



# Full wwPDB X-ray Structure Validation Report ⓘ

Oct 11, 2021 – 07:39 PM EDT

PDB ID : 2H2S  
Title : Crystal Structure of E148A mutant of CLC-ec1 in SeCN-  
Authors : Nguitragool, W.; Miller, C.  
Deposited on : 2006-05-19  
Resolution : 3.10 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

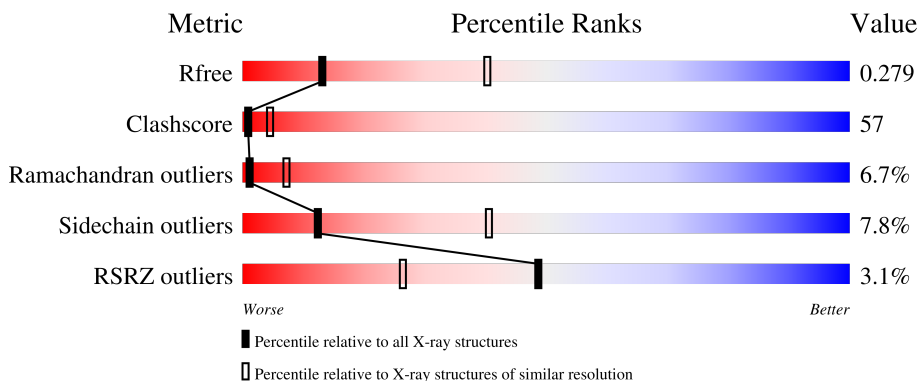
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 3.10 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	1094 (3.10-3.10)
Clashscore	141614	1184 (3.10-3.10)
Ramachandran outliers	138981	1141 (3.10-3.10)
Sidechain outliers	138945	1141 (3.10-3.10)
RSRZ outliers	127900	1067 (3.10-3.10)

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	465	
1	B	465	
2	C	221	
2	E	221	
3	D	211	

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Mol	Chain	Length	Quality of chain
3	F	211	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
4	SEK	A	466	-	-	X	-
4	SEK	B	466	-	-	X	X

## 2 Entry composition [i](#)

There are 4 unique types of molecules in this entry. The entry contains 13221 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 CLC Cl transporter.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	444	3329	2188	560	561	20	0	0	0
1	B	441	3300	2172	553	555	20	0	0	0

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	148	ALA	GLU	engineered mutation	UNP P37019
B	148	ALA	GLU	engineered mutation	UNP P37019

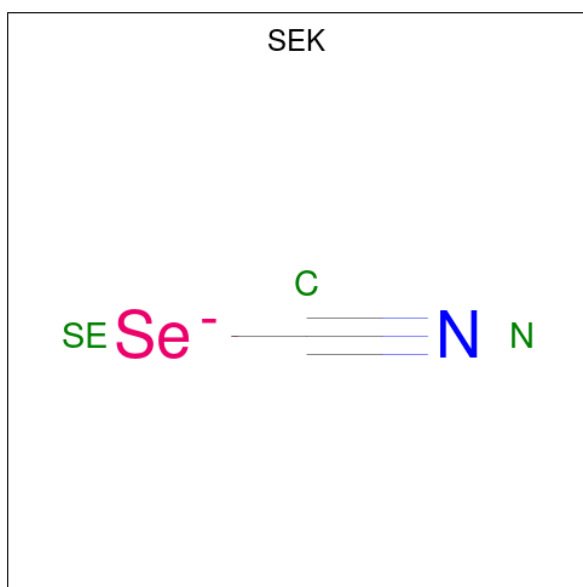
- Molecule 2 is a protein called FAB fragment, heavy chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	C	221	1672	1077	274	315	6	0	0	0
2	E	221	1672	1077	274	315	6	0	0	0

- Molecule 3 is a protein called FAB fragment, light chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	D	211	1621	1008	271	334	8	0	0	0
3	F	211	1621	1008	271	334	8	0	0	0

- Molecule 4 is SELENOCYANATE ION (three-letter code: SEK) (formula: CNSe).

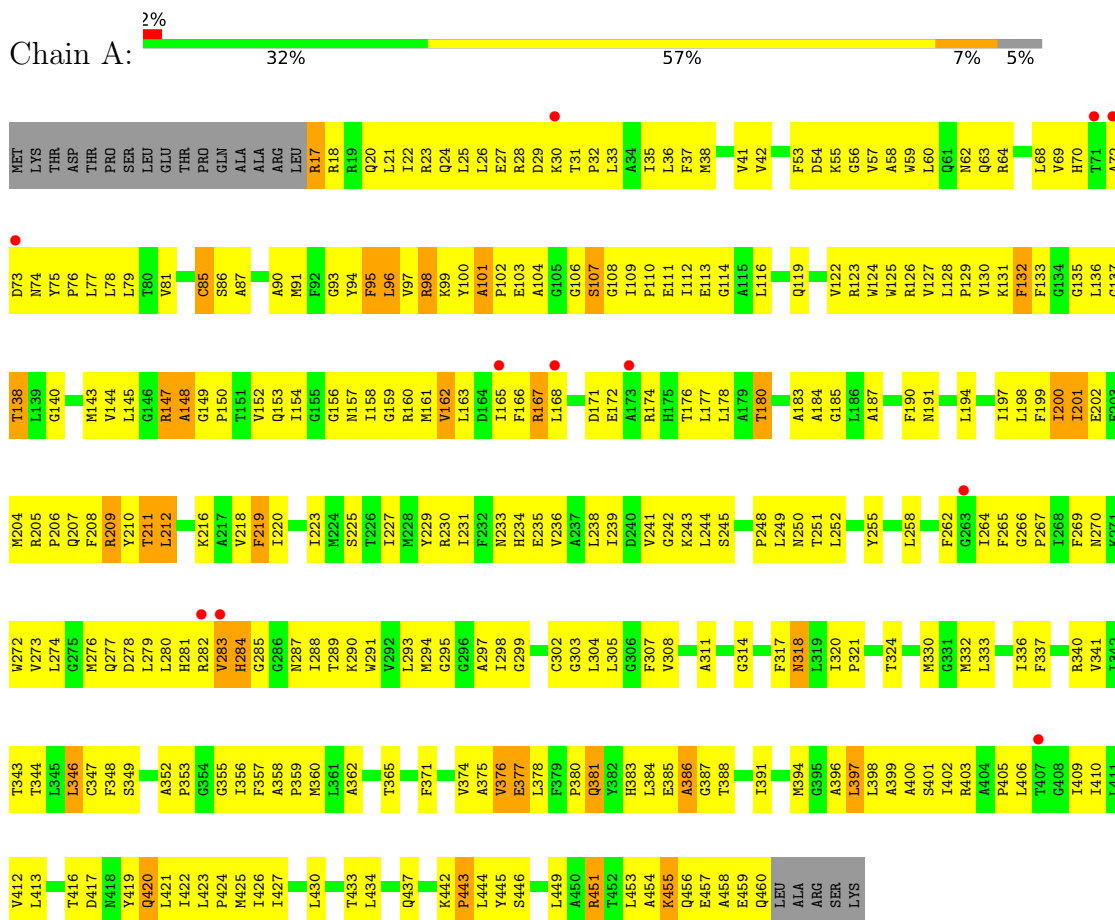


Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total Se 1 1	0	0
4	A	1	Total Se 1 1	1	0
4	A	1	Total Se 1 1	1	0
4	B	1	Total Se 1 1	0	0
4	B	1	Total Se 1 1	1	0
4	B	1	Total Se 1 1	1	0

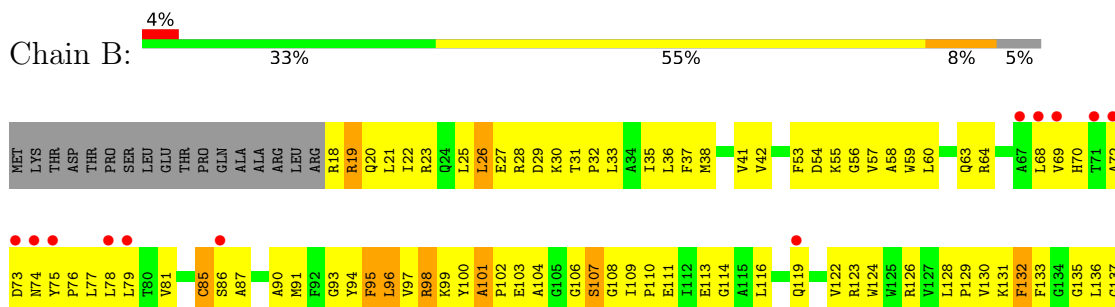
### 3 Residue-property plots

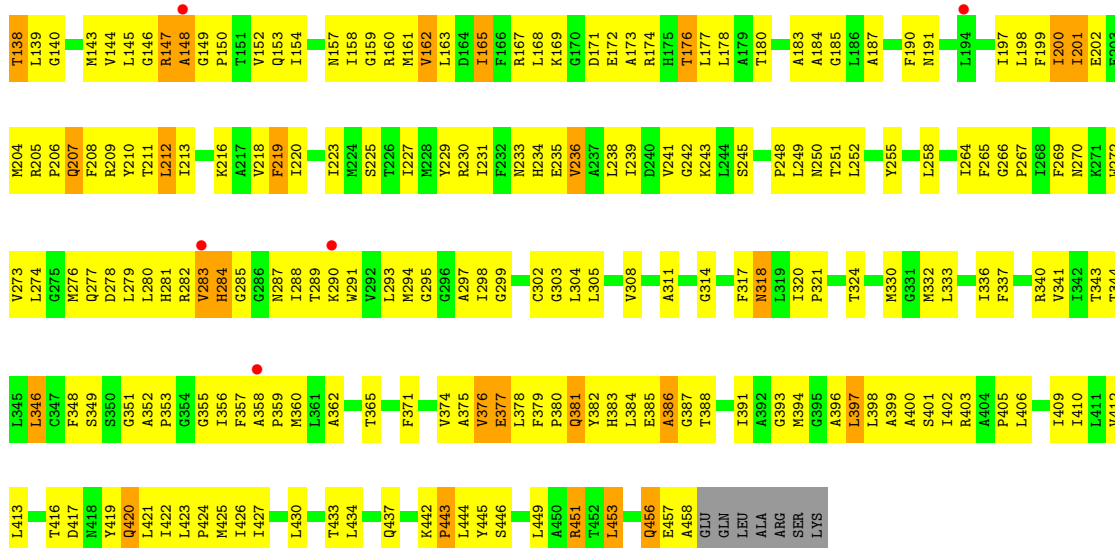
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ( $RSRZ > 2$ ). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

#### • Molecule 1: CLC Cl transporter

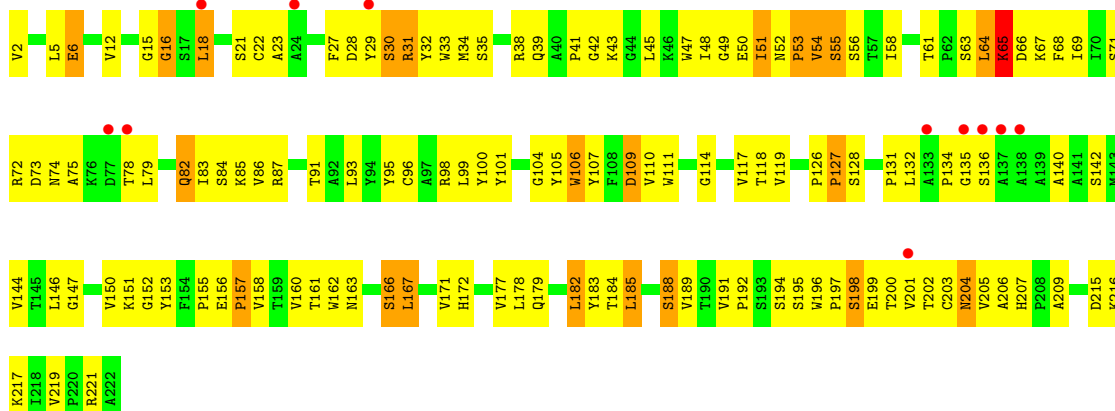


#### • Molecule 1: CLC Cl transporter

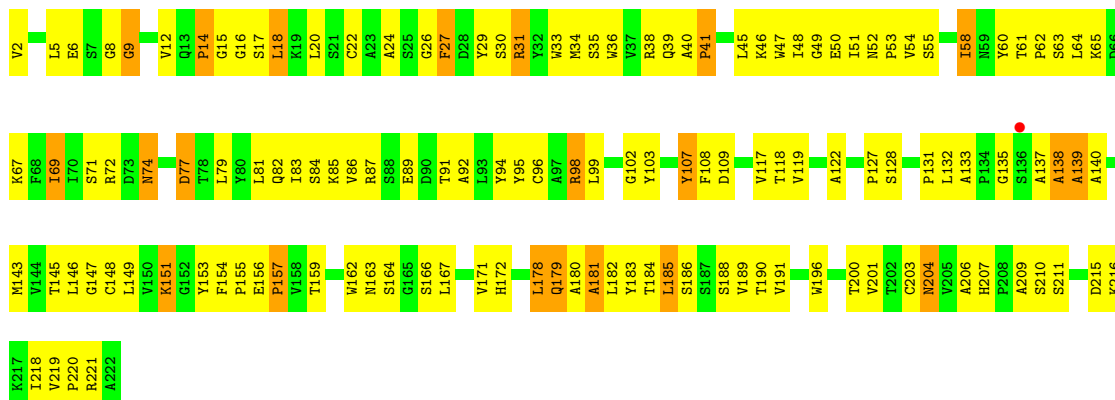
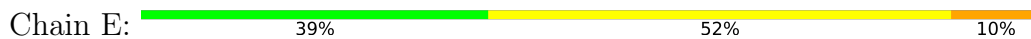




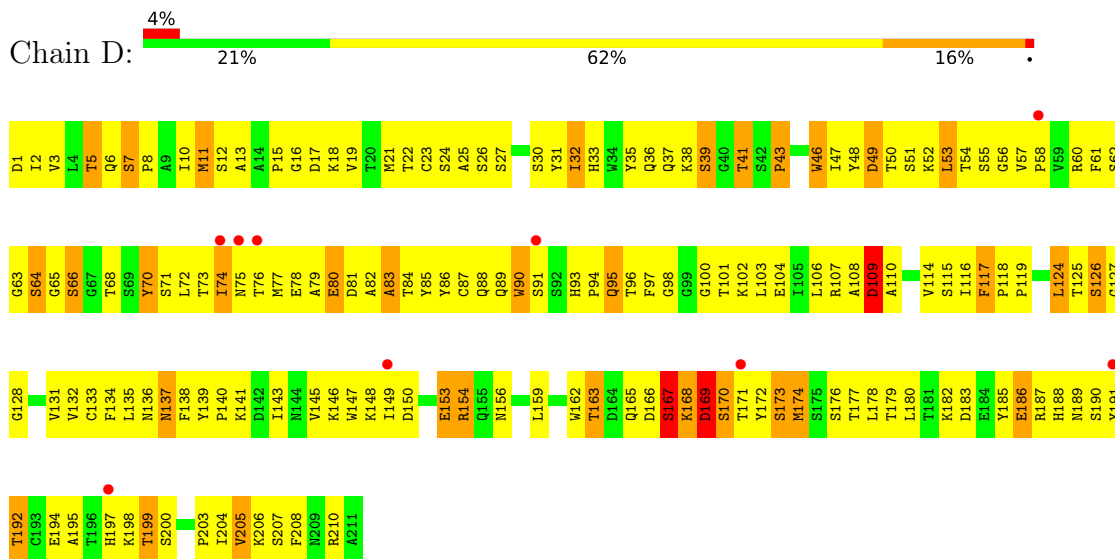
• Molecule 2: FAB fragment, heavy chain



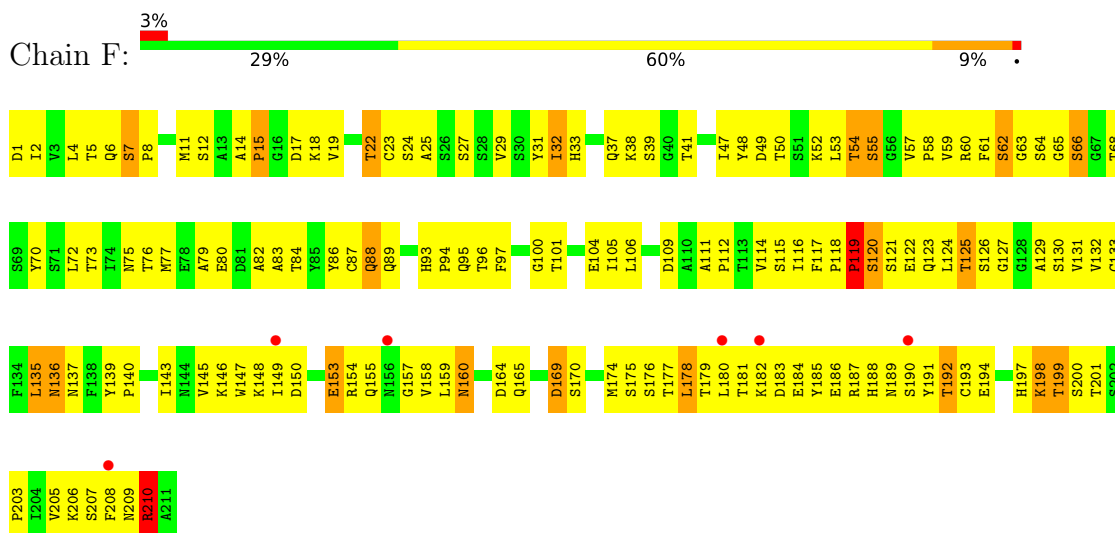
• Molecule 2: FAB fragment, heavy chain



- Molecule 3: FAB fragment, light chain



- Molecule 3: FAB fragment, light chain





## 4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	216.93Å 118.69Å 148.91Å 90.00° 127.44° 90.00°	Depositor
Resolution (Å)	50.00 – 3.10 48.87 – 3.10	Depositor EDS
% Data completeness (in resolution range)	99.3 (50.00-3.10) 99.3 (48.87-3.10)	Depositor EDS
$R_{merge}$	0.07	Depositor
$R_{sym}$	0.07	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.61 (at 3.12Å)	Xtrriage
Refinement program	REFMAC	Depositor
R, $R_{free}$	0.281 , 0.282 0.277 , 0.279	Depositor DCC
$R_{free}$ test set	2714 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	91.0	Xtrriage
Anisotropy	0.566	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.37 , 67.9	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.47$ , $\langle L^2 \rangle = 0.29$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.89	EDS
Total number of atoms	13221	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	78.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.32% of the height of the origin peak. No significant pseudotranslation is detected.*

<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](#)

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

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	0.49	0/3401	0.67	0/4616
1	B	0.47	0/3372	0.67	0/4578
2	C	0.53	0/1721	0.79	0/2355
2	E	0.50	0/1721	0.74	0/2355
3	D	0.56	1/1660 (0.1%)	0.80	1/2257 (0.0%)
3	F	0.53	0/1660	0.76	1/2257 (0.0%)
All	All	0.51	1/13535 (0.0%)	0.72	2/18418 (0.0%)

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	D	167	SER	N-CA	-5.62	1.35	1.46

All (2) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	D	167	SER	N-CA-CB	6.00	119.50	110.50
3	F	169	ASP	N-CA-C	5.92	126.98	111.00

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	3329	0	3483	400	0
1	B	3300	0	3456	386	0
2	C	1672	0	1653	190	0
2	E	1672	0	1654	163	0
3	D	1621	0	1546	263	0
3	F	1621	0	1546	203	0
4	A	3	0	0	5	0
4	B	3	0	0	5	0
All	All	13221	0	13338	1503	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 57.

