WORLDWIDE PDB

PROTEIN DATA BANK

Full wwPDB X-ray Structure Validation Report ⓘ

Apr 29, 2025 – 12:54 PM EDT

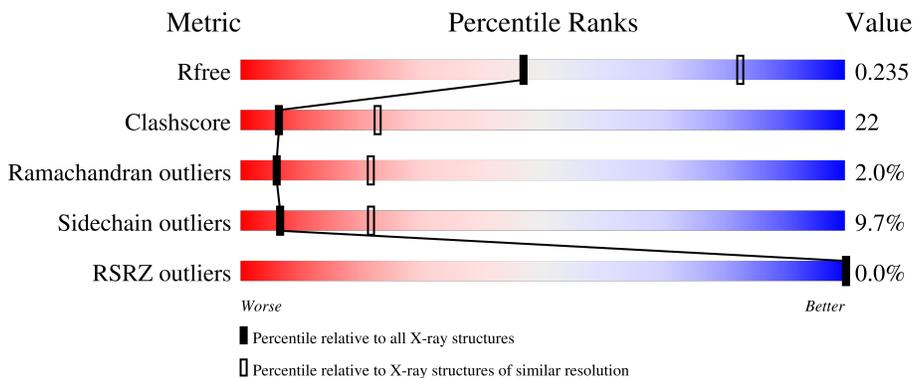|		
PDB ID	:	3NBZ / pdb_00003nbz
Title	:	Crystal structure of the HIV-1 Rev NES-CRM1-RanGTP nuclear export complex (crystal I)
Authors	:	Guttler, T.; Madl, T.; Neumann, P.; Deichsel, D.; Corsini, L.; Monecke, T.; Ficner, R.; Sattler, M.; Gorlich, D.
Deposited on	:	2010-06-04
Resolution	:	2.80 Å(reported)

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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 2.80 Å.

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

Metric	Percentile Ranks	Value
Rfree		0.235
Clashscore		22
Ramachandran outliers		2.0%
Sidechain outliers		9.7%
RSRZ outliers		0.0%

Worse　　　　　*Better*

▌Percentile relative to all X-ray structures

▯Percentile relative to X-ray structures of similar resolution

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	164625	3657 (2.80-2.80)
Clashscore	180529	4123 (2.80-2.80)
Ramachandran outliers	177936	4071 (2.80-2.80)
Sidechain outliers	177891	4073 (2.80-2.80)
RSRZ outliers	164620	3659 (2.80-2.80)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% 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	57%　34%　6%　•
1	D	1073	56%　35%　6%　•
2	B	362	42%　32%　7%　20%
2	E	362	43%　31%　6%　19%

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Mol	Chain	Length	Quality of chain
3	C	176	60% 32% 7% ·
3	F	176	55% 38% 6% ·

2 Entry composition ⓘ

There are 7 unique types of molecules in this entry. The entry contains 25144 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
1	A	1038	Total 8394	C 5387	N 1411	O 1543	S 53	0	0	0
1	D	1038	Total 8394	C 5387	N 1411	O 1543	S 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
2	B	291	Total 2339	C 1491	N 403	O 430	S 15	0	0	0
2	E	293	Total 2354	C 1500	N 405	O 434	S 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
3	C	173	Total 1405	C 914	N 246	O 240	S 5	0	0	0
3	F	173	Total 1405	C 914	N 246	O 240	S 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 GUANOSINE-5'-TRIPHOSPHATE (CCD ID: GTP) (formula: $C_{10}H_{16}N_5O_{14}P_3$).
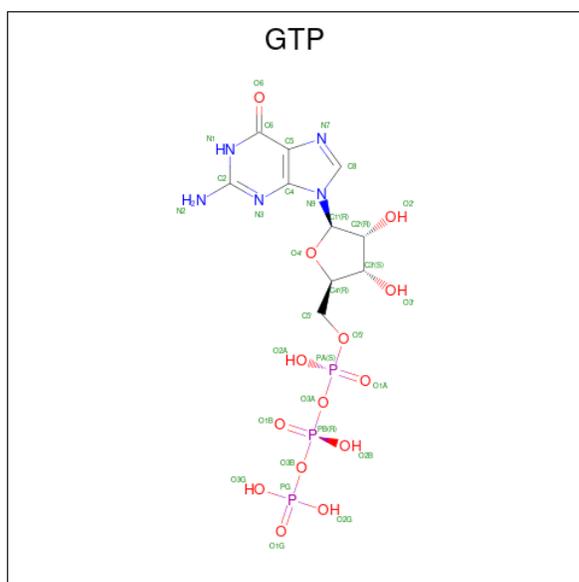
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf
4	C	1	Total	C	N	O	P	0	0
			32	10	5	14	3		
4	F	1	Total	C	N	O	P	0	0
			32	10	5	14	3		

- Molecule 5 is MAGNESIUM ION (CCD ID: MG) (formula: Mg).

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

- Molecule 6 is SODIUM ION (CCD ID: NA) (formula: Na).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	C	1	Total	Na	0	0
			1	1		
6	D	1	Total	Na	0	0
			1	1		

- Molecule 7 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	A	237	Total	O	0	0
			237	237		

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Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
7	B	94	Total O 94 94		0	0
7	C	53	Total O 53 53		0	0
7	D	279	Total O 279 279		0	0
7	E	71	Total O 71 71		0	0
7	F	51	Total O 51 51		0	0

3 Residue-property plots ⓘ

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
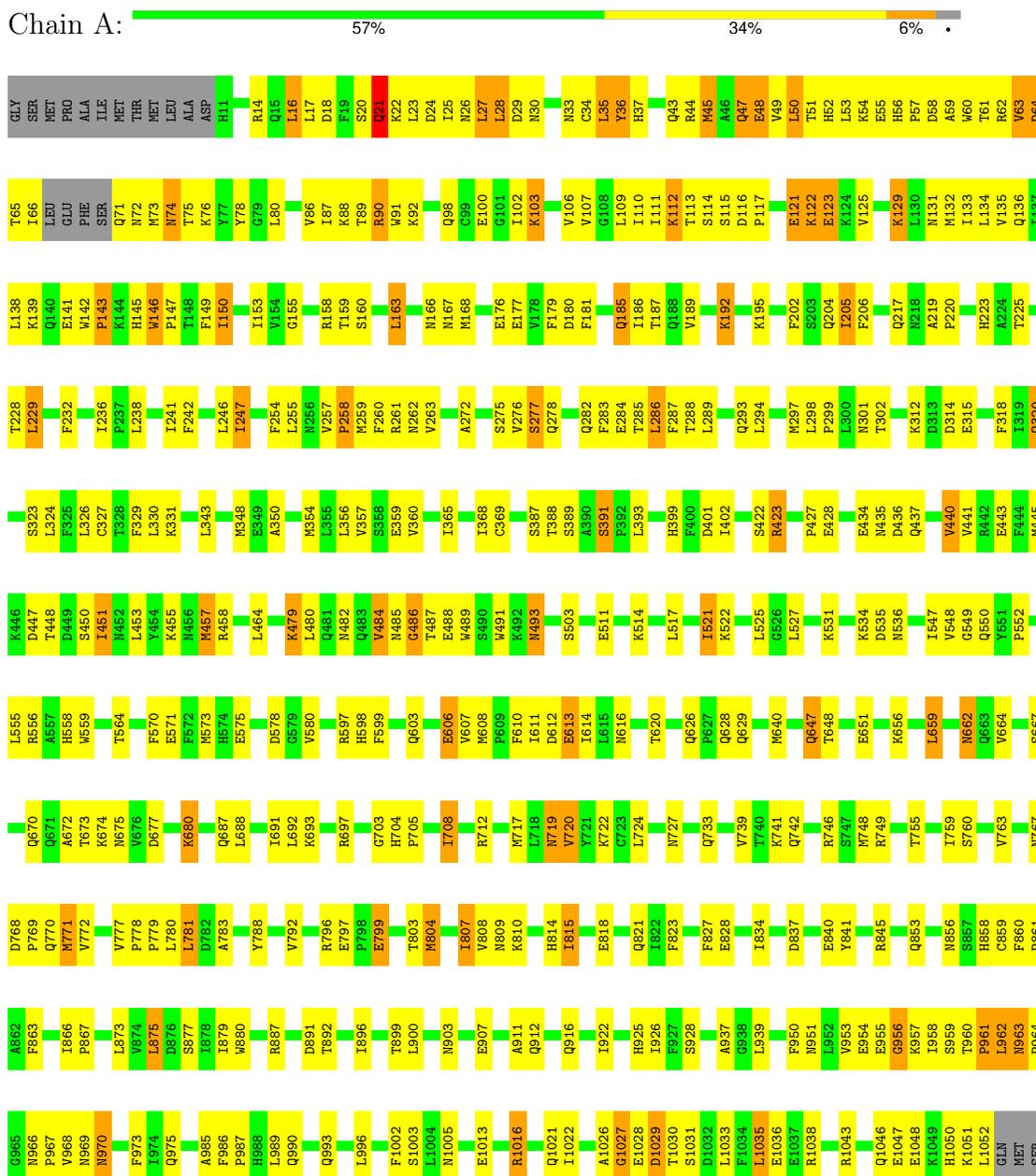
VAL PRO GLY ILE LEU ASN PRO HIS GLU ILE PRO GLU GLU MET CYS ASP

● Molecule 1: Exportin-1

Chain D:

56%   35%   6%   ·
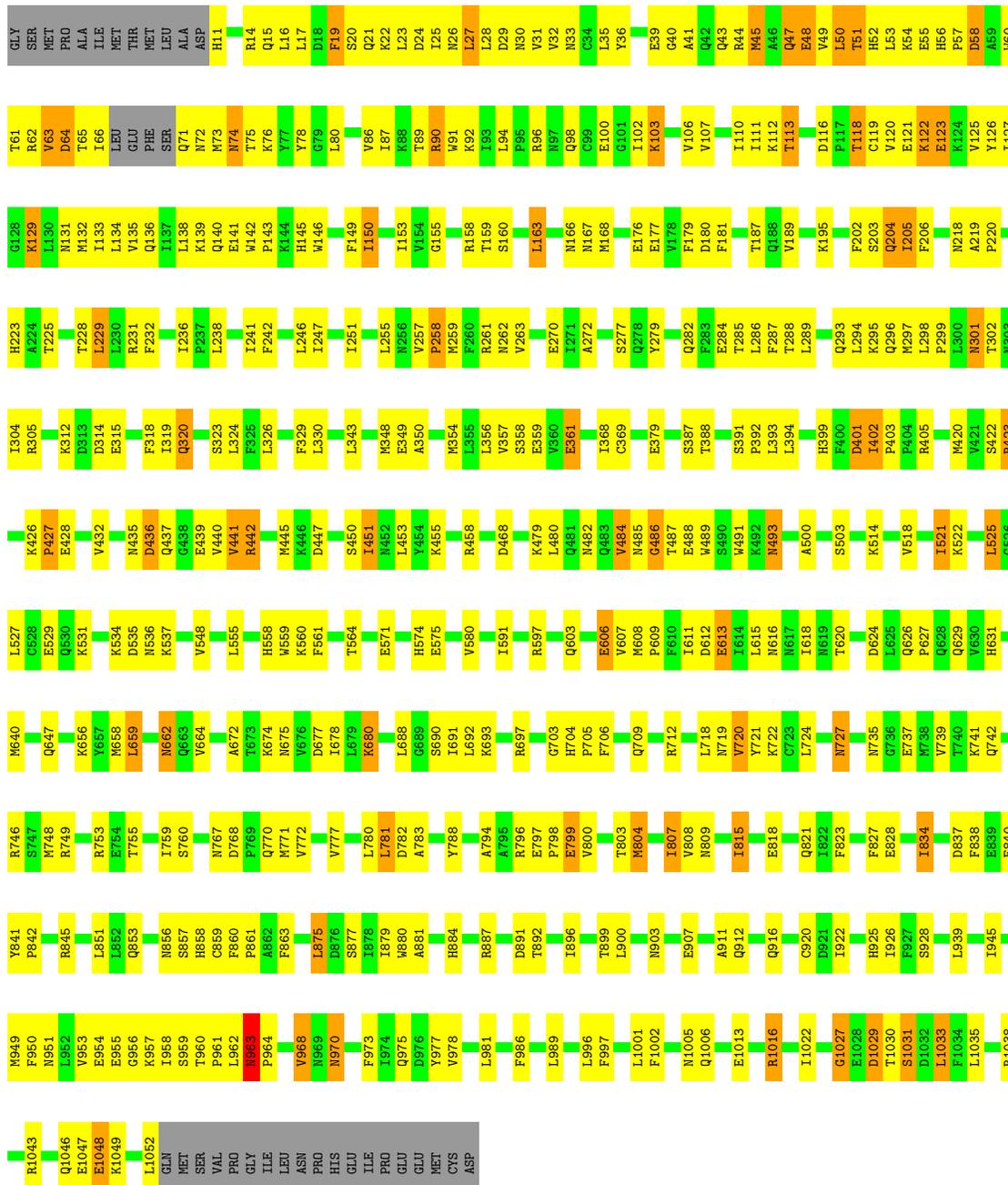
● Molecule 2: Snurportin-1

Chain B:

42%   32%   7%   20%

• Molecule 2: Snurportin-1

Chain E: 43%   31%   6%   19%

• Molecule 3: GTP-binding nuclear protein Ran

Chain C: 60%   32%   7% •

• Molecule 3: GTP-binding nuclear protein Ran

Chain F: 55%   38%   6% •
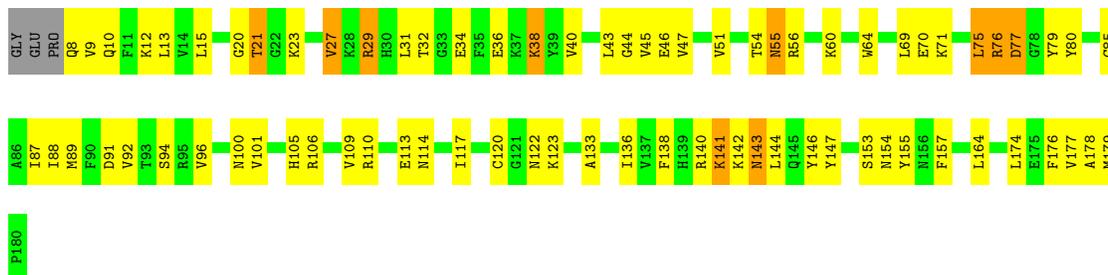
4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	72.66Å 224.62Å 164.02Å 90.00° 100.82° 90.00°	Depositor
Resolution (Å)	38.90 – 2.80 38.90 – 2.80	Depositor EDS
% Data completeness (in resolution range)	90.1 (38.90-2.80) 81.4 (38.90-2.80)	Depositor EDS
R_{merge}	0.13	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.99 (at 2.81Å)	Xtriage
Refinement program	PHENIX 1.6.1_357	Depositor
R, R_{free}	0.226 , 0.285 0.226 , 0.235	Depositor DCC
R_{free} test set	5702 reflections (4.98%)	wwPDB-VP
Wilson B-factor (Å^2)	40.3	Xtriage
Anisotropy	0.458	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 37.6	EDS
L-test for twinning[2]	$< |L| > = 0.43, < L^2 > = 0.25$	Xtriage
Estimated twinning fraction	0.119 for h,-k,-h-l	Xtriage
F_o,F_c correlation	0.93	EDS
Total number of atoms	25144	wwPDB-VP
Average B, all atoms (Å^2)	51.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.24% of the height of the origin peak. No significant pseudotranslation is detected.*

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

5 Model quality (i)

5.1 Standard geometry (i)

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

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	0.41	0/8566	0.80	6/11604 (0.1%)
1	D	0.41	0/8566	0.79	7/11604 (0.1%)
2	B	0.42	0/2404	0.91	8/3263 (0.2%)
2	E	0.42	0/2419	0.91	10/3283 (0.3%)
3	C	0.40	0/1440	0.78	0/1945
3	F	0.40	0/1440	0.79	0/1945
All	All	0.41	0/24835	0.82	31/33644 (0.1%)

There are no bond length outliers.

