



# Full wwPDB X-ray Structure Validation Report ⓘ

Oct 31, 2021 – 09:36 PM EDT

PDB ID : 1UIJ  
Title : Crystal Structure Of Soybean beta-Conglycinin Beta Homotrimer (I122M/K124W)  
Authors : Maruyama, N.; Maruyama, Y.; Tsuruki, T.; Okuda, E.; Yoshikawa, M.; Utsumi, S.  
Deposited on : 2003-07-16  
Resolution : 2.50 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](mailto: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.

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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  
Xtriage (Phenix) : 1.13  
EDS : 2.23.2  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
Refmac : 5.8.0158  
CCP4 : 7.0.044 (Gargrove)  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.23.2

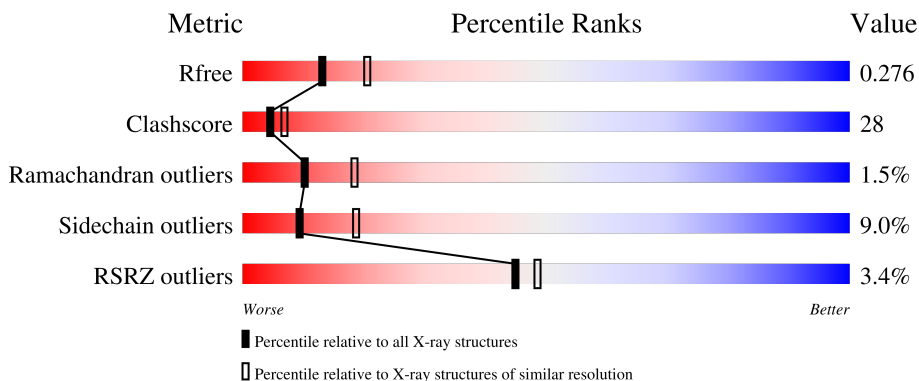
# 1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 2.50 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.



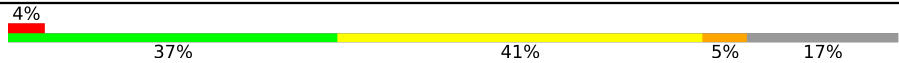
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
$R_{free}$	130704	4661 (2.50-2.50)
Clashscore	141614	5346 (2.50-2.50)
Ramachandran outliers	138981	5231 (2.50-2.50)
Sidechain outliers	138945	5233 (2.50-2.50)
RSRZ outliers	127900	4559 (2.50-2.50)

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  $\geq 3$ , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions  $\leq 5\%$ . The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	416	<div style="display: flex; align-items: center;"> <div style="width: 2%; height: 10px; background-color: red; margin-right: 2px;"></div> <div style="width: 52%; height: 10px; background-color: green; margin-right: 2px;"></div> <div style="width: 33%; height: 10px; background-color: yellow; margin-right: 2px;"></div> <div style="width: 5%; height: 10px; background-color: orange; margin-right: 2px;"></div> <div style="width: 9%; height: 10px; background-color: grey;"></div> </div>
1	B	416	<div style="display: flex; align-items: center;"> <div style="width: 2%; height: 10px; background-color: red; margin-right: 2px;"></div> <div style="width: 47%; height: 10px; background-color: green; margin-right: 2px;"></div> <div style="width: 36%; height: 10px; background-color: yellow; margin-right: 2px;"></div> <div style="width: 5%; height: 10px; background-color: orange; margin-right: 2px;"></div> <div style="width: 11%; height: 10px; background-color: grey;"></div> </div>
1	C	416	<div style="display: flex; align-items: center;"> <div style="width: 5%; height: 10px; background-color: red; margin-right: 2px;"></div> <div style="width: 40%; height: 10px; background-color: green; margin-right: 2px;"></div> <div style="width: 38%; height: 10px; background-color: yellow; margin-right: 2px;"></div> <div style="width: 5%; height: 10px; background-color: orange; margin-right: 2px;"></div> <div style="width: 17%; height: 10px; background-color: grey;"></div> </div>
1	D	416	<div style="display: flex; align-items: center;"> <div style="width: 2%; height: 10px; background-color: red; margin-right: 2px;"></div> <div style="width: 49%; height: 10px; background-color: green; margin-right: 2px;"></div> <div style="width: 36%; height: 10px; background-color: yellow; margin-right: 2px;"></div> <div style="width: 6%; height: 10px; background-color: orange; margin-right: 2px;"></div> <div style="width: 9%; height: 10px; background-color: grey;"></div> </div>
1	E	416	<div style="display: flex; align-items: center;"> <div style="width: 3%; height: 10px; background-color: red; margin-right: 2px;"></div> <div style="width: 46%; height: 10px; background-color: green; margin-right: 2px;"></div> <div style="width: 39%; height: 10px; background-color: yellow; margin-right: 2px;"></div> <div style="width: 0.5%; height: 10px; background-color: orange; margin-right: 2px;"></div> <div style="width: 11%; height: 10px; background-color: grey;"></div> </div>

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Mol	Chain	Length	Quality of chain
1	F	416	 <p>A horizontal bar chart showing the quality distribution of chain F. The bar is divided into five segments: 4% red, 37% green, 41% yellow, 5% orange, and 17% grey.</p>

## 2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 18133 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 beta subunit of beta conglycinin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	377	3087	1947	550	589	1	0	0	0
1	B	370	3022	1911	538	572	1	0	0	0
1	C	346	2824	1797	494	532	1	0	0	0
1	D	377	3087	1947	550	589	1	0	0	0
1	E	370	3022	1911	538	572	1	0	0	0
1	F	346	2824	1797	494	532	1	0	0	0

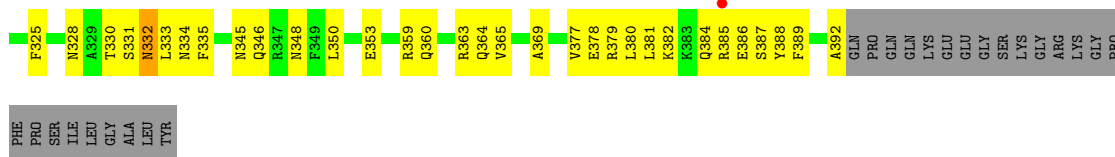
There are 12 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	122	MET	ILE	engineered mutation	UNP P25974
A	124	TRP	LYS	engineered mutation	UNP P25974
B	122	MET	ILE	engineered mutation	UNP P25974
B	124	TRP	LYS	engineered mutation	UNP P25974
C	122	MET	ILE	engineered mutation	UNP P25974
C	124	TRP	LYS	engineered mutation	UNP P25974
D	122	MET	ILE	engineered mutation	UNP P25974
D	124	TRP	LYS	engineered mutation	UNP P25974
E	122	MET	ILE	engineered mutation	UNP P25974
E	124	TRP	LYS	engineered mutation	UNP P25974
F	122	MET	ILE	engineered mutation	UNP P25974
F	124	TRP	LYS	engineered mutation	UNP P25974

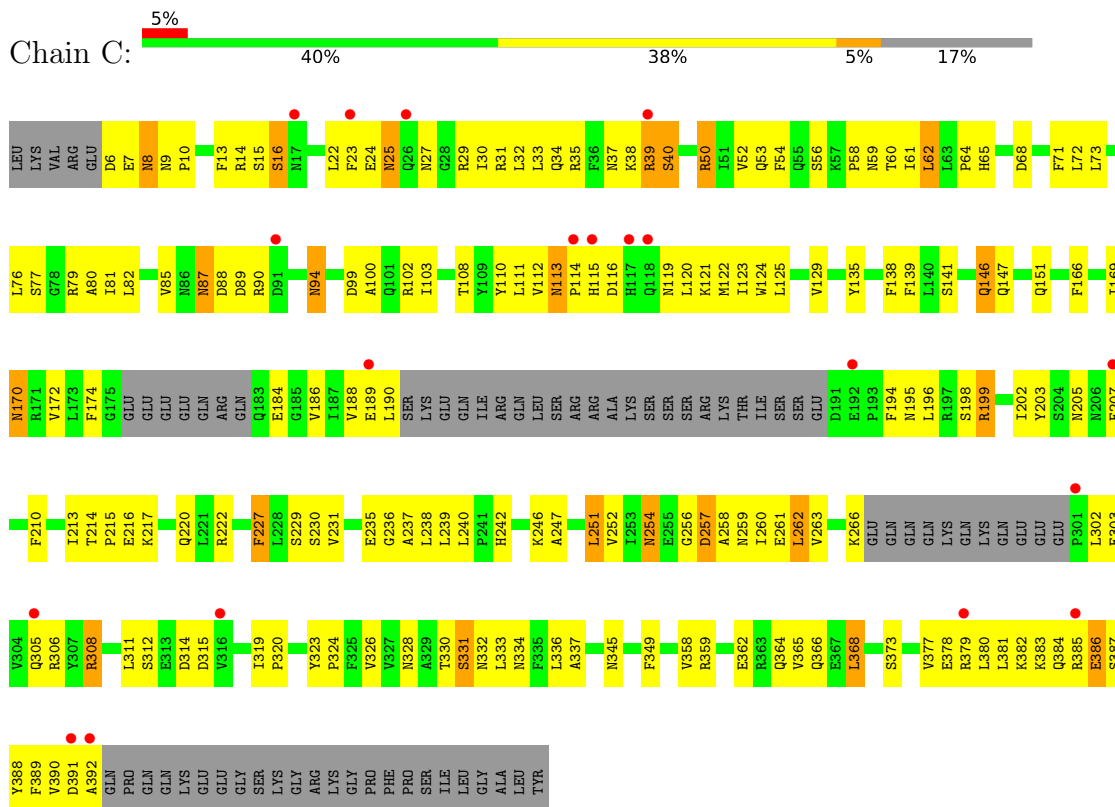
- Molecule 2 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	62	Total O 62 62	0	0
2	B	53	Total O 53 53	0	0
2	C	19	Total O 19 19	0	0
2	D	65	Total O 65 65	0	0
2	E	47	Total O 47 47	0	0
2	F	21	Total O 21 21	0	0