All (1503) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:131:PRO:CG	2:E:216:LYS:HE3	1.29	1.56
2:E:131:PRO:CD	2:E:216:LYS:HE2	1.27	1.55
2:C:53:PRO:CA	2:C:72:ARG:NH2	1.68	1.53
2:E:131:PRO:CG	2:E:216:LYS:CE	1.82	1.50
3:D:88:GLN:HG3	3:D:97:PHE:CE1	1.60	1.33
3:D:88:GLN:CG	3:D:97:PHE:HE1	1.41	1.33
1:A:248:PRO:HG3	2:C:101:TYR:CZ	1.62	1.32
2:C:29:TYR:CE2	2:C:72:ARG:HD2	1.61	1.32
3:D:188:HIS:O	3:D:210:ARG:HD2	1.15	1.28
2:C:53:PRO:HA	2:C:72:ARG:NH2	0.95	1.27
3:D:188:HIS:O	3:D:210:ARG:CD	1.85	1.23
2:E:131:PRO:CD	2:E:216:LYS:CE	2.10	1.20
1:A:28:ARG:HD2	1:B:207:GLN:HG2	1.22	1.19
3:D:16:GLY:HA2	3:D:76:THR:HG23	1.26	1.15
1:A:107:SER:H	4:A:466:SEK:SE	1.80	1.14
3:D:146:LYS:HE3	3:D:153:GLU:OE1	1.48	1.11
2:E:131:PRO:HD3	2:E:216:LYS:CE	1.75	1.10
2:E:131:PRO:HG3	2:E:216:LYS:CE	1.59	1.10
1:B:311:ALA:O	1:B:340:ARG:NH1	1.85	1.09
1:A:42:VAL:HG22	1:A:162:VAL:HG21	1.36	1.08
1:B:54:ASP:HA	1:B:147:ARG:HH21	1.19	1.06
2:E:216:LYS:HZ3	3:F:122:GLU:CD	1.57	1.06
3:D:2:ILE:HD12	3:D:2:ILE:H	1.20	1.04
3:D:6:GLN:NE2	3:D:87:CYS:H	1.54	1.04
3:D:93:HIS:ND1	3:D:94:PRO:HA	1.72	1.04
1:A:98:ARG:HH11	1:A:98:ARG:HB3	1.24	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:248:PRO:HG3	2:C:101:TYR:OH	1.57	1.03
2:E:216:LYS:NZ	3:F:122:GLU:OE2	1.90	1.03
1:B:98:ARG:HH11	1:B:98:ARG:HB3	1.20	1.03
1:A:54:ASP:HA	1:A:147:ARG:HH21	1.21	1.02
1:B:42:VAL:HG22	1:B:162:VAL:HG21	1.42	1.01
3:F:146:LYS:HB3	3:F:194:GLU:HB2	1.40	1.01
2:E:131:PRO:HG2	2:E:216:LYS:HE3	1.06	1.01
1:A:274:LEU:HD22	1:A:451:ARG:NH1	1.74	1.01
3:F:143:ILE:HG13	3:F:197:HIS:HB2	1.42	1.01
3:F:14:ALA:O	3:F:17:ASP:HB2	1.60	1.00
3:D:141:LYS:HB3	3:D:172:TYR:CD2	1.96	1.00
2:E:216:LYS:NZ	3:F:122:GLU:OE1	1.94	1.00
2:E:131:PRO:CG	2:E:216:LYS:HE2	1.66	1.00
1:B:180:THR:HG22	1:B:218:VAL:HA	1.45	0.98
2:C:29:TYR:CE2	2:C:72:ARG:CD	2.45	0.98
3:D:88:GLN:CG	3:D:97:PHE:CE1	2.29	0.98
2:E:216:LYS:NZ	3:F:122:GLU:CD	2.17	0.97
1:A:219:PHE:HB3	1:B:430:LEU:HD12	1.44	0.97
1:A:75:TYR:HB3	1:A:76:PRO:HD3	1.48	0.96
2:C:52:ASN:O	2:C:72:ARG:NH2	1.99	0.96
3:D:22:THR:HG22	3:D:23:CYS:H	1.30	0.95
2:E:20:LEU:HD12	2:E:81:LEU:HD23	1.44	0.95
3:D:58:PRO:HG2	3:D:61:PHE:HD1	1.27	0.95
1:B:75:TYR:HB3	1:B:76:PRO:HD3	1.49	0.95
1:B:128:LEU:HB2	1:B:129:PRO:HD3	1.48	0.94
1:A:128:LEU:HB2	1:A:129:PRO:HD3	1.50	0.94
1:A:107:SER:N	4:A:466:SEK:SE	2.50	0.93
1:A:106:GLY:HA3	4:A:466:SEK:SE	2.19	0.93
2:E:131:PRO:HG3	2:E:216:LYS:CG	1.98	0.93
3:F:116:ILE:HD11	3:F:193:CYS:HB2	1.48	0.93
2:C:53:PRO:HA	2:C:72:ARG:HH21	1.31	0.92
2:C:27:PHE:CE2	2:C:98:ARG:HD3	2.05	0.92
2:C:171:VAL:HG22	2:C:189:VAL:HG23	1.52	0.91
3:D:189:ASN:HA	3:D:210:ARG:HD3	1.52	0.91
1:A:430:LEU:HD12	1:B:219:PHE:HB3	1.52	0.91
2:E:131:PRO:HG3	2:E:216:LYS:HE3	1.16	0.91
2:C:87:ARG:O	2:C:119:VAL:HG11	1.68	0.91
3:F:127:GLY:HA2	3:F:182:LYS:HD2	1.53	0.90
2:C:163:ASN:HD22	2:C:167:LEU:HD12	1.33	0.90
3:F:7:SER:CB	3:F:8:PRO:HD3	2.02	0.90
1:A:216:LYS:HE2	1:B:433:THR:HG22	1.52	0.90