All (31) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	B	225	ASN	CA-C-N	9.92	129.71	119.19
2	B	225	ASN	C-N-CA	9.92	129.71	119.19
2	E	225	ASN	CA-C-N	9.07	129.26	119.28
2	E	225	ASN	C-N-CA	9.07	129.26	119.28
1	A	488	GLU	N-CA-C	-8.29	101.32	112.26
1	D	488	GLU	N-CA-C	-8.18	101.46	112.26
1	A	36	TYR	N-CA-C	7.76	123.21	113.43
1	A	37	HIS	N-CA-C	7.60	122.57	111.02
2	E	94	LEU	CA-C-N	6.38	126.41	119.90
2	E	94	LEU	C-N-CA	6.38	126.41	119.90
2	B	55	ARG	N-CA-C	-6.19	105.04	112.59
1	D	986	PHE	CA-C-N	6.08	125.70	119.56
1	D	986	PHE	C-N-CA	6.08	125.70	119.56
2	E	50	LEU	N-CA-C	-6.02	105.98	113.15
1	D	120	VAL	N-CA-C	-5.99	105.15	112.76
1	A	986	PHE	CA-C-N	5.75	125.36	119.56
1	A	986	PHE	C-N-CA	5.75	125.36	119.56
1	D	19	PHE	N-CA-C	-5.69	105.54	112.88

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Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
2	E	55	ARG	N-CA-C	-5.47	106.48	112.72
1	D	441	VAL	N-CA-C	5.46	116.00	110.05
2	B	111	VAL	CA-C-N	5.42	125.36	119.78
2	B	111	VAL	C-N-CA	5.42	125.36	119.78
1	A	956	GLY	N-CA-C	5.34	120.63	114.16
2	E	111	VAL	CA-C-N	5.33	125.25	119.76
2	E	111	VAL	C-N-CA	5.33	125.25	119.76
2	E	194	HIS	CA-C-N	5.24	125.00	119.76
2	E	194	HIS	C-N-CA	5.24	125.00	119.76
2	B	94	LEU	CA-C-N	5.23	125.23	119.90
2	B	94	LEU	C-N-CA	5.23	125.23	119.90
1	D	956	GLY	N-CA-C	5.22	120.48	114.16
2	B	166	ALA	N-CA-C	5.13	115.79	107.32

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	8394	0	8460	356	0
1	D	8394	0	8460	373	0
2	B	2339	0	2295	122	0
2	E	2354	0	2311	115	0
3	C	1405	0	1434	55	0
3	F	1405	0	1434	68	0
4	C	32	0	12	4	0
4	F	32	0	12	2	0
5	C	1	0	0	0	0
5	F	1	0	0	0	0
6	C	1	0	0	0	0
6	D	1	0	0	0	0
7	A	237	0	0	17	0
7	B	94	0	0	7	0
7	C	53	0	0	6	0
7	D	279	0	0	23	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
7	E	71	0	0	3	0
7	F	51	0	0	6	0
All	All	25144	0	24418	1065	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 22.

