Full wwPDB X-ray Structure Validation Report ⓘ

Jun 17, 2024 – 01:56 PM EDT

PDB ID	:	3GUW
Title	:	Crystal Structure of the TatD-like Protein (AF1765) from Archaeoglobus fulgidus, Northeast Structural Genomics Consortium Target GR121
Authors	:	Forouhar, F.; Su, M.; Seetharaman, J.; Fang, F.; Xiao, R.; Cunningham, K.; Ma, L.; Zhao, L.; Everett, J.K.; Nair, R.; Acton, T.B.; Rost, B.; Montelione, G.T.; Tong, L.; Hunt, J.F.; Northeast Structural Genomics Consortium (NESG)
Deposited on	:	2009-03-30
Resolution	:	3.20 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

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

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

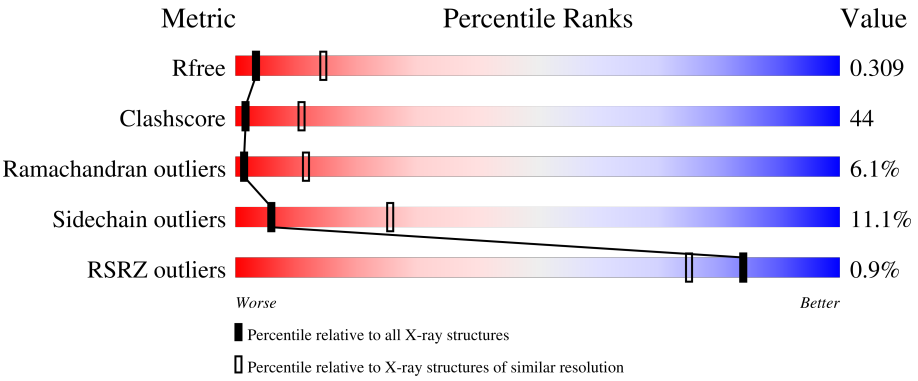
MolProbity	:	4.02b-467
Mogul	:	2022.3.0, CSD as543be (2022)
Xtriage (Phenix)	:	1.20.1
EDS	:	2.37.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)

1 Overall quality at a glance

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

The reported resolution of this entry is 3.20 Å.

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



Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1133 (3.20-3.20)
Clashscore	141614	1253 (3.20-3.20)
Ramachandran outliers	138981	1234 (3.20-3.20)
Sidechain outliers	138945	1233 (3.20-3.20)
RSRZ outliers	127900	1095 (3.20-3.20)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	261	% 28% 51% 10% 11%
1	B	261	% 30% 49% 10% 11%
1	C	261	% 28% 51% 10% 11%
1	D	261	28% 51% 10% 11%

2 Entry composition (i)

There are 2 unique types of molecules in this entry. The entry contains 7456 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 uncharacterized protein AF_1765.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	233	Total	C	N	O	S	Se	0	0	0
			1862	1194	311	347	4	6			
1	B	233	Total	C	N	O	S	Se	0	0	0
			1862	1194	311	347	4	6			
1	C	233	Total	C	N	O	S	Se	0	0	0
			1862	1194	311	347	4	6			
1	D	233	Total	C	N	O	S	Se	0	0	0
			1862	1194	311	347	4	6			

There are 44 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	251	ALA	-	expression tag	UNP O28509
A	252	ALA	-	expression tag	UNP O28509
A	253	ALA	-	expression tag	UNP O28509
A	254	LEU	-	expression tag	UNP O28509
A	255	GLU	-	expression tag	UNP O28509
A	256	HIS	-	expression tag	UNP O28509
A	257	HIS	-	expression tag	UNP O28509
A	258	HIS	-	expression tag	UNP O28509
A	259	HIS	-	expression tag	UNP O28509
A	260	HIS	-	expression tag	UNP O28509
A	261	HIS	-	expression tag	UNP O28509
B	251	ALA	-	expression tag	UNP O28509
B	252	ALA	-	expression tag	UNP O28509
B	253	ALA	-	expression tag	UNP O28509
B	254	LEU	-	expression tag	UNP O28509
B	255	GLU	-	expression tag	UNP O28509
B	256	HIS	-	expression tag	UNP O28509
B	257	HIS	-	expression tag	UNP O28509
B	258	HIS	-	expression tag	UNP O28509
B	259	HIS	-	expression tag	UNP O28509
B	260	HIS	-	expression tag	UNP O28509

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Chain	Residue	Modelled	Actual	Comment	Reference
B	261	HIS	-	expression tag	UNP O28509
C	251	ALA	-	expression tag	UNP O28509
C	252	ALA	-	expression tag	UNP O28509
C	253	ALA	-	expression tag	UNP O28509
C	254	LEU	-	expression tag	UNP O28509
C	255	GLU	-	expression tag	UNP O28509
C	256	HIS	-	expression tag	UNP O28509
C	257	HIS	-	expression tag	UNP O28509
C	258	HIS	-	expression tag	UNP O28509
C	259	HIS	-	expression tag	UNP O28509
C	260	HIS	-	expression tag	UNP O28509
C	261	HIS	-	expression tag	UNP O28509
D	251	ALA	-	expression tag	UNP O28509
D	252	ALA	-	expression tag	UNP O28509
D	253	ALA	-	expression tag	UNP O28509
D	254	LEU	-	expression tag	UNP O28509
D	255	GLU	-	expression tag	UNP O28509
D	256	HIS	-	expression tag	UNP O28509
D	257	HIS	-	expression tag	UNP O28509
D	258	HIS	-	expression tag	UNP O28509
D	259	HIS	-	expression tag	UNP O28509
D	260	HIS	-	expression tag	UNP O28509
D	261	HIS	-	expression tag	UNP O28509

- Molecule 2 is ZINC ION (three-letter code: ZN) (formula: Zn).

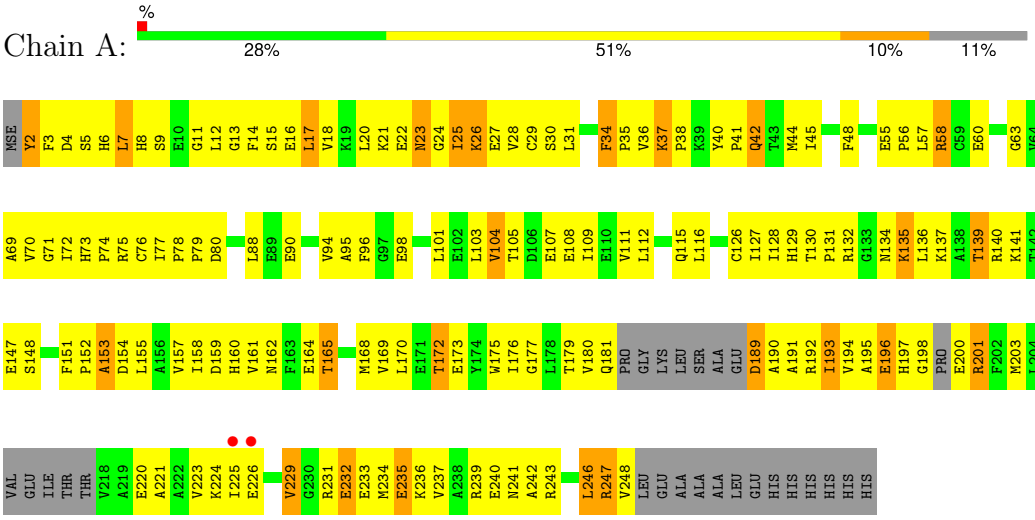
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	2	Total Zn 2 2	0	0
2	B	2	Total Zn 2 2	0	0
2	C	2	Total Zn 2 2	0	0
2	D	2	Total Zn 2 2	0	0

3 Residue-property plots (i)

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

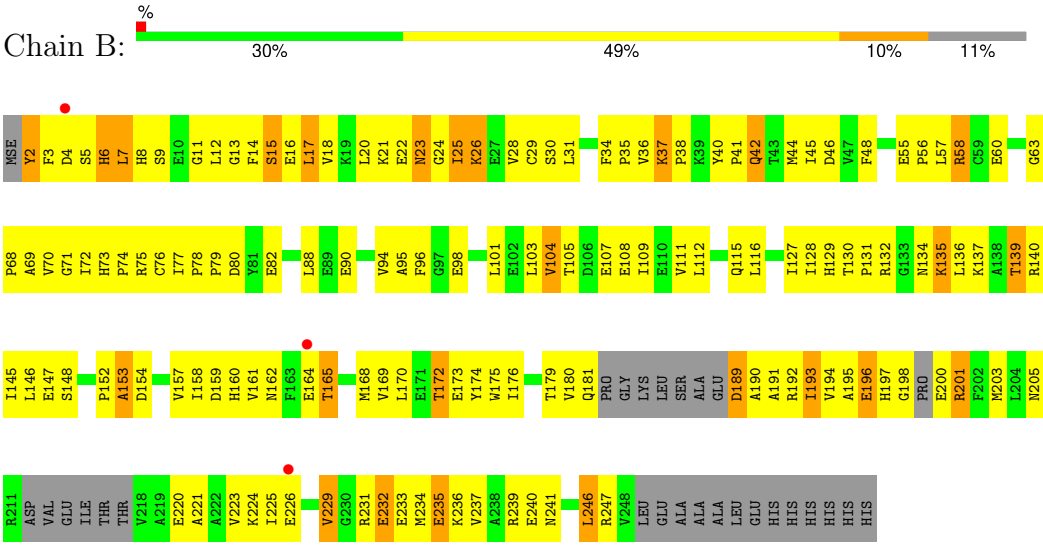
• Molecule 1: uncharacterized protein AF_1765

Chain A:



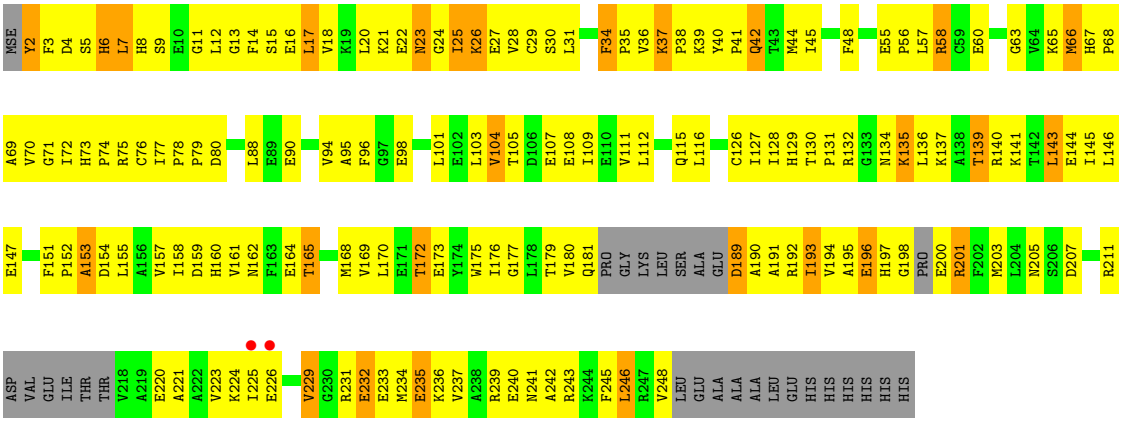
• Molecule 1: uncharacterized protein AF_1765

Chain B:



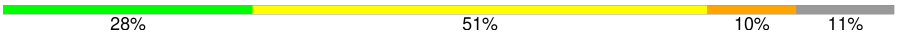
• Molecule 1: uncharacterized protein AF_1765

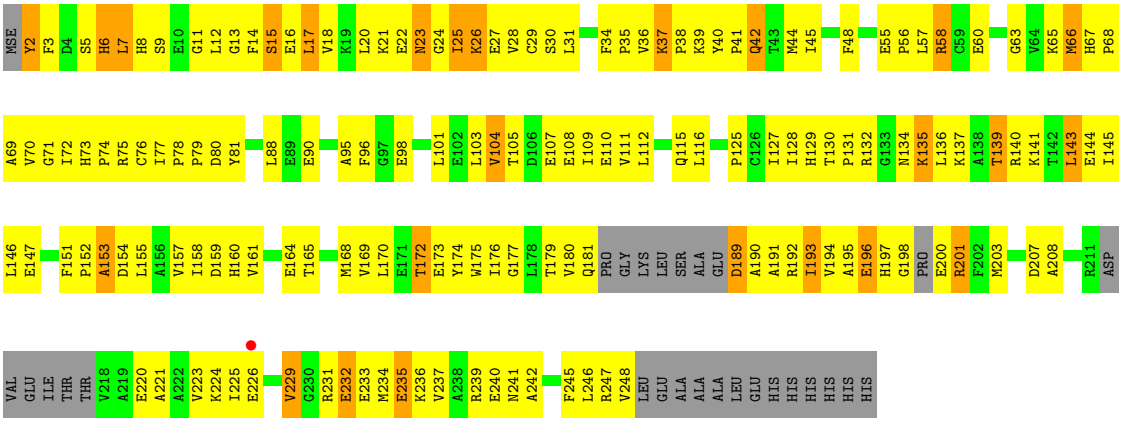
Chain C:



• Molecule 1: uncharacterized protein AF_1765

Chain D:





4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1	Depositor
Cell constants a, b, c, α, β, γ	40.07Å 72.19Å 89.16Å 89.87° 89.74° 82.73°	Depositor
Resolution (Å)	19.81 – 3.20 29.73 – 3.16	Depositor EDS
% Data completeness (in resolution range)	78.9 (19.81-3.20) 93.2 (29.73-3.16)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	0.07	Depositor
$< I/\sigma(I) >$ [1]	2.08 (at 3.18Å)	Xtriage
Refinement program	CNS 1.2 & XtalView, REFMAC	Depositor
R, R_{free}	0.241 , 0.292 0.259 , 0.309	Depositor DCC
R_{free} test set	3069 reflections (9.44%)	wwPDB-VP
Wilson B-factor (Å^2)	58.9	Xtriage
Anisotropy	0.488	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.31 , 26.3	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	0.448 for -h,-k,l	Xtriage
F_o,F_c correlation	0.85	EDS
Total number of atoms	7456	wwPDB-VP
Average B, all atoms (Å^2)	52.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 8.27% of the height of the origin peak. No significant pseudotranslation is detected.*

[1]Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: ZN

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	0.50	0/1892	0.60	0/2542
1	B	0.50	0/1892	0.61	0/2542
1	C	0.50	0/1892	0.61	0/2542
1	D	0.51	0/1892	0.60	0/2542
All	All	0.50	0/7568	0.60	0/10168

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	1862	0	1857	173	0
1	B	1862	0	1857	167	0
1	C	1862	0	1857	169	0
1	D	1862	0	1857	172	0
2	A	2	0	0	0	0
2	B	2	0	0	0	0
2	C	2	0	0	0	0
2	D	2	0	0	0	0
All	All	7456	0	7428	662	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 44.

All (662) 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:161:VAL:HG21	1:A:176:ILE:HG23	1.20	1.17
1:D:161:VAL:HG21	1:D:176:ILE:HG23	1.24	1.16
1:C:161:VAL:HG21	1:C:176:ILE:HG23	1.21	1.15
1:B:161:VAL:HG21	1:B:176:ILE:HG23	1.26	1.12
1:A:40:TYR:HB3	1:A:42:GLN:HE21	1.17	1.08
1:C:2:TYR:HA	1:C:239:ARG:HD3	1.33	1.06
1:C:137:LYS:HD2	1:C:140:ARG:HH22	1.21	1.06
1:C:40:TYR:HB3	1:C:42:GLN:HE21	1.21	1.05
1:B:40:TYR:HB3	1:B:42:GLN:HE21	1.18	1.03
1:B:137:LYS:HD2	1:B:140:ARG:HH22	1.23	1.03
1:D:157:VAL:HG22	1:D:175:TRP:HB2	1.40	1.03
1:D:40:TYR:HB3	1:D:42:GLN:HE21	1.19	1.02
1:A:137:LYS:HD2	1:A:140:ARG:HH22	1.21	1.01
1:B:157:VAL:HG22	1:B:175:TRP:HB2	1.39	1.01
1:A:157:VAL:HG22	1:A:175:TRP:HB2	1.42	1.00
1:D:137:LYS:HD2	1:D:140:ARG:HH22	1.24	1.00
1:A:2:TYR:HA	1:A:239:ARG:HD3	1.41	1.00
1:D:131:PRO:O	1:D:135:LYS:HE3	1.61	0.99
1:B:131:PRO:O	1:B:135:LYS:HE3	1.62	0.98
1:B:2:TYR:HA	1:B:239:ARG:HD3	1.45	0.98
1:C:157:VAL:HG22	1:C:175:TRP:HB2	1.43	0.95
1:B:239:ARG:HD2	1:B:240:GLU:HG3	1.49	0.93
1:C:131:PRO:O	1:C:135:LYS:HE3	1.67	0.93
1:A:131:PRO:O	1:A:135:LYS:HE3	1.68	0.92
1:C:239:ARG:HD2	1:C:240:GLU:HG3	1.52	0.91
1:A:239:ARG:HD2	1:A:240:GLU:HG3	1.51	0.91
1:D:239:ARG:HD2	1:D:240:GLU:HG3	1.50	0.91
1:D:2:TYR:HA	1:D:239:ARG:HD3	1.56	0.85
1:A:34:PHE:HB2	1:A:44:MSE:HE1	1.62	0.81
1:C:37:LYS:HB2	1:C:37:LYS:NZ	1.95	0.80
1:C:161:VAL:CG2	1:C:176:ILE:HG23	2.10	0.79
1:B:34:PHE:HB2	1:B:44:MSE:HE1	1.64	0.79
1:D:34:PHE:HB2	1:D:44:MSE:HE1	1.64	0.79
1:A:37:LYS:HB2	1:A:37:LYS:NZ	1.99	0.78
1:B:37:LYS:HB2	1:B:37:LYS:NZ	1.99	0.78
1:C:34:PHE:HB2	1:C:44:MSE:HE1	1.63	0.77
1:C:223:VAL:HA	1:C:226:GLU:HB3	1.66	0.77

