Full wwPDB X-ray Structure Validation Report ⓘ

Dec 12, 2023 – 04:08 pm GMT

PDB ID	:	2XWJ
Title	:	Crystal Structure of Complement C3b in Complex with Factor B
Authors	:	Forneris, F.; Ricklin, D.; Wu, J.; Tzekou, A.; Wallace, R.S.; Lambris, J.D.; Gros, P.
Deposited on	:	2010-11-04
Resolution	:	4.00 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:

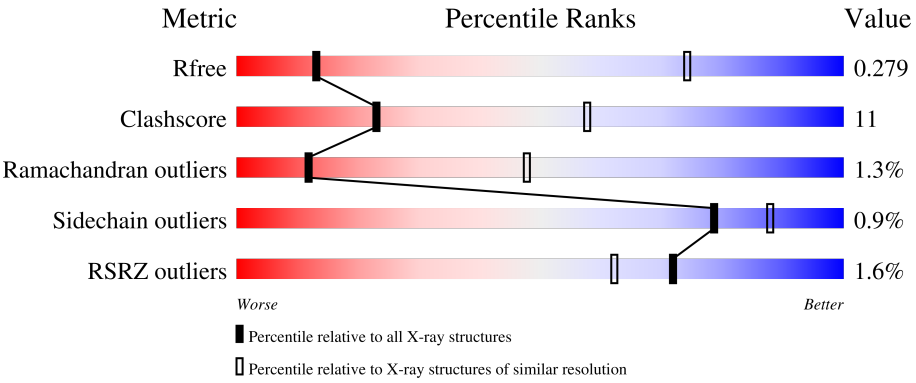
MolProbity	:	4.02b-467
Mogul	:	1.8.4, CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.36
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.36

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 4.00 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))
R_{free}	130704	1087 (4.30-3.70)
Clashscore	141614	1148 (4.30-3.70)
Ramachandran outliers	138981	1108 (4.30-3.70)
Sidechain outliers	138945	1099 (4.30-3.70)
RSRZ outliers	127900	1028 (4.34-3.66)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	645	2% 73% 25%
1	C	645	2% 74% 25%
1	E	645	2% 73% 26%
1	G	645	4% 73% 25%
2	B	915	% 72% 26%

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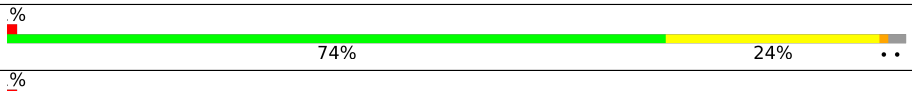
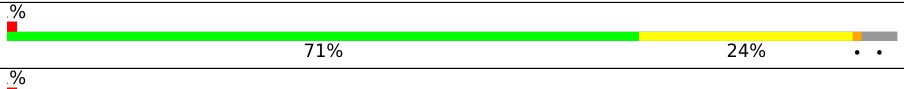
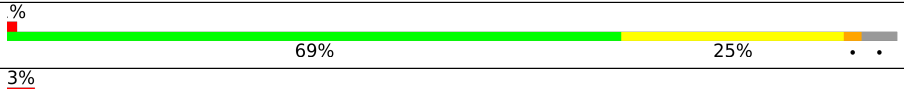
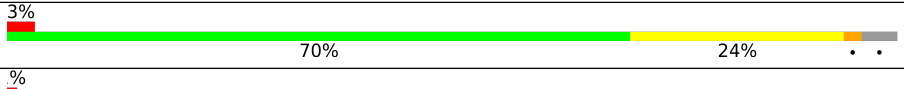
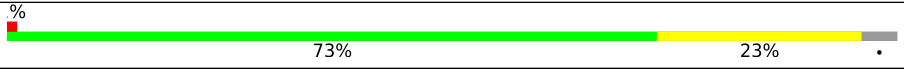
Mol	Chain	Length	Quality of chain
2	D	915	
2	F	915	
2	H	915	
3	I	741	
3	J	741	
3	K	741	
3	L	741	

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	NAG	B	1917	-	-	-	X
4	NAG	F	1917	-	-	-	X

2 Entry composition (i)

There are 6 unique types of molecules in this entry. The entry contains 71260 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 COMPLEMENT C3 BETA CHAIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	640	Total	C	N	O	S	0	0	0
			4992	3179	846	952	15			
1	C	640	Total	C	N	O	S	0	0	0
			4992	3179	846	952	15			
1	E	640	Total	C	N	O	S	0	0	0
			4992	3179	846	952	15			
1	G	640	Total	C	N	O	S	0	0	0
			4992	3179	846	952	15			

- Molecule 2 is a protein called COMPLEMENT C3 ALPHA CHAIN.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	901	Total	C	N	O	S	0	0	0
			7197	4563	1210	1386	38			
2	D	901	Total	C	N	O	S	0	0	0
			7197	4563	1210	1386	38			
2	F	901	Total	C	N	O	S	0	0	0
			7197	4563	1210	1386	38			
2	H	901	Total	C	N	O	S	0	0	0
			7197	4563	1210	1386	38			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	991	GLU	GLN	engineered mutation	UNP P01024
D	991	GLU	GLN	engineered mutation	UNP P01024
F	991	GLU	GLN	engineered mutation	UNP P01024
H	991	GLU	GLN	engineered mutation	UNP P01024

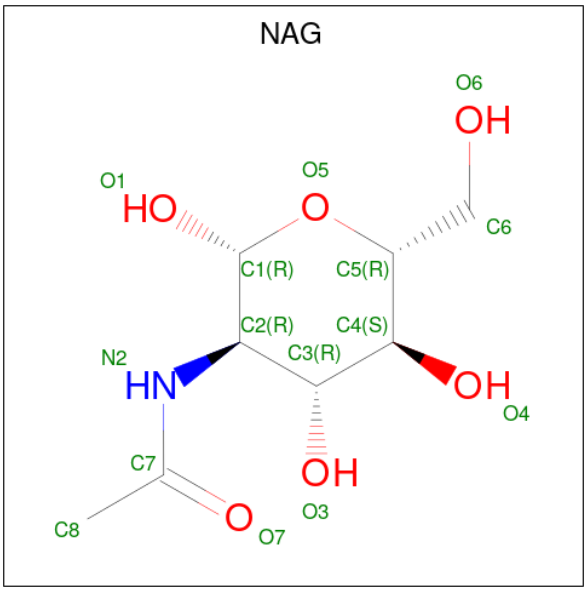
- Molecule 3 is a protein called COMPLEMENT FACTOR B.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	I	712	Total	C	N	O	S	0	0	0
			5593	3514	970	1076	33			
3	J	713	Total	C	N	O	S	0	0	0
			5596	3514	971	1078	33			
3	K	713	Total	C	N	O	S	0	0	0
			5603	3519	971	1080	33			
3	L	711	Total	C	N	O	S	0	0	0
			5588	3511	969	1075	33			

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
I	740	ALA	-	expression tag	UNP P00751
I	741	ALA	-	expression tag	UNP P00751
I	254	GLY	ASP	engineered mutation	UNP P00751
I	260	ASP	ASN	engineered mutation	UNP P00751
J	740	ALA	-	expression tag	UNP P00751
J	741	ALA	-	expression tag	UNP P00751
J	254	GLY	ASP	engineered mutation	UNP P00751
J	260	ASP	ASN	engineered mutation	UNP P00751
K	740	ALA	-	expression tag	UNP P00751
K	741	ALA	-	expression tag	UNP P00751
K	254	GLY	ASP	engineered mutation	UNP P00751
K	260	ASP	ASN	engineered mutation	UNP P00751
L	740	ALA	-	expression tag	UNP P00751
L	741	ALA	-	expression tag	UNP P00751
L	254	GLY	ASP	engineered mutation	UNP P00751
L	260	ASP	ASN	engineered mutation	UNP P00751

- Molecule 4 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula: $C_8H_{15}NO_6$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	B	1	Total C N O 14 8 1 5	0	0
4	D	1	Total C N O 14 8 1 5	0	0
4	F	1	Total C N O 14 8 1 5	0	0
4	H	1	Total C N O 14 8 1 5	0	0
4	I	1	Total C N O 14 8 1 5	0	0
4	J	1	Total C N O 14 8 1 5	0	0
4	K	1	Total C N O 14 8 1 5	0	0
4	L	1	Total C N O 14 8 1 5	0	0

- Molecule 5 is NICKEL (II) ION (three-letter code: NI) (formula: Ni).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	I	1	Total Ni 1 1	0	0
5	J	1	Total Ni 1 1	0	0
5	K	1	Total Ni 1 1	0	0
5	L	1	Total Ni 1 1	0	0

- Molecule 6 is water.

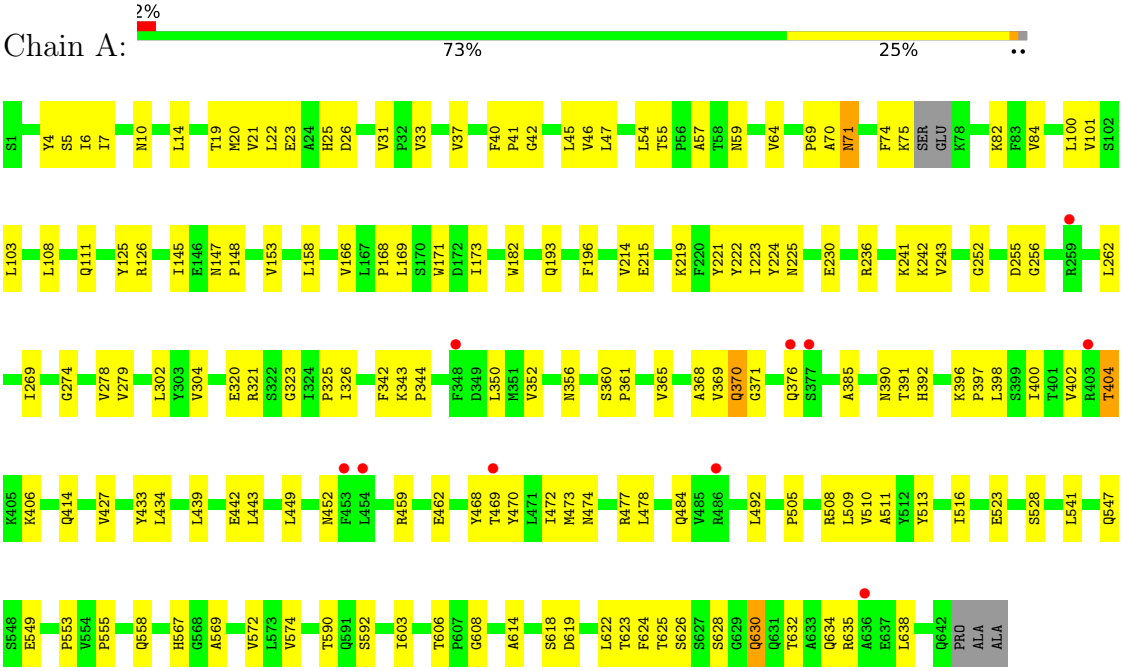
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
6	I	2	Total O 2 2	0	0
6	J	2	Total O 2 2	0	0
6	K	1	Total O 1 1	0	0
6	K	1	Total O 1 1	0	0
6	L	2	Total O 2 2	0	0

3 Residue-property plots (i)

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

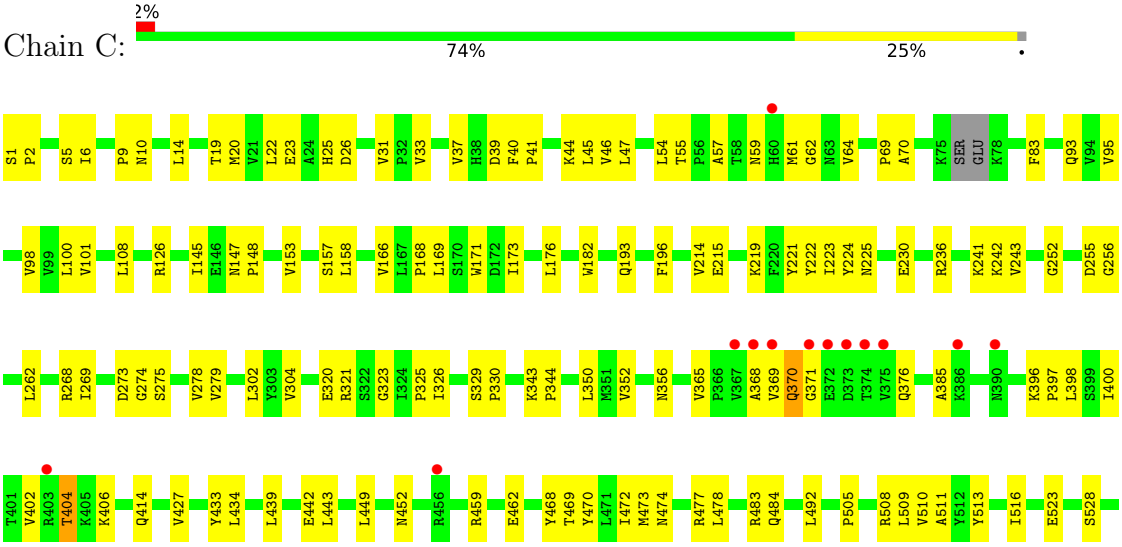
• Molecule 1: COMPLEMENT C3 BETA CHAIN

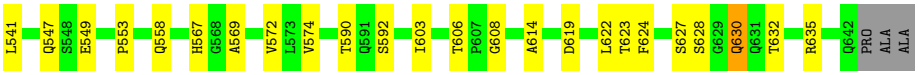
Chain A:



• Molecule 1: COMPLEMENT C3 BETA CHAIN

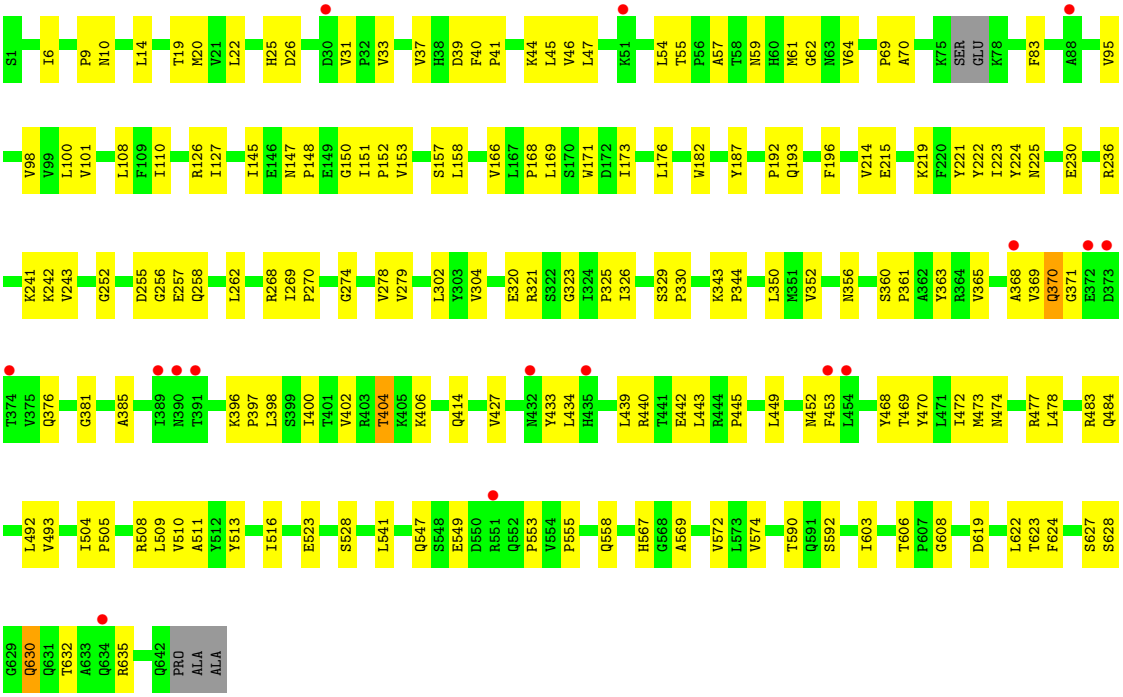
Chain C:





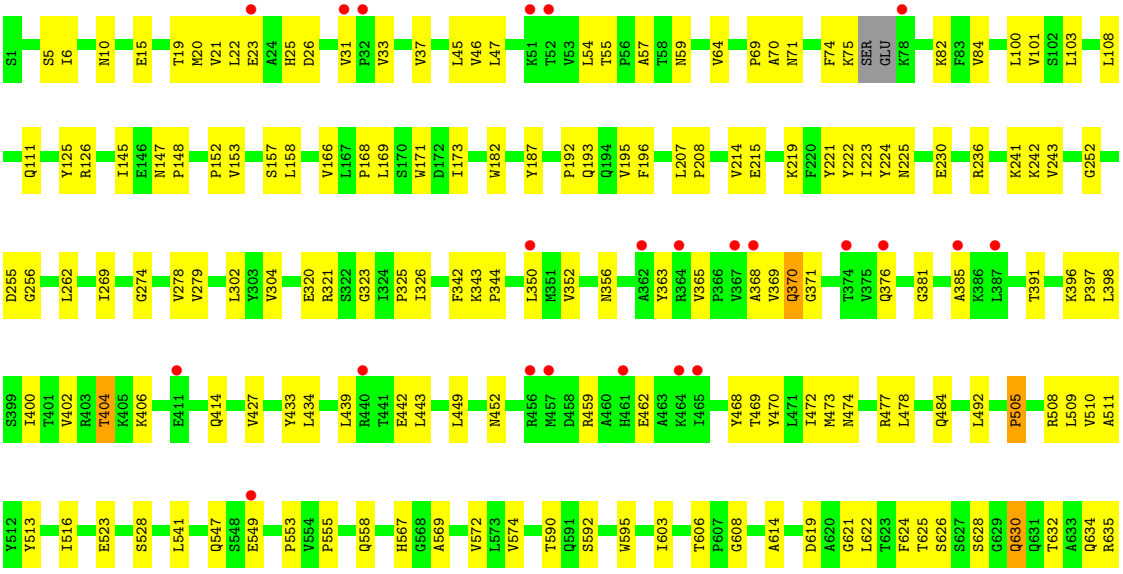
• Molecule 1: COMPLEMENT C3 BETA CHAIN

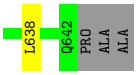
Chain E:



• Molecule 1: COMPLEMENT C3 BETA CHAIN

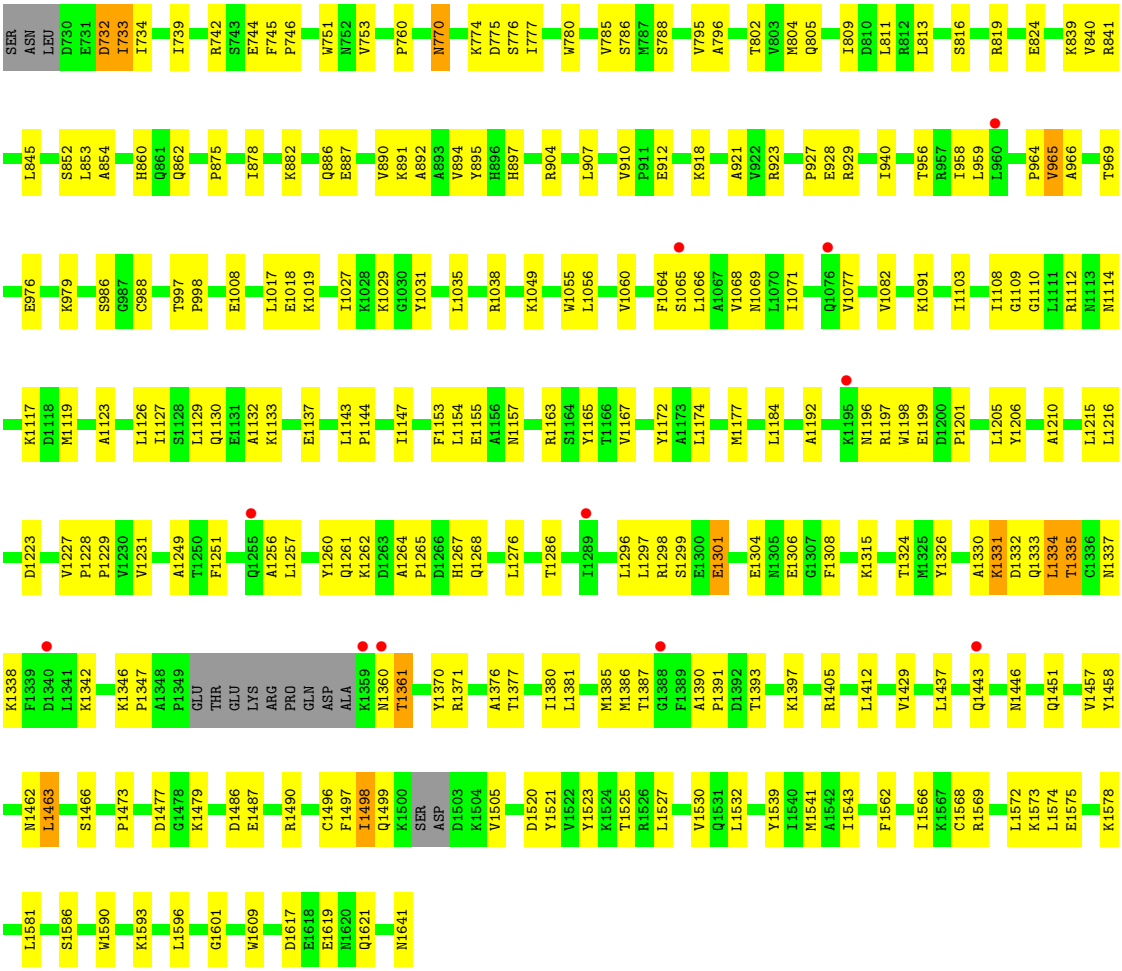
Chain G:





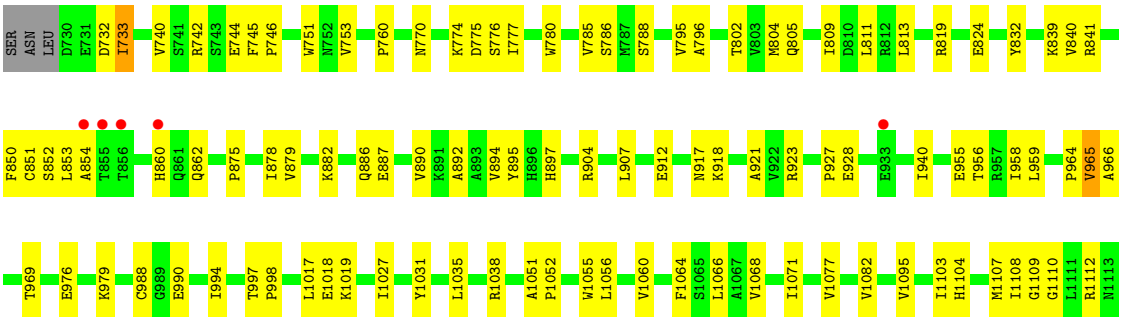
• Molecule 2: COMPLEMENT C3 ALPHA CHAIN

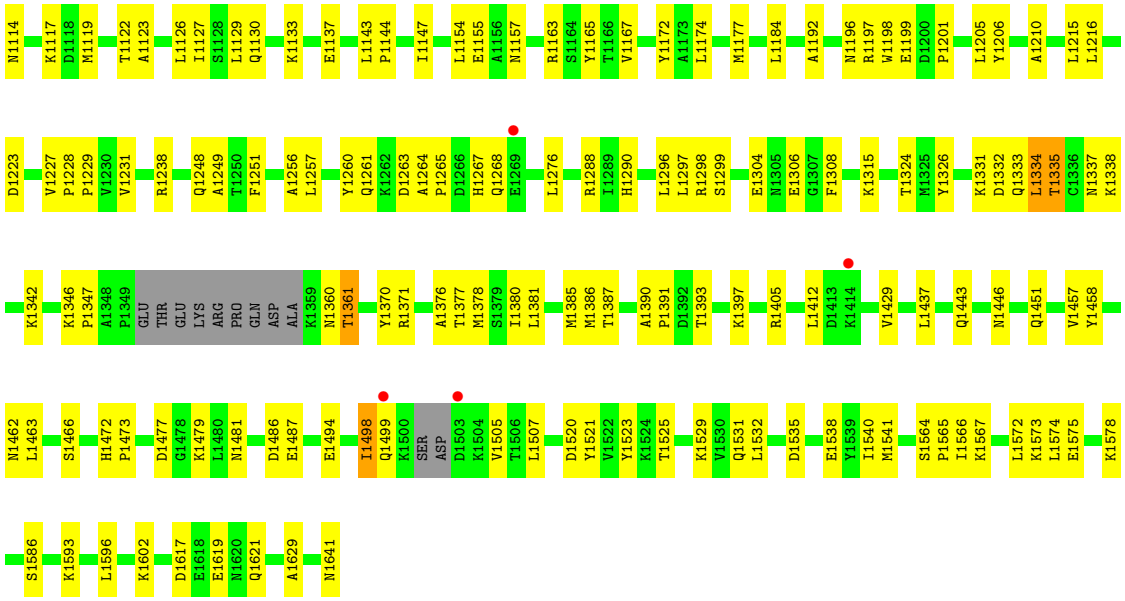
Chain B:



• Molecule 2: COMPLEMENT C3 ALPHA CHAIN

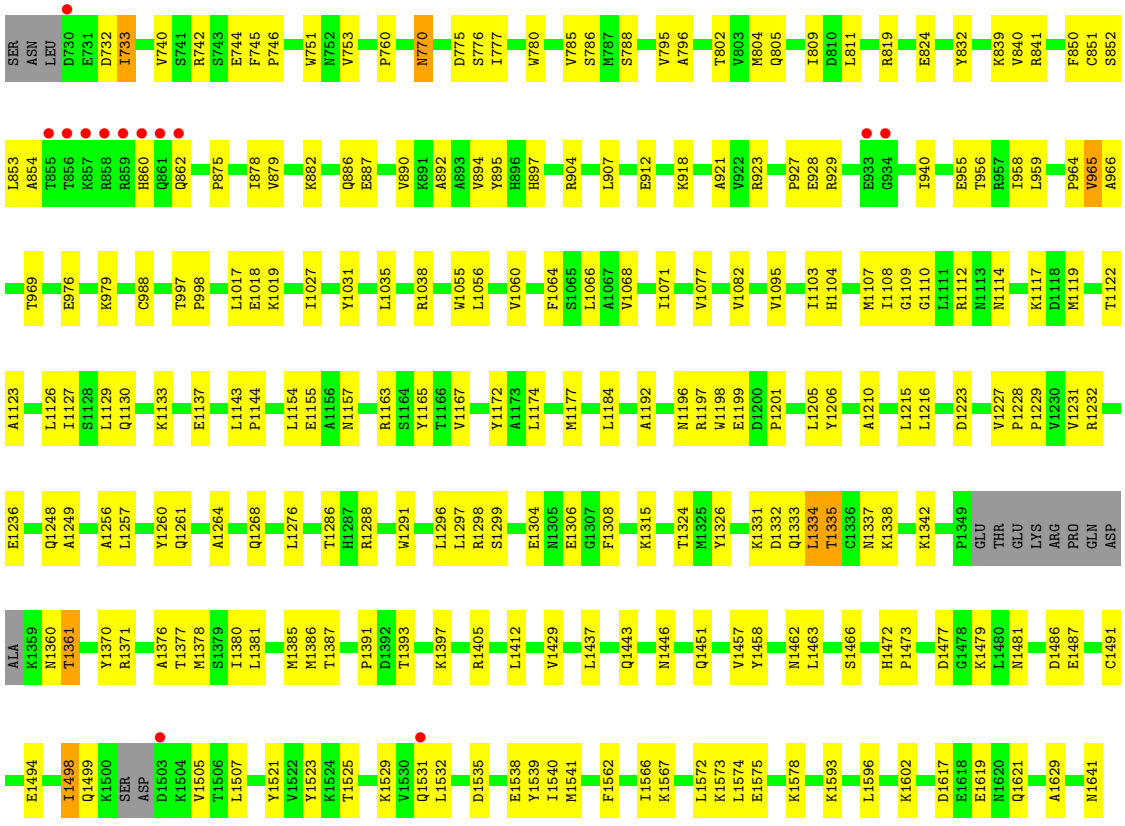
Chain D:





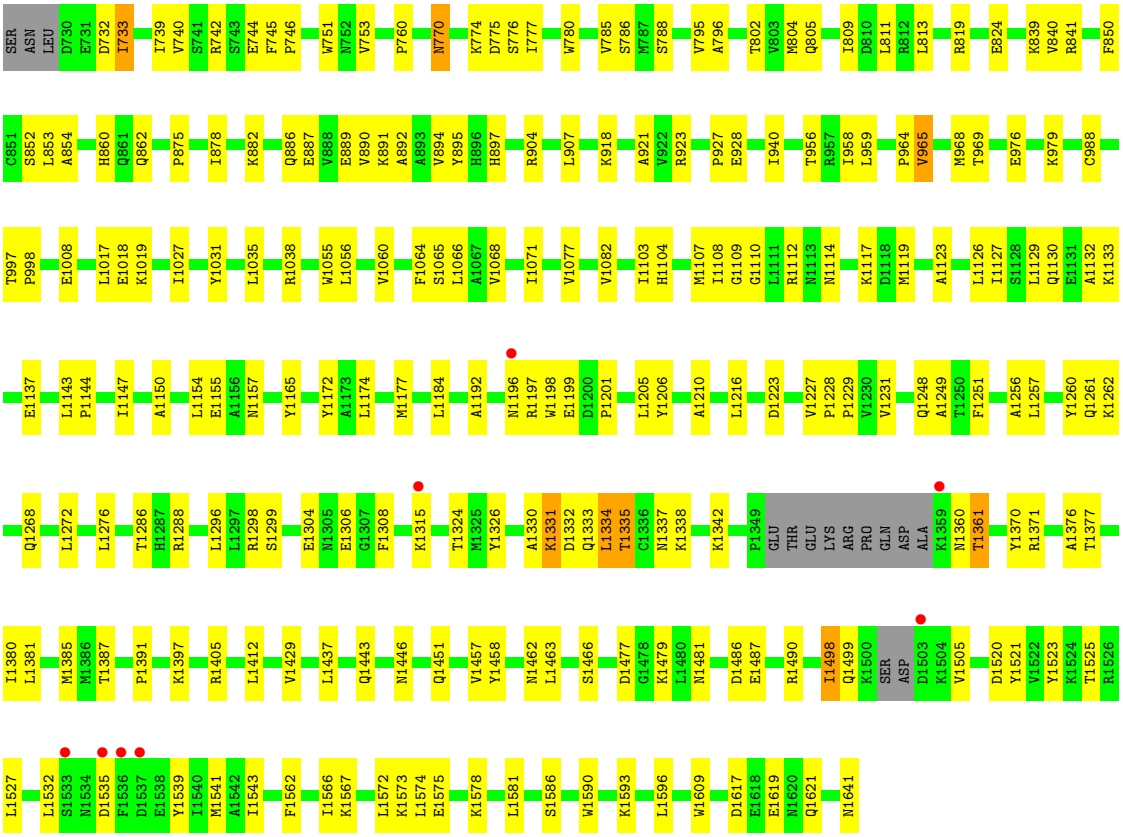
• Molecule 2: COMPLEMENT C3 ALPHA CHAIN

Chain F:



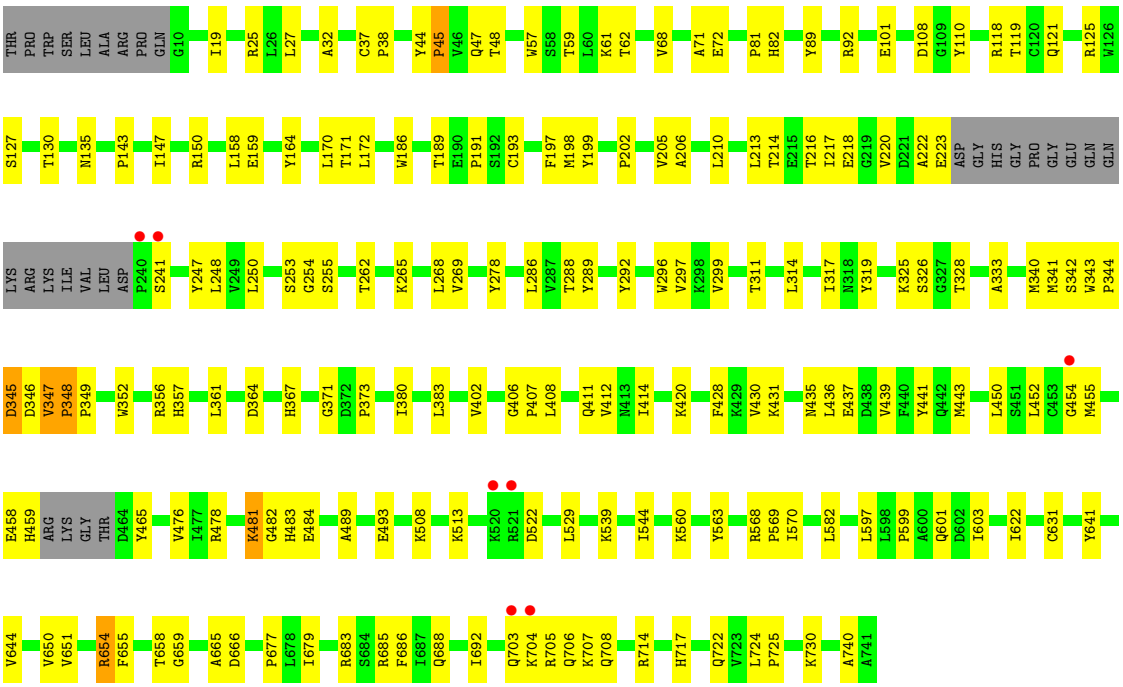
• Molecule 2: COMPLEMENT C3 ALPHA CHAIN

Chain H:



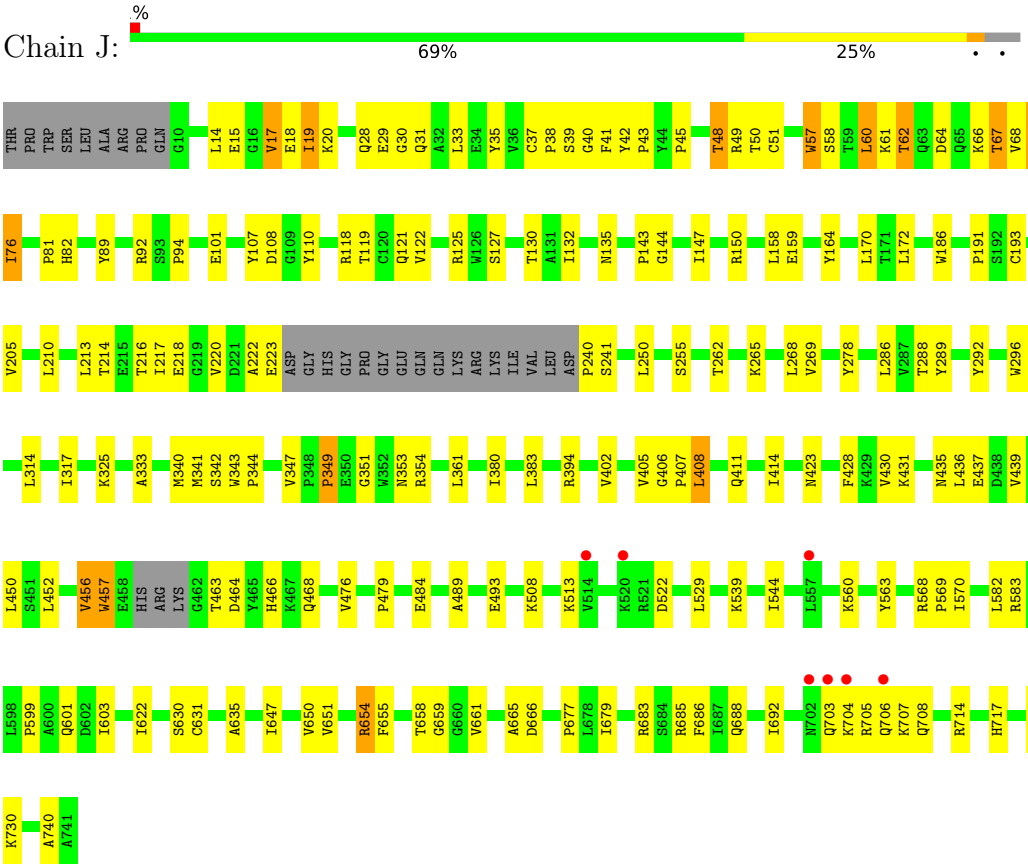
• Molecule 3: COMPLEMENT FACTOR B

Chain I:



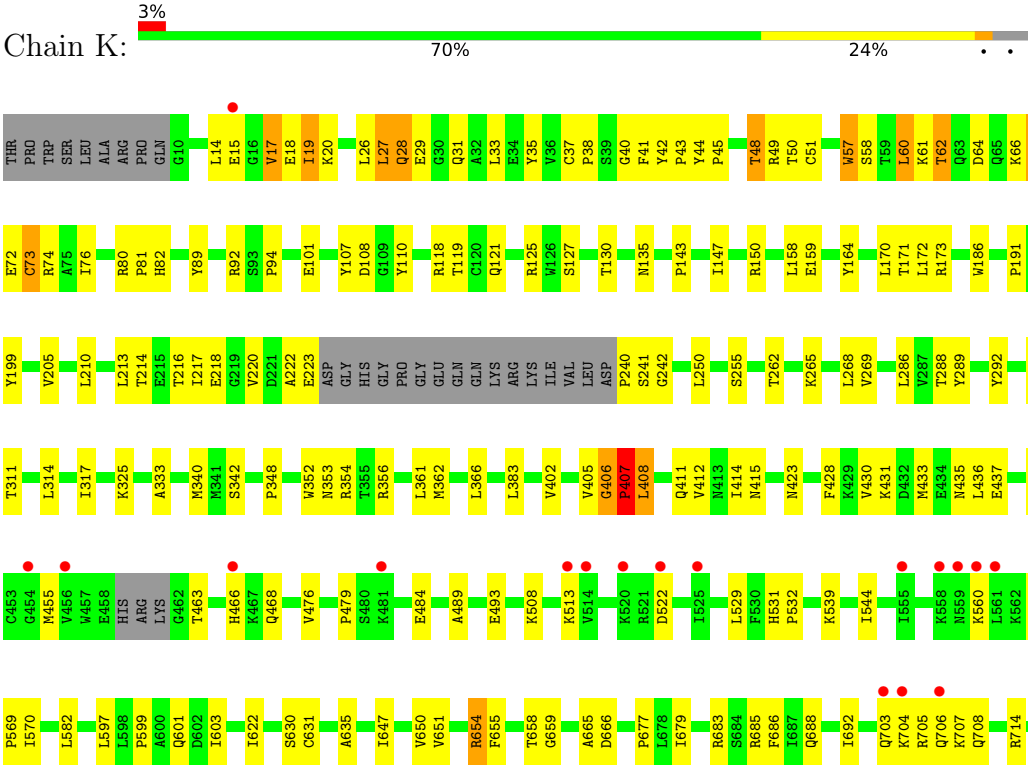
• Molecule 3: COMPLEMENT FACTOR B

Chain J:



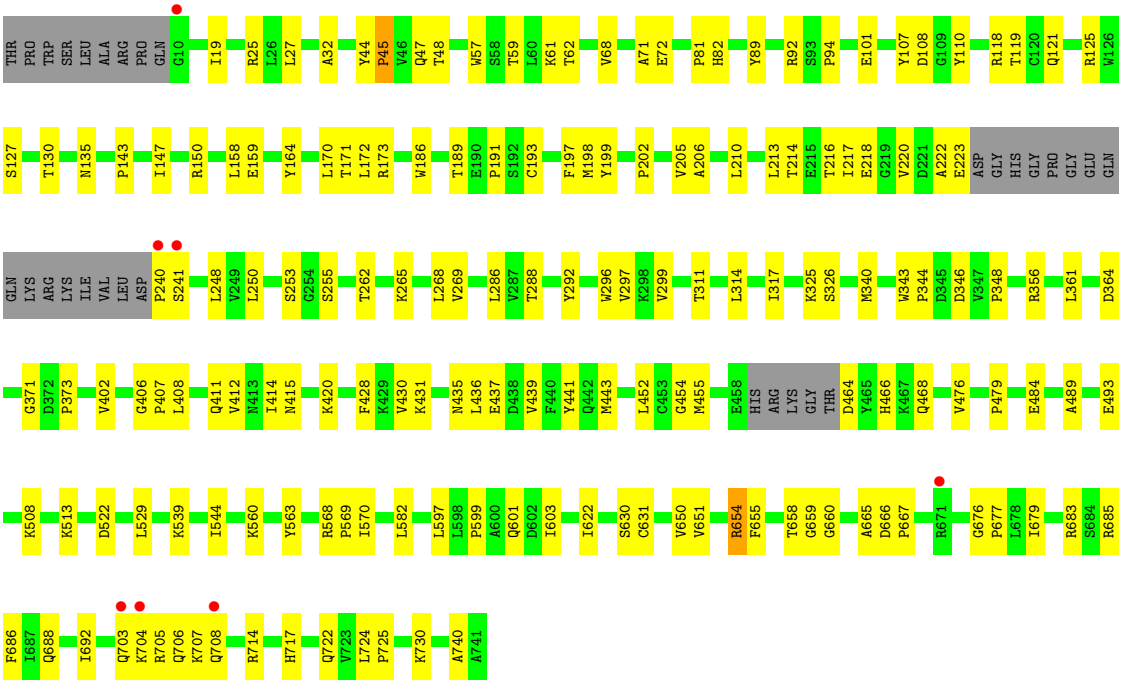
• Molecule 3: COMPLEMENT FACTOR B

Chain K:



• Molecule 3: COMPLEMENT FACTOR B

Chain L:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α, β, γ	262.16Å 297.87Å 341.44Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	72.76 – 4.00 74.44 – 4.00	Depositor EDS
% Data completeness (in resolution range)	93.1 (72.76-4.00) 93.2 (74.44-4.00)	Depositor EDS
R_{merge}	0.16	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	2.96 (at 4.01Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE)	Depositor
R, R_{free}	0.228 , 0.281 0.227 , 0.279	Depositor DCC
R_{free} test set	5250 reflections (5.01%)	wwPDB-VP
Wilson B-factor (Å^2)	78.3	Xtriage
Anisotropy	0.640	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.29 , 99.0	EDS
L-test for twinning[2]	$< \|L\| > = 0.42$, $< L^2 > = 0.25$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.89	EDS
Total number of atoms	71260	wwPDB-VP
Average B, all atoms (Å^2)	126.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 41.10 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 2.4810e-04. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

[1] Intensities estimated from amplitudes.

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

5 Model quality

5.1 Standard geometry

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

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	0.20	0/5092	0.37	0/6917
1	C	0.20	0/5092	0.36	0/6917
1	E	0.20	0/5092	0.36	0/6917
1	G	0.20	0/5092	0.36	0/6917
2	B	0.20	0/7340	0.35	0/9936
2	D	0.21	0/7340	0.35	0/9936
2	F	0.20	0/7340	0.35	0/9936
2	H	0.20	0/7340	0.35	0/9936
3	I	0.20	0/5717	0.36	0/7739
3	J	0.21	0/5720	0.36	0/7743
3	K	0.20	0/5727	0.36	0/7752
3	L	0.20	0/5712	0.34	0/7732
All	All	0.20	0/72604	0.35	0/98378

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
3	J	0	1
3	K	0	1
All	All	0	2

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	J	407	PRO	Peptide
3	K	407	PRO	Peptide

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	4992	0	5056	129	0
1	C	4992	0	5056	123	0
1	E	4992	0	5056	129	0
1	G	4992	0	5056	119	0
2	B	7197	0	7124	178	0
2	D	7197	0	7124	178	0
2	F	7197	0	7123	169	0
2	H	7197	0	7123	163	0
3	I	5593	0	5438	122	0
3	J	5596	0	5437	141	0
3	K	5603	0	5450	158	0
3	L	5588	0	5436	110	0
4	B	14	0	13	0	0
4	D	14	0	13	1	0
4	F	14	0	13	0	0
4	H	14	0	13	0	0
4	I	14	0	13	0	0
4	J	14	0	13	1	0
4	K	14	0	13	6	0
4	L	14	0	13	0	0
5	I	1	0	0	0	0
5	J	1	0	0	0	0
5	K	1	0	0	0	0
5	L	1	0	0	0	0
6	I	2	0	0	0	0
6	J	2	0	0	0	0
6	K	2	0	0	0	0
6	L	2	0	0	0	0
All	All	71260	0	70583	1615	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 11.