All (1065) 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:E:290:VAL:H	2:E:291:PRO:HD3	1.09	1.10
2:B:52:LYS:HZ3	2:B:264:THR:HA	1.03	1.06
2:E:52:LYS:HZ3	2:E:264:THR:HA	1.19	1.01
1:A:131:ASN:HD21	1:A:166:ASN:HD21	1.12	0.95
1:D:964:PRO:HG2	1:D:968:VAL:HB	1.49	0.94
1:D:131:ASN:HD21	1:D:166:ASN:HD21	1.11	0.94
2:B:52:LYS:NZ	2:B:264:THR:HA	1.84	0.93
2:E:52:LYS:NZ	2:E:264:THR:HA	1.84	0.92
2:B:43:ARG:HG3	2:B:44:ARG:H	1.35	0.91
1:A:962:LEU:C	1:A:964:PRO:HD3	1.95	0.91
3:F:177:VAL:HG21	3:F:179:MET:HE3	1.52	0.91
1:D:55:GLU:HG2	1:D:56:HIS:H	1.37	0.90
1:A:961:PRO:HG2	1:A:973:PHE:HD2	1.35	0.88
1:A:964:PRO:HD2	1:A:968:VAL:HG21	1.55	0.88
3:C:31:LEU:HD12	3:C:32:THR:HG23	1.54	0.87
1:A:719:ASN:HD21	2:B:358:MET:HB2	1.38	0.87
2:E:290:VAL:N	2:E:291:PRO:HD3	1.90	0.87
2:B:158:GLY:HA2	2:B:163:ASN:HD22	1.38	0.87
1:D:435:ASN:HB2	1:D:439:GLU:HB2	1.55	0.86
1:A:673:THR:HB	7:A:1090:HOH:O	1.77	0.84
2:E:292:ALA:C	2:E:294:PRO:HD3	2.02	0.83
3:F:31:LEU:HD12	3:F:32:THR:HG23	1.58	0.83
2:B:105:SER:HB3	2:B:274:VAL:HG22	1.59	0.83
1:D:20:SER:O	1:D:21:GLN:HG2	1.78	0.83
1:A:20:SER:HB2	1:A:22:LYS:HE2	1.59	0.82
1:A:807:ILE:HD11	1:A:815:ILE:HD12	1.60	0.82
1:D:1033:LEU:HD12	7:D:1305:HOH:O	1.78	0.81
1:D:996:LEU:HD12	1:D:1033:LEU:HD11	1.62	0.81
1:A:719:ASN:ND2	2:B:358:MET:HB2	1.96	0.81
2:E:290:VAL:H	2:E:291:PRO:CD	1.92	0.80
1:D:100:GLU:HA	1:D:103:LYS:CD	2.12	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:797:GLU:HG3	1:D:799:GLU:HG2	1.62	0.80
1:A:229:LEU:HD11	1:A:246:LEU:HD11	1.64	0.80
1:D:737:GLU:OE1	1:D:794:ALA:HB1	1.82	0.79
1:A:966:ASN:N	1:A:967:PRO:HD2	1.97	0.79
2:B:19:ASN:ND2	2:B:38:LEU:H	1.81	0.79
1:A:1043:ARG:O	1:A:1047:GLU:HG2	1.82	0.79
1:D:760:SER:HB3	1:D:803:THR:HG23	1.65	0.79
1:D:45:MET:HE3	3:F:79:TYR:OH	1.82	0.78
1:D:693:LYS:O	1:D:697:ARG:HG2	1.82	0.78
1:A:35:LEU:C	1:A:36:TYR:HD1	1.92	0.78
1:A:962:LEU:HB3	1:A:964:PRO:CD	2.13	0.78
3:C:21:THR:HG21	3:C:89:MET:HB3	1.66	0.77
1:A:797:GLU:HG3	1:A:799:GLU:HG2	1.65	0.77
2:E:19:ASN:ND2	2:E:38:LEU:H	1.82	0.77
3:F:117:ILE:HB	3:F:144:LEU:HD22	1.66	0.77
2:B:4:LEU:HB3	2:B:6:LEU:HD13	1.67	0.76
2:B:19:ASN:HD21	2:B:38:LEU:H	1.34	0.76
1:D:807:ILE:HD11	1:D:815:ILE:HD12	1.64	0.76
1:A:724:LEU:HD12	1:A:748:MET:HG2	1.68	0.76
3:C:55:ASN:HD21	3:C:174:LEU:HD12	1.50	0.76
2:E:19:ASN:HD21	2:E:38:LEU:H	1.34	0.76
1:A:247:ILE:HD12	1:A:247:ILE:H	1.49	0.76
1:D:755:THR:O	1:D:759:ILE:HG13	1.84	0.76
3:F:55:ASN:HD21	3:F:174:LEU:HD12	1.51	0.76
2:B:216:GLU:HG2	2:B:217:GLY:H	1.50	0.76
1:A:760:SER:HB3	1:A:803:THR:HG23	1.67	0.75
1:D:113:THR:HG22	1:D:119:CYS:SG	2.26	0.75
1:A:92:LYS:HD2	1:A:1026:ALA:HA	1.67	0.75
2:B:243:CYS:SG	2:B:288:VAL:HG13	2.26	0.75
1:D:100:GLU:HA	1:D:103:LYS:HD2	1.69	0.75
1:A:33:ASN:HB3	1:A:44:ARG:HG3	1.68	0.75
2:B:4:LEU:CB	2:B:6:LEU:HD13	2.17	0.75
1:A:14:ARG:HH22	1:A:16:LEU:HD22	1.50	0.75
1:D:229:LEU:HD11	1:D:246:LEU:HD11	1.68	0.75
2:B:38:LEU:HD22	2:B:40:GLN:H	1.52	0.75
2:B:4:LEU:HD22	2:B:6:LEU:HD22	1.67	0.75
1:A:755:THR:O	1:A:759:ILE:HG13	1.86	0.75
2:B:290:VAL:N	2:B:291:PRO:HD3	2.02	0.75
1:A:680:LYS:HE3	1:A:727:ASN:OD1	1.87	0.74
1:D:25:ILE:HD12	1:D:25:ILE:H	1.52	0.74
1:A:887:ARG:HD3	1:A:937:ALA:HB3	1.68	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:961:PRO:HG2	1:A:973:PHE:CD2	2.20	0.74
1:D:1031:SER:HB2	7:D:1299:HOH:O	1.87	0.74
1:D:964:PRO:CG	1:D:968:VAL:HB	2.17	0.73
3:F:21:THR:HG21	3:F:89:MET:HB3	1.70	0.73
1:A:223:HIS:NE2	1:A:263:VAL:HG21	2.03	0.73
1:D:961:PRO:HG2	1:D:973:PHE:HD2	1.54	0.73
1:A:25:ILE:HD12	1:A:25:ILE:H	1.53	0.73
2:E:25:HIS:ND1	2:E:26:PRO:HD2	2.03	0.72
1:A:962:LEU:HB3	1:A:964:PRO:HD2	1.69	0.72
1:A:100:GLU:HA	1:A:103:LYS:HD2	1.69	0.72
1:A:389:SER:HB3	7:A:1218:HOH:O	1.89	0.72
1:D:356:LEU:O	1:D:359:GLU:HG2	1.89	0.72
1:D:963:ASN:N	1:D:964:PRO:HD3	2.04	0.72
1:A:491:TRP:HE1	1:A:536:ASN:HD22	1.38	0.72
1:D:56:HIS:N	1:D:57:PRO:HD3	2.04	0.72
3:C:117:ILE:HB	3:C:144:LEU:HD22	1.72	0.72
1:D:957:LYS:HZ3	1:D:961:PRO:HG3	1.55	0.72
2:E:18:LEU:HD13	2:E:38:LEU:HD12	1.72	0.72
2:B:25:HIS:HD2	2:B:281:MET:HE3	1.55	0.72
2:E:38:LEU:HD22	2:E:40:GLN:H	1.55	0.71
1:D:60:TRP:HZ2	1:D:102:ILE:HD13	1.55	0.71
2:B:25:HIS:ND1	2:B:26:PRO:HD2	2.06	0.71
2:E:55:ARG:HD2	2:E:91:VAL:HG21	1.72	0.71
1:D:33:ASN:HB3	1:D:44:ARG:HG3	1.73	0.71
1:A:722:LYS:HD2	1:A:783:ALA:HA	1.73	0.71
2:E:25:HIS:HD2	2:E:281:MET:HE3	1.55	0.71
1:D:960:THR:CG2	1:D:964:PRO:HD2	2.21	0.70
1:D:970:ASN:N	1:D:970:ASN:HD22	1.87	0.70
2:E:105:SER:HB3	2:E:274:VAL:HG22	1.72	0.70
1:A:33:ASN:CB	1:A:44:ARG:HG3	2.21	0.70
2:B:11:ARG:HD3	2:B:35:TYR:HE2	1.57	0.70
4:C:217:GTP:O3G	7:C:183:HOH:O	2.09	0.70
1:A:55:GLU:HG2	1:A:56:HIS:H	1.55	0.70
1:D:1016:ARG:HH11	1:D:1016:ARG:CG	2.05	0.69
1:D:491:TRP:HE1	1:D:536:ASN:HD22	1.40	0.69
1:D:141:GLU:HB2	1:D:145:HIS:HB2	1.74	0.69
1:D:724:LEU:HD12	1:D:748:MET:HG2	1.73	0.69
1:D:809:ASN:HA	1:D:858:HIS:HD2	1.57	0.69
1:A:356:LEU:O	1:A:359:GLU:HG2	1.93	0.69
1:A:56:HIS:N	1:A:57:PRO:HD3	2.08	0.69
1:D:722:LYS:HD2	1:D:783:ALA:HA	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:247:ILE:HD12	1:D:247:ILE:H	1.57	0.68
1:A:556:ARG:O	1:A:598:HIS:HE1	1.75	0.68
3:C:143:ASN:N	3:C:143:ASN:HD22	1.91	0.68
1:D:33:ASN:CB	1:D:44:ARG:HG3	2.23	0.68
1:D:45:MET:O	1:D:49:VAL:HG23	1.94	0.68
3:F:56:ARG:HD3	3:F:174:LEU:HD13	1.74	0.68
1:D:30:ASN:HB3	1:D:47:GLN:HE22	1.58	0.68
1:D:962:LEU:C	1:D:964:PRO:HD3	2.18	0.68
3:F:141:LYS:H	3:F:141:LYS:HD2	1.59	0.68
3:C:141:LYS:H	3:C:141:LYS:HD2	1.58	0.68
3:F:143:ASN:N	3:F:143:ASN:HD22	1.91	0.68
1:A:970:ASN:N	1:A:970:ASN:HD22	1.90	0.68
1:D:458:ARG:HG3	1:D:503:SER:HB2	1.76	0.68
1:D:664:VAL:HB	1:D:691:ILE:HD11	1.74	0.67
1:A:30:ASN:HB3	1:A:47:GLN:HE22	1.58	0.67
1:D:11:HIS:N	1:D:44:ARG:HH22	1.93	0.67
1:D:55:GLU:HB3	1:D:57:PRO:HD3	1.75	0.67
2:E:293:GLY:N	2:E:294:PRO:HD3	2.09	0.67
1:A:141:GLU:HB2	1:A:145:HIS:HB2	1.75	0.67
1:D:30:ASN:HB3	1:D:47:GLN:NE2	2.10	0.67
1:A:954:GLU:O	1:A:955:GLU:HG3	1.95	0.66
1:D:697:ARG:HD3	7:D:1093:HOH:O	1.94	0.66
1:D:393:LEU:HD23	1:D:394:LEU:N	2.11	0.66
1:A:436:ASP:HB3	7:A:1310:HOH:O	1.94	0.66
1:A:853:GLN:NE2	1:A:892:THR:HG23	2.09	0.66
1:D:436:ASP:O	1:D:437:GLN:HG2	1.96	0.66
1:D:954:GLU:O	1:D:955:GLU:HG3	1.96	0.66
3:C:75:LEU:HD12	3:C:75:LEU:N	2.10	0.66
1:A:693:LYS:O	1:A:697:ARG:HG2	1.97	0.65
1:A:45:MET:O	1:A:49:VAL:HG23	1.96	0.65
2:B:45:ARG:HA	2:B:273:LEU:HD11	1.77	0.65
1:A:804:MET:HE3	1:A:807:ILE:HG12	1.78	0.65
1:A:704:HIS:CD2	1:A:767:ASN:H	2.14	0.65
1:A:739:VAL:O	1:A:742:GLN:HG2	1.96	0.65
1:D:285:THR:O	1:D:289:LEU:HB2	1.96	0.65
3:F:75:LEU:HD12	3:F:75:LEU:N	2.11	0.65
1:A:1016:ARG:CG	1:A:1016:ARG:HH11	2.10	0.65
1:D:704:HIS:CD2	1:D:767:ASN:H	2.15	0.64
3:F:92:VAL:N	7:F:683:HOH:O	2.26	0.64
1:A:30:ASN:HB3	1:A:47:GLN:NE2	2.12	0.64
2:E:45:ARG:HA	2:E:273:LEU:HD11	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:458:ARG:HG3	1:A:503:SER:HB2	1.79	0.64
1:A:241:ILE:O	1:A:247:ILE:HD11	1.97	0.64
1:D:611:ILE:HD13	1:D:640:MET:HE2	1.78	0.64
1:D:153:ILE:HG13	1:D:167:ASN:OD1	1.96	0.64
1:D:1016:ARG:NH1	1:D:1016:ARG:HG2	2.13	0.64
1:D:241:ILE:O	1:D:247:ILE:HD11	1.98	0.64
1:D:804:MET:HE3	1:D:807:ILE:HG12	1.80	0.64
1:D:781:LEU:HD21	1:D:821:GLN:HG2	1.79	0.63
1:A:781:LEU:HD21	1:A:821:GLN:HG2	1.79	0.63
1:D:131:ASN:HD21	1:D:166:ASN:ND2	1.92	0.63
1:D:720:VAL:HG23	1:D:724:LEU:HD23	1.80	0.63
1:A:167:ASN:ND2	7:A:1207:HOH:O	2.32	0.63
1:A:285:THR:O	1:A:289:LEU:HB2	1.97	0.63
1:A:1021:GLN:HE22	1:A:1033:LEU:HD22	1.63	0.63
2:B:52:LYS:HZ3	2:B:264:THR:CA	1.95	0.63
1:D:103:LYS:HZ3	1:D:103:LYS:HB3	1.64	0.63
1:A:389:SER:N	1:A:401:ASP:OD1	2.31	0.63
1:D:225:THR:HA	1:D:228:THR:HG22	1.81	0.63
1:D:55:GLU:CG	1:D:56:HIS:H	2.08	0.63
1:A:664:VAL:HB	1:A:691:ILE:HD11	1.79	0.63
1:D:103:LYS:HE3	7:D:1276:HOH:O	1.98	0.63
1:D:293:GLN:O	1:D:297:MET:HG3	1.98	0.63
3:F:10:GLN:HB3	3:F:60:LYS:HB3	1.81	0.63
1:A:133:ILE:O	1:A:136:GLN:HB2	1.98	0.63
7:A:1208:HOH:O	2:B:127:GLY:HA2	1.97	0.63
2:B:52:LYS:HE2	2:B:265:HIS:H	1.63	0.63
1:A:107:VAL:O	1:A:111:ILE:HG12	1.98	0.62
3:F:32:THR:OG1	3:F:34:GLU:HG2	1.98	0.62
1:D:626:GLN:H	1:D:629:GLN:NE2	1.97	0.62
2:E:290:VAL:N	2:E:291:PRO:CD	2.59	0.62
1:A:314:ASP:HB2	7:A:1259:HOH:O	1.99	0.62
2:E:65:LEU:HD12	2:E:171:ILE:HD13	1.81	0.62
1:D:223:HIS:NE2	1:D:263:VAL:HG21	2.14	0.62
1:A:45:MET:HE3	3:C:79:TYR:OH	1.99	0.62
2:B:277:LEU:HD22	2:B:281:MET:HE2	1.82	0.62
1:A:255:LEU:HD23	1:A:255:LEU:O	2.00	0.62
3:F:122:ASN:O	3:F:123:LYS:HB2	1.98	0.62
1:D:574:HIS:CE1	7:D:1267:HOH:O	2.52	0.62
2:E:277:LEU:HD22	2:E:281:MET:HE2	1.82	0.62
1:D:675:ASN:HD21	1:D:677:ASP:HB2	1.64	0.61
1:D:899:THR:HG22	1:D:903:ASN:HD21	1.64	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:65:LEU:HD23	2:B:70:TRP:HH2	1.65	0.61
1:D:357:VAL:HG12	1:D:369:CYS:SG	2.40	0.61
3:F:123:LYS:HE2	4:F:217:GTP:C4	2.35	0.61
1:A:225:THR:HA	1:A:228:THR:HG22	1.82	0.61
2:B:285:VAL:O	2:B:286:LEU:HD23	2.00	0.61
2:B:26:PRO:HG2	2:B:109:ILE:HD11	1.83	0.61
3:C:56:ARG:HD3	3:C:174:LEU:HD13	1.81	0.61
7:D:1351:HOH:O	2:E:351:PRO:HB2	2.00	0.61
2:E:61:HIS:HE1	2:E:101:GLN:HE22	1.49	0.61
1:A:35:LEU:HD11	7:C:234:HOH:O	2.00	0.61
1:A:35:LEU:O	1:A:36:TYR:HD1	1.83	0.61
1:A:626:GLN:H	1:A:629:GLN:NE2	1.99	0.61
1:D:107:VAL:O	1:D:111:ILE:HG12	2.00	0.61
1:D:561:PHE:HB2	2:E:6:LEU:HD12	1.83	0.61
1:A:106:VAL:O	1:A:110:ILE:HG13	2.01	0.61
1:A:809:ASN:HA	1:A:858:HIS:HD2	1.66	0.60
2:E:52:LYS:HE2	2:E:265:HIS:H	1.63	0.60
1:A:558:HIS:ND1	2:B:4:LEU:HD23	2.16	0.60
2:B:154:SER:O	2:B:160:ASN:HB3	2.02	0.60
1:D:960:THR:HG21	1:D:964:PRO:HD2	1.83	0.60
2:E:95:PRO:HG2	2:E:100:ASN:O	2.01	0.60
1:A:293:GLN:O	1:A:297:MET:HG3	2.00	0.60
2:B:111:VAL:HG21	2:B:286:LEU:HD22	1.84	0.60
1:D:32:VAL:O	1:D:36:TYR:HD1	1.85	0.60
1:A:720:VAL:HG23	1:A:724:LEU:HD23	1.82	0.60
3:F:138:PHE:HA	3:F:141:LYS:HE3	1.83	0.60
2:B:43:ARG:HG3	2:B:44:ARG:N	2.14	0.60
1:D:100:GLU:HA	1:D:103:LYS:HD3	1.81	0.60
1:D:739:VAL:O	1:D:742:GLN:HG2	2.02	0.60
1:A:962:LEU:HB3	1:A:964:PRO:HD3	1.84	0.60
1:A:16:LEU:HG	1:A:16:LEU:O	2.02	0.59
1:A:320:GLN:O	1:A:323:SER:HB2	2.02	0.59
1:A:485:ASN:O	1:A:487:THR:N	2.35	0.59
1:A:957:LYS:HZ3	1:A:961:PRO:HG3	1.67	0.59
2:E:65:LEU:HD23	2:E:70:TRP:HH2	1.68	0.59
1:D:255:LEU:HD23	1:D:255:LEU:O	2.02	0.59
2:B:8:PRO:HA	2:B:10:GLU:OE1	2.02	0.59
1:D:11:HIS:N	1:D:44:ARG:NH2	2.51	0.59
1:D:853:GLN:NE2	1:D:892:THR:HG23	2.17	0.59
3:C:23:LYS:O	3:C:27:VAL:HG13	2.03	0.59
1:D:1016:ARG:HH11	1:D:1016:ARG:HG2	1.64	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:100:ASN:HB3	7:E:465:HOH:O	2.02	0.59
1:D:680:LYS:HE3	1:D:727:ASN:OD1	2.03	0.59
1:A:357:VAL:HG12	1:A:369:CYS:SG	2.43	0.59
1:A:441:VAL:HG12	1:A:628:GLN:NE2	2.18	0.59
1:D:119:CYS:SG	1:D:127:ILE:HD11	2.43	0.59
1:D:680:LYS:HZ2	1:D:680:LYS:HB2	1.68	0.59
1:A:428:GLU:HG2	7:A:1176:HOH:O	2.02	0.58
1:A:482:ASN:HA	1:A:486:GLY:HA3	1.84	0.58
2:B:61:HIS:HE1	2:B:101:GLN:HE22	1.51	0.58
1:D:428:GLU:HG3	7:D:1239:HOH:O	2.03	0.58
1:D:950:PHE:O	1:D:953:VAL:HB	2.03	0.58
2:E:163:ASN:O	2:E:165:THR:HG23	2.02	0.58
2:B:112:PRO:HD2	2:B:115:LEU:HD13	1.85	0.58
2:B:18:LEU:HD13	2:B:38:LEU:HD12	1.85	0.58
2:E:16:GLN:O	2:E:16:GLN:HG2	2.02	0.58
1:A:401:ASP:OD2	1:A:401:ASP:N	2.37	0.58
1:A:724:LEU:HD12	1:A:748:MET:CG	2.33	0.58
1:D:324:LEU:CD2	1:D:368:ILE:HD13	2.33	0.58
1:D:803:THR:O	1:D:807:ILE:HG23	2.03	0.58
1:D:62:ARG:HB2	1:D:62:ARG:CZ	2.32	0.58
1:A:139:LYS:HE2	1:A:177:GLU:HB3	1.86	0.58
2:B:41:SER:O	2:B:45:ARG:HG3	2.03	0.58
3:C:10:GLN:HB3	3:C:60:LYS:HB3	1.85	0.58
2:E:176:TYR:HB2	2:E:183:TYR:CE1	2.38	0.58
2:E:349:HIS:NE2	2:E:351:PRO:HG3	2.19	0.58
1:A:662:ASN:HD22	1:A:712:ARG:HH21	1.51	0.58
2:B:176:TYR:HB2	2:B:183:TYR:CE1	2.39	0.58
1:D:662:ASN:HD22	1:D:712:ARG:NH2	2.01	0.58
2:E:15:SER:C	2:E:17:ASP:H	2.12	0.58
1:A:675:ASN:HD21	1:A:677:ASP:HB2	1.68	0.57
1:A:966:ASN:N	1:A:967:PRO:CD	2.67	0.57
1:D:489:TRP:CE2	1:D:531:LYS:HE2	2.39	0.57
1:A:899:THR:HG22	1:A:903:ASN:HD21	1.69	0.57
3:F:92:VAL:HG13	7:F:683:HOH:O	2.03	0.57
1:A:962:LEU:HD13	1:A:968:VAL:HB	1.86	0.57
1:D:482:ASN:HA	1:D:486:GLY:HA3	1.86	0.57
1:D:607:VAL:HG13	1:D:608:MET:HG2	1.86	0.57
1:A:58:ASP:O	1:A:62:ARG:HG2	2.04	0.57
1:A:489:TRP:CE2	1:A:531:LYS:HE2	2.39	0.57
1:A:55:GLU:HB3	1:A:57:PRO:HD3	1.87	0.57
1:D:21:GLN:CG	1:D:21:GLN:O	2.53	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:15:LEU:HD11	3:F:89:MET:HE3	1.87	0.57
3:F:177:VAL:CG2	3:F:179:MET:HE3	2.30	0.57
1:D:132:MET:HE3	1:D:135:VAL:HB	1.87	0.57
1:D:399:HIS:HB3	1:D:401:ASP:H	1.69	0.57
1:D:534:LYS:HE3	1:D:575:GLU:OE2	2.04	0.57
1:D:1016:ARG:HH11	1:D:1016:ARG:CB	2.18	0.57
3:F:77:ASP:HA	3:F:80:TYR:CD2	2.40	0.57
1:A:957:LYS:HZ1	1:A:961:PRO:HB3	1.70	0.57
1:A:996:LEU:HD12	1:A:1033:LEU:HD21	1.85	0.57
1:D:361:GLU:CD	1:D:361:GLU:H	2.11	0.57
1:D:529:GLU:HG3	2:E:11:ARG:HH21	1.70	0.57
1:D:963:ASN:N	1:D:964:PRO:CD	2.67	0.57
2:E:354:PRO:HB2	2:E:357:LEU:HD23	1.86	0.57
1:D:996:LEU:CD1	1:D:1033:LEU:HD11	2.33	0.56
2:B:4:LEU:O	2:B:5:GLN:HB2	2.05	0.56
3:C:29:ARG:HB3	3:C:157:PHE:CZ	2.39	0.56
1:A:662:ASN:HD22	1:A:712:ARG:NH2	2.03	0.56
2:B:95:PRO:HG2	2:B:100:ASN:O	2.06	0.56
1:D:45:MET:CE	3:F:44:GLY:HA3	2.35	0.56
1:A:704:HIS:HB3	7:A:1262:HOH:O	2.05	0.56
1:A:1016:ARG:HH11	1:A:1016:ARG:CB	2.17	0.56
3:C:77:ASP:HA	3:C:80:TYR:CD2	2.41	0.56
3:C:88:ILE:HG21	3:C:101:VAL:HG13	1.86	0.56
1:D:50:LEU:C	1:D:52:HIS:H	2.13	0.56
2:E:112:PRO:HD2	2:E:115:LEU:HD13	1.88	0.56
1:A:788:TYR:CE1	1:A:796:ARG:HB3	2.41	0.56
1:A:803:THR:O	1:A:807:ILE:HG23	2.05	0.56
1:D:437:GLN:HG3	1:D:753:ARG:NH1	2.20	0.56
1:A:354:MET:HE1	1:A:369:CYS:HA	1.88	0.56
2:E:210:SER:C	2:E:211:LYS:HD2	2.31	0.56
1:D:295:LYS:HD2	1:D:349:GLU:OE2	2.06	0.56
2:B:25:HIS:CD2	2:B:281:MET:HE3	2.37	0.56
1:D:299:PRO:HG2	1:D:302:THR:CG2	2.35	0.56
1:D:55:GLU:HG2	1:D:56:HIS:N	2.12	0.56
1:D:103:LYS:O	1:D:107:VAL:HG23	2.06	0.56
2:E:13:THR:HG22	2:E:15:SER:H	1.70	0.56
1:A:299:PRO:HG2	1:A:302:THR:CG2	2.35	0.55
2:B:129:ARG:NH2	7:B:361:HOH:O	2.37	0.55
3:C:55:ASN:ND2	3:C:174:LEU:HD12	2.21	0.55
1:D:435:ASN:ND2	1:D:441:VAL:HG11	2.21	0.55
2:E:279:PRO:HB2	2:E:294:PRO:HB2	1.87	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:258:PRO:O	1:A:261:ARG:HG2	2.06	0.55
1:A:1051:LYS:HG2	1:A:1052:LEU:HG	1.88	0.55
1:D:912:GLN:CD	1:D:958:ILE:HG12	2.32	0.55
1:A:1016:ARG:NH1	1:A:1016:ARG:HG2	2.21	0.55
1:D:66:ILE:HG21	1:D:72:ASN:ND2	2.21	0.55
2:E:8:PRO:HA	2:E:10:GLU:OE1	2.06	0.55
1:A:511:GLU:HA	1:A:514:LYS:HE3	1.87	0.55
1:A:950:PHE:O	1:A:953:VAL:HB	2.05	0.55
1:A:951:ASN:HA	1:A:1005:ASN:HD22	1.71	0.55
1:D:1043:ARG:HA	1:D:1046:GLN:HB3	1.86	0.55
1:A:17:LEU:HG	1:A:20:SER:HB2	1.89	0.55
1:A:275:SER:HB2	7:A:1167:HOH:O	2.05	0.55
1:A:912:GLN:CD	1:A:958:ILE:HG12	2.32	0.55
2:B:155:LEU:O	7:B:417:HOH:O	2.18	0.55
3:C:55:ASN:N	3:C:55:ASN:HD22	2.04	0.55
1:D:238:LEU:HD22	1:D:242:PHE:HE2	1.71	0.55
1:D:680:LYS:HB2	1:D:680:LYS:NZ	2.21	0.55
1:D:103:LYS:NZ	1:D:103:LYS:CB	2.70	0.55
1:D:961:PRO:HD3	1:D:970:ASN:ND2	2.22	0.55
2:E:55:ARG:HD2	2:E:91:VAL:CG2	2.37	0.55
1:D:45:MET:HE1	3:F:44:GLY:HA3	1.89	0.55
1:A:55:GLU:C	1:A:57:PRO:HD3	2.30	0.55
1:A:150:ILE:HD12	1:A:153:ILE:HD11	1.89	0.55
1:D:139:LYS:HE2	1:D:177:GLU:HB3	1.89	0.55
1:A:35:LEU:C	1:A:36:TYR:CD1	2.79	0.54
1:A:422:SER:C	1:A:423:ARG:HG2	2.32	0.54
3:C:15:LEU:HD11	3:C:89:MET:HE3	1.88	0.54
1:D:27:LEU:HD23	1:D:27:LEU:C	2.31	0.54
1:D:50:LEU:O	1:D:53:LEU:HG	2.07	0.54
1:A:324:LEU:CD2	1:A:368:ILE:HD13	2.37	0.54
1:D:219:ALA:HB3	1:D:220:PRO:HD3	1.90	0.54
1:D:837:ASP:O	1:D:845:ARG:NH2	2.40	0.54
2:B:27:ARG:HG3	2:B:31:TYR:HD1	1.71	0.54
1:D:493:ASN:N	1:D:493:ASN:HD22	2.04	0.54
1:A:963:ASN:N	1:A:964:PRO:HD3	2.22	0.54
3:F:55:ASN:ND2	3:F:174:LEU:HD12	2.22	0.54
1:A:388:THR:O	1:A:389:SER:C	2.50	0.54