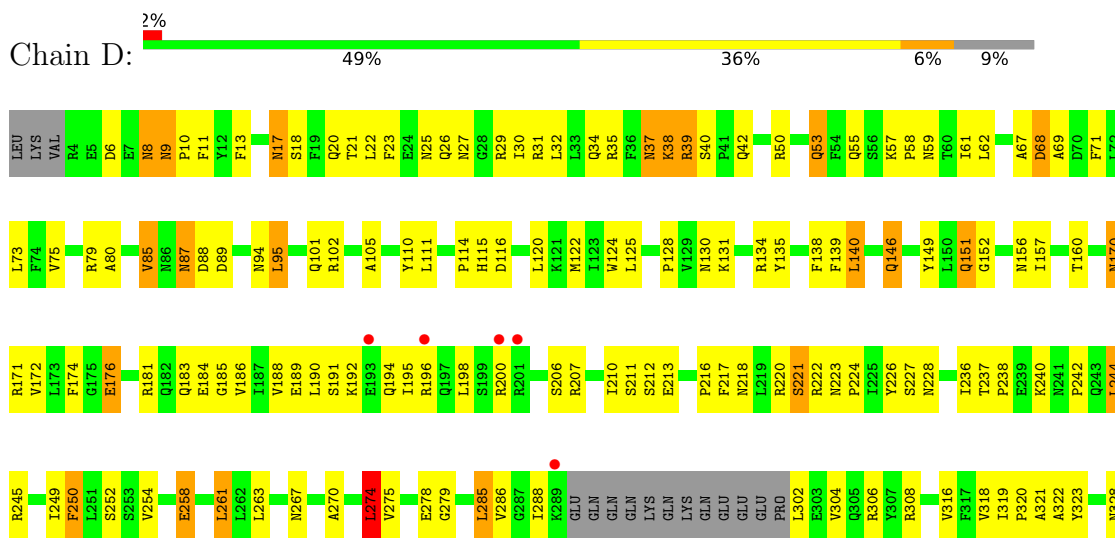


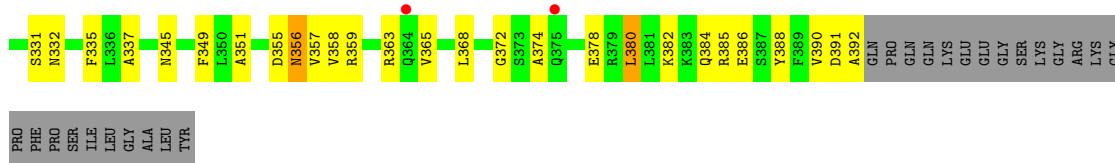


● Molecule 1: beta subunit of beta conglycinin

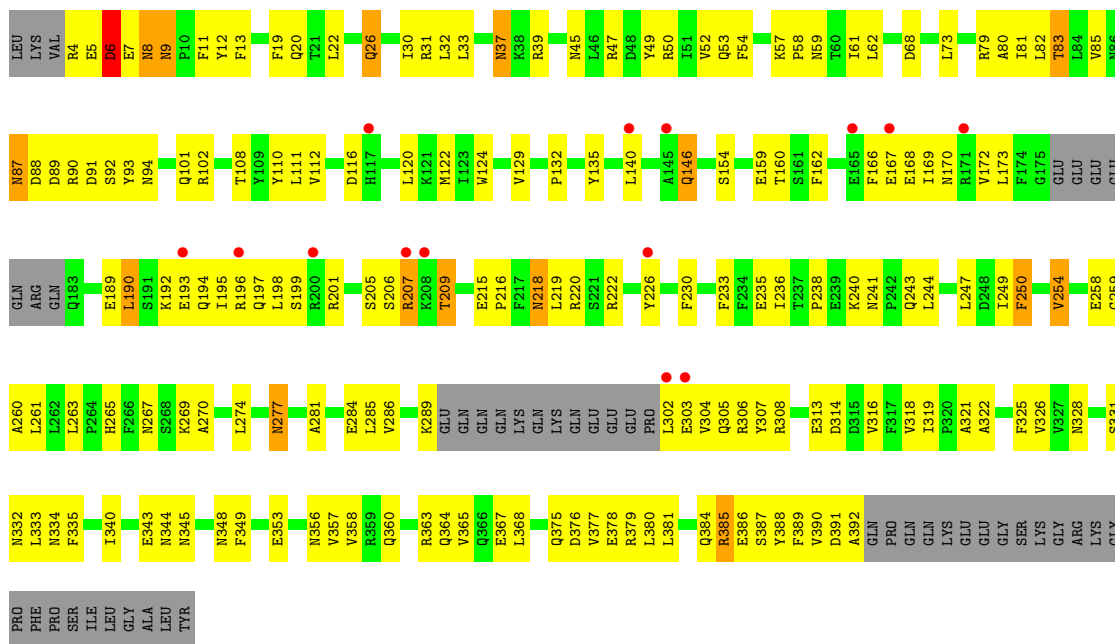


● Molecule 1: beta subunit of beta conglycinin

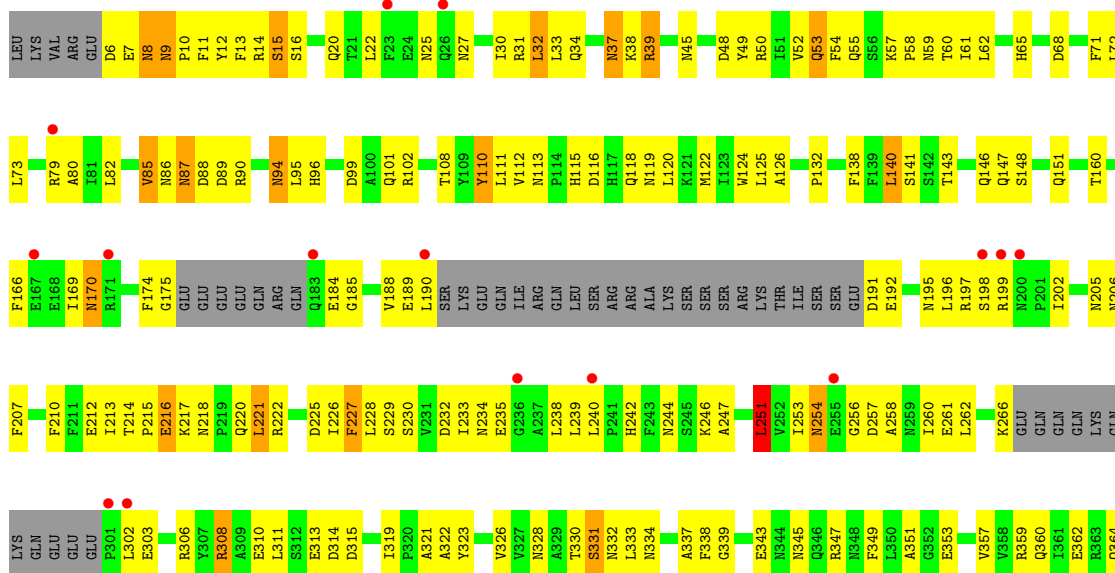




● Molecule 1: beta subunit of beta conglycinin



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V365	Q366	E367	L368	A369	F370	P371	D376	L380	L381	K382	K385	Q384	R385	E386	S387	Y388	F389	V390	D391	A392	GLN	PRO	GLN	GLN	GLN	LYS	GLU	GLU	GLU	GLY	SER	LYS	LYS	GLY	ARG	LYS	LYS	GLY	PRO	PHE	PRO	SER	SER	ILE	LEU	GLY	ALA	LEU	TYR
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## 4 Data and refinement statistics i

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	130.26Å 62.58Å 159.01Å 90.00° 90.44° 90.00°	Depositor
Resolution (Å)	8.00 – 2.50 20.00 – 2.50	Depositor EDS
% Data completeness (in resolution range)	(Not available) (8.00-2.50) 93.8 (20.00-2.50)	Depositor EDS
$R_{merge}$	0.05	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.85 (at 2.50Å)	Xtrriage
Refinement program	CNS 1.0	Depositor
R, $R_{free}$	0.221 , 0.273 0.224 , 0.276	Depositor DCC
$R_{free}$ test set	4277 reflections (5.08%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	39.4	Xtrriage
Anisotropy	0.638	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.36 , 61.4	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.50$ , $\langle L^2 \rangle = 0.33$	Xtrriage
Estimated twinning fraction	0.018 for h,-k,-l	Xtrriage
$F_o, F_c$ correlation	0.94	EDS
Total number of atoms	18133	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	43.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 43.83 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 1.6659e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

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

<sup>2</sup>Theoretical values of  $\langle |L| \rangle$ ,  $\langle L^2 \rangle$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

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	0.39	0/3150	0.68	1/4260 (0.0%)
1	B	0.40	0/3084	0.67	1/4171 (0.0%)
1	C	0.34	0/2886	0.61	0/3910
1	D	0.39	0/3150	0.68	1/4260 (0.0%)
1	E	0.39	0/3084	0.65	0/4171
1	F	0.35	0/2886	0.62	1/3910 (0.0%)
All	All	0.38	0/18240	0.66	4/24682 (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	B	274	LEU	CA-CB-CG	6.46	130.16	115.30
1	F	251	LEU	CA-CB-CG	5.72	128.46	115.30
1	D	274	LEU	CA-CB-CG	5.45	127.84	115.30
1	A	274	LEU	CA-CB-CG	5.34	127.59	115.30

There are no chirality outliers.

There are no planarity outliers.

### 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3087	0	3004	150	0
1	B	3022	0	2950	157	0
1	C	2824	0	2739	202	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	D	3087	0	3004	163	0
1	E	3022	0	2950	176	0
1	F	2824	0	2739	210	0
2	A	62	0	0	3	0
2	B	53	0	0	3	0
2	C	19	0	0	0	0
2	D	65	0	0	4	0
2	E	47	0	0	5	0
2	F	21	0	0	2	0
All	All	18133	0	17386	1002	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 28.