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:132:LEU:HB2	2:E:147:GLY:O	1.72	0.90
3:D:141:LYS:HB3	3:D:172:TYR:CE2	2.07	0.90
3:F:7:SER:HB3	3:F:8:PRO:HD3	1.51	0.90
1:A:205:ARG:HG3	1:A:206:PRO:HD2	1.54	0.89
3:D:88:GLN:HB2	3:D:97:PHE:CE1	2.07	0.89
3:D:6:GLN:HE22	3:D:86:TYR:HA	1.37	0.89
2:C:29:TYR:CZ	2:C:72:ARG:HD2	2.06	0.89
3:D:5:THR:HB	3:D:24:SER:OG	1.71	0.89
2:E:107:TYR:HB3	3:F:33:HIS:CD2	2.08	0.89
3:F:32:ILE:HD11	3:F:70:TYR:CG	2.07	0.89
3:D:96:THR:HG22	3:D:97:PHE:H	1.36	0.88
3:F:7:SER:HB2	3:F:22:THR:H	1.37	0.88
3:F:95:GLN:N	3:F:95:GLN:OE1	2.06	0.88
3:D:12:SER:HA	3:D:104:GLU:O	1.72	0.88
1:A:336:ILE:O	1:A:340:ARG:HG3	1.72	0.88
3:D:95:GLN:CD	3:D:95:GLN:H	1.78	0.87
1:B:320:ILE:HB	1:B:321:PRO:HD3	1.57	0.87
2:C:38:ARG:HD3	2:C:48:ILE:HD11	1.57	0.86
2:C:6:GLU:OE2	2:C:114:GLY:HA2	1.73	0.86
2:C:53:PRO:C	2:C:72:ARG:NH2	2.29	0.86
3:F:7:SER:CB	3:F:22:THR:H	1.87	0.86
2:E:146:LEU:CD1	2:E:201:VAL:HG11	2.06	0.86
3:F:189:ASN:HA	3:F:210:ARG:HG3	1.56	0.86
1:A:298:ILE:HG23	1:A:346:LEU:HD23	1.56	0.85
1:A:150:PRO:O	1:A:154:ILE:HG12	1.77	0.85
3:D:7:SER:HB3	3:D:8:PRO:HD3	1.58	0.85
2:C:45:LEU:HB2	3:D:97:PHE:HD2	1.41	0.85
1:B:298:ILE:HG23	1:B:346:LEU:HD23	1.56	0.85
3:F:160:ASN:HB3	3:F:176:SER:HA	1.59	0.85
3:F:180:LEU:HD12	3:F:185:TYR:HB2	1.59	0.85
1:B:287:ASN:ND2	1:B:290:LYS:H	1.75	0.84
2:E:29:TYR:CD2	2:E:77:ASP:HA	2.11	0.84
3:D:88:GLN:HG3	3:D:97:PHE:HE1	0.70	0.84
3:D:88:GLN:CB	3:D:97:PHE:CE1	2.60	0.84
3:F:148:LYS:HB2	3:F:192:THR:OG1	1.77	0.84
3:F:184:GLU:HA	3:F:187:ARG:NH1	1.93	0.84
3:D:145:VAL:HG22	3:D:146:LYS:H	1.41	0.84
2:E:34:MET:HB3	2:E:79:LEU:HD22	1.59	0.84
2:C:51:ILE:HD13	2:C:58:ILE:HG12	1.59	0.83
1:A:287:ASN:ND2	1:A:290:LYS:H	1.76	0.83
2:C:29:TYR:HE2	2:C:72:ARG:CD	1.83	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:53:PRO:HA	2:C:72:ARG:CZ	2.06	0.83
1:B:124:TRP:HA	1:B:157:ASN:HD22	1.44	0.83
2:C:53:PRO:C	2:C:72:ARG:HH21	1.82	0.83
1:B:180:THR:HG22	1:B:218:VAL:CA	2.09	0.83
3:F:79:ALA:HA	3:F:105:ILE:HD13	1.61	0.83
3:D:95:GLN:CD	3:D:95:GLN:N	2.31	0.82
2:E:162:TRP:CZ3	2:E:203:CYS:HB3	2.13	0.82
1:A:320:ILE:HB	1:A:321:PRO:HD3	1.59	0.82
3:D:31:TYR:HB3	3:D:49:ASP:HA	1.59	0.82
2:E:138:ALA:C	2:E:140:ALA:H	1.81	0.82
1:A:124:TRP:HA	1:A:157:ASN:HD22	1.44	0.82
2:C:22:CYS:HB3	2:C:79:LEU:HB3	1.62	0.82
2:E:40:ALA:HA	2:E:92:ALA:HB2	1.61	0.82
1:A:97:VAL:HG22	1:A:104:ALA:HB3	1.59	0.82
1:A:208:PHE:O	1:A:209:ARG:HB3	1.77	0.82
2:C:53:PRO:CA	2:C:72:ARG:HH21	1.84	0.82
3:F:135:LEU:N	3:F:135:LEU:HD23	1.94	0.82
1:B:451:ARG:HH11	1:B:451:ARG:CB	1.93	0.81
1:A:109:ILE:HG12	1:A:152:VAL:HG11	1.60	0.81
1:A:282:ARG:O	1:A:284:HIS:N	2.10	0.81
2:C:29:TYR:HE2	2:C:72:ARG:HD2	1.28	0.81
1:A:248:PRO:HG3	2:C:101:TYR:CE2	2.16	0.81
3:D:188:HIS:H	3:D:210:ARG:NH1	1.78	0.81
3:F:184:GLU:HA	3:F:187:ARG:HH11	1.46	0.81
2:E:132:LEU:HD11	3:F:132:VAL:HG21	1.60	0.81
2:C:45:LEU:HB2	3:D:97:PHE:CD2	2.16	0.81
1:B:32:PRO:HB2	1:B:35:ILE:HD13	1.63	0.81
2:C:18:LEU:HD21	2:C:83:ILE:HD12	1.63	0.81
1:B:148:ALA:HB1	1:B:357:PHE:HB3	1.64	0.80
1:B:150:PRO:O	1:B:154:ILE:HG12	1.81	0.80
1:B:421:LEU:O	1:B:424:PRO:HD2	1.81	0.80
2:E:131:PRO:HD3	2:E:216:LYS:HE2	0.81	0.80
1:B:109:ILE:HG12	1:B:152:VAL:HG11	1.61	0.80
2:C:171:VAL:HG22	2:C:189:VAL:CG2	2.12	0.80
3:F:54:THR:HG22	3:F:55:SER:H	1.47	0.80
1:B:243:LYS:CG	2:E:31:ARG:HH22	1.94	0.79
2:C:163:ASN:ND2	2:C:167:LEU:HD12	1.95	0.79
3:D:58:PRO:HG2	3:D:61:PHE:CD1	2.15	0.79
2:E:131:PRO:HG3	2:E:216:LYS:CD	2.11	0.79
3:D:10:ILE:HG22	3:D:11:MET:H	1.46	0.79
3:D:5:THR:HB	3:D:24:SER:HG	1.48	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:179:GLN:HA	2:E:179:GLN:OE1	1.80	0.79
3:F:149:ILE:HG23	3:F:191:TYR:CE2	2.18	0.79
1:B:97:VAL:HG22	1:B:104:ALA:HB3	1.65	0.79
1:B:282:ARG:O	1:B:284:HIS:N	2.12	0.79
1:A:219:PHE:HB3	1:B:430:LEU:CD1	2.13	0.78
1:B:241:VAL:HG11	1:B:324:THR:HG21	1.65	0.78
2:C:51:ILE:HD11	2:C:55:SER:HA	1.62	0.78
2:C:2:VAL:HG11	2:C:98:ARG:HH12	1.48	0.78
3:F:136:ASN:N	3:F:136:ASN:HD22	1.79	0.78
2:E:9:GLY:H	2:E:20:LEU:HD23	1.49	0.78
1:A:106:GLY:CA	4:A:466:SEK:SE	2.82	0.78
1:A:148:ALA:HB1	1:A:357:PHE:HB3	1.65	0.77
1:A:433:THR:HG22	1:B:216:LYS:HE2	1.66	0.77
2:C:52:ASN:O	2:C:72:ARG:CZ	2.32	0.77
1:A:455:LYS:HA	1:A:458:ALA:HB3	1.66	0.77
3:F:12:SER:HB3	3:F:106:LEU:HD21	1.67	0.77
2:C:132:LEU:HB2	2:C:147:GLY:O	1.84	0.77
1:B:274:LEU:O	1:B:277:GLN:HB2	1.85	0.77
2:C:196:TRP:HA	2:C:198:SER:N	2.00	0.77
2:E:148:CYS:H	2:E:162:TRP:HH2	1.32	0.77
1:A:241:VAL:HG11	1:A:324:THR:HG21	1.66	0.77
1:A:32:PRO:HB2	1:A:35:ILE:HD13	1.66	0.77
1:B:234:HIS:O	1:B:235:GLU:HB2	1.83	0.77
2:C:53:PRO:N	2:C:72:ARG:NH2	2.33	0.77
2:C:195:SER:C	2:C:198:SER:HB3	2.05	0.76
3:F:7:SER:HB2	3:F:22:THR:HB	1.67	0.76
3:F:18:LYS:HG3	3:F:75:ASN:HA	1.65	0.76
2:C:30:SER:O	2:C:32:TYR:N	2.18	0.76
2:C:30:SER:C	2:C:32:TYR:H	1.87	0.76
1:A:31:THR:H	1:B:437:GLN:NE2	1.83	0.76
1:A:234:HIS:O	1:A:235:GLU:HB2	1.84	0.76
1:B:98:ARG:HH11	1:B:98:ARG:CB	1.96	0.76
1:B:107:SER:H	4:B:466:SEK:SE	2.18	0.76
1:B:119:GLN:HB3	1:B:453:LEU:HD21	1.67	0.76
1:A:421:LEU:O	1:A:424:PRO:HD2	1.86	0.75
3:F:210:ARG:CZ	3:F:210:ARG:HB3	2.15	0.75
1:A:22:ILE:HD11	1:B:453:LEU:HB3	1.67	0.75
3:D:6:GLN:NE2	3:D:87:CYS:N	2.34	0.75
3:F:7:SER:HB3	3:F:8:PRO:CD	2.16	0.75
3:F:111:ALA:HB2	3:F:199:THR:HG21	1.68	0.75
2:E:17:SER:HB3	2:E:84:SER:HA	1.67	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:87:ARG:CZ	2:E:89:GLU:HB2	2.17	0.75
3:D:2:ILE:H	3:D:2:ILE:CD1	1.97	0.75
3:D:197:HIS:CD2	3:D:198:LYS:H	2.04	0.75
1:A:108:GLY:HA2	1:A:153:GLN:NE2	2.01	0.74
2:C:29:TYR:HE2	2:C:72:ARG:CG	2.00	0.74
3:D:134:PHE:O	3:D:135:LEU:HD23	1.86	0.74
3:D:88:GLN:HB2	3:D:97:PHE:CD1	2.22	0.74
1:B:59:TRP:O	1:B:63:GLN:HG2	1.87	0.74
3:D:54:THR:O	3:D:57:VAL:HG23	1.88	0.74
3:F:210:ARG:HB3	3:F:210:ARG:NH1	2.03	0.73
1:A:206:PRO:HG2	1:A:211:THR:HG21	1.69	0.73
3:D:96:THR:HG22	3:D:97:PHE:N	2.03	0.73
2:E:146:LEU:HD13	2:E:201:VAL:HG11	1.70	0.73
3:F:7:SER:HB2	3:F:22:THR:N	2.02	0.73
2:C:69:ILE:HB	2:C:82:GLN:HB2	1.69	0.73
1:A:430:LEU:CD1	1:B:219:PHE:HB3	2.19	0.73
1:A:437:GLN:NE2	1:B:31:THR:H	1.86	0.73
3:D:17:ASP:H	3:D:76:THR:HA	1.53	0.73
3:D:66:SER:HA	3:D:70:TYR:CZ	2.23	0.73
3:D:165:GLN:HG3	3:D:172:TYR:CE1	2.23	0.73
2:E:207:HIS:ND1	2:E:210:SER:OG	2.21	0.73
1:A:126:ARG:O	1:A:129:PRO:HD2	1.88	0.72
1:A:207:GLN:HG3	1:B:28:ARG:HH11	1.54	0.72
1:A:274:LEU:O	1:A:277:GLN:HB2	1.88	0.72
1:B:381:GLN:H	1:B:381:GLN:NE2	1.86	0.72
1:B:108:GLY:HA2	1:B:153:GLN:NE2	2.03	0.72
2:E:9:GLY:H	2:E:20:LEU:CD2	2.02	0.72
3:F:116:ILE:HD11	3:F:193:CYS:CB	2.19	0.72
3:D:95:GLN:N	3:D:95:GLN:OE1	2.23	0.72
1:B:148:ALA:CB	1:B:357:PHE:HB3	2.20	0.72
3:D:188:HIS:O	3:D:210:ARG:HD3	1.87	0.72
2:E:147:GLY:HA3	2:E:188:SER:HA	1.71	0.72
3:F:88:GLN:HG2	3:F:89:GLN:N	2.02	0.72
1:B:21:LEU:HD11	1:B:25:LEU:HD21	1.72	0.72
3:D:22:THR:HG22	3:D:23:CYS:N	2.03	0.72
3:D:36:GLN:HG3	3:D:85:TYR:CE2	2.24	0.72
1:B:332:MET:O	1:B:336:ILE:HG13	1.90	0.72
3:D:114:VAL:HG22	3:D:135:LEU:HD22	1.72	0.72
3:F:189:ASN:HA	3:F:210:ARG:CG	2.20	0.72
1:A:178:LEU:HD23	1:A:178:LEU:O	1.90	0.71
1:A:206:PRO:HG2	1:A:211:THR:CG2	2.20	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:332:MET:O	1:A:336:ILE:HG13	1.89	0.71
1:A:28:ARG:HD2	1:B:207:GLN:CG	2.13	0.71
1:A:413:LEU:HD13	1:A:422:ILE:HD13	1.72	0.71
1:A:320:ILE:HD11	1:A:362:ALA:HA	1.71	0.71
1:B:184:ALA:HB1	1:B:225:SER:HB2	1.73	0.71
1:B:320:ILE:HD11	1:B:362:ALA:HA	1.72	0.71
1:A:78:LEU:O	1:A:81:VAL:HG22	1.91	0.71
1:A:457:GLU:O	1:A:460:GLN:HB2	1.91	0.71
2:E:146:LEU:HD22	2:E:218:ILE:HG21	1.71	0.71
1:B:123:ARG:HE	1:B:126:ARG:HD2	1.56	0.71
3:F:189:ASN:CG	3:F:210:ARG:HB2	2.11	0.71
1:A:98:ARG:HH11	1:A:98:ARG:CB	2.02	0.71
1:B:159:GLY:O	1:B:162:VAL:HG23	1.91	0.71
2:E:61:THR:O	2:E:63:SER:N	2.23	0.71
2:C:166:SER:O	2:C:167:LEU:HB2	1.89	0.71
3:D:165:GLN:HG3	3:D:172:TYR:HE1	1.54	0.71
3:D:189:ASN:HA	3:D:210:ARG:CD	2.20	0.71
3:F:79:ALA:HA	3:F:105:ILE:CD1	2.21	0.71
1:B:413:LEU:HD13	1:B:422:ILE:HD13	1.72	0.70
3:D:65:GLY:HA3	3:D:70:TYR:HA	1.73	0.70
2:E:131:PRO:HG3	2:E:216:LYS:HG3	1.72	0.70
3:F:157:GLY:O	3:F:178:LEU:HA	1.90	0.70
1:A:28:ARG:CD	1:B:207:GLN:HG2	2.13	0.70
1:A:22:ILE:CD1	1:B:453:LEU:HB3	2.22	0.70
1:A:154:ILE:O	1:A:158:ILE:HG13	1.91	0.70
1:A:311:ALA:O	1:A:340:ARG:NH1	2.24	0.70
2:C:52:ASN:C	2:C:72:ARG:NH2	2.44	0.70
3:F:129:ALA:O	3:F:179:THR:HA	1.91	0.70
2:C:39:GLN:HB2	2:C:45:LEU:HD23	1.74	0.70
1:A:207:GLN:HG3	1:B:28:ARG:NH1	2.06	0.70
2:C:65:LYS:H	2:C:65:LYS:HD3	1.56	0.70
3:D:19:VAL:HB	3:D:74:ILE:CG1	2.22	0.70
2:E:148:CYS:N	2:E:162:TRP:HH2	1.89	0.69
1:A:159:GLY:O	1:A:162:VAL:HG23	1.92	0.69
2:C:158:VAL:HA	2:C:206:ALA:O	1.92	0.69
1:A:216:LYS:HE2	1:B:433:THR:CG2	2.22	0.69
3:F:48:TYR:CE2	3:F:52:LYS:HE3	2.28	0.69
3:F:180:LEU:HB3	3:F:184:GLU:HB3	1.73	0.69
1:A:148:ALA:CB	1:A:357:PHE:HB3	2.23	0.69
1:A:248:PRO:CG	2:C:101:TYR:CZ	2.58	0.69
2:E:64:LEU:HB2	2:E:67:LYS:HB2	1.75	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:78:LEU:O	1:B:81:VAL:HG22	1.91	0.69
2:C:109:ASP:OD1	2:C:110:VAL:HG23	1.93	0.69
2:C:32:TYR:CG	2:C:98:ARG:HD2	2.27	0.69
2:E:137:ALA:O	2:E:139:ALA:N	2.24	0.69
1:A:163:LEU:HD21	1:A:174:ARG:HG3	1.73	0.69
1:A:358:ALA:HB3	1:A:359:PRO:HD3	1.74	0.69
1:B:211:THR:HG22	1:B:213:ILE:HG13	1.75	0.68
3:D:7:SER:CB	3:D:8:PRO:HD3	2.23	0.68
3:D:50:THR:HG22	3:D:64:SER:HB2	1.75	0.68
3:D:182:LYS:HB2	3:D:182:LYS:HZ3	1.58	0.68
3:F:38:LYS:O	3:F:41:THR:HG22	1.93	0.68
1:A:59:TRP:O	1:A:63:GLN:HG2	1.92	0.68
2:C:160:VAL:HG22	2:C:205:VAL:HG22	1.75	0.68
2:C:167:LEU:CD2	2:C:189:VAL:HG21	2.24	0.68
2:E:132:LEU:CD1	3:F:132:VAL:HG21	2.23	0.68
3:F:1:ASP:O	3:F:1:ASP:OD1	2.12	0.68
1:B:154:ILE:O	1:B:158:ILE:HG13	1.94	0.68
1:B:163:LEU:HD21	1:B:174:ARG:HG3	1.76	0.68
2:C:196:TRP:CG	2:C:197:PRO:HA	2.29	0.68
2:C:2:VAL:HG12	2:C:27:PHE:CD1	2.29	0.68
1:B:158:ILE:O	1:B:162:VAL:HG22	1.94	0.67
3:D:48:TYR:CE1	3:D:52:LYS:HD2	2.29	0.67
3:D:139:TYR:CD1	3:D:140:PRO:HA	2.29	0.67
2:C:196:TRP:HA	2:C:197:PRO:C	2.13	0.67
2:E:12:VAL:HG11	2:E:18:LEU:HB3	1.76	0.67
1:B:180:THR:CG2	1:B:218:VAL:HA	2.22	0.67
1:A:109:ILE:HD12	1:A:445:TYR:HE1	1.60	0.67
2:E:108:PHE:HE1	3:F:88:GLN:HE21	1.43	0.67
2:C:27:PHE:CE2	2:C:98:ARG:CD	2.78	0.67
1:A:108:GLY:CA	1:A:153:GLN:HE21	2.08	0.67
3:F:7:SER:CB	3:F:8:PRO:CD	2.71	0.67
1:A:21:LEU:HD11	1:A:25:LEU:HD21	1.76	0.67
3:D:107:ARG:HH21	3:D:171:THR:HG22	1.58	0.67
2:E:2:VAL:HG13	2:E:2:VAL:O	1.95	0.67
2:E:31:ARG:HH11	2:E:31:ARG:HG2	1.60	0.67
1:A:98:ARG:HB3	1:A:98:ARG:NH1	2.07	0.66
1:B:223:ILE:O	1:B:227:ILE:HG12	1.95	0.66
2:C:52:ASN:HB2	2:C:53:PRO:CD	2.24	0.66
1:B:250:ASN:ND2	1:B:382:TYR:HE1	1.94	0.66
3:D:187:ARG:O	3:D:188:HIS:CG	2.48	0.66
1:A:239:ILE:HD13	1:A:320:ILE:HG21	1.76	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:239:ILE:HD13	1:B:320:ILE:HG21	1.77	0.66
3:D:2:ILE:HD12	3:D:2:ILE:N	2.03	0.66
3:F:146:LYS:HE3	3:F:153:GLU:HG3	1.77	0.66
1:A:60:LEU:O	1:A:64:ARG:HG3	1.95	0.66
2:E:69:ILE:HB	2:E:82:GLN:HB2	1.77	0.66
3:F:58:PRO:HB2	3:F:60:ARG:HG2	1.76	0.66
1:A:252:LEU:HD22	1:A:427:ILE:HD12	1.76	0.66
2:C:47:TRP:HZ2	2:C:50:GLU:HG2	1.61	0.66
3:F:146:LYS:HE3	3:F:153:GLU:OE2	1.96	0.66
1:A:144:VAL:HG21	1:A:343:THR:HB	1.76	0.66
1:B:360:MET:SD	1:B:397:LEU:HD12	2.35	0.66
1:A:381:GLN:H	1:A:381:GLN:NE2	1.94	0.66
1:A:423:LEU:HB3	1:A:424:PRO:HD3	1.78	0.66
1:A:248:PRO:CG	2:C:101:TYR:OH	2.39	0.65
1:B:248:PRO:O	1:B:251:THR:HB	1.96	0.65
1:A:459:GLU:HG3	1:A:459:GLU:O	1.96	0.65
3:D:141:LYS:CB	3:D:172:TYR:CE2	2.79	0.65
1:A:385:GLU:O	1:A:385:GLU:HG2	1.95	0.65
2:E:180:ALA:O	2:E:181:ALA:HB2	1.96	0.65
2:E:9:GLY:N	2:E:20:LEU:HD23	2.12	0.65
1:A:18:ARG:O	1:A:22:ILE:HG12	1.96	0.65
2:C:35:SER:OG	2:C:99:LEU:HD11	1.96	0.65
1:A:158:ILE:O	1:A:162:VAL:HG22	1.96	0.65
1:B:243:LYS:HG2	2:E:31:ARG:HH22	1.62	0.65
3:D:15:PRO:HA	3:D:77:MET:O	1.96	0.65
3:F:38:LYS:HB2	3:F:41:THR:HG21	1.78	0.65
1:B:109:ILE:HD12	1:B:445:TYR:HE1	1.62	0.65
1:B:250:ASN:ND2	1:B:382:TYR:CE1	2.64	0.65
3:F:158:VAL:HG22	3:F:178:LEU:HB2	1.79	0.65
1:A:86:SER:OG	1:A:303:GLY:HA3	1.96	0.65
2:C:43:LYS:HB3	2:C:43:LYS:NZ	2.12	0.65
1:A:281:HIS:HA	1:A:284:HIS:NE2	2.12	0.65
1:A:210:TYR:H	1:B:210:TYR:HB2	1.63	0.64
1:B:451:ARG:HH11	1:B:451:ARG:CG	2.09	0.64
2:E:6:GLU:HA	2:E:22:CYS:HA	1.80	0.64
1:A:223:ILE:O	1:A:227:ILE:HG12	1.97	0.64
1:B:86:SER:OG	1:B:303:GLY:HA3	1.98	0.64
1:B:374:VAL:O	1:B:378:LEU:HB2	1.97	0.64
3:D:65:GLY:O	3:D:66:SER:HB2	1.95	0.64
2:E:108:PHE:CE1	3:F:88:GLN:NE2	2.66	0.64
1:B:108:GLY:CA	1:B:153:GLN:HE21	2.09	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:19:ARG:NE	1:B:19:ARG:O	2.31	0.64
2:C:179:GLN:OE1	3:D:159:LEU:HD21	1.98	0.64
2:E:45:LEU:O	2:E:46:LYS:HD3	1.97	0.64
1:A:374:VAL:O	1:A:378:LEU:HB2	1.97	0.64
2:C:18:LEU:HD23	2:C:18:LEU:O	1.98	0.64
2:C:146:LEU:HD12	2:C:201:VAL:HG11	1.78	0.64
2:E:47:TRP:CZ2	2:E:49:GLY:HA2	2.33	0.64
1:A:68:LEU:HB3	1:A:78:LEU:HD11	1.78	0.64
2:E:138:ALA:C	2:E:140:ALA:N	2.51	0.64
2:C:6:GLU:OE1	2:C:96:CYS:SG	2.56	0.64
3:D:186:GLU:HA	3:D:210:ARG:NH2	2.13	0.64
2:E:15:GLY:O	2:E:85:LYS:HA	1.97	0.64
1:A:184:ALA:HB1	1:A:225:SER:HB2	1.79	0.64
1:B:98:ARG:HB3	1:B:98:ARG:NH1	2.03	0.64
1:B:119:GLN:CB	1:B:453:LEU:HD21	2.28	0.64
1:A:437:GLN:HE22	1:B:31:THR:H	1.46	0.64
1:B:198:LEU:HG	1:B:410:ILE:HD12	1.80	0.64
3:F:7:SER:OG	3:F:8:PRO:HD3	1.98	0.64
1:A:31:THR:H	1:B:437:GLN:HE22	1.46	0.63
1:A:108:GLY:CA	1:A:153:GLN:NE2	2.61	0.63
1:A:360:MET:SD	1:A:397:LEU:HD12	2.37	0.63
1:B:144:VAL:HG21	1:B:343:THR:HB	1.79	0.63
3:D:53:LEU:HD13	3:D:57:VAL:HB	1.79	0.63
1:A:176:THR:O	1:A:180:THR:HG23	1.98	0.63
1:A:385:GLU:O	1:A:387:GLY:N	2.31	0.63
3:F:76:THR:HG22	3:F:76:THR:O	1.98	0.63
1:B:60:LEU:O	1:B:64:ARG:HG3	1.99	0.63
2:C:53:PRO:C	2:C:55:SER:H	2.01	0.63
1:B:305:LEU:HA	1:B:308:VAL:HG22	1.80	0.63
3:D:140:PRO:HD2	3:D:197:HIS:HE2	1.64	0.63
1:B:358:ALA:HB3	1:B:359:PRO:HD3	1.79	0.63
3:D:58:PRO:O	3:D:61:PHE:HB2	1.99	0.63
3:D:125:THR:O	3:D:126:SER:HB3	1.99	0.63
1:A:248:PRO:O	1:A:251:THR:HB	1.99	0.63
1:B:106:GLY:HA3	4:B:466:SEK:SE	2.47	0.63
2:C:127:PRO:HB3	2:C:153:TYR:HB3	1.81	0.63
3:F:12:SER:CB	3:F:106:LEU:HD21	2.28	0.63
2:E:131:PRO:HG2	2:E:216:LYS:CE	1.84	0.63
1:B:18:ARG:O	1:B:21:LEU:N	2.32	0.62
1:B:264:ILE:O	1:B:267:PRO:HD2	1.99	0.62
3:D:82:ALA:O	3:D:83:ALA:HB2	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:38:ARG:HD3	2:E:48:ILE:HD11	1.80	0.62
3:D:124:LEU:HA	3:D:128:GLY:O	1.99	0.62
3:D:38:LYS:HB2	3:D:41:THR:HG21	1.80	0.62
3:D:107:ARG:HG2	3:D:108:ALA:N	2.14	0.62
3:F:4:LEU:HD11	3:F:89:GLN:HG3	1.81	0.62
1:B:423:LEU:HB3	1:B:424:PRO:HD3	1.80	0.62
3:F:160:ASN:HA	3:F:175:SER:O	1.99	0.62
1:B:252:LEU:HD22	1:B:427:ILE:HD12	1.81	0.62
1:A:376:VAL:HG12	1:A:376:VAL:O	1.99	0.62
1:B:178:LEU:HD23	1:B:178:LEU:O	2.00	0.62
1:A:97:VAL:HA	1:A:130:VAL:HG11	1.82	0.62
3:F:7:SER:HB2	3:F:22:THR:CB	2.29	0.62
1:B:108:GLY:CA	1:B:153:GLN:NE2	2.62	0.62
1:A:171:ASP:HB2	1:A:212:LEU:HD22	1.80	0.62
1:A:305:LEU:HA	1:A:308:VAL:HG22	1.81	0.62
2:C:167:LEU:O	2:C:167:LEU:HD23	2.00	0.62
3:D:189:ASN:OD1	3:D:210:ARG:HB2	2.00	0.62
2:E:35:SER:HB2	2:E:99:LEU:HD11	1.80	0.62
1:A:443:PRO:HB2	1:A:446:SER:HB2	1.81	0.62
3:D:19:VAL:HB	3:D:74:ILE:HD11	1.81	0.62
3:F:115:SER:O	3:F:133:CYS:HA	2.00	0.62
1:B:451:ARG:HH11	1:B:451:ARG:HB3	1.64	0.61
2:C:147:GLY:HA2	2:C:162:TRP:CZ2	2.35	0.61
2:C:156:GLU:OE1	2:C:157:PRO:HA	2.00	0.61
2:C:177:VAL:CG2	3:D:159:LEU:HD13	2.30	0.61
1:A:37:PHE:HD2	1:A:38:MET:HE2	1.66	0.61
1:A:17:ARG:HH21	1:B:119:GLN:HE21	1.49	0.61
1:A:198:LEU:HG	1:A:410:ILE:HD12	1.82	0.61
2:C:196:TRP:CD1	2:C:201:VAL:HG23	2.35	0.61
3:D:114:VAL:HG12	3:D:206:LYS:HG3	1.83	0.61
3:F:197:HIS:O	3:F:199:THR:N	2.33	0.61
1:A:264:ILE:O	1:A:267:PRO:HD2	2.00	0.61