2:B:65:LEU:HD12	2:B:171:ILE:HD13	1.89	0.54
2:B:283:SER:HB2	2:B:290:VAL:HG22	1.90	0.54
1:D:121:GLU:O	1:D:123:GLU:N	2.41	0.54
1:D:529:GLU:HB3	7:D:1106:HOH:O	2.07	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:27:LEU:HD21	1:A:75:THR:HG23	1.89	0.54
1:A:493:ASN:N	1:A:493:ASN:HD22	2.03	0.54
1:A:892:THR:O	1:A:896:ILE:HG13	2.08	0.54
1:A:957:LYS:NZ	1:A:961:PRO:HB3	2.23	0.54
1:D:1016:ARG:CG	1:D:1016:ARG:NH1	2.67	0.54
3:C:32:THR:OG1	3:C:34:GLU:HG2	2.06	0.54
1:D:284:GLU:HG3	1:D:343:LEU:HD11	1.89	0.54
1:D:485:ASN:O	1:D:487:THR:N	2.41	0.54
1:D:892:THR:O	1:D:896:ILE:HG13	2.08	0.54
2:E:25:HIS:CD2	2:E:281:MET:HE3	2.39	0.54
2:E:135:SER:HB3	2:E:169:TYR:HB3	1.90	0.54
1:A:272:ALA:HB1	1:A:329:PHE:HD1	1.73	0.54
2:B:210:SER:C	2:B:211:LYS:HD2	2.33	0.54
3:F:55:ASN:HD22	3:F:55:ASN:N	2.05	0.54
1:A:284:GLU:HG3	1:A:343:LEU:HD11	1.89	0.54
1:A:132:MET:HE3	1:A:135:VAL:HB	1.90	0.53
1:D:56:HIS:N	1:D:57:PRO:CD	2.71	0.53
1:D:106:VAL:O	1:D:110:ILE:HG13	2.08	0.53
1:D:320:GLN:O	1:D:323:SER:HB2	2.09	0.53
1:A:129:LYS:O	1:A:133:ILE:HG13	2.09	0.53
1:A:962:LEU:O	1:A:963:ASN:HB2	2.08	0.53
2:B:43:ARG:HG3	2:B:44:ARG:HG3	1.90	0.53
1:D:450:SER:O	1:D:453:LEU:HB3	2.08	0.53
2:B:296:THR:O	2:B:297:THR:C	2.52	0.53
1:D:167:ASN:ND2	7:D:1160:HOH:O	2.41	0.53
1:A:484:VAL:HA	1:A:527:LEU:HD13	1.89	0.53
1:A:276:VAL:O	1:A:276:VAL:HG22	2.08	0.53
1:A:741:LYS:HA	1:A:746:ARG:HH11	1.74	0.53
1:D:202:PHE:CZ	1:D:236:ILE:HG21	2.44	0.53
2:E:264:THR:HG23	2:E:273:LEU:HD22	1.90	0.53
1:A:50:LEU:O	1:A:53:LEU:HG	2.08	0.53
1:A:647:GLN:NE2	7:A:1263:HOH:O	2.42	0.53
1:A:925:HIS:O	1:A:928:SER:HB3	2.08	0.53
2:B:69:ASP:OD2	2:B:71:THR:HG23	2.08	0.53
3:F:179:MET:HG3	3:F:179:MET:O	2.08	0.53
1:D:860:PHE:HE1	1:D:900:LEU:CD1	2.22	0.53
1:D:970:ASN:N	1:D:970:ASN:ND2	2.53	0.53
1:A:50:LEU:C	1:A:52:HIS:H	2.17	0.53
1:D:205:ILE:HG22	1:D:206:PHE:N	2.23	0.53
1:D:951:ASN:HA	1:D:1005:ASN:HD22	1.73	0.53
1:D:514:LYS:NZ	1:D:558:HIS:HE1	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:973:PHE:CD1	1:A:973:PHE:C	2.84	0.52
1:D:30:ASN:CB	1:D:47:GLN:NE2	2.73	0.52
1:D:788:TYR:CE1	1:D:796:ARG:HB3	2.44	0.52
1:D:960:THR:HG21	1:D:964:PRO:O	2.10	0.52
1:D:149:PHE:O	1:D:153:ILE:HG22	2.09	0.52
1:D:437:GLN:HG3	1:D:753:ARG:NH2	2.24	0.52
2:E:286:LEU:O	2:E:286:LEU:HG	2.09	0.52
1:A:970:ASN:N	1:A:970:ASN:ND2	2.57	0.52
2:B:158:GLY:HA2	2:B:163:ASN:ND2	2.18	0.52
2:B:288:VAL:HG12	2:B:289:ALA:N	2.23	0.52
1:D:574:HIS:ND1	7:D:1267:HOH:O	2.34	0.52
1:D:627:PRO:O	1:D:631:HIS:ND1	2.42	0.52
1:A:121:GLU:O	1:A:123:GLU:N	2.43	0.52
1:A:1016:ARG:CG	1:A:1016:ARG:NH1	2.71	0.52
2:B:288:VAL:CG1	2:B:289:ALA:N	2.72	0.52
1:D:401:ASP:O	1:D:403:PRO:HD3	2.10	0.52
1:D:445:MET:HE2	3:F:155:TYR:CD1	2.45	0.52
1:D:975:GLN:HG2	1:D:1002:PHE:CE1	2.44	0.52
1:D:119:CYS:C	1:D:121:GLU:N	2.67	0.52
3:F:75:LEU:HD12	3:F:75:LEU:H	1.74	0.52
1:A:219:ALA:HB3	1:A:220:PRO:HD3	1.92	0.52
1:A:534:LYS:HE3	1:A:575:GLU:OE2	2.09	0.52
1:A:860:PHE:HE1	1:A:900:LEU:CD1	2.23	0.52
1:D:548:VAL:O	1:D:555:LEU:HD11	2.09	0.52
1:D:857:SER:HB2	7:D:1087:HOH:O	2.10	0.52
1:D:963:ASN:C	1:D:963:ASN:OD1	2.52	0.52
1:A:18:ASP:C	1:A:20:SER:H	2.17	0.51
1:A:177:GLU:OE1	1:A:177:GLU:HA	2.09	0.51
2:B:13:THR:HG21	7:B:408:HOH:O	2.09	0.51
3:C:122:ASN:O	3:C:123:LYS:HB2	2.09	0.51
1:D:179:PHE:CE1	1:D:195:LYS:HG2	2.45	0.51
3:F:13:LEU:C	3:F:13:LEU:HD23	2.36	0.51
1:A:232:PHE:O	1:A:236:ILE:HG23	2.10	0.51
3:C:123:LYS:HE2	4:C:217:GTP:C4	2.45	0.51
3:C:138:PHE:HA	3:C:141:LYS:HE3	1.92	0.51
1:D:616:ASN:OD1	1:D:656:LYS:HE3	2.10	0.51
1:A:1003:SER:HA	1:A:1046:GLN:OE1	2.10	0.51
2:B:294:PRO:O	2:B:295:LEU:HD23	2.11	0.51
1:D:96:ARG:HH21	1:D:145:HIS:HB3	1.75	0.51
1:D:134:LEU:O	1:D:138:LEU:HG	2.10	0.51
1:D:422:SER:C	1:D:423:ARG:HG2	2.35	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:38:LEU:HD22	2:E:39:GLU:H	1.76	0.51
4:C:217:GTP:O3G	4:C:217:GTP:O2B	2.28	0.51
1:D:887:ARG:HB2	1:D:887:ARG:CZ	2.40	0.51
1:A:301:ASN:H	1:A:301:ASN:HD22	1.57	0.51
2:B:135:SER:HB3	2:B:169:TYR:HB3	1.93	0.51
2:E:107:TRP:CZ3	2:E:281:MET:HE1	2.46	0.51
1:A:853:GLN:HE21	1:A:892:THR:HG23	1.73	0.51
2:B:38:LEU:HD22	2:B:39:GLU:H	1.75	0.51
2:E:44:ARG:NH1	2:E:272:PRO:HG3	2.26	0.51
1:A:769:PRO:HB2	1:A:814:HIS:CE1	2.46	0.51
2:B:191:TRP:CD1	2:B:192:ARG:HG3	2.45	0.51
1:D:27:LEU:HD21	1:D:75:THR:HG23	1.91	0.51
1:A:35:LEU:HD12	7:C:561:HOH:O	2.10	0.51
1:D:354:MET:HE1	1:D:369:CYS:HA	1.91	0.51
1:A:47:GLN:HG2	1:A:48:GLU:N	2.25	0.51
1:A:131:ASN:ND2	1:A:166:ASN:HD21	1.95	0.51
1:A:434:GLU:HB3	1:A:440:VAL:CG1	2.41	0.51
1:A:548:VAL:O	1:A:555:LEU:HD11	2.11	0.51
3:C:75:LEU:HD12	3:C:75:LEU:H	1.74	0.51
1:A:27:LEU:C	1:A:27:LEU:HD23	2.35	0.50
1:A:767:ASN:HB2	7:A:1166:HOH:O	2.12	0.50
1:D:17:LEU:HB3	1:D:22:LYS:HE2	1.92	0.50
1:D:247:ILE:O	1:D:251:ILE:HG13	2.12	0.50
1:D:662:ASN:HD22	1:D:712:ARG:HH21	1.59	0.50
1:D:840:GLU:O	1:D:841:TYR:HB2	2.09	0.50
1:A:55:GLU:HG2	1:A:56:HIS:N	2.25	0.50
1:D:45:MET:HE2	1:D:49:VAL:HG21	1.94	0.50
1:A:856:ASN:HB2	1:A:863:PHE:HE1	1.75	0.50
1:D:258:PRO:O	1:D:261:ARG:HG2	2.11	0.50
1:A:55:GLU:CG	1:A:56:HIS:H	2.18	0.50
1:A:672:ALA:C	1:A:674:LYS:H	2.19	0.50
1:A:963:ASN:N	1:A:964:PRO:CD	2.75	0.50
3:C:29:ARG:HB3	3:C:157:PHE:HZ	1.75	0.50
1:D:55:GLU:C	1:D:57:PRO:HD3	2.36	0.50
1:D:155:GLY:O	1:D:159:THR:HG23	2.12	0.50
1:D:899:THR:HG22	1:D:903:ASN:ND2	2.26	0.50
1:A:185:GLN:HG2	1:A:186:ILE:HG13	1.93	0.50
2:B:285:VAL:HG12	2:B:286:LEU:CD2	2.41	0.50
1:D:435:ASN:OD1	1:D:441:VAL:HG21	2.12	0.50
1:D:877:SER:O	1:D:880:TRP:HB3	2.11	0.50
2:E:261:HIS:CD2	2:E:263:GLN:H	2.30	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:280:TYR:HB3	2:E:294:PRO:O	2.11	0.50
1:A:841:TYR:O	1:A:845:ARG:HG3	2.12	0.50
2:B:359:GLU:O	2:B:360:ASN:C	2.55	0.50
1:D:961:PRO:HB2	1:D:973:PHE:HE2	1.76	0.50
1:D:962:LEU:HD23	1:D:964:PRO:HG3	1.94	0.50
1:A:20:SER:HB2	1:A:22:LYS:CE	2.37	0.50
2:B:53:SER:O	2:B:54:LYS:C	2.55	0.50
1:D:299:PRO:HG2	1:D:302:THR:HG21	1.94	0.50
1:D:704:HIS:HD2	1:D:767:ASN:H	1.57	0.50
1:D:856:ASN:HB2	1:D:863:PHE:HE1	1.76	0.50
1:A:276:VAL:O	1:A:278:GLN:N	2.45	0.50
1:A:837:ASP:O	1:A:845:ARG:NH2	2.44	0.50
2:B:19:ASN:HB2	2:B:106:GLU:HB3	1.94	0.50
2:B:44:ARG:NH1	2:B:272:PRO:HG3	2.27	0.50
1:D:484:VAL:HA	1:D:527:LEU:HD13	1.93	0.50
3:F:141:LYS:HG3	7:F:407:HOH:O	2.11	0.50
1:A:287:PHE:HZ	1:A:350:ALA:HB2	1.77	0.49
1:D:14:ARG:HB3	1:D:16:LEU:HG	1.93	0.49
1:D:176:GLU:O	1:D:181:PHE:HD2	1.94	0.49
1:D:358:SER:O	1:D:423:ARG:NH1	2.45	0.49
1:D:741:LYS:HA	1:D:746:ARG:HH11	1.77	0.49
3:F:88:ILE:HG21	3:F:101:VAL:HG13	1.94	0.49
1:A:89:THR:HG22	1:A:90:ARG:HG3	1.94	0.49
2:B:55:ARG:NH2	7:B:404:HOH:O	2.44	0.49
2:E:155:LEU:HG	2:E:225:ASN:HB2	1.93	0.49
3:F:122:ASN:N	7:F:683:HOH:O	2.43	0.49
1:A:80:LEU:HD22	1:A:133:ILE:HD12	1.94	0.49
1:A:704:HIS:HD2	1:A:767:ASN:H	1.59	0.49
1:A:1016:ARG:HH11	1:A:1016:ARG:HB3	1.77	0.49
2:E:65:LEU:CD1	2:E:171:ILE:HD13	2.42	0.49
2:B:293:GLY:N	2:B:294:PRO:CD	2.74	0.49
3:C:85:CYS:HB2	3:C:164:LEU:HD22	1.94	0.49
3:F:29:ARG:HB3	3:F:157:PHE:CZ	2.47	0.49
1:D:521:ILE:HD11	2:E:7:PRO:HB2	1.93	0.49
1:D:961:PRO:HG2	1:D:973:PHE:CD2	2.42	0.49
1:A:389:SER:HB3	1:A:399:HIS:HE2	1.78	0.49
1:D:55:GLU:HG2	1:D:56:HIS:ND1	2.28	0.49
1:D:437:GLN:HG3	1:D:753:ARG:CZ	2.42	0.49
1:A:393:LEU:HG	1:A:399:HIS:HA	1.94	0.49
3:C:15:LEU:HD12	3:C:87:ILE:O	2.13	0.49
3:C:153:SER:O	3:C:154:ASN:HB2	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:768:ASP:O	1:D:772:VAL:HG23	2.13	0.49
1:A:176:GLU:O	1:A:181:PHE:HD2	1.96	0.49
1:A:179:PHE:CE1	1:A:195:LYS:HG2	2.48	0.49
1:A:282:GLN:OE1	1:A:282:GLN:N	2.41	0.49
2:B:216:GLU:CG	2:B:217:GLY:H	2.23	0.49
1:D:74:ASN:N	1:D:74:ASN:HD22	2.09	0.49
7:D:1351:HOH:O	2:E:351:PRO:CB	2.58	0.49
1:A:56:HIS:N	1:A:57:PRO:CD	2.75	0.49
1:A:202:PHE:CZ	1:A:236:ILE:HG21	2.48	0.49
1:D:662:ASN:ND2	7:D:1111:HOH:O	2.46	0.49
1:A:30:ASN:CB	1:A:47:GLN:NE2	2.76	0.48
1:A:616:ASN:OD1	1:A:656:LYS:HE3	2.12	0.48
1:D:176:GLU:O	1:D:180:ASP:HB2	2.12	0.48
2:E:290:VAL:HG12	2:E:290:VAL:O	2.13	0.48
1:A:877:SER:O	1:A:880:TRP:HB3	2.13	0.48
2:B:104:LEU:HA	7:B:361:HOH:O	2.13	0.48
2:B:353:HIS:ND1	2:B:353:HIS:N	2.61	0.48
3:C:67:ALA:HB1	7:C:395:HOH:O	2.12	0.48
3:F:15:LEU:HD12	3:F:87:ILE:O	2.12	0.48
1:A:299:PRO:HG2	1:A:302:THR:HG21	1.95	0.48
1:D:518:VAL:O	1:D:522:LYS:HG3	2.13	0.48
1:A:45:MET:HE2	1:A:49:VAL:HG21	1.96	0.48
1:A:294:LEU:O	1:A:298:LEU:N	2.44	0.48
1:A:599:PHE:HB2	1:A:640:MET:HG2	1.94	0.48
1:A:55:GLU:HG3	1:A:90:ARG:NH2	2.29	0.48
1:D:559:TRP:NE1	1:D:606:GLU:OE1	2.46	0.48
2:E:165:THR:O	2:E:167:LYS:N	2.45	0.48
1:A:772:VAL:O	1:A:777:VAL:HG23	2.13	0.48
1:D:631:HIS:CD2	1:D:693:LYS:HB3	2.47	0.48
1:A:720:VAL:O	1:A:724:LEU:HD23	2.14	0.48
1:A:840:GLU:O	1:A:841:TYR:HB2	2.12	0.48
1:A:961:PRO:HB2	1:A:973:PHE:HE2	1.79	0.48
3:C:13:LEU:HD23	3:C:13:LEU:C	2.39	0.48
1:D:287:PHE:HZ	1:D:350:ALA:HB2	1.79	0.48
1:D:432:VAL:HG22	7:D:1136:HOH:O	2.12	0.48
1:A:66:ILE:HG21	1:A:72:ASN:ND2	2.28	0.48
1:A:286:LEU:HD12	1:A:286:LEU:O	2.13	0.48
2:B:130:ALA:HA	2:B:142:TYR:O	2.14	0.48
2:B:215:GLU:HB3	7:B:417:HOH:O	2.14	0.48
2:B:285:VAL:HG12	2:B:286:LEU:HD23	1.96	0.48
1:D:326:LEU:O	1:D:330:LEU:HG	2.13	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:177:VAL:O	3:F:178:ALA:HB3	2.14	0.48
1:A:74:ASN:N	1:A:74:ASN:HD22	2.10	0.48
1:A:391:SER:O	1:A:399:HIS:CD2	2.67	0.48
2:B:19:ASN:HD21	2:B:38:LEU:N	2.06	0.48
1:D:30:ASN:CB	1:D:47:GLN:HE22	2.26	0.48
2:E:128:LYS:HB3	7:E:364:HOH:O	2.12	0.48
1:D:160:SER:HB3	1:D:163:LEU:HB2	1.95	0.48
1:D:324:LEU:HD21	1:D:368:ILE:HD13	1.96	0.48
1:D:451:ILE:O	1:D:455:LYS:HG2	2.14	0.48
1:D:1006:GLN:CD	1:D:1049:LYS:HD2	2.39	0.48
2:E:107:TRP:CE3	2:E:281:MET:HE1	2.48	0.48
2:E:191:TRP:CD1	2:E:192:ARG:HG3	2.48	0.48
3:F:23:LYS:O	3:F:27:VAL:HG13	2.14	0.48
2:B:282:VAL:HG12	2:B:283:SER:N	2.29	0.47
3:C:177:VAL:O	3:C:178:ALA:HB3	2.14	0.47
1:D:324:LEU:HD23	1:D:368:ILE:HD13	1.95	0.47
2:E:61:HIS:CE1	2:E:101:GLN:HE22	2.28	0.47
3:F:85:CYS:HB2	3:F:164:LEU:HD22	1.95	0.47
1:A:112:LYS:NZ	1:A:112:LYS:HB3	2.28	0.47
1:D:609:PRO:HD2	1:D:612:ASP:OD2	2.14	0.47
1:A:450:SER:O	1:A:453:LEU:HB3	2.14	0.47
1:A:1016:ARG:HH11	1:A:1016:ARG:HG2	1.75	0.47
2:B:259:PHE:O	2:B:274:VAL:HA	2.13	0.47
3:C:179:MET:HB3	3:C:180:PRO:HD2	1.96	0.47
1:D:25:ILE:HD12	1:D:25:ILE:N	2.24	0.47
1:D:1016:ARG:HH11	1:D:1016:ARG:HB3	1.77	0.47
2:E:5:GLN:O	2:E:5:GLN:HG2	2.13	0.47
2:E:53:SER:O	2:E:54:LYS:C	2.58	0.47
2:B:73:MET:O	2:B:73:MET:HG2	2.15	0.47
3:C:143:ASN:N	3:C:143:ASN:ND2	2.61	0.47
1:D:294:LEU:O	1:D:298:LEU:N	2.44	0.47
1:D:706:PHE:CZ	1:D:709:GLN:HG2	2.50	0.47
7:D:1130:HOH:O	3:F:47:VAL:HB	2.14	0.47
2:E:30:GLN:O	2:E:33:SER:HA	2.14	0.47
2:B:52:LYS:CE	2:B:265:HIS:H	2.27	0.47
2:B:216:GLU:HG2	2:B:217:GLY:N	2.24	0.47
3:C:14:VAL:HG11	3:C:80:TYR:CD1	2.50	0.47
2:E:49:GLU:C	2:E:51:GLN:H	2.20	0.47
1:A:667:SER:O	1:A:670:GLN:HG2	2.13	0.47
3:C:36:GLU:OE2	3:C:38:LYS:HB2	2.14	0.47
1:D:724:LEU:HD12	1:D:748:MET:CG	2.41	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:324:LEU:HD21	1:A:368:ILE:HD13	1.96	0.47
3:C:21:THR:CG2	3:C:89:MET:HB3	2.40	0.47
3:C:42:THR:OG1	4:C:217:GTP:O1G	2.28	0.47
1:D:436:ASP:HB3	1:D:753:ARG:NH1	2.30	0.47
1:D:445:MET:HE2	3:F:155:TYR:CG	2.50	0.47
1:D:807:ILE:HG13	1:D:808:VAL:N	2.30	0.47
1:D:939:LEU:HD21	1:D:1016:ARG:HD2	1.95	0.47
2:E:19:ASN:HD21	2:E:38:LEU:N	2.06	0.47
2:E:19:ASN:HB2	2:E:106:GLU:HB3	1.97	0.47
2:E:244:ASP:O	2:E:248:MET:HG3	2.15	0.47
3:F:143:ASN:N	3:F:143:ASN:ND2	2.62	0.47
1:A:899:THR:HG22	1:A:903:ASN:ND2	2.29	0.47
1:D:89:THR:HG22	1:D:90:ARG:HG3	1.96	0.47
2:E:18:LEU:HD12	2:E:44:ARG:CZ	2.44	0.47
1:A:314:ASP:CB	7:A:1259:HOH:O	2.61	0.47
1:A:548:VAL:O	1:A:548:VAL:HG12	2.14	0.47
1:D:56:HIS:C	1:D:58:ASP:H	2.22	0.47
1:D:129:LYS:O	1:D:133:ILE:HG13	2.15	0.47
1:D:925:HIS:O	1:D:928:SER:HB3	2.14	0.47
2:E:352:ASP:N	2:E:352:ASP:OD1	2.47	0.47
1:D:119:CYS:C	1:D:121:GLU:H	2.23	0.47
1:D:525:LEU:HD21	2:E:9:LEU:HA	1.97	0.47
1:A:43:GLN:HB2	1:A:44:ARG:NH1	2.31	0.46
1:A:103:LYS:NZ	1:A:103:LYS:HB3	2.29	0.46
1:A:149:PHE:O	1:A:153:ILE:HG12	2.15	0.46
1:A:276:VAL:HG23	1:A:283:PHE:CD2	2.50	0.46
1:D:690:SER:HB2	7:D:1211:HOH:O	2.14	0.46
1:D:973:PHE:CD1	1:D:973:PHE:C	2.91	0.46
1:A:51:THR:HG22	1:A:51:THR:O	2.15	0.46
1:D:954:GLU:C	1:D:955:GLU:HG3	2.39	0.46
2:E:49:GLU:CB	2:E:52:LYS:HZ2	2.28	0.46
1:A:30:ASN:CB	1:A:47:GLN:HE22	2.28	0.46
1:A:856:ASN:ND2	1:A:860:PHE:HD1	2.12	0.46
3:C:45:VAL:HG22	3:C:46:GLU:N	2.30	0.46
1:D:559:TRP:CD2	1:D:603:GLN:HG3	2.50	0.46
1:A:961:PRO:HD3	1:A:970:ASN:ND2	2.31	0.46
2:B:244:ASP:O	2:B:248:MET:HG3	2.15	0.46
1:D:17:LEU:HD23	1:D:19:PHE:H	1.80	0.46
1:D:47:GLN:HG2	1:D:48:GLU:N	2.29	0.46
1:D:51:THR:O	1:D:51:THR:HG22	2.16	0.46
1:D:71:GLN:HG3	1:D:72:ASN:N	2.30	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:112:LYS:O	1:D:112:LYS:HD3	2.15	0.46
1:D:286:LEU:HD12	1:D:286:LEU:O	2.15	0.46
1:D:426:LYS:HA	1:D:427:PRO:HD3	1.75	0.46
1:D:437:GLN:HG3	1:D:753:ARG:HH12	1.80	0.46
1:D:561:PHE:HB2	2:E:6:LEU:CD1	2.45	0.46
1:D:957:LYS:NZ	1:D:961:PRO:HG3	2.26	0.46
1:A:45:MET:CE	3:C:44:GLY:HA3	2.45	0.46
1:A:160:SER:HB3	1:A:163:LEU:HB2	1.96	0.46
2:B:261:HIS:CD2	2:B:263:GLN:H	2.34	0.46
1:D:92:LYS:HE3	1:D:140:GLN:OE1	2.15	0.46
1:D:500:ALA:O	1:D:503:SER:OG	2.28	0.46
1:D:664:VAL:CB	1:D:691:ILE:HD11	2.44	0.46
1:D:960:THR:HA	1:D:961:PRO:HD3	1.82	0.46
1:A:17:LEU:HG	1:A:22:LYS:HE2	1.97	0.46
1:A:139:LYS:CE	1:A:177:GLU:HB3	2.44	0.46
1:D:63:VAL:HA	1:D:76:LYS:HG2	1.97	0.46
1:D:132:MET:HE3	1:D:132:MET:O	2.16	0.46
1:D:521:ILE:HG13	1:D:522:LYS:N	2.31	0.46
1:D:664:VAL:HB	1:D:691:ILE:CD1	2.45	0.46
1:A:276:VAL:O	1:A:276:VAL:CG2	2.64	0.46
1:A:314:ASP:OD1	1:A:315:GLU:N	2.49	0.46
1:A:887:ARG:HA	1:A:887:ARG:HD2	1.74	0.46
1:A:966:ASN:H	1:A:967:PRO:HD2	1.75	0.46
2:B:61:HIS:CE1	2:B:101:GLN:HE22	2.31	0.46
1:D:122:LYS:O	1:D:123:GLU:O	2.34	0.46
1:D:177:GLU:OE1	1:D:177:GLU:HA	2.15	0.46
1:D:672:ALA:C	1:D:674:LYS:H	2.24	0.46
1:A:17:LEU:O	1:A:22:LYS:HG2	2.16	0.46
1:A:56:HIS:HE1	7:A:1301:HOH:O	1.97	0.46
3:C:55:ASN:ND2	3:C:55:ASN:H	2.13	0.46
1:D:427:PRO:C	7:D:1239:HOH:O	2.59	0.46
1:D:537:LYS:HB3	2:E:14:LEU:HD23	1.96	0.46
2:E:38:LEU:CD1	2:E:44:ARG:HE	2.29	0.46
3:F:105:HIS:CE1	3:F:109:VAL:HG11	2.51	0.46
3:F:143:ASN:HD22	3:F:143:ASN:H	1.61	0.46
1:A:115:SER:O	1:A:116:ASP:C	2.58	0.46
1:A:664:VAL:HB	1:A:691:ILE:CD1	2.46	0.46
1:A:768:ASP:O	1:A:772:VAL:HG23	2.16	0.46
1:A:975:GLN:HG2	1:A:1002:PHE:CE1	2.51	0.46
1:D:391:SER:HB2	7:D:1188:HOH:O	2.16	0.46
1:D:529:GLU:HG3	2:E:11:ARG:NH2	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:771:MET:HE3	1:D:771:MET:HB3	1.75	0.46
1:D:804:MET:HB3	1:D:851:LEU:HD13	1.98	0.46
1:D:859:CYS:C	1:D:861:PRO:HD2	2.41	0.46
2:E:259:PHE:O	2:E:274:VAL:HA	2.15	0.46
1:A:122:LYS:O	1:A:123:GLU:O	2.35	0.45
1:A:954:GLU:C	1:A:955:GLU:HG3	2.40	0.45
2:B:290:VAL:N	2:B:291:PRO:CD	2.77	0.45
1:D:127:ILE:HD12	1:D:127:ILE:H	1.80	0.45
1:D:139:LYS:CE	1:D:177:GLU:HB3	2.46	0.45
1:D:432:VAL:HG12	1:D:442:ARG:HG2	1.99	0.45
1:D:735:ASN:ND2	7:D:1269:HOH:O	2.47	0.45
1:D:1048:GLU:HG3	1:D:1048:GLU:O	2.15	0.45
1:A:100:GLU:HA	1:A:103:LYS:CD	2.42	0.45
1:A:659:LEU:HD22	1:A:659:LEU:HA	1.75	0.45
1:A:807:ILE:CD1	1:A:815:ILE:HD12	2.41	0.45
1:D:232:PHE:O	1:D:236:ILE:HG23	2.16	0.45
2:E:118:GLU:O	2:E:262:LYS:HG3	2.16	0.45
2:E:188:VAL:HG13	2:E:188:VAL:O	2.16	0.45
1:A:71:GLN:HG3	1:A:72:ASN:N	2.31	0.45
1:A:301:ASN:H	1:A:301:ASN:ND2	2.13	0.45
1:A:960:THR:HG22	1:A:963:ASN:H	1.82	0.45
1:D:51:THR:HB	1:D:78:TYR:OH	2.16	0.45
1:A:25:ILE:HD12	1:A:25:ILE:N	2.27	0.45
1:A:88:LYS:HD2	1:A:136:GLN:NE2	2.32	0.45
1:A:610:PHE:CD2	1:A:614:ILE:HD11	2.51	0.45
1:D:272:ALA:HB1	1:D:329:PHE:HD1	1.82	0.45
1:A:155:GLY:O	1:A:159:THR:HG23	2.16	0.45
