEU:O	1:A:352:HIS:HE1	1.94	0.50
1:D:670:GLN:HG3	1:D:671:GLN:N	2.27	0.50
1:A:400:PHE:CD2	1:A:400:PHE:C	2.85	0.50
1:A:484:VAL:HA	1:A:527:LEU:HD13	1.92	0.50
1:A:676:VAL:HG13	1:A:679:LEU:HD12	1.93	0.50
2:B:27:ARG:O	2:B:27:ARG:HG2	2.10	0.50
3:C:169:ILE:HG22	3:C:169:ILE:O	2.12	0.50
1:D:899:THR:HG22	1:D:903:ASN:ND2	2.26	0.50
1:D:1006:GLN:OE1	1:D:1049:LYS:HB3	2.11	0.50
1:A:167:ASN:ND2	1:A:170:ILE:HD12	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:961:PRO:HB2	1:A:973:PHE:CE1	2.46	0.50
2:B:41:SER:HB2	2:B:110:ASP:HB3	1.93	0.50
2:B:160:ASN:HD21	2:B:162:ARG:HB2	1.76	0.50
1:A:798:PRO:HG3	1:A:844:HIS:NE2	2.26	0.50
1:A:882:PHE:HA	1:A:890:ALA:HA	1.94	0.50
1:D:95:PRO:HG2	1:D:98:GLN:HB3	1.93	0.50
1:D:1018:PHE:O	1:D:1022:ILE:HG23	2.10	0.50
3:F:31:LEU:HD13	3:F:32:THR:HG23	1.94	0.50
1:A:389:SER:N	1:A:401:ASP:OD1	2.26	0.50
1:D:971:GLN:O	1:D:975:GLN:HG3	2.12	0.50
2:E:10:GLU:HB3	2:E:34:LYS:HE2	1.93	0.50
1:A:877:SER:O	1:A:880:TRP:HB3	2.11	0.50
2:B:35:TYR:N	2:B:35:TYR:CD1	2.78	0.50
2:B:156:LEU:HD21	2:B:172:LEU:CD1	2.41	0.50
3:F:145:GLN:HE21	3:F:146:TYR:N	2.09	0.50
2:B:187:ASP:OD1	2:B:204:ARG:HD2	2.12	0.50
1:D:156:ALA:HB1	1:D:163:LEU:HD22	1.94	0.50
1:A:554:PHE:CE1	1:A:558:HIS:CD2	3.00	0.49
1:A:781:LEU:HD11	1:A:821:GLN:HB3	1.95	0.49
1:D:27:LEU:HD22	1:D:62:ARG:NH1	2.26	0.49
1:D:737:GLU:H	1:D:737:GLU:CD	2.16	0.49
1:D:900:LEU:HA	1:D:903:ASN:HD22	1.77	0.49
2:E:4:LEU:HD12	2:E:4:LEU:O	2.12	0.49
2:E:18:LEU:HD22	2:E:38:LEU:HG	1.94	0.49
1:A:575:GLU:HG2	1:A:580:VAL:HG11	1.94	0.49
2:B:125:PRO:HB3	2:B:252:PHE:CG	2.46	0.49
3:C:30:HIS:ND1	3:C:157:PHE:CZ	2.79	0.49
3:C:76:ARG:NH1	5:C:182:PEG:H12	2.27	0.49
1:D:95:PRO:HG2	1:D:98:GLN:CB	2.42	0.49
2:E:243:CYS:SG	2:E:289:ALA:HB2	2.52	0.49
2:E:291:PRO:O	2:E:292:ALA:CB	2.59	0.49
1:A:336:LEU:C	1:A:336:LEU:HD12	2.32	0.49
2:B:49:GLU:O	2:B:52:LYS:HB2	2.13	0.49
3:C:31:LEU:CD1	3:C:32:THR:HG23	2.42	0.49
1:D:8:LEU:O	1:D:8:LEU:HG	2.11	0.49
1:A:410:LEU:HB2	9:A:1183:HOH:O	2.11	0.49
1:A:509:HIS:HB2	9:A:1254:HOH:O	2.12	0.49
1:A:599:PHE:CB	1:A:640:MET:HG2	2.42	0.49
1:A:899:THR:HG22	1:A:903:ASN:ND2	2.27	0.49
2:B:122:VAL:HG22	2:B:234:ASN:HB3	1.93	0.49
2:B:216:GLU:HG2	2:B:217:GLY:H	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:264:THR:HG22	2:B:265:HIS:O	2.13	0.49
1:D:55:GLU:O	1:D:57:PRO:HD3	2.12	0.49
1:D:437:GLN:HE21	1:D:438:GLY:H	1.59	0.49
1:D:676:VAL:HG13	1:D:679:LEU:HD12	1.94	0.49
1:A:132:MET:HE3	1:A:132:MET:O	2.13	0.49
2:B:49:GLU:HA	2:B:52:LYS:HG2	1.93	0.49
2:B:295:LEU:C	2:B:295:LEU:HD12	2.32	0.49
3:C:9:VAL:HG12	3:C:10:GLN:N	2.27	0.49
3:C:86:ALA:CB	3:C:108:LEU:HD21	2.42	0.49
1:D:132:MET:HE3	1:D:132:MET:O	2.13	0.49
1:D:150:ILE:CD1	1:D:205:ILE:HD11	2.38	0.49
1:D:678:ILE:C	1:D:680:LYS:H	2.16	0.49
1:D:887:ARG:NH2	3:F:91:ASP:OD2	2.45	0.49
1:D:963:ASN:OD1	1:D:963:ASN:N	2.45	0.49
2:E:121:VAL:HA	2:E:258:LEU:O	2.12	0.49
1:A:526:GLY:HA2	5:A:1077:PEG:H12	1.95	0.49
1:A:600:VAL:HB	1:A:644:GLN:HG2	1.95	0.49
1:A:797:GLU:HB3	1:A:800:VAL:HG23	1.95	0.49
2:B:8:PRO:HB2	2:B:11:ARG:CZ	2.42	0.49
2:B:121:VAL:HA	2:B:258:LEU:O	2.13	0.49
1:D:17:LEU:HD23	1:D:19:PHE:H	1.77	0.49
1:D:1016:ARG:HG2	1:D:1016:ARG:HH11	1.78	0.49
3:F:145:GLN:NE2	3:F:146:TYR:H	2.07	0.49
2:E:35:TYR:CD1	2:E:35:TYR:N	2.80	0.49
2:E:43:ARG:NH2	2:E:46:ARG:HH22	2.11	0.49
1:A:386:PHE:HZ	5:A:1075:PEG:C2	2.02	0.49
1:A:485:ASN:C	1:A:487:THR:N	2.64	0.49
1:A:728:ILE:HD13	1:A:749:ARG:HD2	1.95	0.49
1:A:945:ILE:O	1:A:949:MET:HG3	2.12	0.49
1:D:482:ASN:HA	1:D:486:GLY:HA3	1.94	0.49
1:A:670:GLN:HG3	1:A:671:GLN:N	2.28	0.49
1:D:116:ASP:C	1:D:118:THR:N	2.65	0.49
1:D:482:ASN:HB3	1:D:488:GLU:HG2	1.95	0.49
2:E:10:GLU:CB	2:E:34:LYS:HE2	2.42	0.49
1:A:123:GLU:C	1:A:125:VAL:H	2.15	0.48
1:A:131:ASN:ND2	1:A:166:ASN:HD21	2.03	0.48
2:B:182:THR:HG23	2:B:228:LYS:O	2.13	0.48
2:B:191:TRP:NE1	2:B:192:ARG:HG3	2.26	0.48
1:D:17:LEU:HB3	1:D:22:LYS:HE2	1.95	0.48
1:D:113:THR:CG2	1:D:122:LYS:HD2	2.43	0.48
1:A:95:PRO:HG2	1:A:98:GLN:HB2	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:286:LEU:HD12	1:A:286:LEU:O	2.12	0.48
2:E:125:PRO:HB3	2:E:252:PHE:CG	2.47	0.48
2:E:296:THR:HG23	2:E:297:THR:N	2.27	0.48
2:B:10:GLU:CB	2:B:34:LYS:HE2	2.43	0.48
1:D:676:VAL:HG12	1:D:676:VAL:O	2.13	0.48
1:D:785:LEU:HD21	1:D:804:MET:CE	2.42	0.48
2:E:288:VAL:HB	2:E:290:VAL:HG23	1.95	0.48
1:A:441:VAL:HG12	1:A:628:GLN:NE2	2.28	0.48
2:E:4:LEU:C	2:E:5:GLN:HG2	2.33	0.48
1:A:482:ASN:HB3	1:A:488:GLU:HG2	1.95	0.48
1:D:458:ARG:HG3	1:D:503:SER:HB2	1.95	0.48
1:A:431:LEU:HG	1:A:433:VAL:CG1	2.43	0.48
1:A:482:ASN:HA	1:A:486:GLY:HA3	1.95	0.48
3:C:95:ARG:HG2	3:C:131:VAL:HG22	1.96	0.48
3:C:115:ILE:O	3:C:117:ILE:HG13	2.13	0.48
3:C:123:LYS:HE2	7:C:217:GTP:C5	2.49	0.48
1:D:1030:THR:HG22	1:D:1031:SER:N	2.27	0.48
1:A:550:GLN:C	1:A:552:PRO:HD3	2.34	0.48
1:D:611:ILE:HD13	1:D:640:MET:HE2	1.95	0.48
1:D:803:THR:O	1:D:807:ILE:HG23	2.14	0.48
3:F:75:LEU:H	3:F:79:TYR:HE1	1.59	0.48
1:A:17:LEU:HG	1:A:20:SER:OG	2.14	0.48
2:B:10:GLU:HB3	2:B:34:LYS:HE2	1.95	0.48
2:B:280:TYR:HA	2:B:294:PRO:HA	1.96	0.48
1:D:600:VAL:HG11	1:D:640:MET:O	2.14	0.48
1:D:673:THR:OG1	2:E:356:CYS:HB3	2.14	0.48
1:D:742:GLN:HB2	1:D:743:PRO:HD2	1.96	0.48
1:A:172:LYS:HG3	1:A:231:ARG:HG3	1.96	0.48
1:A:856:ASN:HB2	1:A:863:PHE:CE1	2.45	0.48
2:B:26:PRO:HG2	2:B:109:ILE:HD11	1.94	0.48
2:B:215:GLU:O	2:B:216:GLU:C	2.52	0.48
2:E:215:GLU:O	2:E:216:GLU:C	2.52	0.48
1:A:62:ARG:HE	1:A:79:GLY:HA3	1.78	0.47
1:D:87:ILE:HD13	1:D:137:ILE:HG13	1.96	0.47
1:D:941:MET:O	1:D:945:ILE:HG13	2.14	0.47
3:F:88:ILE:HG21	3:F:101:VAL:HG13	1.96	0.47
1:A:208:LEU:O	1:A:212:VAL:HG23	2.13	0.47
1:A:1016:ARG:HG2	1:A:1016:ARG:HH11	1.79	0.47
1:D:343:LEU:C	1:D:345:GLU:H	2.16	0.47
2:E:135:SER:HB3	2:E:169:TYR:HB3	1.96	0.47
2:E:165:THR:HG23	9:E:715:HOH:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:86:ALA:CB	3:F:108:LEU:HD21	2.44	0.47
1:A:704:HIS:HB3	1:A:705:PRO:HD3	1.96	0.47
3:C:75:LEU:C	3:C:79:TYR:HE1	2.17	0.47
3:C:75:LEU:H	3:C:79:TYR:HE1	1.62	0.47
1:D:505:SER:HA	1:D:551:TYR:CE1	2.49	0.47
2:E:118:GLU:HA	2:E:118:GLU:OE1	2.14	0.47
1:A:961:PRO:HD3	1:A:970:ASN:HD21	1.79	0.47
1:D:740:THR:HA	1:D:745:ILE:HG21	1.96	0.47
1:D:357:VAL:HG12	1:D:369:CYS:SG	2.55	0.47
1:D:485:ASN:C	1:D:487:THR:N	2.66	0.47
1:D:635:GLU:HB2	1:D:697:ARG:HB3	1.95	0.47
1:D:964:PRO:HB2	1:D:968:VAL:HB	1.96	0.47
1:D:1043:ARG:O	1:D:1047:GLU:OE2	2.32	0.47
1:A:73:MET:HE1	1:A:125:VAL:HB	1.96	0.47
1:D:257:VAL:CG2	1:D:260:PHE:HD2	2.27	0.47
1:D:797:GLU:HB3	1:D:800:VAL:HG23	1.97	0.47
2:E:284:ASP:OD1	2:E:284:ASP:N	2.45	0.47
1:A:16:LEU:O	1:A:17:LEU:C	2.52	0.47
1:A:56:HIS:HB3	1:A:82:ILE:HG22	1.96	0.47
1:A:111:ILE:HD12	1:A:163:LEU:HD11	1.97	0.47
1:A:343:LEU:C	1:A:345:GLU:H	2.17	0.47
1:A:526:GLY:CA	5:A:1077:PEG:H12	2.44	0.47
1:A:951:ASN:HA	1:A:1005:ASN:HD22	1.80	0.47
1:D:139:LYS:HE3	1:D:177:GLU:HB3	1.97	0.47
1:D:144:LYS:HE2	1:D:193:HIS:NE2	2.30	0.47
1:D:189:VAL:HG11	1:D:1038:ARG:HG2	1.95	0.47
1:D:433:VAL:HG21	3:F:153:SER:O	2.14	0.47
1:D:437:GLN:C	1:D:439:GLU:H	2.18	0.47
1:D:557:ALA:C	1:D:558:HIS:HD1	2.18	0.47
1:D:943:ALA:HB2	1:D:1015:LEU:HD12	1.96	0.47
2:E:187:ASP:OD1	2:E:204:ARG:HD2	2.14	0.47
1:A:93:ILE:CG2	1:A:1027:GLY:HA3	2.44	0.47
1:A:95:PRO:HG2	1:A:98:GLN:CB	2.45	0.47
1:D:32:VAL:O	1:D:36:TYR:CD1	2.66	0.47
1:D:131:ASN:ND2	1:D:166:ASN:HD21	2.04	0.47
1:D:223:HIS:NE2	1:D:263:VAL:CG2	2.76	0.47
2:E:25:HIS:CD2	2:E:26:PRO:HD2	2.50	0.47
1:A:28:LEU:HD23	1:A:28:LEU:O	2.15	0.47
1:A:257:VAL:CG2	1:A:260:PHE:HD2	2.27	0.47
1:A:296:GLN:HA	1:A:296:GLN:OE1	2.15	0.47
1:A:788:TYR:O	1:A:796:ARG:HG2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:145:GLN:HE21	3:C:146:TYR:N	2.12	0.47
1:D:17:LEU:O	1:D:22:LYS:HE2	2.15	0.47
1:D:143:PRO:HG2	1:D:144:LYS:HD2	1.97	0.47
1:D:970:ASN:N	1:D:970:ASN:HD22	2.10	0.47
2:E:122:VAL:HG22	2:E:234:ASN:HB3	1.96	0.47
2:E:173:ASP:O	2:E:186:LEU:HB3	2.15	0.47
2:E:261:HIS:CD2	2:E:263:GLN:H	2.32	0.47
1:A:386:PHE:HE2	5:A:1075:PEG:C2	2.26	0.46
1:A:961:PRO:HB2	1:A:973:PHE:CD1	2.50	0.46
1:D:257:VAL:HG22	1:D:260:PHE:HB2	1.97	0.46
1:D:961:PRO:HB2	1:D:973:PHE:CD1	2.50	0.46
1:A:954:GLU:HB2	1:A:955:GLU:OE1	2.16	0.46
2:B:11:ARG:HH11	2:B:11:ARG:CG	2.28	0.46
2:B:16:GLN:O	2:B:16:GLN:HG2	2.16	0.46
1:D:17:LEU:HD22	1:D:20:SER:HB2	1.98	0.46
1:D:36:TYR:C	5:D:1074:PEG:H32	2.35	0.46
1:D:954:GLU:HB2	1:D:955:GLU:OE1	2.16	0.46
1:D:970:ASN:ND2	1:D:970:ASN:N	2.64	0.46
2:E:244:ASP:O	2:E:248:MET:HG3	2.15	0.46
2:B:95:PRO:HG2	2:B:100:ASN:O	2.15	0.46
3:C:79:TYR:CD1	3:C:79:TYR:N	2.82	0.46