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:37:LYS:NZ	1:D:37:LYS:HB2	1.98	0.77
1:A:161:VAL:CG2	1:A:176:ILE:HG23	2.10	0.77
1:D:223:VAL:HA	1:D:226:GLU:HB3	1.65	0.77
1:A:223:VAL:HA	1:A:226:GLU:HB3	1.66	0.76
1:B:223:VAL:HA	1:B:226:GLU:HB3	1.66	0.76
1:D:66:MSE:HE3	1:D:68:PRO:HD3	1.69	0.75
1:D:161:VAL:CG2	1:D:176:ILE:HG23	2.13	0.73
1:B:190:ALA:HB1	1:B:225:ILE:HD11	1.70	0.73
1:B:108:GLU:O	1:B:111:VAL:HG12	1.90	0.72
1:A:180:VAL:HB	1:A:221:ALA:HB1	1.72	0.71
1:D:160:HIS:HA	1:D:179:THR:CG2	2.21	0.71
1:D:190:ALA:HB1	1:D:225:ILE:HD11	1.73	0.71
1:B:66:MSE:HE3	1:B:68:PRO:HD3	1.72	0.71
1:A:160:HIS:HA	1:A:179:THR:CG2	2.21	0.70
1:C:180:VAL:HB	1:C:221:ALA:HB1	1.73	0.70
1:C:160:HIS:HA	1:C:179:THR:CG2	2.22	0.70
1:B:180:VAL:HB	1:B:221:ALA:HB1	1.72	0.70
1:B:48:PHE:CE2	1:B:70:VAL:HG23	2.27	0.70
1:A:190:ALA:HB1	1:A:225:ILE:HD11	1.73	0.70
1:C:190:ALA:HB1	1:C:225:ILE:HD11	1.72	0.70
1:B:160:HIS:HA	1:B:179:THR:CG2	2.21	0.70
1:D:128:ILE:H	1:D:128:ILE:HD12	1.57	0.69
1:D:180:VAL:HB	1:D:221:ALA:HB1	1.74	0.69
1:A:48:PHE:CE2	1:A:70:VAL:HG23	2.27	0.69
1:A:72:ILE:HD11	1:A:77:ILE:HA	1.72	0.69
1:C:66:MSE:HE3	1:C:68:PRO:HD3	1.75	0.69
1:B:161:VAL:CG2	1:B:176:ILE:HG23	2.15	0.69
1:C:101:LEU:HD22	1:C:109:ILE:HD13	1.75	0.68
1:C:72:ILE:HD11	1:C:77:ILE:HA	1.73	0.68
1:B:105:THR:O	1:B:109:ILE:HG12	1.94	0.68
1:A:108:GLU:O	1:A:111:VAL:HG12	1.94	0.68
1:D:48:PHE:CE2	1:D:70:VAL:HG23	2.29	0.68
1:C:48:PHE:CE2	1:C:70:VAL:HG23	2.28	0.67
1:A:160:HIS:HA	1:A:179:THR:HG22	1.76	0.67
1:A:4:ASP:OD1	1:A:205:ASN:HA	1.94	0.67
1:C:8:HIS:HE1	1:C:98:GLU:HG3	1.60	0.67
1:D:2:TYR:HD2	1:D:2:TYR:N	1.92	0.67
1:D:108:GLU:O	1:D:111:VAL:HG12	1.93	0.67
1:A:80:ASP:HB2	1:D:232:GLU:OE1	1.95	0.67
1:C:160:HIS:HA	1:C:179:THR:HG22	1.77	0.67
1:D:40:TYR:HB3	1:D:42:GLN:NE2	2.03	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:232:GLU:O	1:C:234:MSE:N	2.28	0.67
1:C:105:THR:HG22	1:C:107:GLU:H	1.59	0.67
1:B:128:ILE:H	1:B:128:ILE:HD12	1.60	0.67
1:A:8:HIS:HE1	1:A:98:GLU:HG3	1.60	0.66
1:D:72:ILE:HD11	1:D:77:ILE:HA	1.77	0.66
1:A:66:MSE:HE3	1:A:68:PRO:HD3	1.76	0.66
1:C:108:GLU:O	1:C:111:VAL:HG12	1.95	0.66
1:A:105:THR:HG22	1:A:107:GLU:H	1.59	0.66
1:A:232:GLU:O	1:A:234:MSE:N	2.28	0.66
1:A:40:TYR:HB3	1:A:42:GLN:NE2	2.02	0.66
1:B:72:ILE:HD11	1:B:77:ILE:HA	1.78	0.66
1:D:105:THR:O	1:D:109:ILE:HG12	1.95	0.66
1:B:2:TYR:HA	1:B:239:ARG:CD	2.21	0.66
1:D:160:HIS:HA	1:D:179:THR:HG22	1.77	0.66
1:A:101:LEU:HD22	1:A:109:ILE:HD13	1.77	0.66
1:C:197:HIS:ND1	1:C:198:GLY:N	2.45	0.65
1:B:160:HIS:HA	1:B:179:THR:HG22	1.77	0.65
1:B:232:GLU:O	1:B:234:MSE:N	2.30	0.65
1:D:105:THR:HG22	1:D:107:GLU:H	1.61	0.65
1:D:232:GLU:O	1:D:234:MSE:N	2.30	0.65
1:C:72:ILE:CD1	1:C:78:PRO:HD2	2.27	0.65
1:A:105:THR:O	1:A:109:ILE:HG12	1.97	0.64
1:C:48:PHE:CD2	1:C:70:VAL:HG23	2.32	0.64
1:D:8:HIS:HE1	1:D:98:GLU:HG3	1.62	0.64
1:B:14:PHE:O	1:B:18:VAL:HG23	1.98	0.64
1:C:42:GLN:HG3	1:D:42:GLN:HG3	1.80	0.64
1:C:105:THR:O	1:C:109:ILE:HG12	1.96	0.64
1:B:38:PRO:HB2	1:B:78:PRO:HB3	1.79	0.64
1:C:72:ILE:HD11	1:C:78:PRO:HD2	1.78	0.64
1:A:72:ILE:HD11	1:A:78:PRO:HD2	1.80	0.64
1:A:197:HIS:ND1	1:A:198:GLY:N	2.45	0.64
1:A:72:ILE:CD1	1:A:78:PRO:HD2	2.28	0.63
1:B:8:HIS:HE1	1:B:98:GLU:HG3	1.63	0.63
1:B:12:LEU:HD23	1:B:16:GLU:OE1	1.98	0.63
1:A:48:PHE:CD2	1:A:70:VAL:HG23	2.34	0.63
1:D:37:LYS:HB2	1:D:37:LYS:HZ2	1.63	0.63
1:D:48:PHE:CD2	1:D:70:VAL:HG23	2.34	0.63
1:A:128:ILE:HD12	1:A:128:ILE:H	1.64	0.63
1:C:20:LEU:HG	1:C:25:ILE:HB	1.81	0.63
1:A:7:LEU:O	1:A:7:LEU:HD23	1.99	0.63
1:B:105:THR:HG22	1:B:107:GLU:H	1.62	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2:TYR:N	1:D:2:TYR:CD2	2.66	0.63
1:A:141:LYS:O	1:A:145:ILE:HG12	1.99	0.63
1:B:31:LEU:HD12	1:B:98:GLU:HG2	1.81	0.63
1:B:239:ARG:CD	1:B:240:GLU:HG3	2.27	0.63
1:A:73:HIS:HD2	1:A:75:ARG:H	1.47	0.62
1:A:14:PHE:O	1:A:18:VAL:HG23	1.99	0.62
1:D:101:LEU:HD22	1:D:109:ILE:HD13	1.79	0.62
1:D:197:HIS:ND1	1:D:198:GLY:N	2.47	0.62
1:D:229:VAL:CG2	1:D:231:ARG:HB3	2.30	0.62
1:B:40:TYR:HB3	1:B:42:GLN:NE2	2.02	0.62
1:C:7:LEU:O	1:C:7:LEU:HD23	1.99	0.62
1:B:197:HIS:ND1	1:B:198:GLY:N	2.47	0.62
1:D:38:PRO:HB2	1:D:78:PRO:HB3	1.80	0.62
1:A:38:PRO:HB2	1:A:78:PRO:HB3	1.81	0.62
1:C:2:TYR:HA	1:C:239:ARG:CD	2.20	0.62
1:C:14:PHE:O	1:C:18:VAL:HG23	1.99	0.62
1:A:3:PHE:CD2	1:A:27:GLU:HB3	2.34	0.62
1:C:128:ILE:HD12	1:C:128:ILE:H	1.65	0.62
1:B:48:PHE:CD2	1:B:70:VAL:HG23	2.33	0.61
1:C:141:LYS:O	1:C:145:ILE:HG12	2.00	0.61
1:A:20:LEU:HG	1:A:25:ILE:HB	1.82	0.61
1:B:229:VAL:CG2	1:B:231:ARG:HB3	2.31	0.61
1:C:73:HIS:HD2	1:C:75:ARG:H	1.46	0.61
1:C:144:GLU:O	1:C:147:GLU:HB3	2.00	0.61
1:D:38:PRO:HD3	1:D:76:CYS:HB2	1.83	0.61
1:B:72:ILE:HD11	1:B:78:PRO:HD2	1.82	0.61
1:A:239:ARG:CD	1:A:240:GLU:HG3	2.30	0.61
1:C:40:TYR:HB3	1:C:42:GLN:NE2	2.05	0.61
1:C:239:ARG:CD	1:C:240:GLU:HG3	2.30	0.60
1:D:12:LEU:HD23	1:D:16:GLU:OE1	2.01	0.60
1:B:73:HIS:HD2	1:B:75:ARG:H	1.50	0.60
1:D:14:PHE:O	1:D:18:VAL:HG23	2.00	0.60
1:D:72:ILE:HD11	1:D:78:PRO:HD2	1.83	0.60
1:B:2:TYR:N	1:B:2:TYR:HD2	1.99	0.60
1:B:144:GLU:O	1:B:147:GLU:HB3	2.02	0.60
1:C:38:PRO:HB2	1:C:78:PRO:HB3	1.82	0.60
1:D:31:LEU:HD12	1:D:98:GLU:HG2	1.84	0.60
1:B:72:ILE:CD1	1:B:78:PRO:HD2	2.31	0.60
1:D:72:ILE:CD1	1:D:78:PRO:HD2	2.32	0.60
1:B:157:VAL:HG22	1:B:175:TRP:CB	2.24	0.60
1:C:4:ASP:OD1	1:C:205:ASN:HA	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:157:VAL:HG22	1:D:175:TRP:CB	2.25	0.60
1:B:101:LEU:HD22	1:B:109:ILE:HD13	1.83	0.59
1:D:20:LEU:HG	1:D:25:ILE:HB	1.84	0.59
1:D:73:HIS:HD2	1:D:75:ARG:H	1.49	0.59
1:D:239:ARG:CD	1:D:240:GLU:HG3	2.28	0.59
1:A:31:LEU:HD12	1:A:98:GLU:HG2	1.84	0.59
1:D:141:LYS:O	1:D:145:ILE:HG12	2.03	0.59
1:C:3:PHE:CD2	1:C:27:GLU:HB3	2.38	0.59
1:D:45:ILE:O	1:D:48:PHE:HB2	2.03	0.58
1:A:42:GLN:HG3	1:B:42:GLN:HG3	1.85	0.58
1:C:229:VAL:CG2	1:C:231:ARG:HB3	2.33	0.58
1:A:229:VAL:CG2	1:A:231:ARG:HB3	2.33	0.58
1:A:73:HIS:CD2	1:A:75:ARG:H	2.21	0.58
1:B:141:LYS:O	1:B:145:ILE:HG12	2.03	0.58
1:C:73:HIS:CD2	1:C:75:ARG:H	2.21	0.58
1:C:141:LYS:NZ	1:C:145:ILE:HD11	2.19	0.58
1:C:37:LYS:HB2	1:C:37:LYS:HZ3	1.68	0.57
1:A:2:TYR:HD2	1:A:2:TYR:N	2.02	0.57
1:B:20:LEU:HG	1:B:25:ILE:HB	1.85	0.57
1:A:37:LYS:HB2	1:A:37:LYS:HZ2	1.68	0.57
1:B:2:TYR:N	1:B:2:TYR:CD2	2.72	0.57
1:B:38:PRO:HD3	1:B:76:CYS:HB2	1.85	0.57
1:C:12:LEU:HD23	1:C:16:GLU:OE1	2.05	0.57
1:C:37:LYS:HB2	1:C:37:LYS:HZ2	1.67	0.57
1:A:137:LYS:HD2	1:A:140:ARG:NH2	2.06	0.57
1:A:2:TYR:N	1:A:2:TYR:CD2	2.73	0.57
1:A:144:GLU:O	1:A:147:GLU:HB3	2.05	0.57
1:C:38:PRO:HD3	1:C:76:CYS:HB2	1.86	0.57
1:D:7:LEU:HD23	1:D:7:LEU:O	2.05	0.57
1:D:141:LYS:NZ	1:D:145:ILE:HD11	2.20	0.56
1:B:7:LEU:HD23	1:B:7:LEU:O	2.05	0.56
1:C:45:ILE:O	1:C:48:PHE:HB2	2.05	0.56
1:D:3:PHE:HB3	1:D:239:ARG:O	2.05	0.56
1:A:127:ILE:HD12	1:A:127:ILE:N	2.21	0.56
1:C:31:LEU:HD12	1:C:98:GLU:HG2	1.87	0.56
