



Full wwPDB X-ray Structure Validation Report ⓘ

May 29, 2020 – 06:27 am BST

PDB ID : 4YGA
Title : CDPK1, from *Toxoplasma gondii*, bound to inhibitory VHH-1B7
Authors : Knockenhauer, K.E.; Schwartz, T.U.
Deposited on : 2015-02-26
Resolution : 2.94 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 following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Xtriage (Phenix) : 1.13
EDS : 2.11
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) : 2.11

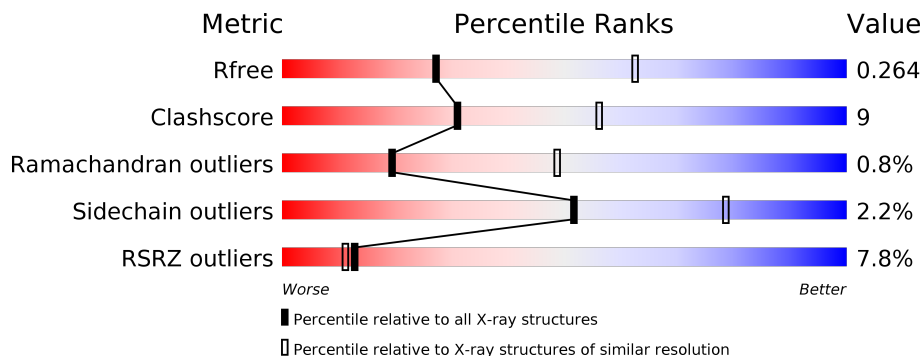
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.94 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.



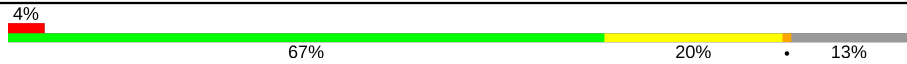

Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	2969 (2.98-2.90)
Clashscore	141614	3218 (2.98-2.90)
Ramachandran outliers	138981	3122 (2.98-2.90)
Sidechain outliers	138945	3124 (2.98-2.90)
RSRZ outliers	127900	2902 (2.98-2.90)

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 on 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	516	 6% 69% 16% • 13%
1	C	516	 8% 70% 16% • 13%
1	E	516	 7% 70% 15% • 14%
1	G	516	 6% 67% 19% • 13%
2	B	141	 15% 70% 18% • 12%
2	D	141	 7% 64% 23% • 13%

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Mol	Chain	Length	Quality of chain
2	F	141	
2	H	141	

2 Entry composition i

There are 3 unique types of molecules in this entry. The entry contains 17348 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 Calmodulin-domain protein kinase 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	448	3419	2177	559	667	16	0	0	0
1	C	449	3404	2170	553	664	17	0	0	0
1	E	442	3395	2163	560	656	16	0	0	0
1	G	447	3409	2170	558	664	17	0	0	0

There are 36 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	0	MET	-	initiating methionine	UNP Q9BJF5
A	508	LEU	-	expression tag	UNP Q9BJF5
A	509	GLU	-	expression tag	UNP Q9BJF5
A	510	HIS	-	expression tag	UNP Q9BJF5
A	511	HIS	-	expression tag	UNP Q9BJF5
A	512	HIS	-	expression tag	UNP Q9BJF5
A	513	HIS	-	expression tag	UNP Q9BJF5
A	514	HIS	-	expression tag	UNP Q9BJF5
A	515	HIS	-	expression tag	UNP Q9BJF5
C	0	MET	-	initiating methionine	UNP Q9BJF5
C	508	LEU	-	expression tag	UNP Q9BJF5
C	509	GLU	-	expression tag	UNP Q9BJF5
C	510	HIS	-	expression tag	UNP Q9BJF5
C	511	HIS	-	expression tag	UNP Q9BJF5
C	512	HIS	-	expression tag	UNP Q9BJF5
C	513	HIS	-	expression tag	UNP Q9BJF5
C	514	HIS	-	expression tag	UNP Q9BJF5
C	515	HIS	-	expression tag	UNP Q9BJF5
E	0	MET	-	initiating methionine	UNP Q9BJF5
E	508	LEU	-	expression tag	UNP Q9BJF5
E	509	GLU	-	expression tag	UNP Q9BJF5

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Chain	Residue	Modelled	Actual	Comment	Reference
E	510	HIS	-	expression tag	UNP Q9BJF5
E	511	HIS	-	expression tag	UNP Q9BJF5
E	512	HIS	-	expression tag	UNP Q9BJF5
E	513	HIS	-	expression tag	UNP Q9BJF5
E	514	HIS	-	expression tag	UNP Q9BJF5
E	515	HIS	-	expression tag	UNP Q9BJF5
G	0	MET	-	initiating methionine	UNP Q9BJF5
G	508	LEU	-	expression tag	UNP Q9BJF5
G	509	GLU	-	expression tag	UNP Q9BJF5
G	510	HIS	-	expression tag	UNP Q9BJF5
G	511	HIS	-	expression tag	UNP Q9BJF5
G	512	HIS	-	expression tag	UNP Q9BJF5
G	513	HIS	-	expression tag	UNP Q9BJF5
G	514	HIS	-	expression tag	UNP Q9BJF5
G	515	HIS	-	expression tag	UNP Q9BJF5

- Molecule 2 is a protein called VHH-1B7.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	124	924	573	160	186	5	0	0	0
2	D	123	932	581	163	183	5	0	0	0
2	F	123	925	573	162	185	5	0	0	0
2	H	123	924	576	162	181	5	0	0	0

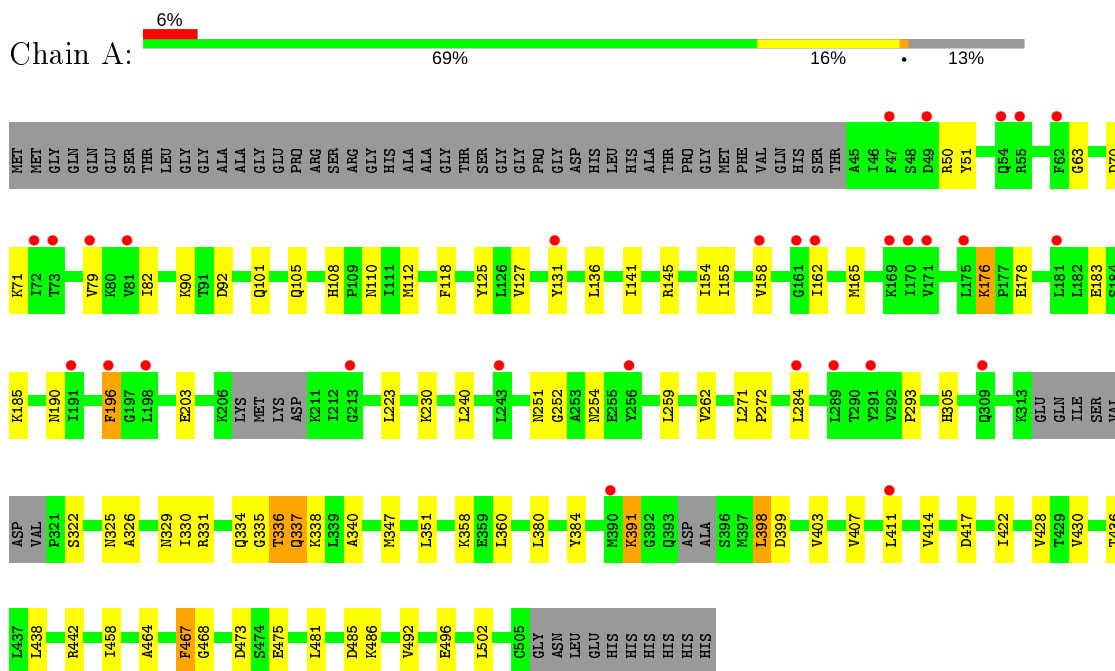
- Molecule 3 is CALCIUM ION (three-letter code: CA) (formula: Ca).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
3	G	4	Total 4	Ca 4	0	0
3	A	4	Total 4	Ca 4	0	0
3	C	4	Total 4	Ca 4	0	0
3	E	4	Total 4	Ca 4	0	0