All (1002) 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:B:59:ASN:HD22	1:B:195:ILE:HD12	1.03	1.07
1:E:90:ARG:HH11	1:F:362:GLU:HG2	1.19	1.05
1:E:59:ASN:HD22	1:E:195:ILE:HD12	1.20	1.05
1:A:26:GLN:H	1:A:26:GLN:HE21	1.04	1.03
1:A:183:GLN:HG2	1:A:188:VAL:HG11	1.42	1.01
1:B:26:GLN:H	1:B:26:GLN:NE2	1.61	0.99
1:E:37:ASN:HD22	1:E:37:ASN:H	1.11	0.98
1:E:90:ARG:NH1	1:F:362:GLU:HG2	1.79	0.98
1:B:111:LEU:HD21	1:B:122:MET:HE1	1.46	0.97
1:D:183:GLN:HG2	1:D:188:VAL:HG11	1.45	0.96
1:E:79:ARG:HD2	1:E:94:ASN:HD21	1.29	0.96
1:A:348:ASN:HD22	1:A:357:VAL:HB	1.29	0.95
1:C:384:GLN:HE21	1:C:386:GLU:H	1.08	0.94
1:C:384:GLN:NE2	1:C:386:GLU:HB2	1.83	0.93
1:E:111:LEU:HD21	1:E:122:MET:HE2	1.49	0.92
1:A:111:LEU:HD21	1:A:122:MET:HE3	1.51	0.92
1:B:111:LEU:HD21	1:B:122:MET:CE	2.00	0.91
1:B:59:ASN:HD22	1:B:195:ILE:CD1	1.82	0.91
1:A:261:LEU:HD22	1:A:392:ALA:HB2	1.52	0.91
1:B:261:LEU:HD22	1:B:392:ALA:HB2	1.51	0.90
1:B:59:ASN:ND2	1:B:195:ILE:HD12	1.86	0.90
1:C:50:ARG:HH21	1:C:50:ARG:HB3	1.35	0.90
1:A:37:ASN:HD22	1:A:37:ASN:H	1.20	0.90
1:B:79:ARG:NH1	1:B:94:ASN:HD21	1.71	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:364:GLN:NE2	1:A:364:GLN:H	1.71	0.88
1:D:29:ARG:HD3	1:D:31:ARG:HG3	1.56	0.87
1:B:26:GLN:H	1:B:26:GLN:HE21	1.22	0.87
1:F:79:ARG:HE	1:F:94:ASN:HD21	1.20	0.86
1:B:37:ASN:H	1:B:37:ASN:HD22	1.19	0.86
1:E:218:ASN:HD22	1:E:220:ARG:H	1.23	0.86
1:D:111:LEU:HD21	1:D:122:MET:HE2	1.56	0.85
1:A:35:ARG:NH1	1:A:134:ARG:HD2	1.92	0.84
1:C:170:ASN:HD22	1:C:174:PHE:HB2	1.43	0.83
1:A:371:PRO:HG3	1:C:174:PHE:O	1.78	0.83
1:E:111:LEU:HD21	1:E:122:MET:CE	2.08	0.82
1:C:13:PHE:CE1	1:C:39:ARG:HG3	2.14	0.82
1:F:14:ARG:HG2	1:F:16:SER:HB3	1.61	0.82
1:D:111:LEU:HD21	1:D:122:MET:CE	2.10	0.82
1:F:34:GLN:NE2	1:F:39:ARG:HG2	1.93	0.82
1:C:32:LEU:HD23	1:C:52:VAL:HG22	1.60	0.82
1:F:302:LEU:HD22	1:F:302:LEU:H	1.43	0.81
1:A:218:ASN:ND2	1:A:220:ARG:H	1.77	0.81
1:D:218:ASN:HD22	1:D:220:ARG:H	1.26	0.81
1:E:207:ARG:HH11	1:E:207:ARG:HB3	1.44	0.81
1:D:176:GLU:HB2	2:D:437:HOH:O	1.79	0.81
1:A:26:GLN:H	1:A:26:GLN:NE2	1.78	0.81
1:A:26:GLN:HE21	1:A:26:GLN:N	1.78	0.81
1:D:34:GLN:OE1	1:D:39:ARG:HD2	1.80	0.80
1:C:386:GLU:HB3	1:C:390:VAL:HG12	1.62	0.80
1:A:156:ASN:O	1:A:160:THR:HG22	1.80	0.80
1:B:79:ARG:HH11	1:B:94:ASN:HD21	1.24	0.80
1:C:170:ASN:ND2	1:C:174:PHE:HB2	1.95	0.79
1:B:219:LEU:HD13	1:B:236:ILE:HG12	1.65	0.79
1:C:79:ARG:HD2	1:C:94:ASN:HD21	1.48	0.78
1:E:26:GLN:NE2	1:E:26:GLN:H	1.82	0.78
1:F:111:LEU:HD21	1:F:122:MET:CE	2.14	0.77
1:C:214:THR:H	1:C:217:LYS:HE3	1.49	0.77
1:A:218:ASN:HD22	1:A:220:ARG:H	1.31	0.77
1:A:355:ASP:HA	1:C:87:ASN:O	1.84	0.77
1:A:189:GLU:O	1:A:190:LEU:HD12	1.84	0.76
1:E:59:ASN:HA	1:E:195:ILE:HD11	1.66	0.76
1:B:44:GLU:HG3	2:B:435:HOH:O	1.84	0.76
1:F:52:VAL:HB	1:F:124:TRP:HB2	1.67	0.76
1:D:261:LEU:HD21	1:D:390:VAL:HG22	1.68	0.75
1:A:111:LEU:HD21	1:A:122:MET:CE	2.16	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:29:ARG:HD3	1:A:31:ARG:HG3	1.67	0.75
1:D:261:LEU:HD21	1:D:390:VAL:CG2	2.16	0.75
1:C:236:GLY:O	1:C:392:ALA:HB3	1.87	0.75
1:A:384:GLN:HE21	1:A:386:GLU:H	1.33	0.75
1:F:196:LEU:HD13	1:F:213:ILE:HG12	1.67	0.75
1:A:261:LEU:HB3	1:A:328:ASN:HD22	1.52	0.75
1:E:37:ASN:HD22	1:E:37:ASN:N	1.85	0.75
1:C:35:ARG:HG2	1:C:50:ARG:HE	1.51	0.75
1:B:81:ILE:CD1	1:B:199:SER:HB3	2.17	0.74
1:D:218:ASN:ND2	1:D:220:ARG:H	1.85	0.74
1:F:15:SER:HB3	1:F:314:ASP:O	1.87	0.74
1:A:38:LYS:HD3	1:A:39:ARG:N	2.02	0.74
1:D:191:SER:OG	1:D:194:GLN:HG3	1.86	0.74
1:B:32:LEU:HD11	1:B:50:ARG:CZ	2.16	0.74
1:E:277:ASN:HB3	1:E:334:ASN:HD22	1.52	0.74
1:C:6:ASP:O	1:C:8:ASN:N	2.20	0.74
1:A:81:ILE:HD13	1:A:199:SER:HA	1.68	0.74
1:A:380:LEU:HD11	1:C:169:ILE:HA	1.69	0.73
1:F:31:ARG:HE	1:F:53:GLN:HE21	1.33	0.73
1:F:111:LEU:HD21	1:F:122:MET:HE1	1.71	0.73
1:C:306:ARG:HD3	1:C:308:ARG:NH1	2.02	0.73
1:D:17:ASN:HD22	1:D:17:ASN:C	1.91	0.73
1:E:59:ASN:HA	1:E:195:ILE:CD1	2.17	0.73
1:C:199:ARG:HD3	1:C:213:ILE:CD1	2.19	0.73
1:F:13:PHE:CE1	1:F:39:ARG:HG3	2.24	0.72
1:B:140:LEU:HD11	1:C:358:VAL:HG22	1.71	0.72
1:C:30:ILE:HG12	1:C:54:PHE:HD1	1.54	0.72
1:C:214:THR:H	1:C:217:LYS:CE	2.02	0.72
1:A:356:ASN:HB3	1:A:359:ARG:HG2	1.72	0.71
1:D:207:ARG:HH11	1:D:207:ARG:HG3	1.55	0.71
1:F:384:GLN:HE21	1:F:386:GLU:H	1.37	0.71
1:E:110:TYR:OH	1:F:362:GLU:HG3	1.90	0.71
1:E:169:ILE:HA	1:F:380:LEU:HD11	1.73	0.71
1:C:306:ARG:HD3	1:C:308:ARG:HH12	1.56	0.71
1:B:382:LYS:HZ3	1:B:385:ARG:HH12	1.38	0.71
1:E:363:ARG:HG2	1:E:378:GLU:OE1	1.90	0.70
1:D:363:ARG:HG2	1:D:374:ALA:HB1	1.72	0.70
1:B:363:ARG:HG2	1:B:378:GLU:OE1	1.91	0.70
1:E:218:ASN:ND2	1:E:220:ARG:H	1.90	0.70
1:A:261:LEU:HB3	1:A:328:ASN:ND2	2.05	0.70
1:E:102:ARG:HB3	1:E:243:GLN:HE21	1.57	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:257:ASN:HD22	1:B:257:ASN:N	1.89	0.69
1:E:59:ASN:ND2	1:E:195:ILE:HD12	2.01	0.69
1:C:102:ARG:H	1:C:220:GLN:NE2	1.90	0.69
1:B:39:ARG:HG3	1:B:40:SER:N	2.07	0.69
1:D:306:ARG:HD2	1:D:308:ARG:NH2	2.07	0.69
1:D:384:GLN:HE21	1:D:386:GLU:H	1.39	0.69
1:A:59:ASN:HA	1:A:195:ILE:HD11	1.74	0.69
1:A:68:ASP:HB3	1:A:135:TYR:HB2	1.75	0.69
1:B:90:ARG:CZ	1:C:362:GLU:HG2	2.22	0.69
1:F:205:ASN:HD21	1:F:389:PHE:HB2	1.58	0.69
1:C:35:ARG:CG	1:C:50:ARG:HE	2.06	0.69
1:D:37:ASN:H	1:D:37:ASN:HD22	1.41	0.69
1:D:198:LEU:HD21	1:E:364:GLN:HB2	1.75	0.68
1:A:87:ASN:HD22	1:A:88:ASP:N	1.91	0.68
1:C:254:ASN:HB3	1:C:334:ASN:HD22	1.59	0.68
1:F:235:GLU:H	1:F:332:ASN:HD22	1.40	0.68
1:B:219:LEU:CD1	1:B:236:ILE:HG12	2.22	0.68
1:D:258:GLU:HG3	1:D:331:SER:HA	1.76	0.68
1:E:32:LEU:HD11	1:E:50:ARG:CZ	2.23	0.68
1:B:377:VAL:O	1:B:381:LEU:HG	1.92	0.68
1:C:260:ILE:HD12	1:C:311:LEU:HD11	1.76	0.68
1:A:35:ARG:HH12	1:A:134:ARG:HD2	1.59	0.68
1:A:35:ARG:HG3	1:A:50:ARG:NH2	2.09	0.68
1:D:210:ILE:HD11	1:D:236:ILE:HD12	1.76	0.68
1:E:207:ARG:HH11	1:E:207:ARG:CB	2.07	0.68
1:F:233:ILE:HD12	1:F:333:LEU:HD23	1.74	0.67
1:B:160:THR:HG21	1:C:392:ALA:HB2	1.76	0.67
1:D:357:VAL:HG23	1:F:86:ASN:O	1.95	0.67
1:F:221:LEU:HG	1:F:226:ILE:O	1.94	0.67
1:A:368:LEU:HD23	1:C:188:VAL:HG21	1.77	0.67
1:E:61:ILE:HB	1:E:112:VAL:HG22	1.77	0.67
1:D:59:ASN:HA	1:D:195:ILE:HD11	1.77	0.66
1:E:4:ARG:HB2	1:E:306:ARG:O	1.95	0.66
1:C:13:PHE:HE1	1:C:39:ARG:HG3	1.60	0.66
1:D:85:VAL:HG23	1:E:360:GLN:HB2	1.77	0.66
1:F:37:ASN:HD22	1:F:37:ASN:H	1.40	0.66
1:A:69:ALA:HB2	1:A:128:PRO:HA	1.78	0.66
1:D:238:PRO:HB3	1:D:245:ARG:HA	1.78	0.66
1:C:39:ARG:HG2	1:C:39:ARG:HH11	1.59	0.66
1:C:14:ARG:HG2	1:C:16:SER:HB3	1.78	0.66
1:D:9:ASN:C	1:D:9:ASN:HD22	1.99	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:29:ARG:HD3	1:D:31:ARG:CG	2.26	0.66
1:D:183:GLN:CG	1:D:188:VAL:HG11	2.22	0.65
1:E:81:ILE:HD13	1:E:199:SER:HA	1.78	0.65
1:B:155:HIS:O	1:B:159:GLU:HG3	1.96	0.65
1:B:283:ILE:HD12	1:B:311:LEU:HD11	1.78	0.65
1:A:34:GLN:NE2	1:A:38:LYS:HE2	2.12	0.65
1:F:132:PRO:HA	2:F:421:HOH:O	1.95	0.65
1:F:313:GLU:O	1:F:314:ASP:HB2	1.96	0.65
1:A:35:ARG:CG	1:A:50:ARG:NH2	2.59	0.65
1:B:6:ASP:O	1:B:7:GLU:HB2	1.97	0.65
1:B:37:ASN:HD22	1:B:37:ASN:N	1.90	0.65
1:F:37:ASN:HD22	1:F:37:ASN:N	1.93	0.65
1:F:260:ILE:HD12	1:F:311:LEU:HD11	1.79	0.65
1:B:284:GLU:HG2	1:B:308:ARG:HG2	1.77	0.65
1:F:234:ASN:N	1:F:234:ASN:HD22	1.95	0.65
1:C:151:GLN:HG2	1:C:174:PHE:CZ	2.31	0.65
1:C:199:ARG:HD3	1:C:213:ILE:HD11	1.79	0.64
1:C:379:ARG:HG3	1:C:379:ARG:HH11	1.62	0.64
1:D:59:ASN:HD22	1:D:195:ILE:CD1	2.10	0.64
1:D:156:ASN:O	1:D:160:THR:HG22	1.97	0.64
1:E:384:GLN:HE21	1:E:386:GLU:H	1.45	0.64
1:C:239:LEU:O	1:C:326:VAL:HG23	1.97	0.64
1:F:197:ARG:HH22	1:F:232:ASP:CG	2.01	0.64
1:F:258:ALA:HB2	1:F:333:LEU:HD22	1.80	0.64
1:F:261:GLU:CD	1:F:308:ARG:HH21	2.01	0.64
1:A:183:GLN:HG2	1:A:188:VAL:CG1	2.25	0.63
1:D:358:VAL:HG22	1:F:140:LEU:HD11	1.79	0.63
1:C:373:SER:O	1:C:377:VAL:HG23	1.98	0.63
1:D:35:ARG:HB2	1:D:38:LYS:HB3	1.81	0.63
1:D:237:THR:H	1:D:240:LYS:HE3	1.64	0.63
1:A:183:GLN:CG	1:A:188:VAL:HG11	2.24	0.63
1:C:252:VAL:HG22	1:C:336:LEU:HB3	1.81	0.63
1:F:199:ARG:HH12	1:F:217:LYS:HD2	1.62	0.63
1:C:195:ASN:HB3	1:C:198:SER:HB2	1.80	0.63
1:C:378:GLU:O	1:C:382:LYS:HG3	1.99	0.63
1:C:50:ARG:HH21	1:C:50:ARG:CB	2.11	0.63
1:B:81:ILE:HD13	1:B:199:SER:HB3	1.79	0.63
1:E:168:GLU:O	1:E:172:VAL:HG23	1.99	0.63
1:E:218:ASN:HD21	1:E:220:ARG:HB2	1.63	0.63
1:F:195:ASN:HD22	1:F:198:SER:N	1.96	0.63
1:E:122:MET:CE	1:E:124:TRP:HE1	2.12	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:170:ASN:ND2	1:F:174:PHE:HB2	2.13	0.62
1:D:59:ASN:ND2	1:D:195:ILE:HD12	2.14	0.62
1:D:189:GLU:O	1:D:190:LEU:HD23	1.99	0.62
1:F:364:GLN:CD	1:F:364:GLN:H	2.03	0.62
1:B:73:LEU:HG	1:B:124:TRP:CD1	2.35	0.62
1:E:83:THR:HB	1:E:92:SER:OG	2.00	0.62
1:C:214:THR:OG1	1:C:217:LYS:HE2	2.00	0.62
1:D:285:LEU:HD21	1:D:323:TYR:HB3	1.79	0.62
1:E:116:ASP:CG	1:E:192:LYS:HE3	2.20	0.62
1:B:258:GLU:H	1:B:332:ASN:HD22	1.47	0.62
1:B:269:LYS:H	1:B:345:ASN:HD22	1.47	0.61