2:B:246:LEU:HD11	2:B:282:VAL:HG11	1.97	0.45
3:C:141:LYS:HD2	3:C:141:LYS:N	2.29	0.45
1:D:279:TYR:HD2	1:D:282:GLN:NE2	2.15	0.45
1:D:823:PHE:O	1:D:827:PHE:HB3	2.16	0.45
1:A:123:GLU:C	1:A:125:VAL:N	2.70	0.45
2:B:160:ASN:HD22	2:B:162:ARG:H	1.65	0.45
3:C:55:ASN:ND2	3:C:55:ASN:N	2.65	0.45
1:D:772:VAL:O	1:D:777:VAL:HG23	2.16	0.45
1:D:875:LEU:O	1:D:879:ILE:HD13	2.17	0.45
3:F:20:GLY:HA2	4:F:217:GTP:H5”	1.99	0.45
3:F:141:LYS:HD2	3:F:141:LYS:N	2.29	0.45
1:A:703:GLY:C	1:A:705:PRO:HD2	2.42	0.45
1:D:920:CYS:HB3	1:D:977:TYR:CE2	2.52	0.45
2:E:246:LEU:HD11	2:E:282:VAL:HG11	1.97	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:514:LYS:O	1:D:518:VAL:HG23	2.17	0.45
1:D:797:GLU:HA	1:D:798:PRO:HD2	1.85	0.45
1:D:807:ILE:CD1	1:D:815:ILE:HD12	2.40	0.45
2:E:130:ALA:HA	2:E:142:TYR:O	2.16	0.45
3:F:106:ARG:O	3:F:110:ARG:HG3	2.17	0.45
3:F:133:ALA:HA	3:F:136:ILE:HD12	1.99	0.45
1:A:485:ASN:C	1:A:487:THR:N	2.75	0.45
1:A:879:ILE:HD12	1:A:879:ILE:N	2.31	0.45
2:B:350:SER:HA	2:B:351:PRO:HD3	1.73	0.45
1:D:80:LEU:HD22	1:D:133:ILE:HD12	1.99	0.45
1:D:142:TRP:N	1:D:143:PRO:HD2	2.32	0.45
2:E:176:TYR:HB2	2:E:183:TYR:CD1	2.52	0.45
1:A:559:TRP:CD2	1:A:603:GLN:HG3	2.51	0.45
1:A:687:GLN:O	1:A:691:ILE:HG13	2.17	0.45
3:C:106:ARG:O	3:C:110:ARG:HG3	2.17	0.45
1:D:301:ASN:H	1:D:301:ASN:ND2	2.14	0.45
3:F:56:ARG:HB2	3:F:174:LEU:HD11	1.98	0.45
1:D:777:VAL:O	1:D:780:LEU:HB2	2.17	0.44
1:D:838:PHE:HD1	1:D:884:HIS:CD2	2.35	0.44
1:A:962:LEU:HD12	1:A:973:PHE:HB2	2.00	0.44
3:C:148:ASP:HB2	7:C:198:HOH:O	2.17	0.44
1:D:43:GLN:HB2	1:D:44:ARG:NH1	2.32	0.44
1:D:922:ILE:O	1:D:926:ILE:HG12	2.17	0.44
1:A:985:ALA:C	1:A:987:PRO:HD3	2.42	0.44
1:D:957:LYS:HZ3	1:D:961:PRO:CG	2.29	0.44
1:A:480:LEU:C	1:A:480:LEU:HD23	2.41	0.44
1:D:51:THR:C	1:D:52:HIS:HD2	2.25	0.44
1:D:548:VAL:O	1:D:548:VAL:HG12	2.17	0.44
1:A:189:VAL:HG11	1:A:1038:ARG:HB2	2.00	0.44
2:B:25:HIS:HD2	2:B:281:MET:CE	2.27	0.44
2:B:73:MET:HE2	2:B:73:MET:HB3	1.94	0.44
1:D:770:GLN:HG2	1:D:771:MET:N	2.31	0.44
1:D:841:TYR:O	1:D:845:ARG:HG3	2.18	0.44
1:D:962:LEU:HG	1:D:962:LEU:O	2.17	0.44
2:E:121:VAL:HA	2:E:258:LEU:O	2.17	0.44
2:E:349:HIS:CD2	2:E:351:PRO:HG3	2.53	0.44
1:A:142:TRP:N	1:A:143:PRO:HD2	2.33	0.44
1:A:205:ILE:HG22	1:A:206:PHE:N	2.33	0.44
1:A:399:HIS:HB3	1:A:401:ASP:OD2	2.16	0.44
1:D:881:ALA:O	1:D:884:HIS:HB2	2.17	0.44
2:E:41:SER:O	2:E:45:ARG:HG3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:521:ILE:HG13	1:A:522:LYS:N	2.32	0.44
1:A:547:ILE:C	1:A:549:GLY:H	2.25	0.44
2:B:25:HIS:C	2:B:27:ARG:H	2.26	0.44
2:B:121:VAL:HA	2:B:258:LEU:O	2.17	0.44
1:D:189:VAL:HG22	7:D:1253:HOH:O	2.18	0.44
1:D:314:ASP:OD1	1:D:315:GLU:N	2.51	0.44
1:D:659:LEU:HD22	1:D:659:LEU:HA	1.83	0.44
1:A:73:MET:HB2	1:A:122:LYS:HE3	1.99	0.44
1:A:103:LYS:NZ	1:A:103:LYS:CB	2.79	0.44
1:A:570:PHE:O	1:A:573:MET:HB2	2.18	0.44
2:B:38:LEU:CD1	2:B:44:ARG:HE	2.30	0.44
1:A:327:CYS:O	1:A:331:LYS:HB2	2.17	0.44
1:A:611:ILE:HD13	1:A:640:MET:HE2	2.00	0.44
1:D:436:ASP:C	1:D:437:GLN:HG2	2.43	0.44
1:D:558:HIS:HB3	2:E:6:LEU:HD11	2.00	0.44
1:D:615:LEU:HD23	1:D:618:ILE:HD11	2.00	0.44
1:D:1013:GLU:HA	1:D:1016:ARG:HD3	2.00	0.44
2:E:25:HIS:ND1	2:E:26:PRO:CD	2.79	0.44
2:E:215:GLU:O	2:E:216:GLU:C	2.61	0.44
3:F:153:SER:O	3:F:154:ASN:HB2	2.17	0.44
1:A:51:THR:C	1:A:52:HIS:HD2	2.25	0.43
1:D:436:ASP:HB3	1:D:753:ARG:HH12	1.82	0.43
2:E:353:HIS:HA	2:E:354:PRO:HD3	1.84	0.43
1:A:778:PRO:HB2	1:A:779:PRO:HD3	2.00	0.43
2:B:38:LEU:CD2	2:B:39:GLU:H	2.31	0.43
3:C:105:HIS:CE1	3:C:109:VAL:HG11	2.53	0.43
2:E:49:GLU:HB3	2:E:52:LYS:HZ2	1.82	0.43
2:E:123:VAL:HG21	2:E:250:PHE:CZ	2.53	0.43
3:F:29:ARG:NH1	7:F:634:HOH:O	2.51	0.43
1:A:87:ILE:O	1:A:91:TRP:HB2	2.18	0.43
1:A:149:PHE:CE2	1:A:153:ILE:HD13	2.54	0.43
1:A:284:GLU:HG3	1:A:343:LEU:HD21	2.00	0.43
1:A:887:ARG:HD3	1:A:937:ALA:CB	2.44	0.43
1:A:1013:GLU:HA	1:A:1016:ARG:HD3	2.00	0.43
1:D:123:GLU:C	1:D:125:VAL:N	2.72	0.43
2:E:162:ARG:O	2:E:163:ASN:ND2	2.51	0.43
1:A:56:HIS:C	1:A:58:ASP:H	2.26	0.43
1:A:61:THR:HA	1:A:64:ASP:HB2	1.99	0.43
1:A:176:GLU:O	1:A:180:ASP:HB2	2.18	0.43
1:A:875:LEU:O	1:A:879:ILE:HD13	2.18	0.43
2:B:241:SER:O	2:B:245:VAL:HG23	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:907:GLU:O	1:D:911:ALA:HB2	2.18	0.43
2:E:92:LYS:HE3	2:E:93:LYS:O	2.18	0.43
3:F:12:LYS:HE3	3:F:64:TRP:CE2	2.53	0.43
3:F:55:ASN:ND2	3:F:55:ASN:H	2.15	0.43
1:A:664:VAL:CB	1:A:691:ILE:HD11	2.48	0.43
1:A:763:VAL:O	1:A:810:LYS:HG2	2.18	0.43
1:A:956:GLY:HA3	7:A:1265:HOH:O	2.19	0.43
1:D:150:ILE:HD11	1:D:205:ILE:HD11	1.98	0.43
1:D:658:MET:O	1:D:662:ASN:HB2	2.19	0.43
1:D:997:PHE:O	1:D:1001:LEU:HG	2.18	0.43
1:A:103:LYS:O	1:A:107:VAL:HG23	2.19	0.43
1:A:1021:GLN:HE22	1:A:1033:LEU:CD2	2.29	0.43
3:C:143:ASN:HD22	3:C:143:ASN:H	1.64	0.43
1:D:39:GLU:HG3	1:D:40:GLY:N	2.34	0.43
1:D:624:ASP:HB3	7:D:1099:HOH:O	2.19	0.43
2:E:52:LYS:CE	2:E:265:HIS:H	2.29	0.43
3:F:55:ASN:ND2	3:F:55:ASN:N	2.66	0.43
1:A:116:ASP:OD1	1:A:117:PRO:HD2	2.18	0.43
1:A:238:LEU:HD22	1:A:242:PHE:HE2	1.83	0.43
1:A:437:GLN:NE2	1:A:746:ARG:HB3	2.34	0.43
1:A:771:MET:HE3	1:A:771:MET:HB3	1.73	0.43
1:A:990:GLN:HG2	1:A:993:GLN:OE1	2.19	0.43
2:B:294:PRO:C	2:B:295:LEU:HD23	2.44	0.43
1:D:24:ASP:O	1:D:28:LEU:HB2	2.18	0.43
1:D:521:ILE:HD11	2:E:7:PRO:HG2	2.00	0.43
1:D:675:ASN:ND2	1:D:677:ASP:HB2	2.31	0.43
2:E:42:GLU:HB2	2:E:110:ASP:OD1	2.19	0.43
3:F:21:THR:CG2	3:F:89:MET:HB3	2.45	0.43
1:A:18:ASP:C	1:A:20:SER:N	2.77	0.43
1:A:35:LEU:HD21	7:C:234:HOH:O	2.17	0.43
1:A:63:VAL:HA	1:A:76:LYS:HG2	2.00	0.43
1:A:680:LYS:HB2	1:A:680:LYS:NZ	2.33	0.43
1:A:856:ASN:HD22	1:A:860:PHE:HD1	1.67	0.43
1:A:859:CYS:C	1:A:861:PRO:HD2	2.43	0.43
2:B:4:LEU:O	2:B:5:GLN:CB	2.66	0.43
2:B:120:ILE:HG13	2:B:260:TYR:HB2	2.01	0.43
2:B:285:VAL:C	2:B:286:LEU:HD23	2.44	0.43
1:D:61:THR:HA	1:D:64:ASP:HB2	2.00	0.43
1:D:91:TRP:HA	1:D:94:LEU:HD12	2.01	0.43
2:E:49:GLU:HB3	2:E:52:LYS:NZ	2.34	0.43
2:E:120:ILE:HG13	2:E:260:TYR:HB2	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:36:GLU:OE2	3:F:38:LYS:HB2	2.18	0.43
1:A:27:LEU:HD13	1:A:62:ARG:HH11	1.84	0.43
1:A:664:VAL:CG1	1:A:691:ILE:HD11	2.49	0.43
1:D:27:LEU:HD13	1:D:62:ARG:CZ	2.48	0.43
1:D:521:ILE:HD11	2:E:7:PRO:CB	2.49	0.43
1:D:664:VAL:CG1	1:D:691:ILE:HD11	2.49	0.43
1:A:547:ILE:C	1:A:549:GLY:N	2.77	0.43
1:A:939:LEU:HD21	1:A:1016:ARG:HD2	2.01	0.43
1:A:1027:GLY:C	1:A:1029:ASP:H	2.27	0.43
1:D:514:LYS:HZ2	1:D:558:HIS:HE1	1.67	0.43
1:D:860:PHE:N	1:D:861:PRO:CD	2.82	0.43
1:D:962:LEU:O	1:D:963:ASN:CB	2.67	0.43
1:D:1027:GLY:C	1:D:1029:ASP:H	2.27	0.43
3:F:55:ASN:HD22	3:F:55:ASN:H	1.67	0.43
1:A:51:THR:HB	1:A:78:TYR:OH	2.19	0.42
1:A:62:ARG:HA	1:A:62:ARG:HD3	1.74	0.42
1:A:485:ASN:C	1:A:487:THR:H	2.27	0.42
1:A:559:TRP:NE1	1:A:606:GLU:OE1	2.52	0.42
1:A:770:GLN:HG2	1:A:771:MET:N	2.33	0.42
1:A:823:PHE:O	1:A:827:PHE:HB3	2.18	0.42
1:A:954:GLU:HB2	1:A:955:GLU:OE1	2.19	0.42
3:C:75:LEU:N	3:C:75:LEU:CD1	2.80	0.42
1:D:514:LYS:NZ	1:D:558:HIS:CE1	2.86	0.42
1:A:23:LEU:HD11	1:A:26:ASN:HB2	2.01	0.42
1:A:132:MET:O	1:A:136:GLN:HG2	2.19	0.42
1:A:479:LYS:HD2	7:A:1100:HOH:O	2.19	0.42
2:B:6:LEU:HA	2:B:7:PRO:HD3	1.88	0.42
2:B:212:LEU:N	2:B:213:PRO:CD	2.83	0.42
1:D:87:ILE:O	1:D:91:TRP:HB2	2.18	0.42
1:D:703:GLY:C	1:D:705:PRO:HD2	2.44	0.42
3:F:75:LEU:N	3:F:75:LEU:CD1	2.81	0.42
1:A:610:PHE:CE2	1:A:614:ILE:HD11	2.55	0.42
3:C:54:THR:HG22	3:C:176:PHE:CD1	2.54	0.42
1:D:56:HIS:C	1:D:58:ASP:N	2.78	0.42
1:D:58:ASP:HB2	1:D:62:ARG:HH21	1.84	0.42
1:D:611:ILE:HD13	1:D:640:MET:CE	2.48	0.42
2:E:94:LEU:HA	2:E:95:PRO:HD3	1.88	0.42
1:A:299:PRO:HG2	1:A:302:THR:HG23	2.02	0.42
1:A:434:GLU:HB3	1:A:440:VAL:HG12	2.00	0.42
1:A:445:MET:HE2	3:C:155:TYR:CG	2.55	0.42
1:A:704:HIS:HB3	1:A:705:PRO:HD3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1036:GLU:H	1:A:1036:GLU:CD	2.27	0.42
2:B:45:ARG:HA	2:B:273:LEU:CD1	2.47	0.42
2:B:184:TYR:CZ	2:B:252:PHE:HD1	2.37	0.42
3:C:55:ASN:HD22	3:C:55:ASN:H	1.67	0.42
1:D:480:LEU:C	1:D:480:LEU:HD23	2.44	0.42
1:D:720:VAL:O	1:D:724:LEU:HD23	2.19	0.42
1:D:841:TYR:N	1:D:842:PRO:HD3	2.34	0.42
3:F:45:VAL:HG22	3:F:46:GLU:N	2.34	0.42
3:F:138:PHE:O	3:F:141:LYS:HD2	2.19	0.42
1:A:807:ILE:HG13	1:A:808:VAL:N	2.35	0.42
2:B:188:VAL:HG13	2:B:188:VAL:O	2.20	0.42
1:D:231:ARG:HH22	3:F:142:LYS:NZ	2.17	0.42
1:D:305:ARG:HG3	1:D:361:GLU:HG3	2.01	0.42
2:E:187:ASP:HA	2:E:208:MET:SD	2.59	0.42
3:C:159:LYS:HB2	3:C:160:PRO:HD3	2.00	0.42
1:D:815:ILE:HG12	1:D:815:ILE:O	2.20	0.42
1:D:887:ARG:HE	3:F:94:SER:HB2	1.84	0.42
1:D:957:LYS:HZ1	1:D:961:PRO:HB3	1.85	0.42
2:E:38:LEU:CD2	2:E:39:GLU:H	2.32	0.42
2:E:212:LEU:HB2	2:E:213:PRO:HD3	2.02	0.42
1:A:134:LEU:O	1:A:138:LEU:HG	2.19	0.42
2:B:15:SER:HB2	2:B:16:GLN:H	1.68	0.42
2:B:70:TRP:HB3	2:B:96:LYS:HD2	2.01	0.42
2:B:201:THR:O	2:B:202:ASP:C	2.63	0.42
1:D:485:ASN:C	1:D:487:THR:N	2.78	0.42
1:D:678:ILE:C	1:D:680:LYS:H	2.27	0.42
1:D:945:ILE:O	1:D:949:MET:HG3	2.20	0.42
2:E:48:LEU:HD11	7:E:408:HOH:O	2.20	0.42
1:A:56:HIS:C	1:A:58:ASP:N	2.78	0.42
1:A:56:HIS:CE1	7:A:1301:HOH:O	2.72	0.42
1:A:254:PHE:HB3	1:A:260:PHE:HB3	2.02	0.42
2:B:258:LEU:HD23	2:B:258:LEU:HA	1.90	0.42
1:D:23:LEU:HD11	1:D:26:ASN:HB2	2.02	0.42
1:D:964:PRO:CB	1:D:968:VAL:HB	2.49	0.42
2:E:184:TYR:CZ	2:E:252:PHE:HD1	2.38	0.42
1:A:58:ASP:O	1:A:59:ALA:C	2.62	0.42
1:A:907:GLU:O	1:A:907:GLU:HG3	2.20	0.42
2:B:42:GLU:HB2	2:B:110:ASP:OD1	2.20	0.42
1:D:17:LEU:HD22	1:D:20:SER:CB	2.50	0.42
1:D:402:ILE:H	1:D:402:ILE:HG12	1.71	0.42
1:A:262:ASN:OD1	1:A:318:PHE:HA	2.20	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:453:LEU:HD11	1:A:457:MET:HE2	2.01	0.42
2:B:123:VAL:HG22	2:B:257:LEU:CD2	2.50	0.42
2:B:123:VAL:HG22	2:B:257:LEU:HD21	2.02	0.42
1:D:189:VAL:HG11	1:D:1038:ARG:HB2	2.01	0.42
1:D:834:ILE:O	1:D:845:ARG:NH2	2.53	0.42
1:D:978:VAL:O	1:D:981:LEU:HB3	2.20	0.42
1:A:132:MET:HE1	1:A:177:GLU:HG3	2.01	0.41
1:A:717:MET:HE2	1:A:717:MET:HB3	1.92	0.41
1:A:777:VAL:O	1:A:780:LEU:HB2	2.21	0.41
1:D:60:TRP:CZ2	1:D:102:ILE:HD13	2.45	0.41
2:E:64:ARG:NH1	2:E:71:THR:H	2.18	0.41
1:A:132:MET:HE3	1:A:132:MET:O	2.21	0.41
1:A:651:GLU:HG2	1:A:708:ILE:HD12	2.02	0.41
1:A:907:GLU:O	1:A:911:ALA:HB2	2.19	0.41
1:D:299:PRO:HG2	1:D:302:THR:HG23	2.02	0.41
1:D:961:PRO:HB2	1:D:973:PHE:CE2	2.55	0.41
2:E:26:PRO:HG2	2:E:109:ILE:HD11	2.02	0.41
1:A:49:VAL:CG2	3:C:75:LEU:HD11	2.50	0.41
1:A:57:PRO:HA	1:A:60:TRP:CH2	2.55	0.41
1:A:139:LYS:HZ3	1:A:185:GLN:CD	2.28	0.41
1:A:360:VAL:HG11	1:A:365:ILE:HD12	2.03	0.41
1:A:464:LEU:HD23	1:A:464:LEU:HA	1.84	0.41
1:A:688:LEU:O	1:A:692:LEU:HG	2.19	0.41
1:A:733:GLN:HB2	1:A:792:VAL:HG11	2.03	0.41
2:B:43:ARG:CG	2:B:44:ARG:H	2.15	0.41
2:B:296:THR:O	2:B:297:THR:O	2.38	0.41
1:D:282:GLN:OE1	1:D:282:GLN:N	2.41	0.41
1:D:629:GLN:HE21	1:D:629:GLN:HB2	1.66	0.41
3:F:12:LYS:NZ	3:F:79:TYR:O	2.42	0.41
3:F:69:LEU:HD23	3:F:69:LEU:HA	1.81	0.41
3:F:114:ASN:ND2	7:F:590:HOH:O	2.54	0.41
1:A:324:LEU:HD23	1:A:368:ILE:HD13	2.02	0.41
1:A:856:ASN:ND2	1:A:860:PHE:CD1	2.88	0.41
1:D:304:ILE:CG2	1:D:319:ILE:HD13	2.50	0.41
1:D:420:MET:HA	1:D:420:MET:HE2	2.03	0.41
1:D:797:GLU:HB3	1:D:800:VAL:HG23	2.02	0.41
1:D:807:ILE:HD11	1:D:815:ILE:CD1	2.44	0.41
2:E:40:GLN:HE22	2:E:42:GLU:HB3	1.86	0.41
1:A:451:ILE:O	1:A:455:LYS:HG2	2.20	0.41
2:B:27:ARG:HG3	2:B:31:TYR:CD1	2.53	0.41
1:D:296:GLN:HB3	7:D:1166:HOH:O	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:560:LYS:HA	1:D:560:LYS:HD2	1.85	0.41
3:F:100:ASN:HD22	3:F:100:ASN:HA	1.68	0.41
1:A:192:LYS:HB2	1:A:192:LYS:NZ	2.35	0.41
1:A:326:LEU:O	1:A:330:LEU:HG	2.20	0.41
1:A:445:MET:HB3	1:A:448:THR:HG23	2.03	0.41
1:A:821:GLN:NE2	7:A:1093:HOH:O	2.54	0.41
1:D:73:MET:SD	1:D:126:TYR:HB2	2.60	0.41
1:D:98:GLN:O	1:D:102:ILE:HG12	2.20	0.41
1:D:203:SER:O	1:D:204:GLN:C	2.64	0.41
1:D:437:GLN:HG3	1:D:753:ARG:HH22	1.86	0.41
1:D:688:LEU:O	1:D:692:LEU:HG	2.20	0.41
1:A:21:GLN:H	1:A:21:GLN:HG2	1.33	0.41
1:A:98:GLN:O	1:A:102:ILE:HG12	2.20	0.41
2:B:215:GLU:O	2:B:216:GLU:C	2.64	0.41
1:D:724:LEU:HD13	1:D:724:LEU:HA	1.87	0.41
2:E:180:ASN:C	2:E:182:THR:N	2.79	0.41
1:A:123:GLU:C	1:A:125:VAL:H	2.27	0.41
1:A:146:TRP:N	1:A:147:PRO:CD	2.83	0.41
1:A:276:VAL:O	1:A:277:SER:C	2.64	0.41
1:A:435:ASN:O	1:A:437:GLN:N	2.51	0.41
1:A:575:GLU:HG2	1:A:580:VAL:HG11	2.03	0.41
1:A:879:ILE:N	1:A:879:ILE:CD1	2.84	0.41
1:A:1035:LEU:O	1:A:1036:GLU:C	2.64	0.41
2:B:212:LEU:C	2:B:214:GLU:H	2.29	0.41
2:B:280:TYR:HA	2:B:294:PRO:CB	2.51	0.41
3:C:12:LYS:HE3	3:C:64:TRP:CE2	2.56	0.41
1:D:96:ARG:HH22	1:D:141:GLU:CD	2.29	0.41
1:D:116:ASP:C	1:D:118:THR:H	2.28	0.41
1:D:613:GLU:CD	7:D:1202:HOH:O	2.63	0.41
1:D:675:ASN:C	1:D:677:ASP:N	2.79	0.41
1:D:741:LYS:HG2	1:D:746:ARG:NH1	2.36	0.41
1:D:809:ASN:HA	1:D:858:HIS:CD2	2.47	0.41
1:D:840:GLU:O	1:D:845:ARG:NH1	2.53	0.41
2:E:48:LEU:O	2:E:51:GLN:HB3	2.21	0.41
3:F:29:ARG:HB3	3:F:157:PHE:HZ	1.85	0.41
3:F:54:THR:HG22	3:F:176:PHE:CD1	2.56	0.41
1:A:873:LEU:HD12	1:A:873:LEU:HA	1.82	0.41
2:B:25:HIS:CD2	2:B:281:MET:CE	3.02	0.41
2:B:152:PHE:CD1	2:B:152:PHE:N	2.88	0.41
2:B:155:LEU:HG	2:B:225:ASN:HB2	2.02	0.41
1:D:218:ASN:OD1	1:D:220:PRO:HD2	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:284:GLU:HG3	1:D:343:LEU:HD21	2.02	0.41
2:E:201:THR:O	2:E:202:ASP:C	2.64	0.41
1:A:550:GLN:O	1:A:552:PRO:HD2	2.20	0.40
1:A:866:ILE:HB	1:A:867:PRO:HD2	2.02	0.40
2:B:18:LEU:HD12	2:B:44:ARG:CZ	2.51	0.40
2:B:54:LYS:HD3	2:B:198:ASP:OD2	2.20	0.40
1:D:15:GLN:HA	1:D:22:LYS:HE3	2.03	0.40
1:D:388:THR:HG21	1:D:402:ILE:HD13	2.02	0.40
1:D:718:LEU:O	1:D:721:TYR:HB3	2.21	0.40
1:D:989:LEU:HD11	1:D:1022:ILE:HG22	2.04	0.40
3:F:89:MET:HG3	3:F:120:CYS:HB2	2.03	0.40
1:D:270:GLU:OE2	1:D:270:GLU:HA	2.21	0.40
1:D:575:GLU:HG2	1:D:580:VAL:HG11	2.03	0.40
1:D:782:ASP:OD2	2:E:360:ASN:HB2	2.22	0.40
1:D:954:GLU:HB2	1:D:955:GLU:OE1	2.22	0.40
1:D:1027:GLY:C	1:D:1029:ASP:N	2.77	0.40
2:E:70:TRP:HB3	2:E:96:LYS:HD2	2.02	0.40
3:F:91:ASP:OD1	3:F:123:LYS:HD3	2.20	0.40
1:A:49:VAL:HG22	3:C:75:LEU:CD1	2.52	0.40
1:A:122:LYS:HA	1:A:122:LYS:HD2	1.70	0.40
1:A:517:LEU:HD23	1:A:517:LEU:HA	1.87	0.40
1:A:610:PHE:O	1:A:611:ILE:C	2.63	0.40
1:A:612:ASP:O	1:A:613:GLU:C	2.63	0.40
2:B:4:LEU:HB2	2:B:6:LEU:HD13	1.99	0.40
2:B:282:VAL:C	2:B:284:ASP:H	2.28	0.40
1:D:27:LEU:O	1:D:31:VAL:HG23	2.22	0.40
1:A:109:LEU:O	1:A:113:THR:HG23	2.22	0.40
1:A:607:VAL:HG13	1:A:608:MET:HG2	2.02	0.40
1:A:989:LEU:HD11	1:A:1022:ILE:HG22	2.04	0.40
1:A:1027:GLY:C	1:A:1029:ASP:N	2.78	0.40
2:B:8:PRO:CA	2:B:10:GLU:OE1	2.70	0.40
1:D:262:ASN:OD1	1:D:318:PHE:HA	2.22	0.40
1:D:485:ASN:C	1:D:487:THR:H	2.29	0.40
1:D:626:GLN:HB3	1:D:627:PRO:HD2	2.03	0.40
2:E:59:VAL:HA	2:E:195:PRO:HG2	2.02	0.40
2:E:250:PHE:C	2:E:252:PHE:H	2.30	0.40
3:F:146:TYR:CG	3:F:147:TYR:N	2.90	0.40
1:A:24:ASP:O	1:A:28:LEU:HB2	2.22	0.40
1:A:232:PHE:HD2	1:A:232:PHE:HA	1.78	0.40
1:A:255:LEU:HD23	1:A:255:LEU:C	2.46	0.40
1:A:922:ILE:O	1:A:926:ILE:HG12	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:171:ILE:HG22	2:B:189:MET:HE2	2.03	0.40
2:B:359:GLU:HA	7:B:389:HOH:O	2.20	0.40
3:C:8:GLN:HE21	3:C:8:GLN:HB2	1.68	0.40
3:C:29:ARG:NE	3:C:154:ASN:HD21	2.19	0.40
3:C:101:VAL:N	3:C:102:PRO:CD	2.85	0.40
1:D:379:GLU:HG2	1:D:405:ARG:HH22	1.85	0.40
2:E:15:SER:C	2:E:17:ASP:N	2.75	0.40
2:E:279:PRO:CB	2:E:294:PRO:HB2	2.51	0.40
2:E:280:TYR:CE1	2:E:281:MET:HG3	2.57	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	1034/1073 (96%)	931 (90%)	85 (8%)	18 (2%)	7	26
1	D	1034/1073 (96%)	933 (90%)	83 (8%)	18 (2%)	7	26
2	B	285/362 (79%)	251 (88%)	23 (8%)	11 (4%)	2	9
2	E	287/362 (79%)	249 (87%)	28 (10%)	10 (4%)	3	10
3	C	171/176 (97%)	157 (92%)	13 (8%)	1 (1%)	22	51
3	F	171/176 (97%)	154 (90%)	16 (9%)	1 (1%)	22	51
All	All	2982/3222 (93%)	2675 (90%)	248 (8%)	59 (2%)	6	21