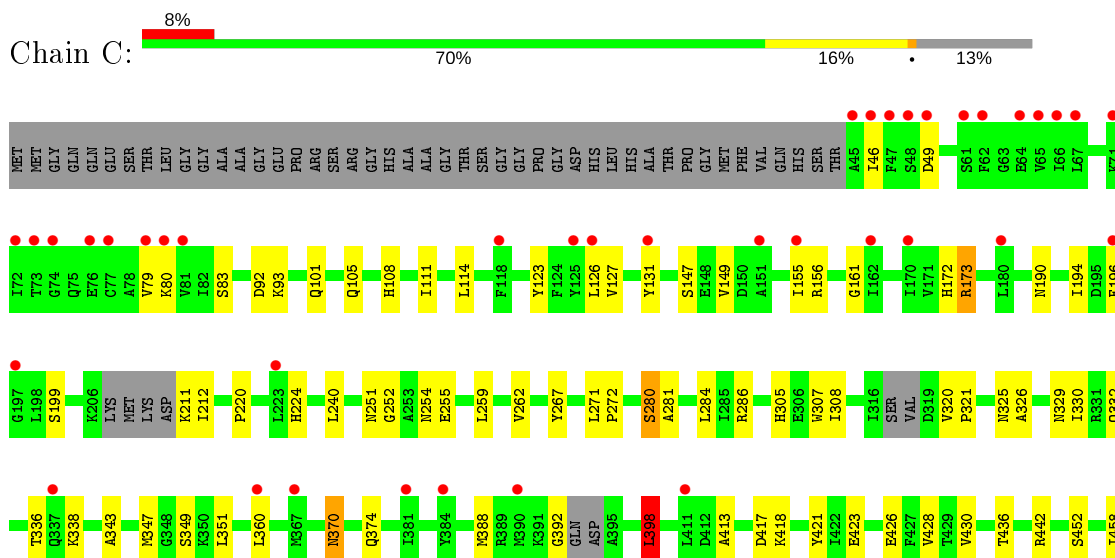
3 Residue-property plots [i](#)

These plots are drawn for all protein, RNA and DNA 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: Calmodulin-domain protein kinase 1

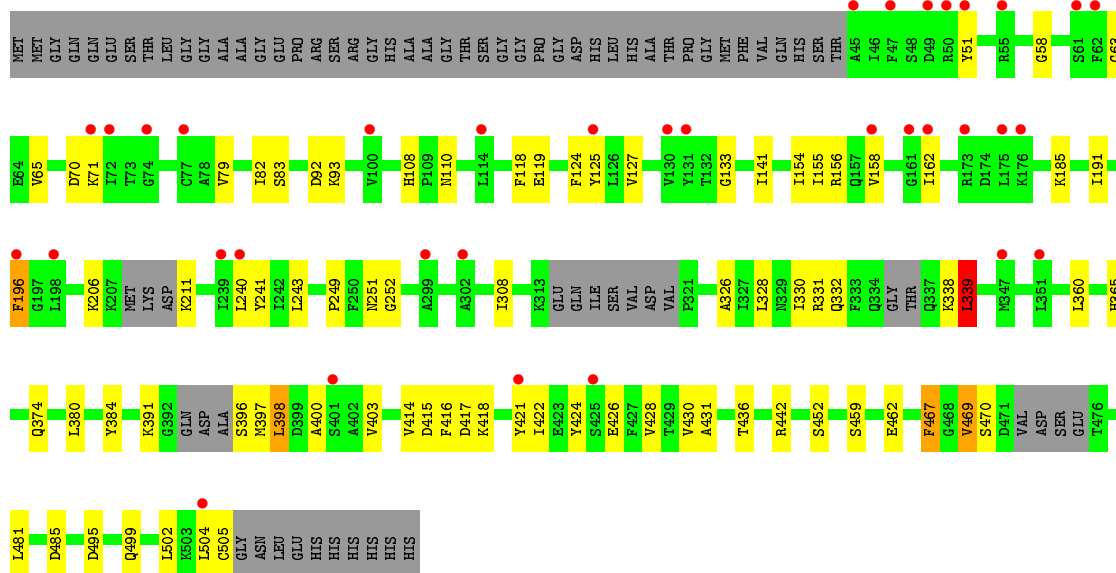


- Molecule 1: Calmodulin-domain protein kinase 1

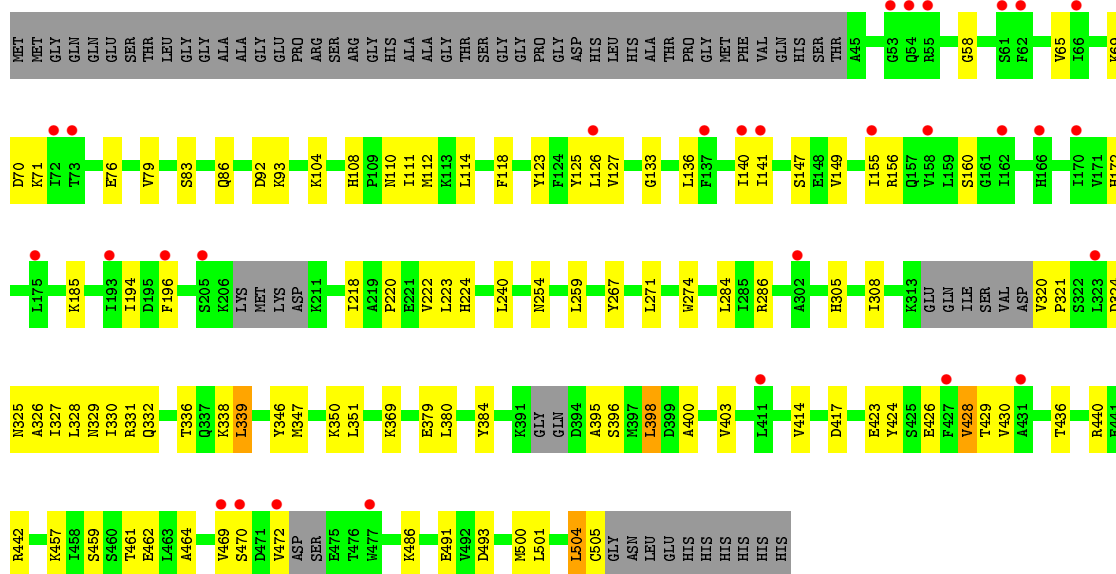




- Molecule 1: Calmodulin-domain protein kinase 1

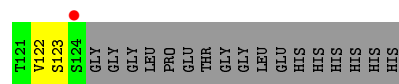
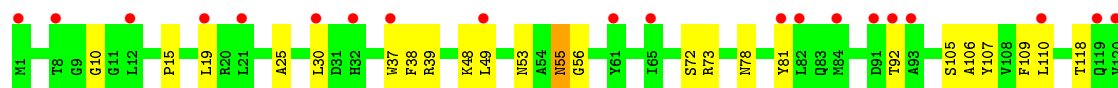


