



# Full wwPDB X-ray Structure Validation Report ⓘ

Feb 28, 2014 – 12:27 PM GMT

PDB ID : 3ECS  
Title : Crystal structure of human eIF2B alpha  
Authors : Hiyama, T.B.; Ito, T.; Yokoyama, S.; RIKEN Structural Genomics/Proteomics Initiative (RSGI)  
Deposited on : 2008-09-01  
Resolution : 2.65 Å(reported)

This is a full wwPDB validation report for a publicly released PDB entry.  
We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)  
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

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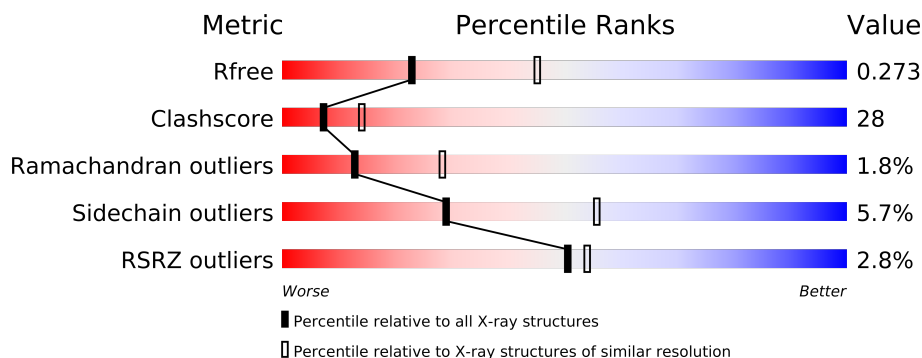
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467  
Mogul : 1.15 2013  
Xtriage (Phenix) : dev-1323  
EDS : stable22639  
Percentile statistics : 21963  
Refmac : 5.8.0049  
CCP4 : 6.3.0 (Settle)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)  
Validation Pipeline (wwPDB-VP) : stable22683

# 1 Overall quality at a glance

The reported resolution of this entry is 2.65 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))
$R_{free}$	66092	2232 (2.70-2.62)
Clashscore	79885	2700 (2.70-2.62)
Ramachandran outliers	78287	2657 (2.70-2.62)
Sidechain outliers	78261	2657 (2.70-2.62)
RSRZ outliers	66119	2234 (2.70-2.62)

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  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Mol	Chain	Length	Quality of chain
1	A	315	
1	B	315	
1	C	315	
1	D	315	
1	E	315	
1	F	315	
1	G	315	
1	H	315	

The following table lists non-polymeric compounds that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Geometry	Electron density
3	CL	A	601	-	X

## 2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 17958 atoms, of which 0 are hydrogen and 0 are deuterium.

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 Translation initiation factor eIF-2B subunit alpha.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	A	279	Total	C	N	O	S	Se	0	0	0
			2165	1392	362	399	5	7			
1	B	281	Total	C	N	O	S	Se	0	0	0
			2180	1401	365	402	5	7			
1	C	294	Total	C	N	O	S	Se	0	0	0
			2282	1465	380	425	5	7			
1	D	291	Total	C	N	O	S	Se	0	0	0
			2255	1448	377	418	5	7			
1	E	285	Total	C	N	O	S	Se	0	0	0
			2211	1420	368	411	5	7			
1	F	287	Total	C	N	O	S	Se	0	0	0
			2221	1427	372	410	5	7			
1	G	284	Total	C	N	O	S	Se	0	0	0
			2200	1414	368	406	5	7			
1	H	285	Total	C	N	O	S	Se	0	0	0
			2208	1418	369	409	5	7			

There are 80 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	306	ALA	-	EXPRESSION TAG	UNP Q14232
A	307	ALA	-	EXPRESSION TAG	UNP Q14232
A	308	ALA	-	EXPRESSION TAG	UNP Q14232
A	309	GLU	-	EXPRESSION TAG	UNP Q14232
A	310	HIS	-	EXPRESSION TAG	UNP Q14232
A	311	HIS	-	EXPRESSION TAG	UNP Q14232
A	312	HIS	-	EXPRESSION TAG	UNP Q14232
A	313	HIS	-	EXPRESSION TAG	UNP Q14232
A	314	HIS	-	EXPRESSION TAG	UNP Q14232
A	315	HIS	-	EXPRESSION TAG	UNP Q14232
B	306	ALA	-	EXPRESSION TAG	UNP Q14232
B	307	ALA	-	EXPRESSION TAG	UNP Q14232
B	308	ALA	-	EXPRESSION TAG	UNP Q14232

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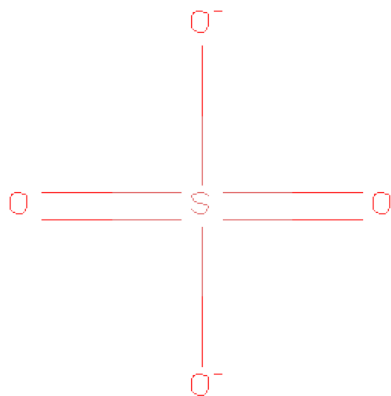
Chain	Residue	Modelled	Actual	Comment	Reference
B	309	GLU	-	EXPRESSION TAG	UNP Q14232
B	310	HIS	-	EXPRESSION TAG	UNP Q14232
B	311	HIS	-	EXPRESSION TAG	UNP Q14232
B	312	HIS	-	EXPRESSION TAG	UNP Q14232
B	313	HIS	-	EXPRESSION TAG	UNP Q14232
B	314	HIS	-	EXPRESSION TAG	UNP Q14232
B	315	HIS	-	EXPRESSION TAG	UNP Q14232
C	306	ALA	-	EXPRESSION TAG	UNP Q14232
C	307	ALA	-	EXPRESSION TAG	UNP Q14232
C	308	ALA	-	EXPRESSION TAG	UNP Q14232
C	309	GLU	-	EXPRESSION TAG	UNP Q14232
C	310	HIS	-	EXPRESSION TAG	UNP Q14232
C	311	HIS	-	EXPRESSION TAG	UNP Q14232
C	312	HIS	-	EXPRESSION TAG	UNP Q14232
C	313	HIS	-	EXPRESSION TAG	UNP Q14232
C	314	HIS	-	EXPRESSION TAG	UNP Q14232
C	315	HIS	-	EXPRESSION TAG	UNP Q14232
D	306	ALA	-	EXPRESSION TAG	UNP Q14232
D	307	ALA	-	EXPRESSION TAG	UNP Q14232
D	308	ALA	-	EXPRESSION TAG	UNP Q14232
D	309	GLU	-	EXPRESSION TAG	UNP Q14232
D	310	HIS	-	EXPRESSION TAG	UNP Q14232
D	311	HIS	-	EXPRESSION TAG	UNP Q14232
D	312	HIS	-	EXPRESSION TAG	UNP Q14232
D	313	HIS	-	EXPRESSION TAG	UNP Q14232
D	314	HIS	-	EXPRESSION TAG	UNP Q14232
D	315	HIS	-	EXPRESSION TAG	UNP Q14232
E	306	ALA	-	EXPRESSION TAG	UNP Q14232
E	307	ALA	-	EXPRESSION TAG	UNP Q14232
E	308	ALA	-	EXPRESSION TAG	UNP Q14232
E	309	GLU	-	EXPRESSION TAG	UNP Q14232
E	310	HIS	-	EXPRESSION TAG	UNP Q14232
E	311	HIS	-	EXPRESSION TAG	UNP Q14232
E	312	HIS	-	EXPRESSION TAG	UNP Q14232
E	313	HIS	-	EXPRESSION TAG	UNP Q14232
E	314	HIS	-	EXPRESSION TAG	UNP Q14232
E	315	HIS	-	EXPRESSION TAG	UNP Q14232
F	306	ALA	-	EXPRESSION TAG	UNP Q14232
F	307	ALA	-	EXPRESSION TAG	UNP Q14232
F	308	ALA	-	EXPRESSION TAG	UNP Q14232
F	309	GLU	-	EXPRESSION TAG	UNP Q14232
F	310	HIS	-	EXPRESSION TAG	UNP Q14232

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Chain	Residue	Modelled	Actual	Comment	Reference
F	311	HIS	-	EXPRESSION TAG	UNP Q14232
F	312	HIS	-	EXPRESSION TAG	UNP Q14232
F	313	HIS	-	EXPRESSION TAG	UNP Q14232
F	314	HIS	-	EXPRESSION TAG	UNP Q14232
F	315	HIS	-	EXPRESSION TAG	UNP Q14232
G	306	ALA	-	EXPRESSION TAG	UNP Q14232
G	307	ALA	-	EXPRESSION TAG	UNP Q14232
G	308	ALA	-	EXPRESSION TAG	UNP Q14232
G	309	GLU	-	EXPRESSION TAG	UNP Q14232
G	310	HIS	-	EXPRESSION TAG	UNP Q14232
G	311	HIS	-	EXPRESSION TAG	UNP Q14232
G	312	HIS	-	EXPRESSION TAG	UNP Q14232
G	313	HIS	-	EXPRESSION TAG	UNP Q14232
G	314	HIS	-	EXPRESSION TAG	UNP Q14232
G	315	HIS	-	EXPRESSION TAG	UNP Q14232
H	306	ALA	-	EXPRESSION TAG	UNP Q14232
H	307	ALA	-	EXPRESSION TAG	UNP Q14232
H	308	ALA	-	EXPRESSION TAG	UNP Q14232
H	309	GLU	-	EXPRESSION TAG	UNP Q14232
H	310	HIS	-	EXPRESSION TAG	UNP Q14232
H	311	HIS	-	EXPRESSION TAG	UNP Q14232
H	312	HIS	-	EXPRESSION TAG	UNP Q14232
H	313	HIS	-	EXPRESSION TAG	UNP Q14232
H	314	HIS	-	EXPRESSION TAG	UNP Q14232
H	315	HIS	-	EXPRESSION TAG	UNP Q14232

- Molecule 2 is SULFATE ION (three-letter code: SO4) (formula: O<sub>4</sub>S).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total O S 5 4 1	0	0
2	A	1	Total O S 5 4 1	0	0
2	B	1	Total O S 5 4 1	0	0
2	C	1	Total O S 5 4 1	0	0
2	D	1	Total O S 5 4 1	0	0
2	E	1	Total O S 5 4 1	0	0
2	F	1	Total O S 5 4 1	0	0
2	F	1	Total O S 5 4 1	0	0
2	G	1	Total O S 5 4 1	0	0
2	H	1	Total O S 5 4 1	0	0

- Molecule 3 is CHLORIDE ION (three-letter code: CL) (formula: CL).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total Cl 1 1	0	0

- Molecule 4 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	30	Total O 30 30	0	0
4	B	27	Total O 27 27	0	0
4	C	20	Total O 20 20	0	0
4	D	24	Total O 24 24	0	0
4	E	15	Total O 15 15	0	0
4	F	26	Total O 26 26	0	0
4	G	28	Total O 28 28	0	0

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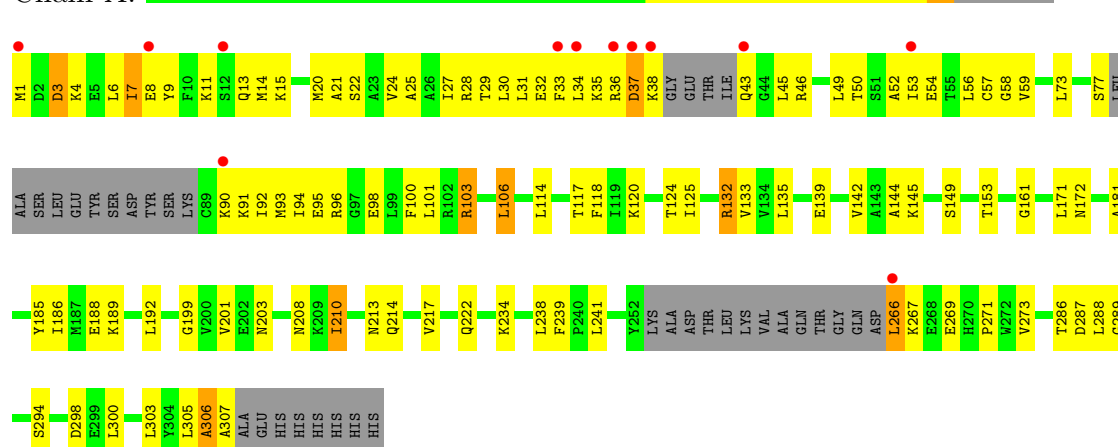
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	H	15	Total	O	0	0
			15	15		

### 3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors 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.

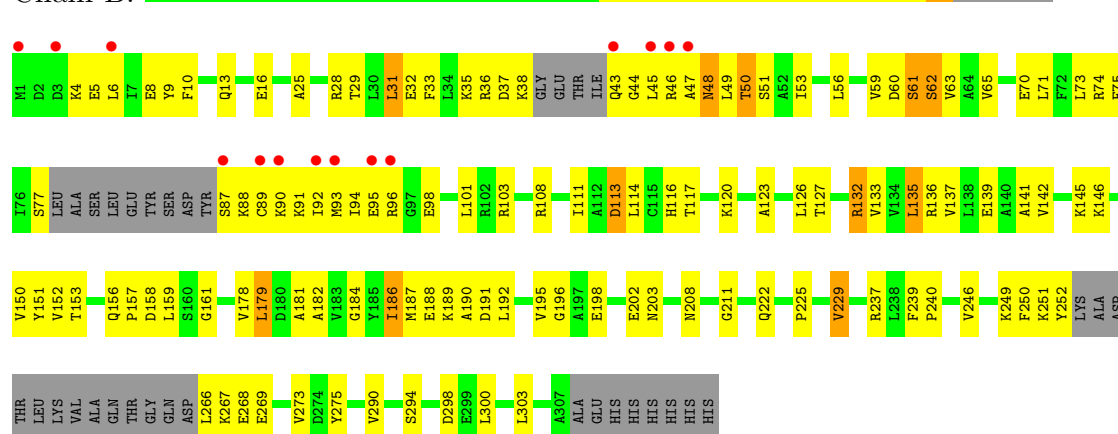
- Molecule 1: Translation initiation factor eIF-2B subunit alpha

Chain A:



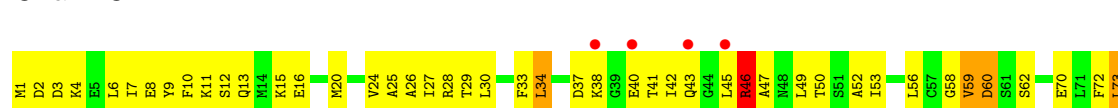
- Molecule 1: Translation initiation factor eIF-2B subunit alpha

Chain B:

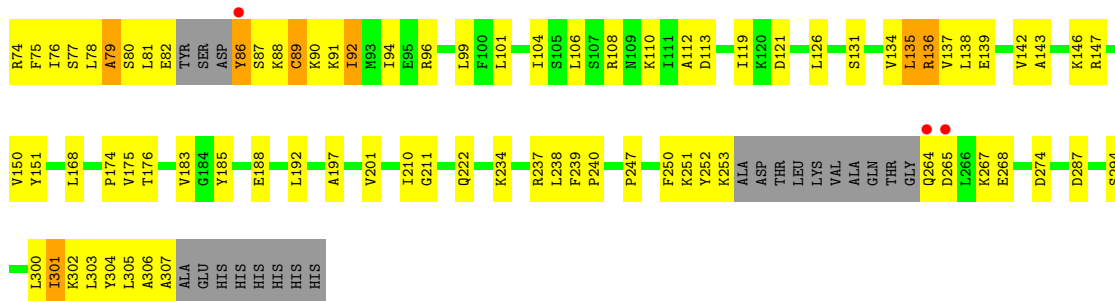


- Molecule 1: Translation initiation factor eIF-2B subunit alpha

Chain C:

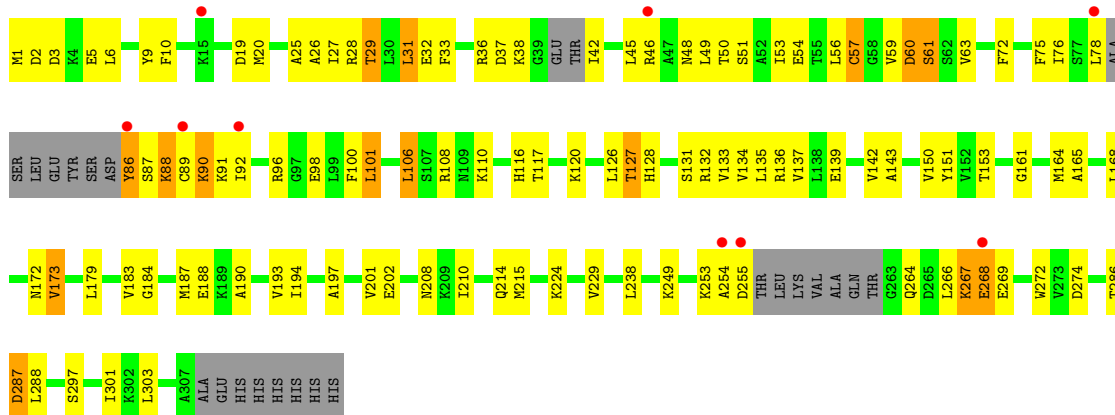






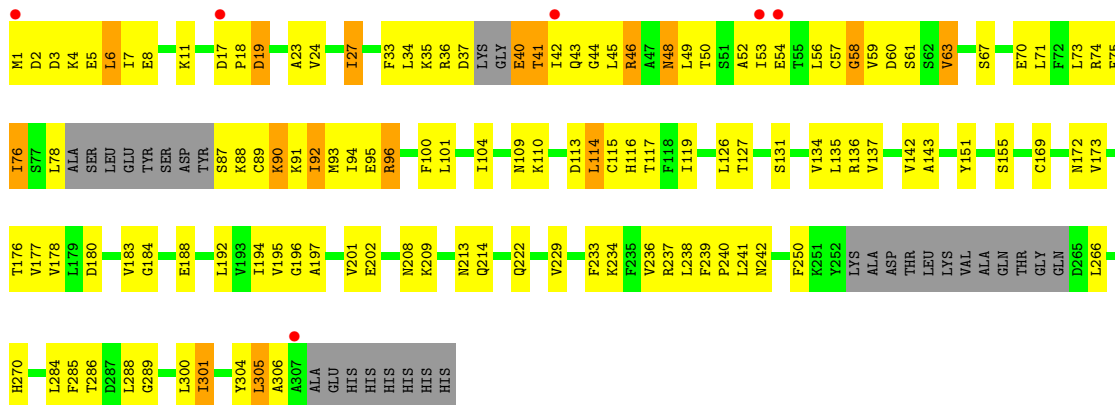
- Molecule 1: Translation initiation factor eIF-2B subunit alpha

Chain D:



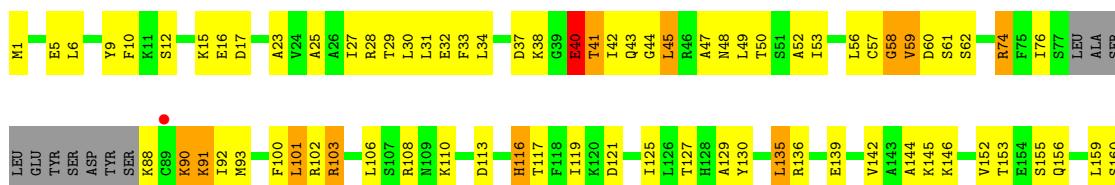
- Molecule 1: Translation initiation factor eIF-2B subunit alpha

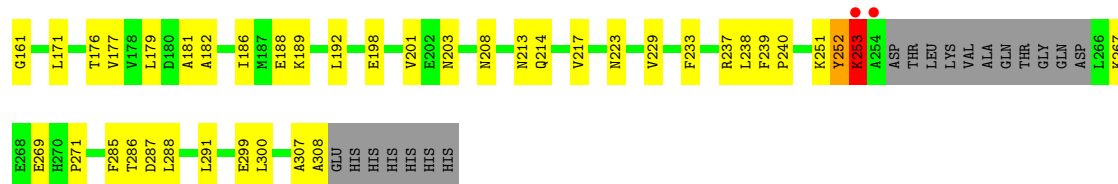
Chain E:



- Molecule 1: Translation initiation factor eIF-2B subunit alpha

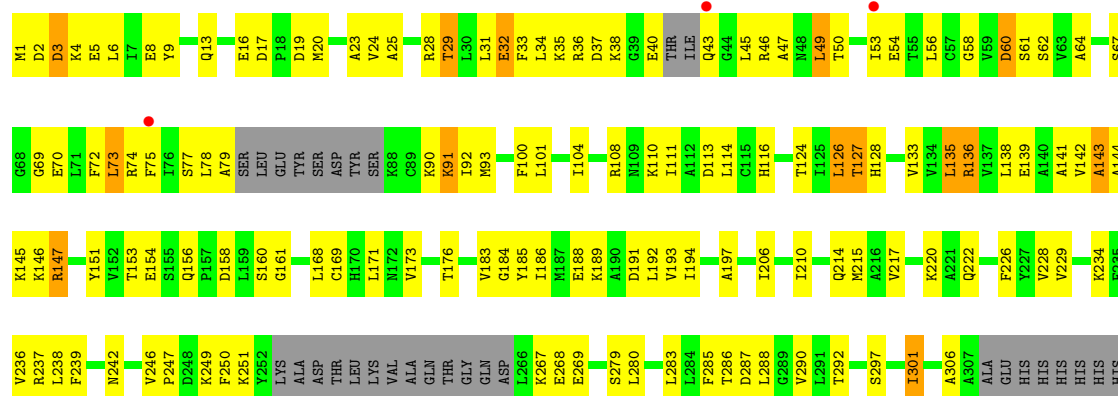
Chain F:





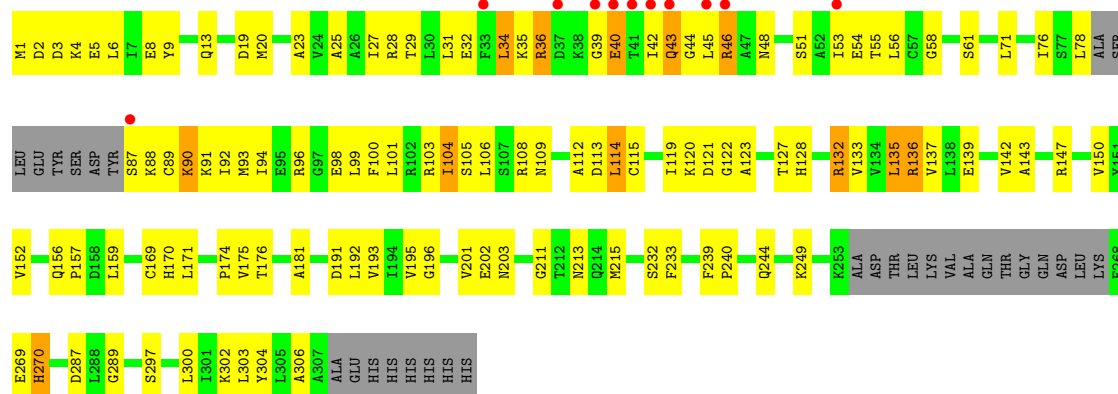
- Molecule 1: Translation initiation factor eIF-2B subunit alpha

Chain G: 



- Molecule 1: Translation initiation factor eIF-2B subunit alpha

Chain H: 



## 4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	70.89Å 156.39Å 138.44Å 90.00° 104.20° 90.00°	Depositor
Resolution (Å)	50.00 – 2.65 48.59 – 2.65	Depositor EDS
% Data completeness (in resolution range)	99.2 (50.00-2.65) 99.2 (48.59-2.65)	Depositor EDS
$R_{merge}$	0.18	Depositor
$R_{sym}$	0.18	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.39 (at 2.65Å)	Xtriage
Refinement program	CNS	Depositor
R, $R_{free}$	0.214 , 0.273 0.214 , 0.273	Depositor DCC
$R_{free}$ test set	4200 reflections (4.99%)	DCC
Wilson B-factor (Å <sup>2</sup> )	41.6	Xtriage
Anisotropy	0.380	Xtriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.34 , 33.2	EDS
Estimated twinning fraction	0.019 for h,-k,-h-l	Xtriage
L-test for twinning	$\langle  L  \rangle = 0.49$ , $\langle L^2 \rangle = 0.32$	Xtriage
Outliers	0 of 84099 reflections	Xtriage
$F_o, F_c$ correlation	0.93	EDS
Total number of atoms	17958	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	48.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.00% of the height of the origin peak. No significant pseudotranslation is detected.*

<sup>1</sup>Intensities estimated from amplitudes.

## 5 Model quality

### 5.1 Standard geometry

Bond lengths and bond angles in the following residue types are not validated in this section: SO4, CL

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	0.44	0/2191	0.67	0/2945
1	B	0.43	0/2206	0.67	0/2964
1	C	0.43	0/2310	0.70	1/3106 (0.0%)
1	D	0.43	0/2282	0.68	2/3066 (0.1%)
1	E	0.42	0/2237	0.68	1/3008 (0.0%)
1	F	0.44	0/2248	0.67	0/3022
1	G	0.42	0/2226	0.66	0/2991
1	H	0.40	0/2235	0.67	0/3005
All	All	0.43	0/17935	0.68	4/24107 (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	C	92	ILE	N-CA-C	-6.03	94.73	111.00
1	D	60	ASP	N-CA-C	-5.91	95.05	111.00
1	E	58	GLY	N-CA-C	-5.67	98.93	113.10
1	D	267	LYS	N-CA-C	-5.46	96.26	111.00

There are no chirality outliers.

There are no planarity outliers.

### 5.2 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 hydrogens added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the

chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2165	0	2247	122	0
1	B	2180	0	2265	112	0
1	C	2282	0	2365	142	0
1	D	2255	0	2336	143	0
1	E	2211	0	2291	149	0
1	F	2221	0	2311	123	0
1	G	2200	0	2285	141	0
1	H	2208	0	2293	155	0
2	A	10	0	0	4	0
2	B	5	0	0	1	0
2	C	5	0	0	0	0
2	D	5	0	0	0	0
2	E	5	0	0	0	0
2	F	10	0	0	0	0
2	G	5	0	0	0	0
2	H	5	0	0	1	0
3	A	1	0	0	0	0
4	A	30	0	0	1	0
4	B	27	0	0	0	0
4	C	20	0	0	3	0
4	D	24	0	0	0	0
4	E	15	0	0	2	0
4	F	26	0	0	1	0
4	G	28	0	0	3	0
4	H	15	0	0	1	0
All	All	17958	0	18393	1011	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 28.

All (1011) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:F:53:ILE:HA	1:F:56:LEU:HD12	1.30	1.12
1:H:42:ILE:HA	1:H:45:LEU:HB3	1.32	1.09
1:A:92:ILE:H	1:A:92:ILE:HD12	1.20	1.06
1:E:6:LEU:HD11	1:E:53:ILE:HB	1.41	1.03
1:E:286:THR:HG23	1:E:288:LEU:H	1.21	1.02
1:A:20:MSE:HE3	1:A:25:ALA:HB2	1.40	1.01
1:D:286:THR:HG22	1:D:288:LEU:H	1.23	1.00
1:D:187:MSE:HE2	1:D:224:LYS:HG3	1.46	0.97

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:F:42:ILE:HG13	1:F:44:GLY:H	1.26	0.96
1:C:42:ILE:HG12	1:C:43:GLN:H	1.28	0.95
1:C:6:LEU:HD13	1:C:53:ILE:HG13	1.45	0.94
1:H:20:MSE:HE3	1:H:25:ALA:HB2	1.50	0.93
1:D:183:VAL:H	1:E:214:GLN:NE2	1.68	0.91
1:H:4:LYS:O	1:H:8:GLU:HG3	1.71	0.90
1:H:1:MSE:HE2	1:H:36:ARG:HD3	1.53	0.90
1:A:13:GLN:HG3	1:A:20:MSE:HE1	1.55	0.89
1:C:41:THR:HG23	1:C:42:ILE:H	1.38	0.89
1:D:193:VAL:CG1	1:D:215:MSE:HE3	2.04	0.88
1:H:5:GLU:HA	1:H:8:GLU:OE1	1.74	0.87
1:C:43:GLN:NE2	1:C:90:LYS:HG2	1.90	0.86
1:A:50:THR:O	1:A:53:ILE:HG12	1.75	0.86
1:H:78:LEU:H	1:H:78:LEU:HD23	1.41	0.86
1:B:77:SER:H	1:B:96:ARG:HH22	1.17	0.85
1:C:40:GLU:OE2	1:C:41:THR:HG22	1.79	0.83
1:G:77:SER:HA	1:G:93:MSE:HE2	1.60	0.83
1:F:50:THR:O	1:F:53:ILE:HG12	1.79	0.83
1:E:53:ILE:HA	1:E:56:LEU:HG	1.61	0.83
1:H:40:GLU:HA	1:H:42:ILE:HG12	1.61	0.83
1:H:31:LEU:HD22	1:H:35:LYS:HE3	1.61	0.82
1:C:56:LEU:O	1:C:59:VAL:HG22	1.80	0.82
1:G:286:THR:HG22	1:G:288:LEU:H	1.43	0.82
1:H:42:ILE:HG22	1:H:45:LEU:HD12	1.58	0.82
1:H:1:MSE:HE1	1:H:32:GLU:HG3	1.59	0.82
1:A:46:ARG:HA	1:A:49:LEU:HD12	1.60	0.81
1:D:214:GLN:HE21	1:E:184:GLY:H	1.26	0.81
1:A:286:THR:HG23	1:A:288:LEU:H	1.43	0.81
1:C:6:LEU:HD22	1:C:53:ILE:HD11	1.61	0.81
1:B:77:SER:H	1:B:96:ARG:NH2	1.77	0.81
1:G:142:VAL:HG13	1:G:143:ALA:H	1.45	0.81
1:F:103:ARG:HG2	1:F:103:ARG:HH11	1.47	0.80
1:F:9:TYR:HD2	1:F:29:THR:HG22	1.47	0.79
1:E:115:CYS:HB3	1:E:285:PHE:CD2	2.16	0.79
1:B:45:LEU:HB3	1:B:48:ASN:OD1	1.83	0.79
1:D:10:PHE:HA	1:D:29:THR:HG21	1.64	0.79
1:B:25:ALA:O	1:B:29:THR:HG23	1.83	0.79
1:B:62:SER:HB2	1:B:65:VAL:HG23	1.63	0.79
1:E:6:LEU:CD1	1:E:53:ILE:HB	2.13	0.79
1:E:23:ALA:O	1:E:27:ILE:HG23	1.83	0.79
1:H:42:ILE:HD12	1:H:46:ARG:HG2	1.65	0.78
1:E:57:CYS:C	1:E:59:VAL:H	1.87	0.78