1:D:73:HIS:CG	1:D:74:PRO:HD2	2.41	0.56
1:B:21:LYS:HG3	1:B:63:GLY:HA3	1.87	0.56
1:A:242:ALA:O	1:A:246:LEU:HB2	2.06	0.56
1:A:141:LYS:NZ	1:A:145:ILE:HD11	2.20	0.56
1:B:37:LYS:HB2	1:B:37:LYS:HZ2	1.68	0.56
1:A:2:TYR:HD1	1:A:223:VAL:HG12	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:65:LYS:HE2	1:B:67:HIS:CE1	2.41	0.56
1:D:144:GLU:O	1:D:147:GLU:HB3	2.06	0.56
1:B:45:ILE:O	1:B:48:PHE:HB2	2.06	0.55
1:B:3:PHE:HB3	1:B:239:ARG:O	2.06	0.55
1:B:141:LYS:NZ	1:B:145:ILE:HD11	2.21	0.55
1:D:73:HIS:CD2	1:D:75:ARG:H	2.24	0.55
1:A:38:PRO:HD3	1:A:76:CYS:HB2	1.87	0.55
1:C:3:PHE:HB3	1:C:239:ARG:O	2.05	0.55
1:C:65:LYS:HE2	1:C:67:HIS:CE1	2.42	0.55
1:D:2:TYR:CD1	1:D:223:VAL:HG12	2.42	0.55
1:A:55:GLU:OE2	1:A:58:ARG:NH1	2.40	0.55
1:A:12:LEU:HD23	1:A:16:GLU:OE1	2.06	0.55
1:B:73:HIS:CD2	1:B:75:ARG:H	2.25	0.55
1:C:170:LEU:C	1:C:172:THR:H	2.10	0.55
1:C:175:TRP:HZ3	1:C:241:ASN:ND2	2.05	0.55
1:A:170:LEU:C	1:A:172:THR:H	2.09	0.55
1:C:127:ILE:N	1:C:127:ILE:HD12	2.21	0.55
1:C:226:GLU:CD	1:C:239:ARG:HB2	2.27	0.55
1:D:108:GLU:HA	1:D:111:VAL:HG12	1.89	0.55
1:B:108:GLU:HA	1:B:111:VAL:HG12	1.89	0.55
1:B:160:HIS:HA	1:B:179:THR:HG21	1.89	0.55
1:D:65:LYS:HE2	1:D:67:HIS:CE1	2.41	0.55
1:D:160:HIS:HA	1:D:179:THR:HG21	1.89	0.55
1:C:137:LYS:HD2	1:C:140:ARG:NH2	2.06	0.54
1:A:105:THR:HB	1:A:108:GLU:HG3	1.89	0.54
1:D:21:LYS:HG3	1:D:63:GLY:HA3	1.88	0.54
1:A:160:HIS:HA	1:A:179:THR:HG21	1.90	0.54
1:B:73:HIS:CG	1:B:74:PRO:HD2	2.42	0.54
1:C:237:VAL:C	1:C:241:ASN:HB2	2.27	0.54
1:B:55:GLU:N	1:B:56:PRO:HD2	2.23	0.54
1:A:13:GLY:HA3	1:B:16:GLU:CD	2.28	0.54
1:A:37:LYS:HB2	1:A:37:LYS:HZ3	1.73	0.54
1:D:170:LEU:C	1:D:172:THR:H	2.11	0.54
1:A:157:VAL:HG22	1:A:175:TRP:CB	2.28	0.54
1:A:157:VAL:HG11	1:A:203:MSE:HE2	1.90	0.54
1:A:237:VAL:C	1:A:241:ASN:HB2	2.27	0.54
1:D:226:GLU:CD	1:D:239:ARG:HB2	2.29	0.54
1:B:170:LEU:C	1:B:172:THR:H	2.10	0.53
1:C:57:LEU:HD23	1:C:60:GLU:OE2	2.08	0.53
1:C:21:LYS:HG3	1:C:63:GLY:HA3	1.91	0.53
1:C:108:GLU:HA	1:C:111:VAL:HG12	1.90	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:130:THR:HG22	1:D:135:LYS:HE2	1.91	0.53
1:A:45:ILE:O	1:A:48:PHE:HB2	2.09	0.53
1:A:108:GLU:HA	1:A:111:VAL:HG12	1.91	0.53
1:C:157:VAL:HG22	1:C:175:TRP:CB	2.28	0.53
1:D:55:GLU:N	1:D:56:PRO:HD2	2.24	0.53
1:A:16:GLU:OE2	1:B:15:SER:HB3	2.08	0.53
1:B:226:GLU:CD	1:B:239:ARG:HB2	2.28	0.53
1:B:237:VAL:C	1:B:241:ASN:HB2	2.29	0.53
1:A:57:LEU:HD23	1:A:60:GLU:OE2	2.09	0.52
1:A:226:GLU:CD	1:A:239:ARG:HB2	2.28	0.52
1:B:190:ALA:O	1:B:193:ILE:HD11	2.10	0.52
1:C:103:LEU:O	1:C:104:VAL:HG12	2.10	0.52
1:C:105:THR:HB	1:C:108:GLU:HG3	1.92	0.52
1:C:160:HIS:HA	1:C:179:THR:HG21	1.90	0.52
1:C:243:ARG:HB3	1:C:248:VAL:HG13	1.91	0.52
1:D:116:LEU:HD13	1:D:146:LEU:CD1	2.39	0.52
1:A:65:LYS:HE2	1:A:67:HIS:CE1	2.44	0.52
1:B:116:LEU:HD13	1:B:146:LEU:CD1	2.39	0.52
1:D:237:VAL:C	1:D:241:ASN:HB2	2.29	0.52
1:A:175:TRP:HZ3	1:A:241:ASN:ND2	2.08	0.52
1:A:9:SER:HG	1:A:30:SER:CB	2.23	0.52
1:B:103:LEU:O	1:B:104:VAL:HG12	2.10	0.52
1:B:111:VAL:O	1:B:115:GLN:HG3	2.10	0.52
1:C:55:GLU:OE2	1:C:58:ARG:NH1	2.43	0.52
1:B:70:VAL:O	1:B:96:PHE:HA	2.10	0.52
1:B:105:THR:HB	1:B:108:GLU:HG3	1.91	0.52
1:D:137:LYS:HD2	1:D:140:ARG:NH2	2.08	0.52
1:A:70:VAL:O	1:A:96:PHE:HA	2.10	0.52
1:A:103:LEU:O	1:A:104:VAL:HG12	2.09	0.52
1:A:131:PRO:O	1:A:135:LYS:HB2	2.09	0.52
1:B:200:GLU:HA	1:B:200:GLU:OE1	2.10	0.51
1:B:226:GLU:OE2	1:B:239:ARG:HA	2.11	0.51
1:C:5:SER:HA	1:C:29:CYS:HB3	1.91	0.51
1:B:190:ALA:HB1	1:B:225:ILE:CD1	2.39	0.51
1:C:73:HIS:CG	1:C:74:PRO:HD2	2.46	0.51
1:C:17:LEU:HD12	1:C:58:ARG:NH2	2.25	0.51
1:C:157:VAL:HG11	1:C:203:MSE:HE2	1.93	0.51
1:D:2:TYR:HB3	1:D:239:ARG:HG3	1.91	0.51
1:D:5:SER:HA	1:D:29:CYS:HB3	1.93	0.51
1:B:175:TRP:HZ3	1:B:241:ASN:ND2	2.08	0.51
1:D:2:TYR:HD1	1:D:223:VAL:HG12	1.73	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:17:LEU:HD12	1:A:58:ARG:NH2	2.25	0.51
1:D:141:LYS:HZ2	1:D:145:ILE:HD11	1.76	0.51
1:D:157:VAL:HG11	1:D:203:MSE:HE2	1.92	0.51
1:D:226:GLU:OE2	1:D:239:ARG:HA	2.11	0.51
1:B:157:VAL:HG11	1:B:203:MSE:HE2	1.92	0.51
1:D:103:LEU:O	1:D:104:VAL:HG12	2.10	0.51
1:C:70:VAL:O	1:C:96:PHE:HA	2.11	0.51
1:C:116:LEU:HD13	1:C:146:LEU:CD1	2.40	0.51
1:D:175:TRP:HZ3	1:D:241:ASN:ND2	2.07	0.51
1:A:243:ARG:HB3	1:A:248:VAL:HG13	1.94	0.50
1:B:12:LEU:HA	1:B:16:GLU:OE1	2.12	0.50
1:D:7:LEU:O	1:D:30:SER:HA	2.12	0.50
1:D:234:MSE:O	1:D:237:VAL:HG22	2.11	0.50
1:B:5:SER:HA	1:B:29:CYS:HB3	1.93	0.50
1:C:111:VAL:O	1:C:115:GLN:HG3	2.10	0.50
1:D:128:ILE:HD12	1:D:128:ILE:N	2.25	0.50
1:A:21:LYS:HG3	1:A:63:GLY:HA3	1.93	0.50
1:B:130:THR:HG22	1:B:135:LYS:HE2	1.92	0.50
1:C:192:ARG:O	1:C:195:ALA:HB3	2.12	0.50
1:D:70:VAL:O	1:D:96:PHE:HA	2.12	0.50
1:D:200:GLU:OE1	1:D:200:GLU:HA	2.10	0.50
1:A:116:LEU:HD13	1:A:146:LEU:CD1	2.42	0.50
1:C:12:LEU:HA	1:C:16:GLU:OE1	2.12	0.50
1:C:31:LEU:HD22	1:C:69:ALA:HB3	1.93	0.50
1:D:12:LEU:HA	1:D:16:GLU:OE1	2.12	0.50
1:C:16:GLU:CD	1:D:13:GLY:HA3	2.32	0.50
1:D:105:THR:HB	1:D:108:GLU:HG3	1.93	0.50
1:D:190:ALA:O	1:D:193:ILE:HD11	2.11	0.50
1:A:31:LEU:HD22	1:A:69:ALA:HB3	1.95	0.49
1:B:3:PHE:H	1:B:239:ARG:HG2	1.77	0.49
1:C:134:ASN:C	1:C:136:LEU:H	2.15	0.49
1:D:88:LEU:C	1:D:90:GLU:H	2.15	0.49
1:D:111:VAL:O	1:D:115:GLN:HG3	2.11	0.49
1:A:111:VAL:O	1:A:115:GLN:HG3	2.12	0.49
1:A:134:ASN:C	1:A:136:LEU:H	2.16	0.49
1:B:137:LYS:HD2	1:B:140:ARG:NH2	2.08	0.49
1:A:5:SER:HA	1:A:29:CYS:HB3	1.94	0.49
1:B:88:LEU:C	1:B:90:GLU:H	2.15	0.49
1:D:127:ILE:HD12	1:D:127:ILE:N	2.27	0.49
1:D:190:ALA:HB1	1:D:225:ILE:CD1	2.40	0.49
1:B:140:ARG:HG3	1:B:168:MSE:HE2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:192:ARG:O	1:B:195:ALA:HB3	2.12	0.49
1:D:192:ARG:O	1:D:195:ALA:HB3	2.12	0.49
1:A:73:HIS:CG	1:A:74:PRO:HD2	2.48	0.49
1:B:24:GLY:O	1:B:26:LYS:N	2.46	0.49
1:B:130:THR:HG23	1:B:139:THR:HG23	1.94	0.49
1:D:6:HIS:O	1:D:207:ASP:HA	2.13	0.49
1:C:140:ARG:HG3	1:C:168:MSE:HE2	1.94	0.49
1:C:153:ALA:HB1	1:C:173:GLU:O	2.13	0.49
1:B:7:LEU:O	1:B:30:SER:HA	2.13	0.49
1:A:153:ALA:HB1	1:A:173:GLU:O	2.12	0.48
1:C:13:GLY:HA3	1:D:16:GLU:CD	2.34	0.48
1:B:6:HIS:O	1:B:207:ASP:HA	2.13	0.48
1:C:200:GLU:OE1	1:C:200:GLU:HA	2.14	0.48
1:B:55:GLU:OE2	1:B:58:ARG:NH1	2.46	0.48
1:C:242:ALA:O	1:C:246:LEU:HB2	2.13	0.48
1:A:190:ALA:HB1	1:A:225:ILE:CD1	2.40	0.48
1:C:131:PRO:O	1:C:135:LYS:HB2	2.14	0.48
1:C:234:MSE:O	1:C:237:VAL:HG22	2.13	0.48
1:C:190:ALA:HB1	1:C:225:ILE:CD1	2.40	0.48
1:A:2:TYR:CD1	1:A:223:VAL:HG12	2.48	0.48
1:C:22:GLU:O	1:C:23:ASN:ND2	2.47	0.48
1:D:130:THR:HG23	1:D:139:THR:HG23	1.94	0.48
1:A:34:PHE:CB	1:A:44:MSE:HE1	2.40	0.48
1:D:72:ILE:HG23	1:D:115:GLN:NE2	2.29	0.48
1:A:12:LEU:HA	1:A:16:GLU:OE1	2.13	0.48
1:D:134:ASN:C	1:D:136:LEU:H	2.18	0.48
1:A:192:ARG:O	1:A:195:ALA:HB3	2.13	0.48
1:B:9:SER:HG	1:B:30:SER:CB	2.27	0.48
