



Full wwPDB X-ray Structure Validation Report ⓘ

Jul 31, 2023 – 11:30 PM EDT

PDB ID : 2CKB
Title : STRUCTURE OF THE 2C/KB/DEV8 COMPLEX
Authors : Garcia, K.C.; Degano, M.; Wilson, I.A.
Deposited on : 1998-01-14
Resolution : 3.00 Å(reported)

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

We welcome your comments at validation@mail.wwpdb.org

A user guide is available at

<https://www.wwpdb.org/validation/2017/XrayValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

MolProbity : 4.02b-467
Xtrriage (Phenix) : **NOT EXECUTED**
EDS : **NOT EXECUTED**
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.34

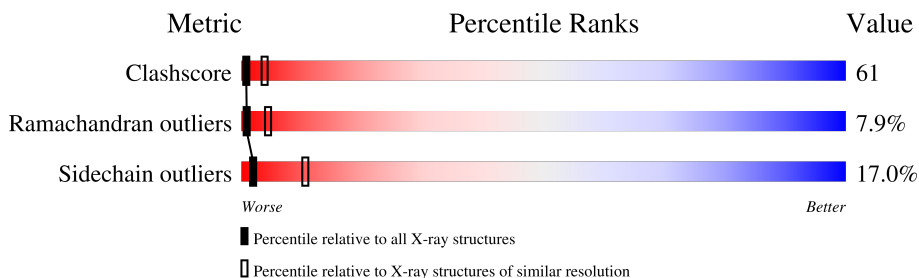
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.00 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))
Clashscore	141614	2416 (3.00-3.00)
Ramachandran outliers	138981	2333 (3.00-3.00)
Sidechain outliers	138945	2336 (3.00-3.00)

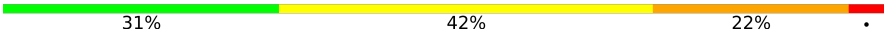
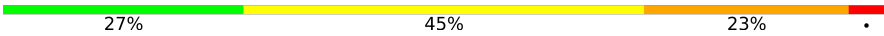
The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$.

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	202	24% 59% 15% .
1	C	202	24% 57% 18% .
2	B	237	28% 58% 13% .
2	D	237	25% 59% 14% .
3	H	274	26% 62% 12%
3	I	274	24% 65% 11%
4	P	8	25% 50% 25%
4	Q	8	25% 50% 25%

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Mol	Chain	Length	Quality of chain
5	L	99	 31% 42% 22% .
5	M	99	 27% 45% 23% .

2 Entry composition [i](#)

There are 6 unique types of molecules in this entry. The entry contains 13110 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 ALPHA, BETA T CELL RECEPTOR.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	202	1570	999	253	310	8	0	0	0
1	C	202	1570	999	253	310	8	0	0	0

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	127	ALA	GLN	conflict	EMBL X01134
A	165	ALA	LYS	conflict	EMBL X01134
C	127	ALA	GLN	conflict	EMBL X01134
C	165	ALA	LYS	conflict	EMBL X01134

- Molecule 2 is a protein called ALPHA, BETA T CELL RECEPTOR.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	237	1853	1160	331	355	7	0	0	0
2	D	237	1853	1160	331	355	7	0	0	0

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	97	GLY	GLN	conflict	GB 1791255
B	?	-	ARG	deletion	GB 1791255
B	?	-	ALA	deletion	GB 1791255
B	105	THR	GLU	conflict	GB 1791255
B	106	LEU	GLN	conflict	GB 1791255
B	107	TYR	PHE	conflict	GB 1791255
B	110	ALA	PRO	conflict	GB 1791255
B	115	SER	THR	conflict	GB 1791255

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Chain	Residue	Modelled	Actual	Comment	Reference
D	97	GLY	GLN	conflict	GB 1791255
D	?	-	ARG	deletion	GB 1791255
D	?	-	ALA	deletion	GB 1791255
D	105	THR	GLU	conflict	GB 1791255
D	106	LEU	GLN	conflict	GB 1791255
D	107	TYR	PHE	conflict	GB 1791255
D	110	ALA	PRO	conflict	GB 1791255
D	115	SER	THR	conflict	GB 1791255

- Molecule 3 is a protein called MAJOR HISTOCOMPATIBILITY COMPLEX CLASS I MOLECULE K(B).

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	H	274	Total 2232	C 1408	N 393	O 422	S 9	0	0	0
3	I	274	Total 2232	C 1408	N 393	O 422	S 9	0	0	0

- Molecule 4 is a protein called DEV8 PEPTIDE.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
4	P	8	Total 76	C 51	N 10	O 15	0	0	0
4	Q	8	Total 76	C 51	N 10	O 15	0	0	0

- Molecule 5 is a protein called BETA-2 MICROGLOBULIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	L	99	Total 821	C 524	N 138	O 152	S 7	0	0	0
5	M	99	Total 821	C 524	N 138	O 152	S 7	0	0	0

- Molecule 6 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	A	1	Total 1 O 1	0	0
6	B	1	Total 1 O 1	0	0

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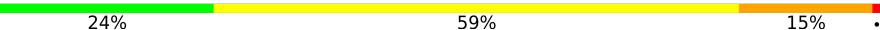
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	H	1	Total O 1 1	0	0
6	D	1	Total O 1 1	0	0
6	I	1	Total O 1 1	0	0
6	Q	1	Total O 1 1	0	0

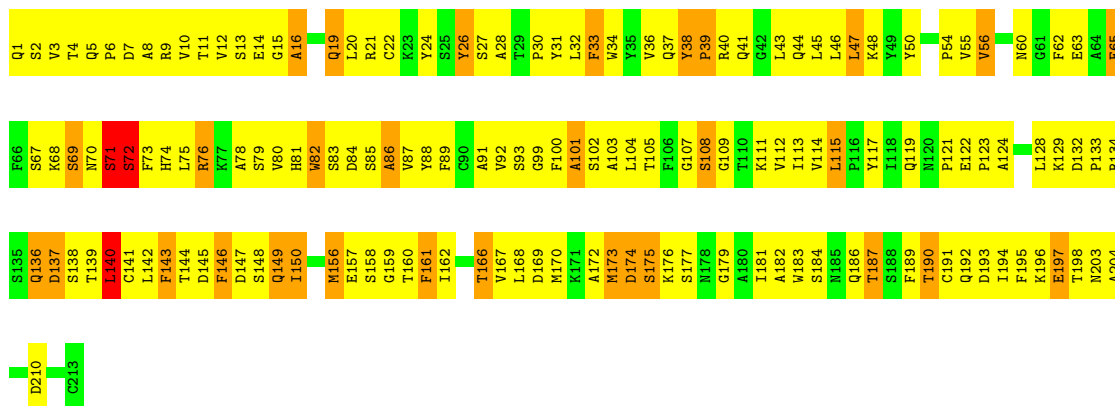
3 Residue-property plots

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. 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. 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.

Note EDS was not executed.

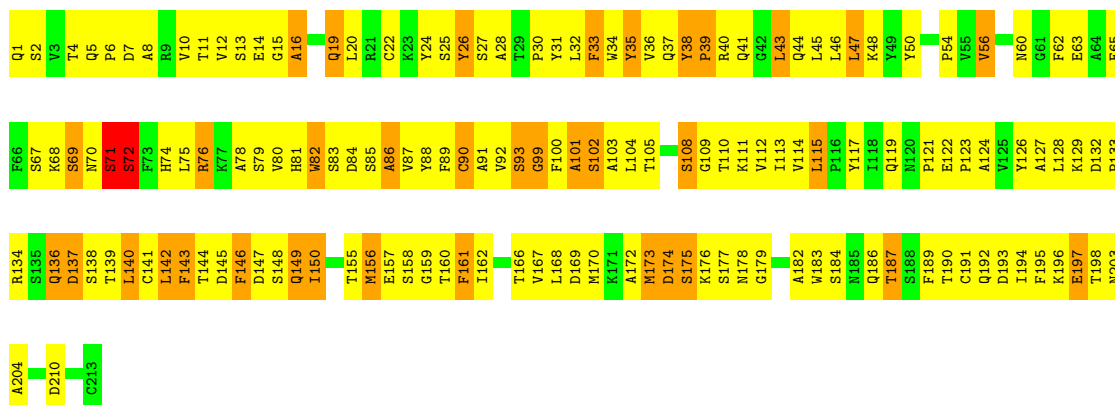
- Molecule 1: ALPHA, BETA T CELL RECEPTOR

Chain A: 



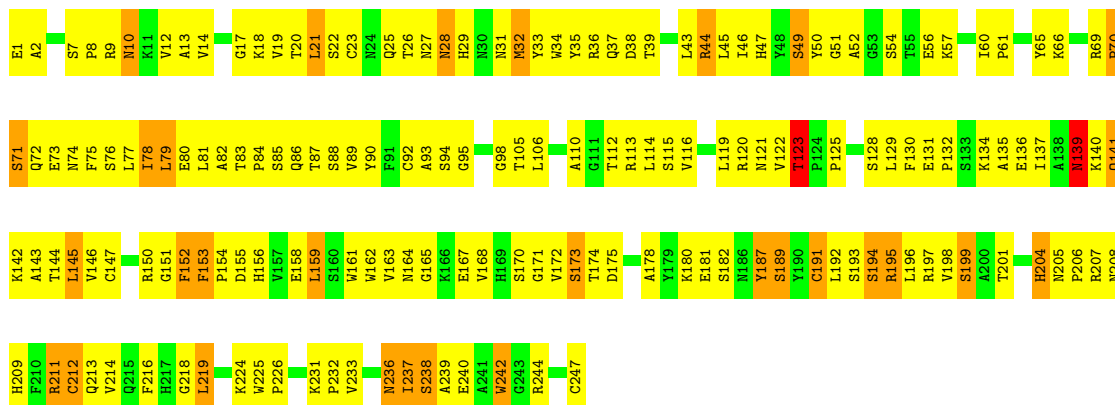
- Molecule 1: ALPHA, BETA T CELL RECEPTOR

Chain C: 



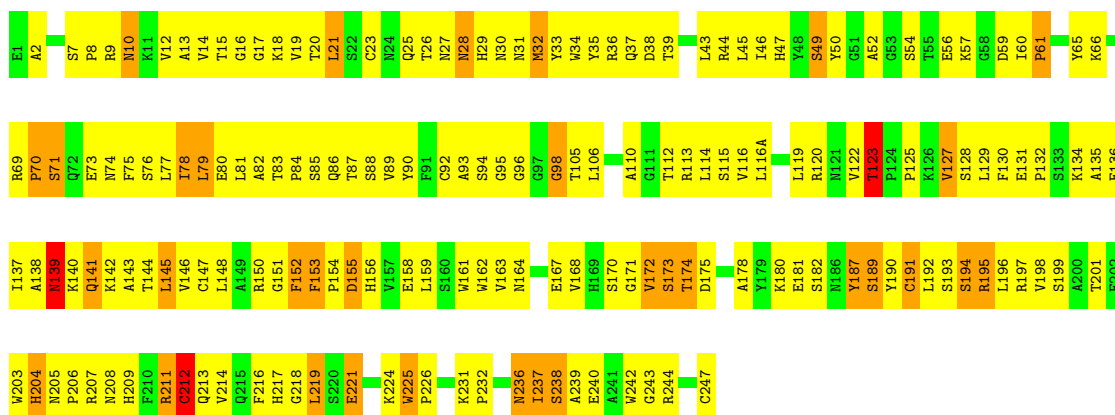
- Molecule 2: ALPHA, BETA T CELL RECEPTOR

Chain B: 



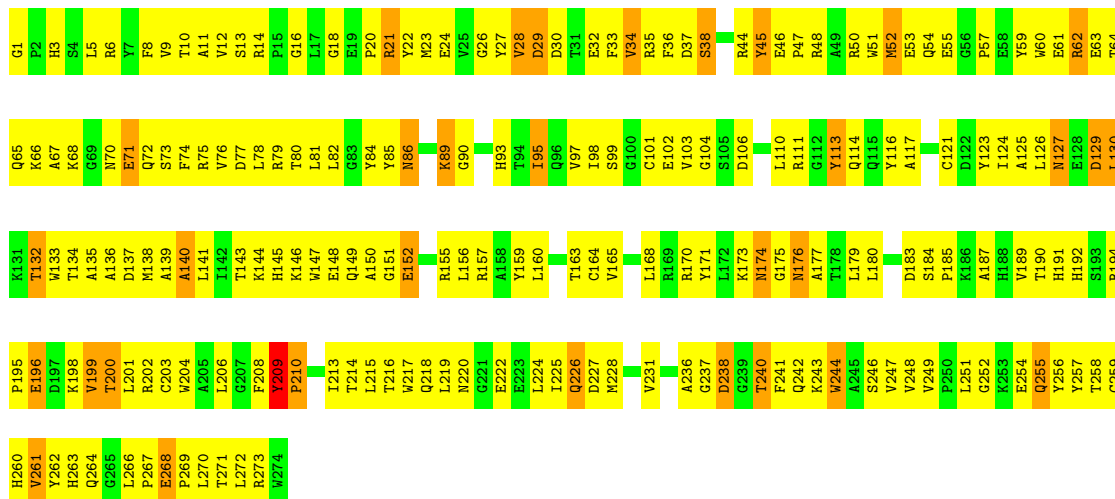
- Molecule 2: ALPHA, BETA T CELL RECEPTOR

Chain D: 25% 59% 14%



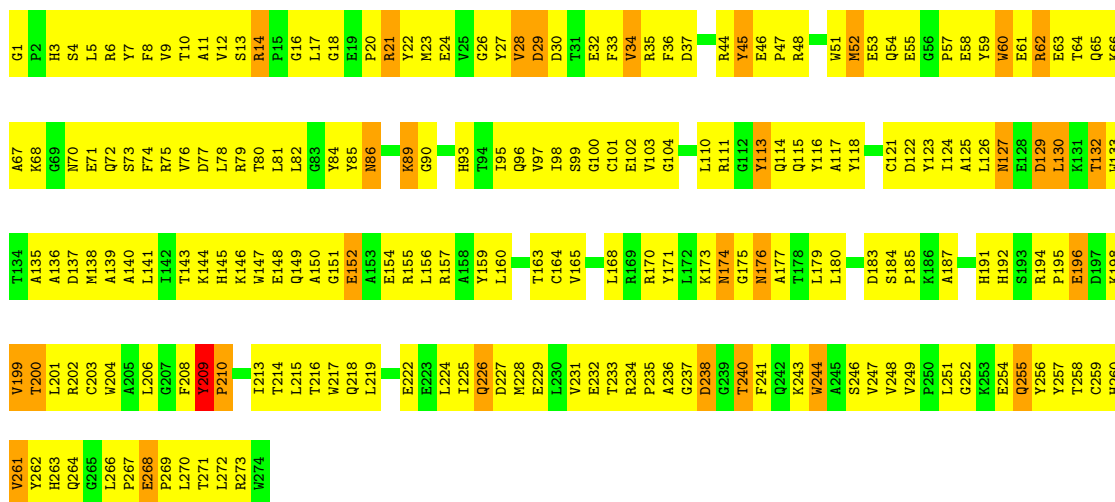
- Molecule 3: MAJOR HISTOCOMPATIBILITY COMPLEX CLASS I MOLECULE K(B)

Chain H: 26% 62% 12%



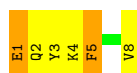
- Molecule 3: MAJOR HISTOCOMPATIBILITY COMPLEX CLASS I MOLECULE K(B)

Chain I: 24% 65% 11%



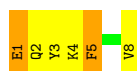
- Molecule 4: DEV8 PEPTIDE

Chain P: 25% 50% 25%



- Molecule 4: DEV8 PEPTIDE

Chain Q: 25% 50% 25%



- Molecule 5: BETA-2 MICROGLOBULIN

Chain L: 31% 42% 22%



- Molecule 5: BETA-2 MICROGLOBULIN

Chain M: 27% 45% 23%





4 Data and refinement statistics

Xtrriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source
Space group	P 21 21 2	Depositor
Cell constants a, b, c, α , β , γ	295.66Å 89.96Å 84.12Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	25.00 – 3.00	Depositor
% Data completeness (in resolution range)	78.7 (25.00-3.00)	Depositor
R_{merge}	(Not available)	Depositor
R_{sym}	0.09	Depositor
Refinement program	X-PLOR 3.851	Depositor
R, R_{free}	0.221 , 0.322	Depositor
Estimated twinning fraction	No twinning to report.	Xtrriage
Total number of atoms	13110	wwPDB-VP
Average B, all atoms (Å ²)	50.0	wwPDB-VP

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	0.55	0/1611	0.83	1/2193 (0.0%)
1	C	0.58	1/1611 (0.1%)	0.83	0/2193
2	B	0.52	1/1904 (0.1%)	0.77	1/2586 (0.0%)
2	D	0.66	1/1904 (0.1%)	0.81	1/2586 (0.0%)
3	H	0.51	0/2293	0.75	0/3113
3	I	0.52	0/2293	0.75	0/3113
4	P	0.61	0/78	0.84	0/102
4	Q	0.68	0/78	0.81	0/102
5	L	0.49	0/847	0.79	1/1148 (0.1%)
5	M	0.51	0/847	0.80	1/1148 (0.1%)
All	All	0.55	3/13466 (0.0%)	0.79	5/18284 (0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	C	0	1
2	B	0	1
2	D	0	1
All	All	0	3

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
2	D	212	CYS	CB-SG	-6.18	1.71	1.82
2	B	212	CYS	CB-SG	-5.91	1.72	1.81
1	C	90	CYS	CB-SG	-5.24	1.73	1.81

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	D	175	ASP	N-CA-C	-5.99	94.82	111.00
1	A	140	LEU	CA-CB-CG	5.72	128.46	115.30
2	B	175	ASP	N-CA-C	-5.18	97.02	111.00
5	L	90	PRO	N-CA-C	5.07	125.29	112.10
5	M	90	PRO	N-CA-C	5.05	125.24	112.10

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	B	187	TYR	Sidechain
1	C	35	TYR	Sidechain
2	D	187	TYR	Sidechain

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	1570	0	1508	185	0
1	C	1570	0	1508	200	0
2	B	1853	0	1767	248	0
2	D	1853	0	1767	260	0
3	H	2232	0	2127	270	0
3	I	2232	0	2127	275	0
4	P	76	0	70	15	0
4	Q	76	0	70	17	0
5	L	821	0	798	98	0
5	M	821	0	798	103	0
6	A	1	0	0	0	0
6	B	1	0	0	0	0
6	D	1	0	0	2	0
6	H	1	0	0	1	0
6	I	1	0	0	1	0
6	Q	1	0	0	0	0
All	All	13110	0	12540	1558	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 61.