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:92:ILE:HA	1:A:95:GLU:OE1	1.84	0.78
1:D:127:THR:HG23	1:D:194:ILE:O	1.84	0.77
1:D:183:VAL:N	1:E:214:GLN:NE2	2.33	0.77
1:F:25:ALA:O	1:F:29:THR:HG23	1.84	0.77
1:C:70:GLU:O	1:C:74:ARG:HG3	1.85	0.77
1:F:47:ALA:O	1:F:50:THR:HG22	1.85	0.77
1:H:99:LEU:HD11	1:H:103:ARG:NH1	2.00	0.77
1:D:267:LYS:O	1:D:269:GLU:N	2.17	0.77
1:F:286:THR:HG22	1:F:288:LEU:H	1.49	0.76
1:H:78:LEU:HD11	1:H:90:LYS:HE2	1.66	0.76
1:C:6:LEU:CD1	1:C:53:ILE:HG13	2.16	0.76
1:B:266:LEU:HD23	1:H:175:VAL:H	1.50	0.76
1:B:56:LEU:O	1:B:59:VAL:HG12	1.85	0.76
1:G:127:THR:HG23	1:G:194:ILE:O	1.84	0.76
1:H:40:GLU:HG3	1:H:88:LYS:HG3	1.67	0.75
1:D:183:VAL:H	1:E:214:GLN:HE22	1.34	0.75
1:F:286:THR:HG22	1:F:287:ASP:N	2.01	0.75
1:F:108:ARG:HD3	1:F:136:ARG:HG3	1.69	0.75
1:C:79:ALA:HA	1:C:90:LYS:HD2	1.69	0.74
1:H:201:VAL:HG11	1:H:240:PRO:HD2	1.68	0.74
1:E:131:SER:HB3	1:E:134:VAL:HG22	1.68	0.74
1:C:50:THR:O	1:C:53:ILE:HG22	1.87	0.74
1:H:42:ILE:HA	1:H:45:LEU:CB	2.16	0.74
1:E:286:THR:HG23	1:E:288:LEU:N	2.01	0.74
1:C:38:LYS:HA	1:C:91:LYS:HZ1	1.54	0.73
1:C:53:ILE:HA	1:C:56:LEU:HD12	1.69	0.73
1:F:53:ILE:HA	1:F:56:LEU:CD1	2.16	0.73
1:B:43:GLN:HG2	1:B:45:LEU:H	1.54	0.73
1:F:28:ARG:HG2	1:F:101:LEU:HD11	1.71	0.73
1:A:20:MSE:HE3	1:A:25:ALA:CB	2.16	0.73
1:G:20:MSE:HE1	1:G:28:ARG:HE	1.54	0.72
1:B:267:LYS:HG2	1:B:268:GLU:N	2.03	0.72
1:G:70:GLU:O	1:G:74:ARG:HG3	1.89	0.72
1:B:133:VAL:CG1	1:B:229:VAL:HG13	2.19	0.72
1:E:92:ILE:HB	1:E:96:ARG:HH12	1.53	0.72
1:E:53:ILE:HG22	1:E:56:LEU:HD12	1.70	0.72
1:H:121:ASP:OD1	1:H:147:ARG:HG2	1.89	0.72
1:G:108:ARG:HH11	1:G:108:ARG:HG3	1.55	0.72
1:A:1:MSE:HG3	1:A:36:ARG:HG3	1.70	0.72
1:E:286:THR:HG22	1:E:289:GLY:O	1.89	0.71
1:H:1:MSE:HA	1:H:5:GLU:OE1	1.90	0.71
1:F:253:LYS:HE3	1:F:253:LYS:HA	1.71	0.71

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:45:LEU:HD12	1:A:46:ARG:NH1	2.05	0.71
1:H:46:ARG:HH12	1:H:91:LYS:HE2	1.54	0.71
1:F:42:ILE:HG23	1:F:45:LEU:HB2	1.71	0.71
1:F:9:TYR:CD2	1:F:29:THR:HG22	2.26	0.71
1:G:138:LEU:O	1:G:142:VAL:HG12	1.91	0.71
1:A:92:ILE:H	1:A:92:ILE:CD1	1.96	0.71
1:C:78:LEU:C	1:C:80:SER:H	1.93	0.71
1:D:267:LYS:C	1:D:269:GLU:H	1.94	0.71
1:C:42:ILE:HG12	1:C:43:GLN:N	2.04	0.70
1:D:187:MSE:HE3	1:D:190:ALA:HB3	1.73	0.70
1:D:184:GLY:H	1:E:214:GLN:HE21	1.37	0.70
1:C:34:LEU:HD13	1:C:94:ILE:HG12	1.73	0.70
1:A:52:ALA:O	1:A:56:LEU:HG	1.91	0.70
1:B:188:GLU:HA	1:B:222:GLN:HE22	1.57	0.70
1:F:201:VAL:HG11	1:F:240:PRO:HD2	1.72	0.70
1:C:33:PHE:O	1:C:37:ASP:HB2	1.91	0.70
1:H:27:ILE:HG13	1:H:101:LEU:HD21	1.72	0.70
1:C:47:ALA:HB1	4:C:1024:HOH:O	1.92	0.69
1:E:40:GLU:O	1:E:88:LYS:HE2	1.92	0.69
1:A:1:MSE:HG3	1:A:36:ARG:HE	1.57	0.69
1:A:77:SER:HB3	1:A:93:MSE:HE2	1.75	0.69
1:B:38:LYS:NZ	1:B:91:LYS:HE3	2.08	0.69
1:D:31:LEU:HD12	1:D:101:LEU:HD12	1.74	0.69
1:G:4:LYS:O	1:G:8:GLU:HG3	1.91	0.69
1:H:89:CYS:O	1:H:92:ILE:HG23	1.92	0.69
1:D:193:VAL:HG11	1:D:215:MSE:HE3	1.73	0.69
1:B:184:GLY:HA3	1:H:213:ASN:HD22	1.57	0.69
1:A:94:ILE:O	1:A:98:GLU:HG3	1.92	0.69
1:D:6:LEU:HD11	1:D:53:ILE:HB	1.73	0.69
1:C:12:SER:HA	1:C:15:LYS:HD3	1.74	0.69
1:C:38:LYS:HA	1:C:91:LYS:NZ	2.08	0.69
1:A:294:SER:HB3	1:B:298:ASP:OD1	1.93	0.69
1:H:139:GLU:O	1:H:142:VAL:HG22	1.93	0.68
1:G:28:ARG:NH1	1:G:101:LEU:HD21	2.09	0.68
1:C:28:ARG:HH11	1:C:28:ARG:HG2	1.58	0.68
1:E:35:LYS:HG2	1:E:94:ILE:HD13	1.75	0.68
1:E:60:ASP:O	1:E:61:SER:HB2	1.92	0.68
1:C:81:LEU:HD23	1:C:92:ILE:HD13	1.74	0.68
1:H:46:ARG:HH11	1:H:46:ARG:HG2	1.59	0.68
1:C:301:ILE:O	1:C:305:LEU:HG	1.93	0.68
1:B:267:LYS:HG2	1:B:268:GLU:H	1.59	0.68
1:D:210:ILE:HD12	1:D:274:ASP:HB3	1.76	0.68

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:D:197:ALA:HA	1:D:208:ASN:ND2	2.08	0.68
1:A:57:CYS:C	1:A:59:VAL:H	1.97	0.67
1:G:23:ALA:HB2	1:G:64:ALA:HB1	1.75	0.67
1:E:229:VAL:HG12	1:E:285:PHE:HB2	1.74	0.67
1:D:214:GLN:NE2	1:E:183:VAL:N	2.42	0.67
1:C:108:ARG:HD3	1:C:136:ARG:HG3	1.76	0.67
1:B:187:MSE:HE3	1:B:190:ALA:HB3	1.75	0.67
1:F:1:MSE:HE1	1:F:9:TYR:HB2	1.77	0.67
1:B:269:GLU:HG3	1:H:176:THR:HG21	1.77	0.67
1:B:188:GLU:CA	1:B:222:GLN:HE22	2.07	0.67
1:E:49:LEU:O	1:E:53:ILE:HG23	1.94	0.67
1:A:43:GLN:C	1:A:45:LEU:H	1.97	0.66
1:B:188:GLU:HA	1:B:222:GLN:NE2	2.11	0.66
1:B:132:ARG:HG2	2:B:502:SO4:O4	1.95	0.66
1:F:10:PHE:HA	1:F:29:THR:HG21	1.77	0.66
1:E:1:MSE:HE3	1:E:36:ARG:NH1	2.10	0.66
1:H:28:ARG:HG3	1:H:28:ARG:HH11	1.59	0.66
1:D:266:LEU:O	1:E:176:THR:HA	1.94	0.66
1:G:297:SER:O	1:G:301:ILE:HG22	1.95	0.66
1:H:56:LEU:C	1:H:58:GLY:H	1.99	0.66
1:H:55:THR:HG23	1:H:56:LEU:H	1.61	0.66
1:H:25:ALA:O	1:H:29:THR:HG23	1.96	0.65
1:C:33:PHE:HZ	1:C:49:LEU:HG	1.60	0.65
1:B:114:LEU:CD2	1:D:117:THR:HG21	2.26	0.65
1:H:31:LEU:CD2	1:H:35:LYS:HE3	2.25	0.65
1:F:42:ILE:HG13	1:F:44:GLY:N	2.06	0.65
1:F:1:MSE:CE	1:F:5:GLU:HB3	2.27	0.65
1:E:92:ILE:HB	1:E:96:ARG:NH1	2.12	0.65
1:A:188:GLU:HA	1:A:222:GLN:HE22	1.59	0.65
1:E:53:ILE:HA	1:E:56:LEU:CG	2.26	0.65
1:H:90:LYS:O	1:H:93:MSE:HG3	1.97	0.65
1:F:108:ARG:HH11	1:F:136:ARG:HH12	1.42	0.65
1:H:201:VAL:CG1	1:H:240:PRO:HD2	2.26	0.65
1:A:286:THR:HG22	1:A:289:GLY:O	1.98	0.64
1:D:183:VAL:N	1:E:214:GLN:HE21	1.93	0.64
1:C:73:LEU:O	1:C:76:ILE:HG22	1.97	0.64
1:C:43:GLN:HE22	1:C:90:LYS:HG2	1.60	0.64
1:G:1:MSE:HE2	1:G:5:GLU:HB3	1.80	0.64
1:H:90:LYS:C	1:H:92:ILE:H	2.01	0.64
1:H:55:THR:HG23	1:H:56:LEU:N	2.13	0.64
1:E:89:CYS:C	1:E:91:LYS:H	2.01	0.64
1:B:133:VAL:HG12	1:B:229:VAL:HG13	1.80	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:G:25:ALA:O	1:G:29:THR:HG23	1.98	0.64
1:G:20:MSE:CE	1:G:28:ARG:HE	2.10	0.64
1:D:133:VAL:HG23	1:D:229:VAL:HG23	1.79	0.64
1:E:304:TYR:C	1:E:306:ALA:H	2.00	0.63
1:C:201:VAL:HG11	1:C:240:PRO:HD2	1.79	0.63
1:B:4:LYS:O	1:B:8:GLU:HG3	1.98	0.63
1:A:286:THR:HG23	1:A:288:LEU:N	2.13	0.63
1:A:269:GLU:HG3	1:C:176:THR:HG21	1.79	0.63
1:C:4:LYS:O	1:C:8:GLU:HG3	1.97	0.63
1:A:92:ILE:N	1:A:92:ILE:HD12	2.03	0.63
1:E:114:LEU:HD11	1:E:289:GLY:HA2	1.80	0.63
1:E:127:THR:HG22	1:E:194:ILE:O	1.98	0.63
1:D:61:SER:HB2	1:D:249:LYS:O	1.98	0.63
1:H:28:ARG:NH1	1:H:101:LEU:HD22	2.13	0.63
1:B:48:ASN:N	1:B:48:ASN:HD22	1.96	0.63
1:C:26:ALA:O	1:C:30:LEU:HD23	1.98	0.63
1:F:42:ILE:HD12	1:F:43:GLN:H	1.64	0.63
1:G:37:ASP:O	1:G:46:ARG:NH1	2.31	0.63
1:A:54:GLU:N	1:A:54:GLU:OE2	2.32	0.63
1:C:304:TYR:O	1:C:305:LEU:HD23	1.99	0.62
1:B:114:LEU:HD23	1:D:117:THR:HG21	1.81	0.62
1:F:229:VAL:HG12	1:F:285:PHE:HB2	1.79	0.62
1:A:6:LEU:HD21	1:A:33:PHE:HD2	1.65	0.62
1:D:46:ARG:NH2	1:D:88:LYS:HE3	2.14	0.62
1:F:102:ARG:O	1:F:106:LEU:HD13	1.99	0.62
1:E:49:LEU:HA	1:E:52:ALA:HB3	1.82	0.62
1:F:119:ILE:O	1:F:146:LYS:HD3	2.00	0.62
1:B:198:GLU:HG3	1:B:208:ASN:HA	1.81	0.62
1:A:4:LYS:O	1:A:8:GLU:HG3	2.00	0.62
1:G:136:ARG:CZ	1:G:136:ARG:HB3	2.30	0.62
1:C:12:SER:O	1:C:16:GLU:HG2	1.99	0.62
1:H:53:ILE:HG22	1:H:56:LEU:HD12	1.80	0.62
1:C:42:ILE:CG1	1:C:43:GLN:H	2.10	0.62
1:A:213:ASN:O	1:A:217:VAL:HG23	2.00	0.62
1:B:94:ILE:O	1:B:98:GLU:HG3	1.99	0.62
1:H:42:ILE:CA	1:H:45:LEU:HB3	2.21	0.62
1:E:6:LEU:HD11	1:E:53:ILE:CB	2.26	0.62
1:D:214:GLN:HE21	1:E:184:GLY:N	1.96	0.62
1:E:50:THR:O	1:E:54:GLU:HG3	1.99	0.61
1:B:33:PHE:CE1	1:B:53:ILE:HG12	2.35	0.61
1:D:139:GLU:O	1:D:142:VAL:HG22	2.00	0.61
1:G:6:LEU:HD11	1:G:53:ILE:HB	1.83	0.61