All (59) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	123	GLU
1	A	963	ASN
2	B	216	GLU

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Mol	Chain	Res	Type
1	D	123	GLU
1	D	963	ASN
2	E	216	GLU
2	E	290	VAL
2	E	292	ALA
1	A	54	LYS
1	A	64	ASP
1	A	122	LYS
1	A	484	VAL
1	A	486	GLY
1	A	1027	GLY
1	A	1029	ASP
2	B	33	SER
2	B	54	LYS
1	D	41	ALA
1	D	54	LYS
1	D	64	ASP
1	D	122	LYS
1	D	486	GLY
1	D	1027	GLY
1	D	1029	ASP
2	E	54	LYS
1	A	21	GLN
1	A	277	SER
1	A	961	PRO
1	A	1035	LEU
2	B	181	GLN
2	B	291	PRO
1	D	1035	LEU
2	E	33	SER
2	E	166	ALA
2	E	181	GLN
1	A	259	MET
2	B	43	ARG
2	B	351	PRO
1	D	258	PRO
1	D	277	SER
1	D	427	PRO
1	A	258	PRO
1	A	427	PRO
2	B	16	GLN
3	C	76	ARG

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Mol	Chain	Res	Type
1	D	51	THR
1	D	259	MET
1	D	468	ASP
1	D	484	VAL
3	F	76	ARG
1	A	114	SER
1	D	392	PRO
2	E	294	PRO
2	B	26	PRO
2	B	294	PRO
1	A	143	PRO
2	B	287	GLY
2	E	26	PRO
2	E	291	PRO