All (1558) 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:B:153:PHE:CD1	2:B:154:PRO:HD3	1.82	1.14
1:A:146:PHE:HD2	1:A:150:ILE:HD11	1.03	1.14
3:H:138:MET:HA	3:H:141:LEU:HD12	1.31	1.13
3:H:215:LEU:HD21	3:H:261:VAL:HG13	1.33	1.10
2:D:181:GLU:HB3	2:D:189:SER:O	1.52	1.08
2:D:153:PHE:CD1	2:D:154:PRO:HD3	1.87	1.08
2:B:153:PHE:CG	2:B:154:PRO:HD3	1.89	1.07
2:B:181:GLU:HB3	2:B:189:SER:O	1.54	1.07
1:C:146:PHE:CD2	1:C:150:ILE:HD11	1.89	1.07
1:C:146:PHE:HD2	1:C:150:ILE:HD11	0.99	1.05
2:D:153:PHE:CG	2:D:154:PRO:HD3	1.91	1.05
3:I:138:MET:HA	3:I:141:LEU:HD12	1.36	1.04
3:I:215:LEU:HD21	3:I:261:VAL:HG13	1.39	1.01
1:A:146:PHE:CD2	1:A:150:ILE:HD11	1.95	1.00
1:A:168:LEU:HD13	2:B:173:SER:OG	1.62	1.00
3:I:101:CYS:SG	3:I:164:CYS:SG	2.58	0.96
2:D:212:CYS:O	2:D:238:SER:HB3	1.65	0.96
1:A:101:ALA:HA	4:P:4:LYS:HD3	1.45	0.96
1:C:168:LEU:HD13	2:D:173:SER:OG	1.66	0.95
1:A:16:ALA:O	1:A:80:VAL:HG22	1.67	0.95
1:C:101:ALA:HA	4:Q:4:LYS:HD3	1.50	0.94
1:A:19:GLN:HG3	1:A:76:ARG:HH21	1.33	0.93
2:D:46:ILE:HD12	2:D:77:LEU:HD21	1.51	0.93
2:B:144:THR:HG22	2:B:197:ARG:HD2	1.51	0.92
1:A:123:PRO:HB2	1:A:203:ASN:HB2	1.52	0.92
2:B:122:VAL:HB	2:B:153:PHE:CE1	2.05	0.92
3:H:33:PHE:O	3:H:34:VAL:HG13	1.70	0.92
2:D:122:VAL:HA	2:D:153:PHE:CG	2.05	0.92
2:D:122:VAL:HB	2:D:153:PHE:CE1	2.03	0.91
1:A:132:ASP:HB3	1:A:138:SER:HB3	1.53	0.91
1:C:19:GLN:HG3	1:C:76:ARG:HH21	1.34	0.91
2:D:122:VAL:HB	2:D:153:PHE:CZ	2.06	0.91
3:H:267:PRO:O	3:H:268:GLU:HB2	1.71	0.90
2:B:23:CYS:HG	2:B:92:CYS:HG	0.94	0.90
3:H:203:CYS:SG	3:H:259:CYS:SG	2.70	0.89
3:H:209:TYR:HB3	3:H:210:PRO:HD2	1.51	0.89
2:D:123:THR:N	2:D:153:PHE:CD1	2.41	0.89
3:I:267:PRO:O	3:I:268:GLU:HB2	1.71	0.89
5:M:36:GLU:HB2	5:M:83:LYS:HB2	1.55	0.88
5:L:36:GLU:HB2	5:L:83:LYS:HB2	1.56	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:74:PHE:HA	3:I:77:ASP:OD1	1.73	0.88
2:B:122:VAL:HB	2:B:153:PHE:CZ	2.08	0.88
3:H:127:ASN:HD22	3:H:127:ASN:H	1.20	0.87
2:D:123:THR:HB	2:D:151:GLY:O	1.75	0.87
3:H:101:CYS:SG	3:H:164:CYS:SG	2.62	0.87
1:C:19:GLN:HG3	1:C:76:ARG:NH2	1.90	0.86
2:D:144:THR:CG2	2:D:197:ARG:HD2	2.05	0.86
3:I:209:TYR:HB3	3:I:210:PRO:HD2	1.55	0.86
5:L:58:LYS:H	5:L:58:LYS:HD2	1.40	0.86
2:B:123:THR:N	2:B:153:PHE:CD1	2.43	0.86
3:H:74:PHE:HA	3:H:77:ASP:OD1	1.76	0.85
1:A:19:GLN:HG3	1:A:76:ARG:NH2	1.92	0.85
1:A:104:LEU:HD12	2:B:106:LEU:HD12	1.58	0.85
1:C:16:ALA:O	1:C:80:VAL:HG22	1.77	0.85
3:I:33:PHE:O	3:I:34:VAL:HG13	1.77	0.84
3:H:5:LEU:HD12	3:H:168:LEU:HA	1.59	0.84
5:M:64:ILE:HD12	5:M:65:LEU:H	1.41	0.84
2:D:23:CYS:HG	2:D:92:CYS:HG	0.93	0.83
1:A:195:PHE:HB3	1:A:198:THR:HG21	1.61	0.83
2:D:26:THR:O	6:D:248:HOH:O	1.95	0.83
2:D:123:THR:O	2:D:152:PHE:HA	1.77	0.83
1:C:132:ASP:HB3	1:C:138:SER:HB3	1.60	0.83
3:H:191:HIS:CD2	3:H:199:VAL:HG21	2.14	0.82
1:C:123:PRO:HB2	1:C:203:ASN:HB2	1.59	0.82
1:A:10:VAL:HG23	1:A:112:VAL:HG13	1.60	0.82
2:B:212:CYS:O	2:B:238:SER:HB3	1.80	0.81
2:B:123:THR:O	2:B:152:PHE:HA	1.81	0.81
2:B:122:VAL:HA	2:B:153:PHE:CG	2.16	0.81
1:C:75:LEU:HD12	1:C:76:ARG:H	1.46	0.80
5:M:64:ILE:HD12	5:M:65:LEU:N	1.96	0.80
2:B:136:GLU:OE2	2:B:144:THR:HG23	1.82	0.80
3:H:156:LEU:HD22	3:H:160:LEU:HD11	1.63	0.80
5:M:17:ASN:HD21	5:M:97:ARG:NH2	1.77	0.80
2:D:25:GLN:HE22	2:D:29:HIS:H	1.30	0.80
3:I:127:ASN:H	3:I:127:ASN:HD22	1.26	0.80
2:B:122:VAL:HB	2:B:153:PHE:CD1	2.17	0.80
5:M:3:LYS:O	5:M:30:PHE:HA	1.82	0.80
1:A:32:LEU:HD23	1:A:92:VAL:HG12	1.64	0.80
1:C:195:PHE:HB3	1:C:198:THR:HG21	1.62	0.80
2:D:125:PRO:HD3	2:D:216:PHE:CD2	2.16	0.80
3:H:194:ARG:HG3	3:H:195:PRO:HD2	1.64	0.79