1:D:167:ASN:ND2	1:D:170:ILE:HD12	2.30	0.46
1:D:344:ARG:O	1:D:344:ARG:HG2	2.15	0.46
2:E:52:LYS:HD2	2:E:265:HIS:ND1	2.30	0.46
2:E:191:TRP:NE1	2:E:192:ARG:HG3	2.28	0.46
1:A:16:LEU:O	1:A:18:ASP:N	2.48	0.46
1:A:66:ILE:HG22	1:A:66:ILE:O	2.15	0.46
1:A:957:LYS:HZ1	1:A:961:PRO:HB3	1.81	0.46
2:B:123:VAL:HG22	2:B:257:LEU:CD2	2.45	0.46
1:D:208:LEU:O	1:D:212:VAL:HG23	2.15	0.46
1:D:482:ASN:O	1:D:487:THR:N	2.48	0.46
1:A:505:SER:HA	1:A:551:TYR:CE1	2.50	0.46
2:B:256:GLY:HA2	2:B:279:PRO:HD3	1.98	0.46
1:D:951:ASN:HA	1:D:1005:ASN:HD22	1.80	0.46
2:E:4:LEU:HG	2:E:6:LEU:HD13	1.96	0.46
1:A:514:LYS:O	1:A:518:VAL:HG23	2.16	0.46
1:A:767:ASN:HD22	1:A:767:ASN:HA	1.62	0.46
2:B:118:GLU:OE1	2:B:118:GLU:HA	2.15	0.46
1:D:106:VAL:O	1:D:110:ILE:HG13	2.15	0.46
1:D:764:SER:OG	5:D:1075:PEG:H12	2.15	0.46
2:E:288:VAL:HG23	2:E:289:ALA:H	1.81	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:742:GLN:HB2	1:A:743:PRO:HD2	1.97	0.46
2:B:283:SER:OG	2:B:290:VAL:HG12	2.15	0.46
1:D:681:ASP:HB3	1:D:684:THR:HG23	1.97	0.46
1:D:788:TYR:O	1:D:796:ARG:HG2	2.15	0.46
1:A:144:LYS:HE2	1:A:193:HIS:NE2	2.31	0.46
1:A:255:LEU:HD23	1:A:255:LEU:O	2.15	0.46
1:A:400:PHE:O	1:A:401:ASP:C	2.55	0.46
1:D:317:ASN:N	1:D:317:ASN:HD22	2.14	0.46
2:E:160:ASN:ND2	2:E:162:ARG:HB2	2.30	0.46
1:A:965:GLY:C	1:A:967:PRO:HD2	2.36	0.46
2:B:261:HIS:CD2	2:B:263:GLN:H	2.34	0.46
1:D:437:GLN:C	1:D:439:GLU:N	2.68	0.46
2:E:264:THR:HG22	2:E:265:HIS:O	2.16	0.46
1:A:874:VAL:O	1:A:877:SER:HB3	2.15	0.45
9:A:1267:HOH:O	3:C:47:VAL:HB	2.16	0.45
2:B:296:THR:O	2:B:297:THR:C	2.54	0.45
1:D:961:PRO:HD2	1:D:962:LEU:H	1.79	0.45
1:A:257:VAL:HG22	1:A:260:PHE:HB2	1.98	0.45
1:A:635:GLU:HB2	1:A:697:ARG:HB3	1.97	0.45
1:A:803:THR:O	1:A:807:ILE:HG23	2.17	0.45
1:A:860:PHE:HE1	1:A:900:LEU:CD1	2.29	0.45
1:D:96:ARG:O	1:D:100:GLU:HG3	2.16	0.45
1:D:860:PHE:HE1	1:D:900:LEU:CD1	2.29	0.45
2:E:115:LEU:HD12	2:E:119:TRP:HB2	1.97	0.45
1:A:20:SER:O	1:A:22:LYS:N	2.49	0.45
1:A:907:GLU:HA	1:A:907:GLU:OE1	2.17	0.45
2:B:54:LYS:HE3	2:B:198:ASP:HB3	1.98	0.45
2:B:93:LYS:HD2	2:B:93:LYS:N	2.32	0.45
3:C:79:TYR:HD1	3:C:79:TYR:N	2.14	0.45
1:D:437:GLN:HE21	1:D:438:GLY:N	2.13	0.45
1:D:664:VAL:O	1:D:668:ILE:HG13	2.17	0.45
2:E:156:LEU:HD21	2:E:172:LEU:CD1	2.46	0.45
2:E:264:THR:HG23	2:E:273:LEU:HD13	1.98	0.45
2:B:95:PRO:HB2	2:B:101:GLN:NE2	2.32	0.45
3:C:177:VAL:HG23	3:C:179:MET:HG2	1.99	0.45
1:D:229:LEU:HD11	1:D:246:LEU:HD11	1.99	0.45
1:D:255:LEU:HD23	1:D:255:LEU:O	2.15	0.45
1:D:525:LEU:HB3	2:E:11:ARG:HH21	1.80	0.45
1:D:607:VAL:HG23	1:D:608:MET:HG2	1.97	0.45
1:D:804:MET:O	1:D:807:ILE:HG12	2.17	0.45
1:A:55:GLU:HG2	1:A:56:HIS:N	2.29	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:225:THR:CA	1:A:228:THR:HG22	2.45	0.45
2:B:91:VAL:HG12	2:B:91:VAL:O	2.16	0.45
1:D:54:LYS:HG3	1:D:55:GLU:HB2	1.97	0.45
1:D:56:HIS:N	1:D:57:PRO:HD3	2.31	0.45
1:D:993:GLN:CG	1:D:1033:LEU:HD21	2.47	0.45
1:A:122:LYS:O	1:A:123:GLU:O	2.34	0.45
1:A:366:PHE:HE1	1:A:457:MET:HE2	1.81	0.45
1:D:402:ILE:H	1:D:402:ILE:HG12	1.52	0.45
1:D:874:VAL:O	1:D:877:SER:HB3	2.15	0.45
1:D:996:LEU:HB3	9:D:1148:HOH:O	2.16	0.45
1:A:88:LYS:HD2	1:A:136:GLN:NE2	2.32	0.45
1:A:400:PHE:O	1:A:402:ILE:N	2.49	0.45
1:A:1035:LEU:O	1:A:1036:GLU:C	2.55	0.45
2:B:25:HIS:CD2	2:B:26:PRO:HD2	2.51	0.45
1:D:877:SER:O	1:D:880:TRP:HB3	2.17	0.45
1:A:333:HIS:O	1:A:336:LEU:HG	2.17	0.45
2:B:18:LEU:HD22	2:B:38:LEU:HG	1.99	0.45
3:C:45:VAL:HG22	3:C:46:GLU:N	2.32	0.45
1:D:732:ILE:HD12	1:D:795:ALA:HB2	1.99	0.45
1:D:856:ASN:HB2	1:D:863:PHE:CE1	2.47	0.45
1:D:946:LEU:HB3	1:D:950:PHE:HE1	1.81	0.45
2:E:359:GLU:O	2:E:359:GLU:HG3	2.17	0.45
1:A:517:LEU:HD21	1:A:551:TYR:CE2	2.52	0.45
1:A:732:ILE:HD12	1:A:795:ALA:HB2	1.99	0.45
1:D:336:LEU:HD12	1:D:336:LEU:C	2.37	0.45
2:E:49:GLU:O	2:E:52:LYS:HB2	2.16	0.45
2:E:123:VAL:HG22	2:E:257:LEU:CD2	2.47	0.45
1:A:341:LEU:HD23	1:A:341:LEU:O	2.17	0.45
3:C:13:LEU:HD23	3:C:13:LEU:C	2.37	0.45
1:D:320:GLN:HE21	1:D:320:GLN:HB3	1.54	0.45
1:D:665:TRP:O	1:D:669:ILE:HG12	2.17	0.45
1:D:879:ILE:HA	1:D:882:PHE:CE2	2.52	0.45
1:A:946:LEU:HB3	1:A:950:PHE:HE1	1.81	0.44
2:B:31:TYR:C	2:B:33:SER:H	2.20	0.44
2:B:257:LEU:HD12	2:B:282:VAL:HG21	1.98	0.44
1:D:286:LEU:HD12	1:D:286:LEU:O	2.16	0.44
1:D:347:LEU:O	1:D:351:LEU:HG	2.17	0.44
1:A:485:ASN:C	1:A:487:THR:H	2.20	0.44
3:C:24:THR:HG21	9:C:344:HOH:O	2.18	0.44
3:C:75:LEU:N	3:C:79:TYR:CE1	2.85	0.44
2:E:156:LEU:HD23	2:E:170:THR:HG21	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:359:GLU:HA	2:E:359:GLU:OE1	2.16	0.44
1:A:320:GLN:HE21	1:A:320:GLN:HB3	1.57	0.44
1:A:943:ALA:HB2	1:A:1015:LEU:HD12	1.99	0.44
2:B:135:SER:HB3	2:B:169:TYR:HB3	2.00	0.44
2:B:173:ASP:HB2	2:B:189:MET:CE	2.48	0.44
2:B:244:ASP:O	2:B:248:MET:HG3	2.17	0.44
1:D:236:ILE:HG13	1:D:241:ILE:HD11	1.99	0.44
1:A:23:LEU:H	1:A:23:LEU:CD2	2.29	0.44
1:A:167:ASN:HD22	1:A:170:ILE:HD12	1.82	0.44
1:A:610:PHE:CE2	1:A:614:ILE:HD11	2.53	0.44
2:B:168:ASP:OD2	2:B:192:ARG:HA	2.17	0.44
1:D:24:ASP:OD1	1:D:28:LEU:HD13	2.17	0.44
1:D:434:GLU:HA	1:D:440:VAL:HA	1.98	0.44
1:D:786:ILE:O	1:D:790:ARG:HG3	2.18	0.44
1:A:482:ASN:O	1:A:487:THR:N	2.50	0.44
1:A:941:MET:O	1:A:945:ILE:HG13	2.18	0.44
3:C:76:ARG:CD	5:C:182:PEG:H21	2.28	0.44
1:D:112:LYS:HD3	1:D:112:LYS:C	2.38	0.44
1:D:434:GLU:H	1:D:434:GLU:HG2	1.43	0.44
1:D:680:LYS:HE2	1:D:727:ASN:HD22	1.82	0.44
1:D:788:TYR:CD2	1:D:826:VAL:HG12	2.52	0.44
2:E:286:LEU:HB3	2:E:287:GLY:H	1.52	0.44
1:A:611:ILE:HD13	1:A:640:MET:HE2	1.99	0.44
1:A:1046:GLN:HE22	1:A:1049:LYS:HZ3	1.64	0.44
3:C:20:GLY:HA3	9:C:304:HOH:O	2.18	0.44
1:D:225:THR:CA	1:D:228:THR:HG22	2.46	0.44
1:D:698:ALA:O	1:D:702:VAL:HG23	2.18	0.44
3:F:79:TYR:CD1	3:F:79:TYR:N	2.85	0.44
3:F:84:GLN:O	3:F:85:CYS:HB3	2.18	0.44
3:F:115:ILE:O	3:F:115:ILE:HG13	2.18	0.44
1:A:93:ILE:HG22	1:A:1027:GLY:HA3	1.99	0.44
1:A:879:ILE:HA	1:A:882:PHE:CE2	2.53	0.44
2:E:180:ASN:O	2:E:181:GLN:C	2.56	0.44
1:A:443:GLU:HG2	1:A:444:PHE:N	2.32	0.44
2:B:353:HIS:HA	2:B:354:PRO:HD3	1.78	0.44
1:D:435:ASN:HB2	9:D:1182:HOH:O	2.17	0.44
3:F:12:LYS:HE2	3:F:64:TRP:CE2	2.52	0.44
3:F:117:ILE:HG22	3:F:118:VAL:N	2.32	0.44
1:A:150:ILE:CD1	1:A:205:ILE:HD11	2.43	0.44
2:B:8:PRO:O	2:B:11:ARG:HG2	2.18	0.44
1:D:554:PHE:CE1	1:D:558:HIS:HD2	2.35	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:763:VAL:HG12	1:D:810:LYS:HG2	2.00	0.44
2:E:256:GLY:HA2	2:E:279:PRO:HD3	2.00	0.44
2:B:164:SER:HB3	2:B:168:ASP:HB3	2.00	0.43
2:B:281:MET:HE2	2:B:281:MET:HB3	1.55	0.43
1:D:495:ASN:ND2	1:D:543:ASN:HD21	2.16	0.43
3:F:13:LEU:C	3:F:13:LEU:HD23	2.38	0.43
1:A:681:ASP:HB3	1:A:684:THR:HG23	2.00	0.43
1:A:804:MET:O	1:A:807:ILE:HG12	2.18	0.43
2:B:61:HIS:ND1	2:B:94:LEU:HB3	2.33	0.43
2:B:173:ASP:O	2:B:186:LEU:HB3	2.18	0.43
1:D:122:LYS:O	1:D:123:GLU:O	2.37	0.43
1:A:106:VAL:O	1:A:110:ILE:HG13	2.18	0.43
1:A:317:ASN:N	1:A:317:ASN:HD22	2.16	0.43
1:A:777:VAL:O	1:A:780:LEU:HB2	2.17	0.43
2:B:93:LYS:HE3	2:B:93:LYS:HB3	1.84	0.43
2:B:123:VAL:HG22	2:B:257:LEU:HD21	2.01	0.43
1:D:288:THR:O	1:D:292:MET:HG3	2.18	0.43
1:D:550:GLN:C	1:D:552:PRO:HD3	2.38	0.43
1:A:56:HIS:N	1:A:57:PRO:CD	2.81	0.43
1:A:480:LEU:O	1:A:480:LEU:HD23	2.17	0.43
1:A:961:PRO:HD2	1:A:962:LEU:H	1.81	0.43
2:B:155:LEU:HG	2:B:225:ASN:HB2	1.98	0.43
3:C:117:ILE:HG22	3:C:118:VAL:N	2.32	0.43
1:D:393:LEU:HG	1:D:399:HIS:ND1	2.33	0.43
1:D:720:VAL:O	1:D:724:LEU:HG	2.18	0.43
2:E:296:THR:CG2	2:E:297:THR:N	2.81	0.43
1:A:763:VAL:HG12	1:A:810:LYS:HG2	2.00	0.43
1:A:925:HIS:O	1:A:928:SER:HB3	2.18	0.43
2:B:161:ARG:HD3	2:B:161:ARG:HA	1.85	0.43
2:B:198:ASP:C	2:B:265:HIS:HD2	2.21	0.43
1:D:72:ASN:HB3	1:D:75:THR:HB	1.99	0.43
1:D:990:GLN:OE1	1:D:1028:GLU:HA	2.18	0.43
1:D:1034:PHE:HD1	1:D:1037:GLU:OE2	2.02	0.43
2:E:258:LEU:HD23	2:E:258:LEU:HA	1.88	0.43
1:A:113:THR:O	1:A:116:ASP:HB3	2.18	0.43
3:C:29:ARG:CZ	3:C:154:ASN:HD21	2.32	0.43
1:D:720:VAL:HG22	9:D:1178:HOH:O	2.18	0.43
1:A:80:LEU:HD22	1:A:133:ILE:HD12	2.01	0.43
3:C:118:VAL:HG22	3:C:163:TRP:CE3	2.53	0.43
1:A:132:MET:O	1:A:136:GLN:HG2	2.19	0.43
1:A:788:TYR:CD2	1:A:826:VAL:HG12	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:38:LEU:HD13	2:B:40:GLN:NE2	2.34	0.43
2:B:290:VAL:H	2:B:291:PRO:HD3	1.81	0.43
1:D:641:ILE:HD12	1:D:653:LEU:HB3	2.00	0.43
1:D:985:ALA:HA	9:D:1109:HOH:O	2.18	0.43
2:E:3:PRO:C	2:E:5:GLN:HE21	2.22	0.43
1:D:360:VAL:HG12	1:D:362:GLU:HB3	2.00	0.43
1:D:841:TYR:N	1:D:842:PRO:HD3	2.34	0.43
1:A:821:GLN:HG2	1:D:597:ARG:CZ	2.48	0.43
1:D:146:TRP:CE3	1:D:149:PHE:HB2	2.53	0.43
1:D:481:GLN:NE2	1:D:485:ASN:OD1	2.52	0.43
1:D:599:PHE:CB	1:D:640:MET:HG2	2.48	0.43