1:B:131:PRO:O	1:B:135:LYS:HB2	2.14	0.48
1:B:82:GLU:OE1	1:D:21:LYS:NZ	2.42	0.47
1:C:72:ILE:HG23	1:C:115:GLN:NE2	2.29	0.47
1:C:190:ALA:HB1	1:C:225:ILE:CG1	2.44	0.47
1:D:2:TYR:HA	1:D:239:ARG:CD	2.36	0.47
1:C:21:LYS:HG2	1:C:63:GLY:O	2.14	0.47
1:B:127:ILE:N	1:B:127:ILE:HD12	2.29	0.47
1:B:234:MSE:O	1:B:237:VAL:HG22	2.13	0.47
1:C:2:TYR:CD1	1:C:223:VAL:HG12	2.49	0.47
1:D:24:GLY:O	1:D:26:LYS:N	2.47	0.47
1:D:140:ARG:HG3	1:D:168:MSE:HE2	1.95	0.47
1:A:101:LEU:CD2	1:A:109:ILE:HD13	2.44	0.47
1:C:34:PHE:O	1:C:36:VAL:N	2.47	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:141:LYS:HZ2	1:C:145:ILE:HD11	1.79	0.47
1:C:130:THR:HG22	1:C:135:LYS:HE2	1.97	0.47
1:A:226:GLU:OE2	1:A:239:ARG:HA	2.14	0.47
1:A:2:TYR:CA	1:A:239:ARG:HD3	2.29	0.47
1:A:55:GLU:N	1:A:56:PRO:HD2	2.30	0.47
1:C:30:SER:C	1:C:31:LEU:HD23	2.35	0.47
1:C:34:PHE:CB	1:C:44:MSE:HE1	2.41	0.47
1:C:72:ILE:HD13	1:C:111:VAL:HG21	1.97	0.47
1:D:55:GLU:OE2	1:D:58:ARG:NH1	2.48	0.47
1:D:229:VAL:HG23	1:D:231:ARG:HB3	1.96	0.47
1:A:234:MSE:O	1:A:237:VAL:HG22	2.15	0.47
1:B:229:VAL:HG23	1:B:231:ARG:HB3	1.97	0.47
1:C:55:GLU:N	1:C:56:PRO:HD2	2.30	0.47
1:C:158:ILE:O	1:C:177:GLY:N	2.40	0.47
1:D:190:ALA:HB1	1:D:225:ILE:CG1	2.44	0.47
1:A:16:GLU:CD	1:B:13:GLY:HA3	2.35	0.47
1:B:57:LEU:HD23	1:B:60:GLU:OE2	2.15	0.47
1:A:200:GLU:OE1	1:A:200:GLU:HA	2.15	0.47
1:B:108:GLU:O	1:B:112:LEU:N	2.39	0.47
1:B:153:ALA:HB1	1:B:173:GLU:O	2.15	0.47
1:C:226:GLU:OE2	1:C:239:ARG:HA	2.15	0.47
1:D:3:PHE:CD2	1:D:27:GLU:HB3	2.50	0.47
1:A:21:LYS:HG2	1:A:63:GLY:O	2.16	0.46
1:A:140:ARG:HG3	1:A:168:MSE:HE2	1.96	0.46
1:A:190:ALA:O	1:A:193:ILE:HD11	2.15	0.46
1:A:190:ALA:HB1	1:A:225:ILE:CG1	2.46	0.46
1:A:34:PHE:O	1:A:36:VAL:N	2.48	0.46
1:A:130:THR:HG23	1:A:139:THR:HG23	1.97	0.46
1:B:128:ILE:HD12	1:B:128:ILE:N	2.28	0.46
1:A:30:SER:C	1:A:31:LEU:HD23	2.35	0.46
1:A:88:LEU:C	1:A:90:GLU:H	2.18	0.46
1:D:131:PRO:O	1:D:135:LYS:HB2	2.15	0.46
1:B:190:ALA:HB1	1:B:225:ILE:CG1	2.45	0.46
1:D:9:SER:HG	1:D:30:SER:CB	2.29	0.46
1:D:31:LEU:HD22	1:D:69:ALA:HB3	1.96	0.46
1:B:134:ASN:C	1:B:136:LEU:H	2.17	0.46
1:C:16:GLU:OE2	1:D:15:SER:HB3	2.15	0.46
1:C:88:LEU:C	1:C:90:GLU:H	2.19	0.46
1:C:101:LEU:CD2	1:C:109:ILE:HD13	2.42	0.46
1:C:245:PHE:CD2	1:C:246:LEU:HD13	2.51	0.46
1:D:37:LYS:HB2	1:D:37:LYS:HZ3	1.80	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:242:ALA:O	1:D:246:LEU:HB2	2.16	0.46
1:A:72:ILE:HD13	1:A:111:VAL:HG21	1.97	0.46
1:A:72:ILE:HG23	1:A:115:GLN:NE2	2.31	0.46
1:B:2:TYR:CD1	1:B:223:VAL:HG12	2.51	0.46
1:A:108:GLU:O	1:A:112:LEU:N	2.37	0.46
1:C:42:GLN:HG3	1:D:42:GLN:CG	2.46	0.46
1:B:37:LYS:HB2	1:B:37:LYS:HZ3	1.76	0.45
1:B:41:PRO:HG3	1:B:80:ASP:HB3	1.98	0.45
1:A:7:LEU:O	1:A:30:SER:HA	2.16	0.45
1:C:190:ALA:O	1:C:193:ILE:HD11	2.16	0.45
1:C:201:ARG:HH21	1:C:201:ARG:HG3	1.82	0.45
1:C:2:TYR:N	1:C:2:TYR:CD2	2.84	0.45
1:C:7:LEU:O	1:C:30:SER:HA	2.15	0.45
1:C:236:LYS:O	1:C:236:LYS:HG2	2.16	0.45
1:A:158:ILE:O	1:A:177:GLY:N	2.42	0.45
1:A:201:ARG:NH2	1:A:201:ARG:HG3	2.31	0.45
1:B:193:ILE:CG1	1:B:225:ILE:HD12	2.46	0.45
1:C:2:TYR:HD1	1:C:223:VAL:HG12	1.82	0.45
1:D:21:LYS:O	1:D:21:LYS:HD3	2.17	0.45
1:A:141:LYS:HZ2	1:A:145:ILE:HD11	1.82	0.45
1:B:2:TYR:HA	1:B:239:ARG:CG	2.46	0.45
1:B:191:ALA:O	1:B:194:VAL:HG12	2.16	0.45
1:C:108:GLU:O	1:C:112:LEU:N	2.38	0.45
1:A:76:CYS:O	1:A:76:CYS:SG	2.74	0.45
1:B:201:ARG:HG3	1:B:201:ARG:NH2	2.32	0.45
1:C:193:ILE:HG13	1:C:225:ILE:HG23	1.98	0.45
1:D:57:LEU:HD23	1:D:60:GLU:OE2	2.16	0.45
1:D:193:ILE:CG1	1:D:225:ILE:HD12	2.46	0.45
1:C:201:ARG:HG3	1:C:201:ARG:NH2	2.31	0.45
1:A:193:ILE:HG13	1:A:225:ILE:HG23	1.98	0.45
1:C:112:LEU:HD13	1:C:112:LEU:C	2.37	0.45
1:D:143:LEU:HD21	1:D:169:VAL:HA	1.98	0.45
1:A:201:ARG:HG3	1:A:201:ARG:HH21	1.82	0.45
1:C:134:ASN:O	1:C:136:LEU:N	2.50	0.45
1:D:201:ARG:NH2	1:D:201:ARG:HG3	2.31	0.45
1:B:72:ILE:HG23	1:B:115:GLN:NE2	2.31	0.44
1:D:30:SER:C	1:D:31:LEU:HD23	2.37	0.44
1:A:22:GLU:O	1:A:23:ASN:ND2	2.50	0.44
1:B:246:LEU:HD12	1:B:246:LEU:HA	1.76	0.44
1:D:72:ILE:HG22	1:D:115:GLN:OE1	2.17	0.44
1:D:158:ILE:O	1:D:177:GLY:N	2.42	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:9:SER:HG	1:C:30:SER:CB	2.30	0.44
1:A:44:MSE:HE2	1:A:44:MSE:HA	1.99	0.44
1:B:116:LEU:HD13	1:B:146:LEU:HD13	1.99	0.44
1:D:67:HIS:CE1	1:D:248:VAL:HG21	2.52	0.44
1:B:7:LEU:HD22	1:B:28:VAL:HB	2.00	0.44
1:B:189:ASP:HB3	1:B:190:ALA:H	1.70	0.44
1:C:34:PHE:C	1:C:36:VAL:H	2.20	0.44
1:C:130:THR:HG23	1:C:139:THR:HG23	1.98	0.44
1:C:139:THR:O	1:C:143:LEU:HB2	2.17	0.44
1:D:174:TYR:O	1:D:201:ARG:NH2	2.50	0.44
1:A:70:VAL:HG22	1:A:71:GLY:N	2.33	0.44
1:A:162:ASN:O	1:A:165:THR:HG22	2.18	0.44
1:A:220:GLU:O	1:A:224:LYS:HG3	2.18	0.44
1:D:104:VAL:O	1:D:104:VAL:HG13	2.17	0.44
1:D:153:ALA:HB1	1:D:173:GLU:O	2.17	0.44
1:A:112:LEU:HD13	1:A:112:LEU:C	2.38	0.44
1:A:130:THR:CG2	1:A:135:LYS:HG3	2.48	0.44
1:B:180:VAL:HB	1:B:221:ALA:CB	2.46	0.44
1:D:72:ILE:HD13	1:D:111:VAL:HG21	2.00	0.44
1:A:143:LEU:HD21	1:A:169:VAL:HA	2.00	0.44
1:A:236:LYS:O	1:A:236:LYS:HG2	2.17	0.44
1:B:21:LYS:HG2	1:B:63:GLY:O	2.17	0.44
1:B:31:LEU:HD22	1:B:69:ALA:HB3	1.99	0.44
1:B:70:VAL:HG22	1:B:71:GLY:N	2.32	0.44
1:C:3:PHE:CD1	1:C:4:ASP:N	2.85	0.44
1:C:44:MSE:HE2	1:C:44:MSE:HA	2.00	0.44
1:D:152:PRO:C	1:D:154:ASP:H	2.21	0.44
1:A:37:LYS:O	1:A:37:LYS:HG3	2.18	0.44
1:A:80:ASP:HB2	1:D:232:GLU:CD	2.38	0.44
1:B:2:TYR:HD1	1:B:223:VAL:HG12	1.83	0.44
1:D:41:PRO:HG3	1:D:80:ASP:HB3	1.98	0.44
1:D:44:MSE:HE2	1:D:44:MSE:HA	1.99	0.44
1:A:34:PHE:C	1:A:36:VAL:H	2.20	0.43
1:A:152:PRO:C	1:A:154:ASP:H	2.21	0.43
1:B:30:SER:C	1:B:31:LEU:HD23	2.38	0.43
1:B:98:GLU:OE2	1:B:98:GLU:HA	2.18	0.43
1:B:173:GLU:HA	1:B:173:GLU:OE1	2.18	0.43
1:C:21:LYS:O	1:C:21:LYS:HD3	2.17	0.43
1:C:41:PRO:HG3	1:C:80:ASP:HB3	2.00	0.43
1:B:101:LEU:O	1:B:131:PRO:HG3	2.18	0.43
1:B:143:LEU:HD21	1:B:169:VAL:HA	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:3:PHE:H	1:D:239:ARG:HG2	1.83	0.43
1:D:180:VAL:O	1:D:181:GLN:HG2	2.18	0.43
1:D:191:ALA:O	1:D:194:VAL:HG12	2.18	0.43
1:A:229:VAL:HG23	1:A:231:ARG:HB3	1.99	0.43
1:C:220:GLU:O	1:C:224:LYS:HG3	2.18	0.43
1:A:139:THR:O	1:A:143:LEU:HB2	2.18	0.43
1:C:175:TRP:HZ3	1:C:241:ASN:HD21	1.67	0.43
1:D:98:GLU:HA	1:D:98:GLU:OE2	2.18	0.43
1:D:193:ILE:HG13	1:D:225:ILE:HG23	2.01	0.43
1:A:151:PHE:CE2	1:A:155:LEU:HB3	2.53	0.43
1:A:170:LEU:C	1:A:172:THR:N	2.71	0.43
1:B:44:MSE:HA	1:B:44:MSE:HE2	1.99	0.43
1:D:9:SER:C	1:D:11:GLY:H	2.22	0.43
1:D:34:PHE:O	1:D:36:VAL:N	2.52	0.43
1:B:21:LYS:HD3	1:B:21:LYS:O	2.18	0.43
1:B:193:ILE:HG13	1:B:225:ILE:HG23	2.00	0.43
1:D:143:LEU:HA	1:D:143:LEU:HD12	1.80	0.43
1:A:128:ILE:HD12	1:A:128:ILE:N	2.30	0.43
1:C:7:LEU:HD22	1:C:28:VAL:HB	2.00	0.43
1:A:41:PRO:HG3	1:A:80:ASP:HB3	1.99	0.43
1:B:34:PHE:C	1:B:36:VAL:H	2.22	0.43
1:D:139:THR:O	1:D:143:LEU:HB2	2.18	0.43
1:A:193:ILE:CG1	1:A:225:ILE:HD12	2.49	0.43