1:B:277:ASN:HB3	1:B:334:ASN:HD22	1.64	0.61
1:E:87:ASN:HD22	1:E:88:ASP:N	1.97	0.61
1:C:151:GLN:HG2	1:C:174:PHE:CE1	2.35	0.61
1:F:238:LEU:HD22	1:F:392:ALA:HB2	1.81	0.61
1:A:212:SER:O	1:A:242:PRO:HG2	2.00	0.61
1:E:206:SER:H	1:E:209:THR:CG2	2.13	0.61
1:B:382:LYS:HE2	1:B:385:ARG:NH2	2.15	0.61
1:D:355:ASP:HA	1:F:87:ASN:O	2.01	0.61
1:C:80:ALA:HB2	1:C:120:LEU:HD13	1.83	0.61
1:D:252:SER:OG	1:D:337:ALA:HB3	2.00	0.61
1:F:235:GLU:H	1:F:332:ASN:ND2	1.97	0.61
1:F:306:ARG:HD3	1:F:308:ARG:HH12	1.66	0.61
1:E:37:ASN:H	1:E:37:ASN:ND2	1.91	0.61
1:F:39:ARG:HG2	1:F:39:ARG:HH11	1.66	0.61
1:D:261:LEU:HD23	1:D:261:LEU:H	1.66	0.60
1:D:349:PHE:O	1:D:356:ASN:HA	2.02	0.60
1:A:35:ARG:N	1:A:50:ARG:NH2	2.48	0.60
1:A:263:LEU:HD13	1:A:351:ALA:O	2.00	0.60
1:D:31:ARG:HH21	1:D:53:GLN:NE2	1.98	0.60
1:A:131:LYS:HE2	2:A:442:HOH:O	2.01	0.60
1:C:252:VAL:CG2	1:C:336:LEU:HB3	2.32	0.60
1:C:384:GLN:HE21	1:C:386:GLU:N	1.90	0.60
1:E:31:ARG:HH21	1:E:53:GLN:HE22	1.49	0.60
1:E:79:ARG:HD2	1:E:94:ASN:ND2	2.09	0.60
1:C:207:PHE:CE1	1:C:391:ASP:HB2	2.36	0.60
1:A:170:ASN:HD22	1:A:174:PHE:HB2	1.67	0.60
1:B:261:LEU:N	1:B:261:LEU:HD23	2.17	0.60
1:C:312:SER:O	1:C:315:ASP:HB2	2.01	0.60
1:B:26:GLN:HE21	1:B:26:GLN:N	1.97	0.60
1:B:87:ASN:HD22	1:B:88:ASP:N	1.98	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:262:LEU:HD21	1:C:323:TYR:HB3	1.83	0.60
1:F:240:LEU:HD12	1:F:388:TYR:N	2.16	0.60
1:A:274:LEU:HD12	1:A:274:LEU:C	2.22	0.60
1:F:31:ARG:HE	1:F:53:GLN:NE2	1.98	0.60
1:E:172:VAL:HG11	1:F:376:ASP:O	2.01	0.60
1:F:359:ARG:HD3	1:F:381:LEU:O	2.02	0.60
1:E:102:ARG:H	1:E:243:GLN:NE2	2.00	0.59
1:F:79:ARG:O	1:F:120:LEU:HD13	2.02	0.59
1:C:246:LYS:H	1:C:345:ASN:ND2	2.01	0.59
1:D:222:ARG:HH21	1:D:222:ARG:HG3	1.67	0.59
1:C:61:ILE:CD1	1:C:112:VAL:HG22	2.33	0.59
1:F:9:ASN:C	1:F:9:ASN:HD22	2.04	0.59
1:B:289:LYS:N	1:B:303:GLU:O	2.34	0.59
1:F:170:ASN:HD22	1:F:174:PHE:HB2	1.67	0.59
1:A:34:GLN:CD	1:A:38:LYS:HE2	2.22	0.59
1:A:37:ASN:HD22	1:A:37:ASN:N	1.92	0.59
1:D:116:ASP:OD1	1:D:192:LYS:HE2	2.03	0.59
1:E:313:GLU:O	1:E:314:ASP:HB2	2.03	0.59
1:C:227:PHE:C	1:C:227:PHE:CD2	2.76	0.59
1:C:251:LEU:HD12	1:C:251:LEU:C	2.23	0.59
1:F:111:LEU:HD21	1:F:122:MET:HE2	1.85	0.59
1:C:196:LEU:HD23	1:C:230:SER:HB2	1.85	0.59
1:D:87:ASN:HD22	1:D:88:ASP:N	2.00	0.59
1:F:102:ARG:HB3	1:F:220:GLN:HE21	1.68	0.59
1:C:32:LEU:HD13	1:C:50:ARG:HH22	1.67	0.58
1:C:263:VAL:CG1	1:C:324:PRO:HB2	2.33	0.58
1:C:61:ILE:HD12	1:C:112:VAL:HG22	1.85	0.58
1:D:68:ASP:HB3	1:D:135:TYR:HB2	1.83	0.58
1:D:218:ASN:HD22	1:D:220:ARG:N	1.99	0.58
1:D:363:ARG:CG	1:D:374:ALA:HB1	2.33	0.58
1:E:353:GLU:OE1	1:E:385:ARG:NH1	2.37	0.58
1:F:244:ASN:HB3	1:F:345:ASN:HD21	1.68	0.58
1:A:191:SER:OG	1:A:194:GLN:HG3	2.03	0.58
1:B:218:ASN:ND2	1:B:220:ARG:H	2.02	0.58
1:C:119:ASN:N	1:C:119:ASN:HD22	2.02	0.58
1:F:57:LYS:HB3	1:F:58:PRO:HD2	1.86	0.58
1:B:35:ARG:HD2	1:B:38:LYS:HD2	1.85	0.58
1:A:210:ILE:HD11	1:A:236:ILE:HD12	1.86	0.58
1:B:200:ARG:HG3	1:B:201:ARG:HG3	1.85	0.58
1:F:330:THR:O	1:F:331:SER:HB3	2.03	0.58
1:F:253:ILE:HD11	1:F:311:LEU:HD12	1.84	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:35:ARG:NH1	1:D:134:ARG:HD2	2.19	0.58
1:D:288:ILE:HG21	1:D:302:LEU:HD13	1.85	0.58
1:B:33:LEU:O	1:B:50:ARG:NH2	2.37	0.57
1:C:14:ARG:HA	1:C:315:ASP:OD2	2.05	0.57
1:C:27:ASN:HB3	1:C:60:THR:HG21	1.84	0.57
1:C:102:ARG:N	1:C:220:GLN:NE2	2.52	0.57
1:F:6:ASP:O	1:F:8:ASN:N	2.37	0.57
1:F:30:ILE:HG12	1:F:54:PHE:HD1	1.68	0.57
1:C:256:GLY:HA3	1:C:332:ASN:O	2.05	0.57
1:F:199:ARG:HH22	1:F:217:LYS:HD2	1.69	0.57
1:A:138:PHE:HB3	1:A:149:TYR:CD2	2.39	0.57
1:E:277:ASN:CB	1:E:334:ASN:HD22	2.16	0.57
1:B:111:LEU:HD21	1:B:122:MET:HE3	1.85	0.57
1:C:207:PHE:CZ	1:C:391:ASP:HB2	2.40	0.57
1:E:385:ARG:HH11	1:E:385:ARG:HB3	1.69	0.57
1:A:79:ARG:HE	1:A:94:ASN:HD21	1.53	0.57
1:D:59:ASN:HD22	1:D:195:ILE:HD12	1.69	0.57
1:B:220:ARG:HH22	1:B:255:ASP:CG	2.08	0.57
1:D:13:PHE:HB2	1:D:316:VAL:HB	1.86	0.57
1:E:218:ASN:ND2	1:E:220:ARG:HB2	2.19	0.57
1:F:214:THR:OG1	1:F:216:GLU:HG2	2.03	0.57
1:A:39:ARG:HH11	1:A:39:ARG:HG2	1.68	0.57
1:C:58:PRO:HD3	1:C:119:ASN:ND2	2.20	0.57
1:A:35:ARG:N	1:A:50:ARG:HH22	2.02	0.57
1:B:79:ARG:NH1	1:B:94:ASN:ND2	2.50	0.57
1:D:384:GLN:NE2	1:D:386:GLU:HB2	2.20	0.57
1:B:247:LEU:O	1:B:249:ILE:HG13	2.04	0.57
1:C:319:ILE:N	1:C:319:ILE:HD12	2.19	0.57
1:E:87:ASN:HD22	1:E:88:ASP:H	1.53	0.57
1:F:362:GLU:O	1:F:366:GLN:HG3	2.05	0.57
1:C:32:LEU:CD1	1:C:50:ARG:HH22	2.18	0.57
1:D:50:ARG:NH2	2:D:446:HOH:O	2.35	0.56
1:F:151:GLN:HG2	1:F:174:PHE:CZ	2.40	0.56
1:E:132:PRO:HA	2:E:442:HOH:O	2.06	0.56
1:E:206:SER:H	1:E:209:THR:HG22	1.70	0.56
1:F:32:LEU:HD22	1:F:50:ARG:NH2	2.20	0.56
1:F:306:ARG:HD3	1:F:308:ARG:NH1	2.19	0.56
1:E:207:ARG:NH2	1:E:222:ARG:HA	2.19	0.56
1:A:356:ASN:HD22	1:A:359:ARG:CD	2.19	0.56
1:E:375:GLN:O	1:E:379:ARG:HB2	2.05	0.56
1:F:254:ASN:HB3	1:F:334:ASN:O	2.06	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:262:LEU:HD21	1:F:323:TYR:HB3	1.88	0.56
1:E:219:LEU:HD23	1:E:219:LEU:H	1.69	0.56
1:D:319:ILE:N	1:D:319:ILE:HD12	2.21	0.56
1:F:9:ASN:ND2	1:F:11:PHE:H	2.03	0.56
1:F:32:LEU:HD21	1:F:50:ARG:HD2	1.88	0.56
1:F:195:ASN:ND2	1:F:198:SER:N	2.54	0.56
1:B:190:LEU:HD23	1:C:368:LEU:HD21	1.88	0.56
1:C:61:ILE:HG13	1:C:111:LEU:O	2.05	0.56
1:E:222:ARG:HH22	1:E:240:LYS:HG3	1.69	0.56
1:A:313:GLU:O	1:A:314:ASP:HB2	2.06	0.56
1:C:196:LEU:CD2	1:C:230:SER:HB2	2.35	0.56
1:B:4:ARG:HB2	1:B:306:ARG:O	2.06	0.55
1:C:39:ARG:HG2	1:C:39:ARG:NH1	2.21	0.55
1:E:173:LEU:O	1:F:371:PRO:HD2	2.06	0.55
1:C:229:SER:OG	1:C:337:ALA:HB3	2.06	0.55
1:C:302:LEU:HD12	1:C:302:LEU:H	1.72	0.55
1:D:9:ASN:ND2	1:D:11:PHE:H	2.04	0.55
1:F:207:PHE:CZ	1:F:391:ASP:HB2	2.42	0.55
1:C:50:ARG:HB3	1:C:50:ARG:NH2	2.14	0.55
1:C:89:ASP:CG	1:C:90:ARG:H	2.09	0.55
1:E:26:GLN:H	1:E:26:GLN:HE21	1.53	0.55
1:B:37:ASN:H	1:B:37:ASN:ND2	1.98	0.55
1:B:261:LEU:HD23	1:B:261:LEU:H	1.70	0.55
1:C:35:ARG:CZ	1:C:38:LYS:HG3	2.37	0.55
1:B:218:ASN:HD22	1:B:220:ARG:N	2.05	0.55
1:E:9:ASN:HD22	1:E:9:ASN:C	2.09	0.55
1:F:73:LEU:HG	1:F:124:TRP:NE1	2.21	0.55
1:C:112:VAL:HG12	1:C:113:ASN:N	2.21	0.55
1:B:265:HIS:HB2	1:B:348:ASN:O	2.07	0.55
1:A:285:LEU:HD22	1:A:286:VAL:N	2.22	0.55
1:A:285:LEU:HD21	1:A:323:TYR:HB3	1.87	0.55
1:B:280:ASP:HB2	1:B:330:THR:OG1	2.06	0.55
1:B:382:LYS:HE2	1:B:385:ARG:CZ	2.37	0.55
1:F:227:PHE:C	1:F:227:PHE:CD2	2.81	0.55
1:F:235:GLU:CD	1:F:331:SER:HA	2.27	0.55
1:B:26:GLN:NE2	1:B:26:GLN:N	2.44	0.55
1:B:102:ARG:H	1:B:243:GLN:NE2	2.05	0.55
1:C:207:PHE:HB3	1:C:237:ALA:CB	2.37	0.55
1:A:37:ASN:H	1:A:37:ASN:ND2	1.98	0.54
1:A:59:ASN:HA	1:A:195:ILE:CD1	2.36	0.54
1:B:218:ASN:HD22	1:B:220:ARG:H	1.53	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:102:ARG:CB	1:C:220:GLN:HE21	2.19	0.54
1:D:38:LYS:HD3	1:D:39:ARG:N	2.22	0.54
1:E:32:LEU:HD11	1:E:50:ARG:NH2	2.21	0.54
1:A:120:LEU:HD21	1:A:122:MET:CE	2.37	0.54
1:D:221:SER:O	1:D:222:ARG:HG3	2.07	0.54
1:D:237:THR:OG1	1:D:240:LYS:HE2	2.07	0.54
1:A:356:ASN:HD22	1:A:359:ARG:CG	2.20	0.54
1:B:257:ASN:N	1:B:257:ASN:ND2	2.56	0.54
1:C:378:GLU:HG2	1:C:382:LYS:HG3	1.89	0.54
1:D:365:VAL:HG21	1:F:110:TYR:CE2	2.42	0.54
1:E:270:ALA:H	1:E:345:ASN:ND2	2.04	0.54
1:F:302:LEU:H	1:F:302:LEU:CD2	2.19	0.54
1:A:224:PRO:HG2	1:A:227:SER:HB2	1.90	0.54
1:C:56:SER:OG	1:C:120:LEU:HB3	2.07	0.54
1:F:170:ASN:ND2	1:F:175:GLY:H	2.06	0.54
1:A:29:ARG:HD3	1:A:31:ARG:CG	2.34	0.54
1:E:85:VAL:HG23	1:F:360:GLN:HB3	1.88	0.54
1:E:219:LEU:HB2	1:E:236:ILE:HD11	1.89	0.54
1:F:102:ARG:H	1:F:220:GLN:NE2	2.06	0.54
1:F:382:LYS:NZ	1:F:385:ARG:HH21	2.05	0.54
1:E:385:ARG:NH1	1:E:385:ARG:HB3	2.22	0.54
1:F:9:ASN:C	1:F:9:ASN:ND2	2.61	0.54
1:C:166:PHE:CD2	1:C:169:ILE:HD11	2.43	0.54
1:E:241:ASN:OD1	1:E:243:GLN:HB2	2.07	0.54
1:B:31:ARG:HE	1:B:53:GLN:NE2	2.05	0.54
1:B:215:GLU:HB3	1:B:216:PRO:HD2	1.90	0.54
1:E:50:ARG:NH1	2:E:450:HOH:O	2.41	0.54
1:C:205:ASN:ND2	1:C:389:PHE:HB2	2.23	0.54
1:E:261:LEU:HD22	1:E:392:ALA:HB2	1.89	0.54
1:F:80:ALA:O	1:F:95:LEU:N	2.40	0.54
1:B:313:GLU:O	1:B:314:ASP:HB2	2.08	0.53
1:B:219:LEU:HD23	1:B:253:SER:HB2	1.91	0.53
1:D:55:GLN:HA	1:D:120:LEU:O	2.08	0.53
1:E:102:ARG:CB	1:E:243:GLN:HE21	2.18	0.53
1:F:260:ILE:CD1	1:F:311:LEU:HD11	2.38	0.53
1:B:110:TYR:CE2	1:C:365:VAL:HG21	2.43	0.53
1:C:246:LYS:H	1:C:345:ASN:HD22	1.57	0.53
1:B:219:LEU:HD21	1:B:253:SER:N	2.23	0.53
1:A:224:PRO:HD3	1:A:234:PHE:CE2	2.44	0.53
1:B:159:GLU:OE2	1:B:166:PHE:HB2	2.09	0.53
1:C:33:LEU:O	1:C:50:ARG:NH2	2.42	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:218:ASN:HD22	1:E:220:ARG:N	2.00	0.53
1:F:246:LYS:H	1:F:345:ASN:HD22	1.57	0.53
1:B:102:ARG:H	1:B:243:GLN:HE22	1.57	0.53
1:D:73:LEU:HD22	1:D:124:TRP:CG	2.43	0.53
1:C:202:ILE:HG12	1:C:210:PHE:O	2.09	0.53
1:C:54:PHE:HE2	1:C:120:LEU:HD23	1.74	0.53
1:D:222:ARG:HG3	1:D:222:ARG:NH2	2.23	0.53
1:F:143:THR:HG21	1:F:185:GLY:O	2.09	0.53