1:D:749:ARG:NH2	1:D:752:LYS:NZ	2.66	0.43
1:D:860:PHE:N	1:D:861:PRO:HD2	2.34	0.43
2:E:123:VAL:HG22	2:E:257:LEU:HD21	2.01	0.43
1:A:90:ARG:HG2	1:A:93:ILE:HD11	2.01	0.42
1:A:146:TRP:CE3	1:A:149:PHE:HB2	2.54	0.42
1:A:386:PHE:CE2	5:A:1075:PEG:O2	2.72	0.42
4:A:1073:GOL:H31	9:A:1301:HOH:O	2.19	0.42
1:D:566:VAL:HG11	1:D:610:PHE:HE2	1.84	0.42
2:E:155:LEU:HG	2:E:225:ASN:HB2	2.00	0.42
1:A:96:ARG:O	1:A:100:GLU:HG3	2.18	0.42
1:A:578:ASP:OD1	1:A:578:ASP:N	2.46	0.42
2:B:137:GLY:O	2:B:161:ARG:NH1	2.52	0.42
2:B:258:LEU:HD23	2:B:258:LEU:HA	1.87	0.42
3:C:12:LYS:HE2	3:C:64:TRP:CE2	2.53	0.42
3:C:45:VAL:HG22	3:C:46:GLU:H	1.83	0.42
3:C:101:VAL:HB	3:C:102:PRO:HD3	2.00	0.42
1:D:485:ASN:C	1:D:487:THR:H	2.21	0.42
2:E:143:THR:HG23	2:E:147:TYR:HB3	2.00	0.42
1:A:860:PHE:N	1:A:861:PRO:HD2	2.34	0.42
1:D:58:ASP:N	1:D:58:ASP:OD1	2.52	0.42
1:D:93:ILE:HG22	1:D:1027:GLY:HA3	2.01	0.42
2:E:293:GLY:N	2:E:294:PRO:CD	2.82	0.42
3:F:29:ARG:CZ	3:F:154:ASN:HD21	2.32	0.42
1:A:121:GLU:O	1:A:123:GLU:N	2.53	0.42
1:D:287:PHE:HB2	1:D:329:PHE:CZ	2.55	0.42
1:D:403:PRO:HA	1:D:404:PRO:HD3	1.92	0.42
2:E:188:VAL:HG13	2:E:188:VAL:O	2.19	0.42
3:F:76:ARG:HB3	9:F:185:HOH:O	2.20	0.42
2:B:153:SER:O	2:B:226:PRO:HD2	2.19	0.42
3:C:29:ARG:NE	3:C:154:ASN:HD21	2.17	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:333:HIS:O	1:D:336:LEU:HG	2.18	0.42
1:D:517:LEU:HD21	1:D:551:TYR:CE2	2.54	0.42
2:E:26:PRO:HG2	2:E:109:ILE:HD11	2.01	0.42
2:E:114:ASP:O	2:E:118:GLU:HB2	2.20	0.42
1:A:357:VAL:HG12	1:A:369:CYS:SG	2.60	0.42
1:A:437:GLN:NE2	1:A:746:ARG:HB3	2.34	0.42
1:A:492:LYS:HG2	9:A:1125:HOH:O	2.20	0.42
3:F:101:VAL:HB	3:F:102:PRO:HD3	2.01	0.42
1:A:952:LEU:O	1:A:952:LEU:HD23	2.20	0.42
2:B:220:GLU:C	2:B:228:LYS:HG2	2.40	0.42
1:D:149:PHE:O	1:D:153:ILE:HG22	2.20	0.42
1:D:763:VAL:O	1:D:810:LYS:HE3	2.20	0.42
1:D:1040:THR:HA	1:D:1043:ARG:HG2	2.00	0.42
1:A:236:ILE:HG13	1:A:241:ILE:HD11	2.01	0.42
2:B:143:THR:HG23	2:B:147:TYR:O	2.19	0.42
2:B:160:ASN:ND2	2:B:162:ARG:HB2	2.35	0.42
1:D:15:GLN:HE22	1:D:27:LEU:CB	2.26	0.42
1:D:115:SER:O	1:D:116:ASP:C	2.58	0.42
1:D:312:LYS:HD3	1:D:312:LYS:HA	1.92	0.42
1:D:586:ASP:O	1:D:589:ILE:HG22	2.20	0.42
1:D:704:HIS:HB3	1:D:705:PRO:HD3	2.02	0.42
1:A:565:VAL:HG22	2:B:9:LEU:HD12	2.02	0.42
3:C:84:GLN:O	3:C:85:CYS:HB3	2.20	0.42
1:D:514:LYS:O	1:D:518:VAL:HG23	2.20	0.42
1:A:467:LEU:HD23	1:A:467:LEU:N	2.35	0.42
1:A:1051:LYS:HD2	1:A:1052:LEU:HG	2.01	0.42
1:D:141:GLU:O	1:D:142:TRP:C	2.58	0.42
1:D:749:ARG:HH21	1:D:752:LYS:NZ	2.18	0.42
1:A:103:LYS:HE3	1:A:146:TRP:CD1	2.55	0.41
1:D:123:GLU:C	1:D:125:VAL:N	2.71	0.41
1:D:778:PRO:HB2	1:D:779:PRO:HD3	2.02	0.41
1:D:782:ASP:HB3	2:E:360:ASN:ND2	2.35	0.41
2:E:264:THR:HG23	2:E:273:LEU:CD1	2.50	0.41
3:F:45:VAL:CB	3:F:79:TYR:CE2	2.91	0.41
1:A:405:ARG:HD3	9:A:1156:HOH:O	2.19	0.41
1:A:426:LYS:HA	1:A:427:PRO:HD3	1.84	0.41
2:B:115:LEU:HD12	2:B:119:TRP:HB2	2.01	0.41
1:D:339:LYS:CG	1:D:340:ARG:N	2.83	0.41
1:D:565:VAL:HG12	1:D:569:LEU:CD1	2.50	0.41
3:F:45:VAL:HG22	3:F:46:GLU:N	2.35	0.41
1:A:282:GLN:CD	1:A:282:GLN:H	2.23	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:860:PHE:N	1:A:861:PRO:CD	2.83	0.41
3:C:123:LYS:HE2	7:C:217:GTP:N9	2.35	0.41
1:D:561:PHE:O	1:D:565:VAL:HG23	2.21	0.41
1:D:962:LEU:CG	1:D:963:ASN:H	2.28	0.41
1:A:287:PHE:HB2	1:A:329:PHE:CZ	2.56	0.41
1:A:384:SER:HA	1:A:385:PRO:HD3	1.88	0.41
1:A:995:LYS:HB2	9:A:1188:HOH:O	2.20	0.41
2:B:194:HIS:HA	2:B:195:PRO:HD3	1.79	0.41
2:B:360:ASN:HD22	2:B:360:ASN:HA	1.53	0.41
4:B:362:GOL:H32	9:B:728:HOH:O	2.20	0.41
1:D:17:LEU:HD22	1:D:20:SER:CB	2.51	0.41
1:D:103:LYS:HE3	1:D:146:TRP:CD1	2.55	0.41
1:D:384:SER:HA	1:D:385:PRO:HD3	1.87	0.41
1:D:589:ILE:HG23	1:D:590:LYS:N	2.35	0.41
1:D:925:HIS:O	1:D:928:SER:HB3	2.20	0.41
1:D:1006:GLN:HG2	1:D:1006:GLN:O	2.21	0.41
3:F:101:VAL:N	3:F:102:PRO:CD	2.83	0.41
1:A:225:THR:HA	1:A:228:THR:CG2	2.48	0.41
1:A:344:ARG:HE	1:A:408:LEU:CD2	2.30	0.41
1:A:521:ILE:O	1:A:525:LEU:HB2	2.20	0.41
1:A:867:PRO:HA	1:D:604:VAL:HG22	2.02	0.41
3:C:55:ASN:OD1	3:C:56:ARG:HG3	2.21	0.41
1:D:432:VAL:O	1:D:432:VAL:HG22	2.21	0.41
1:D:521:ILE:O	1:D:525:LEU:HB2	2.20	0.41
2:E:61:HIS:ND1	2:E:94:LEU:HB3	2.35	0.41
1:A:141:GLU:O	1:A:142:TRP:C	2.59	0.41
2:B:280:TYR:CB	2:B:296:THR:HB	2.50	0.41
1:D:339:LYS:HG2	1:D:340:ARG:H	1.85	0.41
1:D:391:SER:HA	1:D:392:PRO:HD3	1.92	0.41
1:D:426:LYS:HA	1:D:427:PRO:HD3	1.84	0.41
1:D:961:PRO:HD3	1:D:970:ASN:HD21	1.85	0.41
1:D:1023:LYS:O	1:D:1023:LYS:HG3	2.19	0.41
3:F:30:HIS:CD2	3:F:161:PHE:CE2	3.09	0.41
1:A:262:ASN:HD21	1:A:318:PHE:CA	2.34	0.41
1:D:93:ILE:CG2	1:D:1027:GLY:HA3	2.50	0.41
1:D:777:VAL:O	1:D:780:LEU:HB2	2.20	0.41
1:D:819:ILE:N	1:D:820:PRO:CD	2.83	0.41
3:F:118:VAL:HG22	3:F:163:TRP:CE3	2.55	0.41
1:A:143:PRO:HG2	1:A:144:LYS:HD2	2.03	0.41
1:A:223:HIS:NE2	1:A:263:VAL:CG2	2.80	0.41
1:A:269:THR:OG1	1:A:325:PHE:HB2	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:284:GLU:OE1	1:A:343:LEU:HD11	2.21	0.41
1:D:269:THR:OG1	1:D:325:PHE:HB2	2.21	0.41
1:D:860:PHE:N	1:D:861:PRO:CD	2.83	0.41
2:E:246:LEU:HD11	2:E:282:VAL:HG11	2.03	0.41
3:F:55:ASN:OD1	3:F:56:ARG:HG3	2.21	0.41
1:A:288:THR:O	1:A:292:MET:HG3	2.21	0.41
1:A:295:LYS:HG3	1:A:300:LEU:HG	2.01	0.41
1:A:566:VAL:HG11	1:A:610:PHE:HE2	1.85	0.41
1:A:841:TYR:N	1:A:842:PRO:HD3	2.36	0.41
1:A:962:LEU:HG	1:A:973:PHE:CE2	2.55	0.41
2:B:4:LEU:CD1	2:B:6:LEU:HD11	2.51	0.41
2:B:61:HIS:ND1	2:B:94:LEU:HD13	2.36	0.41
2:B:108:LEU:HD11	2:B:112:PRO:HD3	2.03	0.41
2:B:180:ASN:O	2:B:181:GLN:C	2.59	0.41
2:B:264:THR:HG23	2:B:273:LEU:HD13	2.01	0.41
3:C:73:GLY:HA3	3:C:76:ARG:CZ	2.51	0.41
3:C:92:VAL:HB	3:C:129:ARG:HG3	2.03	0.41
3:C:127:LYS:HE3	3:C:127:LYS:H	1.86	0.41
1:D:511:GLU:OE1	1:D:515:ARG:NH1	2.53	0.41
1:D:618:ILE:O	1:D:622:ILE:HG12	2.21	0.41
1:D:693:LYS:O	1:D:697:ARG:HG2	2.20	0.41
1:D:842:PRO:CG	3:F:38:LYS:HG2	2.51	0.41
1:D:1034:PHE:CD1	1:D:1037:GLU:OE2	2.74	0.41
2:E:55:ARG:HA	9:E:521:HOH:O	2.21	0.41
2:E:271:THR:HA	2:E:272:PRO:HD3	1.84	0.41
3:F:75:LEU:N	3:F:79:TYR:CE1	2.83	0.41
3:F:141:LYS:HD2	3:F:141:LYS:N	2.35	0.41
1:A:509:HIS:HB2	9:A:1090:HOH:O	2.21	0.41
1:A:650:GLN:O	1:A:654:ILE:HG13	2.21	0.41
1:A:681:ASP:O	1:A:685:VAL:HG23	2.20	0.41
1:A:819:ILE:N	1:A:820:PRO:CD	2.83	0.41
2:B:172:LEU:C	2:B:189:MET:HE1	2.42	0.41
1:D:45:MET:SD	3:F:45:VAL:HG12	2.61	0.41
1:D:626:GLN:HB3	1:D:627:PRO:HD2	2.03	0.41
1:D:770:GLN:HG2	1:D:774:GLU:OE1	2.21	0.41
3:F:79:TYR:HD1	3:F:79:TYR:N	2.19	0.41
3:F:105:HIS:CE1	3:F:109:VAL:HG11	2.56	0.41
1:A:62:ARG:HD3	1:A:75:THR:O	2.21	0.40
1:A:312:LYS:C	1:A:314:ASP:H	2.25	0.40
1:D:80:LEU:HD22	1:D:133:ILE:HD12	2.03	0.40
3:F:146:TYR:CG	3:F:147:TYR:N	2.90	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:101:VAL:N	3:C:102:PRO:CD	2.84	0.40
1:D:10:ASP:O	1:D:11:HIS:HB2	2.20	0.40
1:D:111:ILE:HD12	1:D:163:LEU:HD11	2.03	0.40
1:D:514:LYS:NZ	2:E:4:LEU:CD1	2.84	0.40
1:D:1027:GLY:C	1:D:1029:ASP:H	2.23	0.40
2:E:47:LEU:O	2:E:51:GLN:HB2	2.22	0.40
2:E:60:ASN:O	2:E:64:ARG:HG3	2.22	0.40
2:E:218:LEU:HG	2:E:229:PHE:HB2	2.03	0.40
1:A:110:ILE:HG23	1:A:114:SER:OG	2.21	0.40
1:A:618:ILE:O	1:A:622:ILE:HG12	2.21	0.40
2:B:350:SER:HA	2:B:351:PRO:HD3	1.78	0.40
3:C:115:ILE:O	3:C:115:ILE:HG13	2.20	0.40
1:D:167:ASN:HD22	1:D:170:ILE:HD12	1.86	0.40
1:D:441:VAL:CG2	1:D:442:ARG:N	2.85	0.40
1:D:664:VAL:HB	1:D:691:ILE:HD11	2.04	0.40
2:E:41:SER:H	2:E:110:ASP:HB2	1.86	0.40
3:F:109:VAL:HA	3:F:112:CYS:O	2.22	0.40
1:A:626:GLN:HB3	1:A:627:PRO:HD2	2.03	0.40
1:A:819:ILE:N	1:A:820:PRO:HD2	2.36	0.40
2:B:150:ASN:HD22	2:B:151:ARG:N	2.20	0.40
3:C:53:HIS:CD2	3:C:58:PRO:HG3	2.56	0.40
2:E:168:ASP:OD2	2:E:192:ARG:HA	2.21	0.40
2:E:279:PRO:HB2	2:E:294:PRO:HB3	2.04	0.40
1:A:430:VAL:O	1:A:430:VAL:HG12	2.22	0.40
1:A:823:PHE:O	1:A:827:PHE:HB3	2.21	0.40
2:B:167:LYS:O	2:B:167:LYS:HG2	2.20	0.40
2:B:280:TYR:HB3	2:B:294:PRO:O	2.22	0.40
3:C:50:LEU:HD12	3:C:63:VAL:HG21	2.03	0.40
3:C:108:LEU:HD12	3:C:108:LEU:O	2.22	0.40
3:C:141:LYS:HD2	3:C:141:LYS:N	2.35	0.40
2:E:143:THR:HG23	2:E:147:TYR:O	2.21	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all 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	1034/1073 (96%)	919 (89%)	95 (9%)	20 (2%)	8	28
1	D	1037/1073 (97%)	918 (88%)	103 (10%)	16 (2%)	10	34
2	B	287/362 (79%)	239 (83%)	39 (14%)	9 (3%)	4	16
2	E	288/362 (80%)	247 (86%)	35 (12%)	6 (2%)	7	26
3	C	171/176 (97%)	158 (92%)	12 (7%)	1 (1%)	25	58
3	F	171/176 (97%)	157 (92%)	13 (8%)	1 (1%)	25	58
All	All	2988/3222 (93%)	2638 (88%)	297 (10%)	53 (2%)	8	29