1:A:267:PRO:O	1:A:270:ASN:HB2	2.00	0.61
2:E:17:SER:CB	2:E:84:SER:HA	2.30	0.61
1:A:33:LEU:O	1:A:33:LEU:HD23	2.00	0.61
1:B:18:ARG:O	1:B:20:GLN:N	2.33	0.61
3:F:72:LEU:C	3:F:72:LEU:HD23	2.20	0.61
1:A:128:LEU:CB	1:A:129:PRO:HD3	2.29	0.61
2:C:107:TYR:HB3	3:D:33:HIS:CD2	2.36	0.61
3:D:186:GLU:C	3:D:210:ARG:NH2	2.53	0.61
3:D:134:PHE:C	3:D:135:LEU:HD23	2.21	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:58:ILE:HG22	2:E:60:TYR:CE1	2.35	0.61
1:B:227:ILE:O	1:B:231:ILE:HG13	2.01	0.61
2:E:108:PHE:HE1	3:F:88:GLN:NE2	1.99	0.60
3:D:132:VAL:HG22	3:D:177:THR:HG23	1.83	0.60
1:A:28:ARG:HE	1:B:443:PRO:HG2	1.67	0.60
1:B:281:HIS:HA	1:B:284:HIS:NE2	2.16	0.60
2:C:47:TRP:CZ2	2:C:50:GLU:HG2	2.36	0.60
3:F:116:ILE:HD13	3:F:133:CYS:HB2	1.83	0.60
1:A:223:ILE:HD11	1:B:426:ILE:CG2	2.31	0.60
1:A:399:ALA:O	1:A:403:ARG:HA	2.02	0.60
3:D:119:PRO:HG2	3:D:185:TYR:CE2	2.37	0.60
2:E:39:GLN:O	2:E:92:ALA:HB1	2.00	0.60
1:A:36:LEU:HD13	1:B:434:LEU:HD21	1.83	0.60
1:B:171:ASP:HB2	1:B:212:LEU:HD22	1.83	0.60
2:C:66:ASP:OD2	2:C:69:ILE:HD11	2.01	0.60
3:F:88:GLN:HB2	3:F:97:PHE:CD1	2.36	0.60
2:E:204:ASN:HB3	2:E:215:ASP:OD1	2.01	0.60
1:A:205:ARG:CG	1:A:206:PRO:HD2	2.30	0.60
1:B:97:VAL:HA	1:B:130:VAL:HG11	1.84	0.60
1:B:241:VAL:HG11	1:B:324:THR:CG2	2.31	0.60
1:B:376:VAL:HG12	1:B:376:VAL:O	2.00	0.60
3:D:188:HIS:N	3:D:210:ARG:NH1	2.50	0.60
1:A:417:ASP:OD1	1:A:417:ASP:O	2.20	0.60
1:B:267:PRO:O	1:B:270:ASN:HB2	2.02	0.60
3:D:136:ASN:HA	3:D:173:SER:OG	2.02	0.60
1:A:276:MET:HB3	1:A:349:SER:CB	2.31	0.60
1:A:70:HIS:O	1:A:70:HIS:ND1	2.35	0.60
1:A:381:GLN:H	1:A:381:GLN:HE21	1.48	0.60
2:E:29:TYR:HD2	2:E:77:ASP:HA	1.66	0.60
1:A:75:TYR:HB3	1:A:76:PRO:CD	2.26	0.59
1:B:169:LYS:O	1:B:173:ALA:HB3	2.02	0.59
2:C:99:LEU:N	2:C:99:LEU:HD12	2.17	0.59
3:D:16:GLY:HA2	3:D:76:THR:CG2	2.18	0.59
3:D:13:ALA:HB3	3:D:77:MET:SD	2.41	0.59
3:F:33:HIS:CE1	3:F:49:ASP:H	2.20	0.59
1:A:180:THR:HB	1:A:218:VAL:HA	1.84	0.59
1:A:220:ILE:HG12	1:B:430:LEU:HD21	1.84	0.59
1:B:176:THR:HG22	1:B:177:LEU:N	2.17	0.59
2:C:207:HIS:CD2	2:C:209:ALA:HB3	2.37	0.59
3:D:6:GLN:HE22	3:D:86:TYR:CA	2.11	0.59
3:D:138:PHE:CE1	3:D:143:ILE:HB	2.37	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:181:THR:O	3:F:182:LYS:HB3	2.01	0.59
3:F:199:THR:HG22	3:F:199:THR:O	2.01	0.59
3:F:66:SER:HA	3:F:70:TYR:CZ	2.38	0.59
3:F:112:PRO:HG2	3:F:143:ILE:HD11	1.84	0.59
2:C:29:TYR:CE2	2:C:72:ARG:CG	2.82	0.59
3:D:36:GLN:NE2	3:D:46:TRP:CZ2	2.71	0.59
2:E:47:TRP:HZ2	2:E:50:GLU:HG2	1.67	0.59
1:A:279:LEU:HD23	1:A:279:LEU:C	2.23	0.59
1:A:276:MET:HB3	1:A:349:SER:OG	2.03	0.59
2:C:32:TYR:CD1	2:C:98:ARG:HD2	2.38	0.59
1:B:211:THR:CG2	1:B:213:ILE:HG13	2.32	0.58
3:D:74:ILE:HD12	3:D:77:MET:HG3	1.83	0.58
1:B:401:SER:O	1:B:403:ARG:HG2	2.04	0.58
3:D:7:SER:HB2	3:D:22:THR:HB	1.85	0.58
2:E:18:LEU:HD23	2:E:18:LEU:H	1.68	0.58
2:E:196:TRP:CH2	2:E:220:PRO:HB3	2.38	0.58
1:B:128:LEU:HB2	1:B:129:PRO:CD	2.29	0.58
3:D:50:THR:HG23	3:D:70:TYR:HD2	1.68	0.58
3:D:194:GLU:HG2	3:D:205:VAL:HG12	1.84	0.58
3:D:17:ASP:N	3:D:76:THR:HA	2.17	0.58
3:F:47:ILE:HG12	3:F:53:LEU:HD23	1.85	0.58
3:F:146:LYS:CB	3:F:194:GLU:HB2	2.24	0.58
1:A:210:TYR:HB2	1:B:210:TYR:H	1.69	0.58
3:D:90:TRP:CG	3:D:95:GLN:HB3	2.38	0.58
3:D:117:PHE:CD1	3:D:117:PHE:N	2.72	0.58
3:D:145:VAL:HG22	3:D:146:LYS:N	2.14	0.58
1:B:119:GLN:O	1:B:453:LEU:HD11	2.03	0.58
2:E:149:LEU:HD12	2:E:186:SER:HB3	1.85	0.58
1:B:443:PRO:HB2	1:B:446:SER:HB2	1.84	0.58
3:D:141:LYS:HD3	3:D:172:TYR:CE2	2.39	0.58
3:D:141:LYS:CG	3:D:172:TYR:HE2	2.17	0.58
2:E:122:ALA:HB3	2:E:154:PHE:HE2	1.68	0.58
1:A:433:THR:CG2	1:B:216:LYS:HE2	2.33	0.58
1:A:451:ARG:HG3	1:A:451:ARG:HH11	1.68	0.58
1:A:455:LYS:O	1:A:459:GLU:HG2	2.04	0.58
3:D:107:ARG:HG2	3:D:108:ALA:H	1.68	0.58
3:D:154:ARG:NH2	3:D:180:LEU:CD2	2.67	0.58
1:A:17:ARG:HE	1:B:119:GLN:NE2	2.02	0.58
1:A:35:ILE:CG2	1:A:176:THR:HG21	2.34	0.58
1:B:114:GLY:HA2	1:B:449:LEU:HD21	1.85	0.58
1:B:229:TYR:CE2	1:B:233:ASN:HB2	2.38	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:100:TYR:O	2:C:107:TYR:CE1	2.57	0.58
2:C:192:PRO:O	2:C:194:SER:N	2.35	0.58
3:D:141:LYS:CB	3:D:172:TYR:CD2	2.79	0.58
1:A:17:ARG:O	1:A:20:GLN:HB3	2.04	0.57
1:A:282:ARG:C	1:A:284:HIS:H	2.05	0.57
1:B:330:MET:HE2	1:B:330:MET:O	2.04	0.57
2:C:98:ARG:O	2:C:109:ASP:HB3	2.05	0.57
2:E:48:ILE:HG22	2:E:48:ILE:O	2.04	0.57
1:A:269:PHE:O	1:A:273:VAL:HG12	2.02	0.57
1:A:426:ILE:CG2	1:B:223:ILE:HD11	2.35	0.57
1:B:172:GLU:O	1:B:176:THR:HB	2.05	0.57
3:D:8:PRO:O	3:D:101:THR:HG23	2.04	0.57
3:F:118:PRO:O	3:F:120:SER:N	2.38	0.57
1:B:131:LYS:HE3	1:B:150:PRO:HA	1.86	0.57
2:C:147:GLY:HA2	2:C:162:TRP:CH2	2.38	0.57
2:E:87:ARG:HG3	2:E:89:GLU:H	1.68	0.57
1:B:399:ALA:O	1:B:403:ARG:HA	2.04	0.57
1:B:37:PHE:HD2	1:B:38:MET:HE2	1.70	0.57
2:C:185:LEU:C	2:C:185:LEU:HD12	2.23	0.57
1:A:28:ARG:NE	1:B:443:PRO:HG2	2.20	0.57
3:D:81:ASP:O	3:D:103:LEU:HD23	2.05	0.57
1:A:241:VAL:HG11	1:A:324:THR:CG2	2.34	0.57
1:B:33:LEU:HD23	1:B:33:LEU:O	2.03	0.57
1:B:75:TYR:HB3	1:B:76:PRO:CD	2.28	0.57
2:E:9:GLY:N	2:E:20:LEU:CD2	2.66	0.57
3:F:189:ASN:O	3:F:209:ASN:HA	2.05	0.57
3:D:167:SER:O	3:D:168:LYS:HB2	2.04	0.57
1:A:398:LEU:O	1:A:402:ILE:HG23	2.05	0.57
1:B:200:ILE:O	1:B:202:GLU:N	2.38	0.57
3:D:93:HIS:ND1	3:D:94:PRO:CA	2.59	0.57
1:B:198:LEU:HD12	1:B:406:LEU:HG	1.87	0.56
3:D:10:ILE:O	3:D:11:MET:HB3	2.03	0.56
3:D:146:LYS:CE	3:D:153:GLU:OE1	2.38	0.56
2:E:91:THR:HG23	2:E:117:VAL:O	2.05	0.56
1:A:197:ILE:HD13	1:A:219:PHE:CE1	2.40	0.56
1:B:114:GLY:CA	1:B:449:LEU:HD21	2.35	0.56
1:B:255:TYR:CD2	1:B:424:PRO:HB3	2.40	0.56
2:C:38:ARG:CD	2:C:48:ILE:HD11	2.32	0.56
2:C:167:LEU:CD2	2:C:167:LEU:O	2.54	0.56
3:F:190:SER:HA	3:F:209:ASN:OD1	2.05	0.56
1:A:107:SER:HB2	1:A:348:PHE:HZ	1.70	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:128:LEU:CB	1:B:129:PRO:HD3	2.29	0.56
1:B:449:LEU:O	1:B:453:LEU:HB2	2.04	0.56
3:F:64:SER:OG	3:F:65:GLY:N	2.38	0.56
3:F:181:THR:OG1	3:F:184:GLU:HB2	2.06	0.56
3:F:185:TYR:HA	3:F:191:TYR:OH	2.05	0.56
1:B:269:PHE:O	1:B:273:VAL:HG12	2.05	0.56
1:B:279:LEU:C	1:B:279:LEU:HD23	2.25	0.56
3:D:185:TYR:C	3:D:187:ARG:H	2.09	0.56
2:E:87:ARG:HH21	2:E:89:GLU:HG2	1.70	0.56
2:E:137:ALA:C	2:E:139:ALA:H	2.09	0.56
1:A:255:TYR:CD2	1:A:424:PRO:HB3	2.40	0.56
1:B:108:GLY:O	1:B:153:GLN:HB2	2.06	0.56
3:D:186:GLU:O	3:D:210:ARG:NH2	2.36	0.56
2:E:91:THR:HG23	2:E:118:THR:HA	1.87	0.56
1:A:81:VAL:O	1:A:85:CYS:HB2	2.05	0.56
1:A:357:PHE:CE1	1:A:398:LEU:HD13	2.40	0.56
1:B:100:TYR:O	1:B:101:ALA:HB2	2.06	0.56
1:B:113:GLU:O	1:B:116:LEU:HB2	2.06	0.56
2:E:9:GLY:CA	2:E:20:LEU:CD2	2.83	0.56
3:F:32:ILE:HG22	3:F:88:GLN:O	2.05	0.56
3:F:82:ALA:HB2	3:F:105:ILE:HD11	1.87	0.56
1:B:276:MET:HB3	1:B:349:SER:CB	2.35	0.56
3:F:136:ASN:N	3:F:136:ASN:ND2	2.50	0.56
1:A:99:LYS:HB2	1:A:288:ILE:HD11	1.88	0.56
1:A:208:PHE:O	1:A:209:ARG:CB	2.48	0.56
1:A:413:LEU:HD11	1:A:419:TYR:HD1	1.71	0.56
1:A:109:ILE:HD13	1:A:199:PHE:HE2	1.71	0.56
1:B:197:ILE:HD13	1:B:219:PHE:CE1	2.41	0.56
3:F:32:ILE:CG2	3:F:89:GLN:HB3	2.35	0.56
1:A:304:LEU:O	1:A:308:VAL:HG22	2.06	0.56
1:B:109:ILE:HD13	1:B:199:PHE:HE2	1.71	0.56
1:B:200:ILE:HD13	1:B:204:MET:HG3	1.86	0.56
3:D:143:ILE:HD12	3:D:197:HIS:HB2	1.88	0.56
3:D:192:THR:HA	3:D:207:SER:CB	2.36	0.56
2:E:146:LEU:HD12	2:E:201:VAL:HG11	1.84	0.56
3:F:178:LEU:HD21	3:F:180:LEU:HD21	1.87	0.56
1:A:270:ASN:ND2	1:A:444:LEU:HD23	2.21	0.55
1:A:320:ILE:HG23	1:A:394:MET:HE2	1.87	0.55
1:B:385:GLU:O	1:B:387:GLY:N	2.40	0.55
2:C:98:ARG:NH2	2:C:109:ASP:OD2	2.33	0.55
3:D:145:VAL:HB	3:D:174:MET:HE1	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:185:TYR:HD1	3:F:191:TYR:CZ	2.23	0.55
1:A:123:ARG:HG3	1:A:123:ARG:HH11	1.71	0.55
1:B:20:GLN:O	1:B:23:ARG:HB3	2.05	0.55
1:B:320:ILE:HG23	1:B:394:MET:HE2	1.87	0.55
1:B:336:ILE:O	1:B:340:ARG:HG3	2.06	0.55
1:A:75:TYR:O	1:A:78:LEU:HB3	2.07	0.55
2:C:161:THR:OG1	2:C:204:ASN:OD1	2.20	0.55
3:D:18:LYS:HG3	3:D:75:ASN:OD1	2.06	0.55
3:F:12:SER:HA	3:F:104:GLU:O	2.06	0.55
3:F:77:MET:CE	3:F:105:ILE:HG12	2.37	0.55
3:F:189:ASN:ND2	3:F:210:ARG:HB2	2.21	0.55
1:A:376:VAL:HG21	1:A:386:ALA:H	1.71	0.55
1:A:443:PRO:HG2	1:B:28:ARG:NE	2.21	0.55
1:B:109:ILE:CD1	1:B:445:TYR:HE1	2.19	0.55
2:C:2:VAL:HG11	2:C:98:ARG:NH1	2.18	0.55
1:A:108:GLY:O	1:A:153:GLN:HB2	2.07	0.55
1:A:18:ARG:HB2	1:B:119:GLN:OE1	2.04	0.55
1:A:114:GLY:HA2	1:A:449:LEU:HD21	1.89	0.55
1:A:357:PHE:CZ	1:A:398:LEU:HD13	2.42	0.55
3:D:35:TYR:O	3:D:85:TYR:HA	2.06	0.55
1:A:125:TRP:CD1	1:A:126:ARG:HG3	2.42	0.55
1:B:98:ARG:CB	1:B:98:ARG:NH1	2.68	0.55
2:C:156:GLU:HG2	2:C:183:TYR:CE1	2.42	0.55
2:E:91:THR:OG1	2:E:119:VAL:HG23	2.07	0.55
2:C:167:LEU:HD21	2:C:189:VAL:HG21	1.89	0.55
3:D:1:ASP:OD1	3:D:1:ASP:O	2.23	0.55
3:F:129:ALA:HB3	3:F:180:LEU:HB2	1.89	0.55
1:A:122:VAL:HG12	1:A:122:VAL:O	2.05	0.55
1:B:200:ILE:HA	1:B:204:MET:HB2	1.89	0.55
1:B:283:VAL:HG12	1:B:283:VAL:O	2.07	0.55
2:C:131:PRO:HD3	2:C:216:LYS:HZ3	1.70	0.55
3:D:46:TRP:HB3	3:D:47:ILE:HD12	1.88	0.55
3:D:172:TYR:O	3:D:173:SER:HB2	2.06	0.55
1:A:172:GLU:O	1:A:176:THR:HB	2.07	0.55
1:B:282:ARG:C	1:B:284:HIS:H	2.07	0.55
3:D:7:SER:CB	3:D:22:THR:HB	2.37	0.55
2:E:87:ARG:NH2	2:E:89:GLU:HG2	2.21	0.55
1:A:59:TRP:CE3	1:A:60:LEU:HD23	2.41	0.54
1:A:264:ILE:HG13	1:A:265:PHE:N	2.22	0.54
1:A:357:PHE:CE1	1:A:398:LEU:HD22	2.41	0.54
1:B:273:VAL:CG1	1:B:444:LEU:HD21	2.37	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:7:SER:HB3	3:F:22:THR:H	1.68	0.54
1:A:113:GLU:O	1:A:116:LEU:HB2	2.06	0.54
1:A:114:GLY:CA	1:A:449:LEU:HD21	2.37	0.54
1:A:356:ILE:O	1:A:360:MET:HG3	2.07	0.54
1:B:398:LEU:O	1:B:402:ILE:HG23	2.07	0.54
3:D:88:GLN:CB	3:D:97:PHE:CD1	2.89	0.54
3:F:124:LEU:C	3:F:126:SER:H	2.11	0.54
1:A:35:ILE:HG23	1:A:176:THR:HG21	1.88	0.54
1:A:273:VAL:CG1	1:A:444:LEU:HD21	2.37	0.54
1:A:294:MET:O	1:A:298:ILE:HG12	2.08	0.54
1:A:330:MET:HE2	1:A:330:MET:O	2.08	0.54
2:E:17:SER:HB2	2:E:83:ILE:O	2.07	0.54
3:F:190:SER:CB	3:F:209:ASN:OD1	2.55	0.54
1:A:176:THR:HG22	1:A:177:LEU:N	2.21	0.54
1:A:282:ARG:O	1:A:285:GLY:N	2.39	0.54
3:D:68:THR:HG23	3:D:68:THR:O	2.07	0.54
3:D:95:GLN:H	3:D:95:GLN:NE2	2.04	0.54
3:D:141:LYS:HB3	3:D:172:TYR:HD2	1.66	0.54
2:E:135:GLY:HA2	2:E:221:ARG:HD2	1.89	0.54
2:E:138:ALA:O	2:E:140:ALA:N	2.41	0.54
1:A:200:ILE:HD13	1:A:204:MET:HG3	1.89	0.54
3:D:84:THR:OG1	3:D:102:LYS:HD2	2.08	0.54
3:D:204:ILE:O	3:D:204:ILE:HG22	2.05	0.54
3:F:160:ASN:HB3	3:F:176:SER:CA	2.35	0.54
1:A:18:ARG:O	1:A:18:ARG:HG2	2.07	0.54
1:B:417:ASP:OD1	1:B:417:ASP:O	2.25	0.54
3:D:22:THR:CG2	3:D:23:CYS:H	2.10	0.54
3:D:74:ILE:HD12	3:D:77:MET:CG	2.38	0.54
3:D:96:THR:CG2	3:D:97:PHE:H	2.14	0.54
2:E:171:VAL:O	2:E:172:HIS:HD2	1.91	0.54
1:A:54:ASP:HA	1:A:147:ARG:NH2	2.06	0.54
1:A:376:VAL:HA	1:A:384:LEU:HB2	1.90	0.54
1:B:243:LYS:HZ2	1:B:420:GLN:HG2	1.73	0.54
2:C:53:PRO:O	2:C:55:SER:N	2.41	0.54
3:F:194:GLU:HG2	3:F:205:VAL:CG1	2.38	0.54
1:A:205:ARG:HG3	1:A:206:PRO:CD	2.33	0.54
1:B:264:ILE:HG13	1:B:265:PHE:N	2.23	0.54
2:C:32:TYR:CD2	2:C:98:ARG:HD2	2.43	0.54
3:D:19:VAL:HB	3:D:74:ILE:CD1	2.38	0.54
1:A:131:LYS:HE3	1:A:150:PRO:HA	1.90	0.54
1:A:277:GLN:HG3	1:A:349:SER:HA	1.88	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:357:PHE:CE1	1:B:398:LEU:HD13	2.43	0.54
1:A:100:TYR:O	1:A:101:ALA:HB2	2.07	0.54
1:B:107:SER:HB2	1:B:348:PHE:HZ	1.72	0.54
3:D:31:TYR:HD2	3:D:49:ASP:HB3	1.73	0.54
2:E:185:LEU:HD12	2:E:185:LEU:O	2.08	0.54
3:F:194:GLU:HA	3:F:205:VAL:HG12	1.89	0.54
1:A:109:ILE:CD1	1:A:445:TYR:HE1	2.20	0.53
1:A:283:VAL:HG12	1:A:283:VAL:O	2.08	0.53
1:B:23:ARG:HH12	1:B:27:GLU:HG2	1.73	0.53
1:B:270:ASN:ND2	1:B:444:LEU:HD23	2.23	0.53
2:C:204:ASN:HB3	2:C:215:ASP:OD1	2.07	0.53
3:D:165:GLN:CG	3:D:172:TYR:HE1	2.21	0.53
3:F:116:ILE:CD1	3:F:133:CYS:HB2	2.38	0.53
1:B:81:VAL:O	1:B:85:CYS:HB2	2.08	0.53
1:B:413:LEU:HD11	1:B:419:TYR:HD1	1.72	0.53
2:E:159:THR:OG1	2:E:206:ALA:HB3	2.07	0.53
3:F:22:THR:HG23	3:F:23:CYS:N	2.24	0.53
1:A:200:ILE:HA	1:A:204:MET:HB2	1.90	0.53
1:A:229:TYR:CE2	1:A:233:ASN:HB2	2.43	0.53
2:C:18:LEU:HD23	2:C:18:LEU:C	2.28	0.53
2:E:54:VAL:O	2:E:55:SER:CB	2.55	0.53
3:F:7:SER:HB2	3:F:22:THR:CA	2.38	0.53
2:C:34:MET:HB3	2:C:79:LEU:HD22	1.89	0.53
2:E:98:ARG:NH1	2:E:109:ASP:OD2	2.32	0.53
1:B:106:GLY:CA	4:B:466:SEK:SE	3.06	0.53
1:B:357:PHE:CZ	1:B:398:LEU:HD13	2.44	0.53
1:A:443:PRO:HG2	1:B:28:ARG:HE	1.72	0.53
1:B:94:TYR:CZ	1:B:352:ALA:HB2	2.44	0.53
1:B:123:ARG:HG3	1:B:123:ARG:HH11	1.73	0.53
2:C:178:LEU:HB2	2:C:183:TYR:CE2	2.43	0.53
2:C:207:HIS:NE2	2:C:209:ALA:HB3	2.24	0.53
3:D:35:TYR:HE1	3:D:88:GLN:HB3	1.74	0.53
3:D:63:GLY:O	3:D:64:SER:HB3	2.08	0.53
3:D:119:PRO:HD3	3:D:131:VAL:HG22	1.90	0.53
1:B:104:ALA:O	1:B:131:LYS:NZ	2.40	0.53
1:B:277:GLN:HG3	1:B:349:SER:HA	1.90	0.53
2:C:105:TYR:HD2	3:D:91:SER:HA	1.73	0.53
3:D:188:HIS:C	3:D:210:ARG:HH11	2.12	0.53
3:D:205:VAL:O	3:D:206:LYS:HG2	2.08	0.53
1:A:37:PHE:HD2	1:A:38:MET:CE	2.21	0.53
1:A:94:TYR:CZ	1:A:352:ALA:HB2	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:200:ILE:O	1:A:202:GLU:N	2.42	0.53
1:B:294:MET:O	1:B:298:ILE:HG12	2.09	0.53
1:B:356:ILE:O	1:B:360:MET:HG3	2.09	0.53
1:B:375:ALA:O	1:B:377:GLU:N	2.42	0.53
2:C:196:TRP:CA	2:C:198:SER:N	2.71	0.53
3:F:174:MET:HG2	3:F:175:SER:N	2.23	0.53
1:A:138:THR:HG22	1:A:143:MET:SD	2.49	0.53
1:B:97:VAL:HA	1:B:130:VAL:CG1	2.39	0.53
1:A:33:LEU:HD23	1:A:33:LEU:C	2.30	0.52
1:A:456:GLN:O	1:A:459:GLU:HG2	2.10	0.52
2:C:67:LYS:HD2	2:C:67:LYS:O	2.08	0.52
3:D:64:SER:O	3:D:71:SER:N	2.41	0.52
1:B:294:MET:O	1:B:297:ALA:HB3	2.09	0.52
1:B:381:GLN:H	1:B:381:GLN:HE21	1.53	0.52
1:A:97:VAL:HA	1:A:130:VAL:CG1	2.40	0.52
1:A:305:LEU:HA	1:A:308:VAL:CG2	2.38	0.52
1:A:381:GLN:HE21	1:A:381:GLN:N	2.07	0.52
1:B:53:PHE:HA	1:B:132:PHE:HE2	1.74	0.52
1:B:235:GLU:OE1	2:C:100:TYR:HE2	1.92	0.52
1:B:243:LYS:NZ	1:B:420:GLN:HG2	2.24	0.52
1:B:305:LEU:HA	1:B:308:VAL:CG2	2.39	0.52
1:B:357:PHE:CE1	1:B:398:LEU:HD22	2.44	0.52
2:C:22:CYS:O	2:C:78:THR:HG23	2.09	0.52
3:D:6:GLN:HE21	3:D:98:GLY:HA3	1.74	0.52
3:D:143:ILE:CD1	3:D:197:HIS:HB2	2.38	0.52
1:A:198:LEU:HD12	1:A:406:LEU:HG	1.90	0.52
2:C:167:LEU:HD22	2:C:189:VAL:HG21	1.90	0.52
3:D:70:TYR:CD1	3:D:70:TYR:N	2.77	0.52
1:A:104:ALA:O	1:A:131:LYS:NZ	2.38	0.52
1:A:376:VAL:CG2	1:A:386:ALA:H	2.22	0.52
2:C:47:TRP:O	2:C:61:THR:HB	2.09	0.52
2:C:131:PRO:HD3	2:C:216:LYS:NZ	2.24	0.52
2:C:184:THR:HG21	3:D:159:LEU:CD1	2.40	0.52
3:D:18:LYS:HA	3:D:74:ILE:O	2.10	0.52
3:D:140:PRO:HD2	3:D:197:HIS:NE2	2.23	0.52
2:E:185:LEU:HD12	2:E:185:LEU:C	2.30	0.52
1:A:97:VAL:HG12	1:A:98:ARG:N	2.23	0.52
1:A:227:ILE:O	1:A:231:ILE:HG13	2.09	0.52
1:A:243:LYS:HZ2	1:A:420:GLN:HG2	1.75	0.52
1:A:243:LYS:NZ	1:A:420:GLN:HG2	2.24	0.52
1:A:376:VAL:O	1:A:376:VAL:CG1	2.57	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:35:ILE:CG2	1:B:176:THR:HG21	2.40	0.52
1:B:148:ALA:HB1	1:B:357:PHE:CB	2.35	0.52
3:D:6:GLN:HE22	3:D:87:CYS:N	2.07	0.52
3:D:48:TYR:O	3:D:49:ASP:HB2	2.08	0.52
1:A:401:SER:O	1:A:403:ARG:HG2	2.09	0.52
2:C:99:LEU:N	2:C:99:LEU:CD1	2.73	0.52
3:D:13:ALA:HB3	3:D:77:MET:CE	2.40	0.52
2:E:178:LEU:HD12	2:E:179:GLN:H	1.73	0.52
1:B:138:THR:HG22	1:B:143:MET:SD	2.50	0.52
1:B:380:PRO:HD2	1:B:381:GLN:HE22	1.74	0.52
2:C:152:GLY:HA2	2:C:182:LEU:HD13	1.92	0.52
1:B:70:HIS:O	1:B:70:HIS:ND1	2.42	0.52
1:B:250:ASN:HD21	1:B:382:TYR:HE1	1.57	0.52
2:C:18:LEU:HD11	2:C:117:VAL:HG13	1.91	0.52
1:B:376:VAL:HA	1:B:384:LEU:HB2	1.92	0.52
1:B:381:GLN:HE21	1:B:381:GLN:N	2.07	0.52
2:C:144:VAL:HG12	2:C:191:VAL:O	2.10	0.52
3:D:12:SER:HB3	3:D:106:LEU:HB2	1.92	0.52
3:F:27:SER:O	3:F:68:THR:HG22	2.10	0.52
1:A:119:GLN:OE1	1:B:18:ARG:NE	2.35	0.51
1:A:248:PRO:CG	2:C:101:TYR:CE2	2.92	0.51
2:C:32:TYR:O	2:C:53:PRO:HG3	2.10	0.51
1:A:53:PHE:HA	1:A:132:PHE:HE2	1.76	0.51