1:F:151:GLN:HG2	1:F:174:PHE:CE1	2.43	0.53
1:F:218:ASN:HB3	1:F:221:LEU:HB2	1.91	0.53
1:A:189:GLU:C	1:A:190:LEU:HD12	2.29	0.52
1:D:237:THR:H	1:D:240:LYS:CE	2.21	0.52
1:F:25:ASN:OD1	1:F:27:ASN:N	2.42	0.52
1:F:386:GLU:HB3	1:F:390:VAL:HG12	1.91	0.52
1:B:274:LEU:HD22	1:B:335:PHE:CD2	2.44	0.52
1:C:240:LEU:HD12	1:C:388:TYR:N	2.23	0.52
1:D:110:TYR:CE2	1:E:365:VAL:HG21	2.43	0.52
1:D:274:LEU:C	1:D:274:LEU:HD12	2.30	0.52
1:B:283:ILE:CD1	1:B:311:LEU:HD11	2.39	0.52
1:C:15:SER:HB2	1:C:31:ARG:HH12	1.75	0.52
1:C:39:ARG:HD2	1:C:40:SER:OG	2.10	0.52
1:C:258:ALA:HB2	1:C:333:LEU:HD22	1.90	0.52
1:E:269:LYS:H	1:E:345:ASN:ND2	2.07	0.52
1:A:277:ASN:O	1:A:277:ASN:ND2	2.43	0.52
1:C:62:LEU:HD23	1:C:186:VAL:O	2.09	0.52
1:D:140:LEU:HD11	1:E:358:VAL:HG22	1.91	0.52
1:E:110:TYR:CE2	1:F:365:VAL:HG21	2.44	0.52
1:F:115:HIS:CE1	1:F:118:GLN:H	2.27	0.52
1:A:285:LEU:HD22	1:A:286:VAL:H	1.73	0.52
1:B:208:LYS:HG3	1:B:208:LYS:O	2.10	0.52
1:A:218:ASN:HD22	1:A:220:ARG:N	2.02	0.52
1:B:222:ARG:HH22	1:B:240:LYS:HG3	1.74	0.52
1:B:258:GLU:H	1:B:332:ASN:ND2	2.08	0.52
1:C:247:ALA:H	1:C:345:ASN:ND2	2.08	0.52
1:F:189:GLU:O	1:F:190:LEU:HD23	2.10	0.52
1:F:251:LEU:C	1:F:251:LEU:HD12	2.30	0.52
1:C:146:GLN:NE2	1:C:146:GLN:C	2.63	0.52
1:E:6:ASP:O	1:E:7:GLU:HB2	2.09	0.52
1:C:147:GLN:HB3	1:C:151:GLN:OE1	2.10	0.52
1:D:10:PRO:HB2	1:D:40:SER:HB2	1.92	0.52
1:D:223:ASN:N	1:D:223:ASN:HD22	2.08	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:261:LEU:HD22	1:D:392:ALA:HB2	1.92	0.52
1:A:58:PRO:HD3	1:A:119:ASN:ND2	2.24	0.51
1:B:6:ASP:O	1:B:7:GLU:CB	2.58	0.51
1:D:34:GLN:HE22	1:D:38:LYS:HE2	1.75	0.51
1:A:69:ALA:CB	1:A:128:PRO:HA	2.40	0.51
1:A:373:SER:H	1:A:376:ASP:HB2	1.75	0.51
1:B:68:ASP:OD2	1:B:135:TYR:HB2	2.09	0.51
1:D:207:ARG:HG3	1:D:207:ARG:NH1	2.25	0.51
1:B:170:ASN:O	1:B:175:GLY:N	2.42	0.51
1:F:240:LEU:HD13	1:F:351:ALA:O	2.10	0.51
1:A:67:ALA:C	1:A:69:ALA:H	2.14	0.51
1:A:170:ASN:ND2	1:A:174:PHE:HB2	2.26	0.51
1:C:385:ARG:HG2	1:C:385:ARG:HH11	1.75	0.51
1:F:380:LEU:C	1:F:382:LYS:H	2.14	0.51
1:C:320:PRO:HB2	1:C:323:TYR:CD1	2.45	0.51
1:E:377:VAL:O	1:E:381:LEU:HG	2.10	0.51
1:B:331:SER:O	1:B:332:ASN:C	2.49	0.51
1:E:193:GLU:OE2	1:E:196:ARG:NH1	2.43	0.51
1:F:30:ILE:HG12	1:F:54:PHE:CD1	2.45	0.51
1:C:189:GLU:CD	1:C:189:GLU:H	2.13	0.51
1:D:38:LYS:HD3	1:D:38:LYS:C	2.30	0.51
1:E:277:ASN:HB3	1:E:334:ASN:ND2	2.22	0.51
1:E:387:SER:O	1:E:389:PHE:N	2.40	0.51
1:B:59:ASN:HA	1:B:195:ILE:HD11	1.92	0.51
1:E:250:PHE:C	1:E:250:PHE:CD2	2.84	0.51
1:E:259:GLY:O	1:E:392:ALA:HB3	2.10	0.51
1:D:17:ASN:HD22	1:D:18:SER:N	2.08	0.51
1:B:30:ILE:HG12	1:B:54:PHE:HD1	1.77	0.51
1:B:364:GLN:H	1:B:364:GLN:CD	2.14	0.51
1:B:382:LYS:NZ	1:B:385:ARG:HH12	2.06	0.51
1:F:48:ASP:OD1	1:F:132:PRO:HB3	2.11	0.51
1:A:35:ARG:HG3	1:A:50:ARG:HH22	1.74	0.50
1:E:219:LEU:HB3	1:E:236:ILE:HG12	1.93	0.50
1:D:130:ASN:C	1:E:45:ASN:HD22	2.15	0.50
1:F:49:TYR:O	1:F:50:ARG:HG2	2.11	0.50
1:F:169:ILE:HG13	1:F:170:ASN:N	2.26	0.50
1:F:119:ASN:N	1:F:119:ASN:HD22	2.09	0.50
1:C:102:ARG:H	1:C:220:GLN:HE22	1.59	0.50
1:E:122:MET:HE1	1:E:124:TRP:HE1	1.75	0.50
1:F:189:GLU:O	1:F:190:LEU:O	2.30	0.50
1:F:242:HIS:HB3	1:F:349:PHE:CD1	2.47	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:99:ASP:HA	1:C:195:ASN:HA	1.94	0.50
1:D:274:LEU:C	1:D:274:LEU:CD1	2.80	0.50
1:E:258:GLU:H	1:E:332:ASN:ND2	2.10	0.50
1:E:331:SER:O	1:E:332:ASN:C	2.50	0.50
1:F:14:ARG:CG	1:F:16:SER:HB3	2.38	0.50
1:A:363:ARG:HG2	1:A:378:GLU:OE1	2.11	0.50
1:B:9:ASN:C	1:B:9:ASN:HD22	2.12	0.50
1:C:80:ALA:HB2	1:C:120:LEU:CD1	2.41	0.50
1:C:215:PRO:HD2	1:C:216:GLU:OE1	2.12	0.50
1:C:266:LYS:HB3	1:C:303:GLU:HB2	1.93	0.50
1:E:57:LYS:HB3	1:E:58:PRO:HD2	1.93	0.50
1:B:168:GLU:O	1:B:172:VAL:HG23	2.12	0.50
1:F:89:ASP:CG	1:F:90:ARG:N	2.65	0.50
1:A:176:GLU:HB2	2:A:444:HOH:O	2.12	0.49
1:C:61:ILE:HG13	1:C:112:VAL:HG22	1.93	0.49
1:D:9:ASN:HD22	1:D:11:PHE:H	1.60	0.49
1:F:261:GLU:HB2	1:F:326:VAL:HG12	1.94	0.49
1:A:222:ARG:NH2	1:A:222:ARG:HG3	2.27	0.49
1:A:267:ASN:HB3	1:A:345:ASN:HD21	1.77	0.49
1:B:312:SER:O	1:B:315:ASP:HB2	2.12	0.49
1:B:379:ARG:HG3	1:B:379:ARG:HH11	1.77	0.49
1:C:34:GLN:OE1	1:C:39:ARG:HG2	2.12	0.49
1:D:34:GLN:NE2	1:D:38:LYS:HE2	2.27	0.49
1:D:67:ALA:C	1:D:69:ALA:H	2.16	0.49
1:E:230:PHE:CZ	1:E:391:ASP:HB2	2.47	0.49
1:F:196:LEU:HD21	1:F:230:SER:N	2.27	0.49
1:B:363:ARG:HG2	1:B:363:ARG:HH11	1.76	0.49
1:D:244:LEU:HG	1:D:249:ILE:O	2.12	0.49
1:C:79:ARG:HD2	1:C:94:ASN:ND2	2.24	0.49
1:E:102:ARG:H	1:E:243:GLN:HE22	1.61	0.49
1:F:205:ASN:ND2	1:F:389:PHE:HB2	2.27	0.49
1:F:32:LEU:HD22	1:F:50:ARG:HH21	1.78	0.49
1:F:101:GLN:HG2	1:F:102:ARG:N	2.27	0.49
1:A:380:LEU:HD12	1:C:172:VAL:HB	1.94	0.49
1:D:224:PRO:HG2	1:D:227:SER:HB2	1.93	0.49
1:E:222:ARG:NH1	1:E:236:ILE:HD12	2.27	0.49
1:E:269:LYS:H	1:E:345:ASN:HD22	1.60	0.49
1:F:347:ARG:NH1	2:F:417:HOH:O	2.41	0.49
1:A:53:GLN:HE22	1:A:314:ASP:HB3	1.77	0.49
1:B:238:PRO:HB3	1:B:245:ARG:HA	1.93	0.49
1:C:216:GLU:CD	1:C:216:GLU:H	2.15	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:331:SER:O	1:F:332:ASN:C	2.50	0.49
1:A:9:ASN:C	1:A:9:ASN:HD22	2.15	0.49
1:B:87:ASN:HD22	1:B:88:ASP:H	1.59	0.49
1:E:247:LEU:O	1:E:249:ILE:HG13	2.13	0.49
1:F:89:ASP:OD1	1:F:90:ARG:N	2.45	0.49
1:F:234:ASN:N	1:F:234:ASN:ND2	2.59	0.49
1:A:147:GLN:OE1	1:B:304:VAL:HG22	2.13	0.49
1:B:250:PHE:C	1:B:250:PHE:CD2	2.86	0.49
1:C:364:GLN:CD	1:C:364:GLN:H	2.17	0.49
1:D:184:GLU:HG3	2:D:450:HOH:O	2.11	0.49
1:E:219:LEU:HA	1:E:236:ILE:HD11	1.94	0.49
1:E:284:GLU:HB2	1:E:326:VAL:CG1	2.43	0.49
1:E:321:ALA:O	1:E:322:ALA:HB3	2.13	0.49
1:F:14:ARG:C	1:F:16:SER:H	2.16	0.49
1:A:59:ASN:ND2	1:A:195:ILE:HD12	2.27	0.48
1:B:277:ASN:CB	1:B:334:ASN:HD22	2.26	0.48
1:C:386:GLU:CB	1:C:390:VAL:HG12	2.38	0.48
1:A:131:LYS:HG3	1:A:134:ARG:HB2	1.94	0.48
1:D:17:ASN:C	1:D:17:ASN:ND2	2.64	0.48
1:C:205:ASN:HD21	1:C:389:PHE:HB2	1.78	0.48
1:E:9:ASN:ND2	1:E:11:PHE:H	2.12	0.48
1:A:55:GLN:HA	1:A:120:LEU:O	2.13	0.48
1:C:61:ILE:CG1	1:C:112:VAL:HG22	2.43	0.48
1:C:238:LEU:HD21	1:C:390:VAL:HG22	1.96	0.48
1:F:60:THR:O	1:F:112:VAL:HG13	2.13	0.48
1:F:189:GLU:O	1:F:190:LEU:C	2.52	0.48
1:F:261:GLU:HB2	1:F:326:VAL:CG1	2.43	0.48
1:A:270:ALA:H	1:A:345:ASN:ND2	2.09	0.48
1:F:125:LEU:HD22	1:F:338:PHE:CD2	2.49	0.48
1:D:192:LYS:O	1:D:196:ARG:HB2	2.13	0.48
1:D:322:ALA:HB3	1:F:68:ASP:HB3	1.94	0.48
1:C:190:LEU:O	1:C:190:LEU:HD23	2.14	0.48
1:D:40:SER:C	1:D:42:GLN:H	2.15	0.48
1:F:215:PRO:O	1:F:222:ARG:HB2	2.13	0.48
1:B:363:ARG:NH1	1:B:378:GLU:OE2	2.47	0.48
1:E:101:GLN:NE2	1:E:216:PRO:HD3	2.29	0.48
1:F:225:ASP:OD2	1:F:343:GLU:HB2	2.13	0.48
1:C:59:ASN:HD21	1:C:116:ASP:CG	2.17	0.48
1:C:72:LEU:HB3	1:C:125:LEU:HB3	1.95	0.48
1:E:160:THR:HG21	1:F:392:ALA:HA	1.96	0.48
1:F:80:ALA:HB2	1:F:120:LEU:CD1	2.44	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:254:ASN:O	1:F:313:GLU:HG3	2.14	0.48
1:A:223:ASN:N	1:A:223:ASN:HD22	2.11	0.47
1:D:10:PRO:HB2	1:D:40:SER:CB	2.44	0.47
1:A:288:ILE:HG21	1:A:302:LEU:HD13	1.95	0.47
1:A:359:ARG:HB2	1:A:359:ARG:HH11	1.79	0.47
1:B:49:TYR:O	1:B:50:ARG:HG2	2.14	0.47
1:B:81:ILE:HD11	1:B:199:SER:HB3	1.94	0.47
1:C:100:ALA:HB3	1:C:194:PHE:CE2	2.49	0.47
1:F:13:PHE:CZ	1:F:39:ARG:HG3	2.49	0.47
1:F:15:SER:CB	1:F:314:ASP:HB3	2.44	0.47
1:F:191:ASP:OD2	1:F:192:GLU:N	2.46	0.47
1:F:253:ILE:HD11	1:F:311:LEU:CD1	2.44	0.47
1:A:139:PHE:CE2	1:A:186:VAL:HB	2.49	0.47
1:E:261:LEU:N	1:E:261:LEU:HD23	2.29	0.47
1:B:319:ILE:HD12	1:B:319:ILE:N	2.29	0.47
1:C:76:LEU:HD11	1:C:123:ILE:HG12	1.95	0.47
1:C:85:VAL:HG13	1:C:108:THR:HB	1.96	0.47
1:C:306:ARG:HB3	1:C:308:ARG:HH11	1.79	0.47
1:D:57:LYS:HB3	1:D:58:PRO:HD2	1.97	0.47
1:D:131:LYS:HG3	1:D:134:ARG:HB2	1.96	0.47
1:D:378:GLU:O	1:D:382:LYS:HB2	2.14	0.47
1:B:37:ASN:N	1:B:37:ASN:ND2	2.61	0.47
1:B:214:ASP:OD1	1:B:215:GLU:HG3	2.14	0.47
1:C:259:ASN:ND2	1:C:330:THR:CG2	2.78	0.47
1:D:359:ARG:HH11	1:D:382:LYS:HD2	1.80	0.47
1:E:32:LEU:HD23	1:E:52:VAL:HG22	1.96	0.47
1:E:80:ALA:HB2	1:E:120:LEU:HD22	1.97	0.47
1:F:71:PHE:HE2	1:F:126:ALA:HB2	1.80	0.47
1:F:73:LEU:HG	1:F:124:TRP:CD1	2.50	0.47
1:F:85:VAL:CG1	1:F:108:THR:HG22	2.44	0.47
1:A:59:ASN:CA	1:A:195:ILE:HD11	2.42	0.47
1:A:73:LEU:HD22	1:A:124:TRP:CG	2.49	0.47
1:A:210:ILE:HD11	1:A:236:ILE:CG2	2.45	0.47
1:A:217:PHE:N	1:A:217:PHE:CD1	2.82	0.47
1:A:249:ILE:HA	1:A:339:GLY:O	2.14	0.47
1:B:23:PHE:CD2	1:B:186:VAL:HG22	2.50	0.47
1:B:382:LYS:HG3	1:B:385:ARG:NH1	2.29	0.47
1:D:306:ARG:NH2	2:D:480:HOH:O	2.48	0.47
1:E:189:GLU:C	1:E:190:LEU:HG	2.35	0.47
1:E:306:ARG:HD3	2:E:451:HOH:O	2.14	0.47
1:F:184:GLU:HG2	1:F:188:VAL:HG12	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:257:ASP:O	1:F:258:ALA:HB2	2.14	0.47
1:F:357:VAL:O	1:F:360:GLN:HB2	2.15	0.47
1:F:384:GLN:NE2	1:F:386:GLU:HB2	2.29	0.47
1:A:250:PHE:C	1:A:250:PHE:CD2	2.87	0.47
1:A:356:ASN:HD22	1:A:359:ARG:HD3	1.78	0.47
1:B:267:ASN:HB3	1:B:345:ASN:HD21	1.79	0.47