All (53) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	123	GLU
1	A	1029	ASP
1	A	1035	LEU
2	B	29	SER
2	B	216	GLU
2	B	351	PRO
3	C	76	ARG
1	D	120	VAL
1	D	123	GLU
2	E	216	GLU
3	F	76	ARG
1	A	17	LEU
1	A	54	LYS
1	A	468	ASP
1	A	827	PHE
1	A	956	GLY
2	B	291	PRO
1	D	122	LYS
1	D	468	ASP
1	D	827	PHE
1	D	956	GLY
2	E	292	ALA
1	A	401	ASP
1	A	957	LYS
1	D	957	LYS
2	E	52	LYS
2	E	289	ALA

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Mol	Chain	Res	Type
1	A	124	LYS
1	A	141	GLU
1	A	313	ASP
1	A	1036	GLU
2	B	42	GLU
2	B	157	PRO
2	B	359	GLU
1	D	313	ASP
2	E	42	GLU
2	E	157	PRO
1	A	143	PRO
1	A	344	ARG
1	A	964	PRO
2	B	292	ALA
1	D	141	GLU
1	D	143	PRO
1	D	344	ARG
1	D	392	PRO
1	A	21	GLN
1	A	743	PRO
1	A	1027	GLY
1	D	11	HIS
1	D	743	PRO
1	D	1027	GLY
1	D	966	ASN
2	B	287	GLY