1:B:138:THR:OG1	1:B:353:PRO:HG2	2.10	0.51
1:B:147:ARG:HH11	1:B:147:ARG:HG2	1.75	0.51
2:C:127:PRO:CB	2:C:153:TYR:HB3	2.39	0.51
3:D:141:LYS:HA	3:D:172:TYR:HD2	1.74	0.51
3:D:186:GLU:CA	3:D:210:ARG:NH2	2.74	0.51
2:E:38:ARG:HD3	2:E:94:TYR:CE1	2.45	0.51
3:F:29:VAL:HG11	3:F:89:GLN:HG2	1.92	0.51
3:F:49:ASP:O	3:F:50:THR:HB	2.09	0.51
3:F:95:GLN:H	3:F:95:GLN:CD	2.06	0.51
1:A:20:GLN:O	1:A:23:ARG:HB3	2.09	0.51
1:A:453:LEU:CD2	1:B:21:LEU:HD23	2.40	0.51
2:C:12:VAL:HG11	2:C:18:LEU:HD13	1.92	0.51
2:C:100:TYR:O	2:C:107:TYR:CD1	2.62	0.51
3:D:96:THR:O	3:D:97:PHE:CD1	2.63	0.51
3:F:121:SER:HA	3:F:124:LEU:HD12	1.93	0.51
3:F:139:TYR:HA	3:F:140:PRO:O	2.09	0.51
1:A:56:GLY:HA3	1:A:136:LEU:HD11	1.91	0.51
2:C:54:VAL:HG23	2:C:56:SER:OG	2.10	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:5:THR:CB	3:D:24:SER:OG	2.54	0.51
3:D:96:THR:O	3:D:97:PHE:HD1	1.94	0.51
2:E:87:ARG:CZ	2:E:89:GLU:CB	2.87	0.51
1:A:183:ALA:HB2	1:A:200:ILE:CG1	2.41	0.51
1:A:434:LEU:HD21	1:B:36:LEU:HD13	1.93	0.51
1:B:59:TRP:CE3	1:B:60:LEU:HD23	2.45	0.51
3:D:96:THR:CG2	3:D:97:PHE:N	2.74	0.51
2:E:9:GLY:CA	2:E:20:LEU:HD21	2.40	0.51
3:F:150:ASP:N	3:F:190:SER:O	2.31	0.51
1:A:38:MET:O	1:A:42:VAL:HG23	2.10	0.51
1:A:68:LEU:HD22	1:A:78:LEU:HD12	1.92	0.51
1:A:119:GLN:HB3	1:A:453:LEU:HD21	1.92	0.51
1:A:171:ASP:HA	1:A:174:ARG:NH1	2.26	0.51
1:A:216:LYS:CE	1:B:433:THR:HG22	2.33	0.51
2:E:180:ALA:O	2:E:181:ALA:CB	2.58	0.51
3:F:123:GLN:NE2	3:F:130:SER:OG	2.40	0.51
1:A:375:ALA:O	1:A:377:GLU:N	2.44	0.51
1:B:122:VAL:HG12	1:B:122:VAL:O	2.11	0.51
3:D:38:LYS:HB2	3:D:41:THR:CG2	2.41	0.51
3:D:54:THR:O	3:D:56:GLY:N	2.44	0.51
3:F:169:ASP:O	3:F:170:SER:HB2	2.11	0.51
1:A:250:ASN:OD1	2:C:104:GLY:HA3	2.11	0.51
1:B:376:VAL:HG21	1:B:386:ALA:H	1.75	0.51
3:D:10:ILE:HG22	3:D:11:MET:N	2.21	0.51
1:A:128:LEU:HB2	1:A:129:PRO:CD	2.31	0.51
1:B:54:ASP:HA	1:B:147:ARG:NH2	2.05	0.51
1:B:304:LEU:O	1:B:308:VAL:HG22	2.11	0.51
1:B:317:PHE:O	1:B:318:ASN:C	2.48	0.51
2:C:39:GLN:HB2	2:C:45:LEU:CD2	2.41	0.51
3:D:192:THR:HA	3:D:207:SER:HB3	1.93	0.51
2:E:67:LYS:NZ	2:E:85:LYS:O	2.44	0.51
3:F:77:MET:HE2	3:F:105:ILE:HG12	1.92	0.51
1:A:456:GLN:O	1:A:459:GLU:CG	2.59	0.50
3:D:21:MET:CG	3:D:72:LEU:HB3	2.41	0.50
3:D:191:TYR:HB2	3:D:208:PHE:CE1	2.47	0.50
1:A:249:LEU:C	1:A:251:THR:H	2.14	0.50
1:A:412:VAL:HG11	1:A:425:MET:HE3	1.92	0.50
2:C:91:THR:HG23	2:C:118:THR:HA	1.94	0.50
2:C:195:SER:CA	2:C:198:SER:HB3	2.40	0.50
2:E:181:ALA:O	2:E:182:LEU:HD23	2.10	0.50
3:F:111:ALA:HB2	3:F:199:THR:CG2	2.39	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:103:GLU:OE2	1:A:127:VAL:CG2	2.60	0.50
1:A:320:ILE:CD1	1:A:362:ALA:HA	2.41	0.50
1:B:23:ARG:HH12	1:B:27:GLU:CG	2.23	0.50
1:B:398:LEU:HA	1:B:402:ILE:HG22	1.94	0.50
2:C:6:GLU:HA	2:C:21:SER:O	2.11	0.50
2:C:43:LYS:HB3	2:C:43:LYS:HZ3	1.76	0.50
2:C:67:LYS:HG3	2:C:68:PHE:CE1	2.46	0.50
3:F:146:LYS:HE3	3:F:153:GLU:CG	2.40	0.50
3:F:180:LEU:HD12	3:F:185:TYR:CB	2.37	0.50
1:B:56:GLY:HA3	1:B:136:LEU:HD11	1.92	0.50
2:E:40:ALA:HA	2:E:92:ALA:CB	2.38	0.50
1:B:97:VAL:HG12	1:B:98:ARG:N	2.25	0.50
1:B:376:VAL:O	1:B:376:VAL:CG1	2.59	0.50
2:C:109:ASP:OD1	2:C:109:ASP:C	2.48	0.50
3:F:188:HIS:O	3:F:210:ARG:HG3	2.11	0.50
3:F:210:ARG:NH1	3:F:210:ARG:CB	2.74	0.50
1:A:75:TYR:CE2	1:A:79:LEU:HD11	2.46	0.50
1:B:35:ILE:HG23	1:B:176:THR:HG21	1.94	0.50
1:B:273:VAL:HG11	1:B:444:LEU:HD21	1.92	0.50
1:B:287:ASN:HD22	1:B:290:LYS:H	1.57	0.50
2:C:150:VAL:CG2	2:C:205:VAL:HG21	2.42	0.50
3:D:208:PHE:C	3:D:208:PHE:CD1	2.85	0.50
2:E:48:ILE:O	2:E:48:ILE:CG2	2.60	0.50
1:A:210:TYR:N	1:B:210:TYR:HB2	2.27	0.50
1:A:274:LEU:HA	1:A:277:GLN:NE2	2.27	0.50
1:A:299:GLY:O	1:A:302:CYS:HB2	2.11	0.50
1:B:272:TRP:N	1:B:272:TRP:CD1	2.78	0.50
3:D:107:ARG:NH2	3:D:110:ALA:HB2	2.26	0.50
2:E:8:GLY:O	2:E:9:GLY:C	2.50	0.50
3:F:193:CYS:O	3:F:205:VAL:HA	2.12	0.50
1:A:108:GLY:HA2	1:A:153:GLN:HE22	1.75	0.50
1:A:148:ALA:HB1	1:A:357:PHE:CB	2.37	0.50
2:E:20:LEU:HB2	2:E:81:LEU:HB3	1.93	0.50
2:E:22:CYS:HB3	2:E:79:LEU:HB3	1.94	0.50
1:A:166:PHE:O	1:A:167:ARG:O	2.30	0.49
1:A:258:LEU:HD13	1:A:371:PHE:CG	2.46	0.49
1:A:294:MET:O	1:A:297:ALA:HB3	2.12	0.49
1:B:68:LEU:HD22	1:B:78:LEU:HD13	1.94	0.49
2:C:32:TYR:CE2	2:C:98:ARG:NE	2.80	0.49
3:D:47:ILE:HD12	3:D:47:ILE:N	2.27	0.49
1:A:317:PHE:O	1:A:318:ASN:C	2.50	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:357:PHE:CD1	1:A:398:LEU:HD22	2.47	0.49
1:B:443:PRO:O	1:B:446:SER:N	2.45	0.49
3:D:183:ASP:O	3:D:187:ARG:HG3	2.12	0.49
2:E:98:ARG:O	2:E:109:ASP:HB3	2.12	0.49
1:B:75:TYR:CE2	1:B:79:LEU:HD11	2.47	0.49
1:B:385:GLU:O	1:B:385:GLU:HG2	2.13	0.49
2:C:135:GLY:HA3	2:C:221:ARG:HE	1.78	0.49
2:E:156:GLU:OE1	2:E:157:PRO:HA	2.13	0.49
3:F:139:TYR:HA	3:F:140:PRO:C	2.31	0.49
1:B:255:TYR:CE2	1:B:424:PRO:HB3	2.48	0.49
1:B:276:MET:HB3	1:B:349:SER:OG	2.13	0.49
1:B:451:ARG:CG	1:B:451:ARG:NH1	2.72	0.49
1:A:191:ASN:OD1	1:A:230:ARG:NH1	2.45	0.49
1:B:211:THR:HG22	1:B:212:LEU:N	2.27	0.49
1:B:383:HIS:HB3	2:E:33:TRP:CZ2	2.47	0.49
2:C:177:VAL:HG21	3:D:159:LEU:HD13	1.93	0.49
2:C:194:SER:O	2:C:198:SER:HB2	2.12	0.49
3:D:109:ASP:OD2	3:D:198:LYS:HD3	2.12	0.49
1:A:23:ARG:HH12	1:A:27:GLU:HG2	1.77	0.49
1:A:191:ASN:O	1:A:191:ASN:ND2	2.46	0.49
1:B:249:LEU:C	1:B:251:THR:H	2.15	0.49
1:B:278:ASP:O	1:B:281:HIS:HB3	2.12	0.49
1:B:284:HIS:CE1	1:B:291:TRP:CD2	3.00	0.49
3:D:75:ASN:O	3:D:76:THR:HB	2.13	0.49
1:A:251:THR:HG22	1:A:255:TYR:HE1	1.78	0.49
1:B:135:GLY:C	1:B:137:GLY:H	2.14	0.49
2:E:122:ALA:HB3	2:E:154:PHE:CE2	2.46	0.49
2:E:179:GLN:N	2:E:182:LEU:O	2.41	0.49
3:F:125:THR:O	3:F:125:THR:HG22	2.12	0.49
1:A:273:VAL:HG11	1:A:444:LEU:HD21	1.93	0.49
1:B:123:ARG:NE	1:B:126:ARG:HD2	2.25	0.49
1:B:202:GLU:O	1:B:202:GLU:HG2	2.12	0.49
1:B:299:GLY:O	1:B:302:CYS:HB2	2.13	0.49
3:F:2:ILE:O	3:F:96:THR:HG21	2.12	0.49
1:A:205:ARG:CG	1:A:206:PRO:CD	2.90	0.49
2:C:22:CYS:O	2:C:78:THR:HA	2.13	0.49
2:C:184:THR:HG21	3:D:159:LEU:HD12	1.94	0.49
2:E:163:ASN:HD22	2:E:167:LEU:HD22	1.78	0.49
3:F:164:ASP:O	3:F:165:GLN:C	2.52	0.49
1:A:227:ILE:HD13	1:B:423:LEU:HD21	1.93	0.49
2:C:30:SER:C	2:C:32:TYR:N	2.56	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:33:HIS:HD2	3:D:88:GLN:OE1	1.96	0.49
3:F:135:LEU:HD23	3:F:135:LEU:H	1.77	0.49
1:A:25:LEU:O	1:A:27:GLU:N	2.46	0.48
1:A:138:THR:OG1	1:A:353:PRO:HG2	2.12	0.48
1:B:251:THR:HG22	1:B:255:TYR:HE1	1.78	0.48
1:B:320:ILE:CB	1:B:321:PRO:HD3	2.39	0.48
3:D:7:SER:CB	3:D:8:PRO:CD	2.90	0.48
3:D:141:LYS:CA	3:D:172:TYR:HD2	2.26	0.48
1:A:25:LEU:HD23	1:B:208:PHE:HE1	1.78	0.48
1:A:396:ALA:O	1:A:399:ALA:HB3	2.13	0.48
1:B:33:LEU:HD23	1:B:33:LEU:C	2.33	0.48
1:B:357:PHE:CD1	1:B:398:LEU:HD22	2.49	0.48
2:C:42:GLY:O	2:C:43:LYS:HG3	2.13	0.48
3:D:110:ALA:O	3:D:199:THR:HG21	2.13	0.48
2:E:24:ALA:HB1	2:E:27:PHE:CE1	2.48	0.48
1:A:23:ARG:NH1	1:A:27:GLU:HG2	2.28	0.48
1:A:133:PHE:HA	1:A:136:LEU:HB3	1.95	0.48
1:A:163:LEU:CD2	1:A:174:ARG:HG3	2.43	0.48
1:A:287:ASN:HD22	1:A:290:LYS:CG	2.27	0.48
1:B:133:PHE:HA	1:B:136:LEU:HB3	1.96	0.48
3:D:125:THR:O	3:D:125:THR:HG22	2.12	0.48
3:F:75:ASN:O	3:F:76:THR:HB	2.13	0.48
3:F:154:ARG:HD2	3:F:155:GLN:H	1.77	0.48
3:F:154:ARG:HG2	3:F:154:ARG:HH11	1.77	0.48
1:A:73:ASP:OD1	1:A:74:ASN:N	2.35	0.48
1:A:78:LEU:HD21	1:A:307:PHE:CZ	2.48	0.48
1:A:98:ARG:CB	1:A:98:ARG:NH1	2.72	0.48
1:B:38:MET:O	1:B:42:VAL:HG23	2.12	0.48
1:B:457:GLU:HG3	1:B:458:ALA:N	2.27	0.48
3:F:32:ILE:HD11	3:F:70:TYR:CD1	2.49	0.48
1:A:144:VAL:HG21	1:A:343:THR:CB	2.43	0.48
1:B:183:ALA:HB2	1:B:200:ILE:CG1	2.43	0.48
1:B:413:LEU:CD1	1:B:422:ILE:HD13	2.43	0.48
2:C:196:TRP:CD1	2:C:197:PRO:HA	2.47	0.48
1:A:209:ARG:O	1:A:209:ARG:HG3	2.13	0.48
1:A:270:ASN:CG	1:A:444:LEU:HD23	2.34	0.48
1:A:430:LEU:HD21	1:B:220:ILE:HG12	1.94	0.48
1:B:258:LEU:HD13	1:B:371:PHE:CG	2.49	0.48
1:B:287:ASN:HD21	1:B:289:THR:HB	1.78	0.48
1:B:320:ILE:CD1	1:B:362:ALA:HA	2.42	0.48
2:C:132:LEU:HD21	3:D:132:VAL:HG21	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:149:ILE:HG12	3:D:191:TYR:CD2	2.48	0.48
1:A:398:LEU:HA	1:A:402:ILE:HG22	1.95	0.48
1:B:171:ASP:HA	1:B:174:ARG:NH1	2.28	0.48
2:C:52:ASN:HB2	2:C:53:PRO:HD2	1.95	0.48
1:A:23:ARG:HH12	1:A:27:GLU:CG	2.27	0.48
1:A:202:GLU:HG2	1:A:202:GLU:O	2.13	0.48
3:D:107:ARG:HD3	3:D:170:SER:HB3	1.96	0.48
3:D:166:ASP:HB3	3:D:169:ASP:OD1	2.13	0.48
3:F:147:TRP:O	3:F:153:GLU:HA	2.12	0.48
1:A:210:TYR:HB2	1:B:210:TYR:N	2.28	0.48
1:A:278:ASP:O	1:A:281:HIS:HB3	2.14	0.48
1:A:381:GLN:O	1:A:383:HIS:ND1	2.42	0.48
1:B:356:ILE:O	1:B:356:ILE:HG12	2.14	0.48
3:D:2:ILE:HG22	3:D:3:VAL:N	2.29	0.48
3:D:189:ASN:CA	3:D:210:ARG:HD3	2.36	0.48
2:E:72:ARG:HD3	2:E:74:ASN:OD1	2.13	0.48
1:B:37:PHE:HD2	1:B:38:MET:CE	2.26	0.48
1:B:90:ALA:HB2	1:B:299:GLY:HA3	1.95	0.48
2:E:147:GLY:HA2	2:E:162:TRP:CZ2	2.48	0.48
1:A:107:SER:N	1:A:348:PHE:CE1	2.82	0.47
1:A:205:ARG:HG2	1:A:206:PRO:N	2.29	0.47
1:B:180:THR:HG22	1:B:218:VAL:N	2.29	0.47
3:D:126:SER:O	3:D:128:GLY:N	2.47	0.47
2:E:12:VAL:CG1	2:E:18:LEU:HB3	2.43	0.47
2:E:190:THR:O	2:E:191:VAL:HG13	2.14	0.47
1:A:264:ILE:CG1	1:A:265:PHE:N	2.77	0.47
3:F:11:MET:CE	3:F:19:VAL:HG13	2.44	0.47
1:A:443:PRO:O	1:A:446:SER:N	2.46	0.47
3:D:150:ASP:OD2	3:D:188:HIS:HB3	2.13	0.47
2:E:54:VAL:O	2:E:55:SER:HB2	2.13	0.47
3:F:119:PRO:HG3	3:F:130:SER:C	2.34	0.47
1:A:160:ARG:O	1:A:163:LEU:HB3	2.15	0.47
2:C:65:LYS:HD3	2:C:65:LYS:N	2.26	0.47
3:D:116:ILE:HG13	3:D:133:CYS:SG	2.54	0.47
3:F:182:LYS:HG2	3:F:183:ASP:N	2.28	0.47
1:A:122:VAL:HG11	1:A:160:ARG:CB	2.45	0.47
1:A:147:ARG:HG2	1:A:147:ARG:HH11	1.79	0.47
1:B:95:PHE:O	1:B:96:LEU:C	2.52	0.47
1:B:135:GLY:C	1:B:137:GLY:N	2.67	0.47
3:D:149:ILE:CG2	3:D:188:HIS:HB3	2.45	0.47
3:F:109:ASP:CG	3:F:198:LYS:HZ2	2.17	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:135:LEU:HD12	3:F:143:ILE:HD13	1.97	0.47
3:D:149:ILE:HG12	3:D:191:TYR:CE2	2.49	0.47
3:F:22:THR:CG2	3:F:23:CYS:N	2.77	0.47
3:F:135:LEU:N	3:F:135:LEU:CD2	2.67	0.47
1:A:90:ALA:HB2	1:A:299:GLY:HA3	1.95	0.47
1:A:135:GLY:C	1:A:137:GLY:H	2.18	0.47
1:A:205:ARG:CG	1:A:206:PRO:N	2.78	0.47
1:A:442:LYS:HZ3	1:B:26:LEU:HB3	1.79	0.47
1:B:32:PRO:CB	1:B:35:ILE:HD13	2.40	0.47
1:B:191:ASN:ND2	1:B:191:ASN:O	2.47	0.47
2:C:167:LEU:O	2:C:171:VAL:HG21	2.13	0.47
3:D:31:TYR:HA	3:D:50:THR:OG1	2.15	0.47
3:D:137:ASN:O	3:D:138:PHE:HB3	2.15	0.47
3:F:47:ILE:HD13	3:F:63:GLY:H	1.79	0.47
3:F:121:SER:O	3:F:124:LEU:HB2	2.15	0.47
2:E:36:TRP:CE2	2:E:81:LEU:HB2	2.50	0.47
3:F:185:TYR:C	3:F:187:ARG:H	2.17	0.47
1:A:31:THR:HG23	1:A:32:PRO:HD2	1.96	0.47
1:B:375:ALA:C	1:B:377:GLU:H	2.18	0.47
2:C:156:GLU:HB3	2:C:157:PRO:HB3	1.97	0.47
3:F:6:GLN:HA	3:F:22:THR:O	2.15	0.47
1:A:287:ASN:HD21	1:A:289:THR:HB	1.80	0.47
1:B:38:MET:O	1:B:41:VAL:HG12	2.15	0.47
1:B:144:VAL:HG11	1:B:344:THR:OG1	2.14	0.47
1:B:376:VAL:CG2	1:B:386:ALA:H	2.28	0.47
3:F:54:THR:HG22	3:F:55:SER:N	2.22	0.47
1:A:28:ARG:NH2	1:B:443:PRO:HB3	2.29	0.46
1:A:135:GLY:HA2	1:A:138:THR:OG1	2.15	0.46
1:A:198:LEU:HG	1:A:410:ILE:CD1	2.45	0.46
1:B:41:VAL:HG13	1:B:42:VAL:N	2.31	0.46
1:B:381:GLN:NE2	1:B:381:GLN:N	2.60	0.46
3:F:32:ILE:HG22	3:F:89:GLN:HB3	1.98	0.46
3:F:117:PHE:HA	3:F:118:PRO:HD3	1.68	0.46
1:A:25:LEU:HD23	1:B:208:PHE:CE1	2.50	0.46
1:A:437:GLN:HG3	1:B:29:ASP:O	2.14	0.46
1:B:420:GLN:HE21	1:B:420:GLN:HB2	1.52	0.46
3:D:185:TYR:CE1	3:D:210:ARG:HG2	2.49	0.46
2:E:9:GLY:HA3	2:E:20:LEU:HD21	1.97	0.46
2:E:30:SER:O	2:E:31:ARG:CB	2.63	0.46
1:B:95:PHE:O	1:B:97:VAL:N	2.47	0.46
1:B:207:GLN:HB3	1:B:208:PHE:CE1	2.50	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:330:MET:HE3	1:B:333:LEU:HD12	1.96	0.46
3:F:32:ILE:HD11	3:F:70:TYR:CB	2.44	0.46
1:A:274:LEU:HD23	1:A:277:GLN:HE22	1.81	0.46
1:B:25:LEU:O	1:B:27:GLU:N	2.48	0.46
1:B:38:MET:HG3	1:B:168:LEU:HD11	1.97	0.46
3:D:6:GLN:OE1	3:D:100:GLY:HA2	2.16	0.46
3:D:38:LYS:O	3:D:41:THR:N	2.47	0.46
2:E:12:VAL:O	2:E:119:VAL:HA	2.15	0.46
3:F:18:LYS:CG	3:F:75:ASN:HA	2.42	0.46
1:A:101:ALA:O	1:A:103:GLU:N	2.49	0.46
1:B:385:GLU:O	1:B:386:ALA:C	2.54	0.46
2:E:127:PRO:HA	2:E:153:TYR:HB3	1.98	0.46
3:F:37:GLN:O	3:F:83:ALA:HB1	2.15	0.46
1:A:356:ILE:O	1:A:356:ILE:HG12	2.16	0.46
3:F:4:LEU:HA	3:F:24:SER:O	2.15	0.46
3:F:12:SER:HB3	3:F:106:LEU:CD2	2.44	0.46
3:F:106:LEU:HA	3:F:139:TYR:OH	2.16	0.46
1:A:28:ARG:HE	1:B:443:PRO:CG	2.29	0.46
1:A:255:TYR:CE2	1:A:424:PRO:HB3	2.50	0.46
1:A:337:PHE:O	1:A:341:VAL:HG23	2.15	0.46
1:A:385:GLU:O	1:A:386:ALA:C	2.54	0.46
3:D:185:TYR:O	3:D:187:ARG:N	2.49	0.46
1:A:284:HIS:CE1	1:A:291:TRP:CD2	3.03	0.46
1:B:160:ARG:O	1:B:163:LEU:HB3	2.15	0.46
1:B:391:ILE:HD12	1:B:416:THR:HB	1.97	0.46
3:D:19:VAL:O	3:D:73:THR:HA	2.16	0.46
3:D:50:THR:HG23	3:D:70:TYR:CD2	2.49	0.46
3:D:162:TRP:CD1	3:D:174:MET:HB2	2.51	0.46
2:E:16:GLY:O	2:E:86:VAL:HG22	2.16	0.46
3:F:65:GLY:HA3	3:F:70:TYR:CD2	2.51	0.46
1:B:99:LYS:HB2	1:B:288:ILE:HD11	1.96	0.46
1:B:101:ALA:C	1:B:103:GLU:H	2.19	0.46
2:C:86:VAL:HG11	2:C:119:VAL:HG22	1.97	0.46
3:D:37:GLN:HE21	3:D:43:PRO:CG	2.29	0.46
1:A:109:ILE:HD12	1:A:445:TYR:CE1	2.45	0.46
1:A:245:SER:O	1:A:420:GLN:NE2	2.44	0.46
1:A:397:LEU:C	1:A:399:ALA:N	2.68	0.46
1:A:437:GLN:NE2	1:B:30:LYS:HA	2.31	0.46
1:A:453:LEU:HB3	1:B:22:ILE:CD1	2.46	0.46
1:B:53:PHE:O	1:B:57:VAL:HG23	2.15	0.46
1:B:206:PRO:HG2	1:B:211:THR:OG1	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:134:PRO:O	2:C:221:ARG:HD3	2.16	0.46
3:F:164:ASP:OD1	3:F:165:GLN:N	2.47	0.46
1:B:109:ILE:HD12	1:B:445:TYR:CE1	2.46	0.45
2:C:29:TYR:OH	2:C:72:ARG:CD	2.64	0.45
2:E:39:GLN:C	2:E:92:ALA:HB1	2.37	0.45
2:E:148:CYS:N	2:E:162:TRP:CH2	2.71	0.45
3:F:186:GLU:HA	3:F:210:ARG:NE	2.30	0.45
1:A:87:ALA:O	1:A:91:MET:HG3	2.15	0.45
1:A:149:GLY:N	1:A:150:PRO:CD	2.79	0.45
1:A:402:ILE:HD12	1:A:445:TYR:CZ	2.52	0.45
1:B:23:ARG:NH1	1:B:27:GLU:HG2	2.32	0.45
1:B:191:ASN:OD1	1:B:230:ARG:NH1	2.49	0.45
1:B:209:ARG:O	1:B:209:ARG:HG3	2.16	0.45
2:C:86:VAL:CG1	2:C:119:VAL:CG2	2.94	0.45
3:D:126:SER:C	3:D:128:GLY:H	2.19	0.45
3:F:33:HIS:O	3:F:87:CYS:HA	2.15	0.45
3:F:129:ALA:HB2	3:F:182:LYS:HA	1.98	0.45
1:B:107:SER:N	1:B:348:PHE:CE1	2.84	0.45
2:C:35:SER:HB2	2:C:49:GLY:O	2.16	0.45
2:C:101:TYR:HA	2:C:107:TYR:CE2	2.50	0.45
2:C:171:VAL:CG2	2:C:189:VAL:HG23	2.35	0.45
3:F:72:LEU:HD23	3:F:73:THR:N	2.31	0.45
3:F:124:LEU:O	3:F:126:SER:N	2.49	0.45
1:A:212:LEU:N	1:A:212:LEU:HD12	2.31	0.45
1:B:101:ALA:O	1:B:103:GLU:N	2.49	0.45
1:B:108:GLY:HA2	1:B:153:GLN:HE22	1.79	0.45
3:D:89:GLN:OE1	3:D:90:TRP:N	2.49	0.45
3:D:107:ARG:HH22	3:D:110:ALA:HB2	1.80	0.45
3:F:192:THR:HB	3:F:207:SER:OG	2.17	0.45
1:A:38:MET:HG3	1:A:168:LEU:HD11	1.99	0.45
1:B:264:ILE:CG1	1:B:265:PHE:N	2.80	0.45
1:B:337:PHE:O	1:B:341:VAL:HG23	2.17	0.45
2:C:53:PRO:C	2:C:55:SER:N	2.68	0.45
3:D:195:ALA:HB3	3:D:204:ILE:HB	1.97	0.45
2:E:200:THR:HG22	2:E:201:VAL:N	2.31	0.45
3:F:2:ILE:HD12	3:F:27:SER:HB2	1.98	0.45
3:F:190:SER:CA	3:F:209:ASN:OD1	2.65	0.45
3:F:197:HIS:O	3:F:198:LYS:C	2.55	0.45
1:A:124:TRP:CA	1:A:157:ASN:HD22	2.20	0.45
1:A:423:LEU:HD21	1:B:227:ILE:HD13	1.99	0.45
1:A:454:ALA:O	1:A:457:GLU:N	2.47	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:266:GLY:HA3	1:B:400:ALA:HB1	1.97	0.45
2:C:87:ARG:O	2:C:119:VAL:CG1	2.55	0.45
2:E:133:ALA:O	3:F:117:PHE:HD2	2.00	0.45
3:F:6:GLN:HE21	3:F:100:GLY:H	1.63	0.45
1:A:101:ALA:C	1:A:103:GLU:H	2.20	0.45
1:B:77:LEU:O	1:B:81:VAL:HG13	2.17	0.45
2:C:185:LEU:C	2:C:185:LEU:CD1	2.85	0.45
3:D:38:LYS:O	3:D:41:THR:HG22	2.16	0.45
3:D:88:GLN:CG	3:D:97:PHE:CD1	2.95	0.45
3:D:95:GLN:OE1	3:D:95:GLN:O	2.35	0.45
2:E:164:SER:C	2:E:166:SER:H	2.20	0.45
3:F:199:THR:O	3:F:199:THR:CG2	2.64	0.45
1:A:194:LEU:HD11	1:B:422:ILE:HD11	1.99	0.45
1:A:375:ALA:C	1:A:377:GLU:H	2.20	0.45
1:B:144:VAL:HG21	1:B:343:THR:CB	2.44	0.45
2:C:163:ASN:ND2	2:C:167:LEU:CD1	2.76	0.45