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:82:TRP:HA	1:A:114:VAL:HG13	1.63	0.79
3:H:117:ALA:HB2	5:L:60:TRP:CE2	2.17	0.79
1:C:132:ASP:HB2	2:D:130:PHE:CZ	2.18	0.79
2:D:70:PRO:HD2	2:D:74:ASN:O	1.83	0.79
1:C:82:TRP:HA	1:C:114:VAL:HG13	1.64	0.79
1:A:45:LEU:HD12	1:A:46:LEU:H	1.48	0.78
3:H:35:ARG:HE	3:H:48:ARG:NH2	1.81	0.78
5:L:13:HIS:HB3	5:L:14:PRO:HD2	1.64	0.78
3:I:80:THR:HG21	4:Q:8:VAL:O	1.83	0.78
5:M:58:LYS:H	5:M:58:LYS:HD2	1.46	0.78
2:D:147:CYS:HG	2:D:212:CYS:HG	1.29	0.78
2:D:113:ARG:HH11	2:D:156:HIS:HA	1.48	0.78
2:B:122:VAL:HB	2:B:153:PHE:CE2	2.18	0.78
2:D:144:THR:HG23	2:D:197:ARG:HD2	1.64	0.78
5:L:3:LYS:O	5:L:30:PHE:HA	1.83	0.78
3:I:156:LEU:HD22	3:I:160:LEU:HD11	1.65	0.78
3:I:203:CYS:SG	3:I:259:CYS:SG	2.80	0.78
5:M:13:HIS:HB3	5:M:14:PRO:HD2	1.65	0.78
1:A:45:LEU:HD11	1:A:47:LEU:O	1.82	0.78
1:A:140:LEU:HD22	2:B:130:PHE:CD2	2.18	0.78
2:B:113:ARG:HH11	2:B:156:HIS:HA	1.48	0.78
5:L:17:ASN:HD21	5:L:97:ARG:NH2	1.82	0.78
3:I:35:ARG:HE	3:I:48:ARG:HH21	1.31	0.78
2:B:46:ILE:HD12	2:B:77:LEU:HD21	1.66	0.77
1:C:36:VAL:HG22	1:C:44:GLN:HB3	1.66	0.77
1:A:38:TYR:CB	1:A:39:PRO:HD2	2.15	0.77
5:M:5:PRO:HB3	5:M:30:PHE:HB3	1.67	0.77
3:I:194:ARG:HG3	3:I:195:PRO:HD2	1.65	0.77
2:B:125:PRO:HD3	2:B:216:PHE:CD2	2.20	0.77
1:A:68:LYS:O	1:A:70:ASN:N	2.18	0.77
1:C:38:TYR:CB	1:C:39:PRO:HD2	2.14	0.77
2:B:144:THR:CG2	2:B:197:ARG:HD2	2.14	0.77
1:A:28:ALA:O	1:A:30:PRO:HD3	1.85	0.76
2:B:70:PRO:HD2	2:B:74:ASN:O	1.84	0.76
1:C:45:LEU:HD12	1:C:46:LEU:H	1.51	0.76
5:M:99:MET:OXT	5:M:99:MET:SD	2.44	0.76
3:I:35:ARG:HE	3:I:48:ARG:NH2	1.83	0.76
1:C:4:THR:HG22	1:C:6:PRO:HD3	1.67	0.76
3:H:80:THR:HG21	4:P:8:VAL:O	1.85	0.76
1:C:101:ALA:O	1:C:103:ALA:N	2.19	0.75
1:A:179:GLY:HA3	2:B:195:ARG:NH1	2.01	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:181:GLU:CB	2:B:189:SER:O	2.34	0.75
1:C:68:LYS:O	1:C:70:ASN:N	2.18	0.75
1:A:36:VAL:HG22	1:A:44:GLN:HB3	1.69	0.75
3:I:78:LEU:HA	3:I:81:LEU:HD12	1.68	0.75
1:A:146:PHE:HD2	1:A:150:ILE:CD1	1.92	0.75
3:I:72:GLN:HA	3:I:75:ARG:HG3	1.69	0.74
3:H:183:ASP:HB2	3:H:209:TYR:HB2	1.67	0.74
5:L:25:CYS:SG	5:L:80:CYS:SG	2.84	0.74
1:C:45:LEU:HD11	1:C:47:LEU:O	1.87	0.74
3:H:185:PRO:HD3	3:H:263:HIS:CD2	2.23	0.74
3:I:5:LEU:HD12	3:I:168:LEU:HA	1.66	0.74
1:C:10:VAL:HG23	1:C:112:VAL:HG13	1.69	0.74
3:H:35:ARG:HE	3:H:48:ARG:HH21	1.35	0.74
2:D:181:GLU:CB	2:D:189:SER:O	2.34	0.74
3:H:124:ILE:HG13	3:H:135:ALA:HB2	1.69	0.74
5:L:31:HIS:O	5:L:32:PRO:C	2.26	0.73
1:C:11:THR:HG22	1:C:113:ILE:HB	1.70	0.73
1:C:104:LEU:HD12	2:D:106:LEU:HD12	1.67	0.73
1:A:168:LEU:HD11	2:B:171:GLY:C	2.08	0.73
3:I:185:PRO:HD3	3:I:263:HIS:CD2	2.24	0.73
3:I:117:ALA:HB2	5:M:60:TRP:CE2	2.23	0.73
1:C:169:ASP:O	2:D:171:GLY:HA2	1.87	0.73
3:I:183:ASP:HB2	3:I:209:TYR:HB2	1.70	0.73
2:D:162:TRP:HB2	2:D:211:ARG:HB3	1.70	0.73
3:I:195:PRO:O	3:I:196:GLU:HB2	1.87	0.73
3:H:209:TYR:O	3:H:210:PRO:C	2.26	0.73
2:D:71:SER:C	2:D:73:GLU:H	1.92	0.72
5:M:39:MET:HG2	5:M:80:CYS:SG	2.29	0.72
1:C:141:CYS:HB2	1:C:182:ALA:HB3	1.68	0.72
3:H:78:LEU:HA	3:H:81:LEU:HD12	1.71	0.72
2:B:44:ARG:NE	2:B:60:ILE:HD11	2.05	0.72
1:A:183:TRP:HE1	2:B:150:ARG:NH2	1.87	0.72
2:B:122:VAL:HA	2:B:153:PHE:HB3	1.70	0.72
1:A:104:LEU:HB2	2:B:35:TYR:OH	1.89	0.72
3:H:13:SER:HA	3:H:20:PRO:HB3	1.72	0.72
3:H:68:LYS:O	3:H:71:GLU:HB3	1.88	0.72
1:C:136:GLN:NE2	1:C:137:ASP:H	1.87	0.72
2:B:154:PRO:HD2	2:B:216:PHE:CE2	2.23	0.72
1:C:19:GLN:CG	1:C:76:ARG:HH21	2.03	0.72
1:A:22:CYS:H	1:A:74:HIS:CD2	2.08	0.72
2:D:65:TYR:HB3	2:D:77:LEU:HD11	1.71	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:36:VAL:HG13	1:A:46:LEU:HG	1.71	0.71
1:A:82:TRP:HA	1:A:114:VAL:CG1	2.20	0.71
2:D:162:TRP:CH2	2:D:167:GLU:HB2	2.25	0.71
5:L:64:ILE:HD12	5:L:65:LEU:H	1.53	0.71
1:C:28:ALA:O	1:C:30:PRO:HD3	1.90	0.71
2:D:134:LYS:HA	2:D:137:ILE:HD12	1.72	0.71
1:A:129:LYS:HG2	1:A:139:THR:HG22	1.71	0.71
3:H:209:TYR:O	3:H:210:PRO:O	2.08	0.71
2:D:36:ARG:NH1	2:D:65:TYR:OH	2.23	0.71
2:D:225:TRP:NE1	2:D:231:LYS:HA	2.05	0.71
2:B:153:PHE:CG	2:B:154:PRO:CD	2.71	0.71
3:H:209:TYR:HB3	3:H:210:PRO:CD	2.20	0.71
2:D:25:GLN:HE22	2:D:29:HIS:N	1.86	0.71
2:D:154:PRO:HD2	2:D:216:PHE:CE2	2.25	0.71
1:C:82:TRP:HA	1:C:114:VAL:CG1	2.20	0.71
4:Q:2:GLN:HG3	4:Q:3:TYR:H	1.54	0.71
5:L:64:ILE:HD12	5:L:65:LEU:N	2.05	0.71
3:I:130:LEU:O	3:I:157:ARG:HD3	1.90	0.71
3:H:195:PRO:O	3:H:196:GLU:HB2	1.88	0.71
2:B:65:TYR:HB3	2:B:77:LEU:HD11	1.70	0.71
2:D:153:PHE:CG	2:D:154:PRO:CD	2.73	0.71
3:H:123:TYR:OH	3:H:140:ALA:HA	1.91	0.71
1:C:162:ILE:HG22	1:C:182:ALA:HB2	1.72	0.71
4:P:2:GLN:HG3	4:P:3:TYR:H	1.54	0.70
3:I:144:LYS:O	3:I:148:GLU:HG2	1.91	0.70
5:M:21:ASN:O	5:M:22:ILE:HD12	1.91	0.70
5:M:31:HIS:O	5:M:32:PRO:C	2.27	0.70
2:B:134:LYS:HA	2:B:137:ILE:HD12	1.73	0.70
1:A:101:ALA:O	1:A:103:ALA:N	2.24	0.70
5:L:23:LEU:HD22	5:L:70:PHE:CE2	2.26	0.70
3:H:127:ASN:HD22	3:H:127:ASN:N	1.90	0.70
1:A:19:GLN:CG	1:A:76:ARG:HH21	2.05	0.70
2:B:125:PRO:O	2:B:237:ILE:HD12	1.92	0.70
5:L:31:HIS:HB3	5:L:32:PRO:CD	2.21	0.70
2:D:44:ARG:NE	2:D:60:ILE:HD11	2.07	0.70
5:M:76:ASP:O	5:M:77:THR:HG23	1.91	0.70
1:C:121:PRO:C	1:C:123:PRO:HD3	2.13	0.70
2:D:225:TRP:CE2	2:D:232:PRO:HD3	2.26	0.70
5:M:31:HIS:HB3	5:M:32:PRO:CD	2.21	0.70
3:H:251:LEU:HD12	3:H:252:GLY:H	1.57	0.70
1:A:54:PRO:O	1:A:65:GLU:HA	1.91	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:36:VAL:CG2	1:A:44:GLN:HB3	2.22	0.69
3:H:117:ALA:HB2	5:L:60:TRP:CZ2	2.27	0.69
3:H:185:PRO:HD3	3:H:263:HIS:HD2	1.56	0.69
3:I:147:TRP:CE3	3:I:152:GLU:HG2	2.27	0.69
3:H:255:GLN:O	3:H:273:ARG:HD3	1.92	0.69
3:I:126:LEU:HD12	3:I:132:THR:O	1.92	0.69
3:I:209:TYR:O	3:I:210:PRO:C	2.30	0.69
1:A:162:ILE:HG22	1:A:182:ALA:HB2	1.74	0.69
5:L:5:PRO:HB3	5:L:30:PHE:HB3	1.73	0.69
1:A:11:THR:HG22	1:A:113:ILE:HB	1.73	0.69
2:B:162:TRP:HB2	2:B:211:ARG:HB3	1.73	0.69
1:C:102:SER:O	2:D:33:TYR:OH	2.08	0.69
4:Q:2:GLN:HG3	4:Q:3:TYR:N	2.07	0.69
3:H:72:GLN:HA	3:H:75:ARG:HG3	1.73	0.69
2:D:25:GLN:NE2	2:D:29:HIS:H	1.90	0.69
3:I:124:ILE:HG13	3:I:135:ALA:HB2	1.74	0.69
5:M:31:HIS:HB3	5:M:32:PRO:HD3	1.75	0.69
3:H:10:THR:HG1	5:L:56:PHE:HE2	1.40	0.69
4:P:2:GLN:HG3	4:P:3:TYR:N	2.07	0.69
5:L:39:MET:HG2	5:L:80:CYS:SG	2.32	0.69
1:C:100:PHE:O	1:C:101:ALA:HB3	1.93	0.69
3:I:191:HIS:CD2	3:I:199:VAL:HG21	2.28	0.69
1:A:100:PHE:O	1:A:101:ALA:HB3	1.93	0.69
1:C:14:GLU:HA	1:C:114:VAL:CG2	2.23	0.69
1:C:170:MET:HE3	2:D:197:ARG:HG2	1.74	0.69
3:I:262:TYR:HD1	3:I:269:PRO:HB3	1.58	0.69
5:L:31:HIS:HB3	5:L:32:PRO:HD3	1.75	0.68
2:B:135:ALA:O	2:B:139:ASN:HB3	1.91	0.68
2:D:135:ALA:O	2:D:139:ASN:HB3	1.94	0.68
5:M:50:GLU:HB2	5:M:67:HIS:O	1.93	0.68
3:H:8:PHE:HB3	5:L:56:PHE:CE1	2.28	0.68
2:D:145:LEU:HD12	2:D:196:LEU:HD23	1.75	0.68
2:D:209:HIS:NE2	2:D:240:GLU:OE1	2.26	0.68
3:I:8:PHE:HB3	5:M:56:PHE:CE1	2.28	0.68
3:I:147:TRP:HE3	3:I:152:GLU:CG	2.05	0.68
3:H:262:TYR:HD1	3:H:269:PRO:HB3	1.58	0.68
5:M:40:LEU:HD22	5:M:45:LYS:HD3	1.76	0.68
2:B:71:SER:C	2:B:73:GLU:H	1.95	0.68
3:I:26:GLY:N	3:I:34:VAL:O	2.23	0.68
3:I:203:CYS:CB	3:I:259:CYS:HG	2.06	0.68
1:A:134:ARG:HH22	2:B:240:GLU:HB3	1.59	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:68:LYS:O	3:I:71:GLU:HB3	1.94	0.68
1:A:38:TYR:HB3	1:A:39:PRO:HD2	1.74	0.68
2:B:122:VAL:O	2:B:123:THR:HG23	1.94	0.68
3:I:5:LEU:HD11	3:I:171:TYR:CE2	2.29	0.68
3:H:26:GLY:N	3:H:34:VAL:O	2.26	0.68
1:A:121:PRO:C	1:A:123:PRO:HD3	2.13	0.68
5:L:76:ASP:O	5:L:77:THR:HG23	1.93	0.68
2:B:135:ALA:O	2:B:139:ASN:CB	2.41	0.67
2:B:122:VAL:HB	2:B:153:PHE:CD2	2.29	0.67
3:H:129:ASP:O	3:H:130:LEU:HB2	1.95	0.67
2:B:31:ASN:HB2	2:B:95:GLY:O	1.94	0.67
2:B:36:ARG:HH22	2:B:86:GLN:HA	1.59	0.67
2:B:122:VAL:HA	2:B:153:PHE:CB	2.24	0.67
3:H:85:TYR:O	3:H:86:ASN:ND2	2.27	0.67
1:C:101:ALA:H	4:Q:4:LYS:NZ	1.93	0.67
3:H:136:ALA:O	3:H:140:ALA:HB3	1.95	0.67
1:C:54:PRO:O	1:C:65:GLU:HA	1.94	0.67
1:A:132:ASP:HB3	1:A:138:SER:CB	2.24	0.67
1:C:146:PHE:CE1	1:C:179:GLY:HA2	2.29	0.67
2:D:34:TRP:HB3	2:D:77:LEU:HD22	1.75	0.67
3:I:63:GLU:OE2	4:Q:1:GLU:HG2	1.95	0.67
5:M:12:ARG:HB3	5:M:13:HIS:ND1	2.10	0.67
5:M:23:LEU:HD22	5:M:70:PHE:CE2	2.29	0.67
5:L:56:PHE:CD1	5:L:56:PHE:N	2.62	0.67
3:I:251:LEU:HD12	3:I:252:GLY:H	1.59	0.67
2:B:38:ASP:OD2	2:B:88:SER:HB2	1.95	0.66
1:C:36:VAL:CG2	1:C:44:GLN:HB3	2.25	0.66
1:C:170:MET:HE1	2:D:142:LYS:HD2	1.78	0.66
2:D:31:ASN:HB2	2:D:95:GLY:O	1.94	0.66
3:H:126:LEU:HD12	3:H:132:THR:O	1.94	0.66
3:I:13:SER:HA	3:I:20:PRO:HB3	1.77	0.66
3:I:255:GLN:O	3:I:273:ARG:HD3	1.95	0.66
5:M:6:GLN:HG2	5:M:29:GLN:HB2	1.78	0.66
1:A:128:LEU:HB3	2:B:131:GLU:O	1.95	0.66
2:D:38:ASP:OD2	2:D:88:SER:HB2	1.96	0.66
3:I:185:PRO:HD3	3:I:263:HIS:HD2	1.58	0.66
2:B:25:GLN:HE22	2:B:29:HIS:N	1.94	0.66
2:B:113:ARG:NH1	2:B:156:HIS:HA	2.11	0.66
3:I:24:GLU:HG3	3:I:45:TYR:OH	1.96	0.66
3:I:127:ASN:HD22	3:I:127:ASN:N	1.93	0.66
1:A:14:GLU:HA	1:A:114:VAL:CG2	2.26	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:123:THR:HB	2:B:151:GLY:O	1.96	0.66
3:H:130:LEU:O	3:H:157:ARG:HD3	1.95	0.66
1:C:38:TYR:HB3	1:C:39:PRO:HD2	1.74	0.66
2:D:122:VAL:HG21	2:D:232:PRO:CG	2.26	0.66
5:L:35:ILE:HD12	5:L:84:HIS:HD2	1.61	0.66
2:D:140:LYS:HA	2:D:141:GLN:NE2	2.10	0.66
5:M:41:LYS:O	5:M:42:ASN:HB2	1.96	0.66
2:B:153:PHE:CE1	2:B:216:PHE:HZ	2.14	0.66
2:D:122:VAL:HA	2:D:153:PHE:CB	2.26	0.66
1:A:169:ASP:O	2:B:171:GLY:HA2	1.96	0.65
2:D:2:ALA:HB1	2:D:27:ASN:OD1	1.96	0.65
1:A:179:GLY:CA	2:B:195:ARG:HH12	2.09	0.65
1:C:36:VAL:HG12	1:C:88:TYR:CD1	2.31	0.65
3:I:35:ARG:NE	3:I:48:ARG:HH21	1.94	0.65
5:M:79:ALA:HB1	5:M:93:VAL:O	1.96	0.65
1:A:100:PHE:O	1:A:101:ALA:CB	2.44	0.65
1:C:100:PHE:O	1:C:101:ALA:CB	2.45	0.65
3:I:85:TYR:O	3:I:86:ASN:ND2	2.29	0.65
3:H:35:ARG:NE	3:H:48:ARG:HH21	1.94	0.65
2:D:52:ALA:HA	2:D:69:ARG:HG3	1.77	0.65
2:D:153:PHE:HD1	2:D:153:PHE:H	1.45	0.65
1:C:26:TYR:CE2	1:C:28:ALA:HB3	2.32	0.65
1:A:24:TYR:CE2	1:A:71:SER:HB3	2.32	0.65
5:L:6:GLN:HG2	5:L:29:GLN:HB2	1.78	0.65
3:I:5:LEU:HB3	3:I:164:CYS:SG	2.36	0.65
3:I:70:ASN:HA	3:I:73:SER:CB	2.26	0.65
2:B:122:VAL:HB	2:B:153:PHE:CG	2.31	0.65
5:L:50:GLU:HB3	5:L:67:HIS:CE1	2.32	0.65
3:I:123:TYR:OH	3:I:140:ALA:HA	1.97	0.65
5:M:17:ASN:ND2	5:M:97:ARG:NH2	2.45	0.65
1:C:36:VAL:HG13	1:C:46:LEU:HG	1.79	0.65
5:L:50:GLU:HB2	5:L:67:HIS:O	1.96	0.65
1:A:179:GLY:CA	2:B:195:ARG:NH1	2.59	0.65
3:H:89:LYS:HG3	3:H:90:GLY:N	2.11	0.65
3:I:176:ASN:O	3:I:179:LEU:N	2.30	0.65
3:H:147:TRP:CE3	3:H:152:GLU:HG2	2.31	0.64
3:H:203:CYS:HB2	3:H:217:TRP:CZ2	2.32	0.64
5:M:50:GLU:HB3	5:M:67:HIS:CE1	2.32	0.64
3:H:176:ASN:O	3:H:179:LEU:N	2.30	0.64
2:D:146:VAL:HA	2:D:194:SER:O	1.96	0.64
3:H:5:LEU:HD11	3:H:171:TYR:CE2	2.33	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:144:THR:HG22	2:D:197:ARG:HD2	1.77	0.64
3:I:147:TRP:HE3	3:I:152:GLU:HG2	1.62	0.64
3:H:35:ARG:HG2	3:H:48:ARG:HE	1.61	0.64
5:L:41:LYS:O	5:L:42:ASN:HB2	1.96	0.64
2:D:127:VAL:HG11	2:D:214:VAL:HG21	1.78	0.64
5:M:56:PHE:N	5:M:56:PHE:CD1	2.64	0.64
2:B:131:GLU:HB3	2:B:132:PRO:HD2	1.79	0.64
2:D:36:ARG:HH22	2:D:86:GLN:HA	1.62	0.64
1:A:36:VAL:HG12	1:A:88:TYR:CD1	2.32	0.64
1:A:168:LEU:HD11	2:B:172:VAL:N	2.12	0.64
3:I:47:PRO:HB3	3:I:60:TRP:CH2	2.33	0.64
3:H:133:TRP:HH2	3:H:156:LEU:HD12	1.61	0.64
1:C:183:TRP:HH2	2:D:191:CYS:HG	1.42	0.64
2:D:90:TYR:CZ	2:D:114:LEU:HD23	2.33	0.64
2:D:225:TRP:CD1	2:D:231:LYS:HG3	2.33	0.64
2:B:35:TYR:HA	2:B:44:ARG:O	1.97	0.64
3:H:5:LEU:HD11	3:H:171:TYR:CD2	2.33	0.64
2:B:122:VAL:HG21	2:B:232:PRO:CG	2.28	0.63
3:H:97:VAL:HG12	3:H:116:TYR:HA	1.80	0.63
5:L:21:ASN:O	5:L:22:ILE:HD12	1.98	0.63
1:C:170:MET:HE2	2:D:197:ARG:O	1.98	0.63
1:C:186:GLN:O	1:C:187:THR:O	2.16	0.63
3:H:104:GLY:HA3	3:H:110:LEU:HD11	1.80	0.63
5:L:31:HIS:O	5:L:33:PRO:N	2.31	0.63
2:B:182:SER:C	2:B:187:TYR:N	2.51	0.63
3:H:147:TRP:HE3	3:H:152:GLU:CG	2.10	0.63
5:L:99:MET:SD	5:L:99:MET:OXT	2.57	0.63
2:D:153:PHE:CE1	2:D:216:PHE:HZ	2.16	0.63
1:A:146:PHE:CE1	1:A:179:GLY:HA2	2.33	0.63
3:H:5:LEU:HB3	3:H:164:CYS:SG	2.39	0.63
2:D:25:GLN:OE1	2:D:94:SER:CB	2.47	0.63
3:H:201:LEU:O	3:H:246:SER:HB2	1.98	0.63
5:L:6:GLN:O	5:L:27:VAL:HA	1.99	0.63
1:C:179:GLY:HA3	2:D:195:ARG:NH1	2.13	0.63
2:D:122:VAL:HA	2:D:153:PHE:HB3	1.79	0.63
3:I:35:ARG:HG2	3:I:48:ARG:HE	1.63	0.63
3:I:129:ASP:O	3:I:130:LEU:HB2	1.99	0.63
3:H:216:THR:HG22	3:H:225:ILE:HG23	1.81	0.63
5:M:17:ASN:ND2	5:M:97:ARG:HH21	1.96	0.63
3:H:144:LYS:O	3:H:148:GLU:HG2	1.99	0.63
2:D:153:PHE:CB	2:D:187:TYR:HE2	2.11	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:168:LEU:HD12	1:C:169:ASP:H	1.64	0.63
3:I:236:ALA:HB3	3:I:240:THR:O	1.99	0.63
5:L:12:ARG:HB3	5:L:13:HIS:ND1	2.14	0.62
2:D:122:VAL:HB	2:D:153:PHE:CD1	2.33	0.62
3:I:57:PRO:HA	3:I:60:TRP:HD1	1.64	0.62
3:I:209:TYR:HB3	3:I:210:PRO:CD	2.27	0.62
1:A:32:LEU:CD2	1:A:92:VAL:HG12	2.29	0.62
1:A:141:CYS:SG	1:A:191:CYS:SG	2.94	0.62
2:B:25:GLN:OE1	2:B:94:SER:CB	2.47	0.62
2:B:143:ALA:N	2:B:198:VAL:O	2.33	0.62
3:H:127:ASN:H	3:H:127:ASN:ND2	1.94	0.62
1:C:132:ASP:HB2	2:D:130:PHE:CE1	2.33	0.62
2:D:35:TYR:HA	2:D:44:ARG:O	1.98	0.62
3:I:97:VAL:HG12	3:I:116:TYR:HA	1.81	0.62
5:M:6:GLN:O	5:M:27:VAL:HA	1.99	0.62
1:A:101:ALA:H	4:P:4:LYS:NZ	1.98	0.62
1:A:45:LEU:HD12	1:A:46:LEU:N	2.14	0.62
3:H:70:ASN:HA	3:H:73:SER:CB	2.30	0.62
2:D:135:ALA:O	2:D:139:ASN:CB	2.48	0.62
2:D:147:CYS:SG	2:D:212:CYS:SG	2.90	0.62
2:D:180:LYS:HE2	2:D:181:GLU:O	1.99	0.62
2:B:2:ALA:HB1	2:B:27:ASN:OD1	1.99	0.62
2:B:12:VAL:HG21	2:B:218:GLY:HA2	1.82	0.62
1:C:170:MET:CE	2:D:142:LYS:HD2	2.29	0.62
2:D:182:SER:C	2:D:187:TYR:N	2.51	0.62
1:A:186:GLN:O	1:A:187:THR:O	2.18	0.62
3:H:138:MET:CA	3:H:141:LEU:HD12	2.20	0.62
3:H:203:CYS:HG	3:H:259:CYS:CB	2.11	0.62
2:D:26:THR:HB	6:D:248:HOH:O	2.00	0.62
4:Q:2:GLN:CG	4:Q:3:TYR:N	2.62	0.62
3:H:45:TYR:HE1	3:H:67:ALA:HB2	1.64	0.62
1:A:149:GLN:O	1:A:150:ILE:HG23	2.00	0.62
3:H:238:ASP:OD1	3:H:240:THR:HG23	1.98	0.62
5:L:17:ASN:ND2	5:L:97:ARG:HH21	1.98	0.62
1:C:19:GLN:OE1	1:C:76:ARG:NH2	2.32	0.62
3:I:209:TYR:O	3:I:210:PRO:O	2.17	0.62
2:B:90:TYR:CZ	2:B:114:LEU:HD23	2.34	0.62
3:H:28:VAL:O	3:H:29:ASP:HB2	2.00	0.62
3:H:168:LEU:HD12	3:H:168:LEU:O	2.00	0.62
3:H:191:HIS:NE2	3:H:199:VAL:HG21	2.15	0.62
5:L:1:ILE:O	5:L:31:HIS:HB3	2.00	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:219:LEU:CD1	2:D:232:PRO:HD2	2.30	0.62
3:I:104:GLY:N	3:I:110:LEU:HD11	2.15	0.62
5:M:1:ILE:O	5:M:31:HIS:HB3	2.00	0.62
2:D:50:TYR:N	2:D:54:SER:OG	2.28	0.61
3:I:9:VAL:HB	3:I:97:VAL:CG2	2.30	0.61
1:A:26:TYR:CE2	1:A:28:ALA:HB3	2.34	0.61
2:B:25:GLN:HE22	2:B:29:HIS:H	1.46	0.61
3:H:203:CYS:CB	3:H:259:CYS:HG	2.13	0.61
5:M:31:HIS:O	5:M:33:PRO:N	2.33	0.61
1:A:191:CYS:HA	1:A:194:ILE:HG22	1.82	0.61
2:B:34:TRP:HB3	2:B:77:LEU:HD22	1.80	0.61
3:I:70:ASN:HA	3:I:73:SER:HB3	1.81	0.61
5:M:25:CYS:SG	5:M:80:CYS:SG	2.96	0.61
2:B:25:GLN:OE1	2:B:94:SER:HB3	2.01	0.61
2:D:12:VAL:HG21	2:D:218:GLY:HA2	1.83	0.61
3:I:28:VAL:O	3:I:29:ASP:HB2	1.99	0.61
5:M:92:THR:HG22	5:M:93:VAL:N	2.14	0.61
2:B:154:PRO:HD2	2:B:216:PHE:HE2	1.63	0.61
1:C:117:TYR:OH	1:C:119:GLN:HG2	2.00	0.61
2:D:131:GLU:HB3	2:D:132:PRO:HD2	1.82	0.61
3:I:81:LEU:HD11	3:I:95:ILE:HD12	1.83	0.61
3:H:5:LEU:HD12	3:H:168:LEU:CA	2.28	0.61
1:C:19:GLN:HG3	1:C:76:ARG:CZ	2.31	0.61
2:B:23:CYS:SG	2:B:92:CYS:SG	2.72	0.61
3:H:215:LEU:CD2	3:H:261:VAL:HG13	2.22	0.61
2:B:25:GLN:HG3	2:B:26:THR:N	2.14	0.61
5:L:79:ALA:HB1	5:L:93:VAL:O	2.01	0.61
3:I:191:HIS:CE1	3:I:199:VAL:HG21	2.36	0.61
3:I:238:ASP:OD1	3:I:240:THR:HG23	2.01	0.61
5:M:97:ARG:O	5:M:99:MET:N	2.33	0.61
2:D:143:ALA:N	2:D:198:VAL:O	2.34	0.61
5:M:87:MET:HE1	5:M:91:LYS:HB3	1.82	0.61
2:B:163:VAL:HG23	2:B:168:VAL:HG21	1.83	0.60
3:H:143:THR:CG2	3:H:147:TRP:HE1	2.14	0.60
2:D:153:PHE:CE2	2:D:154:PRO:HG3	2.36	0.60
2:D:213:GLN:HG2	2:D:236:ASN:OD1	2.00	0.60
3:I:89:LYS:HG3	3:I:90:GLY:N	2.16	0.60
2:B:204:HIS:HA	2:B:244:ARG:O	2.00	0.60
1:C:129:LYS:HG2	1:C:139:THR:HG22	1.82	0.60
2:D:25:GLN:HE21	2:D:28:ASN:N	1.99	0.60
2:D:27:ASN:HB3	2:D:29:HIS:CD2	2.36	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:136:GLN:NE2	1:A:137:ASP:H	1.99	0.60
1:A:181:ILE:HD11	2:B:146:VAL:HB	1.83	0.60
2:B:9:ARG:CZ	2:B:110:ALA:HB1	2.31	0.60
2:B:20:THR:OG1	2:B:78:ILE:HG23	2.01	0.60
2:B:27:ASN:HB3	2:B:29:HIS:CD2	2.37	0.60
1:C:146:PHE:HB2	1:C:150:ILE:CD1	2.32	0.60
2:D:154:PRO:C	2:D:156:HIS:H	2.04	0.60
3:I:191:HIS:NE2	3:I:199:VAL:HG21	2.16	0.60
1:A:147:ASP:O	1:A:148:SER:C	2.39	0.60
2:B:50:TYR:N	2:B:54:SER:OG	2.28	0.60
4:P:2:GLN:CG	4:P:3:TYR:N	2.63	0.60
1:C:104:LEU:HB2	2:D:35:TYR:OH	2.01	0.60
3:H:203:CYS:SG	3:H:259:CYS:CB	2.90	0.60
3:H:209:TYR:CB	3:H:210:PRO:CD	2.80	0.60
1:C:22:CYS:H	1:C:74:HIS:CD2	2.20	0.60
3:H:203:CYS:SG	3:H:259:CYS:HB3	2.42	0.60
5:L:35:ILE:HD12	5:L:84:HIS:CD2	2.37	0.60
3:I:216:THR:HG22	3:I:225:ILE:HG23	1.84	0.60
1:A:85:SER:OG	1:A:114:VAL:HG12	2.02	0.60
3:H:126:LEU:HD22	3:H:156:LEU:HD13	1.84	0.60
1:C:179:GLY:HA3	2:D:195:ARG:HH12	1.67	0.60
3:I:170:ARG:O	3:I:173:LYS:HB3	2.02	0.59
3:I:202:ARG:HA	3:I:246:SER:HB3	1.84	0.59
2:D:154:PRO:HD2	2:D:216:PHE:HE2	1.65	0.59
3:I:201:LEU:O	3:I:246:SER:HB2	2.00	0.59
1:C:190:THR:O	1:C:193:ASP:N	2.35	0.59
2:D:20:THR:OG1	2:D:78:ILE:HG23	2.02	0.59
3:I:12:VAL:HG21	5:M:34:HIS:CE1	2.38	0.59
2:B:44:ARG:CZ	2:B:60:ILE:HD11	2.32	0.59
5:L:92:THR:HG22	5:L:93:VAL:N	2.17	0.59
2:D:219:LEU:HD11	2:D:232:PRO:HD2	1.84	0.59
1:C:132:ASP:HB3	1:C:138:SER:CB	2.29	0.59
2:B:18:LYS:HA	2:B:79:LEU:O	2.01	0.59
2:B:36:ARG:NH1	2:B:65:TYR:OH	2.36	0.59
1:A:190:THR:O	1:A:193:ASP:N	2.36	0.59
3:H:33:PHE:O	3:H:34:VAL:CG1	2.49	0.59
3:H:33:PHE:CG	3:H:34:VAL:HG22	2.38	0.59
3:I:143:THR:O	3:I:146:LYS:HB2	2.01	0.59
3:I:168:LEU:O	3:I:168:LEU:HD12	2.02	0.59
1:A:115:LEU:HD23	1:A:115:LEU:H	1.68	0.59
2:B:153:PHE:CB	2:B:187:TYR:HE2	2.14	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:24:TYR:CE2	1:C:71:SER:HB3	2.37	0.59
2:D:9:ARG:CZ	2:D:110:ALA:HB1	2.32	0.59
2:D:25:GLN:NE2	2:D:29:HIS:N	2.49	0.59
2:D:122:VAL:HB	2:D:153:PHE:CE2	2.36	0.59
1:A:147:ASP:O	1:A:150:ILE:HD13	2.03	0.59
1:C:195:PHE:HB3	1:C:198:THR:CG2	2.32	0.59
1:C:19:GLN:CG	1:C:76:ARG:NH2	2.63	0.58
2:D:23:CYS:SG	2:D:92:CYS:SG	2.77	0.58
2:B:122:VAL:HG23	2:B:123:THR:N	2.18	0.58
3:I:62:ARG:O	3:I:65:GLN:HB2	2.02	0.58
3:H:44:ARG:HA	3:H:64:THR:HG23	1.84	0.58
1:C:45:LEU:HD12	1:C:46:LEU:N	2.17	0.58
1:C:174:ASP:O	1:C:175:SER:OG	2.21	0.58
3:I:9:VAL:HB	3:I:97:VAL:HG22	1.85	0.58
3:I:104:GLY:HA3	3:I:110:LEU:HD11	1.84	0.58
1:A:129:LYS:O	1:A:133:PRO:HD3	2.04	0.58
2:B:153:PHE:HD1	2:B:153:PHE:H	1.52	0.58
2:B:23:CYS:CB	2:B:92:CYS:HG	2.17	0.58
3:H:79:ARG:HA	3:H:82:LEU:HD12	1.85	0.58
5:L:5:PRO:HA	5:L:28:THR:O	2.03	0.58
3:I:136:ALA:O	3:I:140:ALA:HB3	2.03	0.58
5:M:25:CYS:HB3	5:M:66:ALA:HB3	1.85	0.58
1:A:141:CYS:HB3	1:A:191:CYS:HB3	1.85	0.58
3:H:147:TRP:HE3	3:H:152:GLU:HG2	1.68	0.58
3:I:5:LEU:HD12	3:I:168:LEU:CA	2.33	0.58
1:C:162:ILE:O	1:C:162:ILE:HD12	2.04	0.58
2:D:66:LYS:NZ	2:D:80:GLU:OE2	2.33	0.58
3:H:127:ASN:N	3:H:127:ASN:ND2	2.51	0.58
2:D:88:SER:HB3	2:D:90:TYR:HE1	1.68	0.58
2:D:143:ALA:O	2:D:197:ARG:HA	2.04	0.58
2:D:156:HIS:HB3	2:D:217:HIS:HB2	1.85	0.58
1:A:146:PHE:CD2	1:A:150:ILE:CD1	2.77	0.57
3:I:45:TYR:HE2	3:I:67:ALA:HB2	1.69	0.57
3:I:143:THR:CG2	3:I:147:TRP:HE1	2.17	0.57
1:A:75:LEU:HD12	1:A:76:ARG:H	1.69	0.57
2:B:209:HIS:NE2	2:B:240:GLU:HG3	2.19	0.57
1:C:27:SER:HB2	3:I:58:GLU:OE1	2.02	0.57
3:I:143:THR:CG2	4:Q:8:VAL:HG13	2.34	0.57
1:A:117:TYR:OH	1:A:119:GLN:HG2	2.04	0.57
1:A:50:TYR:CE2	3:H:155:ARG:HG3	2.40	0.57
3:H:60:TRP:O	3:H:64:THR:OG1	2.20	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:71:SER:C	2:D:73:GLU:N	2.57	0.57
1:C:168:LEU:HD13	2:D:173:SER:CB	2.34	0.57
2:D:18:LYS:HA	2:D:79:LEU:O	2.04	0.57
3:I:5:LEU:HD11	3:I:171:TYR:CD2	2.39	0.57
1:A:115:LEU:H	1:A:115:LEU:CD2	2.14	0.57
1:A:133:PRO:HG2	2:B:131:GLU:HG3	1.87	0.57
2:B:29:HIS:HB2	2:B:94:SER:HB2	1.86	0.57
2:B:105:THR:HG23	2:B:105:THR:O	2.05	0.57
2:B:182:SER:C	2:B:187:TYR:H	2.05	0.57
3:H:85:TYR:C	3:H:86:ASN:ND2	2.58	0.57
3:H:202:ARG:HA	3:H:246:SER:HB3	1.86	0.57
1:C:121:PRO:O	1:C:123:PRO:HD3	2.05	0.57
1:C:147:ASP:O	1:C:150:ILE:HD13	2.04	0.57
2:D:150:ARG:O	2:D:152:PHE:HD1	1.88	0.57
2:D:46:ILE:CD1	2:D:77:LEU:HD21	2.30	0.57
3:I:187:ALA:HA	3:I:204:TRP:O	2.05	0.57
2:B:154:PRO:C	2:B:156:HIS:H	2.08	0.57
3:I:185:PRO:CA	3:I:208:PHE:HB3	2.35	0.57
5:M:1:ILE:HG12	5:M:2:GLN:OE1	2.04	0.57
5:M:5:PRO:CB	5:M:30:PHE:HB3	2.34	0.57
2:B:25:GLN:NE2	2:B:29:HIS:H	2.01	0.57
3:H:81:LEU:HD11	3:H:95:ILE:CD1	2.35	0.57
5:L:21:ASN:C	5:L:22:ILE:HD12	2.24	0.57
2:D:23:CYS:CB	2:D:92:CYS:HG	2.18	0.57
2:D:44:ARG:CZ	2:D:60:ILE:HD11	2.35	0.57
3:I:244:TRP:HE3	3:I:244:TRP:C	2.08	0.57
1:A:19:GLN:HG3	1:A:76:ARG:CZ	2.35	0.56
1:A:195:PHE:HB3	1:A:198:THR:CG2	2.33	0.56
3:H:159:TYR:HD1	3:H:163:THR:HB	1.70	0.56
1:C:68:LYS:O	1:C:69:SER:C	2.44	0.56
1:C:147:ASP:O	1:C:148:SER:C	2.44	0.56
2:D:209:HIS:NE2	2:D:240:GLU:HG3	2.20	0.56
2:D:213:GLN:CG	2:D:236:ASN:OD1	2.53	0.56
2:B:163:VAL:O	2:B:165:GLY:N	2.38	0.56
2:D:153:PHE:CE1	2:D:154:PRO:HD3	2.39	0.56
2:D:219:LEU:HG	2:D:232:PRO:O	2.04	0.56
1:A:36:VAL:HG12	1:A:88:TYR:CE1	2.40	0.56
2:B:32:MET:HG2	2:B:75:PHE:HB2	1.88	0.56
2:B:153:PHE:CE1	2:B:216:PHE:CZ	2.93	0.56
2:B:159:LEU:HD11	2:B:212:CYS:SG	2.45	0.56
2:B:162:TRP:CH2	2:B:167:GLU:HB2	2.41	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:103:VAL:HG11	3:H:165:VAL:HG13	1.86	0.56
3:H:187:ALA:HA	3:H:204:TRP:O	2.06	0.56