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	942/973 (97%)	886 (94%)	56 (6%)	19 49
1	D	944/973 (97%)	880 (93%)	64 (7%)	16 42
2	B	264/327 (81%)	245 (93%)	19 (7%)	14 39
2	E	265/327 (81%)	246 (93%)	19 (7%)	14 39

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
3	C	152/154 (99%)	141 (93%)	11 (7%)	14	39
3	F	152/154 (99%)	143 (94%)	9 (6%)	19	49
All	All	2719/2908 (94%)	2541 (94%)	178 (6%)	17	45

All (178) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	21	GLN
1	A	27	LEU
1	A	37	HIS
1	A	58	ASP
1	A	60	TRP
1	A	61	THR
1	A	73	MET
1	A	90	ARG
1	A	96	ARG
1	A	109	LEU
1	A	119	CYS
1	A	144	LYS
1	A	146	TRP
1	A	163	LEU
1	A	187	THR
1	A	229	LEU
1	A	257	VAL
1	A	276	VAL
1	A	301	ASN
1	A	320	GLN
1	A	387	SER
1	A	393	LEU
1	A	397	SER
1	A	399	HIS
1	A	400	PHE
1	A	401	ASP
1	A	402	ILE
1	A	430	VAL
1	A	444	PHE
1	A	447	ASP
1	A	455	LYS
1	A	489	TRP
1	A	514	LYS
1	A	522	LYS