2:E:189:VAL:HG22	2:E:189:VAL:O	2.16	0.45
1:A:95:PHE:O	1:A:96:LEU:C	2.54	0.45
1:A:241:VAL:HG12	1:A:244:LEU:HD21	1.99	0.45
1:A:422:ILE:HG23	1:A:423:LEU:N	2.31	0.45
1:A:442:LYS:NZ	1:B:26:LEU:O	2.48	0.45
1:B:388:THR:HG22	1:B:421:LEU:HD21	1.99	0.45
1:B:397:LEU:C	1:B:399:ALA:H	2.20	0.45
3:D:154:ARG:HD2	3:D:156:ASN:H	1.82	0.45
2:E:155:PRO:HD2	2:E:209:ALA:CB	2.46	0.45
1:A:107:SER:HB2	1:A:348:PHE:CZ	2.51	0.45
1:A:272:TRP:N	1:A:272:TRP:CD1	2.82	0.45
1:B:270:ASN:CG	1:B:444:LEU:HD23	2.38	0.45
1:B:383:HIS:HD2	2:E:33:TRP:CE3	2.34	0.45
3:D:17:ASP:O	3:D:77:MET:N	2.47	0.45
3:D:139:TYR:CD1	3:D:140:PRO:CA	2.98	0.45
2:E:108:PHE:CD1	3:F:88:GLN:NE2	2.85	0.45
1:A:190:PHE:HA	1:A:238:LEU:HD11	1.99	0.44
1:A:442:LYS:HZ2	1:B:26:LEU:CD2	2.30	0.44
3:D:186:GLU:C	3:D:210:ARG:HH22	2.16	0.44
2:E:103:TYR:HD2	3:F:31:TYR:CE2	2.35	0.44
1:A:31:THR:N	1:B:437:GLN:NE2	2.58	0.44
1:A:97:VAL:O	1:A:101:ALA:N	2.44	0.44
1:A:178:LEU:HD23	1:A:178:LEU:C	2.37	0.44
1:B:393:GLY:HA2	1:B:396:ALA:HB2	1.98	0.44
2:C:105:TYR:CD2	3:D:91:SER:HA	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:C:135:GLY:CA	2:C:221:ARG:HE	2.29	0.44
3:D:13:ALA:O	3:D:77:MET:HE1	2.18	0.44
3:D:60:ARG:NH2	3:D:80:GLU:HG3	2.32	0.44
2:E:29:TYR:HE1	2:E:34:MET:HG3	1.83	0.44
2:E:98:ARG:CD	2:E:109:ASP:OD2	2.66	0.44
2:E:153:TYR:CE1	2:E:183:TYR:HB2	2.52	0.44
1:A:223:ILE:HD11	1:B:426:ILE:HG21	2.00	0.44
1:A:255:TYR:CG	1:A:424:PRO:HB3	2.53	0.44
1:B:198:LEU:HG	1:B:410:ILE:CD1	2.46	0.44
1:B:374:VAL:HG12	1:B:378:LEU:HD12	1.98	0.44
2:C:134:PRO:C	2:C:221:ARG:HD3	2.37	0.44
2:C:196:TRP:HD1	2:C:201:VAL:HG23	1.81	0.44
2:E:31:ARG:HG2	2:E:31:ARG:NH1	2.31	0.44
1:A:183:ALA:HB2	1:A:200:ILE:HG12	1.99	0.44
1:A:403:ARG:HH22	1:A:437:GLN:HA	1.82	0.44
2:C:15:GLY:O	2:C:16:GLY:O	2.36	0.44
3:D:64:SER:N	3:D:71:SER:O	2.51	0.44
3:F:146:LYS:HD3	3:F:194:GLU:OE1	2.18	0.44
3:F:154:ARG:HG2	3:F:154:ARG:NH1	2.32	0.44
1:A:266:GLY:HA3	1:A:400:ALA:HB1	2.00	0.44
1:A:380:PRO:HB2	3:D:93:HIS:CD2	2.51	0.44
1:B:397:LEU:HD22	1:B:397:LEU:HA	1.85	0.44
3:D:188:HIS:O	3:D:191:TYR:HE1	1.99	0.44
3:F:6:GLN:HE22	3:F:86:TYR:HA	1.82	0.44
1:A:220:ILE:HG13	1:B:430:LEU:HD11	1.99	0.44
1:A:442:LYS:O	1:A:444:LEU:N	2.51	0.44
1:B:64:ARG:HD3	1:B:140:GLY:O	2.18	0.44
2:C:73:ASP:C	2:C:75:ALA:H	2.20	0.44
2:C:101:TYR:CE1	2:C:106:TRP:CZ2	3.06	0.44
3:D:79:ALA:O	3:D:81:ASP:N	2.49	0.44
3:D:159:LEU:O	3:D:176:SER:HA	2.18	0.44
2:E:38:ARG:NH1	2:E:94:TYR:OH	2.43	0.44
2:E:147:GLY:HA2	2:E:162:TRP:CH2	2.53	0.44
3:F:93:HIS:CG	3:F:94:PRO:HA	2.53	0.44
1:A:131:LYS:HB3	1:A:154:ILE:CD1	2.48	0.44
1:B:197:ILE:HD13	1:B:219:PHE:CD1	2.53	0.44
1:B:397:LEU:C	1:B:399:ALA:N	2.69	0.44
2:C:33:TRP:CH2	2:C:52:ASN:HB3	2.53	0.44
3:D:74:ILE:HD12	3:D:77:MET:HB2	1.99	0.44
2:E:143:MET:HA	2:E:191:VAL:O	2.17	0.44
2:E:151:LYS:HB2	2:E:184:THR:OG1	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:391:ILE:HD12	1:A:416:THR:HB	2.00	0.44
1:B:109:ILE:N	1:B:110:PRO:CD	2.81	0.44
1:B:124:TRP:CA	1:B:157:ASN:HD22	2.23	0.44
3:D:22:THR:HG23	3:D:70:TYR:O	2.18	0.44
3:D:131:VAL:HG12	3:D:147:TRP:HH2	1.82	0.44
2:E:162:TRP:CH2	2:E:203:CYS:HB3	2.51	0.44
1:A:187:ALA:O	1:A:191:ASN:N	2.51	0.44
1:B:55:LYS:O	1:B:58:ALA:HB3	2.17	0.44
2:C:33:TRP:HB2	2:C:99:LEU:HB2	2.00	0.44
2:C:217:LYS:HE2	2:C:217:LYS:HB3	1.84	0.44
3:D:117:PHE:HA	3:D:118:PRO:HD3	1.75	0.44
3:F:15:PRO:HD3	3:F:105:ILE:CG2	2.47	0.44
3:F:61:PHE:O	3:F:62:SER:HB3	2.18	0.44
3:F:82:ALA:HB2	3:F:105:ILE:CD1	2.48	0.44
3:F:89:GLN:HE21	3:F:96:THR:N	2.16	0.44
3:F:186:GLU:HA	3:F:210:ARG:HE	1.82	0.43
1:A:41:VAL:HG13	1:A:42:VAL:N	2.33	0.43
1:A:55:LYS:O	1:A:58:ALA:HB3	2.18	0.43
1:A:135:GLY:C	1:A:137:GLY:N	2.69	0.43
1:B:320:ILE:HB	1:B:321:PRO:CD	2.39	0.43
1:B:442:LYS:O	1:B:444:LEU:N	2.51	0.43
2:C:27:PHE:O	2:C:29:TYR:N	2.51	0.43
2:C:126:PRO:HA	2:C:127:PRO:HD3	1.84	0.43
3:D:191:TYR:HE1	3:D:210:ARG:HD2	1.83	0.43
3:F:192:THR:CB	3:F:207:SER:OG	2.66	0.43
1:A:60:LEU:C	1:A:62:ASN:N	2.72	0.43
1:A:405:PRO:O	1:A:409:ILE:HG12	2.18	0.43
1:A:413:LEU:HD13	1:A:422:ILE:CD1	2.45	0.43
1:A:413:LEU:CD1	1:A:422:ILE:HD13	2.44	0.43
1:B:420:GLN:H	1:B:420:GLN:HG3	1.36	0.43
3:F:38:LYS:HB2	3:F:41:THR:CG2	2.46	0.43
3:F:175:SER:O	3:F:175:SER:OG	2.35	0.43
1:A:78:LEU:HD21	1:A:307:PHE:CE2	2.53	0.43
1:B:38:MET:HA	1:B:41:VAL:HG12	2.00	0.43
1:B:97:VAL:O	1:B:101:ALA:N	2.44	0.43
1:B:108:GLY:HA3	1:B:153:GLN:HE21	1.80	0.43
2:E:24:ALA:HB1	2:E:27:PHE:HE1	1.83	0.43
2:E:147:GLY:CA	2:E:188:SER:HA	2.45	0.43
1:A:38:MET:HA	1:A:41:VAL:HG12	1.99	0.43
1:A:108:GLY:HA3	1:A:153:GLN:HE21	1.83	0.43
1:B:124:TRP:HA	1:B:157:ASN:ND2	2.24	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:131:LYS:HB3	1:B:154:ILE:CD1	2.48	0.43
1:B:453:LEU:HD12	1:B:453:LEU:HA	1.81	0.43
3:D:78:GLU:CA	3:D:78:GLU:OE2	2.66	0.43
1:A:32:PRO:CB	1:A:35:ILE:HD13	2.44	0.43
1:A:109:ILE:HD11	1:A:152:VAL:HG21	2.00	0.43
1:A:144:VAL:HG11	1:A:344:THR:OG1	2.18	0.43
1:A:417:ASP:O	1:A:417:ASP:CG	2.57	0.43
1:B:22:ILE:O	1:B:26:LEU:HD12	2.19	0.43
1:B:31:THR:HG23	1:B:32:PRO:HD2	1.99	0.43
1:B:91:MET:C	1:B:93:GLY:N	2.71	0.43
2:C:47:TRP:HZ2	2:C:50:GLU:CG	2.28	0.43
3:D:47:ILE:HG23	3:D:51:SER:C	2.38	0.43
3:D:141:LYS:CG	3:D:172:TYR:CE2	2.99	0.43
3:F:159:LEU:O	3:F:177:THR:N	2.40	0.43
1:A:330:MET:HE3	1:A:333:LEU:HD12	2.00	0.43
1:B:190:PHE:HA	1:B:238:LEU:HD11	2.00	0.43
1:B:396:ALA:O	1:B:399:ALA:HB3	2.19	0.43
1:B:402:ILE:HG12	1:B:402:ILE:O	2.19	0.43
2:C:32:TYR:CD2	2:C:98:ARG:CD	3.01	0.43
3:D:117:PHE:CE1	3:D:134:PHE:CD2	3.07	0.43
3:F:32:ILE:HD11	3:F:70:TYR:CD2	2.53	0.43
1:A:262:PHE:O	1:A:266:GLY:N	2.49	0.43
1:B:146:GLY:C	1:B:148:ALA:H	2.19	0.43
1:B:161:MET:O	1:B:165:ILE:HG13	2.18	0.43
1:B:320:ILE:CG2	1:B:394:MET:HE2	2.49	0.43
2:C:29:TYR:CD2	2:C:74:ASN:OD1	2.72	0.43
3:F:57:VAL:HA	3:F:58:PRO:HD2	1.77	0.43
1:A:91:MET:C	1:A:93:GLY:N	2.72	0.43
1:A:167:ARG:NH1	1:A:167:ARG:HG3	2.34	0.43
1:A:397:LEU:C	1:A:399:ALA:H	2.20	0.43
1:B:422:ILE:HG23	1:B:423:LEU:N	2.34	0.43
3:D:114:VAL:CG1	3:D:206:LYS:HG3	2.48	0.43
3:D:138:PHE:H	3:D:171:THR:HB	1.83	0.43
3:F:145:VAL:HG22	3:F:146:LYS:N	2.34	0.43
1:A:127:VAL:HG11	1:A:153:GLN:OE1	2.18	0.43
1:B:107:SER:HB2	1:B:348:PHE:CZ	2.54	0.43
1:B:245:SER:O	1:B:420:GLN:NE2	2.49	0.43
2:C:6:GLU:OE2	2:C:95:TYR:HA	2.19	0.43
3:D:7:SER:HB3	3:D:8:PRO:CD	2.38	0.43
3:D:141:LYS:HG2	3:D:172:TYR:HE2	1.83	0.43
3:D:197:HIS:CD2	3:D:198:LYS:N	2.80	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:123:GLN:OE1	3:F:130:SER:HB2	2.19	0.43
1:A:64:ARG:HD3	1:A:140:GLY:O	2.18	0.42
1:A:320:ILE:CG2	1:A:394:MET:HE2	2.49	0.42
2:C:64:LEU:O	2:C:65:LYS:C	2.57	0.42
2:C:195:SER:O	2:C:199:GLU:N	2.48	0.42
3:D:82:ALA:O	3:D:83:ALA:CB	2.65	0.42
3:D:185:TYR:C	3:D:187:ARG:N	2.72	0.42
2:E:5:LEU:C	2:E:5:LEU:HD23	2.39	0.42
1:A:29:ASP:O	1:B:437:GLN:HG3	2.19	0.42
1:A:106:GLY:C	4:A:466:SEK:SE	3.06	0.42
1:B:235:GLU:O	1:B:236:VAL:HG13	2.19	0.42
2:C:217:LYS:O	2:C:219:VAL:HG13	2.19	0.42
3:D:17:ASP:OD1	3:D:18:LYS:N	2.52	0.42
3:F:174:MET:CG	3:F:175:SER:N	2.82	0.42
1:A:144:VAL:O	1:A:145:LEU:HD23	2.19	0.42
1:B:135:GLY:HA2	1:B:138:THR:OG1	2.18	0.42
1:B:294:MET:O	1:B:294:MET:HG2	2.19	0.42
1:B:456:GLN:O	1:B:456:GLN:HG2	2.18	0.42
2:C:31:ARG:O	2:C:31:ARG:HG2	2.19	0.42
1:A:60:LEU:O	1:A:62:ASN:N	2.53	0.42
1:A:119:GLN:HB3	1:A:453:LEU:CD2	2.50	0.42
1:A:123:ARG:HG3	1:A:123:ARG:NH1	2.34	0.42
1:B:276:MET:HG3	1:B:280:LEU:CD1	2.49	0.42
2:C:69:ILE:HB	2:C:82:GLN:CB	2.45	0.42
2:C:147:GLY:HA3	2:C:188:SER:HA	2.01	0.42
3:D:17:ASP:OD1	3:D:17:ASP:C	2.56	0.42
3:F:192:THR:HA	3:F:206:LYS:O	2.20	0.42
1:A:95:PHE:O	1:A:97:VAL:N	2.52	0.42
1:A:220:ILE:CG1	1:B:430:LEU:HD11	2.50	0.42
1:B:187:ALA:O	1:B:191:ASN:N	2.52	0.42
1:B:348:PHE:CZ	4:B:466:SEK:SE	3.23	0.42
1:B:375:ALA:C	1:B:377:GLU:N	2.73	0.42
2:C:29:TYR:CZ	2:C:72:ARG:CD	2.88	0.42
2:C:51:ILE:HD12	2:C:52:ASN:N	2.34	0.42
3:D:148:LYS:HG2	3:D:153:GLU:HA	2.02	0.42
3:D:149:ILE:O	3:D:150:ASP:HB2	2.20	0.42
2:E:33:TRP:CD1	2:E:53:PRO:HD3	2.54	0.42
2:E:145:THR:O	3:F:117:PHE:HZ	2.01	0.42
3:F:2:ILE:HG21	3:F:25:ALA:HB1	2.02	0.42
3:F:198:LYS:O	3:F:200:SER:N	2.53	0.42
1:A:138:THR:HG21	1:A:352:ALA:HB1	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:197:ILE:HD13	1:A:219:PHE:CD1	2.55	0.42
1:B:73:ASP:OD1	1:B:74:ASN:N	2.35	0.42
1:B:405:PRO:O	1:B:409:ILE:HG12	2.20	0.42
2:C:86:VAL:HG12	2:C:119:VAL:HG11	2.02	0.42
2:C:182:LEU:HA	2:C:182:LEU:HD23	1.74	0.42
3:D:30:SER:O	3:D:31:TYR:HB2	2.20	0.42
3:D:106:LEU:HD23	3:D:107:ARG:N	2.33	0.42
3:F:119:PRO:CG	3:F:131:VAL:HG22	2.50	0.42
3:F:189:ASN:OD1	3:F:210:ARG:HB2	2.18	0.42
1:B:183:ALA:C	1:B:185:GLY:N	2.72	0.42
1:B:282:ARG:O	1:B:285:GLY:N	2.42	0.42
1:B:293:LEU:C	1:B:295:GLY:N	2.72	0.42
3:D:47:ILE:HG23	3:D:51:SER:O	2.19	0.42
3:D:50:THR:HG22	3:D:64:SER:CB	2.45	0.42
3:D:189:ASN:OD1	3:D:210:ARG:CB	2.67	0.42
2:E:51:ILE:HG23	2:E:51:ILE:O	2.19	0.42
2:E:122:ALA:CB	2:E:154:PHE:CE2	3.03	0.42
3:F:116:ILE:HD13	3:F:133:CYS:CB	2.48	0.42
3:F:191:TYR:O	3:F:207:SER:HA	2.20	0.42
1:A:150:PRO:HD3	1:A:355:GLY:N	2.35	0.42
1:B:163:LEU:CD2	1:B:174:ARG:HG3	2.45	0.42
2:C:6:GLU:OE2	2:C:114:GLY:CA	2.57	0.42
2:C:202:THR:HG22	2:C:204:ASN:ND2	2.35	0.42
2:E:36:TRP:HE3	2:E:95:TYR:O	2.03	0.42
3:F:127:GLY:HA2	3:F:182:LYS:CD	2.37	0.42
1:B:149:GLY:O	1:B:150:PRO:C	2.58	0.42
1:B:410:ILE:O	1:B:410:ILE:HG22	2.20	0.42
2:C:27:PHE:CD1	2:C:27:PHE:N	2.87	0.42
2:C:111:TRP:N	2:C:111:TRP:CD1	2.87	0.42
3:D:79:ALA:C	3:D:81:ASP:H	2.21	0.42
3:D:139:TYR:HA	3:D:140:PRO:O	2.20	0.42
2:E:27:PHE:CD1	2:E:27:PHE:N	2.87	0.42
3:F:180:LEU:HB3	3:F:184:GLU:CB	2.46	0.42
1:A:30:LYS:HA	1:B:437:GLN:NE2	2.35	0.41
1:A:53:PHE:O	1:A:57:VAL:HG23	2.20	0.41
1:A:276:MET:HG3	1:A:280:LEU:CD1	2.50	0.41
1:A:293:LEU:C	1:A:295:GLY:N	2.70	0.41
1:B:107:SER:N	4:B:466:SEK:SE	2.95	0.41
1:B:122:VAL:HG11	1:B:160:ARG:CB	2.50	0.41
1:B:150:PRO:HD3	1:B:355:GLY:N	2.35	0.41
1:B:184:ALA:HB1	1:B:225:SER:CB	2.46	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:403:ARG:HH22	1:B:437:GLN:HA	1.85	0.41
3:D:78:GLU:OE2	3:D:78:GLU:HA	2.20	0.41
3:F:129:ALA:CB	3:F:180:LEU:HB2	2.50	0.41
1:A:273:VAL:HG13	1:A:444:LEU:HD21	2.02	0.41
1:A:449:LEU:O	1:A:453:LEU:HB2	2.20	0.41
1:B:172:GLU:HG3	1:B:212:LEU:HB3	2.00	0.41
1:B:216:LYS:O	1:B:220:ILE:HG13	2.20	0.41
1:B:243:LYS:NZ	1:B:420:GLN:CG	2.83	0.41
2:C:86:VAL:CG1	2:C:119:VAL:HG21	2.50	0.41
2:E:18:LEU:HD11	2:E:117:VAL:CG2	2.49	0.41
3:F:177:THR:O	3:F:177:THR:HG22	2.20	0.41
1:A:94:TYR:O	1:A:95:PHE:C	2.59	0.41
1:A:184:ALA:HB1	1:A:225:SER:CB	2.49	0.41
1:A:443:PRO:HB3	1:B:28:ARG:NH2	2.34	0.41
1:B:183:ALA:HB2	1:B:200:ILE:HG12	2.01	0.41
3:D:17:ASP:H	3:D:76:THR:CA	2.29	0.41
2:E:6:GLU:OE2	2:E:96:CYS:HB3	2.20	0.41
3:F:185:TYR:CD1	3:F:191:TYR:CE1	3.08	0.41
1:A:77:LEU:O	1:A:81:VAL:HG13	2.21	0.41
1:A:375:ALA:C	1:A:377:GLU:N	2.74	0.41
1:A:453:LEU:HD23	1:B:21:LEU:HD23	2.03	0.41
1:B:18:ARG:C	1:B:20:GLN:N	2.73	0.41
1:B:378:LEU:HB3	1:B:379:PHE:CE1	2.56	0.41
3:D:145:VAL:CG2	3:D:146:LYS:H	2.23	0.41
2:E:52:ASN:OD1	2:E:55:SER:N	2.51	0.41
1:A:388:THR:HG22	1:A:421:LEU:HD21	2.02	0.41
1:A:420:GLN:H	1:A:420:GLN:HG3	1.35	0.41
2:C:43:LYS:NZ	2:C:43:LYS:CB	2.81	0.41
2:C:156:GLU:HA	2:C:157:PRO:HA	1.47	0.41
3:D:119:PRO:HB2	3:D:124:LEU:CD1	2.51	0.41
3:D:198:LYS:O	3:D:200:SER:N	2.53	0.41
2:E:69:ILE:O	2:E:69:ILE:HG22	2.20	0.41
1:A:17:ARG:HD2	1:A:17:ARG:C	2.41	0.41
1:A:243:LYS:NZ	1:A:420:GLN:CG	2.83	0.41
1:A:374:VAL:HG12	1:A:378:LEU:HD12	2.01	0.41
1:B:109:ILE:HD13	1:B:199:PHE:CE2	2.53	0.41
1:B:200:ILE:HG22	1:B:201:ILE:N	2.36	0.41
2:C:194:SER:O	2:C:198:SER:CB	2.68	0.41
3:D:3:VAL:HB	3:D:26:SER:HB3	2.03	0.41
3:D:70:TYR:N	3:D:70:TYR:HD1	2.19	0.41
2:E:18:LEU:HD11	2:E:117:VAL:CG1	2.50	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:194:GLU:HG2	3:F:205:VAL:HG12	2.02	0.41
1:A:99:LYS:CG	1:A:100:TYR:CE1	3.04	0.41
1:A:183:ALA:C	1:A:185:GLY:N	2.74	0.41
1:A:430:LEU:C	1:A:430:LEU:HD23	2.41	0.41
2:C:84:SER:O	2:C:85:LYS:C	2.59	0.41
2:C:171:VAL:HA	2:C:189:VAL:HG23	2.03	0.41
3:D:110:ALA:HB3	3:D:138:PHE:HA	2.03	0.41
1:B:255:TYR:CG	1:B:424:PRO:HB3	2.56	0.41
1:B:274:LEU:HA	1:B:277:GLN:NE2	2.36	0.41
2:C:22:CYS:N	2:C:79:LEU:O	2.52	0.41
3:D:46:TRP:HA	3:D:46:TRP:CE3	2.56	0.41
3:D:178:LEU:O	3:D:178:LEU:HG	2.20	0.41
3:F:124:LEU:C	3:F:126:SER:N	2.74	0.41
1:A:24:GLN:O	1:A:25:LEU:C	2.59	0.41
1:A:31:THR:HA	1:A:32:PRO:HD3	1.95	0.41
1:A:109:ILE:HG23	1:A:204:MET:SD	2.61	0.41
1:A:123:ARG:HE	1:A:126:ARG:HD2	1.86	0.41
1:A:124:TRP:HA	1:A:157:ASN:ND2	2.24	0.41
1:A:124:TRP:CZ3	1:A:161:MET:HG3	2.56	0.41
1:A:234:HIS:O	1:A:235:GLU:CB	2.62	0.41
1:A:412:VAL:CG1	1:A:425:MET:CE	2.98	0.41
1:B:21:LEU:HD11	1:B:25:LEU:CD2	2.44	0.41
1:B:223:ILE:HD13	1:B:223:ILE:HA	1.98	0.41
1:B:398:LEU:HA	1:B:402:ILE:CG2	2.51	0.41
1:B:443:PRO:O	1:B:444:LEU:C	2.59	0.41
2:C:50:GLU:OE2	3:D:90:TRP:HZ2	2.04	0.41
2:C:64:LEU:O	2:C:67:LYS:N	2.49	0.41
3:D:131:VAL:HG12	3:D:147:TRP:CH2	2.56	0.41
3:D:163:THR:OG1	3:D:173:SER:HB3	2.21	0.41
2:E:18:LEU:HD11	2:E:117:VAL:HG22	2.02	0.41
2:E:162:TRP:CE3	2:E:203:CYS:HB3	2.53	0.41
2:E:210:SER:O	2:E:211:SER:C	2.59	0.41
3:F:4:LEU:HD23	3:F:25:ALA:HB2	2.02	0.41
1:A:124:TRP:CE3	1:A:161:MET:HG3	2.55	0.41
1:A:365:THR:OG1	1:A:394:MET:HG3	2.21	0.41
1:A:420:GLN:HE21	1:A:420:GLN:HB2	1.62	0.41
1:B:87:ALA:O	1:B:91:MET:HG3	2.20	0.41
1:B:139:LEU:HD22	1:B:145:LEU:O	2.21	0.41
1:B:149:GLY:N	1:B:150:PRO:CD	2.83	0.41
3:D:6:GLN:HE22	3:D:87:CYS:H	1.49	0.41
3:D:197:HIS:CG	3:D:198:LYS:N	2.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:E:185:LEU:C	2:E:185:LEU:CD1	2.90	0.41
3:F:114:VAL:HG12	3:F:115:SER:N	2.36	0.41
3:F:123:GLN:OE1	3:F:130:SER:CB	2.69	0.41
3:F:185:TYR:CZ	3:F:210:ARG:HD2	2.56	0.41
1:A:437:GLN:NE2	1:B:31:THR:N	2.62	0.40
1:B:123:ARG:HG3	1:B:123:ARG:NH1	2.36	0.40
1:B:412:VAL:CG1	1:B:425:MET:HE1	2.51	0.40
1:B:421:LEU:C	1:B:424:PRO:HD2	2.41	0.40
3:D:25:ALA:HB1	3:D:27:SER:O	2.20	0.40
3:D:32:ILE:HD11	3:D:70:TYR:HB2	2.03	0.40
3:D:51:SER:O	3:D:52:LYS:C	2.59	0.40
2:E:41:PRO:HD3	2:E:92:ALA:HA	2.03	0.40
2:E:87:ARG:NE	2:E:89:GLU:HB2	2.35	0.40
3:F:15:PRO:HD3	3:F:105:ILE:HG23	2.03	0.40
1:A:109:ILE:N	1:A:110:PRO:CD	2.84	0.40
1:A:167:ARG:HG3	1:A:167:ARG:HH11	1.87	0.40
1:A:200:ILE:HG22	1:A:201:ILE:N	2.36	0.40
1:A:279:LEU:HA	1:A:282:ARG:NH1	2.36	0.40
1:B:365:THR:OG1	1:B:394:MET:HG3	2.21	0.40
1:B:413:LEU:HD13	1:B:422:ILE:CD1	2.44	0.40
3:D:47:ILE:HG22	3:D:48:TYR:N	2.36	0.40
2:E:102:GLY:HA3	3:F:49:ASP:OD2	2.20	0.40
1:A:426:ILE:HG21	1:B:223:ILE:HD11	2.03	0.40
1:B:451:ARG:NH1	1:B:451:ARG:HG3	2.36	0.40
2:E:2:VAL:HA	2:E:26:GLY:HA3	2.03	0.40
2:E:163:ASN:ND2	2:E:167:LEU:HD22	2.36	0.40
1:A:209:ARG:O	1:A:210:TYR:C	2.60	0.40
1:A:294:MET:O	1:A:294:MET:HG2	2.21	0.40
1:B:278:ASP:O	1:B:281:HIS:N	2.54	0.40
1:B:287:ASN:HD22	1:B:290:LYS:CG	2.34	0.40
2:C:5:LEU:O	2:C:23:ALA:N	2.39	0.40
3:D:38:LYS:O	3:D:39:SER:C	2.59	0.40
3:D:46:TRP:HB3	3:D:47:ILE:H	1.62	0.40
3:D:178:LEU:HD12	3:D:179:THR:N	2.36	0.40
1:A:38:MET:O	1:A:41:VAL:HG12	2.21	0.40
1:A:112:ILE:HD12	1:A:156:GLY:HA3	2.04	0.40
1:A:145:LEU:HD21	1:A:347:CYS:HB3	2.03	0.40
1:A:423:LEU:HD12	1:A:423:LEU:HA	1.97	0.40
1:B:23:ARG:NH1	1:B:27:GLU:CG	2.84	0.40
1:B:75:TYR:O	1:B:78:LEU:HB3	2.21	0.40
3:D:31:TYR:CD2	3:D:49:ASP:HB3	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:84:THR:HA	3:F:101:THR:O	2.20	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	442/465 (95%)	318 (72%)	101 (23%)	23 (5%)	2	12
1	B	439/465 (94%)	313 (71%)	101 (23%)	25 (6%)	1	10
2	C	219/221 (99%)	170 (78%)	29 (13%)	20 (9%)	1	4
2	E	219/221 (99%)	173 (79%)	35 (16%)	11 (5%)	2	13
3	D	209/211 (99%)	151 (72%)	33 (16%)	25 (12%)	0	1
3	F	209/211 (99%)	166 (79%)	30 (14%)	13 (6%)	1	9
All	All	1737/1794 (97%)	1291 (74%)	329 (19%)	117 (7%)	1	7