- Molecule 1: Calmodulin-domain protein kinase 1

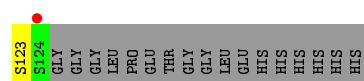
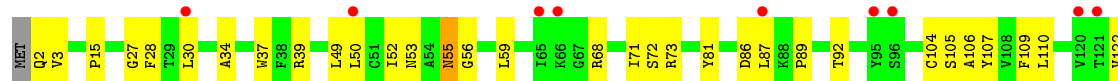


- Molecule 2: VHH-1B7

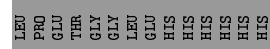
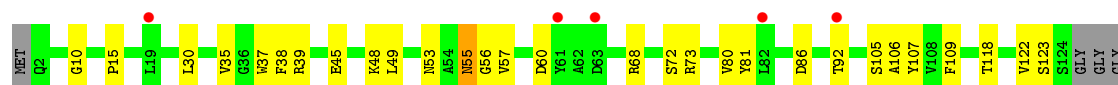




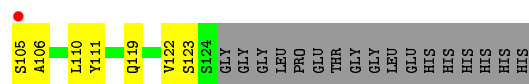
- Molecule 2: VHH-1B7



- Molecule 2: VHH-1B7



- Molecule 2: VHH-1B7



4 Data and refinement statistics

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α , β , γ	76.92Å 91.07Å 106.64Å 88.71° 108.27° 90.26°	Depositor
Resolution (Å)	70.67 – 2.94 70.67 – 2.94	Depositor EDS
% Data completeness (in resolution range)	92.3 (70.67-2.94) 86.4 (70.67-2.94)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.11	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.97 (at 2.96Å)	Xtrriage
Refinement program	PHENIX 1.9_1692	Depositor
R, R_{free}	0.226 , 0.262 0.228 , 0.264	Depositor DCC
R_{free} test set	1718 reflections (3.18%)	wwPDB-VP
Wilson B-factor (Å ²)	86.0	Xtrriage
Anisotropy	0.172	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 101.6	EDS
L-test for twinning ²	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.32$	Xtrriage
Estimated twinning fraction	0.287 for -h,k,-l	Xtrriage
F_o, F_c correlation	0.94	EDS
Total number of atoms	17348	wwPDB-VP
Average B, all atoms (Å ²)	113.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.59% 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: CA

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	0.23	0/3476	0.42	0/4702
1	C	0.23	0/3460	0.44	1/4682 (0.0%)
1	E	0.24	0/3449	0.46	2/4657 (0.0%)
1	G	0.23	0/3465	0.43	1/4689 (0.0%)
2	B	0.24	0/941	0.43	0/1279
2	D	0.23	0/949	0.46	0/1287
2	F	0.24	0/942	0.44	0/1279
2	H	0.24	0/941	0.47	0/1278
All	All	0.24	0/17623	0.44	4/23853 (0.0%)

There are no bond length outliers.

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	398	LEU	CA-CB-CG	6.25	129.67	115.30
1	C	398	LEU	CA-CB-CG	6.00	129.09	115.30
1	E	339	LEU	CA-CB-CG	5.83	128.72	115.30
1	G	339	LEU	CA-CB-CG	5.07	126.95	115.30

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	3419	0	3233	57	0
1	C	3404	0	3200	58	0
1	E	3395	0	3238	47	0
1	G	3409	0	3214	68	0
2	B	924	0	853	15	0
2	D	932	0	886	24	0
2	F	925	0	859	17	0
2	H	924	0	871	29	0
3	A	4	0	0	0	0
3	C	4	0	0	0	0
3	E	4	0	0	0	0
3	G	4	0	0	0	0
All	All	17348	0	16354	305	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 9.