All (1615) 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)
3:K:352:TRP:HZ2	4:K:1353:NAG:H82	1.05	1.19
2:F:964:PRO:HA	2:F:965:VAL:HB	1.28	1.15
2:D:964:PRO:HA	2:D:965:VAL:HB	1.27	1.13
2:H:964:PRO:HA	2:H:965:VAL:HB	1.26	1.13
1:G:69:PRO:HA	1:G:70:ALA:HB3	1.32	1.11
2:B:964:PRO:HA	2:B:965:VAL:HB	1.30	1.09
1:E:69:PRO:HA	1:E:70:ALA:HB3	1.34	1.09
1:C:69:PRO:HA	1:C:70:ALA:HB3	1.34	1.06
2:B:1029:LYS:HE3	1:E:258:GLN:HB2	1.43	1.00
3:J:29:GLU:H	3:J:30:GLY:HA2	1.24	1.00
3:K:352:TRP:CZ2	4:K:1353:NAG:H82	1.96	0.99
2:H:819:ARG:HH12	2:H:1487:GLU:HB3	1.27	0.97
1:C:628:SER:HB2	1:C:630:GLN:HE22	1.32	0.94
1:A:628:SER:HB2	1:A:630:GLN:HE22	1.34	0.92
1:E:628:SER:HB2	1:E:630:GLN:HE22	1.33	0.91
1:G:628:SER:HB2	1:G:630:GLN:HE22	1.33	0.91
2:H:964:PRO:HA	2:H:965:VAL:CB	2.03	0.88
3:J:60:LEU:HD23	3:J:60:LEU:H	1.35	0.88
3:K:60:LEU:H	3:K:60:LEU:HD23	1.38	0.88
1:E:268:ARG:HH11	2:F:1378:MET:HE3	1.37	0.87
2:D:964:PRO:HA	2:D:965:VAL:CB	2.03	0.87
2:F:964:PRO:HA	2:F:965:VAL:CB	2.04	0.87
3:K:405:VAL:HG21	3:K:436:LEU:HD22	1.53	0.87
1:C:268:ARG:HH11	2:D:1378:MET:HE3	1.39	0.87
2:D:1017:LEU:HD12	2:D:1018:GLU:H	1.40	0.87
1:G:82:LYS:HD2	1:G:103:LEU:HD11	1.55	0.87
2:B:1049:LYS:HD2	1:E:150:GLY:HA3	1.53	0.87
3:J:405:VAL:HG21	3:J:436:LEU:HD22	1.55	0.87
2:B:733:ILE:HD11	2:B:841:ARG:HH21	1.39	0.85
2:B:819:ARG:HH12	2:B:1487:GLU:HB3	1.40	0.84
1:G:100:LEU:HD21	1:G:638:LEU:HD23	1.59	0.84
2:H:733:ILE:HD11	2:H:841:ARG:HH21	1.41	0.84
2:B:964:PRO:HA	2:B:965:VAL:CB	2.05	0.83
2:H:964:PRO:CA	2:H:965:VAL:HB	2.08	0.83
3:K:45:PRO:HG2	3:K:68:VAL:HG21	1.60	0.82
3:K:49:ARG:HH21	3:K:60:LEU:HB3	1.44	0.82
3:J:49:ARG:HH21	3:J:60:LEU:HB3	1.45	0.81
2:D:964:PRO:CA	2:D:965:VAL:HB	2.09	0.81
3:I:345:ASP:HA	3:I:346:ASP:C	2.00	0.81
2:D:733:ILE:HD11	2:D:841:ARG:HH21	1.44	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:733:ILE:HG22	2:F:895:TYR:HA	1.62	0.80
2:F:1017:LEU:HD12	2:F:1018:GLU:H	1.44	0.80
2:B:964:PRO:CA	2:B:965:VAL:HB	2.11	0.78
2:D:965:VAL:HG13	2:D:1268:GLN:HG2	1.65	0.78
2:B:1387:THR:HG22	2:B:1451:GLN:H	1.46	0.78
2:B:965:VAL:HG13	2:B:1268:GLN:HG2	1.65	0.78
3:K:489:ALA:HB2	3:K:677:PRO:HG3	1.66	0.78
2:H:965:VAL:HG13	2:H:1268:GLN:HG2	1.64	0.78
3:L:489:ALA:HB2	3:L:677:PRO:HG3	1.65	0.78
2:F:964:PRO:CA	2:F:965:VAL:HB	2.10	0.78
2:H:1387:THR:HG22	2:H:1451:GLN:H	1.47	0.78
2:F:965:VAL:HG13	2:F:1268:GLN:HG2	1.64	0.77
2:D:1387:THR:HG22	2:D:1451:GLN:H	1.47	0.77
2:F:1387:THR:HG22	2:F:1451:GLN:H	1.47	0.77
3:I:489:ALA:HB2	3:I:677:PRO:HG3	1.65	0.77
1:E:69:PRO:HA	1:E:70:ALA:CB	2.15	0.76
3:J:489:ALA:HB2	3:J:677:PRO:HG3	1.66	0.76
3:K:262:THR:HA	3:K:265:LYS:HE2	1.68	0.75
1:A:10:ASN:HB2	1:A:635:ARG:HH11	1.48	0.75
2:H:733:ILE:HG22	2:H:895:TYR:HA	1.67	0.75
2:B:1091:LYS:NZ	2:F:1232:ARG:HH22	1.86	0.74
3:K:19:ILE:HD11	3:K:73:CYS:HB2	1.68	0.74
2:F:733:ILE:HD11	2:F:841:ARG:HH21	1.51	0.74
2:H:819:ARG:NH1	2:H:1487:GLU:HB3	2.02	0.74
2:B:1532:LEU:H	2:B:1532:LEU:HD23	1.51	0.74
3:I:222:ALA:HA	3:I:223:GLU:C	2.08	0.74
3:I:262:THR:HA	3:I:265:LYS:HE2	1.70	0.74
3:L:262:THR:HA	3:L:265:LYS:HE2	1.69	0.74
2:D:733:ILE:HG22	2:D:895:TYR:HA	1.69	0.74
3:I:343:TRP:HB2	3:I:347:VAL:HG12	1.68	0.74
2:B:1049:LYS:CD	1:E:150:GLY:HA3	2.19	0.73
3:J:539:LYS:HB3	3:J:544:ILE:HB	1.71	0.73
1:C:61:MET:SD	1:C:483:ARG:HG2	2.29	0.73
3:J:262:THR:HA	3:J:265:LYS:HE2	1.69	0.72
1:A:69:PRO:HA	1:A:70:ALA:HB3	1.70	0.72
3:J:29:GLU:N	3:J:30:GLY:HA2	1.99	0.72
3:I:430:VAL:HG21	3:I:436:LEU:HB2	1.72	0.72
3:I:539:LYS:HB3	3:I:544:ILE:HB	1.71	0.72
3:K:539:LYS:HB3	3:K:544:ILE:HB	1.71	0.72
3:L:539:LYS:HB3	3:L:544:ILE:HB	1.70	0.72
1:A:71:ASN:HD22	1:A:74:PHE:HE1	1.38	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:19:THR:HB	1:C:478:LEU:HB2	1.70	0.72
2:D:1641:ASN:HB3	3:J:255:SER:HB3	1.72	0.72
1:G:558:GLN:HB3	2:H:770:ASN:HD21	1.55	0.72
3:J:222:ALA:HA	3:J:223:GLU:C	2.11	0.71
1:C:40:PHE:CD1	1:C:41:PRO:HA	2.24	0.71
1:C:558:GLN:HB3	2:D:770:ASN:HD21	1.55	0.71
3:L:222:ALA:HA	3:L:223:GLU:C	2.11	0.71
3:L:430:VAL:HG21	3:L:436:LEU:HB2	1.72	0.71
2:B:1082:VAL:HG13	2:B:1129:LEU:HD22	1.73	0.71
1:C:69:PRO:HA	1:C:70:ALA:CB	2.15	0.71
1:E:40:PHE:CD1	1:E:41:PRO:HA	2.25	0.71
1:A:558:GLN:HB3	2:B:770:ASN:HD21	1.55	0.70
1:E:558:GLN:HB3	2:F:770:ASN:HD21	1.55	0.70
3:K:40:GLY:HA2	3:K:76:ILE:HD12	1.71	0.70
1:C:153:VAL:HG12	2:D:1297:LEU:HD12	1.74	0.70
1:A:634:GLN:OE1	2:B:1017:LEU:HD11	1.91	0.70
3:K:222:ALA:HA	3:K:223:GLU:C	2.12	0.70
2:B:733:ILE:HG22	2:B:895:TYR:HA	1.73	0.70
2:H:1017:LEU:HD12	2:H:1018:GLU:H	1.55	0.69
1:G:452:ASN:HB3	1:G:492:LEU:HD11	1.74	0.69
1:E:452:ASN:HB3	1:E:492:LEU:HD11	1.74	0.69
3:K:48:THR:HB	3:K:408:LEU:HD21	1.73	0.69
3:K:366:LEU:HD11	3:K:408:LEU:HB3	1.75	0.69
1:A:5:SER:HA	1:A:626:SER:HA	1.74	0.69
1:C:452:ASN:HB3	1:C:492:LEU:HD11	1.74	0.69
1:A:70:ALA:N	1:A:71:ASN:HB2	2.06	0.69
2:B:1091:LYS:HZ2	2:F:1232:ARG:HH22	1.41	0.69
3:J:29:GLU:H	3:J:30:GLY:CA	2.01	0.69
3:K:44:TYR:CD2	3:K:72:GLU:HB2	2.28	0.69
1:A:10:ASN:CB	1:A:635:ARG:HH11	2.05	0.69
1:A:392:HIS:HE1	1:C:275:SER:OG	1.76	0.69
3:K:222:ALA:N	3:K:223:GLU:HB2	2.07	0.68
3:K:61:LYS:HG2	3:K:67:THR:HA	1.75	0.68
2:B:742:ARG:HH12	2:B:777:ILE:HG13	1.58	0.68
1:E:158:LEU:HD21	1:E:169:LEU:HD21	1.74	0.68
1:A:158:LEU:HD21	1:A:169:LEU:HD21	1.75	0.68
1:C:158:LEU:HD21	1:C:169:LEU:HD21	1.74	0.68
2:D:840:VAL:HG22	2:D:894:VAL:HG12	1.74	0.68
1:G:158:LEU:HD21	1:G:169:LEU:HD21	1.74	0.68
3:J:17:VAL:HB	3:J:18:GLU:OE1	1.92	0.68
3:K:50:THR:O	3:K:57:TRP:HB2	1.94	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:452:ASN:HB3	1:A:492:LEU:HD11	1.75	0.68
2:B:1017:LEU:HD12	2:B:1018:GLU:H	1.58	0.68
1:G:69:PRO:HA	1:G:70:ALA:CB	2.13	0.68
2:F:1331:LYS:HA	2:F:1332:ASP:HB2	1.76	0.68
1:E:168:PRO:HB3	3:K:108:ASP:HB3	1.76	0.68
2:H:1082:VAL:HG13	2:H:1129:LEU:HD22	1.75	0.68
2:B:840:VAL:HG22	2:B:894:VAL:HG12	1.76	0.67
2:F:840:VAL:HG22	2:F:894:VAL:HG12	1.75	0.67
2:D:785:VAL:HG22	2:D:795:VAL:HG12	1.77	0.67
3:J:61:LYS:HG2	3:J:67:THR:HA	1.77	0.67
3:J:430:VAL:HG11	3:J:436:LEU:HD13	1.77	0.67
2:H:840:VAL:HG22	2:H:894:VAL:HG12	1.76	0.67
2:B:785:VAL:HG22	2:B:795:VAL:HG12	1.77	0.67
3:J:222:ALA:N	3:J:223:GLU:HB2	2.10	0.67
3:K:67:THR:HB	3:K:69:ARG:CZ	2.24	0.67
1:A:6:ILE:HD13	1:A:22:LEU:HD23	1.77	0.66
1:C:95:VAL:HG22	1:C:627:SER:HB3	1.77	0.66
3:J:50:THR:O	3:J:57:TRP:HB2	1.96	0.66
2:F:785:VAL:HG22	2:F:795:VAL:HG12	1.76	0.66
3:J:437:GLU:HB3	3:J:441:TYR:HE2	1.61	0.66
3:K:430:VAL:HG11	3:K:436:LEU:HD13	1.77	0.66
1:G:157:SER:HB3	3:L:630:SER:OG	1.95	0.66
1:G:634:GLN:CD	2:H:1017:LEU:HD23	2.17	0.66
1:A:606:THR:HB	1:A:619:ASP:HB3	1.79	0.65
3:K:45:PRO:CG	3:K:68:VAL:HG21	2.27	0.65
3:K:61:LYS:HA	3:K:68:VAL:H	1.61	0.65
3:K:66:LYS:HD3	3:K:69:ARG:HH12	1.61	0.65
3:L:222:ALA:N	3:L:223:GLU:HB2	2.10	0.65
2:B:860:HIS:CE1	2:B:862:GLN:HE22	2.15	0.65
3:I:481:LYS:HD2	3:I:483:HIS:HD2	1.61	0.65
2:H:785:VAL:HG22	2:H:795:VAL:HG12	1.78	0.65
2:B:1566:ILE:HD12	2:B:1566:ILE:H	1.61	0.65
1:C:45:LEU:HB2	1:C:46:VAL:HB	1.78	0.65
2:H:860:HIS:CE1	2:H:862:GLN:HE22	2.15	0.65
1:G:6:ILE:HD13	1:G:22:LEU:HD23	1.78	0.65
1:G:606:THR:HG22	1:G:608:GLY:H	1.62	0.65
3:J:508:LYS:HA	3:J:508:LYS:HE2	1.79	0.65
2:D:1276:LEU:HD23	2:D:1276:LEU:H	1.62	0.64
1:A:14:LEU:HD11	1:A:103:LEU:HD13	1.79	0.64
1:A:606:THR:HG22	1:A:608:GLY:H	1.63	0.64
2:D:860:HIS:CE1	2:D:862:GLN:HE22	2.16	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:55:THR:HG22	1:E:57:ALA:H	1.63	0.64
3:L:508:LYS:HE2	3:L:508:LYS:HA	1.80	0.64
1:E:45:LEU:HB2	1:E:46:VAL:HB	1.78	0.64
2:F:860:HIS:CE1	2:F:862:GLN:HE22	2.16	0.64
1:G:55:THR:HG22	1:G:57:ALA:H	1.62	0.64
3:I:481:LYS:HD2	3:I:483:HIS:CD2	2.31	0.64
1:C:350:LEU:HD21	1:C:400:ILE:HG21	1.80	0.64
1:E:606:THR:HB	1:E:619:ASP:HB3	1.79	0.64
1:A:55:THR:HG22	1:A:57:ALA:H	1.63	0.64
2:B:1049:LYS:HD2	1:E:150:GLY:CA	2.24	0.64
1:G:606:THR:HB	1:G:619:ASP:HB3	1.79	0.64
1:G:634:GLN:OE1	2:H:1017:LEU:HB3	1.98	0.64
1:C:55:THR:HG22	1:C:57:ALA:H	1.62	0.63
1:C:606:THR:HG22	1:C:608:GLY:H	1.63	0.63
1:G:6:ILE:HG22	1:G:625:THR:O	1.98	0.63
3:J:40:GLY:HA2	3:J:76:ILE:HD12	1.79	0.63
3:K:437:GLU:HB3	3:K:441:TYR:HE2	1.62	0.63
1:C:45:LEU:HD23	1:C:45:LEU:H	1.64	0.63
1:C:478:LEU:HD21	1:C:622:LEU:HD21	1.80	0.63
1:E:350:LEU:HD21	1:E:400:ILE:HG21	1.80	0.63
2:F:1288:ARG:NH1	3:K:665:ALA:HB1	2.12	0.63
3:I:508:LYS:HE2	3:I:508:LYS:HA	1.79	0.63
1:E:606:THR:HG22	1:E:608:GLY:H	1.62	0.63
2:B:1276:LEU:HD23	2:B:1276:LEU:H	1.63	0.63
1:C:606:THR:HB	1:C:619:ASP:HB3	1.79	0.63
1:E:45:LEU:HD23	1:E:45:LEU:H	1.64	0.63
2:F:1276:LEU:HD23	2:F:1276:LEU:H	1.62	0.63
3:K:508:LYS:HE2	3:K:508:LYS:HA	1.79	0.63
1:G:350:LEU:HD21	1:G:400:ILE:HG21	1.79	0.63
2:B:1029:LYS:HE3	1:E:258:GLN:CB	2.23	0.63
2:H:1276:LEU:HD23	2:H:1276:LEU:H	1.63	0.63
2:F:1566:ILE:H	2:F:1566:ILE:HD12	1.64	0.63
2:B:1641:ASN:HB3	3:I:255:SER:HB3	1.81	0.63
2:F:1126:LEU:HG	2:F:1130:GLN:HE21	1.64	0.63
2:D:1566:ILE:HD12	2:D:1566:ILE:H	1.64	0.63
3:J:347:VAL:O	3:J:349:PRO:HD3	1.99	0.63
3:K:476:VAL:HB	3:K:484:GLU:HB3	1.81	0.63
1:A:350:LEU:HD21	1:A:400:ILE:HG21	1.80	0.62
1:A:478:LEU:HD21	1:A:622:LEU:HD21	1.79	0.62
2:F:1641:ASN:HB3	3:K:255:SER:HB3	1.81	0.62
2:F:819:ARG:HH12	2:F:1487:GLU:HB3	1.65	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:590:THR:HG22	1:C:592:SER:H	1.64	0.62
2:F:1333:GLN:HA	2:F:1334:LEU:HB3	1.82	0.62
2:H:1481:ASN:HD22	2:H:1567:LYS:HE3	1.65	0.62
3:K:44:TYR:HD2	3:K:72:GLU:HB2	1.62	0.62
1:G:45:LEU:H	1:G:45:LEU:HD23	1.65	0.62
2:H:1566:ILE:H	2:H:1566:ILE:HD12	1.65	0.62
2:B:1126:LEU:HG	2:B:1130:GLN:HE21	1.64	0.62
2:F:751:TRP:HB3	3:K:107:TYR:CD1	2.35	0.62
1:G:45:LEU:HB2	1:G:46:VAL:HB	1.81	0.62
2:B:1532:LEU:HD12	2:B:1569:ARG:HH11	1.65	0.62
2:H:1126:LEU:HG	2:H:1130:GLN:HE21	1.65	0.62
2:B:1109:GLY:HA2	2:B:1205:LEU:HD21	1.82	0.62
2:B:1286:THR:HG22	3:I:665:ALA:HB3	1.82	0.62
1:G:590:THR:HG22	1:G:592:SER:H	1.65	0.62
2:D:1109:GLY:HA2	2:D:1205:LEU:HD21	1.82	0.61
1:E:478:LEU:HD21	1:E:622:LEU:HD21	1.81	0.61