3:H:218:GLN:HG2	3:H:222:GLU:O	2.06	0.56
1:C:104:LEU:HD12	2:D:106:LEU:CD1	2.35	0.56
1:C:183:TRP:HH2	2:D:191:CYS:SG	2.28	0.56
2:D:25:GLN:OE1	2:D:94:SER:HB3	2.04	0.56
2:B:46:ILE:CD1	2:B:77:LEU:HD21	2.34	0.56
1:C:75:LEU:CD1	1:C:76:ARG:H	2.17	0.56
1:C:36:VAL:HG12	1:C:88:TYR:CE1	2.40	0.56
1:A:141:CYS:HB2	1:A:182:ALA:HB3	1.86	0.56
2:B:52:ALA:HA	2:B:69:ARG:HG3	1.87	0.56
2:B:208:ASN:OD1	2:B:208:ASN:O	2.23	0.56
3:H:70:ASN:HA	3:H:73:SER:HB3	1.86	0.56
3:H:251:LEU:HD12	3:H:252:GLY:N	2.20	0.56
5:L:87:MET:HE2	5:L:91:LYS:HB3	1.86	0.56
2:D:145:LEU:CD1	2:D:196:LEU:HD23	2.35	0.56
2:D:159:LEU:HD11	2:D:212:CYS:SG	2.46	0.56
3:I:133:TRP:HH2	3:I:156:LEU:HD12	1.70	0.56
3:H:57:PRO:HA	3:H:60:TRP:HD1	1.69	0.56
3:H:143:THR:O	3:H:146:LYS:HB2	2.06	0.56
3:I:44:ARG:HA	3:I:64:THR:HG23	1.87	0.56
3:I:127:ASN:H	3:I:127:ASN:ND2	2.00	0.56
1:A:144:THR:HG22	1:A:145:ASP:N	2.21	0.56
2:B:66:LYS:NZ	2:B:80:GLU:OE2	2.34	0.56
1:C:156:MET:SD	1:C:157:GLU:HG3	2.45	0.56
2:D:29:HIS:HB2	2:D:94:SER:HB2	1.86	0.56
1:A:4:THR:HG22	1:A:6:PRO:HD3	1.87	0.56
2:B:71:SER:C	2:B:73:GLU:N	2.59	0.56
2:B:81:LEU:O	2:B:81:LEU:HG	2.06	0.56
5:L:1:ILE:HG12	5:L:2:GLN:OE1	2.06	0.56
3:I:23:MET:HB2	3:I:36:PHE:O	2.06	0.56
3:I:244:TRP:C	3:I:244:TRP:CE3	2.79	0.56
2:B:153:PHE:CE2	2:B:154:PRO:HG3	2.40	0.55
1:C:31:TYR:O	1:C:92:VAL:HA	2.05	0.55
1:C:141:CYS:HB3	1:C:191:CYS:HB3	1.87	0.55
2:D:162:TRP:CZ3	2:D:167:GLU:N	2.74	0.55
5:M:5:PRO:HA	5:M:28:THR:O	2.05	0.55
5:M:13:HIS:HB2	5:M:21:ASN:HD21	1.71	0.55
2:B:122:VAL:CA	2:B:153:PHE:CG	2.86	0.55
5:L:25:CYS:SG	5:L:80:CYS:CB	2.94	0.55
5:L:97:ARG:O	5:L:99:MET:N	2.38	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:34:TRP:O	2:D:46:ILE:HB	2.06	0.55
2:D:46:ILE:HG22	2:D:47:HIS:N	2.21	0.55
3:I:79:ARG:HA	3:I:82:LEU:HD12	1.88	0.55
3:I:209:TYR:CB	3:I:210:PRO:CD	2.84	0.55
1:A:56:VAL:O	1:A:63:GLU:HB2	2.05	0.55
3:H:45:TYR:CE1	3:H:67:ALA:HB2	2.40	0.55
3:H:104:GLY:N	3:H:110:LEU:HD11	2.21	0.55
3:H:123:TYR:CZ	3:H:140:ALA:HA	2.41	0.55
3:H:185:PRO:CA	3:H:208:PHE:HB3	2.35	0.55
5:M:21:ASN:C	5:M:22:ILE:HD12	2.26	0.55
2:B:46:ILE:HG22	2:B:47:HIS:N	2.21	0.55
2:B:225:TRP:NE1	2:B:231:LYS:HA	2.21	0.55
3:H:176:ASN:O	3:H:177:ALA:C	2.44	0.55
1:C:144:THR:HG22	1:C:145:ASP:N	2.21	0.55
1:A:86:ALA:O	1:A:111:LYS:HA	2.06	0.55
1:A:115:LEU:HD23	1:A:115:LEU:N	2.22	0.55
1:A:161:PHE:O	1:A:182:ALA:HA	2.06	0.55
3:H:22:TYR:HE2	3:H:74:PHE:CD2	2.24	0.55
3:H:70:ASN:ND2	4:P:5:PHE:CD1	2.74	0.55
3:H:244:TRP:C	3:H:244:TRP:HE3	2.08	0.55
5:L:35:ILE:HG13	5:L:83:LYS:O	2.07	0.55
1:A:101:ALA:H	4:P:4:LYS:HZ3	1.54	0.55
2:B:225:TRP:CE2	2:B:232:PRO:HD3	2.41	0.55
3:H:23:MET:HB2	3:H:36:PHE:O	2.06	0.55
5:L:39:MET:HA	5:L:80:CYS:SG	2.46	0.55
1:C:14:GLU:HA	1:C:114:VAL:HG23	1.88	0.55
1:C:191:CYS:HA	1:C:194:ILE:HG22	1.87	0.55
2:D:13:ALA:O	2:D:116:VAL:HA	2.07	0.55
3:I:78:LEU:CA	3:I:81:LEU:HD12	2.34	0.55
3:I:237:GLY:O	3:I:238:ASP:HB3	2.05	0.55
1:A:140:LEU:HD22	2:B:130:PHE:HD2	1.71	0.55
1:A:175:SER:O	1:A:177:SER:N	2.40	0.55
2:B:87:THR:HG23	2:B:87:THR:O	2.05	0.55
2:B:129:LEU:HB2	2:B:239:ALA:HB1	1.89	0.55
3:I:191:HIS:CE1	3:I:199:VAL:HG11	2.41	0.55
1:A:121:PRO:O	1:A:123:PRO:HD3	2.07	0.55
3:I:123:TYR:CZ	3:I:140:ALA:HA	2.42	0.55
3:I:203:CYS:HB2	3:I:217:TRP:CZ2	2.41	0.55
2:B:25:GLN:NE2	2:B:29:HIS:N	2.55	0.55
1:C:146:PHE:HE1	1:C:179:GLY:HA2	1.71	0.55
2:D:113:ARG:NH1	2:D:156:HIS:HA	2.20	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:12:VAL:HG21	5:M:34:HIS:NE2	2.21	0.55
1:A:68:LYS:O	1:A:69:SER:C	2.44	0.55
1:A:156:MET:SD	1:A:157:GLU:HG3	2.47	0.55
2:B:153:PHE:CE1	2:B:154:PRO:HD3	2.37	0.55
5:L:16:GLU:CD	5:L:19:LYS:HG3	2.28	0.55
1:C:146:PHE:CD2	1:C:150:ILE:CD1	2.77	0.55
3:I:138:MET:CA	3:I:141:LEU:HD12	2.25	0.55
3:I:184:SER:HB3	3:I:266:LEU:HD21	1.89	0.55
3:I:203:CYS:HG	3:I:259:CYS:CB	2.19	0.55
3:H:59:TYR:OH	6:H:275:HOH:O	2.13	0.54
5:L:5:PRO:CB	5:L:30:PHE:HB3	2.37	0.54
2:D:18:LYS:HD2	2:D:80:GLU:OE1	2.07	0.54
1:C:86:ALA:O	1:C:111:LYS:HA	2.08	0.54
2:B:14:VAL:HG12	2:B:119:LEU:HD13	1.88	0.54
3:H:138:MET:O	3:H:141:LEU:HB2	2.06	0.54
2:D:153:PHE:CE1	2:D:216:PHE:CZ	2.94	0.54
3:I:22:TYR:HE2	3:I:74:PHE:CD2	2.26	0.54
3:H:159:TYR:CD1	3:H:163:THR:HB	2.42	0.54
2:D:32:MET:HB3	2:D:75:PHE:CD2	2.42	0.54
2:D:151:GLY:HA2	2:D:189:SER:HB2	1.90	0.54
2:D:182:SER:C	2:D:187:TYR:H	2.08	0.54
3:I:218:GLN:HG2	3:I:222:GLU:O	2.07	0.54
1:A:159:GLY:O	1:A:184:SER:HA	2.06	0.54
1:A:191:CYS:HA	1:A:194:ILE:CG2	2.38	0.54
3:H:24:GLU:HG3	3:H:45:TYR:OH	2.08	0.54
3:H:194:ARG:CG	3:H:195:PRO:HD2	2.37	0.54
1:C:85:SER:OG	1:C:114:VAL:HG12	2.07	0.54
1:C:179:GLY:CA	2:D:195:ARG:HH12	2.20	0.54
2:D:81:LEU:O	2:D:81:LEU:HG	2.08	0.54
2:D:209:HIS:NE2	2:D:240:GLU:CD	2.61	0.54
3:I:102:GLU:O	3:I:110:LEU:HD12	2.08	0.54
1:C:19:GLN:HG3	1:C:76:ARG:NE	2.22	0.54
3:I:127:ASN:N	3:I:127:ASN:ND2	2.54	0.54
1:A:173:MET:CE	1:A:174:ASP:OD1	2.56	0.54
3:H:217:TRP:N	3:H:228:MET:HE2	2.23	0.54
3:H:237:GLY:O	3:H:238:ASP:HB3	2.07	0.54
2:D:123:THR:N	2:D:153:PHE:HD1	2.03	0.54
5:M:33:PRO:HB3	5:M:62:PHE:CE2	2.42	0.54
1:A:19:GLN:OE1	1:A:76:ARG:NH2	2.41	0.54
2:D:204:HIS:HA	2:D:244:ARG:O	2.07	0.54
3:I:204:TRP:CZ3	3:I:244:TRP:HD1	2.26	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:122:GLU:O	1:A:124:ALA:N	2.41	0.54
2:B:84:PRO:O	2:B:87:THR:HB	2.07	0.54
3:H:104:GLY:CA	3:H:110:LEU:HD11	2.38	0.54
3:H:135:ALA:HB1	3:H:140:ALA:HB1	1.90	0.54
2:D:120:ARG:C	2:D:122:VAL:HG13	2.28	0.54
2:B:146:VAL:HA	2:B:194:SER:O	2.08	0.54
1:C:173:MET:CE	1:C:174:ASP:OD1	2.57	0.54
3:H:9:VAL:HB	3:H:97:VAL:HG22	1.89	0.53
3:H:70:ASN:ND2	4:P:5:PHE:HD1	2.06	0.53
3:H:191:HIS:NE2	3:H:199:VAL:HG11	2.24	0.53
3:I:85:TYR:C	3:I:86:ASN:ND2	2.62	0.53
1:A:170:MET:CE	2:B:142:LYS:HD2	2.38	0.53
1:C:19:GLN:HG3	1:C:76:ARG:HE	1.73	0.53
2:D:122:VAL:CA	2:D:153:PHE:CG	2.85	0.53
2:D:125:PRO:O	2:D:237:ILE:HD12	2.08	0.53
2:B:134:LYS:HA	2:B:137:ILE:HB	1.90	0.53
2:D:224:LYS:HG3	2:D:226:PRO:HD3	1.91	0.53
2:B:147:CYS:O	2:B:193:SER:HA	2.07	0.53
2:D:25:GLN:OE1	2:D:94:SER:HB2	2.08	0.53
2:D:33:TYR:CE1	2:D:106:LEU:HD21	2.44	0.53
1:A:14:GLU:HA	1:A:114:VAL:HG23	1.89	0.53
1:A:183:TRP:NE1	2:B:150:ARG:NH2	2.57	0.53
3:H:244:TRP:C	3:H:244:TRP:CE3	2.82	0.53
3:I:45:TYR:CE2	3:I:67:ALA:HB2	2.43	0.53
3:I:81:LEU:HD11	3:I:95:ILE:CD1	2.38	0.53
3:I:147:TRP:HE3	3:I:152:GLU:HG3	1.72	0.53
3:I:176:ASN:O	3:I:177:ALA:C	2.46	0.53
1:A:75:LEU:HG	1:A:76:ARG:N	2.23	0.53
2:B:32:MET:CE	2:B:73:GLU:O	2.57	0.53
2:B:34:TRP:O	2:B:46:ILE:HB	2.08	0.53
3:H:1:GLY:O	3:H:3:HIS:CD2	2.62	0.53
1:C:60:ASN:O	1:C:62:PHE:CD2	2.61	0.53
3:I:6:ARG:HH12	5:M:58:LYS:NZ	2.06	0.53
1:A:146:PHE:HB2	1:A:150:ILE:CD1	2.39	0.53
1:C:81:HIS:O	1:C:82:TRP:C	2.47	0.53
3:H:76:VAL:O	3:H:77:ASP:C	2.47	0.53
1:C:115:LEU:H	1:C:115:LEU:HD23	1.73	0.53
1:C:117:TYR:CZ	1:C:119:GLN:HG2	2.43	0.53
1:A:174:ASP:O	1:A:175:SER:OG	2.26	0.53
3:H:62:ARG:O	3:H:65:GLN:HB2	2.09	0.53
2:D:127:VAL:HB	2:D:148:LEU:O	2.09	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:147:CYS:HB2	2:B:161:TRP:CH2	2.44	0.53
3:H:12:VAL:HA	3:H:93:HIS:O	2.09	0.53
1:C:144:THR:HG22	1:C:145:ASP:CG	2.30	0.53
2:D:14:VAL:CG1	2:D:119:LEU:HD22	2.38	0.53
2:D:32:MET:HG2	2:D:75:PHE:HB2	1.90	0.53
3:H:147:TRP:HE3	3:H:152:GLU:HG3	1.74	0.52
3:I:61:GLU:OE1	3:I:61:GLU:HA	2.08	0.52
3:I:203:CYS:CB	3:I:259:CYS:SG	2.97	0.52
2:B:36:ARG:HH21	2:B:88:SER:HB3	1.74	0.52
1:C:56:VAL:O	1:C:63:GLU:HB2	2.08	0.52
2:D:153:PHE:CD2	2:D:154:PRO:HD3	2.41	0.52
3:I:84:TYR:OH	3:I:146:LYS:HE3	2.09	0.52
5:M:39:MET:HA	5:M:80:CYS:SG	2.49	0.52
3:H:236:ALA:HB3	3:H:240:THR:O	2.09	0.52
1:C:75:LEU:HG	1:C:76:ARG:N	2.23	0.52
2:D:25:GLN:HG3	2:D:26:THR:N	2.23	0.52
3:I:5:LEU:HD11	3:I:171:TYR:HE2	1.74	0.52
3:H:12:VAL:HG21	5:L:34:HIS:CE1	2.45	0.52
3:H:63:GLU:OE2	4:P:1:GLU:HG2	2.09	0.52
1:C:33:PHE:CE2	2:D:98:GLY:O	2.62	0.52
2:D:140:LYS:C	2:D:141:GLN:NE2	2.63	0.52
3:I:135:ALA:HB1	3:I:140:ALA:HB1	1.91	0.52
3:I:138:MET:O	3:I:141:LEU:HB2	2.09	0.52
3:I:217:TRP:N	3:I:228:MET:HE2	2.25	0.52
1:A:10:VAL:HG23	1:A:10:VAL:O	2.09	0.52
3:H:26:GLY:HA3	3:H:34:VAL:HG23	1.92	0.52
3:H:97:VAL:HG11	3:H:116:TYR:CZ	2.45	0.52
3:I:1:GLY:O	3:I:3:HIS:CD2	2.62	0.52
3:I:104:GLY:CA	3:I:110:LEU:HD11	2.39	0.52
3:I:192:HIS:HB2	3:I:200:THR:HB	1.90	0.52
1:A:19:GLN:CG	1:A:76:ARG:NH2	2.68	0.52
1:C:174:ASP:O	1:C:175:SER:CB	2.57	0.52
3:I:27:TYR:CD1	3:I:32:GLU:HA	2.44	0.52
5:L:40:LEU:HD22	5:L:45:LYS:HD3	1.92	0.52
5:L:46:ILE:HD12	5:L:68:THR:HG21	1.91	0.52
1:C:115:LEU:HD23	1:C:115:LEU:N	2.25	0.52
2:D:139:ASN:O	2:D:140:LYS:HG3	2.10	0.52
2:B:18:LYS:HD2	2:B:80:GLU:OE1	2.10	0.52
3:I:147:TRP:CE3	3:I:152:GLU:CG	2.88	0.52
3:I:159:TYR:OH	4:Q:2:GLN:HA	2.10	0.52
3:H:81:LEU:HD11	3:H:95:ILE:HD12	1.92	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:L:13:HIS:ND1	5:L:13:HIS:N	2.56	0.52
3:I:70:ASN:HA	3:I:73:SER:HB2	1.92	0.52
3:I:191:HIS:NE2	3:I:199:VAL:HG11	2.24	0.52
2:B:32:MET:C	2:B:33:TYR:CD1	2.84	0.52
2:B:49:SER:HB2	2:B:54:SER:O	2.10	0.52
2:B:143:ALA:O	2:B:197:ARG:HA	2.09	0.52
2:B:153:PHE:CD2	2:B:154:PRO:HD3	2.43	0.52
3:H:271:THR:C	3:H:272:LEU:HD23	2.30	0.52
1:C:12:VAL:O	1:C:114:VAL:HA	2.10	0.52
5:M:13:HIS:CB	5:M:14:PRO:HD2	2.38	0.52
2:B:88:SER:HB3	2:B:90:TYR:HE1	1.76	0.51
2:B:181:GLU:HB3	2:B:189:SER:OG	2.10	0.51
3:H:9:VAL:HB	3:H:97:VAL:CG2	2.40	0.51
3:H:51:TRP:C	3:H:53:GLU:H	2.11	0.51
3:H:116:TYR:HB2	3:H:124:ILE:HG22	1.91	0.51
5:L:41:LYS:O	5:L:42:ASN:CB	2.59	0.51
3:I:159:TYR:HD1	3:I:163:THR:HB	1.74	0.51
2:B:120:ARG:C	2:B:122:VAL:HG13	2.30	0.51
5:L:13:HIS:HB3	5:L:14:PRO:CD	2.38	0.51
1:C:10:VAL:HG23	1:C:10:VAL:O	2.10	0.51
1:C:129:LYS:O	1:C:133:PRO:HD3	2.10	0.51
1:A:133:PRO:HD2	2:B:129:LEU:O	2.10	0.51
3:H:61:GLU:HA	3:H:61:GLU:OE1	2.10	0.51
5:L:25:CYS:HB3	5:L:66:ALA:HB3	1.92	0.51
2:D:87:THR:HG23	2:D:87:THR:O	2.09	0.51
2:D:122:VAL:CA	2:D:153:PHE:CD1	2.93	0.51
2:D:147:CYS:O	2:D:193:SER:HA	2.11	0.51
2:D:213:GLN:HE21	2:D:236:ASN:CG	2.13	0.51
3:I:51:TRP:C	3:I:53:GLU:H	2.13	0.51
5:M:13:HIS:ND1	5:M:13:HIS:N	2.57	0.51
1:A:19:GLN:HG3	1:A:76:ARG:HE	1.76	0.51
1:C:101:ALA:H	4:Q:4:LYS:HZ3	1.59	0.51
2:D:36:ARG:HH22	2:D:86:GLN:CA	2.22	0.51
3:I:185:PRO:HG3	3:I:213:ILE:HD11	1.92	0.51
2:B:25:GLN:O	2:B:26:THR:HG23	2.11	0.51
2:B:139:ASN:O	2:B:139:ASN:ND2	2.37	0.51
3:H:47:PRO:HB3	3:H:60:TRP:CH2	2.45	0.51
3:H:203:CYS:CB	3:H:259:CYS:SG	2.97	0.51
5:L:58:LYS:H	5:L:58:LYS:CD	2.15	0.51
3:H:12:VAL:HG21	5:L:34:HIS:NE2	2.26	0.51
1:C:170:MET:HA	2:D:171:GLY:CA	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:12:VAL:HA	3:I:93:HIS:O	2.10	0.51
3:I:251:LEU:HD12	3:I:252:GLY:N	2.24	0.51
5:M:17:ASN:HD21	5:M:97:ARG:HH22	1.55	0.51
5:M:41:LYS:O	5:M:42:ASN:CB	2.59	0.51
1:A:1:GLN:H1	1:A:26:TYR:HD1	1.57	0.51
3:H:70:ASN:HA	3:H:73:SER:HB2	1.93	0.51
3:H:129:ASP:O	3:H:130:LEU:CB	2.59	0.51
3:H:160:LEU:O	3:H:165:VAL:HG23	2.11	0.51
3:H:192:HIS:HB2	3:H:200:THR:HB	1.91	0.51
1:A:12:VAL:O	1:A:114:VAL:HA	2.11	0.51
2:B:152:PHE:CE1	2:B:191:CYS:HA	2.46	0.51
2:B:225:TRP:CD1	2:B:231:LYS:HG3	2.46	0.51
4:P:5:PHE:HD1	4:P:5:PHE:H	1.58	0.51
1:C:27:SER:HB2	3:I:58:GLU:CD	2.31	0.51
1:C:126:TYR:HB2	1:C:142:LEU:HD23	1.92	0.51
2:D:46:ILE:HD12	2:D:77:LEU:CD2	2.31	0.51
2:B:9:ARG:O	2:B:112:THR:HA	2.10	0.51
3:H:251:LEU:HD12	3:H:254:GLU:OE2	2.10	0.51
2:D:33:TYR:O	2:D:92:CYS:HA	2.11	0.51
2:D:84:PRO:O	2:D:87:THR:HB	2.11	0.51
2:D:88:SER:HB3	2:D:90:TYR:CE1	2.45	0.51
2:D:147:CYS:CB	2:D:212:CYS:HG	2.23	0.51
5:M:33:PRO:HD3	5:M:62:PHE:CZ	2.46	0.51
5:M:46:ILE:HD12	5:M:68:THR:HG21	1.92	0.51
2:B:46:ILE:HD12	2:B:77:LEU:CD2	2.40	0.50
1:C:133:PRO:HD2	2:D:129:LEU:O	2.11	0.50
2:D:134:LYS:HA	2:D:137:ILE:HB	1.93	0.50
2:D:146:VAL:HA	2:D:195:ARG:HA	1.93	0.50
2:D:181:GLU:HB3	2:D:189:SER:OG	2.11	0.50
2:D:225:TRP:CD1	2:D:231:LYS:HA	2.47	0.50
3:I:159:TYR:CD1	3:I:163:THR:HB	2.46	0.50
3:I:271:THR:C	3:I:272:LEU:HD23	2.31	0.50
1:A:12:VAL:O	1:A:115:LEU:HG	2.11	0.50
1:A:19:GLN:HG3	1:A:76:ARG:NE	2.26	0.50
2:B:13:ALA:O	2:B:116:VAL:HA	2.10	0.50
2:B:32:MET:HB3	2:B:75:PHE:CD2	2.46	0.50
3:H:147:TRP:CE3	3:H:152:GLU:CG	2.92	0.50
5:M:54:MET:HE2	5:M:62:PHE:HD2	1.75	0.50
2:B:140:LYS:HA	2:B:141:GLN:NE2	2.26	0.50
3:H:8:PHE:CE1	3:H:27:TYR:HD2	2.29	0.50
1:C:167:VAL:HG12	1:C:168:LEU:N	2.24	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:89:LYS:HG3	3:H:90:GLY:H	1.77	0.50
3:H:33:PHE:CD2	3:H:34:VAL:HG22	2.47	0.50
2:D:25:GLN:O	2:D:26:THR:HG23	2.12	0.50
3:I:160:LEU:O	3:I:165:VAL:HG23	2.10	0.50
2:B:87:THR:O	2:B:87:THR:CG2	2.59	0.50
2:B:88:SER:OG	2:B:89:VAL:N	2.45	0.50
3:H:127:ASN:OD1	3:H:134:THR:OG1	2.29	0.50
3:H:217:TRP:O	3:H:224:LEU:HB2	2.12	0.50
2:D:140:LYS:CA	2:D:141:GLN:NE2	2.74	0.50
3:I:8:PHE:CE2	3:I:98:ILE:HD11	2.46	0.50
2:B:33:TYR:CE1	2:B:106:LEU:HD21	2.47	0.50
2:B:92:CYS:O	2:B:93:ALA:HB2	2.11	0.50
1:C:75:LEU:HD12	1:C:76:ARG:N	2.21	0.50
5:M:16:GLU:CD	5:M:19:LYS:HG3	2.32	0.50
1:A:104:LEU:HD12	2:B:106:LEU:CD1	2.35	0.50
1:A:104:LEU:CB	2:B:35:TYR:OH	2.59	0.50
1:A:157:GLU:HB2	1:A:160:THR:HB	1.93	0.50
3:H:271:THR:O	3:H:272:LEU:HD23	2.12	0.50
1:C:50:TYR:CE2	3:I:155:ARG:HG3	2.46	0.50
2:D:122:VAL:HA	2:D:153:PHE:CD1	2.47	0.50
1:A:60:ASN:O	1:A:62:PHE:CD2	2.65	0.50
1:A:134:ARG:NH2	2:B:240:GLU:HB3	2.24	0.50
2:B:122:VAL:HG21	2:B:232:PRO:HG2	1.93	0.50
3:H:79:ARG:O	3:H:82:LEU:HB2	2.11	0.50
1:C:32:LEU:HD23	1:C:92:VAL:HG12	1.92	0.50
2:D:25:GLN:NE2	2:D:28:ASN:N	2.60	0.50
2:D:174:THR:HA	2:D:194:SER:HB2	1.94	0.50
1:A:81:HIS:O	1:A:82:TRP:C	2.50	0.49
2:D:32:MET:C	2:D:33:TYR:CD1	2.85	0.49
2:D:203:TRP:O	2:D:243:GLY:CA	2.60	0.49
3:I:217:TRP:O	3:I:224:LEU:HB2	2.12	0.49
5:L:83:LYS:HG2	5:L:90:PRO:HG3	1.94	0.49
1:C:157:GLU:HB2	1:C:160:THR:HB	1.93	0.49
2:D:139:ASN:O	2:D:139:ASN:ND2	2.43	0.49
3:I:70:ASN:ND2	4:Q:5:PHE:CD1	2.79	0.49
3:I:175:GLY:C	3:I:179:LEU:HD12	2.33	0.49
2:B:25:GLN:OE1	2:B:94:SER:HB2	2.12	0.49
2:B:219:LEU:O	2:B:233:VAL:HG12	2.12	0.49
5:L:13:HIS:CB	5:L:14:PRO:HD2	2.37	0.49
3:I:117:ALA:HB2	5:M:60:TRP:CZ2	2.46	0.49
5:M:35:ILE:HG13	5:M:83:LYS:O	2.11	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:166:THR:HG23	2:B:195:ARG:NH1	2.26	0.49
2:B:36:ARG:HH22	2:B:86:GLN:CA	2.23	0.49
3:H:139:ALA:C	3:H:141:LEU:H	2.15	0.49
3:H:143:THR:CG2	4:P:8:VAL:HG13	2.41	0.49
3:I:16:GLY:C	3:I:18:GLY:H	2.15	0.49
3:I:33:PHE:O	3:I:34:VAL:CG1	2.56	0.49
1:A:33:PHE:HD1	1:A:91:ALA:O	1.96	0.49
5:L:13:HIS:HB2	5:L:21:ASN:HD21	1.78	0.49
1:C:37:GLN:HB2	1:C:43:LEU:HD22	1.94	0.49
3:I:236:ALA:H	3:I:241:PHE:HA	1.77	0.49
5:M:90:PRO:O	5:M:91:LYS:O	2.30	0.49
1:A:149:GLN:O	1:A:150:ILE:CG2	2.60	0.49
3:H:16:GLY:C	3:H:18:GLY:H	2.16	0.49
3:H:189:VAL:HG12	3:H:190:THR:N	2.27	0.49
1:C:27:SER:CB	3:I:58:GLU:OE1	2.60	0.49
1:C:75:LEU:CG	1:C:76:ARG:N	2.74	0.49
3:I:175:GLY:O	3:I:176:ASN:C	2.51	0.49
5:M:31:HIS:CB	5:M:32:PRO:CD	2.91	0.49
2:D:30:ASN:HB3	2:D:50:TYR:O	2.13	0.49
2:D:31:ASN:HB3	2:D:33:TYR:OH	2.13	0.49
2:D:36:ARG:HH21	2:D:88:SER:HB3	1.77	0.49
2:D:114:LEU:HD12	2:D:115:SER:N	2.26	0.49
2:D:153:PHE:CD2	2:D:154:PRO:HG3	2.47	0.49
2:D:161:TRP:C	2:D:168:VAL:HG23	2.33	0.49
3:H:22:TYR:H	3:H:38:SER:HG	1.57	0.49
3:H:143:THR:CG2	3:H:147:TRP:NE1	2.75	0.49
5:L:16:GLU:OE2	5:L:19:LYS:HG3	2.11	0.49
3:I:116:TYR:HB2	3:I:124:ILE:HG22	1.94	0.49
1:C:104:LEU:CB	2:D:35:TYR:OH	2.61	0.49
2:D:136:GLU:OE2	2:D:144:THR:HG23	2.13	0.49
2:B:224:LYS:HG3	2:B:226:PRO:HD3	1.95	0.49
2:D:95:GLY:HA3	2:D:106:LEU:HD23	1.95	0.49
1:A:20:LEU:HD12	1:A:75:LEU:HD23	1.95	0.48
3:H:236:ALA:H	3:H:241:PHE:HA	1.77	0.48
5:L:31:HIS:CB	5:L:32:PRO:CD	2.91	0.48
5:L:35:ILE:HG23	5:L:37:ILE:HG13	1.95	0.48
1:C:149:GLN:HE21	1:C:149:GLN:HA	1.78	0.48
1:C:155:THR:HG21	1:C:160:THR:O	2.13	0.48
1:C:191:CYS:HA	1:C:194:ILE:CG2	2.42	0.48
3:I:133:TRP:O	3:I:144:LYS:NZ	2.40	0.48
5:L:33:PRO:HB3	5:L:62:PHE:CE2	2.48	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:156:HIS:CB	2:D:217:HIS:HB2	2.42	0.48
3:I:60:TRP:O	3:I:64:THR:OG1	2.31	0.48
3:I:139:ALA:C	3:I:141:LEU:H	2.16	0.48
3:I:228:MET:HG2	3:I:229:GLU:H	1.77	0.48
5:M:80:CYS:O	5:M:92:THR:HA	2.13	0.48
2:B:120:ARG:HA	2:B:225:TRP:HZ3	1.78	0.48
3:H:33:PHE:HD2	3:H:52:MET:SD	2.36	0.48
3:H:185:PRO:HG3	3:H:213:ILE:HD11	1.95	0.48
3:H:204:TRP:CZ3	3:H:244:TRP:HD1	2.32	0.48
1:C:158:SER:C	1:C:160:THR:H	2.17	0.48
3:I:26:GLY:HA3	3:I:34:VAL:HG23	1.95	0.48
3:I:101:CYS:HA	3:I:111:ARG:O	2.13	0.48
1:A:191:CYS:CA	1:A:194:ILE:HG22	2.44	0.48
3:H:159:TYR:OH	4:P:2:GLN:HA	2.14	0.48
1:C:82:TRP:HD1	1:C:114:VAL:O	1.97	0.48
1:C:82:TRP:O	1:C:84:ASP:N	2.47	0.48
2:D:123:THR:O	2:D:152:PHE:CA	2.57	0.48
3:I:33:PHE:HD2	3:I:52:MET:SD	2.36	0.48
3:I:96:GLN:NE2	5:M:31:HIS:NE2	2.60	0.48
5:M:35:ILE:HG23	5:M:37:ILE:HG13	1.96	0.48
1:C:31:TYR:HB2	1:C:93:SER:CB	2.43	0.48
1:C:168:LEU:CD1	2:D:173:SER:OG	2.51	0.48
2:D:129:LEU:HD23	2:D:240:GLU:C	2.34	0.48
3:I:143:THR:OG1	4:Q:8:VAL:HG13	2.13	0.48
2:B:132:PRO:HG2	2:B:137:ILE:HD11	1.95	0.48
3:H:84:TYR:OH	3:H:146:LYS:HE3	2.13	0.48
3:H:139:ALA:O	3:H:141:LEU:N	2.46	0.48
3:I:33:PHE:CG	3:I:34:VAL:HG22	2.48	0.48
3:I:139:ALA:C	3:I:141:LEU:N	2.66	0.48
4:Q:5:PHE:H	4:Q:5:PHE:HD1	1.56	0.48
1:A:82:TRP:HD1	1:A:114:VAL:O	1.97	0.48
1:A:167:VAL:HG12	1:A:168:LEU:N	2.29	0.48
3:I:215:LEU:CD2	3:I:261:VAL:HG13	2.27	0.48
5:M:50:GLU:HB3	5:M:67:HIS:NE2	2.29	0.48
2:B:159:LEU:HB2	2:B:214:VAL:HG22	1.95	0.48
3:H:185:PRO:HB3	3:H:208:PHE:HB3	1.96	0.48
3:H:215:LEU:HD23	3:H:261:VAL:HA	1.95	0.48
5:L:90:PRO:O	5:L:91:LYS:O	2.32	0.48
1:C:175:SER:O	1:C:177:SER:N	2.47	0.48
3:I:76:VAL:O	3:I:77:ASP:C	2.51	0.48
3:I:135:ALA:HB1	3:I:140:ALA:CB	2.43	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:251:LEU:HD12	3:I:254:GLU:OE2	2.13	0.48
1:A:144:THR:HG22	1:A:145:ASP:CG	2.34	0.48
2:B:89:VAL:HA	2:B:112:THR:O	2.14	0.48
3:H:201:LEU:O	3:H:246:SER:CB	2.62	0.48
2:D:45:LEU:HD12	2:D:46:ILE:N	2.29	0.48
2:D:49:SER:HB2	2:D:54:SER:O	2.14	0.48
3:I:7:TYR:OH	6:I:275:HOH:O	2.19	0.48
3:I:126:LEU:HD22	3:I:156:LEU:HD13	1.96	0.48
3:I:203:CYS:SG	3:I:259:CYS:CB	3.01	0.48
1:A:183:TRP:HH2	2:B:191:CYS:SG	2.37	0.48
2:B:213:GLN:HE21	2:B:236:ASN:ND2	2.11	0.48
3:H:102:GLU:O	3:H:110:LEU:HD12	2.14	0.48
3:H:185:PRO:CB	3:H:208:PHE:HB3	2.44	0.48
5:L:22:ILE:CG2	5:L:23:LEU:N	2.77	0.48
1:C:112:VAL:HG12	1:C:113:ILE:N	2.29	0.48
2:D:129:LEU:HB2	2:D:239:ALA:HB1	1.96	0.48
2:D:225:TRP:HA	2:D:225:TRP:CE3	2.49	0.48
3:I:26:GLY:C	3:I:33:PHE:CD1	2.87	0.48
3:I:210:PRO:O	3:I:263:HIS:HE1	1.97	0.48
1:A:38:TYR:CB	1:A:39:PRO:CD	2.90	0.47
1:A:183:TRP:HH2	2:B:191:CYS:HG	1.59	0.47
3:H:27:TYR:CD1	3:H:32:GLU:HA	2.49	0.47
5:L:31:HIS:CD2	5:L:62:PHE:HE1	2.32	0.47
2:D:14:VAL:HG12	2:D:119:LEU:HD13	1.95	0.47
3:I:231:VAL:O	3:I:243:LYS:HD2	2.14	0.47
2:B:122:VAL:CB	2:B:153:PHE:CD1	2.93	0.47
3:H:78:LEU:CA	3:H:81:LEU:HD12	2.44	0.47
3:H:139:ALA:C	3:H:141:LEU:N	2.65	0.47
3:I:217:TRP:H	3:I:228:MET:HE2	1.79	0.47
5:M:83:LYS:HG2	5:M:90:PRO:HG3	1.96	0.47
1:A:31:TYR:O	1:A:92:VAL:HA	2.13	0.47
3:H:8:PHE:CE1	3:H:27:TYR:CD2	3.02	0.47
3:H:74:PHE:O	3:H:75:ARG:C	2.53	0.47
3:H:231:VAL:HG22	3:H:244:TRP:O	2.14	0.47
1:C:20:LEU:HD22	1:C:110:THR:HG21	1.96	0.47
2:D:89:VAL:HA	2:D:112:THR:O	2.13	0.47
3:I:36:PHE:HA	3:I:46:GLU:OE1	2.14	0.47
3:I:104:GLY:N	3:I:110:LEU:CD1	2.77	0.47
3:I:113:TYR:N	3:I:113:TYR:CD1	2.80	0.47
1:A:174:ASP:O	1:A:175:SER:CB	2.62	0.47
2:B:32:MET:HA	2:B:93:ALA:O	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:138:MET:HA	3:H:141:LEU:CD1	2.23	0.47
3:I:99:SER:HA	3:I:113:TYR:O	2.14	0.47
1:A:196:LYS:HG2	1:A:197:GLU:HG2	1.96	0.47
2:B:135:ALA:O	2:B:139:ASN:N	2.47	0.47
2:B:216:PHE:CD1	2:B:216:PHE:C	2.87	0.47
3:H:196:GLU:O	3:H:198:LYS:HG3	2.13	0.47
5:L:49:VAL:O	5:L:50:GLU:C	2.53	0.47
2:D:105:THR:O	2:D:105:THR:HG23	2.14	0.47
3:I:202:ARG:HA	3:I:246:SER:CB	2.44	0.47
5:M:68:THR:O	5:M:69:GLU:HB2	2.15	0.47
2:B:153:PHE:CD2	2:B:154:PRO:HG3	2.50	0.47
1:C:22:CYS:SG	1:C:90:CYS:SG	2.92	0.47
1:C:38:TYR:CB	1:C:39:PRO:CD	2.90	0.47
2:D:162:TRP:CZ2	2:D:167:GLU:HB2	2.49	0.47
5:M:16:GLU:OE2	5:M:19:LYS:HG3	2.13	0.47
2:B:86:GLN:C	2:B:90:TYR:HH	2.17	0.47
2:B:122:VAL:CB	2:B:153:PHE:CG	2.97	0.47
3:H:101:CYS:HA	3:H:111:ARG:O	2.15	0.47
3:H:133:TRP:CH2	3:H:156:LEU:HD12	2.45	0.47
1:C:36:VAL:HG13	1:C:46:LEU:CG	2.43	0.47
1:C:191:CYS:CA	1:C:194:ILE:HG22	2.45	0.47
2:D:90:TYR:CD1	2:D:90:TYR:N	2.82	0.47
2:D:122:VAL:O	2:D:123:THR:HG23	2.15	0.47
2:D:208:ASN:OD1	2:D:208:ASN:O	2.33	0.47
3:I:11:ALA:HA	3:I:21:ARG:O	2.14	0.47
3:I:103:VAL:HG11	3:I:165:VAL:HG13	1.97	0.47
3:I:203:CYS:SG	3:I:259:CYS:HB3	2.54	0.47
5:M:35:ILE:HD12	5:M:84:HIS:CD2	2.49	0.47
5:M:49:VAL:O	5:M:50:GLU:C	2.53	0.47
3:H:13:SER:HB3	3:H:78:LEU:HD13	1.97	0.47
3:H:175:GLY:C	3:H:179:LEU:HD12	2.34	0.47
3:H:191:HIS:CE1	3:H:199:VAL:HG11	2.49	0.47
3:I:72:GLN:HG3	3:I:75:ARG:HD2	1.96	0.47
1:A:167:VAL:CG1	1:A:168:LEU:N	2.77	0.47
2:B:213:GLN:HA	2:B:238:SER:HB3	1.97	0.47
3:H:117:ALA:HB2	5:L:60:TRP:CD2	2.49	0.47
2:D:225:TRP:NE1	2:D:232:PRO:HD3	2.29	0.47
3:I:249:VAL:HB	3:I:257:TYR:CE1	2.50	0.47
5:M:70:PHE:CD1	5:M:70:PHE:C	2.85	0.47
3:H:267:PRO:O	3:H:268:GLU:CB	2.51	0.47
5:L:59:ASP:O	5:L:60:TRP:HB2	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:90:TYR:N	2:D:90:TYR:HD1	2.13	0.47
2:D:231:LYS:HA	2:D:232:PRO:HD3	1.75	0.47
3:I:148:GLU:C	3:I:150:ALA:H	2.18	0.47
2:B:187:TYR:CD2	2:B:187:TYR:O	2.68	0.46
3:H:135:ALA:HB1	3:H:140:ALA:CB	2.45	0.46
2:D:138:ALA:O	2:D:140:LYS:N	2.48	0.46
3:I:10:THR:HG1	5:M:56:PHE:HE2	1.62	0.46