All (305) 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:467:PHE:HB2	2:B:109:PHE:HB2	1.42	0.99
1:C:332:GLN:HE22	1:C:504:LEU:H	1.30	0.79
1:C:155:ILE:HG13	1:C:240:LEU:HD13	1.68	0.76
2:H:30:LEU:O	2:H:73:ARG:NH2	2.19	0.74
1:E:467:PHE:HB2	2:F:109:PHE:HB2	1.68	0.74
1:G:155:ILE:HG13	1:G:240:LEU:HD13	1.71	0.71
2:F:30:LEU:O	2:F:73:ARG:NH2	2.24	0.71
1:A:398:LEU:H	1:A:398:LEU:HD12	1.56	0.70
1:G:110:ASN:ND2	1:G:160:SER:OG	2.22	0.70
2:B:30:LEU:O	2:B:73:ARG:NH2	2.25	0.70
1:G:464:ALA:HB1	1:G:470:SER:HA	1.72	0.70
1:A:141:ILE:O	1:A:331:ARG:NH1	2.25	0.69
2:D:15:PRO:HD3	2:D:123:SER:HB2	1.74	0.69
2:F:72:SER:HB2	2:F:81:TYR:HB2	1.74	0.68
1:C:413:ALA:HA	1:C:418:LYS:HZ1	1.58	0.67
2:H:64:SER:O	2:H:68:ARG:NH2	2.26	0.67
1:C:413:ALA:HA	1:C:418:LYS:NZ	2.09	0.67
1:A:398:LEU:O	1:A:398:LEU:HD22	1.95	0.66
2:H:15:PRO:HD3	2:H:123:SER:HB2	1.79	0.65
2:H:68:ARG:NH1	2:H:86:ASP:O	2.30	0.65
1:A:90:LYS:HE3	1:A:203:GLU:HB2	1.77	0.65
2:D:30:LEU:O	2:D:73:ARG:NH2	2.29	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:114:LEU:HD11	1:C:126:LEU:HD11	1.77	0.65
1:C:370:ASN:H	1:C:370:ASN:HD22	1.42	0.65
1:C:79:VAL:HG12	1:C:127:VAL:HG22	1.78	0.64
1:A:336:THR:O	1:A:338:LYS:N	2.30	0.64
1:A:79:VAL:HG12	1:A:127:VAL:HG22	1.78	0.64
1:G:114:LEU:HD11	1:G:126:LEU:HD11	1.79	0.64
1:A:436:THR:O	1:A:442:ARG:NH1	2.32	0.64
1:E:332:GLN:HA	1:E:338:LYS:HD2	1.80	0.63
1:G:436:THR:O	1:G:442:ARG:NH1	2.31	0.63
1:A:284:LEU:HB2	1:A:305:HIS:CE1	2.34	0.63
1:C:436:THR:O	1:C:442:ARG:NH1	2.31	0.63
2:H:92:THR:HB	2:H:122:VAL:H	1.63	0.62
1:A:335:GLY:O	1:A:337:GLN:N	2.30	0.62
1:C:325:ASN:O	1:C:329:ASN:ND2	2.28	0.61
1:A:136:LEU:HD21	1:A:154:ILE:HD13	1.81	0.61
1:A:155:ILE:HG13	1:A:240:LEU:HD13	1.82	0.61
1:C:173:ARG:HD2	1:C:199:SER:HB2	1.83	0.60
1:A:411:LEU:O	1:A:414:VAL:HG12	2.01	0.60
2:B:72:SER:HB2	2:B:81:TYR:HB2	1.83	0.60
1:E:360:LEU:HD13	1:E:428:VAL:HG22	1.82	0.60
1:G:220:PRO:O	1:G:224:HIS:ND1	2.35	0.60
1:C:220:PRO:O	1:C:224:HIS:ND1	2.35	0.60
1:E:396:SER:OG	1:E:397:MET:N	2.34	0.59
1:E:436:THR:O	1:E:442:ARG:NH1	2.35	0.59
1:E:469:VAL:O	1:E:470:SER:HB2	2.02	0.59
1:E:79:VAL:HG12	1:E:127:VAL:HG22	1.83	0.59
2:H:50:LEU:HD23	2:H:59:LEU:HA	1.84	0.59
1:E:469:VAL:O	1:E:469:VAL:HG22	2.03	0.58
1:C:172:HIS:NE2	1:C:194:ILE:O	2.32	0.58
2:F:10:GLY:HA3	2:F:118:THR:HB	1.85	0.57
1:G:325:ASN:O	1:G:329:ASN:ND2	2.26	0.57
1:G:149:VAL:HG23	1:G:320:VAL:HG11	1.87	0.56
1:G:79:VAL:HG12	1:G:127:VAL:HG22	1.86	0.56
1:E:467:PHE:CB	2:F:109:PHE:HB2	2.36	0.56
1:A:131:TYR:HD1	1:A:183:GLU:HA	1.69	0.56
2:B:39:ARG:HB3	2:B:49:LEU:HD11	1.86	0.56
2:D:39:ARG:HB2	2:D:49:LEU:HD11	1.88	0.56
2:H:2:GLN:N	2:H:2:GLN:OE1	2.40	0.55
2:D:55:ASN:ND2	2:D:56:GLY:H	2.05	0.54
1:E:93:LYS:HD2	1:E:93:LYS:H	1.72	0.54
2:B:15:PRO:HD3	2:B:123:SER:HB2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:495:ASP:OD1	1:E:499:GLN:NE2	2.40	0.54
2:F:55:ASN:ND2	2:F:56:GLY:H	2.06	0.54
2:H:13:VAL:HG21	2:H:87:LEU:HD13	1.88	0.54
1:E:141:ILE:O	1:E:331:ARG:NH1	2.41	0.53
1:G:147:SER:HB2	1:G:320:VAL:HG12	1.89	0.53
2:H:55:ASN:ND2	2:H:56:GLY:H	2.07	0.53
1:A:398:LEU:H	1:A:398:LEU:CD1	2.22	0.53
2:H:63:ASP:HA	2:H:66:LYS:HB3	1.90	0.53
2:D:52:ILE:HD13	2:D:73:ARG:HB2	1.90	0.53
1:G:218:ILE:HD11	1:G:222:VAL:HG11	1.91	0.53
1:G:423:GLU:OE2	2:H:106:ALA:HA	2.09	0.53
2:H:39:ARG:HG3	2:H:93:ALA:HB3	1.91	0.53
1:A:63:GLY:HA3	1:A:82:ILE:HD13	1.91	0.52
1:G:332:GLN:HE22	1:G:504:LEU:HB2	1.73	0.52
1:G:69:LYS:HG3	1:G:76:GLU:HG2	1.91	0.52
1:C:467:PHE:HB2	1:C:477:TRP:CH2	2.43	0.52
2:B:92:THR:HB	2:B:122:VAL:H	1.74	0.52
1:C:280:SER:HB2	1:C:307:TRP:HB2	1.92	0.51
2:D:2:GLN:OE1	2:D:2:GLN:N	2.43	0.51
1:A:398:LEU:N	1:A:398:LEU:CD1	2.73	0.51
2:H:55:ASN:HD22	2:H:56:GLY:N	2.09	0.51
1:C:417:ASP:HB3	2:D:107:TYR:CE2	2.45	0.51
2:D:37:TRP:O	2:D:49:LEU:HB2	2.10	0.51
1:C:259:LEU:HA	1:C:262:VAL:HG12	1.93	0.51
1:C:284:LEU:HB2	1:C:305:HIS:CE1	2.46	0.51
2:D:72:SER:HB2	2:D:81:TYR:HB2	1.92	0.51
1:G:347:MET:HG3	1:G:351:LEU:HD12	1.91	0.51
2:B:37:TRP:O	2:B:49:LEU:HB2	2.11	0.51
1:C:423:GLU:HG2	2:D:105:SER:HB2	1.92	0.51
1:E:416:PHE:HD2	1:E:426:GLU:HG2	1.76	0.51
1:E:391:LYS:HE2	1:E:431:ALA:HA	1.93	0.50
1:A:360:LEU:HD13	1:A:428:VAL:HG22	1.92	0.50
2:H:52:ILE:HD13	2:H:73:ARG:HB2	1.93	0.50
1:E:380:LEU:HD11	1:E:422:ILE:HD13	1.92	0.50
2:F:55:ASN:HD22	2:F:56:GLY:H	1.60	0.50
2:D:2:GLN:O	2:D:27:GLY:HA3	2.10	0.50
1:E:400:ALA:O	1:E:403:VAL:HG12	2.11	0.50
2:D:55:ASN:HD22	2:D:56:GLY:N	2.10	0.50
2:H:104:CYS:SG	2:H:105:SER:N	2.82	0.50
2:H:68:ARG:HB3	2:H:85:ASN:O	2.11	0.50
2:F:39:ARG:HB3	2:F:49:LEU:HD11	1.93	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:37:TRP:HD1	2:H:71:ILE:HD12	1.76	0.50