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	942/973 (97%)	851 (90%)	91 (10%)	6	21
1	D	942/973 (97%)	857 (91%)	85 (9%)	8	25
2	B	263/327 (80%)	237 (90%)	26 (10%)	6	21
2	E	265/327 (81%)	242 (91%)	23 (9%)	8	26
3	C	152/154 (99%)	133 (88%)	19 (12%)	3	12
3	F	152/154 (99%)	132 (87%)	20 (13%)	3	11
All	All	2716/2908 (93%)	2452 (90%)	264 (10%)	6	21

All (264) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	16	LEU
1	A	21	GLN
1	A	27	LEU
1	A	28	LEU

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Continued from previous page...

Mol	Chain	Res	Type
1	A	29	ASP
1	A	34	CYS
1	A	35	LEU
1	A	45	MET
1	A	47	GLN
1	A	48	GLU
1	A	50	LEU
1	A	63	VAL
1	A	65	THR
1	A	74	ASN
1	A	86	VAL
1	A	90	ARG
1	A	103	LYS
1	A	112	LYS
1	A	121	GLU
1	A	129	LYS
1	A	146	TRP
1	A	150	ILE
1	A	158	ARG
1	A	163	LEU
1	A	168	MET
1	A	185	GLN
1	A	187	THR
1	A	192	LYS
1	A	204	GLN
1	A	205	ILE
1	A	217	GLN
1	A	229	LEU
1	A	247	ILE
1	A	257	VAL
1	A	286	LEU
1	A	288	THR
1	A	312	LYS
1	A	320	GLN
1	A	348	MET
1	A	387	SER
1	A	391	SER
1	A	402	ILE
1	A	423	ARG
1	A	440	VAL
1	A	443	GLU
1	A	447	ASP

Continued from previous page...

Mol	Chain	Res	Type
1	A	451	ILE
1	A	457	MET
1	A	479	LYS
1	A	493	ASN
1	A	521	ILE
1	A	525	LEU
1	A	535	ASP
1	A	564	THR
1	A	571	GLU
1	A	578	ASP
1	A	597	ARG
1	A	606	GLU
1	A	613	GLU
1	A	620	THR
1	A	647	GLN
1	A	648	THR
1	A	659	LEU
1	A	662	ASN
1	A	680	LYS
1	A	708	ILE
1	A	719	ASN
1	A	720	VAL
1	A	749	ARG
1	A	771	MET
1	A	781	LEU
1	A	799	GLU
1	A	804	MET
1	A	807	ILE
1	A	815	ILE
1	A	818	GLU
1	A	828	GLU
1	A	834	ILE
1	A	875	LEU
1	A	891	ASP
1	A	916	GLN
1	A	959	SER
1	A	962	LEU
1	A	969	ASN
1	A	970	ASN
1	A	1016	ARG
1	A	1028	GLU
1	A	1030	THR

Continued from previous page...

Mol	Chain	Res	Type
1	A	1031	SER
1	A	1048	GLU
1	A	1050	HIS
2	B	4	LEU
2	B	10	GLU
2	B	32	LYS
2	B	33	SER
2	B	38	LEU
2	B	92	LYS
2	B	96	LYS
2	B	111	VAL
2	B	120	ILE
2	B	128	LYS
2	B	138	SER
2	B	150	ASN
2	B	189	MET
2	B	234	ASN
2	B	240	GLU
2	B	264	THR
2	B	270	SER
2	B	274	VAL
2	B	282	VAL
2	B	285	VAL
2	B	290	VAL
2	B	295	LEU
2	B	352	ASP
2	B	353	HIS
2	B	356	CYS
2	B	357	LEU
3	C	8	GLN
3	C	9	VAL
3	C	13	LEU
3	C	21	THR
3	C	27	VAL
3	C	29	ARG
3	C	38	LYS
3	C	40	VAL
3	C	43	LEU
3	C	51	VAL
3	C	55	ASN
3	C	70	GLU
3	C	75	LEU

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Mol	Chain	Res	Type
3	C	76	ARG
3	C	77	ASP
3	C	96	VAL
3	C	140	ARG
3	C	141	LYS
3	C	143	ASN
1	D	27	LEU
1	D	29	ASP
1	D	35	LEU
1	D	45	MET
1	D	47	GLN
1	D	48	GLU
1	D	50	LEU
1	D	58	ASP
1	D	63	VAL
1	D	65	THR
1	D	74	ASN
1	D	86	VAL
1	D	90	ARG
1	D	103	LYS
1	D	113	THR
1	D	118	THR
1	D	129	LYS
1	D	136	GLN
1	D	146	TRP
1	D	150	ILE
1	D	158	ARG
1	D	163	LEU
1	D	168	MET
1	D	187	THR
1	D	204	GLN
1	D	205	ILE
1	D	229	LEU
1	D	257	VAL
1	D	288	THR
1	D	301	ASN
1	D	312	LYS
1	D	320	GLN
1	D	348	MET
1	D	361	GLU
1	D	387	SER
1	D	401	ASP

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Mol	Chain	Res	Type
1	D	402	ILE
1	D	423	ARG
1	D	436	ASP
1	D	440	VAL
1	D	442	ARG
1	D	447	ASP
1	D	451	ILE
1	D	479	LYS
1	D	493	ASN
1	D	521	ILE
1	D	525	LEU
1	D	535	ASP
1	D	564	THR
1	D	571	GLU
1	D	591	ILE
1	D	597	ARG
1	D	606	GLU
1	D	613	GLU
1	D	620	THR
1	D	647	GLN
1	D	659	LEU
1	D	662	ASN
1	D	680	LYS
1	D	719	ASN
1	D	720	VAL
1	D	727	ASN
1	D	749	ARG
1	D	781	LEU
1	D	799	GLU
1	D	804	MET
1	D	807	ILE
1	D	815	ILE
1	D	818	GLU
1	D	828	GLU
1	D	834	ILE
1	D	875	LEU
1	D	891	ASP
1	D	916	GLN
1	D	959	SER
1	D	963	ASN
1	D	968	VAL
1	D	970	ASN

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Mol	Chain	Res	Type
1	D	1016	ARG
1	D	1030	THR
1	D	1031	SER
1	D	1033	LEU
1	D	1047	GLU
1	D	1048	GLU
1	D	1052	LEU
2	E	4	LEU
2	E	15	SER
2	E	32	LYS
2	E	33	SER
2	E	38	LEU
2	E	40	GLN
2	E	91	VAL
2	E	96	LYS
2	E	111	VAL
2	E	120	ILE
2	E	128	LYS
2	E	138	SER
2	E	150	ASN
2	E	161	ARG
2	E	189	MET
2	E	234	ASN
2	E	240	GLU
2	E	264	THR
2	E	270	SER
2	E	274	VAL
2	E	282	VAL
2	E	352	ASP
2	E	357	LEU
3	F	8	GLN
3	F	9	VAL
3	F	21	THR
3	F	27	VAL
3	F	29	ARG
3	F	38	LYS
3	F	40	VAL
3	F	43	LEU
3	F	51	VAL
3	F	55	ASN
3	F	70	GLU
3	F	71	LYS

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Mol	Chain	Res	Type
3	F	75	LEU
3	F	76	ARG
3	F	77	ASP
3	F	96	VAL
3	F	113	GLU
3	F	140	ARG
3	F	141	LYS
3	F	143	ASN

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (140) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	15	GLN
1	A	33	ASN
1	A	43	GLN
1	A	47	GLN
1	A	74	ASN
1	A	97	ASN
1	A	131	ASN
1	A	165	GLN
1	A	167	ASN
1	A	185	GLN
1	A	200	ASN
1	A	256	ASN
1	A	293	GLN
1	A	301	ASN
1	A	317	ASN
1	A	320	GLN
1	A	321	ASN
1	A	374	ASN
1	A	407	GLN
1	A	452	ASN
1	A	483	GLN
1	A	493	ASN
1	A	495	ASN
1	A	536	ASN
1	A	543	ASN
1	A	629	GLN
1	A	662	ASN
1	A	663	GLN
1	A	671	GLN
1	A	675	ASN