3:I:267:PRO:O	3:I:268:GLU:CB	2.51	0.46
2:B:131:GLU:CB	2:B:132:PRO:HD2	2.43	0.46
1:C:183:TRP:CH2	2:D:191:CYS:SG	2.98	0.46
5:M:22:ILE:CG2	5:M:23:LEU:N	2.79	0.46
1:A:147:ASP:O	1:A:150:ILE:HG23	2.16	0.46
2:B:139:ASN:O	2:B:140:LYS:HG3	2.15	0.46
3:H:143:THR:O	3:H:147:TRP:HD1	1.97	0.46
5:L:17:ASN:ND2	5:L:97:ARG:NH2	2.51	0.46
1:C:54:PRO:HB2	1:C:65:GLU:OE2	2.16	0.46
2:D:87:THR:O	2:D:87:THR:CG2	2.63	0.46
3:H:117:ALA:CB	5:L:60:TRP:CE2	2.96	0.46
3:H:190:THR:OG1	3:H:202:ARG:HB3	2.16	0.46
3:I:51:TRP:C	3:I:53:GLU:N	2.68	0.46
3:I:219:LEU:HD12	3:I:256:TYR:O	2.15	0.46
5:M:25:CYS:HG	5:M:80:CYS:CB	2.29	0.46
2:B:10:ASN:N	2:B:10:ASN:OD1	2.48	0.46
3:H:143:THR:OG1	4:P:8:VAL:HG13	2.15	0.46
1:C:186:GLN:OE1	1:C:187:THR:HG23	2.16	0.46
2:D:9:ARG:O	2:D:112:THR:HA	2.15	0.46
2:D:152:PHE:CD1	2:D:152:PHE:N	2.84	0.46
3:I:139:ALA:O	3:I:141:LEU:N	2.47	0.46
5:M:13:HIS:HB3	5:M:14:PRO:CD	2.40	0.46
2:B:144:THR:C	2:B:145:LEU:HD23	2.36	0.46
3:I:8:PHE:CB	5:M:56:PHE:CE1	2.98	0.46
3:I:132:THR:HG22	3:I:144:LYS:NZ	2.30	0.46
1:A:34:TRP:O	1:A:45:LEU:HD12	2.16	0.46
1:A:141:CYS:SG	1:A:191:CYS:HA	2.56	0.46
3:H:170:ARG:O	3:H:173:LYS:HB3	2.15	0.46
1:C:174:ASP:C	1:C:175:SER:OG	2.53	0.46
3:I:27:TYR:CE1	3:I:32:GLU:HG3	2.50	0.46
3:I:70:ASN:ND2	4:Q:5:PHE:HD1	2.14	0.46
3:H:72:GLN:HG3	3:H:75:ARG:HD2	1.97	0.46
2:D:92:CYS:O	2:D:93:ALA:HB2	2.16	0.46
3:I:116:TYR:CZ	3:I:147:TRP:HH2	2.34	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:75:LEU:CG	1:A:76:ARG:N	2.79	0.46
2:B:14:VAL:CG1	2:B:119:LEU:HD22	2.46	0.46
2:B:95:GLY:HA3	2:B:106:LEU:HD23	1.98	0.46
2:B:122:VAL:O	2:B:123:THR:CG2	2.63	0.46
3:H:6:ARG:HH12	5:L:58:LYS:NZ	2.14	0.46
3:H:26:GLY:C	3:H:33:PHE:CD1	2.89	0.46
3:H:51:TRP:C	3:H:53:GLU:N	2.68	0.46
3:H:130:LEU:HB3	3:H:157:ARG:CD	2.46	0.46
3:I:203:CYS:HG	3:I:259:CYS:HB3	1.81	0.46
5:M:89:GLU:HA	5:M:90:PRO:HD3	1.83	0.46
1:A:149:GLN:HE21	1:A:149:GLN:HA	1.81	0.46
2:B:113:ARG:HH11	2:B:156:HIS:CA	2.25	0.46
5:L:68:THR:O	5:L:69:GLU:HB2	2.16	0.46
1:C:104:LEU:HD12	2:D:106:LEU:CG	2.46	0.46
1:C:149:GLN:O	1:C:150:ILE:HG23	2.16	0.46
3:I:12:VAL:CG1	3:I:21:ARG:HB3	2.46	0.46
3:I:143:THR:CG2	3:I:147:TRP:NE1	2.79	0.46
2:B:51:GLY:O	2:B:52:ALA:C	2.54	0.45
3:H:27:TYR:CE1	3:H:32:GLU:HG3	2.51	0.45
3:H:219:LEU:HD12	3:H:256:TYR:O	2.15	0.45
1:C:128:LEU:HB2	1:C:140:LEU:CD2	2.46	0.45
2:D:25:GLN:HE21	2:D:28:ASN:H	1.63	0.45
1:A:31:TYR:HB2	1:A:93:SER:HB3	1.98	0.45
3:H:217:TRP:H	3:H:228:MET:HE2	1.80	0.45
1:C:115:LEU:HB2	1:C:148:SER:HB3	1.97	0.45
1:C:143:PHE:HD1	1:C:144:THR:H	1.65	0.45
2:D:19:VAL:O	2:D:79:LEU:HG	2.15	0.45
2:D:32:MET:HA	2:D:93:ALA:O	2.16	0.45
3:I:54:GLN:OE1	3:I:174:ASN:HB3	2.16	0.45
5:M:2:GLN:H	5:M:2:GLN:CD	2.20	0.45
1:A:40:ARG:C	1:A:41:GLN:O	2.54	0.45
1:A:162:ILE:HD12	1:A:162:ILE:O	2.16	0.45
2:B:90:TYR:N	2:B:90:TYR:CD1	2.83	0.45
2:B:152:PHE:CZ	2:B:191:CYS:HA	2.51	0.45
2:B:154:PRO:O	2:B:156:HIS:N	2.49	0.45
3:H:60:TRP:O	3:H:61:GLU:C	2.55	0.45
3:H:260:HIS:CE1	3:H:271:THR:HG23	2.51	0.45
5:M:57:SER:O	5:M:59:ASP:N	2.49	0.45
5:L:2:GLN:CD	5:L:2:GLN:H	2.20	0.45
3:I:209:TYR:CG	3:I:210:PRO:CD	2.99	0.45
1:A:117:TYR:CZ	1:A:119:GLN:HG2	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:21:LEU:HD12	2:B:77:LEU:HB3	1.98	0.45
2:B:141:GLN:HE21	2:B:141:GLN:N	2.14	0.45
1:C:146:PHE:CD1	1:C:146:PHE:N	2.84	0.45
1:C:168:LEU:HD11	2:D:171:GLY:C	2.37	0.45
5:M:7:ILE:HG12	5:M:27:VAL:HG13	1.99	0.45
1:A:37:GLN:O	1:A:86:ALA:HB1	2.17	0.45
2:B:90:TYR:N	2:B:90:TYR:HD1	2.14	0.45
3:H:252:GLY:N	3:H:254:GLU:OE2	2.49	0.45
5:L:33:PRO:HD3	5:L:62:PHE:CE1	2.51	0.45
5:L:96:ASP:O	5:L:97:ARG:C	2.55	0.45
1:C:133:PRO:HG2	2:D:131:GLU:HG3	1.98	0.45
3:I:231:VAL:HG22	3:I:244:TRP:O	2.15	0.45
1:A:24:TYR:CD2	1:A:71:SER:HB3	2.51	0.45
1:A:146:PHE:HE1	1:A:179:GLY:HA2	1.79	0.45
3:H:11:ALA:HA	3:H:21:ARG:O	2.16	0.45
2:D:32:MET:CE	2:D:73:GLU:O	2.65	0.45
3:I:74:PHE:O	3:I:75:ARG:C	2.55	0.45
3:I:196:GLU:O	3:I:198:LYS:HG3	2.17	0.45
1:C:160:THR:OG1	1:C:184:SER:HB2	2.16	0.45
1:C:196:LYS:HG2	1:C:197:GLU:HG2	1.98	0.45
5:M:92:THR:CG2	5:M:93:VAL:N	2.79	0.45
1:A:147:ASP:O	1:A:150:ILE:CD1	2.65	0.45
2:B:27:ASN:CB	2:B:29:HIS:CD2	2.99	0.45
2:B:37:GLN:CA	2:B:43:LEU:HD23	2.47	0.45
5:L:57:SER:O	5:L:59:ASP:N	2.50	0.45
1:C:34:TRP:HA	1:C:89:PHE:O	2.17	0.45
1:C:35:TYR:OH	2:D:106:LEU:HB2	2.16	0.45
2:D:142:LYS:HB2	2:D:197:ARG:HE	1.81	0.45
2:D:153:PHE:CZ	2:D:216:PHE:HZ	2.35	0.45
2:D:161:TRP:O	2:D:167:GLU:HA	2.17	0.45
3:I:124:ILE:HG12	3:I:125:ALA:H	1.82	0.45
3:I:129:ASP:O	3:I:130:LEU:CB	2.64	0.45
3:I:185:PRO:CB	3:I:208:PHE:HB3	2.46	0.45
1:A:168:LEU:CD1	2:B:173:SER:OG	2.50	0.45
3:H:244:TRP:HZ2	5:L:99:MET:HG3	1.82	0.45
2:D:90:TYR:HH	2:D:114:LEU:HD23	1.81	0.45
2:D:225:TRP:HA	2:D:225:TRP:HE3	1.81	0.45
1:A:136:GLN:O	1:A:137:ASP:C	2.56	0.44
2:B:120:ARG:O	2:B:122:VAL:N	2.50	0.44
3:H:35:ARG:O	3:H:46:GLU:OE1	2.35	0.44
3:H:143:THR:HG22	3:H:147:TRP:CD1	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:219:LEU:HD13	3:H:257:TYR:CE1	2.53	0.44
3:I:61:GLU:O	3:I:64:THR:HB	2.17	0.44
2:B:122:VAL:CA	2:B:153:PHE:CD1	3.01	0.44
2:B:122:VAL:CB	2:B:153:PHE:CD2	2.97	0.44
3:H:85:TYR:O	3:H:86:ASN:CB	2.66	0.44
2:D:36:ARG:HH22	2:D:86:GLN:C	2.20	0.44
2:D:36:ARG:HG3	2:D:36:ARG:O	2.17	0.44
2:D:37:GLN:CA	2:D:43:LEU:HD23	2.47	0.44
3:I:185:PRO:HB3	3:I:208:PHE:HB3	1.99	0.44
3:I:187:ALA:CB	3:I:204:TRP:O	2.65	0.44
1:A:2:SER:O	1:A:24:TYR:HA	2.17	0.44
1:A:54:PRO:HB2	1:A:65:GLU:OE2	2.18	0.44
1:A:143:PHE:CD1	1:A:146:PHE:CD1	3.05	0.44
3:H:151:GLY:O	3:H:152:GLU:C	2.56	0.44
1:C:40:ARG:C	1:C:41:GLN:O	2.55	0.44
1:C:159:GLY:O	1:C:184:SER:HA	2.17	0.44
3:I:124:ILE:HG12	3:I:125:ALA:N	2.33	0.44
3:I:244:TRP:CE3	3:I:244:TRP:O	2.70	0.44
5:M:59:ASP:O	5:M:60:TRP:HB2	2.16	0.44
2:B:52:ALA:HA	2:B:69:ARG:CG	2.48	0.44
2:B:225:TRP:HA	2:B:225:TRP:CE3	2.52	0.44
3:I:143:THR:O	3:I:147:TRP:HD1	2.00	0.44
3:I:191:HIS:CG	3:I:199:VAL:HG21	2.52	0.44
1:A:8:ALA:HA	1:A:109:GLY:O	2.17	0.44
3:H:113:TYR:N	3:H:113:TYR:CD1	2.84	0.44
5:L:10:TYR:CD1	5:L:10:TYR:N	2.85	0.44
5:L:50:GLU:HB3	5:L:67:HIS:NE2	2.32	0.44
1:C:26:TYR:CD2	1:C:28:ALA:HB3	2.52	0.44
5:M:13:HIS:HB2	5:M:21:ASN:ND2	2.32	0.44
1:A:55:VAL:O	1:A:55:VAL:HG23	2.18	0.44
2:B:129:LEU:HB2	2:B:239:ALA:CB	2.48	0.44
3:H:13:SER:CA	3:H:20:PRO:HB3	2.45	0.44
3:H:132:THR:HG22	3:H:144:LYS:NZ	2.32	0.44
3:H:156:LEU:CD2	3:H:160:LEU:HD11	2.41	0.44
3:H:231:VAL:O	3:H:243:LYS:HD2	2.17	0.44
3:H:236:ALA:HB2	3:H:242:GLN:HG3	2.00	0.44
1:C:1:GLN:H1	1:C:26:TYR:HD1	1.63	0.44
1:C:85:SER:O	1:C:86:ALA:HB2	2.18	0.44
2:D:209:HIS:NE2	2:D:240:GLU:CG	2.80	0.44
3:I:33:PHE:CD2	3:I:34:VAL:HG22	2.51	0.44
3:I:63:GLU:O	3:I:64:THR:C	2.54	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:201:LEU:O	3:I:246:SER:CB	2.65	0.44
5:M:31:HIS:CD2	5:M:62:PHE:HE1	2.35	0.44
1:A:16:ALA:O	1:A:78:ALA:O	2.36	0.44
3:H:23:MET:CB	3:H:36:PHE:O	2.66	0.44
3:H:133:TRP:O	3:H:144:LYS:NZ	2.46	0.44
3:H:247:VAL:HG22	3:H:248:VAL:N	2.33	0.44
5:L:80:CYS:O	5:L:92:THR:HA	2.17	0.44
2:B:17:GLY:H	2:B:82:ALA:HB3	1.83	0.44
2:B:205:ASN:O	2:B:207:ARG:N	2.51	0.44
3:H:55:GLU:HB3	3:H:59:TYR:HD2	1.81	0.44
3:H:199:VAL:HG23	3:H:200:THR:N	2.32	0.44
1:C:37:GLN:HB2	1:C:43:LEU:CD2	2.48	0.44
1:C:142:LEU:HG	1:C:144:THR:OG1	2.17	0.44
2:D:10:ASN:N	2:D:10:ASN:OD1	2.51	0.44
3:I:55:GLU:HB3	3:I:59:TYR:HD2	1.82	0.44
3:I:232:GLU:HG2	3:I:233:THR:N	2.33	0.44
1:A:26:TYR:CD2	1:A:28:ALA:HB3	2.52	0.44
3:H:8:PHE:CE2	3:H:98:ILE:HD11	2.53	0.44
3:H:148:GLU:C	3:H:150:ALA:H	2.20	0.44
3:H:203:CYS:HG	3:H:259:CYS:HG	1.19	0.44
3:I:72:GLN:HA	3:I:75:ARG:CG	2.43	0.44
5:M:33:PRO:HD3	5:M:62:PHE:CE1	2.53	0.44
1:A:5:GLN:NE2	1:A:109:GLY:HA2	2.33	0.43
1:A:9:ARG:HA	1:A:111:LYS:O	2.18	0.43
2:B:33:TYR:O	2:B:92:CYS:HA	2.18	0.43
2:B:37:GLN:N	2:B:43:LEU:HD23	2.33	0.43
2:B:152:PHE:CD1	2:B:152:PHE:N	2.86	0.43
2:B:219:LEU:CD1	2:B:232:PRO:HD2	2.47	0.43
3:H:124:ILE:HG12	3:H:125:ALA:H	1.83	0.43
3:H:130:LEU:HB3	3:H:157:ARG:HD3	1.99	0.43
5:L:92:THR:CG2	5:L:93:VAL:N	2.81	0.43
1:C:167:VAL:CG1	1:C:168:LEU:N	2.80	0.43
3:I:60:TRP:O	3:I:61:GLU:C	2.56	0.43
3:I:78:LEU:HA	3:I:78:LEU:HD23	1.84	0.43
2:B:140:LYS:C	2:B:141:GLN:NE2	2.71	0.43
3:H:184:SER:HB3	3:H:266:LEU:HD21	2.01	0.43
1:C:16:ALA:O	1:C:78:ALA:O	2.37	0.43
2:D:88:SER:OG	2:D:89:VAL:N	2.51	0.43
3:I:103:VAL:HG13	3:I:168:LEU:HD23	2.00	0.43
3:I:199:VAL:HG23	3:I:200:THR:N	2.33	0.43
2:B:47:HIS:HE1	2:B:66:LYS:HA	1.82	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:231:LYS:HA	2:B:232:PRO:HD3	1.78	0.43
1:C:12:VAL:O	1:C:115:LEU:HG	2.18	0.43
1:C:24:TYR:CD2	1:C:71:SER:HB3	2.52	0.43
1:C:162:ILE:H	1:C:162:ILE:HG13	1.75	0.43
2:D:7:SER:HA	2:D:8:PRO:C	2.38	0.43
2:D:145:LEU:N	2:D:196:LEU:O	2.48	0.43
2:D:224:LYS:HE3	2:D:226:PRO:HB3	2.00	0.43
3:I:6:ARG:HH12	5:M:58:LYS:HE2	1.83	0.43
2:B:219:LEU:HG	2:B:232:PRO:O	2.18	0.43
3:I:151:GLY:O	3:I:154:GLU:N	2.52	0.43
2:B:31:ASN:O	2:B:95:GLY:N	2.51	0.43
3:H:104:GLY:N	3:H:110:LEU:CD1	2.81	0.43
3:H:202:ARG:HA	3:H:246:SER:CB	2.47	0.43
1:C:115:LEU:H	1:C:115:LEU:CD2	2.19	0.43
1:A:158:SER:C	1:A:160:THR:H	2.22	0.43
2:B:142:LYS:HA	2:B:199:SER:HA	2.00	0.43
3:H:65:GLN:O	3:H:66:LYS:C	2.56	0.43
1:C:134:ARG:NH2	2:D:240:GLU:O	2.52	0.43
1:C:136:GLN:O	1:C:137:ASP:C	2.57	0.43
3:I:8:PHE:CE1	3:I:27:TYR:HD2	2.36	0.43
3:I:185:PRO:HA	3:I:208:PHE:HB3	2.00	0.43
1:A:168:LEU:HB2	2:B:173:SER:OG	2.18	0.43
3:H:130:LEU:HB2	3:H:157:ARG:HD2	2.00	0.43
5:L:60:TRP:CE3	5:L:60:TRP:HA	2.53	0.43
5:L:60:TRP:HA	5:L:60:TRP:HE3	1.84	0.43
5:L:70:PHE:CD1	5:L:70:PHE:C	2.90	0.43
2:D:87:THR:O	2:D:88:SER:HB2	2.19	0.43
5:M:35:ILE:HD12	5:M:84:HIS:HD2	1.84	0.43
2:B:181:GLU:N	2:B:189:SER:O	2.48	0.43
3:H:72:GLN:O	3:H:76:VAL:HG23	2.19	0.43
3:H:231:VAL:O	3:H:231:VAL:HG23	2.19	0.43
3:H:244:TRP:CE3	3:H:244:TRP:O	2.71	0.43
1:C:15:GLY:O	1:C:79:SER:HA	2.19	0.43
1:C:89:PHE:CE1	1:C:109:GLY:HA3	2.54	0.43
2:D:15:THR:HG22	2:D:16:GLY:N	2.34	0.43
2:D:205:ASN:O	2:D:207:ARG:N	2.52	0.43
2:D:212:CYS:O	2:D:238:SER:CB	2.52	0.43
3:I:235:PRO:HD3	5:M:26:TYR:CE2	2.53	0.43
1:A:34:TRP:HA	1:A:89:PHE:O	2.19	0.43
2:B:7:SER:HA	2:B:8:PRO:C	2.39	0.43
2:B:87:THR:O	2:B:88:SER:HB2	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:189:VAL:HG12	3:H:190:THR:H	1.84	0.43
5:L:9:VAL:HG21	5:L:93:VAL:HG12	1.99	0.43
3:I:184:SER:HB3	3:I:266:LEU:CD2	2.47	0.43
2:B:122:VAL:HG21	2:B:232:PRO:CB	2.49	0.43
2:B:144:THR:O	2:B:145:LEU:HD23	2.19	0.43
3:H:12:VAL:CG1	3:H:21:ARG:HB3	2.49	0.43
3:H:36:PHE:HA	3:H:46:GLU:OE1	2.18	0.43
1:C:123:PRO:O	1:C:203:ASN:O	2.37	0.43
2:D:52:ALA:HA	2:D:69:ARG:CG	2.45	0.43
2:D:181:GLU:N	2:D:189:SER:O	2.50	0.43
3:I:64:THR:O	3:I:67:ALA:HB3	2.19	0.43
3:I:234:ARG:HG2	5:M:10:TYR:CE1	2.53	0.43
3:I:261:VAL:HB	3:I:270:LEU:HB2	2.00	0.43
5:M:96:ASP:OD1	5:M:96:ASP:O	2.36	0.43
2:B:25:GLN:HE21	2:B:28:ASN:N	2.17	0.42
2:B:140:LYS:CA	2:B:141:GLN:NE2	2.82	0.42
2:B:224:LYS:O	2:B:226:PRO:HD3	2.18	0.42
3:H:55:GLU:HA	3:H:55:GLU:OE1	2.18	0.42
3:H:175:GLY:HA3	3:H:179:LEU:HD12	2.00	0.42
3:H:185:PRO:HA	3:H:208:PHE:HB3	2.01	0.42
1:A:24:TYR:HE2	1:A:72:SER:H	1.66	0.42
1:A:181:ILE:HD11	2:B:146:VAL:CB	2.47	0.42
3:H:144:LYS:O	3:H:145:HIS:C	2.57	0.42
5:L:9:VAL:CG2	5:L:93:VAL:HG12	2.49	0.42
1:C:104:LEU:HA	1:C:104:LEU:HD23	1.66	0.42
2:D:27:ASN:CB	2:D:29:HIS:CD2	3.02	0.42
3:I:238:ASP:OD1	3:I:238:ASP:C	2.58	0.42
1:A:22:CYS:H	1:A:74:HIS:HD2	1.62	0.42
2:B:32:MET:HG2	2:B:75:PHE:CB	2.50	0.42
2:B:122:VAL:O	2:B:123:THR:CB	2.66	0.42
3:H:249:VAL:HB	3:H:257:TYR:CE1	2.55	0.42
3:H:257:TYR:O	3:H:273:ARG:HG3	2.19	0.42
1:C:2:SER:O	1:C:24:TYR:HA	2.19	0.42
1:C:19:GLN:CD	1:C:76:ARG:HH21	2.22	0.42
1:C:25:SER:O	1:C:26:TYR:HB2	2.19	0.42
1:C:172:ALA:O	1:C:173:MET:HB3	2.19	0.42
2:D:12:VAL:CG2	2:D:218:GLY:HA2	2.49	0.42
2:D:15:THR:OG1	2:D:116(A):LEU:O	2.29	0.42
3:I:260:HIS:CE1	3:I:271:THR:HG23	2.55	0.42
5:M:49:VAL:O	5:M:49:VAL:HG13	2.19	0.42
1:A:82:TRP:O	1:A:84:ASP:N	2.52	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:114:LEU:HD12	2:B:115:SER:N	2.34	0.42
2:B:145:LEU:HD12	2:B:196:LEU:HD23	2.00	0.42
2:B:145:LEU:CD1	2:B:196:LEU:HD23	2.49	0.42
3:H:23:MET:HB3	3:H:37:ASP:HA	2.00	0.42
5:L:13:HIS:CB	5:L:14:PRO:CD	2.96	0.42
1:C:33:PHE:HD1	1:C:91:ALA:O	2.03	0.42
1:C:122:GLU:O	1:C:124:ALA:N	2.48	0.42
3:I:271:THR:O	3:I:272:LEU:HD23	2.19	0.42
3:H:22:TYR:HE2	3:H:74:PHE:HD2	1.67	0.42
5:L:33:PRO:HD3	5:L:62:PHE:CZ	2.54	0.42
1:C:173:MET:HE2	1:C:174:ASP:OD1	2.19	0.42
2:D:31:ASN:O	2:D:95:GLY:N	2.52	0.42
2:D:132:PRO:HG2	2:D:137:ILE:HD11	2.01	0.42
3:I:11:ALA:HB2	3:I:22:TYR:HD2	1.85	0.42
3:I:23:MET:HB3	3:I:37:ASP:HA	2.00	0.42
3:I:175:GLY:HA3	3:I:179:LEU:HD12	2.01	0.42
3:I:247:VAL:HG22	3:I:248:VAL:N	2.33	0.42
5:M:23:LEU:O	5:M:67:HIS:HA	2.19	0.42
1:A:134:ARG:NH2	2:B:240:GLU:O	2.52	0.42
1:A:173:MET:HE3	1:A:174:ASP:OD1	2.19	0.42
3:H:5:LEU:HD11	3:H:171:TYR:HE2	1.83	0.42
1:C:75:LEU:CD1	1:C:76:ARG:N	2.81	0.42
3:I:133:TRP:CH2	3:I:156:LEU:HD12	2.53	0.42
1:A:112:VAL:C	1:A:113:ILE:HG13	2.40	0.42
2:B:45:LEU:HD12	2:B:46:ILE:N	2.34	0.42
4:P:8:VAL:OXT	4:P:8:VAL:CG1	2.67	0.42
1:C:37:GLN:O	1:C:86:ALA:HB1	2.20	0.42
3:I:6:ARG:HH12	5:M:58:LYS:CE	2.32	0.42
3:I:23:MET:CB	3:I:36:PHE:O	2.68	0.42
3:I:115:GLN:HG3	5:M:60:TRP:HH2	1.84	0.42
3:H:217:TRP:CZ3	3:H:259:CYS:HB2	2.55	0.42
1:C:117:TYR:CE2	1:C:119:GLN:HG2	2.55	0.42
2:D:21:LEU:HD12	2:D:77:LEU:HB3	2.00	0.42
2:D:163:VAL:HG23	2:D:168:VAL:HG21	2.02	0.42
3:I:97:VAL:HG11	3:I:116:TYR:CZ	2.55	0.42
3:I:130:LEU:HB2	3:I:157:ARG:HD2	2.00	0.42
1:A:26:TYR:CZ	3:H:62:ARG:HD2	2.55	0.42
1:A:27:SER:O	1:A:28:ALA:HB2	2.20	0.42
2:B:34:TRP:CD1	2:B:75:PHE:CE2	3.08	0.42
2:B:209:HIS:HB2	2:B:242:TRP:CZ2	2.55	0.42
3:H:209:TYR:CG	3:H:210:PRO:CD	3.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:8:ALA:HA	1:C:109:GLY:O	2.20	0.42
2:D:47:HIS:HE1	2:D:66:LYS:HA	1.84	0.42
2:D:122:VAL:HG12	2:D:153:PHE:CD2	2.54	0.42
2:D:140:LYS:CA	2:D:141:GLN:HE21	2.32	0.42
2:D:178:ALA:HB2	2:D:192:LEU:HD13	2.02	0.42
3:I:151:GLY:O	3:I:152:GLU:C	2.57	0.42
5:M:54:MET:CE	5:M:62:PHE:HD2	2.32	0.42
1:A:22:CYS:N	1:A:74:HIS:CD2	2.81	0.42
3:H:8:PHE:CD1	3:H:27:TYR:HD2	2.36	0.42
1:C:24:TYR:HE2	1:C:72:SER:H	1.67	0.42
1:C:71:SER:O	1:C:72:SER:CB	2.68	0.42
3:I:8:PHE:CD1	3:I:27:TYR:HD2	2.37	0.42
3:I:85:TYR:O	3:I:86:ASN:CB	2.65	0.42
3:I:194:ARG:CG	3:I:195:PRO:HD2	2.43	0.42
3:I:199:VAL:CG2	3:I:200:THR:N	2.82	0.42
1:A:36:VAL:HG13	1:A:46:LEU:CG	2.43	0.41
1:A:181:ILE:HD13	2:B:146:VAL:HG21	2.02	0.41
2:B:122:VAL:CB	2:B:153:PHE:CE2	2.98	0.41
3:H:28:VAL:O	3:H:28:VAL:HG23	2.20	0.41
3:H:175:GLY:O	3:H:176:ASN:C	2.58	0.41
3:H:219:LEU:O	3:H:220:ASN:HB2	2.19	0.41
3:H:242:GLN:NE2	5:L:12:ARG:O	2.53	0.41
5:L:7:ILE:HG12	5:L:27:VAL:HG13	2.02	0.41
5:L:32:PRO:HA	5:L:33:PRO:HD2	1.45	0.41
3:I:204:TRP:CH2	3:I:244:TRP:CD1	3.09	0.41
5:M:17:ASN:HD22	5:M:17:ASN:HA	1.63	0.41
5:M:55:SER:CB	5:M:63:TYR:CZ	3.03	0.41
2:B:178:ALA:HB2	2:B:192:LEU:HD13	2.02	0.41
3:H:116:TYR:CZ	3:H:147:TRP:HH2	2.38	0.41
3:H:124:ILE:HG12	3:H:125:ALA:N	2.35	0.41
5:L:12:ARG:HB3	5:L:13:HIS:H	1.67	0.41
5:L:70:PHE:HD2	5:L:78:TYR:CE2	2.37	0.41
2:D:13:ALA:HB3	2:D:116:VAL:HG22	2.01	0.41
2:D:155:ASP:HB3	2:D:190:TYR:CD2	2.55	0.41
2:D:161:TRP:CD1	2:D:172:VAL:CG2	3.03	0.41
3:I:72:GLN:O	3:I:76:VAL:HG23	2.20	0.41
3:I:226:GLN:C	3:I:228:MET:H	2.24	0.41
5:M:55:SER:HB2	5:M:63:TYR:CE1	2.56	0.41
1:A:3:VAL:HG21	1:A:107:GLY:CA	2.51	0.41
1:A:33:PHE:CE1	1:A:104:LEU:HD21	2.55	0.41
1:A:172:ALA:O	1:A:173:MET:HB3	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:130:LEU:CB	3:H:157:ARG:HD2	2.51	0.41
3:H:187:ALA:CB	3:H:272:LEU:HD11	2.51	0.41
1:C:14:GLU:CA	1:C:114:VAL:CG2	2.97	0.41
1:C:36:VAL:CG1	1:C:88:TYR:CE1	3.02	0.41
2:D:221:GLU:H	2:D:221:GLU:HG2	1.53	0.41
3:I:89:LYS:HG3	3:I:90:GLY:H	1.83	0.41
3:I:215:LEU:HD23	3:I:261:VAL:HA	2.01	0.41
3:I:244:TRP:CZ2	5:M:99:MET:HG3	2.55	0.41
5:M:30:PHE:CE1	5:M:62:PHE:HB2	2.56	0.41
5:M:57:SER:O	5:M:60:TRP:N	2.53	0.41
1:A:104:LEU:HD23	1:A:104:LEU:HA	1.73	0.41
2:B:1:GLU:O	2:B:2:ALA:HB3	2.20	0.41
2:B:49:SER:OG	2:B:69:ARG:NE	2.54	0.41
3:H:111:ARG:NH1	3:H:113:TYR:HD2	2.18	0.41
3:H:191:HIS:CE1	3:H:199:VAL:HG21	2.54	0.41
3:I:79:ARG:O	3:I:82:LEU:HB2	2.21	0.41
3:I:217:TRP:CH2	3:I:259:CYS:HB2	2.56	0.41
5:M:96:ASP:O	5:M:97:ARG:C	2.59	0.41
1:A:123:PRO:O	1:A:203:ASN:O	2.39	0.41
3:H:26:GLY:C	3:H:33:PHE:CE1	2.93	0.41
1:C:32:LEU:CD2	1:C:92:VAL:HG12	2.50	0.41
1:C:99:GLY:O	4:Q:4:LYS:NZ	2.41	0.41
1:C:126:TYR:HB2	1:C:142:LEU:CD2	2.51	0.41
2:D:37:GLN:N	2:D:43:LEU:HD23	2.35	0.41
2:D:194:SER:OG	2:D:195:ARG:N	2.53	0.41
3:I:8:PHE:CE1	3:I:27:TYR:CD2	3.08	0.41
3:I:14:ARG:HB2	3:I:17:LEU:HB2	2.03	0.41
3:I:35:ARG:O	3:I:46:GLU:OE1	2.38	0.41
3:I:144:LYS:O	3:I:145:HIS:C	2.58	0.41
3:I:217:TRP:CZ3	3:I:259:CYS:HB2	2.54	0.41
3:I:262:TYR:CD1	3:I:269:PRO:HB3	2.47	0.41
1:A:89:PHE:CE1	1:A:109:GLY:HA3	2.55	0.41
2:B:147:CYS:CB	2:B:212:CYS:SG	3.08	0.41
3:H:99:SER:HA	3:H:113:TYR:O	2.20	0.41
5:L:49:VAL:O	5:L:49:VAL:HG13	2.21	0.41
1:C:33:PHE:CE1	1:C:104:LEU:HD21	2.56	0.41
2:D:59:ASP:O	2:D:61:PRO:HD3	2.20	0.41
2:D:154:PRO:C	2:D:156:HIS:N	2.72	0.41
3:I:26:GLY:C	3:I:33:PHE:CE1	2.93	0.41
3:I:65:GLN:O	3:I:66:LYS:C	2.58	0.41
3:I:156:LEU:O	3:I:160:LEU:HG	2.21	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:210:PRO:O	3:I:263:HIS:CE1	2.74	0.41
4:Q:5:PHE:CD1	4:Q:5:PHE:N	2.81	0.41
1:A:15:GLY:O	1:A:79:SER:HA	2.21	0.41
1:A:146:PHE:CZ	1:A:179:GLY:HA2	2.56	0.41
2:B:44:ARG:HB3	2:B:60:ILE:CD1	2.50	0.41
2:B:66:LYS:O	2:B:77:LEU:HD12	2.20	0.41
2:B:123:THR:N	2:B:153:PHE:HD1	2.07	0.41
3:H:8:PHE:O	3:H:24:GLU:HA	2.21	0.41
3:H:78:LEU:HA	3:H:78:LEU:HD23	1.87	0.41
5:L:31:HIS:HD1	5:L:32:PRO:HD3	1.86	0.41
5:M:32:PRO:HA	5:M:33:PRO:HD2	1.53	0.41
3:H:104:GLY:O	3:H:106:ASP:N	2.49	0.41
3:H:133:TRP:HB2	3:H:144:LYS:HG3	2.02	0.41
3:H:270:LEU:HD23	3:H:270:LEU:HA	1.95	0.41
1:C:144:THR:CG2	1:C:145:ASP:N	2.84	0.41
2:D:17:GLY:H	2:D:82:ALA:HB3	1.86	0.41
2:D:153:PHE:CD2	2:D:154:PRO:CD	3.04	0.41
3:I:203:CYS:O	3:I:244:TRP:HA	2.21	0.41
1:A:85:SER:O	1:A:86:ALA:HB2	2.20	0.41
1:A:174:ASP:C	1:A:175:SER:OG	2.55	0.41
2:B:36:ARG:HG3	2:B:36:ARG:O	2.21	0.41
3:H:63:GLU:O	3:H:64:THR:C	2.57	0.41
5:L:25:CYS:HG	5:L:80:CYS:CB	2.32	0.41
5:L:31:HIS:NE2	5:L:62:PHE:HE1	2.19	0.41
1:C:71:SER:O	1:C:72:SER:HB3	2.21	0.41
1:C:190:THR:O	1:C:191:CYS:C	2.59	0.41
2:D:96:GLY:O	2:D:105:THR:HG22	2.21	0.41
2:D:120:ARG:HA	2:D:225:TRP:HZ3	1.85	0.41
2:D:154:PRO:O	2:D:156:HIS:N	2.53	0.41
3:I:100:GLY:N	3:I:113:TYR:O	2.54	0.41
3:I:152:GLU:O	3:I:156:LEU:HB2	2.21	0.41
5:M:60:TRP:CE3	5:M:60:TRP:HA	2.56	0.41
1:A:34:TRP:NE1	1:A:73:PHE:O	2.53	0.41
1:A:36:VAL:CG1	1:A:88:TYR:CE1	3.04	0.41
1:A:133:PRO:CG	2:B:131:GLU:OE2	2.69	0.41
2:B:225:TRP:HA	2:B:225:TRP:HE3	1.86	0.41
3:H:54:GLN:OE1	3:H:174:ASN:HB3	2.20	0.41
1:C:161:PHE:O	1:C:182:ALA:HA	2.20	0.41
2:D:66:LYS:O	2:D:77:LEU:HD12	2.20	0.41
2:D:122:VAL:CB	2:D:153:PHE:CD1	3.03	0.41
2:B:28:ASN:ND2	2:B:72:GLN:OE1	2.55	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:72:GLN:HA	3:H:75:ARG:CG	2.46	0.40
3:H:226:GLN:C	3:H:228:MET:H	2.24	0.40
2:D:134:LYS:CA	2:D:137:ILE:HD12	2.47	0.40
2:D:135:ALA:O	2:D:139:ASN:N	2.55	0.40
1:A:190:THR:O	1:A:191:CYS:C	2.57	0.40
2:B:134:LYS:CA	2:B:137:ILE:HD12	2.49	0.40
2:B:153:PHE:CZ	2:B:216:PHE:HZ	2.39	0.40
1:C:36:VAL:O	1:C:36:VAL:HG23	2.21	0.40
3:I:13:SER:HB3	3:I:78:LEU:HD13	2.02	0.40
3:I:133:TRP:HB2	3:I:144:LYS:HG3	2.03	0.40
5:M:13:HIS:CB	5:M:14:PRO:CD	2.98	0.40
2:B:12:VAL:HA	2:B:115:SER:O	2.22	0.40
2:B:142:LYS:HB2	2:B:197:ARG:HE	1.84	0.40
2:B:180:LYS:HE2	2:B:181:GLU:O	2.21	0.40
3:H:50:ARG:O	3:H:53:GLU:HB2	2.22	0.40
5:L:57:SER:O	5:L:60:TRP:N	2.54	0.40
1:C:5:GLN:HE21	1:C:5:GLN:HB3	1.69	0.40
3:I:93:HIS:HD1	3:I:118:TYR:HH	1.68	0.40
3:I:168:LEU:HD12	3:I:168:LEU:C	2.40	0.40
5:M:62:PHE:CD1	5:M:62:PHE:N	2.89	0.40
1:A:115:LEU:HB2	1:A:148:SER:HB3	2.02	0.40
2:B:19:VAL:O	2:B:79:LEU:HG	2.21	0.40
2:B:174:THR:HA	2:B:194:SER:HB2	2.02	0.40
3:H:123:TYR:CE1	3:H:140:ALA:HB2	2.57	0.40
1:C:31:TYR:HB2	1:C:93:SER:HB3	2.02	0.40
1:C:127:ALA:O	1:C:128:LEU:HD23	2.21	0.40
1:C:146:PHE:CE2	1:C:178:ASN:HB2	2.56	0.40
1:C:182:ALA:HB1	1:C:194:ILE:HD13	2.04	0.40
1:C:186:GLN:OE1	1:C:187:THR:N	2.55	0.40
3:I:96:GLN:O	3:I:97:VAL:HG13	2.22	0.40
3:I:130:LEU:HB3	3:I:157:ARG:CD	2.51	0.40
3:I:187:ALA:CA	3:I:204:TRP:O	2.68	0.40
4:Q:8:VAL:OXT	4:Q:8:VAL:CG1	2.70	0.40
1:A:141:CYS:HG	1:A:191:CYS:HG	1.47	0.40
2:B:88:SER:HB3	2:B:90:TYR:CE1	2.56	0.40
2:B:146:VAL:HA	2:B:195:ARG:HA	2.03	0.40
2:B:154:PRO:C	2:B:156:HIS:N	2.73	0.40
3:H:217:TRP:H	3:H:228:MET:CE	2.34	0.40
5:L:23:LEU:O	5:L:67:HIS:HA	2.21	0.40
1:C:36:VAL:CG1	1:C:46:LEU:HD11	2.52	0.40
2:D:119:LEU:HD12	2:D:119:LEU:HA	1.88	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:144:THR:C	2:D:145:LEU:HD23	2.41	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	200/202 (99%)	144 (72%)	35 (18%)	21 (10%)	0	2
1	C	200/202 (99%)	146 (73%)	32 (16%)	22 (11%)	0	2
2	B	235/237 (99%)	181 (77%)	43 (18%)	11 (5%)	2	14
2	D	235/237 (99%)	181 (77%)	44 (19%)	10 (4%)	2	15
3	H	272/274 (99%)	205 (75%)	50 (18%)	17 (6%)	1	7
3	I	272/274 (99%)	203 (75%)	53 (20%)	16 (6%)	1	9
4	P	6/8 (75%)	3 (50%)	2 (33%)	1 (17%)	0	0
4	Q	6/8 (75%)	3 (50%)	2 (33%)	1 (17%)	0	0
5	L	97/99 (98%)	65 (67%)	18 (19%)	14 (14%)	0	1
5	M	97/99 (98%)	65 (67%)	17 (18%)	15 (16%)	0	1
All	All	1620/1640 (99%)	1196 (74%)	296 (18%)	128 (8%)	1	4