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:H:42:ILE:HB	1:H:46:ARG:HB3	1.82	0.61
1:A:46:ARG:HB3	1:A:90:LYS:HZ3	1.66	0.61
1:D:187:MSE:CE	1:D:190:ALA:HB3	2.30	0.61
1:C:86:TYR:CD1	1:C:87:SER:N	2.69	0.61
1:D:45:LEU:O	1:D:49:LEU:HG	2.00	0.61
1:H:113:ASP:C	1:H:115:CYS:H	2.02	0.61
1:H:40:GLU:HG3	1:H:88:LYS:CG	2.30	0.61
1:F:286:THR:CG2	1:F:287:ASP:N	2.64	0.61
1:E:104:ILE:HD12	1:E:104:ILE:C	2.21	0.61
1:H:269:GLU:O	1:H:270:HIS:HB2	2.00	0.61
1:G:147:ARG:HG3	1:G:147:ARG:HH11	1.65	0.61
1:C:46:ARG:HG3	1:C:46:ARG:HH21	1.65	0.61
1:H:42:ILE:HB	1:H:46:ARG:H	1.66	0.60
1:D:214:GLN:NE2	1:E:183:VAL:H	1.99	0.60
1:D:127:THR:HG22	1:D:128:HIS:H	1.66	0.60
1:G:60:ASP:C	1:G:62:SER:H	2.04	0.60
1:F:251:LYS:O	1:F:252:TYR:HB2	2.00	0.60
1:F:192:LEU:HD23	1:F:192:LEU:N	2.16	0.60
1:F:6:LEU:HD21	1:F:33:PHE:CD2	2.36	0.60
1:B:62:SER:HB2	1:B:65:VAL:CG2	2.31	0.60
1:G:33:PHE:HZ	1:G:49:LEU:HD22	1.66	0.60
1:G:136:ARG:HB3	1:G:136:ARG:NH1	2.16	0.60
1:F:176:THR:OG1	1:G:267:LYS:HE3	2.00	0.60
1:F:198:GLU:HG2	1:F:208:ASN:HD22	1.66	0.60
1:G:133:VAL:CG1	1:G:229:VAL:HG12	2.32	0.60
1:C:3:ASP:HA	1:C:6:LEU:HD12	1.84	0.60
1:D:46:ARG:NH2	1:D:91:LYS:NZ	2.49	0.60
1:G:111:ILE:HG21	1:G:229:VAL:HG13	1.82	0.60
1:E:201:VAL:CG1	1:E:240:PRO:HD2	2.32	0.60
1:A:3:ASP:OD2	1:A:56:LEU:HD22	2.02	0.59
1:F:1:MSE:HE2	1:F:5:GLU:HB3	1.84	0.59
1:F:53:ILE:CA	1:F:56:LEU:HD12	2.21	0.59
1:A:9:TYR:O	1:A:13:GLN:HB2	2.01	0.59
1:F:108:ARG:HH11	1:F:136:ARG:NH1	1.99	0.59
1:B:237:ARG:HG3	1:B:237:ARG:HH11	1.67	0.59
1:H:46:ARG:HH21	1:H:93:MSE:SE	2.36	0.59
1:A:45:LEU:O	1:A:49:LEU:HG	2.03	0.59
1:B:44:GLY:C	1:B:45:LEU:HD12	2.21	0.59
1:F:201:VAL:HG13	1:F:238:LEU:O	2.03	0.59
1:F:291:LEU:HD21	1:F:299:GLU:HG3	1.83	0.59
1:E:45:LEU:O	1:E:49:LEU:HG	2.02	0.59
1:C:52:ALA:O	1:C:56:LEU:HG	2.02	0.59

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:E:78:LEU:HA	1:E:90:LYS:HZ1	1.67	0.59
1:A:21:ALA:HB3	1:A:24:VAL:HG23	1.84	0.59
1:H:78:LEU:HD23	1:H:78:LEU:N	2.17	0.59
1:F:103:ARG:HG2	1:F:103:ARG:NH1	2.13	0.59
1:B:46:ARG:HH11	1:B:49:LEU:CD1	2.16	0.59
1:D:86:TYR:HD1	1:D:87:SER:H	1.50	0.59
1:A:34:LEU:HD22	1:A:90:LYS:HE2	1.85	0.59
1:A:22:SER:HB2	4:A:1025:HOH:O	2.01	0.59
1:B:16:GLU:O	1:B:16:GLU:HG2	2.03	0.59
1:A:13:GLN:CG	1:A:20:MSE:HE1	2.30	0.59
1:B:137:VAL:HG21	1:B:229:VAL:HG21	1.85	0.59
1:D:1:MSE:HA	1:D:5:GLU:OE1	2.02	0.59
1:A:90:LYS:HG3	1:A:93:MSE:SE	2.53	0.59
1:D:134:VAL:HG13	1:D:164:MSE:HE1	1.84	0.59
1:A:124:THR:HG21	1:A:189:LYS:O	2.03	0.59
1:G:188:GLU:HA	1:G:222:GLN:HE22	1.68	0.59
1:C:41:THR:HG23	1:C:45:LEU:HB2	1.85	0.58
1:D:214:GLN:HE22	1:E:183:VAL:H	1.51	0.58
1:H:169:CYS:C	1:H:171:LEU:H	2.07	0.58
1:E:87:SER:C	1:E:89:CYS:H	2.06	0.58
1:D:56:LEU:O	1:D:59:VAL:HG23	2.03	0.58
1:C:59:VAL:O	1:C:59:VAL:HG23	2.02	0.58
1:C:188:GLU:HA	1:C:222:GLN:HE22	1.68	0.58
1:A:30:LEU:O	1:A:33:PHE:N	2.37	0.58
1:B:133:VAL:O	1:B:137:VAL:HG23	2.02	0.58
1:B:111:ILE:CG2	1:B:229:VAL:HG22	2.34	0.58
1:D:28:ARG:HG2	1:D:28:ARG:HH11	1.68	0.58
1:C:25:ALA:O	1:C:29:THR:HG23	2.03	0.58
1:F:42:ILE:HD12	1:F:43:GLN:N	2.18	0.58
1:H:27:ILE:CD1	1:H:104:ILE:HD11	2.33	0.58
1:D:133:VAL:O	1:D:137:VAL:HG23	2.04	0.58
1:A:46:ARG:N	1:A:46:ARG:HD2	2.19	0.58
1:B:43:GLN:HG2	1:B:44:GLY:N	2.19	0.58
1:G:56:LEU:C	1:G:58:GLY:H	2.05	0.58
1:H:40:GLU:HG3	1:H:88:LYS:HD2	1.86	0.58
1:A:43:GLN:C	1:A:45:LEU:N	2.56	0.58
1:C:237:ARG:CZ	1:E:301:ILE:HD11	2.33	0.58
1:B:59:VAL:HG13	1:B:59:VAL:O	2.02	0.58
1:B:187:MSE:CE	1:B:190:ALA:HB3	2.33	0.58
1:A:91:LYS:O	1:A:95:GLU:HG3	2.03	0.58
1:A:6:LEU:C	1:A:8:GLU:H	2.06	0.58
1:C:46:ARG:HB2	1:C:46:ARG:CZ	2.33	0.58

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:G:108:ARG:NH1	1:G:108:ARG:HG3	2.18	0.58
1:H:31:LEU:HD12	1:H:101:LEU:HD12	1.85	0.58
1:C:28:ARG:HG2	1:C:101:LEU:HD11	1.86	0.58
1:G:133:VAL:HG12	1:G:229:VAL:CG1	2.34	0.58
1:D:106:LEU:HB3	1:D:110:LYS:NZ	2.18	0.58
1:H:40:GLU:CA	1:H:42:ILE:HG12	2.34	0.57
1:E:195:VAL:HG12	1:E:196:GLY:O	2.03	0.57
1:C:201:VAL:CG1	1:C:240:PRO:HD2	2.34	0.57
1:C:20:MSE:CE	1:C:28:ARG:HE	2.17	0.57
1:H:54:GLU:OE1	1:H:54:GLU:HA	2.04	0.57
1:B:192:LEU:N	1:B:192:LEU:HD23	2.20	0.57
1:C:237:ARG:NH2	1:E:301:ILE:HD11	2.20	0.57
1:D:197:ALA:HA	1:D:208:ASN:HD22	1.69	0.57
1:F:6:LEU:HD11	1:F:53:ILE:HG22	1.85	0.57
1:E:37:ASP:O	1:E:40:GLU:HG3	2.05	0.57
1:D:131:SER:O	1:D:134:VAL:HG12	2.02	0.57
1:C:41:THR:HG23	1:C:42:ILE:N	2.14	0.57
1:C:43:GLN:O	1:C:46:ARG:HG2	2.04	0.57
1:H:31:LEU:HD11	1:H:98:GLU:HG2	1.86	0.57
1:D:50:THR:HA	1:D:53:ILE:HD11	1.85	0.57
1:C:60:ASP:C	1:C:62:SER:H	2.07	0.57
1:H:156:GLN:NE2	1:H:159:LEU:HD21	2.19	0.57
1:F:58:GLY:C	1:F:60:ASP:H	2.08	0.57
1:G:246:VAL:HB	1:G:251:LYS:HZ2	1.70	0.57
1:C:86:TYR:HD1	1:C:87:SER:N	2.02	0.57
1:H:202:GLU:O	1:H:297:SER:HB3	2.04	0.57
1:G:267:LYS:HG2	1:G:268:GLU:N	2.20	0.57
1:C:139:GLU:O	1:C:142:VAL:HG22	2.03	0.57
1:H:109:ASN:ND2	1:H:136:ARG:HE	2.03	0.57
1:F:1:MSE:HE2	1:F:5:GLU:C	2.25	0.57
1:A:53:ILE:HA	1:A:56:LEU:HD12	1.86	0.56
1:H:88:LYS:N	1:H:88:LYS:HZ3	2.03	0.56
1:G:45:LEU:CD2	1:G:49:LEU:HD12	2.35	0.56
1:H:232:SER:N	1:H:287:ASP:OD1	2.38	0.56
1:E:56:LEU:C	1:E:58:GLY:H	2.07	0.56
1:A:1:MSE:HG3	1:A:36:ARG:CG	2.35	0.56
1:G:92:ILE:HD12	1:G:92:ILE:C	2.26	0.56
1:E:201:VAL:HG11	1:E:240:PRO:HD2	1.86	0.56
1:A:7:ILE:O	1:A:7:ILE:HG22	2.05	0.56
1:H:132:ARG:HG2	2:H:508:SO4:O3	2.04	0.56
1:E:4:LYS:O	1:E:8:GLU:HG3	2.04	0.56
1:B:135:LEU:O	1:B:139:GLU:HG3	2.04	0.56

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:6:LEU:HD21	1:C:33:PHE:HD1	1.71	0.56
1:F:1:MSE:HG3	1:F:5:GLU:HB3	1.87	0.56
1:E:304:TYR:O	1:E:306:ALA:N	2.35	0.56
1:F:144:ALA:O	1:F:145:LYS:HB2	2.04	0.56
1:B:92:ILE:O	1:B:95:GLU:HB3	2.05	0.56
1:E:27:ILE:HD11	1:E:101:LEU:HD13	1.87	0.56
1:F:90:LYS:C	1:F:90:LYS:HD2	2.26	0.56
1:E:188:GLU:HA	1:E:222:GLN:HE22	1.70	0.56
1:B:300:LEU:O	1:B:300:LEU:HD23	2.06	0.56
1:H:215:MSE:HE3	4:H:1170:HOH:O	2.06	0.56
1:D:267:LYS:C	1:D:269:GLU:N	2.59	0.56
1:H:150:VAL:O	1:H:175:VAL:HA	2.06	0.56
1:H:42:ILE:O	1:H:44:GLY:N	2.40	0.55
1:H:46:ARG:HD2	1:H:46:ARG:O	2.06	0.55
1:H:94:ILE:O	1:H:98:GLU:HG3	2.06	0.55
1:E:92:ILE:O	1:E:95:GLU:HG2	2.06	0.55
1:H:34:LEU:HD13	1:H:94:ILE:HG12	1.89	0.55
1:D:3:ASP:OD1	1:D:56:LEU:HG	2.06	0.55
1:A:11:LYS:O	1:A:15:LYS:HG2	2.07	0.55
1:E:76:ILE:O	1:E:76:ILE:HG13	2.05	0.55
1:G:286:THR:HG22	1:G:287:ASP:N	2.21	0.55
1:D:266:LEU:HB3	1:D:268:GLU:HB2	1.89	0.55
1:C:72:PHE:O	1:C:76:ILE:HB	2.06	0.55
1:C:294:SER:HB2	1:E:239:PHE:CD2	2.41	0.55
1:D:214:GLN:HG3	1:E:184:GLY:H	1.71	0.55
1:C:1:MSE:SE	1:C:6:LEU:HD23	2.57	0.55
1:F:10:PHE:CA	1:F:29:THR:HG21	2.36	0.55
1:D:46:ARG:HH21	1:D:91:LYS:HD3	1.72	0.55
1:B:28:ARG:HG2	1:B:101:LEU:HD11	1.87	0.55
1:D:165:ALA:HB1	1:E:266:LEU:CD1	2.37	0.55
1:H:46:ARG:C	1:H:48:ASN:N	2.57	0.55
1:D:27:ILE:HD11	1:D:101:LEU:HG	1.88	0.55
1:F:125:ILE:HG12	1:F:192:LEU:HD21	1.87	0.55
1:G:246:VAL:HB	1:G:251:LYS:NZ	2.22	0.55
1:G:54:GLU:OE1	1:G:73:LEU:HD12	2.07	0.55
1:G:246:VAL:O	1:G:251:LYS:NZ	2.39	0.55
1:A:1:MSE:CG	1:A:36:ARG:HE	2.18	0.55
1:H:40:GLU:O	1:H:42:ILE:HG23	2.08	0.54
1:C:82:GLU:HB2	1:C:90:LYS:NZ	2.22	0.54
1:E:78:LEU:HA	1:E:90:LYS:NZ	2.22	0.54
1:B:141:ALA:O	1:B:146:LYS:HB2	2.07	0.54
1:C:252:TYR:O	1:C:253:LYS:HB2	2.07	0.54