1:F:247:ALA:H	1:F:345:ASN:ND2	2.12	0.47
1:F:256:GLY:HA3	1:F:332:ASN:O	2.15	0.47
1:B:83:THR:HG21	1:B:110:TYR:CE2	2.50	0.47
1:B:154:SER:OG	1:B:157:ILE:HD13	2.14	0.47
1:C:258:ALA:CB	1:C:333:LEU:HD22	2.45	0.47
1:C:320:PRO:HB2	1:C:323:TYR:CG	2.50	0.47
1:D:69:ALA:O	1:D:105:ALA:HA	2.15	0.47
1:D:356:ASN:C	1:D:356:ASN:HD22	2.18	0.47
1:E:219:LEU:CB	1:E:236:ILE:HD11	2.45	0.47
1:E:319:ILE:HG21	1:E:325:PHE:CD1	2.50	0.47
1:F:266:LYS:HB3	1:F:303:GLU:HB2	1.97	0.47
1:B:165:GLU:HG3	1:B:167:GLU:HG3	1.96	0.47
1:B:281:ALA:HB2	1:B:333:LEU:HD22	1.97	0.47
1:C:54:PHE:CD2	1:C:122:MET:HE2	2.49	0.47
1:C:266:LYS:HE3	1:C:305:GLN:OE1	2.14	0.47
1:D:9:ASN:C	1:D:9:ASN:ND2	2.68	0.47
1:D:285:LEU:HD22	1:D:286:VAL:N	2.30	0.47
1:F:61:ILE:HB	1:F:112:VAL:HG22	1.97	0.47
1:C:64:PRO:HG3	1:C:110:TYR:CD1	2.50	0.46
1:C:73:LEU:HG	1:C:124:TRP:NE1	2.29	0.46
1:F:55:GLN:HA	1:F:120:LEU:O	2.14	0.46
1:F:321:ALA:O	1:F:322:ALA:HB3	2.14	0.46
1:A:356:ASN:HD22	1:A:359:ARG:HG2	1.79	0.46
1:A:371:PRO:O	1:A:372:GLY:O	2.33	0.46
1:B:34:GLN:HE21	1:B:39:ARG:HB2	1.80	0.46
1:C:385:ARG:HG2	1:C:385:ARG:NH1	2.28	0.46
1:D:59:ASN:HA	1:D:195:ILE:CD1	2.45	0.46
1:D:380:LEU:HD11	1:F:169:ILE:HA	1.96	0.46
1:E:260:ALA:HA	1:E:392:ALA:H	1.80	0.46
1:F:32:LEU:CD2	1:F:50:ARG:HD2	2.45	0.46
1:F:353:GLU:OE2	1:F:385:ARG:HA	2.15	0.46
1:A:79:ARG:HB2	1:A:115:HIS:CE1	2.51	0.46
1:A:110:TYR:CE2	1:B:365:VAL:HG21	2.50	0.46
1:C:111:LEU:HD21	1:C:120:LEU:HD21	1.97	0.46
1:E:154:SER:HB3	1:F:308:ARG:NH2	2.31	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:A:430:HOH:O	1:B:45:ASN:HB2	2.14	0.46
1:C:15:SER:HB3	1:C:314:ASP:O	2.15	0.46
1:C:33:LEU:HD12	1:C:34:GLN:H	1.81	0.46
1:C:260:ILE:O	1:C:308:ARG:HA	2.15	0.46
1:D:13:PHE:HB2	1:D:316:VAL:O	2.15	0.46
1:D:356:ASN:HB3	1:D:359:ARG:HG2	1.96	0.46
1:F:33:LEU:O	1:F:50:ARG:NH2	2.39	0.46
1:A:47:ARG:HH12	1:A:132:PRO:CB	2.28	0.46
1:C:58:PRO:HB3	1:C:116:ASP:HA	1.97	0.46
1:A:222:ARG:HG3	1:A:222:ARG:HH21	1.80	0.46
1:B:79:ARG:HB2	1:B:115:HIS:NE2	2.31	0.46
1:C:215:PRO:HB3	1:C:222:ARG:HA	1.97	0.46
1:C:362:GLU:O	1:C:366:GLN:HG3	2.16	0.46
1:F:170:ASN:HD22	1:F:175:GLY:H	1.62	0.46
1:C:257:ASP:O	1:C:333:LEU:HD13	2.16	0.46
1:E:19:PHE:CZ	1:E:33:LEU:HD13	2.51	0.46
1:E:33:LEU:O	1:E:50:ARG:NH2	2.48	0.46
1:F:82:LEU:HD13	1:F:111:LEU:HD13	1.97	0.46
1:F:147:GLN:HG2	1:F:151:GLN:OE1	2.16	0.46
1:D:80:ALA:HB2	1:D:120:LEU:CD1	2.46	0.46
1:D:392:ALA:HA	1:F:160:THR:HG21	1.98	0.46
1:E:129:VAL:O	1:F:45:ASN:ND2	2.48	0.46
1:A:7:GLU:OE2	1:A:14:ARG:NH1	2.49	0.46
1:A:200:ARG:O	1:A:201:ARG:HB3	2.14	0.46
1:B:304:VAL:HG23	1:B:304:VAL:O	2.16	0.46
1:C:235:GLU:HG2	1:C:236:GLY:N	2.31	0.46
1:F:226:ILE:HA	1:F:339:GLY:O	2.16	0.46
1:A:319:ILE:HD13	1:A:325:PHE:CZ	2.52	0.46
1:B:206:SER:O	1:B:209:THR:HG22	2.16	0.46
1:C:82:LEU:HD13	1:C:111:LEU:HD13	1.98	0.46
1:D:206:SER:O	1:D:207:ARG:C	2.54	0.46
1:D:274:LEU:HD22	1:D:335:PHE:CE2	2.51	0.46
1:E:166:PHE:HZ	1:E:170:ASN:HD22	1.61	0.46
1:F:14:ARG:HA	1:F:315:ASP:OD2	2.15	0.46
1:C:377:VAL:O	1:C:381:LEU:HG	2.17	0.45
1:D:267:ASN:HB3	1:D:345:ASN:HD21	1.81	0.45
1:E:196:ARG:C	1:E:198:LEU:H	2.19	0.45
1:D:23:PHE:HZ	1:D:185:GLY:HA3	1.81	0.45
1:F:31:ARG:HH21	1:F:53:GLN:CD	2.20	0.45
1:F:87:ASN:C	1:F:87:ASN:HD22	2.20	0.45
1:A:210:ILE:HD11	1:A:236:ILE:HG23	1.99	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:30:ILE:HG12	1:B:54:PHE:CD1	2.52	0.45
1:C:111:LEU:HD21	1:C:122:MET:HE2	1.97	0.45
1:D:226:TYR:HB3	1:D:388:TYR:CD1	2.51	0.45
1:D:320:PRO:HB2	1:D:323:TYR:CD1	2.51	0.45
1:E:68:ASP:OD2	1:E:135:TYR:HB2	2.16	0.45
1:F:166:PHE:CD2	1:F:169:ILE:HD11	2.51	0.45
1:D:122:MET:HE3	1:D:124:TRP:HE1	1.82	0.45
1:E:277:ASN:ND2	2:E:460:HOH:O	2.50	0.45
1:F:170:ASN:HD22	1:F:170:ASN:C	2.19	0.45
1:A:384:GLN:NE2	1:A:386:GLU:HB2	2.32	0.45
1:B:168:GLU:CD	1:C:383:LYS:HZ2	2.20	0.45
1:C:261:GLU:CD	1:C:308:ARG:HH21	2.20	0.45
1:D:274:LEU:HD22	1:D:335:PHE:CD2	2.52	0.45
1:E:167:GLU:HG3	1:E:168:GLU:N	2.31	0.45
1:A:183:GLN:CG	1:A:188:VAL:CG1	2.91	0.45
1:E:222:ARG:CZ	1:E:236:ILE:HD12	2.47	0.45
1:E:235:GLU:C	1:E:236:ILE:HD13	2.37	0.45
1:E:319:ILE:HD12	1:E:319:ILE:N	2.30	0.45
1:F:215:PRO:HB3	1:F:222:ARG:HA	1.99	0.45
1:A:150:LEU:HD21	1:B:350:LEU:HD13	1.99	0.45
1:E:6:ASP:HB2	1:E:7:GLU:OE1	2.17	0.45
1:E:49:TYR:CZ	1:E:340:ILE:HD12	2.52	0.45
1:A:74:PHE:HE2	1:A:219:LEU:HD13	1.81	0.45
1:A:120:LEU:HD21	1:A:122:MET:HE2	1.98	0.45
1:B:6:ASP:O	1:B:6:ASP:OD1	2.35	0.45
1:B:23:PHE:CD1	1:B:24:GLU:N	2.85	0.45
1:C:65:HIS:HB2	1:C:138:PHE:O	2.17	0.45
1:C:81:ILE:HG13	1:C:114:PRO:HG3	1.98	0.45
1:D:304:VAL:O	1:D:304:VAL:HG23	2.17	0.45
1:E:6:ASP:C	1:E:8:ASN:H	2.19	0.45
1:E:30:ILE:HG12	1:E:54:PHE:HD1	1.81	0.45
1:E:226:TYR:HB2	1:E:233:PHE:HB3	1.99	0.45
1:F:229:SER:OG	1:F:337:ALA:HB3	2.17	0.45
1:B:85:VAL:HG13	1:B:108:THR:HB	1.98	0.45
1:C:119:ASN:N	1:C:119:ASN:ND2	2.65	0.45
1:A:120:LEU:HD21	1:A:122:MET:HE1	1.98	0.45
1:B:32:LEU:CD1	1:B:50:ARG:CZ	2.92	0.45
1:C:76:LEU:HB2	1:C:121:LYS:O	2.17	0.45
1:D:40:SER:C	1:D:42:GLN:N	2.70	0.45
1:D:217:PHE:CD1	1:D:217:PHE:N	2.85	0.45
1:E:73:LEU:HG	1:E:124:TRP:CD1	2.52	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:265:HIS:HB2	1:E:348:ASN:O	2.16	0.45
1:F:214:THR:H	1:F:217:LYS:HE3	1.81	0.45
1:A:217:PHE:CZ	1:A:244:LEU:HD13	2.52	0.44
1:C:387:SER:O	1:C:389:PHE:N	2.44	0.44
1:D:37:ASN:HD22	1:D:37:ASN:N	2.12	0.44
1:D:114:PRO:HA	1:D:195:ILE:HD13	1.98	0.44
1:F:37:ASN:H	1:F:37:ASN:ND2	2.12	0.44
1:B:148:SER:OG	1:B:150:LEU:HB2	2.18	0.44
1:B:169:ILE:HA	1:C:380:LEU:HD11	2.00	0.44
1:B:184:GLU:O	1:B:185:GLY:O	2.36	0.44
1:B:387:SER:O	1:B:389:PHE:N	2.48	0.44
1:C:238:LEU:HD21	1:C:390:VAL:CG2	2.48	0.44
1:D:261:LEU:HD23	1:D:261:LEU:N	2.31	0.44
1:E:162:PHE:HB2	1:E:169:ILE:CD1	2.47	0.44
1:E:258:GLU:H	1:E:332:ASN:HD22	1.63	0.44
1:F:141:SER:O	1:F:148:SER:HB2	2.18	0.44
1:A:22:LEU:HD21	1:A:32:LEU:HD12	1.99	0.44
1:A:224:PRO:CG	1:A:227:SER:HB2	2.46	0.44
1:B:32:LEU:HD23	1:B:52:VAL:HG22	1.99	0.44
1:D:8:ASN:O	1:D:8:ASN:ND2	2.50	0.44
1:D:79:ARG:HB2	1:D:115:HIS:CE1	2.53	0.44
1:F:58:PRO:HD3	1:F:119:ASN:ND2	2.31	0.44
1:F:96:HIS:O	1:F:99:ASP:HB2	2.17	0.44
1:A:87:ASN:HD22	1:A:87:ASN:C	2.18	0.44
1:A:357:VAL:O	1:A:360:GLN:HB2	2.17	0.44
1:E:364:GLN:O	1:E:367:GLU:HB3	2.18	0.44
1:B:206:SER:O	1:B:208:LYS:N	2.51	0.44
1:D:87:ASN:HD22	1:D:87:ASN:C	2.20	0.44
1:D:263:LEU:HD13	1:D:351:ALA:O	2.17	0.44
1:D:306:ARG:HH21	1:D:306:ARG:HG3	1.82	0.44
1:F:37:ASN:N	1:F:37:ASN:ND2	2.65	0.44
1:A:281:ALA:HB2	1:A:333:LEU:HD22	2.00	0.44
1:B:59:ASN:HA	1:B:195:ILE:CD1	2.47	0.44
1:D:85:VAL:CG2	1:E:360:GLN:HB2	2.45	0.44
1:D:261:LEU:HD21	1:D:390:VAL:HG23	1.95	0.44
1:E:219:LEU:HB3	1:E:236:ILE:CG1	2.47	0.44
1:F:87:ASN:HD22	1:F:88:ASP:N	2.16	0.44
1:B:274:LEU:HD22	1:B:335:PHE:CE2	2.53	0.44
1:D:69:ALA:HB2	1:D:128:PRO:HA	2.00	0.44
1:E:13:PHE:HB2	1:E:316:VAL:HB	2.00	0.44
1:E:80:ALA:HB2	1:E:120:LEU:CD2	2.48	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:88:ASP:O	1:E:89:ASP:HB3	2.17	0.44
1:E:166:PHE:CZ	1:E:170:ASN:ND2	2.85	0.44
1:B:220:ARG:NH2	1:B:255:ASP:OD2	2.51	0.44
1:C:58:PRO:HB3	1:C:115:HIS:O	2.18	0.44
1:D:172:VAL:HG22	1:E:376:ASP:HB3	2.00	0.44
1:E:111:LEU:CD2	1:E:122:MET:HE2	2.34	0.44
1:C:22:LEU:HB2	1:C:30:ILE:O	2.18	0.44
1:E:47:ARG:HH22	1:E:132:PRO:CB	2.31	0.44
1:F:360:GLN:HA	1:F:360:GLN:NE2	2.32	0.44
1:B:25:ASN:OD1	1:B:27:ASN:N	2.46	0.43
1:C:79:ARG:HG2	1:C:80:ALA:N	2.33	0.43
1:E:254:VAL:HG13	1:E:335:PHE:CE2	2.53	0.43
1:F:12:TYR:O	1:F:39:ARG:NH2	2.50	0.43
1:A:171:ARG:HD2	1:A:181:ARG:NH2	2.33	0.43
1:A:361:ILE:CG2	1:A:365:VAL:HB	2.49	0.43
1:C:259:ASN:ND2	1:C:330:THR:HG21	2.33	0.43
1:E:116:ASP:OD2	1:E:192:LYS:HE3	2.19	0.43
1:F:79:ARG:HG2	1:F:80:ALA:N	2.33	0.43
1:A:387:SER:O	1:A:389:PHE:N	2.43	0.43
1:B:206:SER:H	1:B:209:THR:CG2	2.31	0.43
1:C:102:ARG:HB3	1:C:220:GLN:NE2	2.33	0.43
1:C:146:GLN:C	1:C:146:GLN:HE21	2.21	0.43
1:D:285:LEU:CD2	1:D:323:TYR:HB3	2.45	0.43
1:E:206:SER:O	1:E:209:THR:HG22	2.17	0.43
1:E:219:LEU:CA	1:E:236:ILE:HD11	2.48	0.43
1:F:202:ILE:HG12	1:F:210:PHE:O	2.17	0.43
1:A:206:SER:O	1:A:207:ARG:C	2.57	0.43
1:C:8:ASN:HD22	1:C:8:ASN:HA	1.52	0.43
1:D:75:VAL:HG21	1:D:95:LEU:HB3	2.00	0.43
1:B:274:LEU:HB3	1:B:317:PHE:O	2.19	0.43
1:C:379:ARG:HG3	1:C:379:ARG:NH1	2.31	0.43
1:D:210:ILE:HG23	1:D:211:SER:N	2.32	0.43
1:D:250:PHE:C	1:D:250:PHE:CD2	2.92	0.43
1:D:363:ARG:HG2	1:D:374:ALA:CB	2.46	0.43
1:E:159:GLU:OE2	1:E:166:PHE:HB2	2.18	0.43
1:B:219:LEU:HD11	1:B:235:GLU:HA	2.00	0.43
1:B:333:LEU:HG	1:B:334:ASN:N	2.33	0.43
1:C:170:ASN:ND2	1:C:170:ASN:O	2.51	0.43
1:C:196:LEU:HD13	1:C:213:ILE:HG12	2.00	0.43
1:E:122:MET:HB2	1:E:122:MET:HE3	1.76	0.43
1:F:9:ASN:HD21	1:F:11:PHE:HD2	1.65	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:203:LYS:HD3	1:B:215:GLU:OE2	2.18	0.43
1:D:122:MET:CE	1:D:124:TRP:HE1	2.32	0.43
1:D:170:ASN:HD22	1:D:174:PHE:HB2	1.84	0.43
1:B:353:GLU:HG3	1:B:385:ARG:O	2.19	0.43