1:B:17:LEU:HD12	1:B:58:ARG:NH2	2.34	0.43
1:B:141:LYS:HZ2	1:B:145:ILE:HD11	1.84	0.43
1:B:152:PRO:C	1:B:154:ASP:H	2.22	0.43
1:B:235:GLU:OE2	1:B:239:ARG:NH2	2.51	0.43
1:C:37:LYS:O	1:C:37:LYS:HG3	2.19	0.43
1:D:34:PHE:C	1:D:36:VAL:H	2.22	0.43
1:D:172:THR:O	1:D:201:ARG:NH1	2.48	0.43
1:D:173:GLU:HA	1:D:173:GLU:OE1	2.18	0.43
1:A:21:LYS:O	1:A:21:LYS:HD3	2.19	0.43
1:B:9:SER:C	1:B:11:GLY:H	2.21	0.43
1:B:180:VAL:O	1:B:181:GLN:HG2	2.19	0.43
1:A:24:GLY:O	1:A:26:LYS:N	2.52	0.42
1:B:34:PHE:O	1:B:36:VAL:N	2.52	0.42
1:B:170:LEU:C	1:B:172:THR:N	2.71	0.42
1:B:174:TYR:O	1:B:201:ARG:NH2	2.52	0.42
1:C:2:TYR:N	1:C:2:TYR:HD2	2.16	0.42
1:C:42:GLN:CG	1:D:42:GLN:HG3	2.47	0.42
1:C:170:LEU:HD23	1:C:170:LEU:HA	1.93	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:112:LEU:C	1:D:112:LEU:HD13	2.39	0.42
1:A:5:SER:O	1:A:205:ASN:HB2	2.18	0.42
1:A:42:GLN:CG	1:B:42:GLN:HG3	2.49	0.42
1:C:116:LEU:HD13	1:C:146:LEU:HD13	2.02	0.42
1:C:162:ASN:O	1:C:165:THR:HG22	2.19	0.42
1:C:221:ALA:C	1:C:223:VAL:H	2.23	0.42
1:D:170:LEU:C	1:D:172:THR:N	2.72	0.42
1:B:72:ILE:HG22	1:B:115:GLN:OE1	2.19	0.42
1:C:72:ILE:HG22	1:C:115:GLN:OE1	2.20	0.42
1:A:98:GLU:HA	1:A:98:GLU:OE2	2.19	0.42
1:A:194:VAL:C	1:A:196:GLU:H	2.23	0.42
1:B:158:ILE:HG22	1:B:161:VAL:HG22	2.02	0.42
1:C:76:CYS:O	1:C:76:CYS:SG	2.77	0.42
1:C:116:LEU:HD23	1:C:126:CYS:SG	2.59	0.42
1:C:130:THR:CG2	1:C:135:LYS:HG3	2.48	0.42
1:C:194:VAL:C	1:C:196:GLU:H	2.22	0.42
1:C:229:VAL:HG23	1:C:231:ARG:HB3	1.99	0.42
1:D:201:ARG:HG3	1:D:201:ARG:HH21	1.85	0.42
1:B:130:THR:CG2	1:B:135:LYS:HG3	2.49	0.42
1:B:143:LEU:HD12	1:B:143:LEU:HA	1.79	0.42
1:C:70:VAL:HG22	1:C:71:GLY:N	2.34	0.42
1:C:191:ALA:O	1:C:194:VAL:HG12	2.19	0.42
1:D:246:LEU:HD12	1:D:246:LEU:HA	1.80	0.42
1:A:42:GLN:HG3	1:B:42:GLN:CG	2.49	0.42
1:A:191:ALA:O	1:A:194:VAL:HG12	2.19	0.42
1:B:104:VAL:O	1:B:104:VAL:HG13	2.20	0.42
1:B:162:ASN:O	1:B:165:THR:HG22	2.20	0.42
1:C:134:ASN:C	1:C:136:LEU:N	2.73	0.42
1:C:152:PRO:C	1:C:154:ASP:H	2.22	0.42
1:D:130:THR:CG2	1:D:135:LYS:HG3	2.49	0.42
1:A:130:THR:CG2	1:A:139:THR:HG23	2.50	0.42
1:A:134:ASN:O	1:A:136:LEU:N	2.53	0.42
1:C:18:VAL:O	1:C:18:VAL:HG12	2.20	0.42
1:A:130:THR:HG22	1:A:135:LYS:HE2	2.00	0.42
1:A:143:LEU:HA	1:A:143:LEU:HD12	1.78	0.42
1:A:157:VAL:HG11	1:A:203:MSE:CE	2.50	0.42
1:B:94:VAL:O	1:B:95:ALA:HB2	2.20	0.42
1:B:220:GLU:O	1:B:224:LYS:HG3	2.20	0.42
1:B:221:ALA:C	1:B:223:VAL:H	2.23	0.42
1:B:226:GLU:OE2	1:B:239:ARG:CA	2.68	0.42
1:C:94:VAL:O	1:C:95:ALA:HB2	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:21:LYS:HG2	1:D:63:GLY:O	2.20	0.42
1:D:130:THR:CG2	1:D:139:THR:HG23	2.49	0.42
1:D:221:ALA:C	1:D:223:VAL:H	2.23	0.42
1:A:9:SER:HG	1:A:30:SER:HB2	1.85	0.42
1:A:56:PRO:HB3	1:A:66:MSE:CE	2.49	0.42
1:A:221:ALA:C	1:A:223:VAL:H	2.23	0.42
1:B:201:ARG:HG3	1:B:201:ARG:HH21	1.85	0.42
1:C:31:LEU:HD22	1:C:69:ALA:CB	2.50	0.42
1:C:170:LEU:C	1:C:172:THR:N	2.71	0.42
1:C:180:VAL:O	1:C:181:GLN:HG2	2.20	0.42
1:C:189:ASP:HB3	1:C:190:ALA:H	1.72	0.42
1:D:153:ALA:HA	1:D:174:TYR:CD1	2.55	0.42
1:A:38:PRO:HA	1:B:46:ASP:OD2	2.19	0.42
1:B:4:ASP:OD1	1:B:205:ASN:HA	2.19	0.42
1:B:22:GLU:O	1:B:23:ASN:ND2	2.53	0.42
1:B:193:ILE:CD1	1:B:193:ILE:H	2.32	0.42
1:D:70:VAL:HG22	1:D:71:GLY:N	2.34	0.42
1:D:116:LEU:HD13	1:D:146:LEU:HD13	2.01	0.42
1:B:236:LYS:O	1:B:236:LYS:HG2	2.20	0.41
1:A:9:SER:C	1:A:11:GLY:H	2.24	0.41
1:B:140:ARG:O	1:B:144:GLU:N	2.53	0.41
1:C:143:LEU:HD12	1:C:143:LEU:HA	1.76	0.41
1:D:101:LEU:O	1:D:131:PRO:HG3	2.20	0.41
1:A:94:VAL:O	1:A:95:ALA:HB2	2.20	0.41
1:A:180:VAL:O	1:A:181:GLN:HG2	2.19	0.41
1:A:189:ASP:HB3	1:A:190:ALA:H	1.71	0.41
1:B:130:THR:CG2	1:B:139:THR:HG23	2.49	0.41
1:C:9:SER:C	1:C:11:GLY:H	2.24	0.41
1:C:143:LEU:HD21	1:C:169:VAL:HA	2.02	0.41
1:C:193:ILE:CG1	1:C:225:ILE:HD12	2.49	0.41
1:D:81:TYR:OH	1:D:110:GLU:HG2	2.20	0.41
1:A:104:VAL:O	1:A:104:VAL:HG13	2.19	0.41
1:A:116:LEU:HD23	1:A:126:CYS:SG	2.59	0.41
1:A:147:GLU:HG3	1:A:148:SER:N	2.36	0.41
1:B:56:PRO:HB3	1:B:66:MSE:CE	2.50	0.41
1:C:101:LEU:O	1:C:131:PRO:HG3	2.20	0.41
1:D:236:LYS:HG2	1:D:236:LYS:O	2.20	0.41
1:A:56:PRO:HA	1:A:66:MSE:HE2	2.02	0.41
1:A:57:LEU:HA	1:A:60:GLU:HG2	2.02	0.41
1:C:5:SER:O	1:C:205:ASN:HB2	2.20	0.41
1:D:56:PRO:HB3	1:D:66:MSE:CE	2.51	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:3:PHE:HB3	1:A:239:ARG:O	2.20	0.41
1:A:7:LEU:HD22	1:A:28:VAL:HB	2.01	0.41
1:B:170:LEU:HD23	1:B:170:LEU:HA	1.93	0.41
1:C:180:VAL:CB	1:C:221:ALA:HB1	2.48	0.41
1:D:7:LEU:HD22	1:D:28:VAL:HB	2.02	0.41
1:D:34:PHE:CB	1:D:44:MSE:HE1	2.43	0.41
1:D:226:GLU:OE2	1:D:239:ARG:CA	2.69	0.41
1:A:116:LEU:HD13	1:A:146:LEU:HD13	2.02	0.41
1:A:246:LEU:O	1:A:247:ARG:C	2.59	0.41
1:B:41:PRO:HD2	1:B:42:GLN:NE2	2.35	0.41
1:B:88:LEU:C	1:B:90:GLU:N	2.74	0.41
1:B:153:ALA:HA	1:B:174:TYR:CD1	2.56	0.41
1:C:6:HIS:O	1:C:207:ASP:HA	2.20	0.41
1:D:130:THR:HA	1:D:131:PRO:HD3	1.96	0.41
1:A:2:TYR:HA	1:A:239:ARG:CD	2.29	0.41
1:C:72:ILE:HD12	1:C:78:PRO:HD2	2.00	0.41
1:D:31:LEU:HD22	1:D:69:ALA:CB	2.50	0.41
1:D:193:ILE:H	1:D:193:ILE:HD12	1.86	0.41
1:A:18:VAL:O	1:A:18:VAL:HG12	2.20	0.41
1:A:37:LYS:HA	1:A:38:PRO:HD3	1.88	0.41
1:B:194:VAL:C	1:B:196:GLU:H	2.24	0.41
1:C:157:VAL:HG11	1:C:203:MSE:CE	2.50	0.41
1:C:180:VAL:HB	1:C:221:ALA:CB	2.48	0.41
1:C:211:ARG:HA	1:D:14:PHE:HD2	1.86	0.41
1:D:39:LYS:HB2	1:D:40:TYR:CD2	2.56	0.41
1:D:81:TYR:CD2	1:D:111:VAL:HG23	2.56	0.41
1:D:151:PHE:CE2	1:D:155:LEU:HB3	2.56	0.41
1:D:189:ASP:HB3	1:D:190:ALA:H	1.69	0.41
1:A:211:ARG:HA	1:B:14:PHE:HD2	1.86	0.41
1:B:193:ILE:HG12	1:B:225:ILE:HD12	2.03	0.41
1:D:95:ALA:HB2	1:D:125:PRO:HG2	2.03	0.41
1:A:158:ILE:HD12	1:A:158:ILE:N	2.36	0.40
1:A:211:ARG:HA	1:B:14:PHE:CD2	2.56	0.40
1:B:139:THR:O	1:B:143:LEU:HB2	2.20	0.40
1:C:24:GLY:O	1:C:26:LYS:N	2.54	0.40
1:C:104:VAL:O	1:C:104:VAL:HG13	2.19	0.40
1:D:22:GLU:O	1:D:23:ASN:ND2	2.55	0.40
1:D:220:GLU:O	1:D:224:LYS:HG3	2.21	0.40
1:B:193:ILE:H	1:B:193:ILE:HD12	1.86	0.40
1:C:39:LYS:HB2	1:C:40:TYR:CD2	2.56	0.40
1:C:151:PHE:CE2	1:C:155:LEU:HB3	2.56	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:194:VAL:C	1:D:196:GLU:H	2.24	0.40
1:D:235:GLU:OE2	1:D:239:ARG:NH2	2.54	0.40
1:A:101:LEU:O	1:A:131:PRO:HG3	2.20	0.40
1:B:147:GLU:HG3	1:B:148:SER:N	2.37	0.40
1:D:235:GLU:C	1:D:237:VAL:N	2.75	0.40
1:A:72:ILE:HD12	1:A:78:PRO:HD2	2.00	0.40
1:C:98:GLU:OE2	1:C:98:GLU:HA	2.22	0.40
1:D:17:LEU:HD12	1:D:58:ARG:NH2	2.36	0.40
1:D:157:VAL:HG23	1:D:245:PHE:CE1	2.56	0.40
1:D:88:LEU:C	1:D:90:GLU:N	2.75	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	225/261 (86%)	179 (80%)	32 (14%)	14 (6%)	1	11
1	B	225/261 (86%)	178 (79%)	33 (15%)	14 (6%)	1	11
1	C	225/261 (86%)	178 (79%)	34 (15%)	13 (6%)	1	13
1	D	225/261 (86%)	179 (80%)	32 (14%)	14 (6%)	1	11
All	All	900/1044 (86%)	714 (79%)	131 (15%)	55 (6%)	1	12