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:G:215:MSE:HE3	4:G:1023:HOH:O	2.06	0.54
1:F:10:PHE:HA	1:F:29:THR:CG2	2.36	0.54
1:F:92:ILE:C	1:F:92:ILE:HD12	2.27	0.54
1:H:42:ILE:O	1:H:43:GLN:C	2.45	0.54
1:A:46:ARG:HA	1:A:49:LEU:CD1	2.34	0.54
1:G:286:THR:CG2	1:G:287:ASP:N	2.70	0.54
1:C:50:THR:C	1:C:53:ILE:HG22	2.27	0.54
1:D:133:VAL:CG2	1:D:229:VAL:HG23	2.38	0.54
1:D:78:LEU:HB3	1:D:96:ARG:HH12	1.73	0.54
1:D:92:ILE:HD12	1:D:92:ILE:C	2.28	0.54
1:E:119:ILE:HD11	1:E:137:VAL:HG12	1.88	0.54
1:H:192:LEU:HD23	1:H:192:LEU:N	2.23	0.54
1:F:12:SER:HA	1:F:15:LYS:CB	2.38	0.54
1:B:87:SER:C	1:B:89:CYS:H	2.10	0.54
1:G:79:ALA:HB1	1:G:90:LYS:HG3	1.89	0.54
1:C:76:ILE:CG2	1:C:77:SER:N	2.71	0.54
1:D:56:LEU:O	1:D:56:LEU:HD13	2.07	0.54
1:C:201:VAL:HG13	1:C:238:LEU:O	2.08	0.54
1:E:61:SER:O	1:E:250:PHE:HA	2.08	0.54
1:A:266:LEU:HD13	1:C:174:PRO:HB3	1.89	0.54
1:B:153:THR:O	1:B:161:GLY:HA3	2.08	0.54
1:G:47:ALA:O	1:G:50:THR:HG22	2.08	0.54
1:F:237:ARG:HG3	1:F:237:ARG:HH11	1.71	0.54
1:F:179:LEU:HD22	4:G:1078:HOH:O	2.06	0.54
1:C:41:THR:CG2	1:C:45:LEU:HB2	2.38	0.54
1:F:1:MSE:HG3	1:F:5:GLU:CB	2.38	0.54
1:G:32:GLU:O	1:G:36:ARG:HB3	2.08	0.54
1:D:1:MSE:HE3	1:D:36:ARG:NH1	2.23	0.53
1:D:269:GLU:HB2	1:E:178:VAL:HG12	1.90	0.53
1:H:46:ARG:C	1:H:48:ASN:H	2.12	0.53
1:B:9:TYR:HD2	1:B:29:THR:HG22	1.73	0.53
1:E:27:ILE:HD11	1:E:101:LEU:CD1	2.38	0.53
1:B:113:ASP:OD2	1:D:116:HIS:NE2	2.42	0.53
1:A:144:ALA:O	1:A:145:LYS:HB2	2.08	0.53
1:A:56:LEU:C	1:A:58:GLY:H	2.12	0.53
1:G:142:VAL:HG13	1:G:143:ALA:N	2.21	0.53
1:A:267:LYS:HD3	1:C:175:VAL:O	2.08	0.53
1:A:103:ARG:NH2	1:A:287:ASP:OD2	2.42	0.53
1:B:31:LEU:HD22	1:B:35:LYS:NZ	2.23	0.53
1:A:27:ILE:HD13	1:A:100:PHE:HE1	1.73	0.53
1:E:57:CYS:C	1:E:59:VAL:N	2.58	0.53
1:D:264:GLN:HE22	1:E:172:ASN:HA	1.72	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:H:45:LEU:O	1:H:48:ASN:HB3	2.09	0.53
1:D:264:GLN:NE2	1:E:172:ASN:HA	2.24	0.53
1:D:264:GLN:OE1	1:E:169:CYS:HA	2.07	0.53
1:C:10:PHE:O	1:C:13:GLN:HB2	2.08	0.53
1:E:195:VAL:CG1	1:E:196:GLY:N	2.71	0.53
1:G:31:LEU:O	1:G:35:LYS:HG3	2.09	0.53
1:G:32:GLU:OE2	1:G:35:LYS:HD2	2.09	0.53
1:B:178:VAL:HG13	1:B:182:ALA:HB3	1.91	0.53
1:E:192:LEU:N	1:E:192:LEU:HD23	2.23	0.53
1:A:203:ASN:HB3	1:A:239:PHE:CZ	2.44	0.53
1:H:40:GLU:CG	1:H:88:LYS:HD2	2.38	0.52
1:G:20:MSE:HE1	1:G:28:ARG:NE	2.24	0.52
1:E:71:LEU:HD23	1:E:304:TYR:HE1	1.75	0.52
1:G:43:GLN:C	1:G:45:LEU:N	2.62	0.52
1:F:57:CYS:O	1:F:59:VAL:N	2.43	0.52
1:H:6:LEU:HD13	1:H:53:ILE:HB	1.90	0.52
1:C:6:LEU:HD22	1:C:53:ILE:CD1	2.34	0.52
1:B:46:ARG:HH11	1:B:49:LEU:HD11	1.75	0.52
1:D:10:PHE:CA	1:D:29:THR:HG21	2.38	0.52
1:A:266:LEU:HD23	1:C:176:THR:OG1	2.09	0.52
1:E:67:SER:HB3	1:E:236:VAL:HG23	1.89	0.52
1:H:19:ASP:O	1:H:108:ARG:NH2	2.42	0.52
1:A:125:ILE:HG12	1:A:192:LEU:HD21	1.91	0.52
1:H:105:SER:C	1:H:106:LEU:HD12	2.30	0.52
1:A:30:LEU:HD22	1:A:53:ILE:HD11	1.92	0.52
1:C:42:ILE:HG13	1:C:86:TYR:N	2.25	0.52
1:D:9:TYR:CE1	1:D:32:GLU:HG2	2.44	0.52
1:E:92:ILE:O	1:E:96:ARG:HG2	2.09	0.52
1:A:31:LEU:HD21	1:A:98:GLU:HG2	1.91	0.52
1:A:210:ILE:HD13	1:A:271:PRO:HG2	1.92	0.52
1:A:172:ASN:C	1:C:264:GLN:N	2.63	0.52
1:D:193:VAL:HG13	1:D:215:MSE:HE3	1.91	0.52
1:C:108:ARG:HD2	1:C:136:ARG:CZ	2.40	0.52
1:D:264:GLN:OE1	1:E:172:ASN:HA	2.10	0.52
1:D:53:ILE:HG13	1:D:54:GLU:N	2.24	0.52
1:F:251:LYS:O	1:F:252:TYR:CB	2.58	0.52
1:E:3:ASP:O	1:E:7:ILE:HG13	2.10	0.52
1:A:114:LEU:O	1:A:117:THR:HG22	2.10	0.52
1:F:251:LYS:O	1:F:252:TYR:CD1	2.63	0.52
1:H:40:GLU:C	1:H:42:ILE:N	2.59	0.52
1:B:6:LEU:HD22	1:B:53:ILE:HG13	1.92	0.52
1:H:104:ILE:O	1:H:104:ILE:HG13	2.09	0.52

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:G:6:LEU:CD1	1:G:53:ILE:HB	2.39	0.52
1:G:220:LYS:HE3	1:G:279:SER:O	2.09	0.52
1:A:186:ILE:HD11	1:A:189:LYS:HD2	1.91	0.52
1:C:46:ARG:O	1:C:50:THR:HG22	2.10	0.51
1:G:286:THR:HG22	1:G:288:LEU:N	2.21	0.51
1:B:88:LYS:O	1:B:91:LYS:HG2	2.10	0.51
1:D:6:LEU:CD1	1:D:53:ILE:HB	2.41	0.51
1:H:51:SER:C	1:H:53:ILE:H	2.14	0.51
1:B:266:LEU:CD2	1:H:174:PRO:HA	2.40	0.51
1:F:108:ARG:CD	1:F:136:ARG:HG3	2.40	0.51
1:D:254:ALA:HB3	1:D:272:TRP:CG	2.45	0.51
1:A:153:THR:O	1:A:161:GLY:HA3	2.10	0.51
1:A:46:ARG:HB3	1:A:90:LYS:NZ	2.25	0.51
1:E:1:MSE:HB3	1:E:33:PHE:CD2	2.45	0.51
1:D:264:GLN:OE1	1:E:173:VAL:N	2.44	0.51
1:F:23:ALA:HB3	1:F:233:PHE:CE1	2.45	0.51
1:F:286:THR:CG2	1:F:287:ASP:H	2.22	0.51
1:D:91:LYS:HG3	1:D:91:LYS:O	2.09	0.51
1:G:269:GLU:HA	4:G:1010:HOH:O	2.10	0.51
1:F:267:LYS:O	1:G:176:THR:HA	2.11	0.51
1:A:199:GLY:HA2	1:A:234:LYS:HB3	1.91	0.51
1:A:6:LEU:CD1	1:A:53:ILE:HB	2.40	0.51
1:H:9:TYR:CZ	1:H:32:GLU:HG2	2.45	0.51
1:C:78:LEU:C	1:C:80:SER:N	2.61	0.51
1:G:220:LYS:HD2	1:G:280:LEU:HD23	1.92	0.51
1:H:46:ARG:C	1:H:46:ARG:HD2	2.31	0.51
1:H:13:GLN:HG3	1:H:20:MSE:HE1	1.93	0.51
1:D:268:GLU:O	1:D:268:GLU:HG2	2.10	0.51
1:G:37:ASP:OD1	1:G:46:ARG:NH1	2.43	0.51
1:B:45:LEU:HB3	1:B:48:ASN:CG	2.30	0.51
1:F:253:LYS:HD3	1:F:269:GLU:HA	1.93	0.51
1:G:60:ASP:C	1:G:62:SER:N	2.64	0.51
1:A:117:THR:HG23	1:A:118:PHE:CD1	2.46	0.51
1:B:240:PRO:HG2	1:B:275:TYR:CE1	2.46	0.51
1:H:133:VAL:O	1:H:137:VAL:HG23	2.10	0.51
1:G:2:ASP:O	1:G:3:ASP:C	2.50	0.51
1:G:24:VAL:HG22	1:G:104:ILE:HD12	1.93	0.51
1:E:73:LEU:C	1:E:73:LEU:HD23	2.32	0.51
1:D:50:THR:HA	1:D:53:ILE:CD1	2.41	0.50
1:A:37:ASP:CG	1:A:38:LYS:H	2.14	0.50
1:H:195:VAL:HG22	1:H:196:GLY:N	2.26	0.50
1:E:202:GLU:HB2	1:E:238:LEU:O	2.11	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:H:36:ARG:HH11	1:H:36:ARG:HG3	1.76	0.50
1:B:9:TYR:O	1:B:13:GLN:HG2	2.12	0.50
1:C:38:LYS:NZ	1:C:88:LYS:HG2	2.26	0.50
1:F:57:CYS:C	1:F:59:VAL:N	2.63	0.50
1:G:127:THR:HG22	1:G:128:HIS:H	1.76	0.50
1:C:267:LYS:HG3	1:C:268:GLU:H	1.77	0.50
1:A:46:ARG:CB	1:A:90:LYS:NZ	2.74	0.50
1:B:117:THR:HG22	1:B:117:THR:O	2.11	0.50
1:E:46:ARG:C	1:E:48:ASN:H	2.15	0.50
1:C:4:LYS:HD3	1:C:4:LYS:H	1.77	0.50
1:G:72:PHE:HD1	1:G:100:PHE:CD1	2.29	0.50
1:H:40:GLU:OE1	1:H:88:LYS:HD2	2.12	0.50
1:F:41:THR:HG23	1:F:42:ILE:N	2.27	0.50
1:H:31:LEU:HD12	1:H:101:LEU:CD1	2.42	0.50
1:E:27:ILE:O	1:E:27:ILE:HD12	2.11	0.50
1:F:271:PRO:HG3	1:G:185:TYR:CE2	2.46	0.50
1:A:139:GLU:O	1:A:142:VAL:HG22	2.12	0.50
1:B:9:TYR:CE1	1:B:32:GLU:HG2	2.46	0.50
1:D:75:PHE:CD2	1:D:100:PHE:HB2	2.46	0.50
1:H:203:ASN:HB3	1:H:239:PHE:CE1	2.47	0.50
1:G:141:ALA:O	1:G:146:LYS:HB2	2.12	0.50
1:H:46:ARG:HG2	1:H:46:ARG:NH1	2.24	0.50
1:D:89:CYS:C	1:D:91:LYS:H	2.14	0.50
1:B:101:LEU:O	1:B:101:LEU:HD23	2.11	0.50
1:D:165:ALA:HB1	1:E:266:LEU:HD11	1.94	0.50
1:F:59:VAL:HG22	1:F:59:VAL:O	2.11	0.50
1:A:1:MSE:HG3	1:A:36:ARG:NE	2.26	0.50
1:D:214:GLN:HE21	1:E:183:VAL:N	2.08	0.50
1:C:237:ARG:O	1:C:238:LEU:HD23	2.12	0.50
1:E:17:ASP:HB3	1:E:19:ASP:OD2	2.12	0.50
1:C:33:PHE:CD1	1:C:53:ILE:HD12	2.47	0.49
1:G:40:GLU:HB2	1:G:43:GLN:HA	1.92	0.49
1:B:246:VAL:HB	1:B:251:LYS:HE3	1.94	0.49
1:C:192:LEU:N	1:C:192:LEU:HD23	2.27	0.49
1:H:78:LEU:HB3	1:H:96:ARG:HH12	1.77	0.49
1:B:179:LEU:HD13	1:H:270:HIS:CD2	2.47	0.49
1:G:267:LYS:CG	1:G:268:GLU:N	2.75	0.49
1:G:46:ARG:CZ	1:G:91:LYS:HE3	2.43	0.49
1:D:78:LEU:CD2	1:D:92:ILE:HD11	2.43	0.49
1:F:57:CYS:C	1:F:59:VAL:H	2.16	0.49
1:E:50:THR:HA	1:E:53:ILE:HG12	1.93	0.49
1:E:110:LYS:O	1:E:114:LEU:HB2	2.12	0.49