1:E:222:ARG:NH1	1:E:236:ILE:CD1	2.82	0.43
1:F:8:ASN:HD22	1:F:8:ASN:HA	1.59	0.43
1:F:189:GLU:C	1:F:190:LEU:HD23	2.39	0.43
1:F:310:GLU:OE2	1:F:310:GLU:N	2.51	0.43
1:A:32:LEU:HD13	1:A:50:ARG:HH11	1.84	0.43
1:C:189:GLU:O	1:C:190:LEU:C	2.57	0.43
1:D:89:ASP:HA	1:E:360:GLN:NE2	2.34	0.43
1:D:321:ALA:O	1:D:322:ALA:HB3	2.18	0.43
1:E:59:ASN:CA	1:E:195:ILE:HD11	2.43	0.43
1:E:277:ASN:CB	1:E:334:ASN:ND2	2.81	0.43
1:F:25:ASN:OD1	1:F:25:ASN:C	2.58	0.43
1:F:353:GLU:OE1	1:F:382:LYS:HE3	2.18	0.43
1:A:9:ASN:ND2	1:A:11:PHE:H	2.17	0.43
1:A:35:ARG:HG2	1:A:50:ARG:NH2	2.32	0.43
1:A:284:GLU:HG2	1:A:308:ARG:HG2	2.01	0.43
1:B:32:LEU:CD2	1:B:52:VAL:HG22	2.48	0.43
1:B:249:ILE:CG2	1:B:250:PHE:N	2.82	0.43
1:C:89:ASP:O	1:C:90:ARG:HB2	2.18	0.43
1:C:242:HIS:HB3	1:C:349:PHE:CD1	2.54	0.43
1:E:85:VAL:HG13	1:E:108:THR:HB	2.01	0.43
1:E:364:GLN:O	1:E:368:LEU:HD22	2.19	0.43
1:F:31:ARG:NE	1:F:53:GLN:NE2	2.66	0.43
1:F:112:VAL:HG12	1:F:113:ASN:N	2.33	0.43
1:B:11:PHE:CD1	1:B:43:LEU:HD21	2.54	0.42
1:B:11:PHE:CE1	1:B:43:LEU:HD21	2.52	0.42
1:B:23:PHE:CD1	1:B:23:PHE:C	2.92	0.42
1:C:252:VAL:HG21	1:C:336:LEU:HD23	2.01	0.42
1:F:380:LEU:C	1:F:380:LEU:HD23	2.39	0.42
1:A:368:LEU:HD23	1:C:188:VAL:CG2	2.44	0.42
1:B:282:ASN:OD1	1:B:310:GLU:HG2	2.19	0.42
1:F:61:ILE:CG1	1:F:112:VAL:HG22	2.49	0.42
1:F:227:PHE:C	1:F:227:PHE:HD2	2.23	0.42
1:F:238:LEU:N	1:F:238:LEU:HD23	2.34	0.42
1:F:261:GLU:HG2	1:F:308:ARG:HE	1.84	0.42
1:B:249:ILE:HG22	1:B:250:PHE:N	2.34	0.42
1:E:5:GLU:O	1:E:6:ASP:O	2.36	0.42
1:F:6:ASP:C	1:F:8:ASN:N	2.73	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:319:ILE:N	1:F:319:ILE:HD12	2.34	0.42
1:A:217:PHE:HZ	1:A:244:LEU:HD13	1.84	0.42
1:A:362:GLU:HG2	1:C:90:ARG:CZ	2.49	0.42
1:C:227:PHE:C	1:C:227:PHE:HD2	2.21	0.42
1:C:330:THR:O	1:C:331:SER:HB3	2.19	0.42
1:D:270:ALA:H	1:D:345:ASN:ND2	2.18	0.42
1:E:146:GLN:NE2	1:E:146:GLN:C	2.73	0.42
1:F:65:HIS:HA	1:F:138:PHE:O	2.19	0.42
1:F:199:ARG:HD3	1:F:213:ILE:CD1	2.49	0.42
1:F:235:GLU:HB2	1:F:332:ASN:N	2.34	0.42
1:A:23:PHE:CE2	1:A:186:VAL:HG22	2.55	0.42
1:B:382:LYS:HG3	1:B:382:LYS:O	2.18	0.42
1:E:37:ASN:N	1:E:37:ASN:ND2	2.56	0.42
1:F:71:PHE:CE2	1:F:126:ALA:HB2	2.55	0.42
1:F:80:ALA:HB2	1:F:120:LEU:CD2	2.49	0.42
1:A:351:ALA:N	1:A:356:ASN:OD1	2.52	0.42
1:B:269:LYS:H	1:B:345:ASN:ND2	2.16	0.42
1:C:71:PHE:HB2	1:C:103:ILE:HB	2.02	0.42
1:C:384:GLN:HE22	1:C:386:GLU:HB2	1.75	0.42
1:E:173:LEU:HA	1:F:370:PHE:HB3	2.02	0.42
1:E:305:GLN:NE2	2:E:432:HOH:O	2.52	0.42
1:A:302:LEU:HG	1:C:23:PHE:CZ	2.54	0.42
1:C:102:ARG:N	1:C:220:GLN:HE21	2.16	0.42
1:D:25:ASN:HB3	1:D:27:ASN:H	1.84	0.42
1:D:228:ASN:OD1	1:D:228:ASN:C	2.57	0.42
1:C:13:PHE:CZ	1:C:39:ARG:HG3	2.53	0.42
1:C:32:LEU:CD1	1:C:50:ARG:NH2	2.82	0.42
1:C:35:ARG:HG3	1:C:50:ARG:HE	1.84	0.42
1:D:71:PHE:HA	1:D:125:LEU:O	2.20	0.42
1:D:138:PHE:HB3	1:D:149:TYR:CD2	2.55	0.42
1:F:31:ARG:HH21	1:F:53:GLN:NE2	2.18	0.42
1:F:37:ASN:ND2	1:F:38:LYS:H	2.17	0.42
1:F:38:LYS:HA	1:F:38:LYS:HD3	1.92	0.42
1:A:364:GLN:O	1:A:368:LEU:CD1	2.68	0.42
1:C:203:TYR:HB3	1:C:388:TYR:CD1	2.55	0.42
1:C:254:ASN:HB3	1:C:334:ASN:ND2	2.31	0.42
1:D:302:LEU:N	1:D:302:LEU:HD22	2.34	0.42
1:F:254:ASN:C	1:F:254:ASN:HD22	2.23	0.42
1:A:284:GLU:HB2	1:A:326:VAL:HG12	2.01	0.42
1:C:35:ARG:HG3	1:C:50:ARG:HH11	1.84	0.42
1:E:194:GLN:NE2	1:F:368:LEU:HD11	2.35	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:248:ASP:OD2	1:A:343:GLU:HB2	2.20	0.41
1:A:278:GLU:HG2	1:A:279:GLY:N	2.35	0.41
1:A:364:GLN:H	1:A:364:GLN:HE21	1.57	0.41
1:B:6:ASP:HB2	1:B:12:TYR:CE1	2.55	0.41
1:B:35:ARG:NE	2:B:425:HOH:O	2.50	0.41
1:B:193:GLU:O	1:B:197:GLN:HG2	2.20	0.41
1:D:288:ILE:HG21	1:D:302:LEU:CD1	2.48	0.41
1:E:205:SER:HA	1:E:209:THR:HG21	2.02	0.41
1:F:239:LEU:HD13	1:F:389:PHE:CE1	2.55	0.41
1:A:53:GLN:HE22	1:A:314:ASP:CB	2.33	0.41
1:B:87:ASN:ND2	1:B:88:ASP:N	2.65	0.41
1:C:77:SER:OG	1:C:121:LYS:HB3	2.19	0.41
1:C:89:ASP:CG	1:C:90:ARG:N	2.73	0.41
1:D:212:SER:O	1:D:242:PRO:HG2	2.20	0.41
1:D:223:ASN:N	1:D:223:ASN:ND2	2.68	0.41
1:D:368:LEU:HD21	1:F:190:LEU:HA	2.02	0.41
1:E:83:THR:HG21	1:E:110:TYR:CE2	2.54	0.41
1:E:263:LEU:HD21	1:E:390:VAL:HG11	2.03	0.41
1:A:89:ASP:HA	1:B:360:GLN:NE2	2.35	0.41
1:A:171:ARG:O	1:A:181:ARG:NH2	2.48	0.41
1:B:23:PHE:HA	2:B:452:HOH:O	2.18	0.41
1:C:122:MET:HB2	1:C:122:MET:HE3	1.89	0.41
1:C:359:ARG:NH1	1:C:359:ARG:HB3	2.35	0.41
1:E:281:ALA:HB2	1:E:333:LEU:HD22	2.02	0.41
1:E:285:LEU:HB3	1:E:307:TYR:HB2	2.02	0.41
1:E:304:VAL:HG23	1:E:304:VAL:O	2.20	0.41
1:F:72:LEU:HB3	1:F:125:LEU:HB3	2.02	0.41
1:F:212:GLU:HA	1:F:228:LEU:O	2.21	0.41
1:A:364:GLN:NE2	1:A:364:GLN:N	2.54	0.41
1:C:194:PHE:CD1	1:C:194:PHE:N	2.88	0.41
1:D:101:GLN:OE1	1:D:216:PRO:HD3	2.20	0.41
1:D:391:ASP:O	1:F:160:THR:CG2	2.69	0.41
1:E:219:LEU:CB	1:E:236:ILE:HG12	2.50	0.41
1:E:289:LYS:N	1:E:303:GLU:O	2.44	0.41
1:E:349:PHE:O	1:E:356:ASN:HA	2.20	0.41
1:F:214:THR:HB	1:F:215:PRO:CD	2.51	0.41
1:F:239:LEU:O	1:F:326:VAL:HG23	2.21	0.41
1:A:57:LYS:HB3	1:A:58:PRO:HD2	2.02	0.41
1:A:265:HIS:O	1:A:324:PRO:HA	2.21	0.41
1:B:83:THR:HB	1:B:92:SER:OG	2.20	0.41
1:E:306:ARG:HD2	1:E:308:ARG:NH2	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:197:ARG:NH2	1:F:232:ASP:OD2	2.53	0.41
1:A:59:ASN:HD22	1:A:195:ILE:CD1	2.33	0.41
1:A:141:SER:HB2	1:B:369:ALA:O	2.20	0.41
1:B:384:GLN:HE21	1:B:386:GLU:H	1.69	0.41
1:C:260:ILE:CD1	1:C:311:LEU:HD11	2.47	0.41
1:D:151:GLN:OE1	1:D:176:GLU:OE1	2.37	0.41
1:D:363:ARG:NH1	1:D:374:ALA:HB3	2.35	0.41
1:F:246:LYS:H	1:F:345:ASN:ND2	2.16	0.41
1:A:45:ASN:ND2	1:C:129:VAL:O	2.52	0.41
1:B:194:GLN:O	1:B:198:LEU:HG	2.20	0.41
1:C:6:ASP:C	1:C:8:ASN:H	2.23	0.41
1:D:85:VAL:HG22	1:E:357:VAL:HG23	2.03	0.41
1:D:210:ILE:CD1	1:D:236:ILE:HD12	2.47	0.41
1:D:278:GLU:HG2	1:D:279:GLY:N	2.36	0.41
1:D:279:GLY:HA3	1:D:332:ASN:O	2.21	0.41
1:E:215:GLU:HB3	1:E:216:PRO:HD2	2.03	0.41
1:E:277:ASN:HB3	1:E:334:ASN:O	2.21	0.41
1:B:103:ILE:O	1:B:104:PRO:C	2.57	0.41
1:C:65:HIS:HB3	1:C:139:PHE:CD2	2.55	0.41
1:C:68:ASP:OD2	1:C:135:TYR:HB2	2.20	0.41
1:C:102:ARG:HG2	1:C:103:ILE:N	2.35	0.41
1:D:29:ARG:HG2	1:D:30:ILE:N	2.36	0.41
1:A:210:ILE:CD1	1:A:236:ILE:HD12	2.51	0.41
1:A:363:ARG:NH2	1:A:374:ALA:HB1	2.36	0.41
1:C:32:LEU:CD2	1:C:52:VAL:HG22	2.43	0.41
1:C:37:ASN:HD22	1:C:37:ASN:H	1.69	0.41
1:C:102:ARG:HB3	1:C:220:GLN:HE21	1.85	0.41
1:C:174:PHE:N	1:C:174:PHE:CD2	2.87	0.41
1:C:380:LEU:C	1:C:380:LEU:HD23	2.40	0.41
1:C:384:GLN:HE21	1:C:386:GLU:HB2	1.79	0.41
1:D:61:ILE:O	1:D:61:ILE:HG23	2.21	0.41
1:D:207:ARG:NH1	1:D:207:ARG:CG	2.82	0.41
1:E:82:LEU:O	1:E:93:TYR:N	2.49	0.41
1:E:83:THR:HA	1:E:92:SER:HA	2.03	0.41
1:E:220:ARG:C	1:E:222:ARG:N	2.74	0.41
1:E:238:PRO:HG3	1:E:249:ILE:O	2.21	0.41
1:F:195:ASN:HD22	1:F:198:SER:HB2	1.86	0.41
1:F:382:LYS:HA	1:F:382:LYS:HD2	1.89	0.41
1:A:13:PHE:HB2	1:A:316:VAL:O	2.20	0.41
1:B:90:ARG:NH2	1:B:201:ARG:NH1	2.69	0.41
1:B:319:ILE:HG21	1:B:325:PHE:CD1	2.56	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:24:GLU:HG3	1:C:29:ARG:HG3	2.01	0.41
1:D:80:ALA:HB2	1:D:120:LEU:HD11	2.03	0.41
1:D:139:PHE:CE2	1:D:186:VAL:HB	2.56	0.41
1:D:146:GLN:HB3	1:E:302:LEU:HB2	2.03	0.41
1:D:261:LEU:HD23	1:D:390:VAL:O	2.20	0.41
1:E:31:ARG:NH2	1:E:53:GLN:HE22	2.14	0.41
1:E:83:THR:HA	1:E:91:ASP:O	2.20	0.41
1:A:68:ASP:OD2	1:A:130:ASN:ND2	2.47	0.40
1:A:380:LEU:HD21	1:C:169:ILE:HG22	2.03	0.40
1:D:171:ARG:O	1:D:181:ARG:NH2	2.54	0.40
1:D:213:GLU:HA	1:D:242:PRO:HG2	2.03	0.40
1:E:343:GLU:O	1:E:344:ASN:HB2	2.21	0.40
1:F:59:ASN:OD1	1:F:116:ASP:HA	2.20	0.40
1:D:23:PHE:CE1	1:D:25:ASN:ND2	2.89	0.40
1:D:152:GLY:O	1:E:306:ARG:HG2	2.21	0.40
1:E:219:LEU:HB2	1:E:236:ILE:CD1	2.51	0.40
1:F:384:GLN:HE21	1:F:386:GLU:N	2.11	0.40
1:F:384:GLN:NE2	1:F:386:GLU:CB	2.84	0.40
1:B:90:ARG:NH1	1:C:362:GLU:HG2	2.35	0.40
1:C:32:LEU:CD1	1:C:50:ARG:HH12	2.34	0.40
1:C:207:PHE:HB3	1:C:237:ALA:HB2	2.02	0.40
1:E:6:ASP:HB3	1:E:12:TYR:CD1	2.56	0.40
1:B:75:VAL:HA	1:B:122:MET:HG2	2.03	0.40
1:B:321:ALA:O	1:B:322:ALA:HB3	2.20	0.40
1:C:25:ASN:OD1	1:C:25:ASN:C	2.59	0.40
1:D:57:LYS:HB3	1:D:58:PRO:CD	2.50	0.40
1:D:101:GLN:HG3	1:D:102:ARG:N	2.36	0.40
1:E:267:ASN:HB3	1:E:345:ASN:HD21	1.87	0.40
1:F:238:LEU:HD21	1:F:390:VAL:CG2	2.52	0.40
1:A:40:SER:C	1:A:42:GLN:H	2.25	0.40
1:C:190:LEU:O	1:C:190:LEU:CD2	2.69	0.40
1:C:306:ARG:HG3	1:C:306:ARG:HH11	1.87	0.40
1:E:9:ASN:C	1:E:9:ASN:ND2	2.73	0.40
1:F:196:LEU:HD23	1:F:230:SER:HB2	2.04	0.40
1:F:258:ALA:CB	1:F:333:LEU:HD22	2.49	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	373/416 (90%)	348 (93%)	21 (6%)	4 (1%)	14	26
1	B	364/416 (88%)	343 (94%)	14 (4%)	7 (2%)	8	13
1	C	338/416 (81%)	306 (90%)	25 (7%)	7 (2%)	7	11
1	D	373/416 (90%)	342 (92%)	27 (7%)	4 (1%)	14	26
1	E	364/416 (88%)	340 (93%)	20 (6%)	4 (1%)	14	26
1	F	338/416 (81%)	295 (87%)	37 (11%)	6 (2%)	8	14
All	All	2150/2496 (86%)	1974 (92%)	144 (7%)	32 (2%)	10	18