1:A:398:LEU:HD13	1:A:398:LEU:O	2.12	0.49
1:E:63:GLY:HA3	1:E:82:ILE:HD13	1.93	0.49
1:G:108:HIS:CD2	1:G:110:ASN:H	2.30	0.49
2:H:106:ALA:HB1	2:H:110:LEU:HD12	1.94	0.49
1:E:374:GLN:HB3	1:E:421:TYR:HB3	1.93	0.49
1:G:326:ALA:O	1:G:330:ILE:HG13	2.11	0.49
1:A:259:LEU:HA	1:A:262:VAL:HG12	1.94	0.49
1:A:70:ASP:OD1	1:A:71:LYS:N	2.45	0.49
1:E:481:LEU:HD23	1:E:485:ASP:HB2	1.94	0.49
1:G:414:VAL:HG11	1:G:430:VAL:HG22	1.94	0.49
1:E:133:GLY:HA2	1:E:185:LYS:HD3	1.95	0.49
1:A:50:ARG:HG2	1:A:118:PHE:HZ	1.78	0.49
1:E:155:ILE:HG13	1:E:240:LEU:HD13	1.95	0.49
2:F:37:TRP:O	2:F:49:LEU:HB2	2.13	0.49
2:F:55:ASN:HD22	2:F:56:GLY:N	2.11	0.49
2:B:10:GLY:HA3	2:B:118:THR:HB	1.95	0.49
1:C:347:MET:HG3	1:C:351:LEU:HD12	1.94	0.49
1:G:58:GLY:H	1:G:65:VAL:HB	1.78	0.49
1:A:185:LYS:HD3	2:H:89:PRO:HB2	1.95	0.48
1:E:119:GLU:HG3	1:E:124:PHE:HE1	1.79	0.48
1:A:118:PHE:HB2	1:A:125:TYR:HB2	1.95	0.48
1:C:83:SER:HA	1:C:123:TYR:HD1	1.79	0.48
2:F:15:PRO:HD3	2:F:123:SER:HB2	1.95	0.48
2:D:68:ARG:NH1	2:D:86:ASP:O	2.46	0.48
2:H:94:THR:OG1	2:H:119:GLN:OE1	2.28	0.48
1:E:452:SER:N	1:E:462:GLU:OE2	2.44	0.47
1:G:140:ILE:HG22	1:G:327:ILE:HD13	1.96	0.47
1:C:336:THR:O	1:C:338:LYS:HG3	2.14	0.47
1:C:326:ALA:O	1:C:330:ILE:HG13	2.15	0.47
1:G:118:PHE:HB2	1:G:125:TYR:HB2	1.95	0.47
1:A:176:LYS:HE3	1:A:178:GLU:HG2	1.96	0.47
1:G:112:MET:SD	1:G:194:ILE:HG13	2.54	0.47
1:G:346:TYR:CZ	1:G:350:LYS:HD2	2.49	0.47
2:H:72:SER:OG	2:H:81:TYR:HB2	2.15	0.47
1:C:360:LEU:HD13	1:C:428:VAL:HG22	1.97	0.47
1:E:51:TYR:CZ	1:E:127:VAL:HG11	2.49	0.47
1:G:141:ILE:HA	1:G:327:ILE:HD11	1.97	0.47
1:C:499:GLN:HG2	1:C:504:LEU:HA	1.96	0.47
1:E:459:SER:OG	1:E:462:GLU:HG3	2.15	0.47
1:G:414:VAL:HG11	1:G:430:VAL:CG2	2.45	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:158:VAL:O	1:A:162:ILE:HG12	2.14	0.46
1:A:336:THR:HB	1:A:340:ALA:HB3	1.96	0.46
2:D:34:ALA:HB1	2:D:104:CYS:HB2	1.97	0.46
2:F:92:THR:HB	2:F:122:VAL:H	1.80	0.46
1:G:347:MET:HA	1:G:351:LEU:HD12	1.97	0.46
1:G:332:GLN:HE22	1:G:504:LEU:H	1.63	0.46
2:B:55:ASN:ND2	2:B:56:GLY:H	2.13	0.46
1:C:147:SER:HB2	1:C:320:VAL:HG12	1.97	0.46
1:C:267:TYR:OH	1:C:286:ARG:HA	2.15	0.46
1:E:118:PHE:HB2	1:E:125:TYR:HB2	1.96	0.46
1:A:326:ALA:O	1:A:330:ILE:HG13	2.15	0.46
1:E:241:TYR:CG	1:E:249:PRO:HG3	2.51	0.46
1:G:104:LYS:HG2	1:G:114:LEU:HD22	1.98	0.46
1:A:325:ASN:O	1:A:329:ASN:ND2	2.38	0.46
1:A:464:ALA:O	1:A:468:GLY:HA3	2.14	0.46
1:C:108:HIS:CD2	1:C:161:GLY:HA2	2.51	0.46
1:E:70:ASP:OD1	1:E:71:LYS:N	2.49	0.46
1:C:458:ILE:HB	1:C:492:VAL:HB	1.98	0.46
2:D:89:PRO:O	2:D:92:THR:HG22	2.16	0.46
1:G:486:LYS:HG3	1:G:504:LEU:HD11	1.98	0.46
1:A:391:LYS:NZ	1:A:430:VAL:O	2.46	0.46
1:C:467:PHE:HB2	1:C:477:TRP:HH2	1.81	0.46
1:A:380:LEU:HD11	1:A:422:ILE:HD12	1.97	0.45
1:E:326:ALA:O	1:E:330:ILE:HG13	2.16	0.45
1:G:426:GLU:O	1:G:430:VAL:HG23	2.15	0.45
2:H:98:ALA:HB1	2:H:111:TYR:HB3	1.98	0.45
1:G:500:MET:HE2	1:G:501:LEU:HG	1.99	0.45
2:H:84:MET:HB3	2:H:87:LEU:HD21	1.97	0.45
1:C:83:SER:HA	1:C:123:TYR:CD1	2.50	0.45
1:G:83:SER:HB3	1:G:86:GLN:HB2	1.97	0.45
2:H:39:ARG:HB3	2:H:49:LEU:HD11	1.98	0.45
1:C:149:VAL:HG23	1:C:320:VAL:HG11	1.99	0.45
2:D:3:VAL:HG13	2:D:28:PHE:CD1	2.52	0.45
1:G:398:LEU:H	1:G:398:LEU:HD22	1.82	0.45
1:G:417:ASP:N	1:G:417:ASP:OD1	2.49	0.45
1:A:176:LYS:HB2	1:A:176:LYS:HE2	1.82	0.45
1:A:223:LEU:HD11	1:A:259:LEU:HD22	1.98	0.45
1:E:206:LYS:HE2	1:E:211:LYS:HA	1.98	0.45
1:C:211:LYS:N	1:C:255:GLU:OE1	2.50	0.45
2:F:35:VAL:HB	2:F:80:VAL:HG21	1.99	0.45
2:D:55:ASN:HD22	2:D:56:GLY:H	1.62	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:107:TYR:HB3	2:F:109:PHE:CE2	2.51	0.45
1:A:417:ASP:OD1	1:A:417:ASP:N	2.50	0.45
1:E:414:VAL:HG11	1:E:430:VAL:CG2	2.47	0.45
1:G:284:LEU:HB2	1:G:305:HIS:CE1	2.52	0.45
1:G:424:TYR:O	1:G:428:VAL:HG12	2.17	0.45
1:G:93:LYS:HD2	1:G:93:LYS:H	1.82	0.44
1:C:388:MET:O	1:C:392:GLY:N	2.50	0.44
1:A:108:HIS:CD2	1:A:110:ASN:H	2.35	0.44
1:E:154:ILE:HG22	1:E:191:ILE:HD11	1.98	0.44
1:A:399:ASP:OD1	1:A:403:VAL:HG23	2.17	0.44
2:F:68:ARG:NH1	2:F:86:ASP:O	2.50	0.44
1:G:457:LYS:HE3	1:G:491:GLU:OE1	2.17	0.44
1:E:108:HIS:CD2	1:E:110:ASN:H	2.35	0.44
1:G:223:LEU:HD11	1:G:259:LEU:HD22	1.98	0.44
2:B:105:SER:OG	2:B:106:ALA:N	2.51	0.44
1:C:459:SER:OG	1:C:462:GLU:HG3	2.17	0.44
1:E:424:TYR:O	1:E:428:VAL:HG23	2.17	0.44
2:B:107:TYR:HB3	2:B:109:PHE:CE2	2.53	0.43
1:G:457:LYS:HG2	1:G:493:ASP:HB3	2.00	0.43
1:G:92:ASP:N	1:G:92:ASP:OD1	2.50	0.43
1:C:190:ASN:OD1	1:C:190:ASN:N	2.40	0.43
1:G:400:ALA:O	1:G:403:VAL:HG22	2.19	0.43
1:A:101:GLN:O	1:A:105:GLN:HG2	2.18	0.43
1:A:251:ASN:OD1	1:A:252:GLY:N	2.51	0.43