3:L:455:MET:HB2	3:L:568:ARG:HD3	1.81	0.61
3:K:48:THR:CB	3:K:408:LEU:HD21	2.29	0.61
2:H:1333:GLN:HA	2:H:1334:LEU:HB3	1.83	0.61
1:A:45:LEU:HD23	1:A:45:LEU:H	1.65	0.61
1:A:590:THR:HG22	1:A:592:SER:H	1.65	0.61
1:A:242:LYS:HB3	1:A:274:GLY:HA3	1.83	0.61
1:A:100:LEU:HD21	1:A:638:LEU:HD23	1.82	0.61
1:G:478:LEU:HD21	1:G:622:LEU:HD21	1.81	0.61
1:A:45:LEU:HB2	1:A:46:VAL:HB	1.81	0.61
2:D:1126:LEU:HG	2:D:1130:GLN:HE21	1.65	0.61
1:E:590:THR:HG22	1:E:592:SER:H	1.64	0.61
3:K:352:TRP:HZ2	4:K:1353:NAG:C8	1.97	0.61
2:D:1333:GLN:HA	2:D:1334:LEU:HB3	1.82	0.61
1:E:61:MET:SD	1:E:483:ARG:HG2	2.40	0.61
1:G:242:LYS:HB3	1:G:274:GLY:HA3	1.83	0.61
3:J:45:PRO:HG2	3:J:68:VAL:HG21	1.83	0.61
3:K:35:TYR:HB2	3:K:43:PRO:HB3	1.83	0.61
3:K:44:TYR:HB3	3:K:73:CYS:HA	1.83	0.61
2:D:742:ARG:HH12	2:D:777:ILE:HG13	1.66	0.61
1:E:242:LYS:HB3	1:E:274:GLY:HA3	1.83	0.60
3:K:27:LEU:O	3:K:28:GLN:HG2	2.01	0.60
1:C:242:LYS:HB3	1:C:274:GLY:HA3	1.81	0.60
2:F:1494:GLU:HB2	2:F:1602:LYS:HD3	1.83	0.60
2:F:1333:GLN:HA	2:F:1334:LEU:CB	2.31	0.60
2:H:921:ALA:HB1	2:H:923:ARG:HE	1.66	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:48:THR:HG21	3:J:408:LEU:HD11	1.84	0.60
2:B:1338:LYS:HA	2:B:1371:ARG:HB2	1.83	0.60
2:D:921:ALA:HB1	2:D:923:ARG:HE	1.67	0.60
2:D:1338:LYS:HA	2:D:1371:ARG:HB2	1.83	0.60
1:G:71:ASN:HD22	1:G:74:PHE:HE1	1.50	0.60
3:I:476:VAL:HB	3:I:484:GLU:HB3	1.84	0.60
3:J:14:LEU:HG	3:J:17:VAL:HG12	1.84	0.60
2:B:921:ALA:HB1	2:B:923:ARG:HE	1.67	0.60
2:H:1109:GLY:HA2	2:H:1205:LEU:HD21	1.83	0.60
2:H:1641:ASN:HB3	3:L:255:SER:HB3	1.83	0.60
2:F:1338:LYS:HA	2:F:1371:ARG:HB2	1.84	0.60
2:F:921:ALA:HB1	2:F:923:ARG:HE	1.67	0.60
2:F:1109:GLY:HA2	2:F:1205:LEU:HD21	1.83	0.60
3:J:62:THR:HG23	3:J:68:VAL:HG21	1.84	0.60
1:A:126:ARG:HG2	1:A:168:PRO:HA	1.84	0.59
2:D:1333:GLN:HA	2:D:1334:LEU:CB	2.31	0.59
3:K:17:VAL:HB	3:K:18:GLU:OE1	2.03	0.59
2:H:1338:LYS:HA	2:H:1371:ARG:HB2	1.83	0.59
1:E:473:MET:HB2	1:E:508:ARG:HB2	1.85	0.59
1:A:42:GLY:HA2	2:B:1069:ASN:HB3	1.84	0.59
2:B:1333:GLN:HA	2:B:1334:LEU:CB	2.32	0.59
1:A:252:GLY:HA2	1:A:262:LEU:HG	1.85	0.59
2:B:1333:GLN:HA	2:B:1334:LEU:HB3	1.83	0.59
2:B:1027:ILE:HG22	2:B:1071:ILE:HD13	1.84	0.59
3:K:48:THR:HG21	3:K:408:LEU:HD11	1.84	0.59
1:E:269:ILE:HD13	1:E:278:VAL:HB	1.84	0.59
3:J:61:LYS:HA	3:J:68:VAL:H	1.67	0.59
3:K:14:LEU:HG	3:K:17:VAL:HG12	1.84	0.59
3:I:222:ALA:N	3:I:223:GLU:HB2	2.18	0.59
1:A:473:MET:HB2	1:A:508:ARG:HB2	1.85	0.59
1:C:473:MET:HB2	1:C:508:ARG:HB2	1.85	0.59
2:D:1525:THR:HB	2:D:1541:MET:HB3	1.84	0.59
1:E:443:LEU:HD21	1:E:449:LEU:HD13	1.85	0.59
1:G:470:TYR:HB2	1:G:509:LEU:HD21	1.85	0.59
2:H:1333:GLN:HA	2:H:1334:LEU:CB	2.31	0.59
1:C:252:GLY:HA2	1:C:262:LEU:HG	1.85	0.59
3:J:476:VAL:HB	3:J:484:GLU:HB3	1.83	0.59
3:J:603:ILE:HB	3:J:622:ILE:HB	1.83	0.59
2:B:819:ARG:NH1	2:B:1487:GLU:HB3	2.14	0.58
1:C:269:ILE:HD13	1:C:278:VAL:HB	1.84	0.58
2:D:1205:LEU:HD12	2:D:1249:ALA:HB2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:572:VAL:HG12	2:F:753:VAL:HG22	1.85	0.58
1:G:473:MET:HB2	1:G:508:ARG:HB2	1.84	0.58
3:J:35:TYR:HB2	3:J:43:PRO:HB3	1.84	0.58
1:C:40:PHE:CD2	1:C:83:PHE:HB2	2.38	0.58
1:A:7:ILE:HA	1:A:623:THR:O	2.03	0.58
1:C:470:TYR:HB2	1:C:509:LEU:HD21	1.86	0.58
2:D:1143:LEU:HB3	2:D:1144:PRO:HD3	1.85	0.58
1:G:269:ILE:HD13	1:G:278:VAL:HB	1.84	0.58
2:B:1143:LEU:HB3	2:B:1144:PRO:HD3	1.86	0.58
1:C:222:TYR:HE2	1:C:224:TYR:HB2	1.69	0.58
1:E:19:THR:HB	1:E:478:LEU:HB2	1.83	0.58
3:L:603:ILE:HB	3:L:622:ILE:HB	1.85	0.58
1:A:6:ILE:HD11	1:A:20:MET:HG2	1.86	0.58
2:D:1529:LYS:HB3	2:D:1540:ILE:HD12	1.86	0.58
1:E:470:TYR:HB2	1:E:509:LEU:HD21	1.85	0.58
2:F:1205:LEU:HD12	2:F:1249:ALA:HB2	1.85	0.58
1:G:126:ARG:HG2	1:G:168:PRO:HA	1.86	0.58
1:G:222:TYR:HE2	1:G:224:TYR:HB2	1.69	0.58
1:C:9:PRO:HA	1:C:622:LEU:HD23	1.84	0.58
3:L:346:ASP:O	3:L:348:PRO:HD3	2.04	0.58
1:E:252:GLY:HA2	1:E:262:LEU:HG	1.85	0.58
3:I:603:ILE:HB	3:I:622:ILE:HB	1.86	0.58
1:C:126:ARG:HG2	1:C:168:PRO:HA	1.85	0.58
2:H:1143:LEU:HB3	2:H:1144:PRO:HD3	1.86	0.58
1:A:269:ILE:HD13	1:A:278:VAL:HB	1.85	0.57
2:F:1143:LEU:HB3	2:F:1144:PRO:HD3	1.85	0.57
1:G:6:ILE:HD11	1:G:20:MET:HG2	1.86	0.57
1:E:222:TYR:HE2	1:E:224:TYR:HB2	1.69	0.57
2:F:1521:TYR:HB2	2:F:1523:TYR:CE2	2.40	0.57
1:G:396:LYS:HD2	1:G:397:PRO:HD2	1.86	0.57
2:B:1205:LEU:HD12	2:B:1249:ALA:HB2	1.85	0.57
1:E:6:ILE:HD13	1:E:22:LEU:HD23	1.87	0.57
2:H:1205:LEU:HD12	2:H:1249:ALA:HB2	1.85	0.57
1:E:40:PHE:CD2	1:E:83:PHE:HB2	2.39	0.57
1:G:252:GLY:HA2	1:G:262:LEU:HG	1.86	0.57
3:K:31:GLN:HA	3:K:51:CYS:HB3	1.87	0.57
1:A:443:LEU:HD21	1:A:449:LEU:HD13	1.86	0.57
1:C:222:TYR:CE2	1:C:224:TYR:HB2	2.40	0.57
2:D:742:ARG:NH1	2:D:777:ILE:HG13	2.19	0.57
1:G:572:VAL:HG12	2:H:753:VAL:HG22	1.85	0.57
2:F:851:CYS:HB2	2:F:1491:CYS:HB2	1.79	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:443:LEU:HD21	1:C:449:LEU:HD13	1.85	0.57
1:E:222:TYR:CE2	1:E:224:TYR:HB2	2.40	0.57
3:J:19:ILE:HD11	3:J:73:CYS:HB2	1.85	0.57
3:K:603:ILE:HB	3:K:622:ILE:HB	1.85	0.57
1:A:572:VAL:HG12	2:B:753:VAL:HG22	1.86	0.57
2:D:1575:GLU:HB2	2:D:1578:LYS:HD2	1.86	0.57
1:E:541:LEU:HG	2:F:796:ALA:HB2	1.87	0.57
2:F:742:ARG:HB3	2:F:775:ASP:HB3	1.85	0.57
3:I:347:VAL:HG13	3:I:349:PRO:N	2.19	0.57
2:F:1575:GLU:HB2	2:F:1578:LYS:HD2	1.87	0.57
2:H:1286:THR:HG22	3:L:665:ALA:HB3	1.87	0.57
1:A:108:LEU:HB2	1:A:196:PHE:CD1	2.41	0.56
1:A:222:TYR:CE2	1:A:224:TYR:HB2	2.40	0.56
2:B:1463:LEU:HD12	2:B:1463:LEU:O	2.05	0.56
1:C:6:ILE:HD13	1:C:22:LEU:HD23	1.87	0.56
2:H:1027:ILE:HG22	2:H:1071:ILE:HD13	1.86	0.56
1:A:470:TYR:HB2	1:A:509:LEU:HD21	1.86	0.56
1:C:396:LYS:HD2	1:C:397:PRO:HD2	1.87	0.56
1:G:108:LEU:HB2	1:G:196:PHE:CD1	2.41	0.56
1:G:443:LEU:HD21	1:G:449:LEU:HD13	1.86	0.56
3:I:654:ARG:HG3	3:I:722:GLN:HB3	1.88	0.56
1:A:396:LYS:HD2	1:A:397:PRO:HD2	1.86	0.56
1:C:510:VAL:HG12	1:C:528:SER:HB3	1.87	0.56
2:F:1529:LYS:HB3	2:F:1540:ILE:HD12	1.86	0.56
1:G:222:TYR:CE2	1:G:224:TYR:HB2	2.40	0.56
3:K:19:ILE:CD1	3:K:73:CYS:HB2	2.34	0.56
1:A:222:TYR:HE2	1:A:224:TYR:HB2	1.69	0.56
2:B:1575:GLU:HB2	2:B:1578:LYS:HD2	1.86	0.56
2:F:976:GLU:HA	2:F:979:LYS:HE3	1.88	0.56
3:L:202:PRO:HG3	3:L:435:ASN:HB3	1.87	0.56
1:A:6:ILE:HD11	1:A:20:MET:CG	2.36	0.56
2:B:1049:LYS:NZ	1:E:150:GLY:HA3	2.20	0.56
2:D:1192:ALA:HB2	2:D:1198:TRP:CE2	2.41	0.56
3:J:654:ARG:HG3	3:J:722:GLN:HB3	1.88	0.56
1:A:10:ASN:HB2	1:A:635:ARG:NH1	2.19	0.56
1:A:510:VAL:HG12	1:A:528:SER:HB3	1.88	0.56
1:E:171:TRP:CZ3	1:E:173:ILE:HG12	2.41	0.56
2:B:804:MET:HG2	2:B:805:GLN:N	2.20	0.56
1:E:126:ARG:HG2	1:E:168:PRO:HA	1.87	0.56
2:H:976:GLU:HA	2:H:979:LYS:HE3	1.88	0.56
3:J:411:GLN:HA	3:J:414:ILE:HG12	1.87	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:411:GLN:HA	3:K:414:ILE:HG12	1.87	0.56
2:D:1017:LEU:HD12	2:D:1018:GLU:N	2.16	0.56
2:F:1525:THR:HB	2:F:1541:MET:HB3	1.86	0.56
2:B:1521:TYR:HB2	2:B:1523:TYR:CE2	2.41	0.56
1:C:168:PRO:HB3	3:J:108:ASP:HB3	1.87	0.56
1:E:108:LEU:HB2	1:E:196:PHE:CD1	2.41	0.56
2:F:1027:ILE:HG22	2:F:1071:ILE:HD13	1.88	0.56
3:L:218:GLU:HB3	3:L:452:LEU:HD21	1.87	0.56
3:L:654:ARG:HG3	3:L:722:GLN:HB3	1.88	0.56
2:F:1288:ARG:HH11	3:K:665:ALA:HB1	1.70	0.56
2:B:742:ARG:NH1	2:B:777:ILE:HG13	2.20	0.55
1:E:510:VAL:HG12	1:E:528:SER:HB3	1.87	0.55
2:F:1360:ASN:O	2:F:1361:THR:HG22	2.07	0.55
3:K:81:PRO:HG3	3:K:147:ILE:HG23	1.89	0.55
1:C:171:TRP:CZ3	1:C:173:ILE:HG12	2.41	0.55
1:C:214:VAL:HG23	1:C:321:ARG:HB2	1.88	0.55
2:D:1360:ASN:O	2:D:1361:THR:HG22	2.07	0.55
1:E:157:SER:HB3	3:K:630:SER:OG	2.06	0.55
3:K:361:LEU:HD21	3:K:402:VAL:HG22	1.89	0.55
1:A:214:VAL:HG23	1:A:321:ARG:HB2	1.88	0.55
2:D:1082:VAL:HG13	2:D:1129:LEU:HD22	1.88	0.55
2:F:1192:ALA:HB2	2:F:1198:TRP:CE2	2.41	0.55
1:G:6:ILE:HD11	1:G:20:MET:CG	2.37	0.55
1:G:510:VAL:HG12	1:G:528:SER:HB3	1.88	0.55
2:H:1575:GLU:HB2	2:H:1578:LYS:HD2	1.88	0.55
3:J:60:LEU:H	3:J:60:LEU:CD2	2.15	0.55
3:L:205:VAL:HG13	3:L:428:PHE:CD1	2.40	0.55
1:A:10:ASN:HB3	1:A:635:ARG:CD	2.37	0.55
2:B:1110:GLY:HA2	2:B:1206:TYR:CD2	2.41	0.55
1:E:396:LYS:HD2	1:E:397:PRO:HD2	1.87	0.55
1:C:40:PHE:CE1	2:D:1017:LEU:HD13	2.42	0.55
1:C:541:LEU:HG	2:D:796:ALA:HB2	1.88	0.55
1:A:6:ILE:HG22	1:A:625:THR:O	2.07	0.55
2:D:976:GLU:HA	2:D:979:LYS:HE3	1.87	0.55
2:H:739:ILE:HB	2:H:891:LYS:HD3	1.89	0.55
1:A:103:LEU:H	1:A:103:LEU:HD22	1.71	0.55
1:A:541:LEU:HG	2:B:796:ALA:HB2	1.89	0.55
2:F:1082:VAL:HG13	2:F:1129:LEU:HD22	1.87	0.55
3:I:455:MET:HB2	3:I:568:ARG:HD3	1.87	0.55
1:A:84:VAL:HG13	1:A:101:VAL:HG21	1.89	0.55
1:A:171:TRP:CZ3	1:A:173:ILE:HG12	2.42	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:976:GLU:HA	2:B:979:LYS:HE3	1.87	0.55
1:C:108:LEU:HB2	1:C:196:PHE:CD1	2.41	0.55
1:G:171:TRP:CZ3	1:G:173:ILE:HG12	2.42	0.55
1:G:214:VAL:HG23	1:G:321:ARG:HB2	1.88	0.55
2:D:1288:ARG:HH11	3:J:665:ALA:HB1	1.71	0.55
2:D:1521:TYR:HB2	2:D:1523:TYR:CE2	2.41	0.55
1:E:147:ASN:HB2	1:E:148:PRO:HD2	1.89	0.55
2:H:1360:ASN:O	2:H:1361:THR:HG22	2.07	0.55
2:F:1110:GLY:HA2	2:F:1206:TYR:CD2	2.42	0.55
2:H:1521:TYR:HB2	2:H:1523:TYR:CE2	2.42	0.55
2:H:1641:ASN:OXT	3:L:253:SER:HB2	2.07	0.55
3:I:631:CYS:SG	3:I:714:ARG:HD2	2.47	0.55
1:A:365:VAL:HA	1:A:406:LYS:HE2	1.89	0.54
2:D:1027:ILE:HG22	2:D:1071:ILE:HD13	1.89	0.54
2:F:1381:LEU:HD23	2:F:1457:VAL:HG12	1.89	0.54
2:H:1192:ALA:HB2	2:H:1198:TRP:CE2	2.42	0.54
3:J:599:PRO:HB2	3:J:601:GLN:HG2	1.89	0.54
3:K:170:LEU:HD23	3:K:193:CYS:HB3	1.89	0.54
1:A:103:LEU:H	1:A:103:LEU:CD2	2.20	0.54
1:C:147:ASN:HB2	1:C:148:PRO:HD2	1.89	0.54
1:C:572:VAL:HG12	2:D:753:VAL:HG22	1.87	0.54
2:D:1331:LYS:HA	2:D:1332:ASP:HB2	1.89	0.54
2:H:1331:LYS:HA	2:H:1332:ASP:C	2.26	0.54
3:K:66:LYS:O	3:K:67:THR:C	2.45	0.54
3:K:654:ARG:HG3	3:K:722:GLN:HB3	1.88	0.54
2:H:997:THR:N	2:H:998:PRO:HD2	2.23	0.54
3:J:62:THR:HB	3:J:64:ASP:H	1.72	0.54
3:L:81:PRO:HG3	3:L:147:ILE:HG23	1.89	0.54
1:C:69:PRO:CA	1:C:70:ALA:HB3	2.24	0.54
2:D:1381:LEU:HD23	2:D:1457:VAL:HG12	1.89	0.54