All (55) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	23	ASN
1	A	232	GLU
1	A	233	GLU
1	B	23	ASN
1	B	232	GLU

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Mol	Chain	Res	Type
1	B	233	GLU
1	C	23	ASN
1	C	232	GLU
1	C	233	GLU
1	D	23	ASN
1	D	232	GLU
1	D	233	GLU
1	A	6	HIS
1	A	135	LYS
1	A	153	ALA
1	A	165	THR
1	B	6	HIS
1	B	153	ALA
1	B	165	THR
1	C	6	HIS
1	C	153	ALA
1	C	165	THR
1	D	6	HIS
1	D	153	ALA
1	D	165	THR
1	A	35	PRO
1	A	79	PRO
1	A	247	ARG
1	B	35	PRO
1	B	79	PRO
1	B	135	LYS
1	C	35	PRO
1	C	79	PRO
1	C	135	LYS
1	C	235	GLU
1	D	35	PRO
1	D	79	PRO
1	D	135	LYS
1	A	235	GLU
1	B	25	ILE
1	B	247	ARG
1	D	25	ILE
1	D	247	ARG
1	A	25	ILE
1	B	104	VAL
1	B	208	ALA
1	C	25	ILE

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Mol	Chain	Res	Type
1	C	104	VAL
1	D	104	VAL
1	D	208	ALA
1	A	104	VAL
1	D	229	VAL
1	B	229	VAL
1	A	229	VAL
1	C	229	VAL