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:F:201:VAL:HG12	1:F:203:ASN:H	1.78	0.49
1:F:139:GLU:HG3	1:F:171:LEU:HD11	1.94	0.49
1:E:40:GLU:N	1:E:46:ARG:HH21	2.09	0.49
1:G:135:LEU:O	1:G:139:GLU:HG3	2.11	0.49
1:F:9:TYR:CE1	1:F:32:GLU:HG2	2.47	0.49
1:F:12:SER:HA	1:F:15:LYS:HB3	1.94	0.49
1:A:239:PHE:CE1	1:B:202:GLU:HB3	2.47	0.49
1:H:78:LEU:HB3	1:H:96:ARG:NH1	2.28	0.49
1:C:34:LEU:HD13	1:C:94:ILE:CG1	2.42	0.49
1:C:20:MSE:HE1	1:C:28:ARG:HE	1.77	0.49
1:H:120:LYS:HE3	1:H:123:ALA:HB2	1.95	0.49
1:G:236:VAL:HG22	1:G:237:ARG:N	2.28	0.49
1:E:155:SER:HA	1:E:180:ASP:OD2	2.12	0.49
1:C:47:ALA:CB	4:C:1024:HOH:O	2.56	0.49
1:D:184:GLY:HA3	1:E:213:ASN:HD22	1.78	0.49
1:D:184:GLY:N	1:E:214:GLN:HE21	2.09	0.49
1:F:182:ALA:HA	1:G:210:ILE:HD11	1.93	0.49
1:A:208:ASN:O	1:A:273:VAL:HA	2.13	0.49
1:H:53:ILE:HA	1:H:56:LEU:HD12	1.93	0.49
1:A:43:GLN:O	1:A:45:LEU:N	2.46	0.49
1:B:10:PHE:HA	1:B:29:THR:HG21	1.94	0.49
1:G:113:ASP:O	1:G:116:HIS:CD2	2.65	0.49
1:E:42:ILE:HG22	1:E:44:GLY:H	1.78	0.49
1:B:48:ASN:N	1:B:48:ASN:ND2	2.60	0.49
1:D:9:TYR:CD2	1:D:29:THR:HB	2.48	0.49
1:A:54:GLU:OE1	1:A:73:LEU:HD11	2.12	0.49
1:A:271:PRO:HG3	1:C:185:TYR:CE2	2.48	0.49
1:C:24:VAL:HG22	1:C:104:ILE:HD11	1.95	0.49
1:F:42:ILE:HG23	1:F:45:LEU:H	1.77	0.49
1:D:269:GLU:CG	1:E:176:THR:HG21	2.42	0.49
1:E:90:LYS:C	1:E:92:ILE:H	2.14	0.49
1:D:42:ILE:HG12	1:D:45:LEU:CG	2.43	0.49
1:C:28:ARG:NH1	1:C:28:ARG:HG2	2.28	0.49
1:D:56:LEU:C	1:D:56:LEU:HD13	2.33	0.49
1:F:300:LEU:HD23	1:F:300:LEU:C	2.33	0.49
1:E:300:LEU:HD21	1:E:304:TYR:CE2	2.48	0.48
1:E:70:GLU:HG2	1:E:74:ARG:HE	1.78	0.48
1:F:6:LEU:HD11	1:F:53:ILE:CG2	2.44	0.48
1:E:304:TYR:C	1:E:306:ALA:N	2.66	0.48
1:D:46:ARG:HH22	1:D:88:LYS:HE3	1.76	0.48
1:C:251:LYS:HG3	1:C:252:TYR:CD1	2.48	0.48
1:F:59:VAL:HG13	1:F:59:VAL:O	2.13	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:E:43:GLN:NE2	1:E:43:GLN:O	2.46	0.48
1:G:206:ILE:HD13	1:G:228:VAL:HG21	1.93	0.48
1:D:1:MSE:HE3	1:D:36:ARG:CZ	2.42	0.48
1:C:251:LYS:HG3	1:C:252:TYR:CE1	2.48	0.48
1:H:61:SER:HB2	1:H:249:LYS:O	2.13	0.48
1:D:72:PHE:CZ	1:D:76:ILE:HD12	2.47	0.48
1:E:75:PHE:CD2	1:E:100:PHE:HB2	2.48	0.48
1:F:307:ALA:O	1:F:308:ALA:HB2	2.13	0.48
1:A:6:LEU:C	1:A:8:GLU:N	2.66	0.48
1:D:19:ASP:O	1:D:108:ARG:NH2	2.47	0.48
1:A:92:ILE:O	1:A:96:ARG:HG3	2.13	0.48
1:F:42:ILE:HD12	1:F:43:GLN:HG2	1.94	0.48
1:G:111:ILE:CG2	1:G:229:VAL:HG13	2.43	0.48
1:E:70:GLU:HB2	4:E:1173:HOH:O	2.13	0.48
1:C:210:ILE:HD12	1:C:274:ASP:HB3	1.96	0.48
1:F:181:ALA:HA	1:G:214:GLN:NE2	2.28	0.48
1:D:202:GLU:HB3	1:F:239:PHE:CE1	2.49	0.48
1:A:46:ARG:CB	1:A:90:LYS:HZ3	2.27	0.48
1:H:28:ARG:CG	1:H:28:ARG:HH11	2.25	0.48
1:A:57:CYS:C	1:A:59:VAL:N	2.66	0.48
1:G:38:LYS:HG2	1:G:91:LYS:NZ	2.29	0.48
1:B:73:LEU:O	1:B:73:LEU:HD22	2.14	0.48
1:G:158:ASP:OD1	1:G:160:SER:HB3	2.14	0.48
1:B:300:LEU:C	1:B:300:LEU:HD23	2.33	0.48
1:B:158:ASP:O	1:B:159:LEU:HB2	2.14	0.48
1:G:186:ILE:HD11	1:G:189:LYS:HD2	1.94	0.48
1:B:127:THR:HG23	1:B:152:VAL:HG23	1.95	0.48
1:C:300:LEU:O	1:C:303:LEU:HB3	2.13	0.48
1:E:37:ASP:C	1:E:40:GLU:HG3	2.34	0.48
1:B:38:LYS:HZ2	1:B:91:LYS:HE3	1.79	0.48
1:G:45:LEU:O	1:G:49:LEU:HB2	2.14	0.48
1:G:147:ARG:HG3	1:G:147:ARG:NH1	2.26	0.48
1:G:186:ILE:CD1	1:G:189:LYS:HD2	2.44	0.48
1:D:134:VAL:HG23	1:D:194:ILE:HG22	1.96	0.48
1:C:142:VAL:HG23	1:C:143:ALA:N	2.28	0.48
1:H:40:GLU:HG3	1:H:88:LYS:CD	2.43	0.48
1:D:28:ARG:HG2	1:D:28:ARG:NH1	2.29	0.48
1:G:37:ASP:C	1:G:46:ARG:HH12	2.17	0.48
1:G:124:THR:N	1:G:191:ASP:OD2	2.46	0.48
1:G:126:LEU:HB3	1:G:193:VAL:HG12	1.96	0.47
1:H:106:LEU:HD12	1:H:106:LEU:N	2.28	0.47
1:G:237:ARG:NH2	1:H:302:LYS:HG3	2.29	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:F:153:THR:O	1:F:161:GLY:HA3	2.14	0.47
1:F:188:GLU:OE1	1:G:242:ASN:HB2	2.14	0.47
1:H:42:ILE:HB	1:H:46:ARG:CB	2.43	0.47
1:H:142:VAL:HG23	1:H:143:ALA:N	2.29	0.47
1:F:113:ASP:HB3	4:F:1065:HOH:O	2.13	0.47
1:F:44:GLY:O	1:F:48:ASN:ND2	2.47	0.47
1:D:269:GLU:HG2	1:E:176:THR:HG21	1.96	0.47
1:G:53:ILE:HD12	1:G:53:ILE:C	2.35	0.47
1:H:42:ILE:HB	1:H:46:ARG:N	2.29	0.47
1:H:1:MSE:CE	1:H:32:GLU:HG3	2.38	0.47
1:D:214:GLN:NE2	1:E:184:GLY:H	2.02	0.47
1:D:31:LEU:HD11	1:D:98:GLU:HG3	1.95	0.47
1:B:184:GLY:HA3	1:H:213:ASN:ND2	2.28	0.47
1:D:108:ARG:HD3	1:D:136:ARG:HG3	1.97	0.47
1:C:121:ASP:OD1	1:C:147:ARG:N	2.38	0.47
1:F:37:ASP:OD2	1:F:40:GLU:HB2	2.14	0.47
1:E:113:ASP:O	1:E:116:HIS:HD2	1.98	0.47
1:B:211:GLY:HA2	1:H:181:ALA:O	2.14	0.47
1:G:283:LEU:CD2	1:G:292:THR:HG22	2.45	0.47
1:A:32:GLU:O	1:A:35:LYS:HB2	2.15	0.47
1:C:301:ILE:HD11	1:E:237:ARG:CZ	2.44	0.47
1:B:237:ARG:HG3	1:B:237:ARG:NH1	2.28	0.47
1:A:201:VAL:HB	1:A:238:LEU:O	2.14	0.47
1:H:119:ILE:HG22	1:H:119:ILE:O	2.14	0.47
1:B:5:GLU:HA	1:B:8:GLU:OE1	2.14	0.47
1:H:113:ASP:C	1:H:115:CYS:N	2.68	0.47
1:C:135:LEU:O	1:C:139:GLU:HG3	2.14	0.47
1:H:56:LEU:C	1:H:58:GLY:N	2.68	0.47
1:G:142:VAL:C	1:G:144:ALA:N	2.67	0.47
1:D:25:ALA:O	1:D:29:THR:HG23	2.14	0.47
1:A:298:ASP:OD2	1:B:294:SER:HB3	2.14	0.47
1:H:304:TYR:C	1:H:306:ALA:N	2.68	0.47
1:A:306:ALA:O	1:A:307:ALA:HB2	2.15	0.47
1:B:71:LEU:CD1	1:B:303:LEU:HD11	2.45	0.47
1:F:91:LYS:HB2	1:F:93:MSE:HG3	1.96	0.47
1:C:46:ARG:CG	1:C:46:ARG:HH21	2.27	0.47
1:H:27:ILE:HD12	1:H:104:ILE:HD11	1.96	0.47
1:A:54:GLU:OE1	1:A:73:LEU:HD21	2.15	0.47
1:D:57:CYS:C	1:D:59:VAL:H	2.18	0.47
1:A:300:LEU:O	1:A:300:LEU:HD23	2.15	0.47
1:C:50:THR:O	1:C:53:ILE:CG2	2.60	0.47
1:C:9:TYR:CE2	1:C:29:THR:HA	2.50	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:H:128:HIS:HB2	1:H:215:MSE:HE1	1.95	0.47
1:C:75:PHE:HZ	1:C:99:LEU:HD23	1.79	0.47
1:C:7:ILE:O	1:C:11:LYS:HG3	2.14	0.47
1:G:36:ARG:HG3	1:G:36:ARG:HH11	1.80	0.47
1:E:208:ASN:O	1:E:209:LYS:C	2.53	0.47
1:C:150:VAL:HG12	1:C:151:TYR:N	2.30	0.47
1:C:3:ASP:O	1:C:6:LEU:HB2	2.15	0.46
1:C:45:LEU:O	1:C:46:ARG:HB3	2.15	0.46
1:D:78:LEU:HD23	1:D:92:ILE:HD11	1.97	0.46
1:F:34:LEU:O	1:F:37:ASP:HB3	2.15	0.46
1:D:150:VAL:HG12	1:D:151:TYR:N	2.30	0.46
1:E:2:ASP:O	1:E:6:LEU:HB2	2.15	0.46
1:E:71:LEU:HD12	1:E:233:PHE:HA	1.97	0.46
1:C:247:PRO:HD2	1:C:250:PHE:HD1	1.80	0.46
1:G:101:LEU:O	1:G:101:LEU:HD12	2.15	0.46
1:G:43:GLN:C	1:G:43:GLN:OE1	2.53	0.46
1:A:181:ALA:O	1:C:211:GLY:HA2	2.15	0.46
1:F:127:THR:HG23	1:F:152:VAL:HG23	1.97	0.46
1:B:195:VAL:HG12	1:B:196:GLY:O	2.15	0.46
1:H:42:ILE:HD12	1:H:46:ARG:CG	2.41	0.46
1:H:2:ASP:H	1:H:5:GLU:HB2	1.80	0.46
1:D:27:ILE:CD1	1:D:101:LEU:HG	2.45	0.46
1:E:89:CYS:C	1:E:91:LYS:N	2.68	0.46
1:E:70:GLU:HG2	1:E:74:ARG:NE	2.31	0.46
1:A:132:ARG:HD2	2:A:501:SO4:O4	2.16	0.46
1:H:90:LYS:C	1:H:92:ILE:N	2.67	0.46
1:D:286:THR:HG22	1:D:287:ASP:N	2.30	0.46
1:G:110:LYS:HD2	1:G:287:ASP:HB2	1.97	0.46
1:B:70:GLU:O	1:B:74:ARG:HG3	2.15	0.46
1:D:133:VAL:HG23	1:D:229:VAL:CG2	2.44	0.46
1:D:88:LYS:C	1:D:88:LYS:HD3	2.36	0.46
1:D:142:VAL:HG23	1:D:143:ALA:N	2.30	0.46
1:A:132:ARG:HD2	2:A:501:SO4:O3	2.16	0.46
1:H:114:LEU:O	1:H:114:LEU:HD13	2.15	0.46
1:C:46:ARG:HG3	1:C:47:ALA:N	2.30	0.46
1:B:62:SER:CB	1:B:65:VAL:HG23	2.38	0.46
1:E:34:LEU:HD22	1:E:94:ILE:CG1	2.46	0.46
1:D:254:ALA:O	1:D:255:ASP:HB3	2.15	0.46
1:F:91:LYS:HD3	1:F:91:LYS:H	1.81	0.46
1:H:114:LEU:HD11	1:H:289:GLY:HA2	1.96	0.46
1:A:214:GLN:OE1	1:C:183:VAL:N	2.49	0.46
1:D:153:THR:O	1:D:161:GLY:HA3	2.16	0.46