All (128) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	16	ALA
1	A	71	SER
1	A	101	ALA
1	A	102	SER
1	A	137	ASP
1	A	173	MET

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Mol	Chain	Res	Type
1	A	187	THR
1	A	210	ASP
2	B	164	ASN
3	H	137	ASP
3	H	176	ASN
3	H	209	TYR
3	H	210	PRO
3	H	226	GLN
3	H	238	ASP
4	P	5	PHE
5	L	31	HIS
5	L	58	LYS
5	L	76	ASP
5	L	90	PRO
5	L	91	LYS
1	C	16	ALA
1	C	71	SER
1	C	101	ALA
1	C	102	SER
1	C	173	MET
1	C	187	THR
1	C	210	ASP
3	I	137	ASP
3	I	176	ASN
3	I	209	TYR
3	I	210	PRO
3	I	226	GLN
3	I	238	ASP
4	Q	5	PHE
5	M	31	HIS
5	M	58	LYS
5	M	76	ASP
5	M	90	PRO
5	M	91	LYS
1	A	26	TYR
1	A	69	SER
1	A	83	SER
1	A	105	THR
1	A	176	LYS
2	B	139	ASN
2	B	155	ASP
3	H	196	GLU

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Mol	Chain	Res	Type
3	H	264	GLN
5	L	16	GLU
5	L	32	PRO
5	L	42	ASN
5	L	50	GLU
5	L	69	GLU
5	L	74	GLU
1	C	26	TYR
1	C	69	SER
1	C	83	SER
1	C	105	THR
1	C	137	ASP
2	D	139	ASN
2	D	155	ASP
2	D	164	ASN
3	I	196	GLU
3	I	264	GLN
5	M	16	GLU
5	M	32	PRO
5	M	42	ASN
5	M	50	GLU
5	M	69	GLU
5	M	74	GLU
1	A	39	PRO
1	A	72	SER
1	A	204	ALA
2	B	61	PRO
2	B	98	GLY
2	B	123	THR
2	B	199	SER
3	H	29	ASP
3	H	268	GLU
1	C	39	PRO
1	C	72	SER
1	C	108	SER
1	C	204	ALA
2	D	61	PRO
2	D	98	GLY
2	D	204	HIS
3	I	29	ASP
3	I	255	GLN
3	I	268	GLU