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Mol	Chain	Res	Type
1	A	531	LYS
1	A	535	ASP
1	A	545	MET
1	A	568	LYS
1	A	578	ASP
1	A	608	MET
1	A	648	THR
1	A	662	ASN
1	A	720	VAL
1	A	739	VAL
1	A	741	LYS
1	A	749	ARG
1	A	767	ASN
1	A	823	PHE
1	A	828	GLU
1	A	829	CYS
1	A	876	ASP
1	A	891	ASP
1	A	916	GLN
1	A	960	THR
1	A	963	ASN
1	A	996	LEU
2	B	4	LEU
2	B	9	LEU
2	B	11	ARG
2	B	31	TYR
2	B	35	TYR
2	B	43	ARG
2	B	93	LYS
2	B	111	VAL
2	B	143	THR
2	B	144	LYS
2	B	150	ASN
2	B	189	MET
2	B	274	VAL
2	B	295	LEU
2	B	296	THR
2	B	297	THR
2	B	347	SER
2	B	353	HIS
2	B	360	ASN
3	C	8	GLN

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Mol	Chain	Res	Type
3	C	16	VAL
3	C	30	HIS
3	C	77	ASP
3	C	79	TYR
3	C	93	THR
3	C	127	LYS
3	C	140	ARG
3	C	141	LYS
3	C	143	ASN
3	C	148	ASP
1	D	27	LEU
1	D	53	LEU
1	D	58	ASP
1	D	60	TRP
1	D	61	THR
1	D	73	MET
1	D	90	ARG
1	D	96	ARG
1	D	109	LEU
1	D	113	THR
1	D	127	ILE
1	D	144	LYS
1	D	146	TRP
1	D	163	LEU
1	D	187	THR
1	D	229	LEU
1	D	231	ARG
1	D	245	LYS
1	D	257	VAL
1	D	276	VAL
1	D	320	GLN
1	D	387	SER
1	D	393	LEU
1	D	394	LEU
1	D	399	HIS
1	D	401	ASP
1	D	402	ILE
1	D	430	VAL
1	D	432	VAL
1	D	434	GLU
1	D	436	ASP
1	D	437	GLN

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Mol	Chain	Res	Type
1	D	440	VAL
1	D	444	PHE
1	D	447	ASP
1	D	455	LYS
1	D	478	LYS
1	D	489	TRP
1	D	522	LYS
1	D	531	LYS
1	D	535	ASP
1	D	545	MET
1	D	562	LEU
1	D	568	LYS
1	D	648	THR
1	D	662	ASN
1	D	720	VAL
1	D	739	VAL
1	D	749	ARG
1	D	767	ASN
1	D	823	PHE
1	D	828	GLU
1	D	829	CYS
1	D	876	ASP
1	D	891	ASP
1	D	916	GLN
1	D	960	THR
1	D	963	ASN
1	D	996	LEU
1	D	1028	GLU
1	D	1048	GLU
1	D	1050	HIS
1	D	1051	LYS
1	D	1052	LEU
2	E	5	GLN
2	E	6	LEU
2	E	28	LEU
2	E	35	TYR
2	E	91	VAL
2	E	96	LYS
2	E	111	VAL
2	E	117	GLN
2	E	143	THR
2	E	144	LYS

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Mol	Chain	Res	Type
2	E	150	ASN
2	E	165	THR
2	E	189	MET
2	E	223	LYS
2	E	274	VAL
2	E	284	ASP
2	E	286	LEU
2	E	297	THR
2	E	358	MET
3	F	16	VAL
3	F	77	ASP
3	F	79	TYR
3	F	93	THR
3	F	113	GLU
3	F	127	LYS
3	F	141	LYS
3	F	143	ASN
3	F	148	ASP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (104) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	21	GLN
1	A	52	HIS
1	A	98	GLN
1	A	131	ASN
1	A	140	GLN
1	A	165	GLN
1	A	167	ASN
1	A	185	GLN
1	A	188	GLN
1	A	200	ASN
1	A	204	GLN
1	A	217	GLN
1	A	234	ASN
1	A	262	ASN
1	A	301	ASN
1	A	320	GLN
1	A	321	ASN
1	A	335	GLN
1	A	452	ASN
1	A	456	ASN

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Mol	Chain	Res	Type
1	A	483	GLN
1	A	493	ASN
1	A	495	ASN
1	A	509	HIS
1	A	574	HIS
1	A	577	HIS
1	A	628	GLN
1	A	629	GLN
1	A	675	ASN
1	A	742	GLN
1	A	767	ASN
1	A	856	ASN
1	A	903	ASN
1	A	906	GLN
1	A	924	GLN
1	A	963	ASN
1	A	970	ASN
1	A	971	GLN
1	A	1006	GLN
1	A	1046	GLN
2	B	19	ASN
2	B	150	ASN
2	B	200	GLN
2	B	261	HIS
2	B	263	GLN
2	B	360	ASN
3	C	53	HIS
3	C	103	ASN
3	C	105	HIS
3	C	143	ASN
3	C	145	GLN
3	C	154	ASN
3	C	156	ASN
1	D	15	GLN
1	D	52	HIS
1	D	72	ASN
1	D	131	ASN
1	D	140	GLN
1	D	165	GLN
1	D	167	ASN
1	D	185	GLN
1	D	200	ASN

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Mol	Chain	Res	Type
1	D	204	GLN
1	D	234	ASN
1	D	262	ASN
1	D	320	GLN
1	D	321	ASN
1	D	333	HIS
1	D	437	GLN
1	D	456	ASN
1	D	483	GLN
1	D	493	ASN
1	D	495	ASN
1	D	509	HIS
1	D	574	HIS
1	D	577	HIS
1	D	629	GLN
1	D	675	ASN
1	D	727	ASN
1	D	742	GLN
1	D	767	ASN
1	D	856	ASN
1	D	903	ASN
1	D	924	GLN
1	D	970	ASN
1	D	971	GLN
1	D	990	GLN
1	D	1044	GLN
2	E	5	GLN
2	E	19	ASN
2	E	25	HIS
2	E	150	ASN
2	E	200	GLN
2	E	261	HIS
2	E	263	GLN
2	E	353	HIS
3	F	53	HIS
3	F	82	GLN
3	F	103	ASN
3	F	105	HIS
3	F	143	ASN
3	F	145	GLN
3	F	154	ASN
3	F	156	ASN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

Of 30 ligands modelled in this entry, 2 are monoatomic - leaving 28 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	GOL	A	1074	-	5,5,5	0.37	0	5,5,5	0.33	0
5	PEG	D	1075	-	6,6,6	0.55	0	5,5,5	0.35	0
4	GOL	E	361[B]	-	5,5,5	0.37	0	5,5,5	0.29	0
5	PEG	C	182	-	6,6,6	0.59	0	5,5,5	0.40	0
4	GOL	A	1079	-	5,5,5	0.37	0	5,5,5	0.29	0
4	GOL	A	1072[B]	-	5,5,5	0.36	0	5,5,5	0.28	0
5	PEG	A	1075	-	6,6,6	0.46	0	5,5,5	0.58	0
5	PEG	D	1074	-	6,6,6	0.59	0	5,5,5	0.47	0
4	GOL	E	361[A]	-	5,5,5	0.39	0	5,5,5	0.31	0
5	PEG	L	29	-	6,6,6	0.38	0	5,5,5	0.80	0
4	GOL	A	1072[A]	-	5,5,5	0.37	0	5,5,5	0.25	0
4	GOL	B	362	-	5,5,5	0.35	0	5,5,5	0.34	0
5	PEG	D	1073	-	6,6,6	0.56	0	5,5,5	0.35	0
7	GTP	C	217	8	26,34,34	1.12	2 (7%)	32,54,54	1.48	5 (15%)
6	IPH	B	361[B]	-	7,7,7	0.40	0	8,8,8	0.31	0
6	IPH	B	361[A]	-	7,7,7	0.43	0	8,8,8	0.26	0
5	PEG	D	1078	-	6,6,6	0.55	0	5,5,5	0.50	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	PEG	A	1077	-	6,6,6	0.57	0	5,5,5	0.33	0
5	PEG	D	1077	-	6,6,6	0.58	0	5,5,5	0.37	0
4	GOL	D	1072	-	5,5,5	0.34	0	5,5,5	0.27	0
5	PEG	A	1076	-	6,6,6	0.60	0	5,5,5	0.37	0
4	GOL	E	362	-	5,5,5	0.38	0	5,5,5	0.36	0
4	GOL	A	1073	-	5,5,5	0.37	0	5,5,5	0.37	0
5	PEG	D	1076	-	6,6,6	0.52	0	5,5,5	0.42	0
4	GOL	C	181	-	5,5,5	0.41	0	5,5,5	0.26	0
5	PEG	A	1078	-	6,6,6	0.54	0	5,5,5	0.58	0
7	GTP	F	217	8	26,34,34	1.09	2 (7%)	32,54,54	1.59	7 (21%)
4	GOL	D	1079	-	5,5,5	0.37	0	5,5,5	0.27	0

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. '2' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	GOL	A	1074	-	-	4/4/4/4	-
5	PEG	D	1075	-	-	0/4/4/4	-
4	GOL	E	361[B]	-	-	2/4/4/4	-
5	PEG	C	182	-	-	0/4/4/4	-
4	GOL	A	1079	-	-	2/4/4/4	-
4	GOL	A	1072[B]	-	-	2/4/4/4	-
5	PEG	A	1075	-	-	0/4/4/4	-
5	PEG	D	1074	-	-	1/4/4/4	-
4	GOL	E	361[A]	-	-	2/4/4/4	-
5	PEG	L	29	-	-	0/4/4/4	-
4	GOL	A	1072[A]	-	-	2/4/4/4	-
4	GOL	B	362	-	-	2/4/4/4	-
5	PEG	D	1073	-	-	1/4/4/4	-
7	GTP	C	217	8	-	2/18/38/38	0/3/3/3
6	IPH	B	361[B]	-	-	-	0/1/1/1
6	IPH	B	361[A]	-	-	-	0/1/1/1
5	PEG	D	1078	-	-	0/4/4/4	-
5	PEG	A	1077	-	-	2/4/4/4	-
5	PEG	D	1077	-	-	0/4/4/4	-
4	GOL	D	1072	-	-	4/4/4/4	-
5	PEG	A	1076	-	-	1/4/4/4	-
4	GOL	E	362	-	-	0/4/4/4	-

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	GOL	A	1073	-	-	0/4/4/4	-
5	PEG	D	1076	-	-	0/4/4/4	-
4	GOL	C	181	-	-	2/4/4/4	-
5	PEG	A	1078	-	-	0/4/4/4	-
7	GTP	F	217	8	-	2/18/38/38	0/3/3/3
4	GOL	D	1079	-	-	2/4/4/4	-

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	C	217	GTP	C5-C6	-3.81	1.39	1.47
7	F	217	GTP	C5-C6	-3.70	1.39	1.47
7	F	217	GTP	C2-N3	2.16	1.38	1.33
7	C	217	GTP	C2-N3	2.06	1.38	1.33

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	F	217	GTP	PB-O3B-PG	-3.75	119.94	132.83
7	C	217	GTP	PB-O3B-PG	-3.42	121.08	132.83
7	F	217	GTP	C8-N7-C5	3.19	109.06	102.99
7	C	217	GTP	C5-C6-N1	3.11	119.45	113.95
7	C	217	GTP	PA-O3A-PB	-3.10	122.18	132.83
7	C	217	GTP	C8-N7-C5	3.09	108.88	102.99
7	F	217	GTP	C5-C6-N1	3.06	119.35	113.95
7	F	217	GTP	PA-O3A-PB	-2.88	122.93	132.83
7	F	217	GTP	C2-N1-C6	-2.73	120.07	125.10
7	F	217	GTP	C3'-C2'-C1'	2.69	105.03	100.98
7	C	217	GTP	C2-N1-C6	-2.69	120.15	125.10
7	F	217	GTP	O2G-PG-O3B	2.05	111.52	104.64

There are no chirality outliers.