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:58:GLY:O	1:C:60:ASP:N	2.48	0.46
1:E:46:ARG:HH11	1:E:46:ARG:HG3	1.81	0.46
1:A:210:ILE:HG23	1:A:210:ILE:O	2.15	0.46
1:D:19:ASP:O	1:D:132:ARG:HD2	2.16	0.46
1:A:33:PHE:CE2	1:A:53:ILE:HG21	2.51	0.46
1:B:186:ILE:CD1	1:B:189:LYS:HD2	2.46	0.46
1:E:71:LEU:CD2	1:E:304:TYR:HE1	2.29	0.46
1:D:131:SER:HB3	1:D:134:VAL:HG12	1.98	0.46
1:F:106:LEU:HB3	1:F:110:LYS:HZ1	1.82	0.45
1:F:60:ASP:O	1:F:62:SER:N	2.49	0.45
1:H:40:GLU:C	1:H:42:ILE:H	2.19	0.45
1:H:51:SER:HA	1:H:54:GLU:HB2	1.98	0.45
1:C:70:GLU:OE2	1:C:74:ARG:HD2	2.16	0.45
1:D:46:ARG:NH2	1:D:91:LYS:HD3	2.32	0.45
1:E:7:ILE:HG22	1:E:11:LYS:HE2	1.97	0.45
1:G:237:ARG:HH22	1:H:302:LYS:HG3	1.81	0.45
1:F:27:ILE:HD13	1:F:100:PHE:HE1	1.80	0.45
1:A:132:ARG:HD2	2:A:501:SO4:S	2.57	0.45
1:B:267:LYS:CG	1:B:268:GLU:H	2.28	0.45
1:D:46:ARG:NH2	1:D:91:LYS:HZ3	2.13	0.45
1:B:6:LEU:HD21	1:B:53:ILE:HG23	1.97	0.45
1:H:139:GLU:HG2	1:H:171:LEU:HD11	1.98	0.45
1:B:108:ARG:NH2	1:B:132:ARG:HG3	2.32	0.45
1:A:188:GLU:CA	1:A:222:GLN:HE22	2.28	0.45
1:D:86:TYR:O	1:D:90:LYS:HG3	2.17	0.45
1:C:294:SER:HB3	1:E:241:LEU:HD11	1.99	0.45
1:F:214:GLN:OE1	1:G:183:VAL:HB	2.16	0.45
1:D:214:GLN:NE2	1:E:183:VAL:HB	2.32	0.45
1:F:177:VAL:HB	1:G:268:GLU:HG2	1.98	0.45
1:D:2:ASP:O	1:D:5:GLU:HB2	2.16	0.45
1:A:192:LEU:HD23	1:A:192:LEU:N	2.31	0.45
1:G:192:LEU:N	1:G:192:LEU:HD23	2.32	0.45
1:G:139:GLU:HG2	1:G:171:LEU:CD1	2.47	0.45
1:G:56:LEU:C	1:G:58:GLY:N	2.69	0.45
1:G:126:LEU:HD13	1:G:215:MSE:SE	2.67	0.45
1:F:10:PHE:CB	1:F:29:THR:HG21	2.46	0.45
1:E:71:LEU:CD1	1:E:233:PHE:HA	2.46	0.45
1:G:13:GLN:HE22	1:G:28:ARG:HD3	1.82	0.45
1:D:20:MSE:CE	1:D:28:ARG:HE	2.30	0.45
1:A:37:ASP:O	1:A:38:LYS:C	2.55	0.45
1:H:40:GLU:HA	1:H:42:ILE:CG1	2.41	0.45
1:E:88:LYS:HG3	1:E:88:LYS:O	2.17	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:C:6:LEU:HD21	1:C:33:PHE:CD1	2.50	0.45
1:G:142:VAL:C	1:G:144:ALA:H	2.20	0.45
1:B:266:LEU:CD2	1:H:175:VAL:H	2.24	0.45
1:D:28:ARG:NH1	1:D:101:LEU:HD22	2.31	0.45
1:E:76:ILE:HD12	1:E:93:MSE:HE2	1.99	0.45
1:F:286:THR:HG22	1:F:287:ASP:H	1.72	0.45
1:F:108:ARG:HD3	1:F:136:ARG:CG	2.44	0.45
1:D:51:SER:C	1:D:53:ILE:H	2.20	0.45
1:C:4:LYS:HD3	1:C:4:LYS:N	2.32	0.45
1:F:12:SER:HA	1:F:15:LYS:HB2	1.99	0.45
1:F:52:ALA:O	1:F:56:LEU:HG	2.17	0.44
1:H:3:ASP:CG	1:H:56:LEU:HD13	2.38	0.44
1:G:142:VAL:O	1:G:144:ALA:N	2.49	0.44
1:C:136:ARG:NH2	4:C:1116:HOH:O	2.50	0.44
1:G:43:GLN:C	1:G:45:LEU:H	2.19	0.44
1:G:285:PHE:CD2	1:G:290:VAL:HG22	2.53	0.44
1:H:51:SER:C	1:H:53:ILE:N	2.70	0.44
1:E:44:GLY:O	1:E:48:ASN:HB3	2.16	0.44
1:D:183:VAL:HB	1:E:214:GLN:NE2	2.33	0.44
1:G:25:ALA:O	1:G:29:THR:CG2	2.66	0.44
1:F:135:LEU:HD22	1:F:139:GLU:OE2	2.17	0.44
1:D:188:GLU:OE1	1:E:242:ASN:HB2	2.17	0.44
1:F:41:THR:HG23	1:F:42:ILE:H	1.81	0.44
1:C:42:ILE:O	1:C:46:ARG:HG2	2.18	0.44
1:F:10:PHE:HB2	1:F:29:THR:HG21	1.98	0.44
1:H:100:PHE:O	1:H:103:ARG:HB2	2.17	0.44
1:A:94:ILE:HG22	1:A:94:ILE:O	2.17	0.44
1:E:34:LEU:HD23	1:E:34:LEU:O	2.17	0.44
1:D:297:SER:O	1:D:301:ILE:HG13	2.17	0.44
1:D:131:SER:HB3	1:D:134:VAL:CG1	2.48	0.44
1:H:99:LEU:HD11	1:H:103:ARG:HH12	1.79	0.44
1:C:11:LYS:O	1:C:15:LYS:HG3	2.17	0.44
1:C:41:THR:CG2	1:C:42:ILE:H	2.21	0.44
1:E:301:ILE:C	1:E:301:ILE:HD12	2.37	0.44
1:H:135:LEU:O	1:H:139:GLU:HG3	2.17	0.44
1:E:45:LEU:HA	1:E:48:ASN:HD22	1.83	0.44
1:E:96:ARG:CG	1:E:96:ARG:HH11	2.30	0.44
1:G:267:LYS:CG	1:G:268:GLU:H	2.30	0.44
1:G:133:VAL:CG1	1:G:229:VAL:CG1	2.94	0.44
1:F:129:ALA:HB2	1:F:155:SER:OG	2.18	0.44
1:H:127:THR:HG23	1:H:152:VAL:HG23	1.99	0.44
1:F:30:LEU:HD22	1:F:53:ILE:CD1	2.48	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:B:266:LEU:HB3	1:H:175:VAL:O	2.18	0.44
1:H:128:HIS:HB2	1:H:215:MSE:CE	2.47	0.44
1:B:63:VAL:HG22	1:B:250:PHE:CD1	2.53	0.44
1:E:270:HIS:HB3	4:E:1077:HOH:O	2.18	0.44
1:F:237:ARG:HG3	1:F:237:ARG:NH1	2.33	0.43
1:C:24:VAL:HG22	1:C:104:ILE:CD1	2.48	0.43
1:D:134:VAL:HG13	1:D:164:MSE:CE	2.47	0.43
1:E:90:LYS:HG3	1:E:90:LYS:O	2.18	0.43
1:C:72:PHE:CZ	1:C:76:ILE:HD12	2.52	0.43
1:B:90:LYS:O	1:B:93:MSE:HG2	2.18	0.43
1:D:57:CYS:C	1:D:59:VAL:N	2.72	0.43
1:C:300:LEU:C	1:C:300:LEU:HD23	2.39	0.43
1:G:17:ASP:HB3	1:G:19:ASP:OD1	2.17	0.43
1:E:2:ASP:HB3	1:E:5:GLU:OE1	2.18	0.43
1:G:72:PHE:HB2	1:G:100:PHE:CE1	2.52	0.43
1:B:203:ASN:HB3	1:B:239:PHE:CE1	2.53	0.43
1:D:253:LYS:HE3	1:D:253:LYS:HB2	1.81	0.43
1:G:139:GLU:HA	1:G:142:VAL:CG1	2.49	0.43
1:D:10:PHE:HE1	1:D:26:ALA:N	2.17	0.43
1:E:119:ILE:HD11	1:E:137:VAL:CG1	2.46	0.43
1:H:120:LYS:NZ	1:H:191:ASP:HB3	2.33	0.43
1:B:181:ALA:O	1:H:211:GLY:HA2	2.19	0.43
1:F:6:LEU:HD21	1:F:33:PHE:HD2	1.82	0.43
1:H:42:ILE:C	1:H:44:GLY:N	2.70	0.43
1:C:74:ARG:NH2	1:E:305:LEU:HD13	2.34	0.43
1:E:34:LEU:HD23	1:E:34:LEU:C	2.39	0.43
1:E:53:ILE:HG22	1:E:56:LEU:CD1	2.45	0.43
1:A:28:ARG:HH21	1:A:101:LEU:HD21	1.83	0.43
1:A:49:LEU:O	1:A:53:ILE:HG23	2.18	0.43
1:H:120:LYS:HE3	1:H:120:LYS:HB2	1.82	0.43
1:A:214:GLN:OE1	1:C:183:VAL:HB	2.18	0.43
1:F:213:ASN:HD22	1:G:184:GLY:HA3	1.83	0.43
1:D:45:LEU:HB3	1:D:49:LEU:HD11	2.01	0.43
1:B:92:ILE:HG23	1:B:95:GLU:OE1	2.19	0.43
1:H:42:ILE:CB	1:H:46:ARG:HB3	2.48	0.43
1:B:111:ILE:HG21	1:B:229:VAL:HG22	2.00	0.43
1:E:34:LEU:HD22	1:E:94:ILE:HG12	2.01	0.43
1:B:208:ASN:O	1:B:273:VAL:HA	2.19	0.43
1:F:38:LYS:HD2	1:F:38:LYS:HA	1.88	0.43
1:H:55:THR:CG2	1:H:56:LEU:N	2.81	0.43
1:A:9:TYR:CD2	1:A:29:THR:HA	2.54	0.43
1:D:42:ILE:HG12	1:D:45:LEU:HD12	2.01	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:G:133:VAL:HG11	1:G:229:VAL:HG12	2.01	0.43
1:A:305:LEU:O	1:A:306:ALA:C	2.55	0.43
1:G:61:SER:HB2	1:G:249:LYS:O	2.18	0.43
1:H:36:ARG:HH11	1:H:36:ARG:CG	2.32	0.43
1:C:27:ILE:HD11	1:C:101:LEU:HG	2.01	0.43
1:G:1:MSE:HE1	1:G:9:TYR:HB2	2.01	0.43
1:B:179:LEU:HD22	1:H:270:HIS:HD2	1.84	0.43
1:D:187:MSE:O	1:D:187:MSE:HE3	2.19	0.42
1:F:42:ILE:CD1	1:F:43:GLN:HG2	2.49	0.42
1:G:69:GLY:O	1:G:73:LEU:HB2	2.18	0.42
1:G:283:LEU:HD23	1:G:292:THR:HG22	2.01	0.42
1:H:23:ALA:HB3	1:H:233:PHE:CE1	2.54	0.42
1:G:168:LEU:HB3	1:G:173:VAL:HG22	1.99	0.42
1:G:238:LEU:HD11	1:G:250:PHE:HE1	1.83	0.42
1:G:79:ALA:CB	1:G:90:LYS:HG3	2.49	0.42
1:B:133:VAL:HG11	1:B:229:VAL:HG13	1.99	0.42
1:C:301:ILE:HG13	1:C:302:LYS:N	2.32	0.42
1:B:28:ARG:CG	1:B:101:LEU:HD11	2.49	0.42
1:G:197:ALA:O	1:G:234:LYS:HD3	2.19	0.42
1:D:168:LEU:O	1:D:173:VAL:HG13	2.19	0.42
1:F:42:ILE:CG2	1:F:45:LEU:HB2	2.45	0.42
1:E:36:ARG:O	1:E:36:ARG:HG2	2.18	0.42
1:B:142:VAL:O	1:B:145:LYS:N	2.47	0.42
1:C:131:SER:OG	1:C:134:VAL:HG23	2.19	0.42
1:C:197:ALA:O	1:C:234:LYS:HD3	2.18	0.42
1:G:16:GLU:HG2	1:G:16:GLU:O	2.18	0.42
1:H:4:LYS:HB3	1:H:4:LYS:HE2	1.71	0.42
1:G:110:LYS:O	1:G:114:LEU:HG	2.20	0.42
1:C:89:CYS:O	1:C:92:ILE:HG13	2.20	0.42
1:A:59:VAL:HG22	1:A:59:VAL:O	2.19	0.42
1:E:109:ASN:ND2	1:E:136:ARG:HH21	2.17	0.42
1:D:266:LEU:O	1:E:177:VAL:N	2.42	0.42
1:D:42:ILE:HG12	1:D:45:LEU:HG	2.01	0.42
1:D:89:CYS:O	1:D:91:LYS:N	2.53	0.42
1:G:58:GLY:C	1:G:60:ASP:N	2.73	0.42
1:G:153:THR:O	1:G:161:GLY:HA3	2.20	0.42
1:G:90:LYS:O	1:G:93:MSE:HG3	2.20	0.42
1:E:301:ILE:O	1:E:305:LEU:HG	2.19	0.42
1:B:93:MSE:O	1:B:94:ILE:C	2.58	0.42
1:B:113:ASP:HA	1:B:116:HIS:HD2	1.85	0.42
1:H:114:LEU:HD22	1:H:114:LEU:O	2.20	0.42
1:H:55:THR:CG2	1:H:56:LEU:H	2.29	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:H:28:ARG:HH11	1:H:101:LEU:HD22	1.81	0.42
1:C:77:SER:O	1:C:78:LEU:HD23	2.20	0.42
1:D:46:ARG:NH2	1:D:91:LYS:HZ2	2.17	0.42
1:F:15:LYS:C	1:F:17:ASP:H	2.23	0.42
1:B:156:GLN:HB3	1:B:157:PRO:HA	2.01	0.42
1:C:119:ILE:O	1:C:146:LYS:HD3	2.20	0.42
1:B:60:ASP:O	1:B:61:SER:C	2.58	0.42
1:F:130:TYR:HB2	1:F:160:SER:HB2	2.01	0.42
1:F:47:ALA:C	1:F:50:THR:HG22	2.39	0.42
1:E:41:THR:OG1	1:E:42:ILE:N	2.53	0.42
1:A:13:GLN:NE2	1:A:28:ARG:HD2	2.34	0.42
1:C:82:GLU:HB2	1:C:90:LYS:HZ3	1.84	0.42
1:D:91:LYS:CG	1:D:91:LYS:O	2.67	0.42
1:B:192:LEU:HB3	1:B:225:PRO:HG2	2.02	0.42
1:H:112:ALA:HA	1:H:137:VAL:HG22	2.02	0.42
1:F:116:HIS:CD2	1:F:117:THR:N	2.87	0.42
1:D:286:THR:CG2	1:D:287:ASP:N	2.83	0.42
1:C:33:PHE:O	1:C:37:ASP:CB	2.64	0.42
1:E:301:ILE:HD12	1:E:301:ILE:O	2.19	0.42
1:H:201:VAL:CG1	1:H:202:GLU:N	2.83	0.42
1:G:133:VAL:HG12	1:G:229:VAL:HG12	1.96	0.42
1:H:203:ASN:HB3	1:H:239:PHE:CZ	2.55	0.42
1:A:46:ARG:HB2	1:A:90:LYS:HZ2	1.85	0.42
1:C:46:ARG:NH2	1:C:46:ARG:CG	2.82	0.42
1:G:90:LYS:C	1:G:92:ILE:H	2.23	0.42
1:C:138:LEU:HD12	1:C:168:LEU:HD21	2.02	0.42
1:E:46:ARG:C	1:E:48:ASN:N	2.73	0.41
1:B:150:VAL:HG12	1:B:151:TYR:N	2.35	0.41
1:H:48:ASN:O	1:H:51:SER:HB2	2.19	0.41
1:D:201:VAL:HB	1:D:238:LEU:O	2.20	0.41
1:E:142:VAL:HG23	1:E:143:ALA:N	2.35	0.41
1:G:75:PHE:CE1	1:G:306:ALA:HB3	2.55	0.41
1:A:9:TYR:CE2	1:A:32:GLU:HB2	2.56	0.41
1:A:8:GLU:O	1:A:9:TYR:C	2.59	0.41
1:D:286:THR:HG22	1:D:288:LEU:N	2.09	0.41
1:B:46:ARG:C	1:B:48:ASN:H	2.24	0.41
1:D:128:HIS:HA	1:D:153:THR:OG1	2.20	0.41
1:H:122:GLY:N	1:H:147:ARG:O	2.50	0.41
1:D:42:ILE:CD1	1:D:45:LEU:HG	2.50	0.41
1:C:110:LYS:HE2	1:C:287:ASP:O	2.21	0.41
1:C:38:LYS:HD2	1:C:38:LYS:HA	1.95	0.41
1:G:70:GLU:HG2	1:G:74:ARG:HD2	2.03	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:B:47:ALA:O	1:B:50:THR:HG22	2.21	0.41
1:H:28:ARG:CG	1:H:28:ARG:NH1	2.81	0.41
1:E:23:ALA:HB3	1:E:233:PHE:CE1	2.56	0.41
1:C:78:LEU:HD12	1:C:96:ARG:NE	2.36	0.41
1:H:135:LEU:HD22	1:H:139:GLU:HG3	2.01	0.41
1:C:142:VAL:CG2	1:C:143:ALA:N	2.83	0.41
1:E:17:ASP:HA	1:E:18:PRO:HD2	1.92	0.41
1:G:67:SER:HB3	1:G:236:VAL:HB	2.01	0.41
1:D:33:PHE:C	1:D:33:PHE:CD1	2.93	0.41
1:A:6:LEU:O	1:A:8:GLU:N	2.52	0.41
1:C:238:LEU:HD11	1:C:250:PHE:CE1	2.56	0.41
1:G:9:TYR:CE2	1:G:29:THR:HA	2.56	0.41
1:G:246:VAL:HA	1:G:247:PRO:HD3	1.95	0.41
1:F:88:LYS:C	1:F:90:LYS:N	2.74	0.41
1:A:4:LYS:HB3	1:A:4:LYS:HE2	1.87	0.41
1:F:201:VAL:CG1	1:F:240:PRO:HD2	2.45	0.41
1:D:28:ARG:NH1	1:D:101:LEU:CD2	2.84	0.41
1:C:60:ASP:C	1:C:62:SER:N	2.72	0.41
1:F:74:ARG:C	1:F:76:ILE:H	2.24	0.41
1:H:40:GLU:C	1:H:42:ILE:HG12	2.41	0.41
1:E:52:ALA:O	1:E:56:LEU:HG	2.21	0.41
1:A:6:LEU:HD21	1:A:33:PHE:CD2	2.49	0.41
1:A:33:PHE:O	1:A:36:ARG:HB2	2.21	0.41
1:C:41:THR:HG21	1:C:45:LEU:HD12	2.03	0.41
1:G:139:GLU:HA	1:G:142:VAL:HG12	2.03	0.41
1:B:32:GLU:CG	1:B:36:ARG:NH1	2.84	0.41
1:D:48:ASN:HA	1:D:51:SER:HB3	2.02	0.41
1:H:169:CYS:C	1:H:171:LEU:N	2.73	0.41
1:B:132:ARG:H	1:B:132:ARG:HG2	1.57	0.41
1:A:188:GLU:HA	1:A:222:GLN:NE2	2.32	0.41
1:G:33:PHE:O	1:G:37:ASP:HB2	2.21	0.41
1:H:109:ASN:HD21	1:H:136:ARG:HE	1.69	0.41
1:G:151:TYR:CD1	1:G:176:THR:HB	2.56	0.41
1:F:186:ILE:CD1	1:F:189:LYS:HD2	2.51	0.41
1:E:126:LEU:HD12	1:E:151:TYR:O	2.20	0.41
1:G:154:GLU:OE2	1:G:156:GLN:NE2	2.51	0.41
1:A:241:LEU:HA	1:A:241:LEU:HD23	1.87	0.41
1:C:41:THR:HG21	1:C:45:LEU:CD1	2.51	0.41
1:G:136:ARG:CZ	1:G:136:ARG:CB	2.98	0.41
1:A:14:MSE:HE3	1:A:22:SER:HA	2.02	0.41
1:C:306:ALA:O	1:C:307:ALA:C	2.59	0.41
1:A:185:TYR:C	1:A:185:TYR:CD2	2.93	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:H:43:GLN:HE22	1:H:87:SER:N	2.19	0.40
1:C:2:ASP:OD1	1:C:3:ASP:N	2.54	0.40
1:G:144:ALA:O	1:G:145:LYS:HB2	2.20	0.40
1:D:142:VAL:CG2	1:D:143:ALA:N	2.84	0.40
1:F:251:LYS:C	1:F:252:TYR:HD1	2.25	0.40
1:G:214:GLN:HG2	1:G:214:GLN:H	1.72	0.40
1:A:133:VAL:HG23	2:A:501:SO4:O2	2.21	0.40
1:A:46:ARG:HB2	1:A:90:LYS:NZ	2.35	0.40
1:F:286:THR:HG22	1:F:288:LEU:N	2.26	0.40
1:G:60:ASP:O	1:G:62:SER:N	2.54	0.40
1:B:191:ASP:HB2	1:B:192:LEU:HD23	2.03	0.40
1:G:31:LEU:HD23	1:G:31:LEU:HA	1.82	0.40
1:A:139:GLU:HG3	1:A:171:LEU:HD13	2.02	0.40
1:C:112:ALA:HA	1:C:137:VAL:HG22	2.03	0.40
1:F:156:GLN:NE2	1:F:159:LEU:HD21	2.36	0.40
1:E:40:GLU:O	1:E:41:THR:O	2.39	0.40
1:C:33:PHE:CZ	1:C:49:LEU:HG	2.48	0.40
1:D:92:ILE:CD1	1:D:92:ILE:C	2.89	0.40
1:F:49:LEU:HA	1:F:49:LEU:HD12	1.88	0.40
1:A:45:LEU:HD12	1:A:46:ARG:CZ	2.51	0.40
1:A:6:LEU:HD13	1:A:53:ILE:HB	2.02	0.40
1:D:49:LEU:O	1:D:53:ILE:HG23	2.21	0.40
1:E:63:VAL:HG13	1:E:250:PHE:CG	2.57	0.40
1:E:24:VAL:HG22	1:E:104:ILE:HD13	2.03	0.40
1:F:251:LYS:HD3	1:G:185:TYR:OH	2.21	0.40
1:G:193:VAL:CG2	1:G:226:PHE:CD1	3.05	0.40
1:H:195:VAL:HG22	1:H:196:GLY:H	1.85	0.40
1:E:197:ALA:O	1:E:234:LYS:HD3	2.22	0.40
1:A:106:LEU:HA	1:A:106:LEU:HD12	1.87	0.40
1:H:45:LEU:HD13	1:H:45:LEU:C	2.41	0.40
1:B:37:ASP:OD2	1:B:46:ARG:HD2	2.21	0.40
1:B:114:LEU:HD22	1:B:290:VAL:HG23	2.04	0.40
1:B:51:SER:C	1:B:53:ILE:H	2.24	0.40
1:B:123:ALA:HA	1:B:191:ASP:OD2	2.21	0.40
1:F:34:LEU:C	1:F:34:LEU:HD23	2.41	0.40
1:E:142:VAL:CG2	1:E:143:ALA:N	2.84	0.40
1:F:217:VAL:HG12	1:G:217:VAL:HG12	2.03	0.40