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Mol	Chain	Res	Type
1	A	704	HIS
1	A	709	GLN
1	A	719	ASN
1	A	733	GLN
1	A	767	ASN
1	A	775	ASN
1	A	821	GLN
1	A	853	GLN
1	A	858	HIS
1	A	902	GLN
1	A	903	ASN
1	A	916	GLN
1	A	924	GLN
1	A	942	HIS
1	A	951	ASN
1	A	963	ASN
1	A	970	ASN
1	A	990	GLN
1	A	1006	GLN
1	A	1021	GLN
1	A	1046	GLN
2	B	19	ASN
2	B	40	GLN
2	B	51	GLN
2	B	61	HIS
2	B	101	GLN
2	B	150	ASN
2	B	160	ASN
2	B	163	ASN
2	B	200	GLN
2	B	234	ASN
2	B	261	HIS
3	C	8	GLN
3	C	48	HIS
3	C	55	ASN
3	C	82	GLN
3	C	100	ASN
3	C	105	HIS
3	C	145	GLN
3	C	154	ASN
3	C	156	ASN
1	D	15	GLN

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Mol	Chain	Res	Type
1	D	26	ASN
1	D	33	ASN
1	D	37	HIS
1	D	43	GLN
1	D	47	GLN
1	D	74	ASN
1	D	131	ASN
1	D	165	GLN
1	D	167	ASN
1	D	200	ASN
1	D	293	GLN
1	D	301	ASN
1	D	317	ASN
1	D	320	GLN
1	D	321	ASN
1	D	407	GLN
1	D	452	ASN
1	D	466	HIS
1	D	483	GLN
1	D	493	ASN
1	D	495	ASN
1	D	536	ASN
1	D	543	ASN
1	D	558	HIS
1	D	629	GLN
1	D	662	ASN
1	D	663	GLN
1	D	670	GLN
1	D	675	ASN
1	D	695	ASN
1	D	704	HIS
1	D	709	GLN
1	D	719	ASN
1	D	733	GLN
1	D	767	ASN
1	D	775	ASN
1	D	821	GLN
1	D	832	ASN
1	D	853	GLN
1	D	856	ASN
1	D	858	HIS
1	D	902	GLN

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Mol	Chain	Res	Type
1	D	903	ASN
1	D	916	GLN
1	D	924	GLN
1	D	942	HIS
1	D	951	ASN
1	D	970	ASN
1	D	990	GLN
1	D	1006	GLN
1	D	1050	HIS
2	E	19	ASN
2	E	40	GLN
2	E	61	HIS
2	E	100	ASN
2	E	101	GLN
2	E	150	ASN
2	E	160	ASN
2	E	163	ASN
2	E	200	GLN
2	E	261	HIS
3	F	48	HIS
3	F	55	ASN
3	F	82	GLN
3	F	100	ASN
3	F	105	HIS
3	F	154	ASN
3	F	156	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

Of 6 ligands modelled in this entry, 4 are monoatomic - leaving 2 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	C	217	5	29,34,34	1.19	2 (6%)	35,54,54	1.34	4 (11%)
4	GTP	F	217	5	29,34,34	1.15	1 (3%)	35,54,54	1.26	4 (11%)

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	C	217	5	-	2/18/38/38	0/3/3/3
4	GTP	F	217	5	-	7/18/38/38	0/3/3/3

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	C	217	GTP	C5-C6	-3.84	1.39	1.47
4	F	217	GTP	C5-C6	-3.82	1.39	1.47
4	C	217	GTP	O4'-C4'	-2.04	1.40	1.45

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	C	217	GTP	C8-N7-C5	3.80	109.02	102.55
4	F	217	GTP	C8-N7-C5	3.62	108.71	102.55
4	C	217	GTP	C5-C6-N1	2.78	119.37	114.07
4	F	217	GTP	C2-N1-C6	-2.74	120.09	125.11
4	F	217	GTP	C5-C6-N1	2.70	119.21	114.07
4	F	217	GTP	C4'-O4'-C1'	2.48	112.20	109.92
4	C	217	GTP	C2-N1-C6	-2.47	120.59	125.11
4	C	217	GTP	N1-C2-N3	-2.04	119.58	123.32

There are no chirality outliers.

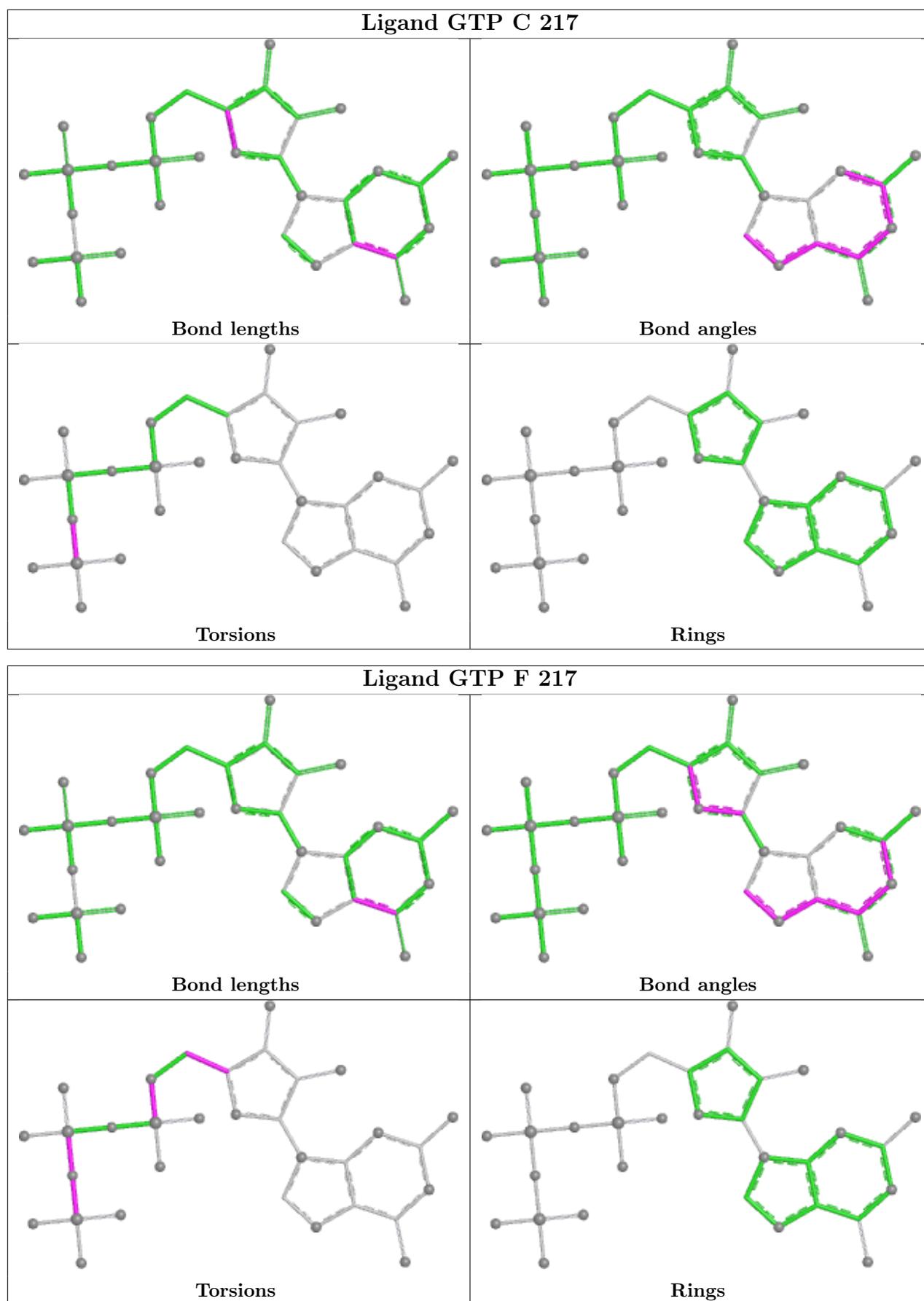All (9) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	C	217	GTP	PB-O3B-PG-O3G
4	F	217	GTP	PB-O3B-PG-O2G
4	F	217	GTP	C5'-O5'-PA-O2A
4	F	217	GTP	O4'-C4'-C5'-O5'
4	F	217	GTP	C3'-C4'-C5'-O5'
4	F	217	GTP	C5'-O5'-PA-O3A
4	F	217	GTP	C5'-O5'-PA-O1A
4	F	217	GTP	PG-O3B-PB-O1B
4	C	217	GTP	PB-O3B-PG-O1G

There are no ring outliers.

2 monomers are involved in 6 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	C	217	GTP	4	0
4	F	217	GTP	2	0

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

Ligand GTP C 217

Bond lengths

Bond angles

Torsions

Rings

Ligand GTP F 217

Bond lengths

Bond angles

Torsions

Rings

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues ⓘ

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	1038/1073 (96%)	-1.39	0	100	100	14, 47, 107, 152	0
1	D	1038/1073 (96%)	-1.39	0	100	100	14, 47, 103, 176	0
2	B	291/362 (80%)	-1.40	0	100	100	15, 44, 116, 167	0
2	E	293/362 (80%)	-1.35	1 (0%)	90	87	15, 45, 123, 167	0
3	C	173/176 (98%)	-1.52	0	100	100	21, 39, 79, 132	0
3	F	173/176 (98%)	-1.58	0	100	100	20, 39, 79, 106	0
All	All	3006/3222 (93%)	-1.41	1 (0%)	100	100	14, 45, 106, 176	0

All (1) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	E	31	TYR	2.6

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

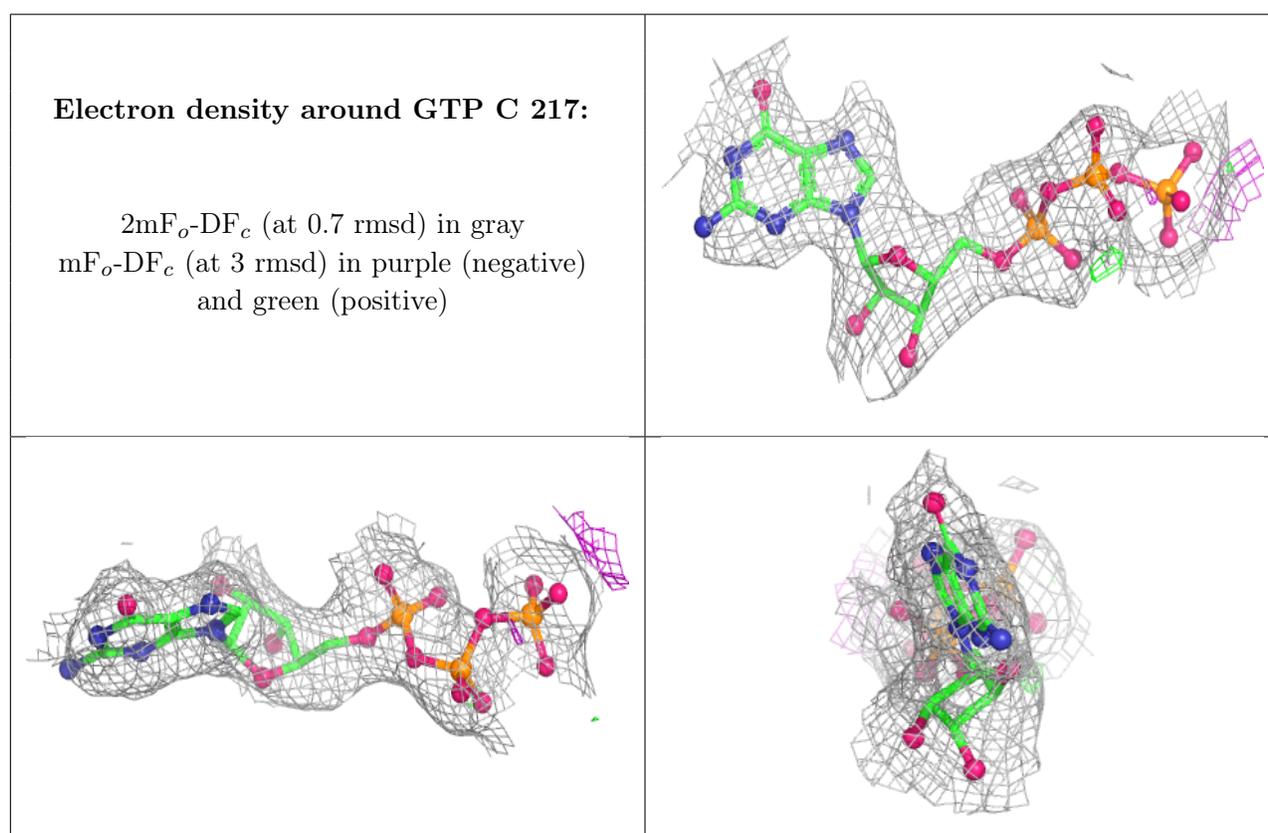There are no non-standard protein/DNA/RNA residues in this entry.

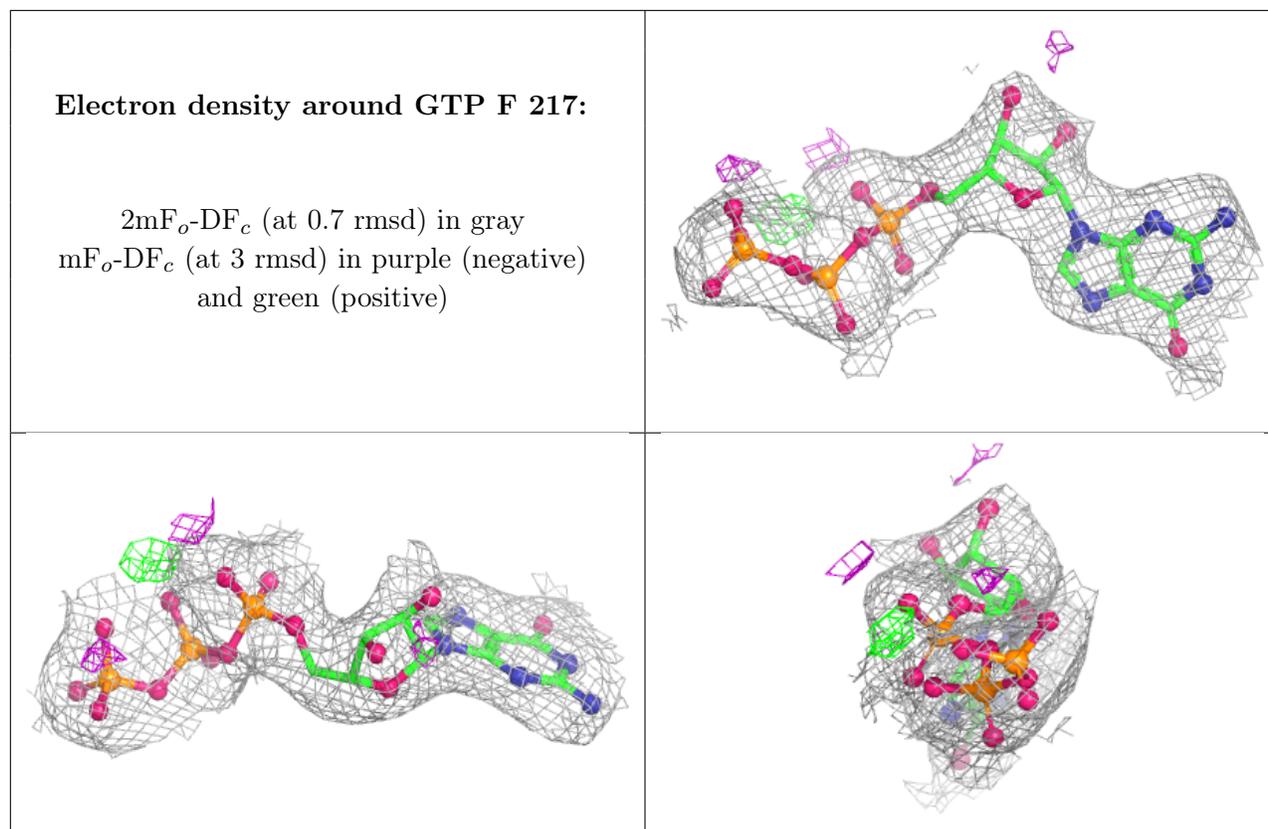## 6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

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	NA	C	1	1/1	0.99	0.05	42,42,42,42	0
6	NA	D	1072	1/1	0.99	0.08	52,52,52,52	0
5	MG	C	218	1/1	1.00	0.01	14,14,14,14	0
5	MG	F	218	1/1	1.00	0.02	26,26,26,26	0
4	GTP	C	217	32/32	1.00	0.03	12,29,37,71	0
4	GTP	F	217	32/32	1.00	0.03	16,34,50,56	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 ⓘ

There are no such residues in this entry.