2:B:55:ASN:HD22	2:B:56:GLY:N	2.15	0.43
1:G:324:ASP:HA	1:G:327:ILE:HG22	2.01	0.43
1:A:51:TYR:CE2	1:A:127:VAL:HG11	2.53	0.43
1:C:332:GLN:NE2	1:C:504:LEU:H	2.08	0.43
1:C:93:LYS:HD2	1:C:93:LYS:H	1.83	0.43
1:C:423:GLU:OE1	2:D:106:ALA:HA	2.18	0.43
1:C:156:ARG:HG3	1:C:308:ILE:HD11	2.00	0.43
1:G:254:ASN:OD1	1:G:254:ASN:N	2.52	0.43
1:C:332:GLN:HE22	1:C:504:LEU:N	2.08	0.43
1:G:172:HIS:NE2	1:G:194:ILE:O	2.42	0.43
1:G:271:LEU:HB2	1:G:274:TRP:HD1	1.84	0.43
1:C:374:GLN:HB3	1:C:421:TYR:HB3	2.00	0.43
1:C:92:ASP:OD1	1:C:92:ASP:N	2.49	0.42
1:E:156:ARG:HG3	1:E:308:ILE:HD11	2.01	0.42
2:H:55:ASN:HD22	2:H:56:GLY:H	1.63	0.42
2:H:30:LEU:HD13	2:H:80:VAL:HG23	2.01	0.42
1:E:162:ILE:HD13	1:E:196:PHE:HZ	1.84	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:158:VAL:O	1:E:162:ILE:HG12	2.20	0.42
1:G:423:GLU:CD	2:H:106:ALA:HA	2.39	0.42
1:C:338:LYS:HE2	1:C:484:VAL:HG22	2.01	0.42
1:A:254:ASN:N	1:A:254:ASN:OD1	2.52	0.42
1:E:415:ASP:O	1:E:418:LYS:HD3	2.19	0.42
2:F:105:SER:OG	2:F:106:ALA:N	2.51	0.42
1:G:136:LEU:O	1:G:140:ILE:HG13	2.19	0.42
1:A:438:LEU:HB3	1:A:502:LEU:HD21	2.02	0.42
1:C:212:ILE:HG23	1:C:212:ILE:O	2.20	0.42
1:C:254:ASN:N	1:C:254:ASN:OD1	2.53	0.42
1:E:58:GLY:H	1:E:65:VAL:HB	1.84	0.42
1:G:156:ARG:HG3	1:G:308:ILE:HD11	2.02	0.42
2:B:25:ALA:O	2:B:78:ASN:ND2	2.52	0.42
1:C:281:ALA:HB2	1:C:307:TRP:NE1	2.34	0.42
2:D:50:LEU:HD23	2:D:71:ILE:HB	2.01	0.42
2:H:89:PRO:O	2:H:92:THR:HG22	2.20	0.42
1:G:271:LEU:HB2	1:G:274:TRP:CD1	2.55	0.42
1:G:70:ASP:OD1	1:G:71:LYS:N	2.53	0.42
1:C:467:PHE:HB3	2:D:109:PHE:HB2	2.01	0.41
1:E:380:LEU:O	1:E:384:TYR:HB2	2.20	0.41
1:G:133:GLY:HA2	1:G:185:LYS:HD3	2.02	0.41
1:A:358:LYS:HE2	1:A:358:LYS:HB3	1.79	0.41
1:E:499:GLN:HG2	1:E:504:LEU:HA	2.01	0.41
1:G:380:LEU:O	1:G:384:TYR:HB2	2.20	0.41
1:E:339:LEU:O	1:E:339:LEU:HD13	2.20	0.41
1:E:92:ASP:N	1:E:92:ASP:OD1	2.52	0.41
2:F:38:PHE:CD2	2:F:48:LYS:HA	2.56	0.41
1:G:461:THR:HG22	1:G:472:VAL:HG21	2.03	0.41
1:A:190:ASN:OD1	1:A:190:ASN:N	2.41	0.41
1:A:384:TYR:OH	1:A:407:VAL:HG11	2.21	0.41
2:B:55:ASN:HD22	2:B:56:GLY:H	1.67	0.41
1:C:452:SER:N	1:C:462:GLU:OE1	2.49	0.41
1:G:141:ILE:O	1:G:331:ARG:NH1	2.53	0.41
1:A:481:LEU:HD13	1:A:485:ASP:HB2	2.02	0.41
1:G:267:TYR:OH	1:G:286:ARG:HA	2.19	0.41
1:E:243:LEU:HD23	1:E:243:LEU:HA	1.92	0.41
1:G:426:GLU:O	1:G:429:THR:HB	2.20	0.41
1:A:145:ARG:NH2	1:A:322:SER:HB2	2.36	0.41
1:A:398:LEU:HD13	1:A:398:LEU:C	2.41	0.41
1:A:92:ASP:OD1	1:A:92:ASP:N	2.49	0.41
1:G:108:HIS:O	1:G:111:ILE:HG13	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:328:LEU:HD23	1:G:486:LYS:HD3	2.03	0.41
1:A:284:LEU:HD13	1:A:305:HIS:CG	2.56	0.41
1:A:486:LYS:N	1:A:496:GLU:OE2	2.47	0.41
1:C:271:LEU:HA	1:C:272:PRO:HD3	1.90	0.41
1:C:343:ALA:HB3	1:C:501:LEU:HD21	2.03	0.41
1:G:108:HIS:CD2	1:G:110:ASN:HB2	2.54	0.41
1:G:504:LEU:HD23	1:G:505:CYS:N	2.36	0.41
2:D:55:ASN:ND2	2:D:56:GLY:N	2.68	0.41
1:E:251:ASN:OD1	1:E:252:GLY:N	2.54	0.41
1:A:112:MET:HA	1:A:131:TYR:OH	2.21	0.41
1:A:230:LYS:HD3	1:A:293:PRO:O	2.21	0.41
1:C:251:ASN:OD1	1:C:252:GLY:N	2.54	0.41
1:G:83:SER:HA	1:G:123:TYR:HD1	1.86	0.41
1:G:320:VAL:HA	1:G:321:PRO:HD2	1.92	0.41
1:C:426:GLU:O	1:C:430:VAL:HG23	2.20	0.41
1:C:46:ILE:HG23	1:C:49:ASP:HB2	2.03	0.41
1:G:140:ILE:HG22	1:G:327:ILE:CD1	2.51	0.41
1:A:347:MET:HG3	1:A:351:LEU:HD12	2.03	0.40
1:A:458:ILE:HB	1:A:492:VAL:HB	2.03	0.40
1:E:82:ILE:HB	1:E:124:PHE:HB2	2.02	0.40
1:G:110:ASN:HD22	1:G:160:SER:HG	1.60	0.40
1:G:459:SER:OG	1:G:462:GLU:HG3	2.21	0.40
1:C:101:GLN:O	1:C:105:GLN:HG2	2.21	0.40
1:E:417:ASP:OD1	1:E:417:ASP:N	2.48	0.40
2:H:3:VAL:HG13	2:H:28:PHE:CD1	2.56	0.40
2:B:38:PHE:CD2	2:B:48:LYS:HA	2.56	0.40
1:C:108:HIS:O	1:C:111:ILE:HG13	2.20	0.40
1:C:398:LEU:H	1:C:398:LEU:CD1	2.34	0.40
1:A:165:MET:HG3	1:A:196:PHE:CE2	2.57	0.40
1:C:80:LYS:HB2	1:C:80:LYS:HE3	1.95	0.40
2:D:87:LEU:HB3	2:D:122:VAL:HG21	2.04	0.40
1:G:336:THR:O	1:G:338:LYS:HG3	2.22	0.40
1:A:271:LEU:HA	1:A:272:PRO:HD3	1.89	0.40
1:C:417:ASP:N	1:C:417:ASP:OD1	2.54	0.40
2:D:92:THR:HB	2:D:122:VAL:H	1.86	0.40
2:D:50:LEU:HD12	2:D:59:LEU:HA	2.03	0.40
1:G:369:LYS:N	1:G:379:GLU:OE1	2.54	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	440/516 (85%)	416 (94%)	19 (4%)	5 (1%)	14	40
1	C	439/516 (85%)	420 (96%)	16 (4%)	3 (1%)	22	52
1	E	430/516 (83%)	415 (96%)	14 (3%)	1 (0%)	47	76
1	G	437/516 (85%)	416 (95%)	18 (4%)	3 (1%)	22	52
2	B	122/141 (86%)	114 (93%)	7 (6%)	1 (1%)	19	49
2	D	121/141 (86%)	112 (93%)	8 (7%)	1 (1%)	19	49
2	F	121/141 (86%)	114 (94%)	5 (4%)	2 (2%)	9	29
2	H	121/141 (86%)	110 (91%)	9 (7%)	2 (2%)	9	29
All	All	2231/2628 (85%)	2117 (95%)	96 (4%)	18 (1%)	19	49