1:G:365:VAL:HA	1:G:406:LYS:HE2	1.90	0.54
3:I:81:PRO:HG3	3:I:147:ILE:HG23	1.89	0.54
2:D:850:PHE:HZ	2:D:907:LEU:HD21	1.73	0.54
1:E:214:VAL:HG23	1:E:321:ARG:HB2	1.89	0.54
3:I:47:GLN:HG3	3:I:48:THR:HG23	1.89	0.54
2:B:1192:ALA:HB2	2:B:1198:TRP:CE2	2.43	0.54
1:C:365:VAL:HA	1:C:406:LYS:HE2	1.90	0.54
2:F:732:ASP:O	2:F:733:ILE:HG12	2.07	0.54
1:G:147:ASN:HB2	1:G:148:PRO:HD2	1.89	0.54
3:K:42:TYR:CZ	3:K:74:ARG:HB2	2.43	0.54
1:G:541:LEU:HG	2:H:796:ALA:HB2	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:423:ASN:HD22	3:J:683:ARG:HH12	1.55	0.54
1:A:147:ASN:HB2	1:A:148:PRO:HD2	1.89	0.54
2:B:1381:LEU:HD23	2:B:1457:VAL:HG12	1.89	0.54
2:H:1110:GLY:HA2	2:H:1206:TYR:CD2	2.42	0.54
3:K:292:TYR:HE2	3:K:325:LYS:HD3	1.73	0.54
2:F:1498:ILE:HG22	2:F:1499:GLN:HG2	1.89	0.54
3:I:202:PRO:HG3	3:I:435:ASN:HB3	1.89	0.54
3:L:286:LEU:H	3:L:297:VAL:HB	1.73	0.54
1:C:603:ILE:HB	1:C:635:ARG:HH12	1.73	0.53
2:D:1110:GLY:HA2	2:D:1206:TYR:CD2	2.43	0.53
2:D:1617:ASP:O	2:D:1621:GLN:HG3	2.09	0.53
1:E:603:ILE:HB	1:E:635:ARG:HH12	1.74	0.53
2:H:1381:LEU:HD23	2:H:1457:VAL:HG12	1.89	0.53
1:C:369:VAL:HG22	1:C:402:VAL:HG22	1.90	0.53
1:G:510:VAL:HG21	1:G:622:LEU:HD12	1.90	0.53
1:A:10:ASN:HB3	1:A:635:ARG:HD3	1.89	0.53
1:C:230:GLU:HG2	1:C:279:VAL:HG22	1.91	0.53
3:I:286:LEU:H	3:I:297:VAL:HB	1.73	0.53
3:J:437:GLU:HB3	3:J:441:TYR:CE2	2.42	0.53
2:B:997:THR:N	2:B:998:PRO:HD2	2.23	0.53
2:D:997:THR:N	2:D:998:PRO:HD2	2.23	0.53
3:I:570:ILE:HD13	3:I:688:GLN:HB2	1.90	0.53
3:I:599:PRO:HB2	3:I:601:GLN:HG2	1.89	0.53
3:K:62:THR:HB	3:K:64:ASP:H	1.73	0.53
1:G:5:SER:HA	1:G:626:SER:HA	1.90	0.53
2:H:1038:ARG:NH1	2:H:1077:VAL:HG22	2.23	0.53
3:J:170:LEU:HD23	3:J:193:CYS:HB3	1.91	0.53
3:J:361:LEU:HD21	3:J:402:VAL:HG22	1.91	0.53
3:L:47:GLN:HG3	3:L:48:THR:HG23	1.89	0.53
3:L:599:PRO:HB2	3:L:601:GLN:HG2	1.89	0.53
2:B:1617:ASP:O	2:B:1621:GLN:HG3	2.08	0.53
2:F:997:THR:N	2:F:998:PRO:HD2	2.23	0.53
2:F:1481:ASN:HD22	2:F:1567:LYS:HE3	1.73	0.53
3:L:407:PRO:HB2	3:L:408:LEU:HD22	1.90	0.53
2:B:966:ALA:HA	2:B:1267:HIS:HB3	1.90	0.53
2:B:1490:ARG:HD2	2:B:1590:TRP:CZ3	2.43	0.53
2:D:1288:ARG:NH1	3:J:665:ALA:HB1	2.24	0.53
3:K:437:GLU:HB3	3:K:441:TYR:CE2	2.43	0.53
2:D:1038:ARG:NH1	2:D:1077:VAL:HG22	2.24	0.53
2:F:1385:MET:HG3	2:F:1391:PRO:HD3	1.91	0.53
1:A:230:GLU:HG2	1:A:279:VAL:HG22	1.91	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:472:ILE:HD13	1:A:509:LEU:HD23	1.91	0.53
1:G:84:VAL:HG13	1:G:101:VAL:HG21	1.90	0.53
1:G:230:GLU:HG2	1:G:279:VAL:HG22	1.91	0.53
1:G:472:ILE:HD13	1:G:509:LEU:HD23	1.91	0.53
3:J:81:PRO:HG3	3:J:147:ILE:HG23	1.90	0.53
1:E:365:VAL:HA	1:E:406:LYS:HE2	1.90	0.53
1:E:510:VAL:HG21	1:E:622:LEU:HD12	1.91	0.53
3:I:218:GLU:HB3	3:I:452:LEU:HD21	1.91	0.53
3:K:15:GLU:C	3:K:17:VAL:H	2.13	0.53
3:L:570:ILE:HD13	3:L:688:GLN:HB2	1.91	0.53
2:B:1360:ASN:O	2:B:1361:THR:HG22	2.08	0.52
2:H:804:MET:HG2	2:H:805:GLN:N	2.24	0.52
3:I:407:PRO:HB2	3:I:408:LEU:HD22	1.90	0.52
3:L:631:CYS:SG	3:L:714:ARG:HD2	2.49	0.52
3:K:430:VAL:HG21	3:K:436:LEU:HB2	1.92	0.52
2:D:1338:LYS:N	2:D:1338:LYS:HD2	2.25	0.52
2:F:1038:ARG:NH1	2:F:1077:VAL:HG22	2.23	0.52
3:K:631:CYS:SG	3:K:714:ARG:HD2	2.49	0.52
3:L:170:LEU:HD23	3:L:193:CYS:HB3	1.90	0.52
1:A:69:PRO:HB2	1:A:71:ASN:CG	2.30	0.52
1:E:9:PRO:HA	1:E:622:LEU:HD23	1.92	0.52
1:E:230:GLU:HG2	1:E:279:VAL:HG22	1.91	0.52
1:E:472:ILE:HD13	1:E:509:LEU:HD23	1.92	0.52
2:F:907:LEU:HD23	2:F:907:LEU:H	1.74	0.52
2:H:1385:MET:HG3	2:H:1391:PRO:HD3	1.92	0.52
2:F:1172:TYR:CE1	2:F:1216:LEU:HB3	2.44	0.52
2:H:1387:THR:CG2	2:H:1451:GLN:H	2.21	0.52
1:A:369:VAL:HG22	1:A:402:VAL:HG22	1.91	0.52
2:D:1385:MET:HG3	2:D:1391:PRO:HD3	1.91	0.52
2:F:1123:ALA:O	2:F:1127:ILE:HG13	2.09	0.52
2:H:732:ASP:O	2:H:733:ILE:HG12	2.10	0.52
3:I:170:LEU:HD23	3:I:193:CYS:HB3	1.91	0.52
3:J:631:CYS:SG	3:J:714:ARG:HD2	2.49	0.52
2:B:1038:ARG:NH1	2:B:1077:VAL:HG22	2.25	0.52
2:B:1338:LYS:HD2	2:B:1338:LYS:N	2.25	0.52
3:J:37:CYS:HB3	3:J:41:PHE:HB2	1.92	0.52
3:K:570:ILE:HD13	3:K:688:GLN:HB2	1.91	0.52
2:B:1126:LEU:HD21	2:B:1177:MET:HE3	1.92	0.52
1:E:223:ILE:HD12	1:E:223:ILE:H	1.75	0.52
2:F:1617:ASP:O	2:F:1621:GLN:HG3	2.09	0.52
1:G:369:VAL:HG22	1:G:402:VAL:HG22	1.91	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:1338:LYS:HD2	2:H:1338:LYS:N	2.25	0.52
3:L:659:GLY:HA2	3:L:666:ASP:HB2	1.92	0.52
1:A:510:VAL:HG21	1:A:622:LEU:HD12	1.92	0.52
2:B:1385:MET:HG3	2:B:1391:PRO:HD3	1.91	0.52
1:E:22:LEU:HD13	1:E:33:VAL:HG11	1.91	0.52
1:E:434:LEU:HB2	1:E:513:TYR:HE2	1.75	0.52
2:F:1126:LEU:HD21	2:F:1177:MET:HE3	1.92	0.52
1:G:603:ILE:HB	1:G:635:ARG:HH12	1.74	0.52
2:H:1126:LEU:HD21	2:H:1177:MET:HE3	1.92	0.52
3:I:205:VAL:HG13	3:I:428:PHE:CD1	2.45	0.52
3:I:268:LEU:HB2	3:I:314:LEU:HD21	1.92	0.52
3:K:67:THR:HB	3:K:69:ARG:NE	2.25	0.52
3:K:67:THR:O	3:K:69:ARG:HD2	2.09	0.52
3:K:599:PRO:HB2	3:K:601:GLN:HG2	1.90	0.52
1:A:223:ILE:HD12	1:A:223:ILE:H	1.76	0.51
2:D:1104:HIS:O	2:D:1107:MET:HG2	2.09	0.51
3:K:268:LEU:HB2	3:K:314:LEU:HD21	1.92	0.51
1:C:22:LEU:HD13	1:C:33:VAL:HG11	1.91	0.51
2:F:1338:LYS:HD2	2:F:1338:LYS:N	2.25	0.51
3:J:570:ILE:HD13	3:J:688:GLN:HB2	1.92	0.51
3:K:220:VAL:HG22	3:K:356:ARG:HD3	1.92	0.51
1:A:241:LYS:HG2	2:B:804:MET:HE1	1.92	0.51
1:C:370:GLN:HA	1:C:370:GLN:HE21	1.76	0.51
1:C:472:ILE:HD13	1:C:509:LEU:HD23	1.91	0.51
1:C:510:VAL:HG21	1:C:622:LEU:HD12	1.91	0.51
2:D:751:TRP:HB3	3:J:107:TYR:CD1	2.46	0.51
3:I:454:GLY:H	3:I:570:ILE:HA	1.76	0.51
3:K:60:LEU:HD23	3:K:60:LEU:N	2.16	0.51
2:D:1172:TYR:CE1	2:D:1216:LEU:HB3	2.45	0.51
2:D:1331:LYS:HA	2:D:1332:ASP:C	2.30	0.51
2:H:740:VAL:HG21	3:L:94:PRO:HB3	1.91	0.51
3:J:60:LEU:HD23	3:J:60:LEU:N	2.14	0.51
2:H:889:GLU:HB2	2:H:904:ARG:HG3	1.92	0.51
2:H:1104:HIS:O	2:H:1107:MET:HG2	2.10	0.51
3:K:37:CYS:HB3	3:K:41:PHE:HB2	1.92	0.51
1:A:103:LEU:HD22	1:A:103:LEU:N	2.26	0.51
3:J:15:GLU:C	3:J:17:VAL:H	2.12	0.51
1:C:541:LEU:HD22	2:D:786:SER:HB3	1.92	0.51
3:L:213:LEU:O	3:L:217:ILE:HG13	2.11	0.51
3:L:268:LEU:HB2	3:L:314:LEU:HD21	1.92	0.51
1:A:434:LEU:HB2	1:A:513:TYR:HE2	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1335:THR:C	2:B:1337:ASN:H	2.15	0.51
2:D:804:MET:HG2	2:D:805:GLN:N	2.25	0.51
2:H:887:GLU:OE2	2:H:904:ARG:HD2	2.11	0.51
3:J:268:LEU:HB2	3:J:314:LEU:HD21	1.92	0.51
1:C:223:ILE:H	1:C:223:ILE:HD12	1.76	0.51
2:F:1335:THR:C	2:F:1337:ASN:H	2.14	0.51
1:G:69:PRO:CA	1:G:70:ALA:HB3	2.22	0.51
1:G:223:ILE:HD12	1:G:223:ILE:H	1.75	0.51
1:G:368:ALA:HB2	1:G:376:GLN:HG2	1.93	0.51
2:H:968:MET:O	2:H:969:THR:HB	2.10	0.51
2:H:1617:ASP:O	2:H:1621:GLN:HG3	2.09	0.51
3:J:143:PRO:HG3	3:J:186:TRP:CE2	2.45	0.51
3:J:292:TYR:HE2	3:J:325:LYS:HD3	1.75	0.51
3:J:659:GLY:HA2	3:J:666:ASP:HB2	1.93	0.51
3:K:62:THR:N	3:K:68:VAL:HG23	2.26	0.51
3:L:206:ALA:HB2	3:L:439:VAL:HG13	1.93	0.51
1:E:404:THR:HG23	1:E:414:GLN:HB3	1.93	0.51
3:I:650:VAL:HG23	3:I:651:VAL:HG23	1.93	0.51
3:K:650:VAL:HG23	3:K:651:VAL:HG23	1.93	0.51
2:B:1228:PRO:HB2	2:B:1229:PRO:HD3	1.93	0.50
2:B:1525:THR:HG22	2:B:1543:ILE:HA	1.92	0.50
1:C:166:VAL:O	1:C:168:PRO:HD3	2.12	0.50
1:E:368:ALA:HB2	1:E:376:GLN:HG2	1.93	0.50
1:E:370:GLN:HE21	1:E:370:GLN:HA	1.76	0.50
3:I:659:GLY:HA2	3:I:666:ASP:HB2	1.92	0.50
3:K:213:LEU:O	3:K:217:ILE:HG13	2.11	0.50
3:L:143:PRO:HG3	3:L:186:TRP:CE2	2.46	0.50
2:B:1397:LYS:HZ2	2:B:1412:LEU:HD23	1.77	0.50
1:C:221:TYR:HD2	1:C:326:ILE:HG23	1.76	0.50
3:I:345:ASP:HA	3:I:346:ASP:O	2.10	0.50
3:J:650:VAL:HG23	3:J:651:VAL:HG23	1.93	0.50
2:B:887:GLU:OE2	2:B:904:ARG:HD2	2.11	0.50
2:B:1566:ILE:HD12	2:B:1566:ILE:N	2.24	0.50
2:D:1123:ALA:O	2:D:1127:ILE:HG13	2.11	0.50
3:I:143:PRO:HG3	3:I:186:TRP:CE2	2.46	0.50
3:K:205:VAL:HG13	3:K:428:PHE:CD1	2.47	0.50
1:C:40:PHE:CE1	2:D:1017:LEU:CD1	2.94	0.50
1:C:434:LEU:HB2	1:C:513:TYR:HE2	1.75	0.50
1:E:221:TYR:HD2	1:E:326:ILE:HG23	1.76	0.50
1:E:369:VAL:HG22	1:E:402:VAL:HG22	1.92	0.50
1:G:166:VAL:O	1:G:168:PRO:HD3	2.12	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:213:LEU:O	3:I:217:ILE:HG13	2.11	0.50
3:I:299:VAL:H	3:I:340:MET:HE3	1.76	0.50
3:L:220:VAL:HG22	3:L:356:ARG:HD3	1.93	0.50
1:A:390:ASN:ND2	1:C:273:ASP:OD2	2.45	0.50
2:B:1172:TYR:CE1	2:B:1216:LEU:HB3	2.47	0.50
2:D:1228:PRO:HB2	2:D:1229:PRO:HD3	1.93	0.50
2:D:1498:ILE:HG22	2:D:1499:GLN:HG2	1.91	0.50
1:G:434:LEU:HB2	1:G:513:TYR:HE2	1.77	0.50
2:H:1498:ILE:HG22	2:H:1499:GLN:HG2	1.94	0.50
3:J:654:ARG:HG3	3:J:722:GLN:CB	2.42	0.50
3:K:143:PRO:HG3	3:K:186:TRP:CE2	2.46	0.50
1:C:368:ALA:HB2	1:C:376:GLN:HG2	1.94	0.50
1:C:404:THR:HG23	1:C:414:GLN:HB3	1.93	0.50
2:D:744:GLU:C	2:D:746:PRO:HD3	2.32	0.50
3:J:213:LEU:O	3:J:217:ILE:HG13	2.12	0.50
1:A:166:VAL:O	1:A:168:PRO:HD3	2.11	0.50
1:A:541:LEU:HD22	2:B:786:SER:HB3	1.93	0.50
2:B:1123:ALA:O	2:B:1127:ILE:HG13	2.11	0.50
2:H:1172:TYR:CE1	2:H:1216:LEU:HB3	2.46	0.50
2:H:1330:ALA:O	2:H:1331:LYS:C	2.50	0.50
3:J:430:VAL:HG21	3:J:436:LEU:HB2	1.92	0.50
2:F:809:ILE:HD11	2:F:892:ALA:HB3	1.94	0.50
2:F:1387:THR:CG2	2:F:1451:GLN:H	2.22	0.50
2:H:809:ILE:HD11	2:H:892:ALA:HB3	1.94	0.50
3:K:659:GLY:HA2	3:K:666:ASP:HB2	1.93	0.50
3:L:654:ARG:HG3	3:L:722:GLN:CB	2.42	0.50
1:E:404:THR:HG23	1:E:414:GLN:HE21	1.77	0.50
2:H:742:ARG:HB3	2:H:775:ASP:HB3	1.93	0.50
3:I:458:GLU:HA	3:I:459:HIS:CB	2.42	0.50
3:J:66:LYS:O	3:J:67:THR:C	2.50	0.50
3:L:299:VAL:H	3:L:340:MET:HE3	1.77	0.50
2:B:742:ARG:HB3	2:B:775:ASP:HB3	1.93	0.49
1:C:176:LEU:HD12	2:D:955:GLU:OE2	2.12	0.49
2:F:850:PHE:HZ	2:F:907:LEU:HD21	1.77	0.49
2:H:1123:ALA:O	2:H:1127:ILE:HG13	2.11	0.49
1:G:404:THR:HG23	1:G:414:GLN:HB3	1.94	0.49
3:K:60:LEU:H	3:K:60:LEU:CD2	2.18	0.49
1:E:37:VAL:HG12	1:E:47:LEU:HD12	1.94	0.49
2:F:744:GLU:C	2:F:746:PRO:HD3	2.32	0.49
3:L:650:VAL:HG23	3:L:651:VAL:HG23	1.93	0.49
2:B:744:GLU:C	2:B:746:PRO:HD3	2.33	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:1126:LEU:HD21	2:D:1177:MET:HE3	1.93	0.49
1:E:176:LEU:HD12	2:F:955:GLU:OE2	2.13	0.49
2:F:804:MET:HG2	2:F:805:GLN:N	2.28	0.49