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Mol	Chain	Res	Type
5	M	33	PRO
1	A	82	TRP
1	A	86	ALA
1	A	108	SER
3	H	130	LEU
3	H	149	GLN
5	L	33	PRO
5	L	68	THR
1	C	82	TRP
1	C	86	ALA
1	C	176	LYS
2	D	199	SER
2	D	206	PRO
3	I	62	ARG
3	I	130	LEU
3	I	149	GLN
3	I	152	GLU
5	M	68	THR
5	M	98	ASP
2	B	70	PRO
2	B	121	ASN
2	B	206	PRO
3	H	62	ARG
3	H	71	GLU
3	H	152	GLU
3	H	255	GLN
2	D	70	PRO
2	D	123	THR
3	I	60	TRP
1	A	150	ILE
2	B	204	HIS
3	H	140	ALA
5	L	12	ARG
1	C	174	ASP
5	M	12	ARG
1	C	99	GLY
1	C	150	ILE
1	A	99	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	176/176 (100%)	143 (81%)	33 (19%)	1	8
1	C	176/176 (100%)	146 (83%)	30 (17%)	2	10
2	B	200/200 (100%)	161 (80%)	39 (20%)	1	7
2	D	200/200 (100%)	158 (79%)	42 (21%)	1	5
3	H	232/232 (100%)	203 (88%)	29 (12%)	4	20
3	I	232/232 (100%)	203 (88%)	29 (12%)	4	20
4	P	8/8 (100%)	7 (88%)	1 (12%)	4	20
4	Q	8/8 (100%)	7 (88%)	1 (12%)	4	20
5	L	94/94 (100%)	76 (81%)	18 (19%)	1	8
5	M	94/94 (100%)	75 (80%)	19 (20%)	1	6
All	All	1420/1420 (100%)	1179 (83%)	241 (17%)	2	10