All (18) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	334	GLN
1	A	336	THR
1	A	337	GLN
1	A	473	ASP
1	C	503	LYS
1	C	504	LEU
1	G	395	ALA
1	G	504	LEU
2	H	62	ALA
1	A	475	GLU
2	B	53	ASN
2	D	53	ASN
2	F	53	ASN
2	F	60	ASP
1	G	396	SER
2	H	53	ASN
1	E	469	VAL

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Mol	Chain	Res	Type
1	C	321	PRO

5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	350/448 (78%)	345 (99%)	5 (1%)	67 86
1	C	345/448 (77%)	337 (98%)	8 (2%)	50 78
1	E	349/448 (78%)	340 (97%)	9 (3%)	46 75
1	G	348/448 (78%)	342 (98%)	6 (2%)	60 83
2	B	96/116 (83%)	93 (97%)	3 (3%)	40 71
2	D	99/116 (85%)	97 (98%)	2 (2%)	55 80
2	F	97/116 (84%)	94 (97%)	3 (3%)	40 71
2	H	97/116 (84%)	93 (96%)	4 (4%)	30 61
All	All	1781/2256 (79%)	1741 (98%)	40 (2%)	52 78

All (40) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	176	LYS
1	A	196	PHE
1	A	391	LYS
1	A	398	LEU
1	A	467	PHE
2	B	19	LEU
2	B	55	ASN
2	B	110	LEU
1	C	131	TYR
1	C	173	ARG
1	C	196	PHE
1	C	280	SER
1	C	349	SER
1	C	370	ASN

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Mol	Chain	Res	Type
1	C	398	LEU
1	C	469	VAL
2	D	55	ASN
2	D	110	LEU
1	E	83	SER
1	E	196	PHE
1	E	328	LEU
1	E	339	LEU
1	E	365	HIS
1	E	398	LEU
1	E	467	PHE
1	E	502	LEU
1	E	505	CYS
2	F	45	GLU
2	F	55	ASN
2	F	57	VAL
1	G	196	PHE
1	G	339	LEU
1	G	398	LEU
1	G	428	VAL
1	G	440	ARG
1	G	469	VAL
2	H	19	LEU
2	H	51	CYS
2	H	55	ASN
2	H	72	SER

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (6) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	108	HIS
2	B	55	ASN
1	C	332	GLN
2	D	55	ASN
2	F	55	ASN
2	H	55	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 carbohydrates in this entry.

5.6 Ligand geometry [i](#)

Of 16 ligands modelled in this entry, 16 are monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

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	448/516 (86%)	0.32	30 (6%) 17 16	60, 107, 192, 296	1 (0%)
1	C	449/516 (87%)	0.45	43 (9%) 8 7	59, 104, 198, 345	1 (0%)
1	E	442/516 (85%)	0.41	35 (7%) 12 11	59, 106, 185, 287	1 (0%)
1	G	447/516 (86%)	0.33	30 (6%) 17 16	60, 104, 182, 289	1 (0%)
2	B	124/141 (87%)	0.72	21 (16%) 1 1	65, 102, 171, 199	0
2	D	123/141 (87%)	0.50	10 (8%) 12 10	64, 109, 192, 251	0
2	F	123/141 (87%)	0.33	5 (4%) 37 36	65, 88, 184, 267	0
2	H	123/141 (87%)	0.28	4 (3%) 46 45	62, 99, 159, 219	0
All	All	2279/2628 (86%)	0.39	178 (7%) 13 11	59, 105, 189, 345	4 (0%)

All (178) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	72	ILE	12.7
1	C	73	THR	7.8
1	E	72	ILE	7.6
1	A	72	ILE	7.4
1	C	131	TYR	7.1
1	C	47	PHE	6.2
1	C	49	ASP	5.9
1	G	73	THR	5.8
1	G	53	GLY	5.5
1	C	79	VAL	5.4
1	G	72	ILE	5.4
2	F	63	ASP	5.1
1	C	125	TYR	5.0
1	G	470	SER	4.7
1	E	45	ALA	4.7
1	E	62	PHE	4.6