There are no symmetry-related clashes.

## 5.3 Torsion angles

### 5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	271/315 (86%)	251 (93%)	16 (6%)	4 (2%)	15	34
1	B	273/315 (87%)	252 (92%)	18 (7%)	3 (1%)	21	45
1	C	288/315 (91%)	264 (92%)	19 (7%)	5 (2%)	14	30
1	D	283/315 (90%)	258 (91%)	19 (7%)	6 (2%)	11	24
1	E	277/315 (88%)	254 (92%)	19 (7%)	4 (1%)	16	37
1	F	281/315 (89%)	257 (92%)	16 (6%)	8 (3%)	8	16
1	G	276/315 (88%)	254 (92%)	19 (7%)	3 (1%)	21	45
1	H	279/315 (89%)	253 (91%)	19 (7%)	7 (2%)	9	19
All	All	2228/2520 (88%)	2043 (92%)	145 (6%)	40 (2%)	13	28

All (40) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	61	SER
1	C	46	ARG
1	C	265	ASP
1	D	61	SER
1	D	88	LYS
1	D	268	GLU
1	E	41	THR
1	F	252	TYR
1	H	40	GLU
1	D	90	LYS
1	F	59	VAL
1	F	61	SER
1	H	104	ILE
1	C	60	ASP
1	D	60	ASP
1	E	305	LEU
1	G	3	ASP
1	H	43	GLN
1	C	59	VAL

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Mol	Chain	Res	Type
1	D	37	ASP
1	F	16	GLU
1	F	58	GLY
1	F	253	LYS
1	G	91	LYS
1	H	170	HIS
1	A	306	ALA
1	B	62	SER
1	C	79	ALA
1	E	90	LYS
1	G	143	ALA
1	A	37	ASP
1	B	75	PHE
1	F	40	GLU
1	F	41	THR
1	H	76	ILE
1	H	270	HIS
1	A	7	ILE
1	E	76	ILE
1	A	210	ILE
1	H	39	GLY

### 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	237/260 (91%)	228 (96%)	9 (4%)	44	75
1	B	239/260 (92%)	224 (94%)	15 (6%)	25	50
1	C	250/260 (96%)	238 (95%)	12 (5%)	35	65
1	D	246/260 (95%)	229 (93%)	17 (7%)	22	44
1	E	243/260 (94%)	229 (94%)	14 (6%)	28	55
1	F	242/260 (93%)	228 (94%)	14 (6%)	28	55
1	G	240/260 (92%)	225 (94%)	15 (6%)	25	50
1	H	242/260 (93%)	228 (94%)	14 (6%)	28	55
All	All	1939/2080 (93%)	1829 (94%)	110 (6%)	29	56

All (110) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	3	ASP
1	A	103	ARG
1	A	106	LEU
1	A	120	LYS
1	A	132	ARG
1	A	135	LEU
1	A	149	SER
1	A	266	LEU
1	A	303	LEU
1	B	31	LEU
1	B	48	ASN
1	B	50	THR
1	B	103	ARG
1	B	113	ASP
1	B	120	LYS
1	B	126	LEU
1	B	132	ARG
1	B	135	LEU
1	B	136	ARG
1	B	179	LEU
1	B	186	ILE
1	B	229	VAL
1	B	249	LYS
1	B	252	TYR
1	C	34	LEU
1	C	46	ARG
1	C	73	LEU
1	C	86	TYR
1	C	89	CYS
1	C	106	LEU
1	C	113	ASP
1	C	126	LEU
1	C	135	LEU
1	C	136	ARG
1	C	239	PHE
1	C	301	ILE
1	D	29	THR
1	D	31	LEU
1	D	38	LYS
1	D	57	CYS
1	D	63	VAL
1	D	86	TYR

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Mol	Chain	Res	Type
1	D	101	LEU
1	D	106	LEU
1	D	120	LYS
1	D	126	LEU
1	D	127	THR
1	D	135	LEU
1	D	172	ASN
1	D	173	VAL
1	D	179	LEU
1	D	287	ASP
1	D	303	LEU
1	E	6	LEU
1	E	19	ASP
1	E	27	ILE
1	E	40	GLU
1	E	46	ARG
1	E	48	ASN
1	E	63	VAL
1	E	92	ILE
1	E	96	ARG
1	E	114	LEU
1	E	117	THR
1	E	135	LEU
1	E	284	LEU
1	E	301	ILE
1	F	31	LEU
1	F	40	GLU
1	F	45	LEU
1	F	74	ARG
1	F	90	LYS
1	F	91	LYS
1	F	101	LEU
1	F	103	ARG
1	F	116	HIS
1	F	121	ASP
1	F	135	LEU
1	F	142	VAL
1	F	223	ASN
1	F	253	LYS
1	G	29	THR
1	G	32	GLU
1	G	34	LEU

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Mol	Chain	Res	Type
1	G	49	LEU
1	G	60	ASP
1	G	73	LEU
1	G	78	LEU
1	G	126	LEU
1	G	127	THR
1	G	135	LEU
1	G	136	ARG
1	G	147	ARG
1	G	169	CYS
1	G	239	PHE
1	G	301	ILE
1	H	34	LEU
1	H	36	ARG
1	H	46	ARG
1	H	71	LEU
1	H	90	LYS
1	H	114	LEU
1	H	132	ARG
1	H	135	LEU
1	H	136	ARG
1	H	157	PRO
1	H	193	VAL
1	H	244	GLN
1	H	300	LEU
1	H	303	LEU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (40) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	13	GLN
1	A	208	ASN
1	A	222	GLN
1	B	116	HIS
1	B	172	ASN
1	B	208	ASN
1	B	222	GLN
1	C	208	ASN
1	C	222	GLN
1	C	244	GLN
1	C	264	GLN
1	D	48	ASN

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Mol	Chain	Res	Type
1	D	208	ASN
1	D	213	ASN
1	D	214	GLN
1	E	48	ASN
1	E	109	ASN
1	E	116	HIS
1	E	208	ASN
1	E	213	ASN
1	E	214	GLN
1	E	222	GLN
1	E	244	GLN
1	F	48	ASN
1	F	109	ASN
1	F	116	HIS
1	F	208	ASN
1	F	213	ASN
1	F	222	GLN
1	F	244	GLN
1	G	13	GLN
1	G	116	HIS
1	G	208	ASN
1	G	213	ASN
1	G	222	GLN
1	H	109	ASN
1	H	208	ASN
1	H	213	ASN
1	H	244	GLN
1	H	270	HIS

### 5.3.3 RNA ⓘ

There are no RNA chains 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 carbohydrates in this entry.

## 5.6 Ligand geometry

Of 11 ligands modelled in this entry, 1 is monoatomic - leaving 10 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$
2	SO4	A	501	-	4,4,4	0.29	0	6,6,6	0.23	0
2	SO4	A	509	-	4,4,4	0.25	0	6,6,6	0.10	0
2	SO4	B	502	-	4,4,4	0.25	0	6,6,6	0.17	0
2	SO4	C	503	-	4,4,4	0.28	0	6,6,6	0.12	0
2	SO4	D	504	-	4,4,4	0.17	0	6,6,6	0.13	0
2	SO4	E	505	-	4,4,4	0.24	0	6,6,6	0.11	0
2	SO4	F	506	-	4,4,4	0.24	0	6,6,6	0.21	0
2	SO4	F	510	-	4,4,4	0.32	0	6,6,6	0.12	0
2	SO4	G	507	-	4,4,4	0.28	0	6,6,6	0.11	0
2	SO4	H	508	-	4,4,4	0.28	0	6,6,6	0.18	0

In the following table, the Chirals column lists the number of chiral outliers, the number of chiral centers analysed, the number of these observed in the model and the number defined in the chemical component dictionary. Similar counts are reported in the Torsion and Rings columns. '-' means no outliers of that kind were identified.

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
2	SO4	A	501	-	-	0/0/0/0	0/0/0/0
2	SO4	A	509	-	-	0/0/0/0	0/0/0/0
2	SO4	B	502	-	-	0/0/0/0	0/0/0/0
2	SO4	C	503	-	-	0/0/0/0	0/0/0/0
2	SO4	D	504	-	-	0/0/0/0	0/0/0/0
2	SO4	E	505	-	-	0/0/0/0	0/0/0/0
2	SO4	F	506	-	-	0/0/0/0	0/0/0/0
2	SO4	F	510	-	-	0/0/0/0	0/0/0/0
2	SO4	G	507	-	-	0/0/0/0	0/0/0/0
2	SO4	H	508	-	-	0/0/0/0	0/0/0/0

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.

## 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, 95<sup>th</sup> 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 <sup>2</sup> )	Q < 0.9
1	A	279/315 (88%)	-0.19	12 (4%)	34 36	12, 34, 94, 112	0
1	B	281/315 (89%)	-0.06	14 (4%)	28 29	17, 40, 104, 121	0
1	C	294/315 (93%)	-0.22	7 (2%)	56 60	20, 41, 85, 107	0
1	D	291/315 (92%)	-0.15	9 (3%)	47 50	19, 41, 85, 117	0
1	E	285/315 (90%)	-0.10	6 (2%)	60 64	20, 46, 88, 113	0
1	F	287/315 (91%)	-0.31	3 (1%)	79 83	18, 37, 82, 97	0
1	G	284/315 (90%)	-0.10	3 (1%)	77 81	23, 46, 89, 97	0
1	H	285/315 (90%)	-0.08	11 (3%)	37 40	21, 49, 95, 120	0
All	All	2286/2520 (90%)	-0.15	65 (2%)	50 54	12, 41, 90, 121	0

All (65) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	D	86	TYR	6.2
1	C	45	LEU	5.6
1	A	266	LEU	5.0
1	H	45	LEU	4.7
1	H	41	THR	4.7
1	C	86	TYR	4.3
1	B	89	CYS	4.0
1	A	90	LYS	4.0
1	A	43	GLN	3.9
1	D	268	GLU	3.5
1	C	43	GLN	3.5
1	H	39	GLY	3.5
1	E	53	ILE	3.4
1	C	40	GLU	3.3
1	C	38	LYS	3.2
1	D	78	LEU	3.2

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Mol	Chain	Res	Type	RSRZ
1	C	264	GLN	3.2
1	A	34	LEU	3.2
1	A	37	ASP	3.2
1	B	1	MSE	3.1
1	B	90	LYS	3.0
1	H	87	SER	3.0
1	B	95	GLU	3.0
1	A	8	GLU	3.0
1	B	6	LEU	2.9
1	E	42	ILE	2.9
1	B	46	ARG	2.8
1	A	12	SER	2.8
1	B	43	GLN	2.7
1	D	254	ALA	2.7
1	B	96	ARG	2.7
1	B	92	ILE	2.7
1	A	1	MSE	2.7
1	H	43	GLN	2.6
1	D	46	ARG	2.6
1	A	53	ILE	2.5
1	H	42	ILE	2.5
1	A	38	LYS	2.5
1	F	253	LYS	2.5
1	H	46	ARG	2.5
1	E	17	ASP	2.5
1	B	45	LEU	2.5
1	C	265	ASP	2.5
1	H	53	ILE	2.5
1	E	1	MSE	2.4
1	A	33	PHE	2.4
1	A	36	ARG	2.4
1	D	255	ASP	2.4
1	D	89	CYS	2.3
1	D	92	ILE	2.3
1	B	47	ALA	2.3
1	H	33	PHE	2.3
1	B	87	SER	2.3
1	B	93	MSE	2.2
1	F	89	CYS	2.2
1	F	254	ALA	2.2
1	H	40	GLU	2.2
1	D	15	LYS	2.1

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Mol	Chain	Res	Type	RSRZ
1	G	75	PHE	2.1
1	B	3	ASP	2.1
1	G	53	ILE	2.1
1	G	43	GLN	2.1
1	E	54	GLU	2.0
1	E	307	ALA	2.0
1	H	37	ASP	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 ⓘ

There are no carbohydrates 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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. The B-factors column lists the minimum, median, 95<sup>th</sup> 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	RSR	LLDF	B-factors(Å <sup>2</sup> )	Q<0.9
3	CL	A	601	1/1	0.28	9.30	54,54,54,54	0
2	SO4	H	508	5/5	0.13	0.69	67,68,72,73	0
2	SO4	G	507	5/5	0.19	0.64	51,55,57,59	0
2	SO4	A	501	5/5	0.15	0.40	44,47,49,51	0
2	SO4	D	504	5/5	0.15	0.29	53,54,56,57	0
2	SO4	B	502	5/5	0.13	0.29	45,45,47,52	0
2	SO4	A	509	5/5	0.14	-0.36	76,80,80,81	0
2	SO4	F	506	5/5	0.11	-0.99	52,53,55,56	0
2	SO4	C	503	5/5	0.12	-1.16	56,59,60,60	0
2	SO4	F	510	5/5	0.10	-1.77	72,74,75,77	0
2	SO4	E	505	5/5	0.11	-3.65	58,58,62,64	0



## 6.5 Other polymers ⓘ

There are no such residues in this entry.