All (241) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	7	ASP
1	A	13	SER
1	A	19	GLN
1	A	21	ARG
1	A	33	PHE
1	A	38	TYR
1	A	43	LEU
1	A	47	LEU
1	A	48	LYS
1	A	56	VAL
1	A	65	GLU
1	A	67	SER
1	A	71	SER
1	A	72	SER
1	A	76	ARG
1	A	87	VAL

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Mol	Chain	Res	Type
1	A	108	SER
1	A	115	LEU
1	A	136	GLN
1	A	140	LEU
1	A	142	LEU
1	A	143	PHE
1	A	146	PHE
1	A	149	GLN
1	A	156	MET
1	A	161	PHE
1	A	166	THR
1	A	174	ASP
1	A	175	SER
1	A	189	PHE
1	A	190	THR
1	A	192	GLN
1	A	197	GLU
2	B	10	ASN
2	B	21	LEU
2	B	22	SER
2	B	28	ASN
2	B	32	MET
2	B	39	THR
2	B	44	ARG
2	B	49	SER
2	B	56	GLU
2	B	57	LYS
2	B	71	SER
2	B	76	SER
2	B	78	ILE
2	B	79	LEU
2	B	83	THR
2	B	85	SER
2	B	123	THR
2	B	128	SER
2	B	139	ASN
2	B	141	GLN
2	B	145	LEU
2	B	152	PHE
2	B	153	PHE
2	B	158	GLU
2	B	159	LEU

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Mol	Chain	Res	Type
2	B	170	SER
2	B	173	SER
2	B	189	SER
2	B	191	CYS
2	B	194	SER
2	B	195	ARG
2	B	201	THR
2	B	211	ARG
2	B	219	LEU
2	B	236	ASN
2	B	237	ILE
2	B	238	SER
2	B	242	TRP
2	B	247	CYS
3	H	14	ARG
3	H	21	ARG
3	H	28	VAL
3	H	30	ASP
3	H	34	VAL
3	H	38	SER
3	H	45	TYR
3	H	52	MET
3	H	86	ASN
3	H	89	LYS
3	H	95	ILE
3	H	113	TYR
3	H	114	GLN
3	H	121	CYS
3	H	127	ASN
3	H	129	ASP
3	H	132	THR
3	H	174	ASN
3	H	180	LEU
3	H	199	VAL
3	H	200	THR
3	H	206	LEU
3	H	209	TYR
3	H	214	THR
3	H	227	ASP
3	H	240	THR
3	H	244	TRP
3	H	258	THR

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Mol	Chain	Res	Type
3	H	261	VAL
4	P	1	GLU
5	L	2	GLN
5	L	12	ARG
5	L	13	HIS
5	L	17	ASN
5	L	22	ILE
5	L	38	GLN
5	L	40	LEU
5	L	56	PHE
5	L	58	LYS
5	L	64	ILE
5	L	65	LEU
5	L	68	THR
5	L	70	PHE
5	L	74	GLU
5	L	80	CYS
5	L	87	MET
5	L	98	ASP
5	L	99	MET
1	C	7	ASP
1	C	13	SER
1	C	19	GLN
1	C	33	PHE
1	C	38	TYR
1	C	43	LEU
1	C	47	LEU
1	C	48	LYS
1	C	56	VAL
1	C	67	SER
1	C	71	SER
1	C	72	SER
1	C	76	ARG
1	C	87	VAL
1	C	93	SER
1	C	108	SER
1	C	115	LEU
1	C	136	GLN
1	C	140	LEU
1	C	142	LEU
1	C	143	PHE
1	C	146	PHE

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Mol	Chain	Res	Type
1	C	149	GLN
1	C	156	MET
1	C	161	PHE
1	C	166	THR
1	C	175	SER
1	C	189	PHE
1	C	192	GLN
1	C	197	GLU
2	D	10	ASN
2	D	21	LEU
2	D	28	ASN
2	D	32	MET
2	D	39	THR
2	D	49	SER
2	D	56	GLU
2	D	57	LYS
2	D	71	SER
2	D	76	SER
2	D	78	ILE
2	D	79	LEU
2	D	83	THR
2	D	85	SER
2	D	123	THR
2	D	127	VAL
2	D	128	SER
2	D	139	ASN
2	D	141	GLN
2	D	145	LEU
2	D	152	PHE
2	D	153	PHE
2	D	158	GLU
2	D	170	SER
2	D	172	VAL
2	D	173	SER
2	D	174	THR
2	D	189	SER
2	D	191	CYS
2	D	194	SER
2	D	195	ARG
2	D	201	THR
2	D	211	ARG
2	D	212	CYS

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Mol	Chain	Res	Type
2	D	219	LEU
2	D	221	GLU
2	D	225	TRP
2	D	236	ASN
2	D	237	ILE
2	D	238	SER
2	D	242	TRP
2	D	247	CYS
3	I	4	SER
3	I	14	ARG
3	I	21	ARG
3	I	28	VAL
3	I	30	ASP
3	I	34	VAL
3	I	45	TYR
3	I	52	MET
3	I	86	ASN
3	I	89	LYS
3	I	113	TYR
3	I	114	GLN
3	I	121	CYS
3	I	122	ASP
3	I	127	ASN
3	I	129	ASP
3	I	132	THR
3	I	174	ASN
3	I	180	LEU
3	I	199	VAL
3	I	200	THR
3	I	206	LEU
3	I	209	TYR
3	I	214	THR
3	I	227	ASP
3	I	240	THR
3	I	244	TRP
3	I	258	THR
3	I	261	VAL
4	Q	1	GLU
5	M	2	GLN
5	M	12	ARG
5	M	13	HIS
5	M	17	ASN

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Mol	Chain	Res	Type
5	M	22	ILE
5	M	38	GLN
5	M	40	LEU
5	M	56	PHE
5	M	58	LYS
5	M	64	ILE
5	M	65	LEU
5	M	68	THR
5	M	70	PHE
5	M	73	THR
5	M	74	GLU
5	M	80	CYS
5	M	87	MET
5	M	98	ASP
5	M	99	MET

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (45) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	74	HIS
1	A	136	GLN
1	A	149	GLN
1	A	151	ASN
1	A	192	GLN
2	B	27	ASN
2	B	28	ASN
2	B	29	HIS
2	B	31	ASN
2	B	47	HIS
2	B	141	GLN
2	B	213	GLN
2	B	215	GLN
2	B	217	HIS
3	H	42	ASN
3	H	96	GLN
3	H	127	ASN
3	H	174	ASN
3	H	260	HIS
3	H	263	HIS
4	P	2	GLN
5	L	17	ASN
1	C	74	HIS

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Mol	Chain	Res	Type
1	C	136	GLN
1	C	149	GLN
1	C	192	GLN
2	D	25	GLN
2	D	27	ASN
2	D	28	ASN
2	D	29	HIS
2	D	31	ASN
2	D	47	HIS
2	D	141	GLN
2	D	213	GLN
2	D	215	GLN
2	D	217	HIS
2	D	235	GLN
3	I	42	ASN
3	I	96	GLN
3	I	127	ASN
3	I	174	ASN
3	I	260	HIS
3	I	263	HIS
4	Q	2	GLN
5	M	17	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](#)

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

EDS was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates

EDS was not executed - this section is therefore empty.

6.4 Ligands

EDS was not executed - this section is therefore empty.

6.5 Other polymers

EDS was not executed - this section is therefore empty.