All (32) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	B	6	ASP
1	C	7	GLU
1	D	6	ASP
1	E	6	ASP
1	E	201	ARG
1	F	7	GLU
1	F	331	SER
1	A	6	ASP
1	A	39	ARG
1	A	372	GLY
1	B	7	GLU
1	B	185	GLY
1	B	207	ARG
1	C	16	SER
1	C	184	GLU
1	B	388	TYR
1	D	39	ARG
1	D	372	GLY
1	F	206	ASN
1	B	229	ASN

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Mol	Chain	Res	Type
1	B	332	ASN
1	C	331	SER
1	F	15	SER
1	F	381	LEU
1	A	68	ASP
1	C	10	PRO
1	C	88	ASP
1	C	141	SER
1	D	68	ASP
1	E	39	ARG
1	E	388	TYR
1	F	10	PRO

### 5.3.2 Protein sidechains [i](#)

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
1	A	341/375 (91%)	309 (91%)	32 (9%)	8 17
1	B	334/375 (89%)	301 (90%)	33 (10%)	8 15
1	C	311/375 (83%)	287 (92%)	24 (8%)	13 25
1	D	341/375 (91%)	304 (89%)	37 (11%)	6 12
1	E	334/375 (89%)	307 (92%)	27 (8%)	11 23
1	F	311/375 (83%)	287 (92%)	24 (8%)	13 25
All	All	1972/2250 (88%)	1795 (91%)	177 (9%)	9 19

All (177) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	8	ASN
1	A	9	ASN
1	A	21	THR
1	A	22	LEU
1	A	26	GLN
1	A	32	LEU

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	37	ASN
1	A	38	LYS
1	A	39	ARG
1	A	53	GLN
1	A	62	LEU
1	A	85	VAL
1	A	87	ASN
1	A	94	ASN
1	A	102	ARG
1	A	140	LEU
1	A	142	SER
1	A	146	GLN
1	A	151	GLN
1	A	160	THR
1	A	170	ASN
1	A	207	ARG
1	A	244	LEU
1	A	250	PHE
1	A	252	SER
1	A	274	LEU
1	A	275	VAL
1	A	278	GLU
1	A	285	LEU
1	A	318	VAL
1	A	359	ARG
1	A	364	GLN
1	B	8	ASN
1	B	9	ASN
1	B	20	GLN
1	B	22	LEU
1	B	26	GLN
1	B	37	ASN
1	B	39	ARG
1	B	50	ARG
1	B	53	GLN
1	B	62	LEU
1	B	83	THR
1	B	87	ASN
1	B	94	ASN
1	B	131	LYS
1	B	140	LEU
1	B	146	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	B	167	GLU
1	B	190	LEU
1	B	201	ARG
1	B	207	ARG
1	B	218	ASN
1	B	244	LEU
1	B	250	PHE
1	B	254	VAL
1	B	257	ASN
1	B	274	LEU
1	B	277	ASN
1	B	286	VAL
1	B	318	VAL
1	B	328	ASN
1	B	346	GLN
1	B	359	ARG
1	B	380	LEU
1	C	8	ASN
1	C	9	ASN
1	C	25	ASN
1	C	39	ARG
1	C	40	SER
1	C	50	ARG
1	C	53	GLN
1	C	62	LEU
1	C	87	ASN
1	C	94	ASN
1	C	113	ASN
1	C	146	GLN
1	C	170	ASN
1	C	199	ARG
1	C	227	PHE
1	C	231	VAL
1	C	251	LEU
1	C	254	ASN
1	C	257	ASP
1	C	262	LEU
1	C	308	ARG
1	C	328	ASN
1	C	368	LEU
1	C	386	GLU
1	D	8	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	D	9	ASN
1	D	17	ASN
1	D	20	GLN
1	D	21	THR
1	D	22	LEU
1	D	26	GLN
1	D	32	LEU
1	D	37	ASN
1	D	38	LYS
1	D	53	GLN
1	D	62	LEU
1	D	85	VAL
1	D	87	ASN
1	D	94	ASN
1	D	95	LEU
1	D	140	LEU
1	D	146	GLN
1	D	151	GLN
1	D	157	ILE
1	D	170	ASN
1	D	176	GLU
1	D	200	ARG
1	D	221	SER
1	D	244	LEU
1	D	250	PHE
1	D	254	VAL
1	D	258	GLU
1	D	261	LEU
1	D	274	LEU
1	D	275	VAL
1	D	285	LEU
1	D	318	VAL
1	D	328	ASN
1	D	356	ASN
1	D	380	LEU
1	D	385	ARG
1	E	6	ASP
1	E	8	ASN
1	E	9	ASN
1	E	20	GLN
1	E	22	LEU
1	E	26	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	E	37	ASN
1	E	62	LEU
1	E	83	THR
1	E	87	ASN
1	E	140	LEU
1	E	146	GLN
1	E	190	LEU
1	E	197	GLN
1	E	207	ARG
1	E	209	THR
1	E	218	ASN
1	E	244	LEU
1	E	250	PHE
1	E	254	VAL
1	E	274	LEU
1	E	277	ASN
1	E	286	VAL
1	E	318	VAL
1	E	328	ASN
1	E	380	LEU
1	E	385	ARG
1	F	8	ASN
1	F	9	ASN
1	F	20	GLN
1	F	22	LEU
1	F	32	LEU
1	F	37	ASN
1	F	39	ARG
1	F	53	GLN
1	F	62	LEU
1	F	85	VAL
1	F	87	ASN
1	F	94	ASN
1	F	110	TYR
1	F	140	LEU
1	F	146	GLN
1	F	170	ASN
1	F	216	GLU
1	F	221	LEU
1	F	227	PHE
1	F	251	LEU
1	F	254	ASN

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Mol	Chain	Res	Type
1	F	308	ARG
1	F	328	ASN
1	F	386	GLU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (175) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	8	ASN
1	A	9	ASN
1	A	20	GLN
1	A	26	GLN
1	A	27	ASN
1	A	37	ASN
1	A	53	GLN
1	A	55	GLN
1	A	59	ASN
1	A	87	ASN
1	A	94	ASN
1	A	118	GLN
1	A	119	ASN
1	A	144	GLN
1	A	151	GLN
1	A	170	ASN
1	A	182	GLN
1	A	218	ASN
1	A	223	ASN
1	A	257	ASN
1	A	277	ASN
1	A	282	ASN
1	A	328	ASN
1	A	332	ASN
1	A	334	ASN
1	A	341	ASN
1	A	344	ASN
1	A	345	ASN
1	A	348	ASN
1	A	360	GLN
1	A	364	GLN
1	A	384	GLN
1	B	8	ASN
1	B	9	ASN
1	B	26	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	B	27	ASN
1	B	37	ASN
1	B	53	GLN
1	B	59	ASN
1	B	87	ASN
1	B	94	ASN
1	B	118	GLN
1	B	119	ASN
1	B	144	GLN
1	B	146	GLN
1	B	218	ASN
1	B	229	ASN
1	B	243	GLN
1	B	257	ASN
1	B	277	ASN
1	B	328	ASN
1	B	332	ASN
1	B	334	ASN
1	B	341	ASN
1	B	345	ASN
1	B	360	GLN
1	B	384	GLN
1	C	8	ASN
1	C	9	ASN
1	C	37	ASN
1	C	45	ASN
1	C	53	GLN
1	C	59	ASN
1	C	65	HIS
1	C	87	ASN
1	C	94	ASN
1	C	113	ASN
1	C	118	GLN
1	C	119	ASN
1	C	146	GLN
1	C	155	HIS
1	C	156	ASN
1	C	170	ASN
1	C	183	GLN
1	C	220	GLN
1	C	234	ASN
1	C	254	ASN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	C	259	ASN
1	C	328	ASN
1	C	332	ASN
1	C	334	ASN
1	C	341	ASN
1	C	345	ASN
1	C	348	ASN
1	C	360	GLN
1	C	384	GLN
1	D	8	ASN
1	D	9	ASN
1	D	17	ASN
1	D	20	GLN
1	D	25	ASN
1	D	26	GLN
1	D	34	GLN
1	D	37	ASN
1	D	53	GLN
1	D	59	ASN
1	D	87	ASN
1	D	94	ASN
1	D	119	ASN
1	D	144	GLN
1	D	151	GLN
1	D	170	ASN
1	D	194	GLN
1	D	218	ASN
1	D	223	ASN
1	D	243	GLN
1	D	257	ASN
1	D	277	ASN
1	D	282	ASN
1	D	305	GLN
1	D	328	ASN
1	D	332	ASN
1	D	334	ASN
1	D	341	ASN
1	D	344	ASN
1	D	345	ASN
1	D	348	ASN
1	D	356	ASN
1	D	360	GLN

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	D	384	GLN
1	E	8	ASN
1	E	9	ASN
1	E	26	GLN
1	E	27	ASN
1	E	34	GLN
1	E	37	ASN
1	E	45	ASN
1	E	53	GLN
1	E	59	ASN
1	E	87	ASN
1	E	94	ASN
1	E	115	HIS
1	E	118	GLN
1	E	119	ASN
1	E	144	GLN
1	E	194	GLN
1	E	218	ASN
1	E	229	ASN
1	E	243	GLN
1	E	257	ASN
1	E	277	ASN
1	E	328	ASN
1	E	332	ASN
1	E	334	ASN
1	E	341	ASN
1	E	345	ASN
1	E	346	GLN
1	E	360	GLN
1	E	384	GLN
1	F	8	ASN
1	F	9	ASN
1	F	34	GLN
1	F	37	ASN
1	F	45	ASN
1	F	53	GLN
1	F	87	ASN
1	F	94	ASN
1	F	118	GLN
1	F	119	ASN
1	F	146	GLN
1	F	147	GLN

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Mol	Chain	Res	Type
1	F	156	ASN
1	F	170	ASN
1	F	195	ASN
1	F	220	GLN
1	F	234	ASN
1	F	242	HIS
1	F	254	ASN
1	F	328	ASN
1	F	332	ASN
1	F	334	ASN
1	F	341	ASN
1	F	345	ASN
1	F	348	ASN
1	F	384	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

### 5.6 Ligand geometry [i](#)

There are no ligands in this entry.

### 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<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	377/416 (90%)	-0.16	7 (1%) 66 69	18, 34, 67, 82	0
1	B	370/416 (88%)	-0.02	10 (2%) 54 58	14, 36, 62, 76	0
1	C	346/416 (83%)	0.39	19 (5%) 25 26	25, 54, 74, 85	0
1	D	377/416 (90%)	-0.14	7 (1%) 66 69	17, 32, 67, 80	0
1	E	370/416 (88%)	0.04	14 (3%) 40 43	15, 39, 69, 78	0
1	F	346/416 (83%)	0.36	18 (5%) 27 29	28, 53, 75, 84	0
All	All	2186/2496 (87%)	0.07	75 (3%) 45 48	14, 40, 70, 85	0

All (75) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	C	117	HIS	5.3
1	C	26	GLN	4.5
1	F	301	PRO	4.4
1	E	207	ARG	4.3
1	D	200	ARG	4.1
1	C	301	PRO	3.9
1	E	303	GLU	3.7
1	E	117	HIS	3.5
1	C	118	GLN	3.3
1	C	23	PHE	3.3
1	B	145	ALA	3.3
1	B	8	ASN	3.2
1	D	196	ARG	3.2
1	C	391	ASP	3.2
1	F	26	GLN	3.2
1	E	196	ARG	3.2
1	D	289	LYS	3.1
1	E	200	ARG	3.1
1	B	207	ARG	3.1

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	D	364	GLN	3.0
1	E	302	LEU	3.0
1	F	199	ARG	3.0
1	A	196	ARG	3.0
1	E	208	LYS	2.9
1	A	200	ARG	2.9
1	F	392	ALA	2.9
1	A	289	LYS	2.9
1	D	201	ARG	2.9
1	E	171	ARG	2.8
1	B	184	GLU	2.8
1	A	201	ARG	2.8
1	B	385	ARG	2.8
1	F	23	PHE	2.8
1	F	190	LEU	2.8
1	F	198	SER	2.7
1	C	114	PRO	2.7
1	D	375	GLN	2.7
1	F	167	GLU	2.7
1	F	391	ASP	2.7
1	F	255	GLU	2.6
1	B	155	HIS	2.6
1	F	171	ARG	2.5
1	B	16	SER	2.5
1	F	183	GLN	2.5
1	C	192	GLU	2.5
1	E	145	ALA	2.5
1	C	207	PHE	2.5
1	E	165	GLU	2.4
1	F	200	ASN	2.4
1	E	167	GLU	2.4
1	C	392	ALA	2.3
1	F	302	LEU	2.3
1	F	240	LEU	2.3
1	C	115	HIS	2.3
1	E	193	GLU	2.3
1	A	303	GLU	2.3
1	C	189	GLU	2.3
1	C	385	ARG	2.2
1	C	17	ASN	2.2
1	C	379	ARG	2.2
1	A	364	GLN	2.2

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Mol	Chain	Res	Type	RSRZ
1	B	239	GLU	2.2
1	D	193	GLU	2.2
1	A	8	ASN	2.2
1	C	316	VAL	2.1
1	B	206	SER	2.1
1	E	226	TYR	2.1
1	F	386	GLU	2.1
1	F	236	GLY	2.1
1	C	305	GLN	2.1
1	E	140	LEU	2.1
1	B	209	THR	2.0
1	C	39	ARG	2.0
1	F	79	ARG	2.0
1	C	91	ASP	2.0

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

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

## 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 6.4 Ligands [i](#)

There are no ligands in this entry.

## 6.5 Other polymers [i](#)

There are no such residues in this entry.