All (33) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	1072[A]	GOL	O1-C1-C2-C3
4	A	1072[B]	GOL	O1-C1-C2-C3
4	A	1074	GOL	O1-C1-C2-C3
4	A	1079	GOL	O1-C1-C2-C3
4	B	362	GOL	O1-C1-C2-O2

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Mol	Chain	Res	Type	Atoms
4	B	362	GOL	O1-C1-C2-C3
4	D	1079	GOL	C1-C2-C3-O3
4	D	1079	GOL	O2-C2-C3-O3
4	E	361[A]	GOL	O1-C1-C2-O2
4	E	361[A]	GOL	O1-C1-C2-C3
4	E	361[B]	GOL	O1-C1-C2-O2
4	E	361[B]	GOL	O1-C1-C2-C3
7	C	217	GTP	O4'-C4'-C5'-O5'
4	A	1072[A]	GOL	O1-C1-C2-O2
4	A	1072[B]	GOL	O1-C1-C2-O2
4	A	1074	GOL	O1-C1-C2-O2
7	F	217	GTP	O4'-C4'-C5'-O5'
4	A	1079	GOL	O1-C1-C2-O2
4	C	181	GOL	O1-C1-C2-O2
4	D	1072	GOL	O1-C1-C2-O2
7	F	217	GTP	C5'-O5'-PA-O3A
4	D	1072	GOL	C1-C2-C3-O3
5	D	1074	PEG	C1-C2-O2-C3
5	D	1073	PEG	C1-C2-O2-C3
5	A	1076	PEG	C1-C2-O2-C3
4	D	1072	GOL	O2-C2-C3-O3
5	A	1077	PEG	C1-C2-O2-C3
5	A	1077	PEG	C4-C3-O2-C2
4	C	181	GOL	O1-C1-C2-C3
4	A	1074	GOL	O2-C2-C3-O3
7	C	217	GTP	PA-O3A-PB-O2B
4	A	1074	GOL	C1-C2-C3-O3
4	D	1072	GOL	O1-C1-C2-C3

There are no ring outliers.

13 monomers are involved in 34 short contacts:

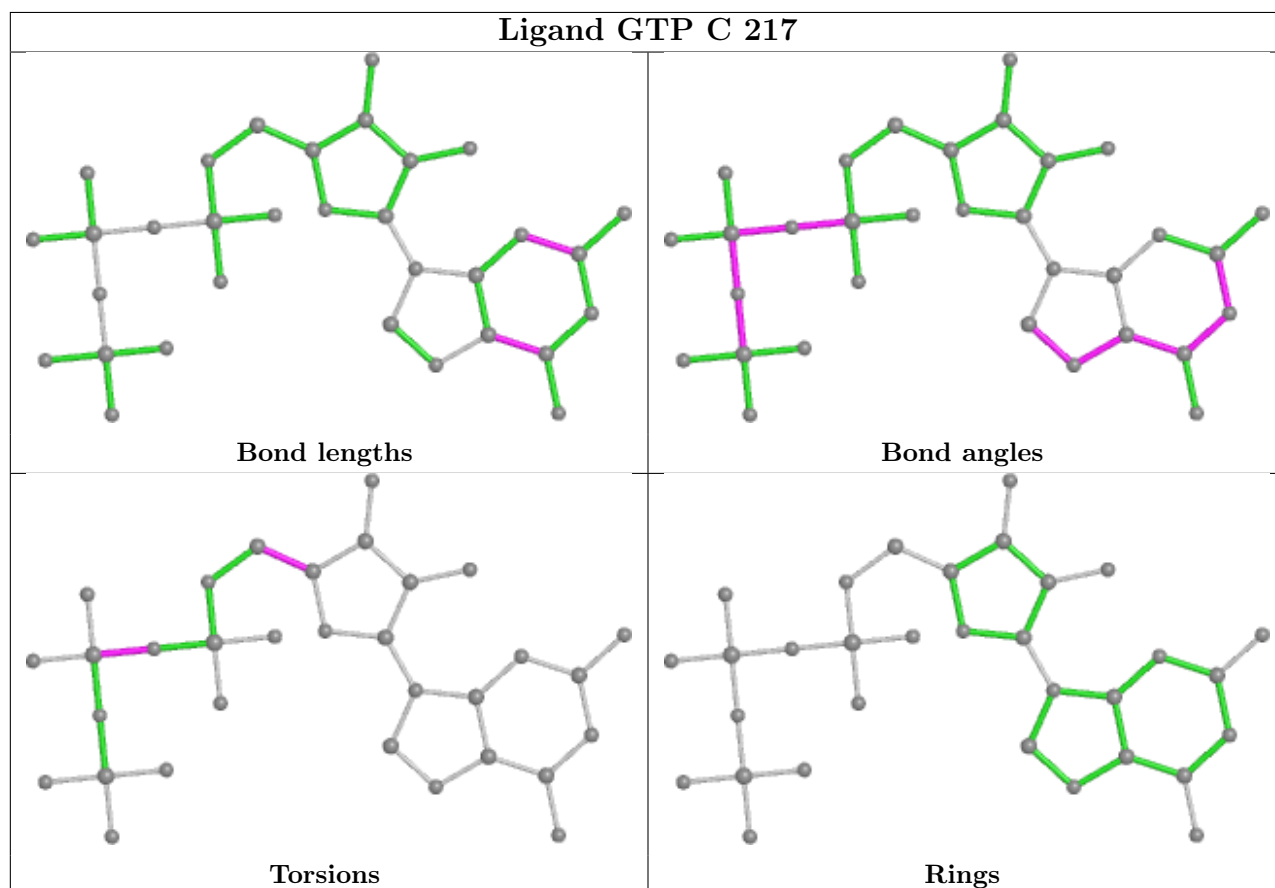
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	D	1075	PEG	2	0
5	C	182	PEG	3	0
5	A	1075	PEG	12	0
5	D	1074	PEG	3	0
4	B	362	GOL	1	0
7	C	217	GTP	3	0
5	A	1077	PEG	2	0
5	D	1077	PEG	1	0
4	E	362	GOL	1	0

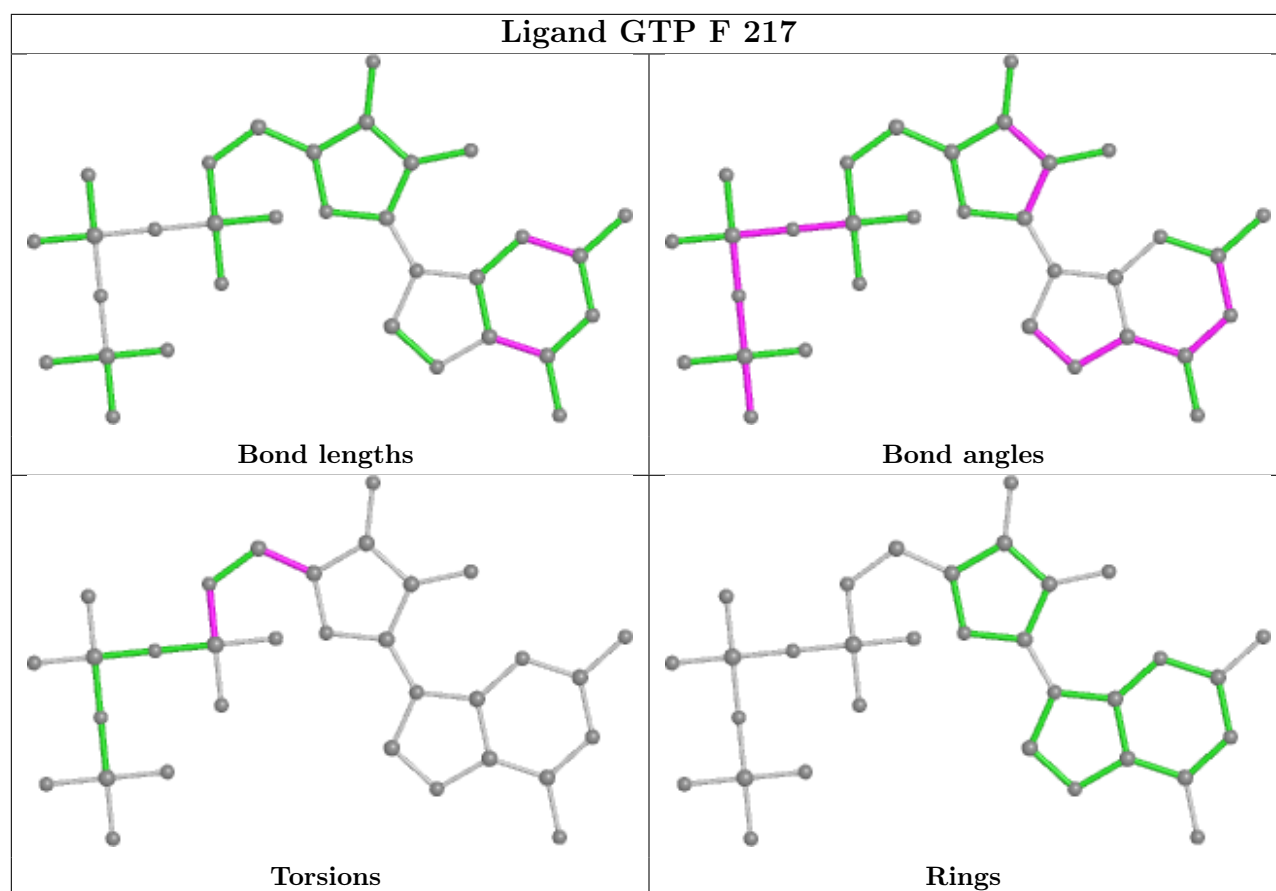
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Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	A	1073	GOL	1	0
5	D	1076	PEG	3	0
7	F	217	GTP	1	0
4	D	1079	GOL	1	0

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 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.