1:G:20:MET:HB3	1:G:64:VAL:HG23	1.95	0.49
1:G:221:TYR:HD2	1:G:326:ILE:HG23	1.77	0.49
2:H:751:TRP:CD1	3:L:108:ASP:HB2	2.48	0.49
3:I:411:GLN:HA	3:I:414:ILE:HG12	1.94	0.49
3:L:411:GLN:HA	3:L:414:ILE:HG12	1.93	0.49
1:A:370:GLN:HE21	1:A:370:GLN:HA	1.77	0.49
2:D:850:PHE:CZ	2:D:907:LEU:HD21	2.47	0.49
1:E:541:LEU:HD22	2:F:786:SER:HB3	1.93	0.49
2:H:1228:PRO:HB2	2:H:1229:PRO:HD3	1.94	0.49
2:H:1335:THR:C	2:H:1337:ASN:H	2.14	0.49
3:I:164:TYR:CG	3:I:191:PRO:HG2	2.48	0.49
3:I:206:ALA:HB2	3:I:439:VAL:HG13	1.94	0.49
3:I:220:VAL:HG22	3:I:356:ARG:HD3	1.93	0.49
3:I:654:ARG:HG3	3:I:722:GLN:CB	2.42	0.49
2:B:1498:ILE:HG22	2:B:1499:GLN:HG2	1.93	0.49
1:C:404:THR:HG23	1:C:414:GLN:HE21	1.77	0.49
2:D:819:ARG:HH12	2:D:1487:GLU:HB3	1.78	0.49
2:H:744:GLU:C	2:H:746:PRO:HD3	2.33	0.49
3:K:158:LEU:HG	3:K:159:GLU:HG3	1.95	0.49
3:K:269:VAL:HG13	3:K:311:THR:HG23	1.94	0.49
1:A:368:ALA:HB2	1:A:376:GLN:HG2	1.94	0.49
2:B:809:ILE:HD11	2:B:892:ALA:HB3	1.94	0.49
3:J:158:LEU:HG	3:J:159:GLU:HG3	1.94	0.49
3:J:342:SER:HA	3:J:383:LEU:HD21	1.95	0.49
1:A:37:VAL:HG12	1:A:47:LEU:HD12	1.95	0.49
1:C:98:VAL:HG21	2:D:1017:LEU:HD21	1.95	0.49
1:C:241:LYS:HG2	2:D:804:MET:HE1	1.95	0.49
2:D:1335:THR:C	2:D:1337:ASN:H	2.15	0.49
2:F:1228:PRO:HB2	2:F:1229:PRO:HD3	1.94	0.49
3:K:67:THR:HG22	3:K:69:ARG:HG3	1.93	0.49
3:L:158:LEU:HG	3:L:159:GLU:HG3	1.94	0.49
1:A:221:TYR:HD2	1:A:326:ILE:HG23	1.76	0.49
3:I:250:LEU:HB3	3:I:288:THR:HG22	1.95	0.49
3:J:60:LEU:HD12	3:J:69:ARG:O	2.13	0.49
2:B:1443:GLN:HE21	2:B:1446:ASN:HA	1.78	0.49
2:D:809:ILE:HD11	2:D:892:ALA:HB3	1.94	0.49
1:G:404:THR:HG23	1:G:414:GLN:HE21	1.78	0.49
2:H:894:VAL:HG23	2:H:897:HIS:HB2	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:41:PHE:HD1	3:J:75:ALA:HA	1.78	0.49
1:C:37:VAL:HG12	1:C:47:LEU:HD12	1.95	0.48
1:E:166:VAL:O	1:E:168:PRO:HD3	2.12	0.48
1:G:15:GLU:HG2	1:G:70:ALA:HB2	1.94	0.48
1:G:370:GLN:HE21	1:G:370:GLN:HA	1.77	0.48
3:I:158:LEU:HG	3:I:159:GLU:HG3	1.95	0.48
1:A:153:VAL:HG12	2:B:1297:LEU:HD12	1.95	0.48
1:A:603:ILE:HB	1:A:635:ARG:HH12	1.78	0.48
2:B:1331:LYS:HA	2:B:1332:ASP:C	2.33	0.48
2:F:1103:ILE:H	2:F:1103:ILE:HD12	1.78	0.48
2:H:1055:TRP:CZ2	2:H:1108:ILE:HA	2.48	0.48
2:H:1133:LYS:O	2:H:1137:GLU:HB2	2.14	0.48
3:J:62:THR:HG23	3:J:68:VAL:CG2	2.43	0.48
3:J:724:LEU:HB2	3:J:725:PRO:HD3	1.95	0.48
2:B:1103:ILE:HD12	2:B:1103:ILE:H	1.78	0.48
3:K:654:ARG:HG3	3:K:722:GLN:CB	2.42	0.48
3:L:44:TYR:HB3	3:L:72:GLU:O	2.14	0.48
1:A:6:ILE:HD12	1:A:21:VAL:O	2.14	0.48
1:A:404:THR:HG23	1:A:414:GLN:HE21	1.78	0.48
2:B:1133:LYS:O	2:B:1137:GLU:HB2	2.14	0.48
2:D:1566:ILE:HD12	2:D:1566:ILE:N	2.27	0.48
1:E:369:VAL:HG12	1:E:371:GLY:H	1.78	0.48
2:F:1331:LYS:CA	2:F:1332:ASP:HB2	2.41	0.48
2:F:1531:GLN:HB2	2:F:1538:GLU:HB2	1.94	0.48
2:H:1443:GLN:HE21	2:H:1446:ASN:HA	1.79	0.48
2:B:739:ILE:HB	2:B:891:LYS:HD3	1.94	0.48
2:D:1114:ASN:HB2	2:D:1117:LYS:HB2	1.96	0.48
1:G:541:LEU:HD22	2:H:786:SER:HB3	1.94	0.48
2:H:742:ARG:HH12	2:H:777:ILE:HG13	1.79	0.48
1:A:20:MET:HB3	1:A:64:VAL:HG23	1.94	0.48
2:B:777:ILE:HG23	2:B:804:MET:HA	1.95	0.48
2:H:745:PHE:N	2:H:746:PRO:HD3	2.29	0.48
3:I:529:LEU:HD13	3:I:730:LYS:HD2	1.96	0.48
1:A:553:PRO:HD2	2:B:802:THR:O	2.14	0.48
1:C:10:ASN:HA	1:C:623:THR:HG23	1.96	0.48
1:C:369:VAL:HG12	1:C:371:GLY:H	1.78	0.48
1:G:6:ILE:HD12	1:G:21:VAL:O	2.14	0.48
2:H:777:ILE:HG23	2:H:804:MET:HA	1.95	0.48
2:H:1566:ILE:HD12	2:H:1566:ILE:N	2.28	0.48
3:I:44:TYR:HB3	3:I:72:GLU:O	2.14	0.48
3:J:218:GLU:HB3	3:J:452:LEU:HD21	1.94	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:269:VAL:HG13	3:J:311:THR:HG23	1.94	0.48
3:K:164:TYR:CG	3:K:191:PRO:HG2	2.49	0.48
3:K:353:ASN:HB3	4:K:1353:NAG:HN2	1.78	0.48
3:L:724:LEU:HB2	3:L:725:PRO:HD3	1.95	0.48
1:A:404:THR:HG23	1:A:414:GLN:HB3	1.94	0.48
1:E:553:PRO:HD2	2:F:802:THR:O	2.14	0.48
3:I:214:THR:O	3:I:218:GLU:HG3	2.13	0.48
3:I:724:LEU:HB2	3:I:725:PRO:HD3	1.95	0.48
3:J:19:ILE:HD12	3:J:20:LYS:N	2.29	0.48
3:L:214:THR:O	3:L:218:GLU:HG3	2.14	0.48
1:A:222:TYR:HB3	1:A:225:ASN:HB2	1.96	0.48
2:B:1055:TRP:CZ2	2:B:1108:ILE:HA	2.49	0.48
2:D:1531:GLN:HB2	2:D:1538:GLU:HB2	1.96	0.48
1:E:222:TYR:HB3	1:E:225:ASN:HB2	1.96	0.48
2:F:1104:HIS:O	2:F:1107:MET:HG2	2.14	0.48
2:F:1304:GLU:HG2	2:F:1306:GLU:HG2	1.96	0.48
3:J:164:TYR:CG	3:J:191:PRO:HG2	2.49	0.48
2:F:745:PHE:N	2:F:746:PRO:HD3	2.29	0.48
2:F:1443:GLN:HE21	2:F:1446:ASN:HA	1.79	0.48
3:I:292:TYR:HE2	3:I:325:LYS:HD3	1.78	0.48
3:J:35:TYR:CE2	3:J:49:ARG:HD2	2.48	0.48
3:J:214:THR:O	3:J:218:GLU:HG3	2.14	0.48
1:A:4:TYR:O	1:A:626:SER:HA	2.13	0.47
2:B:894:VAL:HG23	2:B:897:HIS:HB2	1.96	0.47
2:B:1216:LEU:HD21	2:B:1256:ALA:HA	1.96	0.47
1:E:69:PRO:CA	1:E:70:ALA:HB3	2.23	0.47
2:F:777:ILE:HG23	2:F:804:MET:HA	1.96	0.47
2:F:1566:ILE:HD12	2:F:1566:ILE:N	2.28	0.47
2:H:1525:THR:HG22	2:H:1543:ILE:HA	1.95	0.47
3:J:82:HIS:CE1	3:J:150:ARG:HB2	2.49	0.47
2:B:1114:ASN:HB2	2:B:1117:LYS:HB2	1.95	0.47
1:C:398:LEU:HD22	1:C:400:ILE:HD11	1.97	0.47
1:G:369:VAL:HG12	1:G:371:GLY:H	1.78	0.47
1:G:516:ILE:HD12	1:G:516:ILE:N	2.29	0.47
2:H:813:LEU:HD23	2:H:907:LEU:HD13	1.96	0.47
3:J:354:ARG:HG2	4:J:1353:NAG:H82	1.96	0.47
1:A:236:ARG:HA	1:A:243:VAL:HG23	1.96	0.47
2:B:1463:LEU:HD12	2:B:1463:LEU:C	2.35	0.47
2:D:732:ASP:O	2:D:733:ILE:HG12	2.14	0.47
2:D:1304:GLU:HG2	2:D:1306:GLU:HG2	1.97	0.47
1:E:516:ILE:N	1:E:516:ILE:HD12	2.29	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:852:SER:HB3	2:F:878:ILE:HG22	1.96	0.47
2:F:1055:TRP:CZ2	2:F:1108:ILE:HA	2.49	0.47
1:G:222:TYR:HB3	1:G:225:ASN:HB2	1.96	0.47
3:I:210:LEU:HD11	3:I:443:MET:HG2	1.97	0.47
3:K:299:VAL:H	3:K:340:MET:HE3	1.78	0.47
3:L:164:TYR:CG	3:L:191:PRO:HG2	2.49	0.47
3:L:361:LEU:HD21	3:L:402:VAL:HG22	1.96	0.47
1:A:516:ILE:N	1:A:516:ILE:HD12	2.29	0.47
2:B:745:PHE:N	2:B:746:PRO:HD3	2.29	0.47
2:B:1387:THR:CG2	2:B:1451:GLN:H	2.21	0.47
2:B:1530:VAL:HG12	2:B:1532:LEU:HD22	1.96	0.47
1:C:100:LEU:HD12	1:C:101:VAL:H	1.80	0.47
2:D:1443:GLN:HE21	2:D:1446:ASN:HA	1.79	0.47
3:K:352:TRP:CZ2	4:K:1353:NAG:C8	2.83	0.47
3:L:250:LEU:HB3	3:L:288:THR:HG22	1.95	0.47
3:L:513:LYS:HB3	3:L:522:ASP:HB3	1.97	0.47
2:D:813:LEU:HD23	2:D:907:LEU:HB3	1.95	0.47
1:G:398:LEU:HD22	1:G:400:ILE:HD11	1.97	0.47
2:H:1114:ASN:HB2	2:H:1117:LYS:HB2	1.95	0.47
3:J:45:PRO:CG	3:J:68:VAL:HG21	2.45	0.47
3:K:214:THR:O	3:K:218:GLU:HG3	2.13	0.47
2:B:1304:GLU:HG2	2:B:1306:GLU:HG2	1.96	0.47
1:C:569:ALA:HB2	2:D:788:SER:HB2	1.97	0.47
2:D:907:LEU:HD23	2:D:907:LEU:H	1.80	0.47
2:D:1494:GLU:HB2	2:D:1602:LYS:HD3	1.97	0.47
1:G:553:PRO:HD2	2:H:802:THR:O	2.15	0.47
3:I:248:LEU:HD22	3:I:268:LEU:HD22	1.97	0.47
3:I:361:LEU:HD21	3:I:402:VAL:HG22	1.95	0.47
3:L:705:ARG:O	3:L:707:LYS:HG3	2.15	0.47
1:C:222:TYR:HB3	1:C:225:ASN:HB2	1.96	0.47
1:C:516:ILE:N	1:C:516:ILE:HD12	2.29	0.47
2:D:1154:LEU:HB2	2:D:1174:LEU:HD21	1.97	0.47
2:F:894:VAL:HG23	2:F:897:HIS:HB2	1.95	0.47
2:F:1507:LEU:HD11	2:F:1629:ALA:HB3	1.96	0.47
1:G:236:ARG:HA	1:G:243:VAL:HG23	1.97	0.47
2:H:1066:LEU:O	2:H:1066:LEU:HD23	2.15	0.47
3:I:344:PRO:O	3:I:345:ASP:HB3	2.14	0.47
3:I:655:PHE:HA	3:I:717:HIS:O	2.14	0.47
3:I:705:ARG:O	3:I:707:LYS:HG3	2.15	0.47
3:J:240:PRO:HA	3:J:241:SER:HA	1.54	0.47
3:J:299:VAL:H	3:J:340:MET:HE3	1.79	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:724:LEU:HB2	3:K:725:PRO:HD3	1.95	0.47
3:L:292:TYR:HE2	3:L:325:LYS:HD3	1.80	0.47
1:A:223:ILE:HD12	1:A:223:ILE:N	2.30	0.47
2:B:1330:ALA:O	2:B:1331:LYS:C	2.53	0.47
1:C:31:VAL:HG13	1:C:54:LEU:HB2	1.96	0.47
2:D:1216:LEU:HD21	2:D:1256:ALA:HA	1.97	0.47
2:D:1290:HIS:CE1	3:J:661:VAL:HG11	2.49	0.47
1:E:223:ILE:HD12	1:E:223:ILE:N	2.30	0.47
1:E:443:LEU:HD11	1:E:449:LEU:HD22	1.97	0.47
3:K:423:ASN:HD22	3:K:683:ARG:HH12	1.63	0.47
1:E:236:ARG:HA	1:E:243:VAL:HG23	1.97	0.47
2:F:1114:ASN:HB2	2:F:1117:LYS:HB2	1.96	0.47
2:H:751:TRP:HB3	3:L:107:TYR:CD1	2.50	0.47
3:I:513:LYS:HB3	3:I:522:ASP:HB3	1.97	0.47
3:K:19:ILE:HD12	3:K:20:LYS:N	2.30	0.47
3:K:35:TYR:CE2	3:K:49:ARG:HD2	2.49	0.47
3:K:655:PHE:HA	3:K:717:HIS:O	2.15	0.47
3:L:189:THR:HG22	3:L:420:LYS:HB3	1.97	0.47
3:L:493:GLU:OE1	3:L:560:LYS:HE3	2.15	0.47
2:D:1055:TRP:CZ2	2:D:1108:ILE:HA	2.51	0.47
2:F:851:CYS:HB3	2:F:879:VAL:HB	1.95	0.47
2:F:1133:LYS:O	2:F:1137:GLU:HB2	2.14	0.47
2:H:1008:GLU:OE1	2:H:1262:LYS:HD3	2.15	0.47
3:J:62:THR:N	3:J:68:VAL:HG23	2.30	0.47
3:J:513:LYS:HB3	3:J:522:ASP:HB3	1.97	0.47
3:K:250:LEU:HB3	3:K:288:THR:HG22	1.97	0.47
3:L:655:PHE:HA	3:L:717:HIS:O	2.15	0.47
2:H:751:TRP:NE1	3:L:108:ASP:HB2	2.30	0.46
3:I:493:GLU:OE1	3:I:560:LYS:HE3	2.15	0.46
3:K:82:HIS:CE1	3:K:150:ARG:HB2	2.50	0.46
3:K:705:ARG:O	3:K:707:LYS:HG3	2.15	0.46
1:A:25:HIS:HA	1:A:26:ASP:HA	1.52	0.46
1:A:45:LEU:HA	1:A:46:VAL:HA	1.67	0.46
1:A:369:VAL:HG12	1:A:371:GLY:H	1.79	0.46
1:C:236:ARG:HA	1:C:243:VAL:HG23	1.96	0.46
1:C:553:PRO:HD2	2:D:802:THR:O	2.15	0.46
2:D:742:ARG:HB3	2:D:775:ASP:HB3	1.97	0.46
2:D:1197:ARG:HE	2:D:1199:GLU:CD	2.19	0.46
1:E:398:LEU:HD22	1:E:400:ILE:HD11	1.96	0.46
2:H:882:LYS:HG3	2:H:886:GLN:NE2	2.31	0.46
3:J:703:GLN:HG2	3:J:704:LYS:HG3	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:19:THR:HB	1:A:478:LEU:HB2	1.96	0.46
2:B:904:ARG:NH2	3:I:82:HIS:HB2	2.30	0.46
2:D:777:ILE:HG23	2:D:804:MET:HA	1.97	0.46
2:D:894:VAL:HG23	2:D:897:HIS:HB2	1.96	0.46
2:D:1133:LYS:O	2:D:1137:GLU:HB2	2.14	0.46
2:D:1532:LEU:HD12	2:D:1532:LEU:N	2.30	0.46
2:F:854:ALA:HB2	2:F:860:HIS:HB3	1.98	0.46
3:J:89:TYR:CE2	3:J:92:ARG:HG2	2.51	0.46
3:J:118:ARG:NH1	3:J:130:THR:HA	2.31	0.46
3:J:205:VAL:HG13	3:J:428:PHE:CD1	2.51	0.46
3:K:342:SER:HA	3:K:383:LEU:HD21	1.97	0.46
2:B:912:GLU:HG3	2:B:1331:LYS:NZ	2.31	0.46
2:B:1008:GLU:OE1	2:B:1262:LYS:HD3	2.16	0.46
2:D:745:PHE:N	2:D:746:PRO:HD3	2.29	0.46
2:D:1103:ILE:HD12	2:D:1103:ILE:H	1.79	0.46
2:D:1572:LEU:HB3	2:D:1574:LEU:HG	1.98	0.46
1:E:474:ASN:O	1:E:477:ARG:HG2	2.16	0.46
2:F:1154:LEU:HB2	2:F:1174:LEU:HD21	1.97	0.46
2:F:1331:LYS:HA	2:F:1332:ASP:C	2.36	0.46