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Mol	Chain	Res	Type	RSRZ
1	G	469	VAL	4.6
1	A	62	PHE	4.6
2	B	1	MET	4.5
1	C	66	ILE	4.5
1	C	45	ALA	4.4
2	B	84	MET	4.4
1	C	65	VAL	4.4
2	B	124	SER	4.3
1	G	62	PHE	4.2
1	G	140	ILE	4.2
1	E	176	LYS	4.1
1	C	67	LEU	4.1
1	E	77	CYS	4.0
1	C	126	LEU	4.0
1	E	47	PHE	3.9
2	D	87	LEU	3.8
1	A	196	PHE	3.7
1	A	170	ILE	3.7
2	B	92	THR	3.7
2	B	82	LEU	3.7
1	E	55	ARG	3.5
1	G	61	SER	3.5
1	C	118	PHE	3.5
1	C	71	LYS	3.4
1	A	49	ASP	3.4
2	B	119	GLN	3.4
2	D	120	VAL	3.4
1	E	158	VAL	3.4
1	E	61	SER	3.4
1	E	51	TYR	3.3
2	H	105	SER	3.3
1	G	427	PHE	3.3
2	D	66	LYS	3.2
1	C	477	TRP	3.1
1	A	243	LEU	3.1
2	H	65	ILE	3.1
2	B	91	ASP	3.0
1	C	411	LEU	3.0
1	G	170	ILE	3.0
1	G	126	LEU	3.0
1	G	155	ILE	3.0
2	D	65	ILE	3.0

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Mol	Chain	Res	Type	RSRZ
1	G	158	VAL	3.0
2	D	50	LEU	2.9
1	G	137	PHE	2.9
2	B	21	LEU	2.9
1	A	131	TYR	2.9
1	C	61	SER	2.9
1	G	54	GLN	2.9
1	G	477	TRP	2.9
1	E	125	TYR	2.8
1	G	302	ALA	2.8
1	A	191	ILE	2.8
1	C	360	LEU	2.8
1	E	351	LEU	2.8
1	A	256	TYR	2.8
1	C	81	VAL	2.8
1	A	158	VAL	2.8
1	C	469	VAL	2.8
1	C	76	GLU	2.7
1	A	198	LEU	2.7
1	C	197	GLY	2.7
1	A	81	VAL	2.7
1	C	180	LEU	2.7
1	A	79	VAL	2.7
1	G	55	ARG	2.7
2	D	95	TYR	2.6
1	E	175	LEU	2.6
1	E	196	PHE	2.6
2	D	124	SER	2.6
1	C	170	ILE	2.6
1	E	240	LEU	2.6
1	A	47	PHE	2.6
1	C	48	SER	2.6
1	A	54	GLN	2.6
1	C	162	ILE	2.6
1	C	367	MET	2.6
1	G	205	SER	2.6
2	B	30	LEU	2.5
2	D	30	LEU	2.5
1	C	492	VAL	2.5
2	D	121	THR	2.5
1	G	411	LEU	2.5
2	B	120	VAL	2.5

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Mol	Chain	Res	Type	RSRZ
1	A	169	LYS	2.5
1	C	384	TYR	2.5
1	C	223	LEU	2.5
1	E	114	LEU	2.5
1	A	162	ILE	2.5
2	F	19	LEU	2.5
1	G	431	ALA	2.5
1	E	131	TYR	2.5
1	E	162	ILE	2.5
1	E	504	LEU	2.5
2	D	96	SER	2.4
1	G	323	LEU	2.4
2	B	81	TYR	2.4
2	B	61	TYR	2.4
1	C	64	GLU	2.4
2	H	50	LEU	2.4
1	E	173	ARG	2.4
1	A	161	GLY	2.4
2	B	19	LEU	2.4
2	B	32	HIS	2.3
1	A	309	GLN	2.3
1	G	66	ILE	2.3
1	E	347	MET	2.3
1	C	151	ALA	2.3
1	G	196	PHE	2.3
1	E	130	VAL	2.3
1	E	49	ASP	2.3
1	E	299	ALA	2.3
1	G	162	ILE	2.3
1	E	71	LYS	2.3
1	E	74	GLY	2.3
1	A	411	LEU	2.3
1	A	284	LEU	2.3
1	A	289	LEU	2.3
1	E	50	ARG	2.3
1	E	421	TYR	2.3
1	G	175	LEU	2.2
2	B	110	LEU	2.2
1	A	175	LEU	2.2
1	G	166	HIS	2.2
1	G	472	VAL	2.2
1	G	193	ILE	2.2

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Mol	Chain	Res	Type	RSRZ
1	C	80	LYS	2.2
1	E	425	SER	2.2
1	C	390	MET	2.2
1	A	213	GLY	2.2
1	A	291	TYR	2.2
1	E	161	GLY	2.2
1	C	337	GLN	2.2
2	F	92	THR	2.2
1	C	62	PHE	2.1
2	F	61	TYR	2.1
1	C	381	ILE	2.1
1	E	401	SER	2.1
1	C	74	GLY	2.1
1	E	100	VAL	2.1
2	B	8	THR	2.1
1	C	155	ILE	2.1
2	B	65	ILE	2.1
1	A	181	LEU	2.1
1	C	77	CYS	2.1
1	A	171	VAL	2.1
1	G	141	ILE	2.1
1	A	390	MET	2.1
2	B	12	LEU	2.1
2	H	33	SER	2.1
1	A	73	THR	2.1
2	B	93	ALA	2.1
1	C	196	PHE	2.1
2	F	82	LEU	2.0
1	C	481	LEU	2.0
2	B	37	TRP	2.0
1	A	55	ARG	2.0
1	C	46	ILE	2.0
1	E	239	ILE	2.0
2	B	49	LEU	2.0
1	E	302	ALA	2.0
1	E	198	LEU	2.0

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 [i](#)

There are no carbohydrates 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
3	CA	C	601	1/1	0.82	0.14	96,96,96,96	0
3	CA	C	603	1/1	0.89	0.18	89,89,89,89	0
3	CA	G	604	1/1	0.91	0.15	90,90,90,90	0
3	CA	E	603	1/1	0.91	0.17	80,80,80,80	0
3	CA	A	604	1/1	0.96	0.15	94,94,94,94	0
3	CA	A	603	1/1	0.96	0.11	80,80,80,80	0
3	CA	G	603	1/1	0.96	0.20	79,79,79,79	0
3	CA	G	602	1/1	0.97	0.20	75,75,75,75	0
3	CA	C	604	1/1	0.97	0.12	82,82,82,82	0
3	CA	E	604	1/1	0.98	0.23	82,82,82,82	0
3	CA	G	601	1/1	0.98	0.15	100,100,100,100	0
3	CA	C	602	1/1	0.98	0.13	81,81,81,81	0
3	CA	E	602	1/1	0.98	0.17	75,75,75,75	0
3	CA	E	601	1/1	0.98	0.18	79,79,79,79	0
3	CA	A	602	1/1	0.99	0.21	81,81,81,81	0
3	CA	A	601	1/1	0.99	0.20	80,80,80,80	0

6.5 Other polymers [i](#)

There are no such residues in this entry.