All (117) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	95	PHE
1	A	107	SER
1	A	132	PHE
1	A	148	ALA
1	A	167	ARG
1	A	201	ILE
1	A	209	ARG
1	A	283	VAL
1	A	284	HIS
1	A	386	ALA
1	B	19	ARG

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	B	95	PHE
1	B	132	PHE
1	B	148	ALA
1	B	167	ARG
1	B	201	ILE
1	B	283	VAL
1	B	386	ALA
2	C	31	ARG
2	C	54	VAL
2	C	65	LYS
2	C	106	TRP
2	C	136	SER
2	C	140	ALA
2	C	157	PRO
2	C	167	LEU
3	D	7	SER
3	D	55	SER
3	D	64	SER
3	D	126	SER
3	D	137	ASN
3	D	168	LYS
2	E	65	LYS
2	E	138	ALA
3	F	7	SER
3	F	198	LYS
1	A	200	ILE
1	A	242	GLY
1	A	314	GLY
1	A	318	ASN
1	A	376	VAL
1	B	107	SER
1	B	200	ILE
1	B	284	HIS
1	B	314	GLY
1	B	318	ASN
1	B	376	VAL
2	C	16	GLY
2	C	30	SER
2	C	41	PRO
2	C	109	ASP
2	C	142	SER
2	C	198	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
3	D	11	MET
3	D	62	SER
3	D	80	GLU
3	D	83	ALA
3	D	90	TRP
3	D	170	SER
3	D	186	GLU
3	D	199	THR
2	E	62	PRO
2	E	139	ALA
2	E	181	ALA
3	F	62	SER
3	F	119	PRO
3	F	120	SER
3	F	125	THR
3	F	137	ASN
1	A	26	LEU
1	A	72	ALA
1	A	96	LEU
1	B	26	LEU
1	B	72	ALA
1	B	96	LEU
1	B	101	ALA
1	B	242	GLY
1	B	456	GLN
2	C	53	PRO
2	C	55	SER
2	C	64	LEU
2	E	9	GLY
2	E	41	PRO
3	F	54	THR
3	F	153	GLU
3	F	210	ARG
1	A	101	ALA
1	A	102	PRO
1	A	455	LYS
1	B	102	PRO
2	C	155	PRO
2	C	166	SER
3	D	39	SER
3	D	109	ASP
3	D	127	GLY