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	200/216 (93%)	177 (88%)	23 (12%)	5	24
1	B	200/216 (93%)	178 (89%)	22 (11%)	6	26
1	C	200/216 (93%)	177 (88%)	23 (12%)	5	24
1	D	200/216 (93%)	179 (90%)	21 (10%)	7	28
All	All	800/864 (93%)	711 (89%)	89 (11%)	6	25

All (89) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	2	TYR
1	A	7	LEU
1	A	15	SER
1	A	17	LEU
1	A	26	LYS
1	A	34	PHE
1	A	37	LYS
1	A	42	GLN
1	A	58	ARG
1	A	66	MSE
1	A	129	HIS
1	A	132	ARG
1	A	139	THR

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Mol	Chain	Res	Type
1	A	143	LEU
1	A	159	ASP
1	A	164	GLU
1	A	172	THR
1	A	189	ASP
1	A	193	ILE
1	A	196	GLU
1	A	201	ARG
1	A	235	GLU
1	A	246	LEU
1	B	2	TYR
1	B	7	LEU
1	B	15	SER
1	B	17	LEU
1	B	26	LYS
1	B	37	LYS
1	B	42	GLN
1	B	58	ARG
1	B	66	MSE
1	B	129	HIS
1	B	132	ARG
1	B	139	THR
1	B	143	LEU
1	B	159	ASP
1	B	164	GLU
1	B	172	THR
1	B	189	ASP
1	B	193	ILE
1	B	196	GLU
1	B	201	ARG
1	B	235	GLU
1	B	246	LEU
1	C	2	TYR
1	C	7	LEU
1	C	15	SER
1	C	17	LEU
1	C	26	LYS
1	C	34	PHE
1	C	37	LYS
1	C	42	GLN
1	C	58	ARG
1	C	66	MSE

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Mol	Chain	Res	Type
1	C	129	HIS
1	C	132	ARG
1	C	139	THR
1	C	143	LEU
1	C	159	ASP
1	C	164	GLU
1	C	172	THR
1	C	189	ASP
1	C	193	ILE
1	C	196	GLU
1	C	201	ARG
1	C	235	GLU
1	C	246	LEU
1	D	2	TYR
1	D	7	LEU
1	D	15	SER
1	D	17	LEU
1	D	26	LYS
1	D	37	LYS
1	D	42	GLN
1	D	58	ARG
1	D	66	MSE
1	D	129	HIS
1	D	132	ARG
1	D	139	THR
1	D	143	LEU
1	D	159	ASP
1	D	164	GLU
1	D	172	THR
1	D	189	ASP
1	D	193	ILE
1	D	196	GLU
1	D	201	ARG
1	D	235	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (22) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	8	HIS
1	A	42	GLN
1	A	73	HIS
1	A	181	GLN

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Mol	Chain	Res	Type
1	A	241	ASN
1	B	8	HIS
1	B	42	GLN
1	B	67	HIS
1	B	73	HIS
1	B	241	ASN
1	C	8	HIS
1	C	42	GLN
1	C	67	HIS
1	C	73	HIS
1	C	181	GLN
1	C	241	ASN
1	D	8	HIS
1	D	42	GLN
1	D	67	HIS
1	D	73	HIS
1	D	181	GLN
1	D	241	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 monosaccharides in this entry.

5.6 Ligand geometry

Of 8 ligands modelled in this entry, 8 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

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, 95^{th} 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	227/261 (86%)	0.00	2 (0%)	84	75	20, 49, 78, 101	0
1	B	227/261 (86%)	-0.02	3 (1%)	77	65	21, 50, 77, 96	0
1	C	227/261 (86%)	-0.03	2 (0%)	84	75	25, 51, 77, 101	0
1	D	227/261 (86%)	-0.02	1 (0%)	92	89	22, 50, 75, 97	0
All	All	908/1044 (86%)	-0.02	8 (0%)	84	75	20, 50, 77, 101	0

All (8) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	A	226	GLU	7.1
1	B	226	GLU	3.6
1	C	226	GLU	3.3
1	A	225	ILE	2.9
1	D	226	GLU	2.7
1	B	164	GLU	2.3
1	C	225	ILE	2.3
1	B	4	ASP	2.1

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, 95^{th} 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
2	ZN	A	302	1/1	0.95	0.13	41,41,41,41	0
2	ZN	B	302	1/1	0.95	0.10	55,55,55,55	0
2	ZN	D	302	1/1	0.97	0.05	47,47,47,47	0
2	ZN	A	301	1/1	0.98	0.08	22,22,22,22	0
2	ZN	B	301	1/1	0.98	0.10	30,30,30,30	0
2	ZN	C	302	1/1	0.99	0.10	43,43,43,43	0
2	ZN	D	301	1/1	0.99	0.04	30,30,30,30	0
2	ZN	C	301	1/1	0.99	0.11	25,25,25,25	0

6.5 Other polymers

There are no such residues in this entry.