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 i

6.1 Protein, DNA and RNA chains i

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	1038/1073 (96%)	-0.04	21 (2%) 65 63	10, 47, 101, 138	0
1	D	1041/1073 (97%)	0.02	29 (2%) 53 49	10, 47, 103, 163	0
2	B	293/362 (80%)	0.09	13 (4%) 34 30	15, 43, 104, 134	0
2	E	294/362 (81%)	0.06	13 (4%) 34 30	13, 43, 107, 145	0
3	C	173/176 (98%)	-0.15	0 100 100	17, 39, 79, 107	0
3	F	173/176 (98%)	-0.11	2 (1%) 79 79	18, 39, 80, 118	0
All	All	3012/3222 (93%)	-0.01	78 (2%) 56 52	10, 45, 101, 163	0

All (78) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	19	PHE	10.9
1	D	967	PRO	8.6
2	B	91	VAL	6.9
1	A	966	ASN	5.7
1	D	37	HIS	5.7
1	D	966	ASN	5.7
2	E	347	SER	5.5
2	E	92	LYS	4.9
2	B	288	VAL	4.5
1	D	1027	GLY	4.5
2	B	347	SER	4.4
1	D	1028	GLU	4.4
2	E	346	GLY	4.4
1	D	440	VAL	4.1
2	E	40	GLN	3.9
2	B	31	TYR	3.9
2	E	349	HIS	3.8
2	B	289	ALA	3.7
1	D	18	ASP	3.7

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Mol	Chain	Res	Type	RSRZ
1	D	22	LYS	3.7
1	D	311	GLY	3.4
1	A	964	PRO	3.4
1	D	47	GLN	3.4
1	D	1026	ALA	3.3
2	B	33	SER	3.3
2	E	357	LEU	3.3
1	A	391	SER	3.2
2	E	29	SER	3.2
1	A	1026	ALA	3.2
2	E	28	LEU	3.2
1	A	437	GLN	3.1
1	D	154	VAL	3.1
1	D	67	LEU	3.0
1	D	56	HIS	3.0
1	A	16	LEU	2.9
1	A	1027	GLY	2.9
1	D	33	ASN	2.9
1	A	119	CYS	2.9
1	A	114	SER	2.9
1	D	16	LEU	2.9
2	B	36	SER	2.8
1	A	967	PRO	2.8
1	D	65	THR	2.7
1	D	60	TRP	2.7
1	D	1005	ASN	2.7
2	E	360	ASN	2.6
1	A	397	SER	2.6
1	D	24	ASP	2.5
1	A	1050	HIS	2.5
1	A	52	HIS	2.5
2	E	163	ASN	2.5
1	D	1025	PHE	2.5
1	A	1029	ASP	2.5
1	A	47	GLN	2.5
2	B	164	SER	2.4
1	D	1029	ASP	2.4
1	A	533	GLY	2.4
2	E	164	SER	2.4
1	D	1021	GLN	2.4
1	D	1052	LEU	2.4
3	F	8	GLN	2.3

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Mol	Chain	Res	Type	RSRZ
3	F	179	MET	2.3
1	A	182	SER	2.2
1	A	435	ASN	2.2
1	D	62	ARG	2.2
2	B	165	THR	2.2
2	B	35	TYR	2.2
1	A	141	GLU	2.2
2	B	166	ALA	2.2
1	A	887	ARG	2.1
1	D	397	SER	2.1
1	D	304	ILE	2.1
2	B	346	GLY	2.1
2	E	288	VAL	2.1
2	B	348	SER	2.1
2	E	352	ASP	2.1
1	A	12	ALA	2.0
1	D	310	ASN	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 monosaccharides 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
5	PEG	A	1075	7/7	0.51	0.45	84,88,95,101	7
5	PEG	A	1077	7/7	0.56	0.49	44,63,83,84	7
8	MG	F	218	1/1	0.59	0.18	35,35,35,35	0
6	IPH	B	361[A]	7/7	0.66	0.28	14,46,57,57	7
6	IPH	B	361[B]	7/7	0.66	0.28	43,54,55,56	7
5	PEG	L	29	7/7	0.66	0.40	41,69,79,79	7

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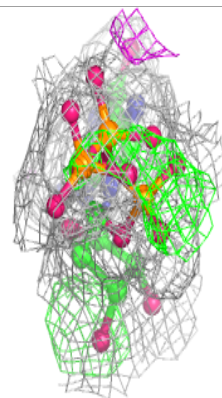
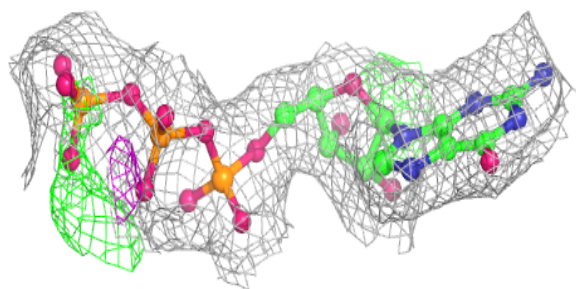
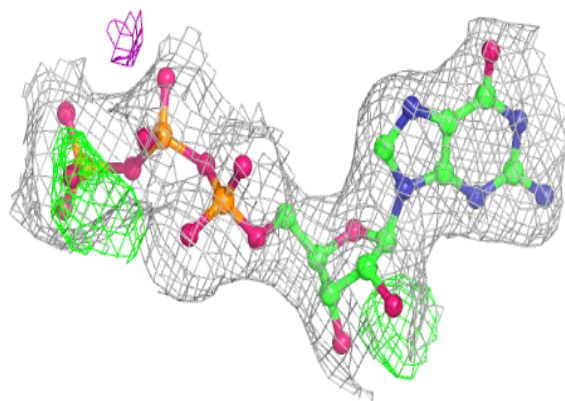
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
5	PEG	A	1078	7/7	0.69	0.51	49,62,74,77	7
5	PEG	C	182	7/7	0.75	0.41	55,60,68,72	7
5	PEG	D	1073	7/7	0.75	0.48	47,51,60,68	7
4	GOL	C	181	6/6	0.76	0.44	48,50,59,63	6
4	GOL	A	1074	6/6	0.77	0.40	41,55,66,71	6
4	GOL	D	1079	6/6	0.77	0.37	42,66,72,73	6
4	GOL	E	362	6/6	0.77	0.32	51,59,61,62	6
5	PEG	D	1076	7/7	0.78	0.47	50,70,96,100	7
5	PEG	D	1077	7/7	0.78	0.35	59,76,82,91	7
5	PEG	D	1074	7/7	0.78	0.42	36,49,54,61	7
5	PEG	A	1076	7/7	0.79	0.34	47,59,73,76	7
5	PEG	D	1078	7/7	0.80	0.41	52,65,72,74	7
4	GOL	B	362	6/6	0.83	0.34	59,67,72,73	6
4	GOL	D	1072	6/6	0.84	0.39	45,61,70,77	6
5	PEG	D	1075	7/7	0.85	0.38	46,54,69,75	7
4	GOL	A	1073	6/6	0.86	0.44	37,54,56,59	6
4	GOL	A	1079	6/6	0.86	0.41	56,72,75,79	6
4	GOL	A	1072[B]	6/6	0.89	0.13	14,18,51,51	6
8	MG	C	218	1/1	0.89	0.18	54,54,54,54	0
4	GOL	A	1072[A]	6/6	0.89	0.13	3,27,51,51	6
4	GOL	E	361[B]	6/6	0.91	0.19	18,40,57,60	6
4	GOL	E	361[A]	6/6	0.91	0.19	18,46,56,59	6
7	GTP	C	217	32/32	0.97	0.17	9,21,46,53	1
7	GTP	F	217	32/32	0.97	0.18	5,27,48,65	0

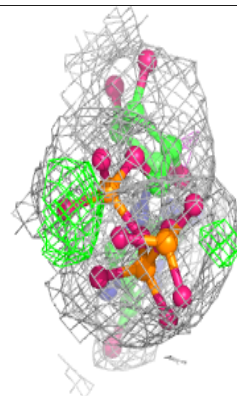
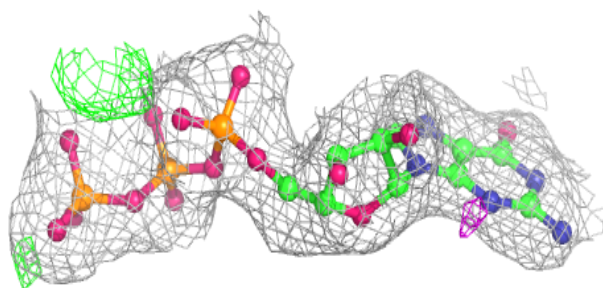
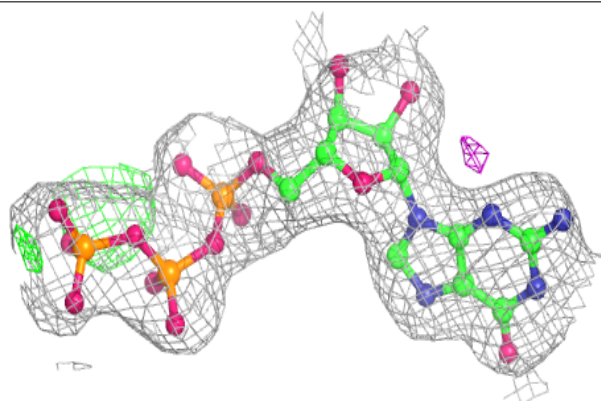
The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation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

Electron density around GTP C 217:

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

**Electron density around GTP F 217:**

$2mF_o-DF_c$ (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.