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Mol	Chain	Res	Type
3	D	167	SER
3	D	169	ASP
3	F	199	THR
3	F	203	PRO
1	B	165	ILE
1	B	176	THR
1	B	443	PRO
2	C	28	ASP
3	D	49	ASP
3	D	66	SER
3	D	173	SER
1	A	165	ILE
1	A	443	PRO
3	D	32	ILE
3	D	205	VAL
2	E	74	ASN
3	F	66	SER
2	E	69	ILE
3	D	203	PRO
2	E	14	PRO
2	E	58	ILE
1	B	351	GLY

### 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	334/352 (95%)	315 (94%)	19 (6%)	20	52
1	B	331/352 (94%)	312 (94%)	19 (6%)	20	52
2	C	181/181 (100%)	163 (90%)	18 (10%)	8	29
2	E	181/181 (100%)	165 (91%)	16 (9%)	10	36
3	D	185/185 (100%)	166 (90%)	19 (10%)	7	27
3	F	185/185 (100%)	167 (90%)	18 (10%)	8	30
All	All	1397/1436 (97%)	1288 (92%)	109 (8%)	12	40

All (109) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	17	ARG
1	A	69	VAL
1	A	85	CYS
1	A	98	ARG
1	A	111	GLU
1	A	138	THR
1	A	147	ARG
1	A	162	VAL
1	A	180	THR
1	A	211	THR
1	A	212	LEU
1	A	219	PHE
1	A	236	VAL
1	A	346	LEU
1	A	377	GLU
1	A	381	GLN
1	A	397	LEU
1	A	420	GLN
1	A	451	ARG
1	B	69	VAL
1	B	85	CYS
1	B	98	ARG
1	B	111	GLU
1	B	138	THR
1	B	147	ARG
1	B	162	VAL
1	B	205	ARG
1	B	207	GLN
1	B	212	LEU
1	B	219	PHE
1	B	236	VAL
1	B	346	LEU
1	B	377	GLU
1	B	381	GLN
1	B	397	LEU
1	B	420	GLN
1	B	451	ARG
1	B	453	LEU
2	C	6	GLU
2	C	18	LEU
2	C	51	ILE
2	C	63	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	C	65	LYS
2	C	71	SER
2	C	82	GLN
2	C	93	LEU
2	C	127	PRO
2	C	128	SER
2	C	151	LYS
2	C	172	HIS
2	C	182	LEU
2	C	185	LEU
2	C	188	SER
2	C	200	THR
2	C	203	CYS
2	C	204	ASN
3	D	5	THR
3	D	41	THR
3	D	43	PRO
3	D	46	TRP
3	D	53	LEU
3	D	70	TYR
3	D	74	ILE
3	D	95	GLN
3	D	109	ASP
3	D	115	SER
3	D	117	PHE
3	D	124	LEU
3	D	153	GLU
3	D	154	ARG
3	D	163	THR
3	D	169	ASP
3	D	174	MET
3	D	190	SER
3	D	192	THR
2	E	14	PRO
2	E	18	LEU
2	E	27	PHE
2	E	31	ARG
2	E	71	SER
2	E	77	ASP
2	E	98	ARG
2	E	107	TYR
2	E	128	SER

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
2	E	151	LYS
2	E	157	PRO
2	E	178	LEU
2	E	179	GLN
2	E	185	LEU
2	E	204	ASN
2	E	219	VAL
3	F	5	THR
3	F	15	PRO
3	F	22	THR
3	F	32	ILE
3	F	39	SER
3	F	55	SER
3	F	59	VAL
3	F	80	GLU
3	F	88	GLN
3	F	119	PRO
3	F	135	LEU
3	F	136	ASN
3	F	160	ASN
3	F	178	LEU
3	F	192	THR
3	F	201	THR
3	F	208	PHE
3	F	210	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (35) such sidechains are listed below:

<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
1	A	62	ASN
1	A	63	GLN
1	A	153	GLN
1	A	157	ASN
1	A	270	ASN
1	A	277	GLN
1	A	287	ASN
1	A	327	ASN
1	A	381	GLN
1	A	437	GLN
1	B	62	ASN
1	B	63	GLN
1	B	119	GLN

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Mol	Chain	Res	Type
1	B	153	GLN
1	B	157	ASN
1	B	207	GLN
1	B	270	ASN
1	B	277	GLN
1	B	287	ASN
1	B	327	ASN
1	B	381	GLN
1	B	437	GLN
2	C	39	GLN
2	C	163	ASN
3	D	6	GLN
3	D	36	GLN
3	D	37	GLN
3	D	137	ASN
3	D	197	HIS
2	E	163	ASN
2	E	172	HIS
3	F	6	GLN
3	F	36	GLN
3	F	89	GLN
3	F	136	ASN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

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

Of 6 ligands modelled in this entry, 6 are modelled with single atom - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

## 5.7 Other polymers

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	444/465 (95%)	0.18	11 (2%) 57 34	78, 78, 78, 78	0
1	B	441/465 (94%)	0.30	17 (3%) 39 20	78, 78, 78, 78	0
2	C	221/221 (100%)	0.22	11 (4%) 28 13	78, 78, 78, 78	0
2	E	221/221 (100%)	0.11	1 (0%) 91 81	78, 78, 78, 78	0
3	D	211/211 (100%)	0.22	9 (4%) 35 17	78, 78, 78, 78	0
3	F	211/211 (100%)	0.18	6 (2%) 53 30	78, 78, 78, 78	0
All	All	1749/1794 (97%)	0.21	55 (3%) 49 26	78, 78, 78, 78	0

All (55) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	C	137	ALA	4.5
2	C	136	SER	4.2
1	B	75	TYR	4.0
2	C	77	ASP	3.9
2	C	135	GLY	3.8
1	A	168	LEU	3.2
3	D	74	ILE	3.2
3	D	76	THR	3.1
3	D	91	SER	3.1
3	F	190	SER	3.1
3	F	156	ASN	3.0
3	D	75	ASN	3.0
3	F	182	LYS	3.0
2	C	29	TYR	3.0
3	D	58	PRO	2.9
2	C	201	VAL	2.9
1	A	72	ALA	2.9
2	C	138	ALA	2.8
1	B	71	THR	2.8

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Mol	Chain	Res	Type	RSRZ
1	A	282	ARG	2.7
1	B	86	SER	2.7
3	F	208	PHE	2.7
1	B	69	VAL	2.5
1	B	78	LEU	2.5
3	D	191	TYR	2.5
3	F	149	ILE	2.5
1	A	73	ASP	2.5
3	F	180	LEU	2.4
1	B	119	GLN	2.4
1	A	30	LYS	2.4
1	B	358	ALA	2.4
3	D	149	ILE	2.4
2	E	136	SER	2.4
1	B	67	ALA	2.4
1	B	194	LEU	2.4
1	B	68	LEU	2.3
1	B	79	LEU	2.3
1	B	283	VAL	2.3
1	A	407	THR	2.3
1	B	72	ALA	2.3
1	A	263	GLY	2.2
2	C	78	THR	2.2
2	C	24	ALA	2.2
1	B	73	ASP	2.2
1	A	173	ALA	2.2
3	D	171	THR	2.1
1	B	148	ALA	2.1
1	A	283	VAL	2.1
1	A	71	THR	2.1
2	C	18	LEU	2.0
1	A	165	ILE	2.0
1	B	74	ASN	2.0
3	D	197	HIS	2.0
2	C	133	ALA	2.0
1	B	290	LYS	2.0

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

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

### 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

### 6.4 Ligands [i](#)

LIGAND-RSR INFOmissingINFO

### 6.5 Other polymers [i](#)

There are no such residues in this entry.