1:G:148:PRO:HD3	1:G:182:TRP:CE2	2.50	0.46
2:H:852:SER:HB3	2:H:878:ILE:HG22	1.97	0.46
3:I:82:HIS:CE1	3:I:150:ARG:HB2	2.50	0.46
3:L:240:PRO:HA	3:L:241:SER:HA	1.53	0.46
1:A:148:PRO:HD3	1:A:182:TRP:CE2	2.50	0.46
2:B:1301:GLU:CD	2:B:1301:GLU:H	2.19	0.46
1:C:45:LEU:HA	1:C:46:VAL:HA	1.67	0.46
2:D:740:VAL:HG21	3:J:94:PRO:HB3	1.95	0.46
2:D:852:SER:HB3	2:D:878:ILE:HG22	1.97	0.46
2:D:854:ALA:HB2	2:D:860:HIS:HB3	1.97	0.46
1:E:20:MET:HB3	1:E:64:VAL:HG23	1.97	0.46
1:E:40:PHE:CE1	2:F:1017:LEU:HD13	2.50	0.46
2:F:1066:LEU:O	2:F:1066:LEU:HD23	2.14	0.46
2:H:904:ARG:NH2	3:L:82:HIS:HB2	2.30	0.46
3:J:210:LEU:HD11	3:J:443:MET:HG2	1.98	0.46
1:A:19:THR:HB	1:A:478:LEU:HD12	1.97	0.46
1:A:398:LEU:HD22	1:A:400:ILE:HD11	1.97	0.46
1:C:148:PRO:HD3	1:C:182:TRP:CE2	2.51	0.46
1:E:100:LEU:HD12	1:E:101:VAL:H	1.81	0.46
1:E:569:ALA:HB2	2:F:788:SER:HB2	1.97	0.46
2:H:940:ILE:HD12	2:H:1308:PHE:CE2	2.51	0.46
2:H:1304:GLU:HG2	2:H:1306:GLU:HG2	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:J:31:GLN:HA	3:J:51:CYS:HB3	1.97	0.46
3:K:67:THR:O	3:K:69:ARG:N	2.48	0.46
3:K:89:TYR:CE2	3:K:92:ARG:HG2	2.50	0.46
1:C:157:SER:HB3	3:J:630:SER:OG	2.16	0.46
1:C:443:LEU:HD11	1:C:449:LEU:HD22	1.97	0.46
2:F:940:ILE:HD12	2:F:1308:PHE:CE2	2.51	0.46
2:F:1197:ARG:HE	2:F:1199:GLU:CD	2.19	0.46
1:G:37:VAL:HG12	1:G:47:LEU:HD12	1.97	0.46
2:H:1216:LEU:HD21	2:H:1256:ALA:HA	1.97	0.46
3:I:622:ILE:HA	3:I:658:THR:HG22	1.98	0.46
3:J:296:TRP:CE2	3:J:317:ILE:HG22	2.51	0.46
3:J:456:VAL:HG12	3:J:457:TRP:N	2.31	0.46
3:J:705:ARG:O	3:J:707:LYS:HG3	2.16	0.46
1:A:352:VAL:HB	1:A:385:ALA:HB3	1.98	0.46
2:B:1056:LEU:O	2:B:1060:VAL:HG23	2.16	0.46
1:C:215:GLU:HG2	1:C:321:ARG:HH22	1.81	0.46
1:C:352:VAL:HB	1:C:385:ALA:HB3	1.98	0.46
1:C:474:ASN:O	1:C:477:ARG:HG2	2.16	0.46
2:D:1066:LEU:HD23	2:D:1066:LEU:O	2.14	0.46
1:E:31:VAL:HG13	1:E:54:LEU:HB2	1.96	0.46
1:E:148:PRO:HD3	1:E:182:TRP:CE2	2.51	0.46
2:H:1527:LEU:HD23	2:H:1575:GLU:C	2.36	0.46
2:H:1572:LEU:HB3	2:H:1574:LEU:HG	1.98	0.46
3:K:513:LYS:HB3	3:K:522:ASP:HB3	1.97	0.46
3:L:82:HIS:CE1	3:L:150:ARG:HB2	2.50	0.46
1:A:427:VAL:HB	1:A:523:GLU:HG3	1.98	0.46
1:A:624:PHE:H	1:A:632:THR:CG2	2.29	0.46
1:C:147:ASN:HA	1:C:182:TRP:CE3	2.51	0.46
1:C:223:ILE:HD12	1:C:223:ILE:N	2.30	0.46
1:E:45:LEU:HA	1:E:46:VAL:HA	1.67	0.46
1:G:474:ASN:O	1:G:477:ARG:HG2	2.15	0.46
2:H:1056:LEU:O	2:H:1060:VAL:HG23	2.16	0.46
2:H:1103:ILE:HD12	2:H:1103:ILE:H	1.81	0.46
2:H:1525:THR:HB	2:H:1541:MET:HB3	1.98	0.46
3:I:437:GLU:HB3	3:I:441:TYR:CE2	2.51	0.46
3:J:655:PHE:HA	3:J:717:HIS:O	2.15	0.46
3:K:529:LEU:HD13	3:K:730:LYS:HD2	1.97	0.46
1:A:31:VAL:HG13	1:A:54:LEU:HB2	1.98	0.46
1:A:147:ASN:HA	1:A:182:TRP:CE3	2.51	0.46
2:B:804:MET:HG2	2:B:805:GLN:H	1.80	0.46
2:B:1066:LEU:HD23	2:B:1066:LEU:O	2.16	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:20:MET:HB3	1:C:64:VAL:HG23	1.98	0.46
2:D:804:MET:HG2	2:D:805:GLN:H	1.81	0.46
2:D:966:ALA:HA	2:D:1267:HIS:HB3	1.97	0.46
2:F:1572:LEU:HB3	2:F:1574:LEU:HG	1.98	0.46
1:G:223:ILE:HD12	1:G:223:ILE:N	2.30	0.46
3:K:296:TRP:CE2	3:K:317:ILE:HG22	2.51	0.46
2:B:940:ILE:HD12	2:B:1308:PHE:CE2	2.51	0.45
1:C:83:PHE:CZ	1:C:100:LEU:HD13	2.51	0.45
2:D:882:LYS:HG3	2:D:886:GLN:NE2	2.30	0.45
1:E:427:VAL:HB	1:E:523:GLU:HG3	1.98	0.45
3:I:118:ARG:NH1	3:I:130:THR:HA	2.31	0.45
3:J:82:HIS:HE1	3:J:150:ARG:HB2	1.82	0.45
2:B:1103:ILE:HD12	2:B:1103:ILE:N	2.31	0.45
2:B:1155:GLU:HG3	2:B:1184:LEU:HD21	1.97	0.45
2:B:1572:LEU:HB3	2:B:1574:LEU:HG	1.97	0.45
1:C:23:GLU:HG2	1:C:483:ARG:HH21	1.81	0.45
2:F:1155:GLU:HG3	2:F:1184:LEU:HD21	1.99	0.45
2:F:1331:LYS:HA	2:F:1332:ASP:CB	2.39	0.45
1:G:10:ASN:ND2	1:G:621:GLY:HA2	2.30	0.45
3:I:89:TYR:CE2	3:I:92:ARG:HG2	2.51	0.45
3:I:431:LYS:HB3	3:I:435:ASN:HD22	1.81	0.45
3:J:529:LEU:HD13	3:J:730:LYS:HD2	1.97	0.45
3:K:679:ILE:HG21	3:K:686:PHE:HB3	1.98	0.45
2:B:1153:PHE:HE1	2:F:1236:GLU:OE1	1.99	0.45
2:B:1520:ASP:HB2	2:B:1586:SER:HB3	1.97	0.45
2:H:854:ALA:HB2	2:H:860:HIS:HB3	1.98	0.45
2:H:1380:ILE:HD12	2:H:1380:ILE:N	2.32	0.45
3:K:62:THR:HG23	3:K:68:VAL:CG2	2.46	0.45
3:K:703:GLN:HG2	3:K:704:LYS:HG3	1.98	0.45
1:A:400:ILE:N	1:A:400:ILE:HD12	2.32	0.45
2:B:1296:LEU:HD23	2:B:1298:ARG:CZ	2.46	0.45
2:B:1525:THR:HB	2:B:1541:MET:HB3	1.98	0.45
1:C:25:HIS:HA	1:C:26:ASP:HA	1.55	0.45
2:F:882:LYS:HG3	2:F:886:GLN:NE2	2.31	0.45
1:G:147:ASN:HA	1:G:182:TRP:CE3	2.51	0.45
1:G:352:VAL:HB	1:G:385:ALA:HB3	1.99	0.45
1:G:427:VAL:HB	1:G:523:GLU:HG3	1.97	0.45
1:G:634:GLN:NE2	2:H:1017:LEU:HD23	2.31	0.45
2:H:839:LYS:HB3	2:H:895:TYR:HB2	1.99	0.45
2:H:1376:ALA:HB3	2:H:1429:VAL:HG23	1.99	0.45
3:K:241:SER:HA	3:K:242:GLY:HA3	1.73	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:19:ILE:HG13	3:L:71:ALA:C	2.37	0.45
3:L:89:TYR:CE2	3:L:92:ARG:HG2	2.52	0.45
2:B:882:LYS:HG3	2:B:886:GLN:NE2	2.31	0.45
2:D:918:LYS:HE3	2:D:1326:TYR:OH	2.16	0.45
2:F:887:GLU:OE2	2:F:904:ARG:HD2	2.15	0.45
2:F:1103:ILE:HD12	2:F:1103:ILE:N	2.31	0.45
1:G:241:LYS:HG2	2:H:804:MET:HE1	1.98	0.45
3:J:493:GLU:OE1	3:J:560:LYS:HE3	2.16	0.45
2:B:1154:LEU:HB2	2:B:1174:LEU:HD21	1.99	0.45
2:D:940:ILE:HD12	2:D:1308:PHE:CE2	2.51	0.45
2:D:1315:LYS:N	2:D:1315:LYS:HD2	2.32	0.45
2:F:918:LYS:HE3	2:F:1326:TYR:OH	2.17	0.45
2:H:1197:ARG:HE	2:H:1199:GLU:CD	2.19	0.45
3:J:250:LEU:HB3	3:J:288:THR:HG22	1.99	0.45
3:L:431:LYS:HB3	3:L:435:ASN:HD22	1.82	0.45
2:B:839:LYS:HB3	2:B:895:TYR:HB2	1.99	0.45
2:D:1095:VAL:HG13	2:D:1122:THR:OG1	2.16	0.45
2:D:1463:LEU:O	2:D:1463:LEU:HD23	2.17	0.45
1:E:151:ILE:HG22	2:F:1297:LEU:HG	1.97	0.45
1:E:400:ILE:HD12	1:E:400:ILE:N	2.32	0.45
1:G:19:THR:HB	1:G:478:LEU:HB2	1.99	0.45
1:G:569:ALA:HB2	2:H:788:SER:HB2	1.97	0.45
3:J:679:ILE:HG21	3:J:686:PHE:HB3	1.99	0.45
3:L:529:LEU:HD13	3:L:730:LYS:HD2	1.97	0.45
2:B:1065:SER:OG	2:B:1132:ALA:HB2	2.16	0.45
2:D:1507:LEU:HD11	2:D:1629:ALA:HB3	1.99	0.45
1:E:95:VAL:HG22	1:E:627:SER:HB3	1.98	0.45
1:G:145:ILE:O	1:G:153:VAL:HG22	2.17	0.45
2:H:1223:ASP:O	2:H:1227:VAL:HG23	2.17	0.45
2:H:1337:ASN:HB3	2:H:1338:LYS:HD2	1.99	0.45
3:I:278:TYR:CD1	3:I:450:LEU:HD11	2.52	0.45
3:I:703:GLN:HG2	3:I:704:LYS:HG3	1.98	0.45
3:J:35:TYR:OH	3:J:49:ARG:HD2	2.17	0.45
3:L:622:ILE:HA	3:L:658:THR:HG22	1.99	0.45
2:B:733:ILE:HG13	2:B:734:ILE:N	2.31	0.45
2:B:852:SER:HB3	2:B:878:ILE:HG22	1.97	0.45
1:C:39:ASP:OD2	1:C:44:LYS:HB3	2.17	0.45
2:D:1376:ALA:HB3	2:D:1429:VAL:HG23	1.99	0.45
2:D:1387:THR:CG2	2:D:1451:GLN:H	2.22	0.45
1:E:147:ASN:HA	1:E:182:TRP:CE3	2.52	0.45
1:E:343:LYS:HD2	1:E:343:LYS:N	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:1017:LEU:HD12	2:F:1018:GLU:N	2.21	0.45
2:F:1532:LEU:N	2:F:1532:LEU:HD12	2.31	0.45
2:H:1458:TYR:HB3	2:H:1466:SER:HB3	1.99	0.45
2:H:1641:ASN:N	3:L:326:SER:O	2.50	0.45
3:I:347:VAL:HG13	3:I:349:PRO:CG	2.47	0.45
1:A:302:LEU:HG	1:A:326:ILE:HD11	1.99	0.45
2:B:1119:MET:SD	2:B:1157:ASN:HB2	2.57	0.45
2:B:1331:LYS:HA	2:B:1332:ASP:HB2	1.98	0.45
1:C:193:GLN:CD	1:C:193:GLN:H	2.20	0.45
1:C:427:VAL:HB	1:C:523:GLU:HG3	1.99	0.45
1:E:352:VAL:HB	1:E:385:ALA:HB3	2.00	0.45
1:G:400:ILE:HD12	1:G:400:ILE:N	2.32	0.45
2:H:1463:LEU:HD23	2:H:1463:LEU:O	2.17	0.45
3:J:110:TYR:CE1	3:J:135:ASN:HB3	2.52	0.45
3:K:218:GLU:HB3	3:K:452:LEU:HD21	1.99	0.45
3:K:240:PRO:HA	3:K:241:SER:HA	1.53	0.45
3:K:286:LEU:H	3:K:297:VAL:HB	1.82	0.45
3:K:493:GLU:OE1	3:K:560:LYS:HE3	2.16	0.45
2:B:1337:ASN:HB3	2:B:1338:LYS:HD2	2.00	0.44
2:D:851:CYS:HB3	2:D:879:VAL:HB	2.00	0.44
2:D:1380:ILE:N	2:D:1380:ILE:HD12	2.32	0.44
1:E:268:ARG:HD3	2:F:1378:MET:CE	2.47	0.44
2:F:1296:LEU:HD23	2:F:1298:ARG:CZ	2.47	0.44
2:H:1103:ILE:HD12	2:H:1103:ILE:N	2.32	0.44
3:I:349:PRO:HD2	3:I:352:TRP:CD1	2.53	0.44
3:K:353:ASN:OD1	3:K:354:ARG:HG3	2.17	0.44
3:K:622:ILE:HA	3:K:658:THR:HG22	1.99	0.44
3:L:248:LEU:HD22	3:L:268:LEU:HD22	1.99	0.44
1:A:193:GLN:H	1:A:193:GLN:CD	2.20	0.44
1:A:474:ASN:O	1:A:477:ARG:HG2	2.17	0.44
1:A:569:ALA:HB2	2:B:788:SER:HB2	1.97	0.44
1:C:400:ILE:N	1:C:400:ILE:HD12	2.32	0.44
2:D:811:LEU:HD22	2:D:890:VAL:HG22	2.00	0.44
2:B:1197:ARG:HE	2:B:1199:GLU:CD	2.21	0.44
1:E:45:LEU:H	1:E:45:LEU:CD2	2.31	0.44
1:E:83:PHE:CZ	1:E:100:LEU:HD13	2.51	0.44
1:E:193:GLN:CD	1:E:193:GLN:H	2.20	0.44
2:F:811:LEU:HD22	2:F:890:VAL:HG22	1.99	0.44
2:F:1315:LYS:N	2:F:1315:LYS:HD2	2.32	0.44
2:F:1337:ASN:HB3	2:F:1338:LYS:HD2	1.99	0.44
2:F:1380:ILE:N	2:F:1380:ILE:HD12	2.32	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:K:110:TYR:CE1	3:K:135:ASN:HB3	2.52	0.44
3:L:437:GLU:HB3	3:L:441:TYR:CE2	2.51	0.44
3:L:679:ILE:HG21	3:L:686:PHE:HB3	2.00	0.44
3:L:703:GLN:HG2	3:L:704:LYS:HG3	1.98	0.44
1:A:5:SER:HA	1:A:625:THR:O	2.17	0.44
1:A:343:LYS:HD2	1:A:343:LYS:N	2.32	0.44
2:B:918:LYS:HE3	2:B:1326:TYR:OH	2.16	0.44
2:B:1315:LYS:HD2	2:B:1315:LYS:N	2.33	0.44
1:C:145:ILE:O	1:C:153:VAL:HG22	2.18	0.44
1:C:343:LYS:N	1:C:343:LYS:HD2	2.32	0.44
1:E:624:PHE:H	1:E:632:THR:CG2	2.31	0.44
2:F:1216:LEU:HD21	2:F:1256:ALA:HA	1.98	0.44
1:G:343:LYS:HD2	1:G:343:LYS:N	2.32	0.44
2:H:751:TRP:HD1	3:L:108:ASP:H	1.66	0.44
2:H:918:LYS:HE3	2:H:1326:TYR:OH	2.17	0.44
3:K:35:TYR:OH	3:K:49:ARG:HD2	2.18	0.44
3:K:216:THR:O	3:K:220:VAL:HG23	2.18	0.44
3:K:406:GLY:O	3:K:408:LEU:N	2.49	0.44
3:K:568:ARG:HA	3:K:569:PRO:HD3	1.89	0.44
3:L:118:ARG:NH1	3:L:130:THR:HA	2.33	0.44
1:A:5:SER:OG	1:A:23:GLU:HB2	2.18	0.44
2:B:1458:TYR:HB3	2:B:1466:SER:HB3	1.99	0.44
2:F:1463:LEU:O	2:F:1463:LEU:HD23	2.18	0.44
1:G:31:VAL:HG13	1:G:54:LEU:HB2	1.99	0.44
1:G:624:PHE:H	1:G:632:THR:CG2	2.30	0.44
3:I:347:VAL:HG13	3:I:349:PRO:CD	2.48	0.44
3:J:286:LEU:H	3:J:297:VAL:HB	1.82	0.44
3:L:364:ASP:HB3	3:L:406:GLY:HA3	2.00	0.44
1:A:145:ILE:O	1:A:153:VAL:HG22	2.17	0.44
1:A:443:LEU:HD11	1:A:449:LEU:HD22	1.99	0.44
2:B:956:THR:HG23	2:B:1324:THR:HG22	1.99	0.44
1:C:268:ARG:HD3	2:D:1378:MET:CE	2.48	0.44
1:C:323:GLY:O	1:C:325:PRO:HD3	2.18	0.44
2:D:1593:LYS:HE2	2:D:1596:LEU:HD11	2.00	0.44
1:E:39:ASP:OD2	1:E:44:LYS:HB3	2.18	0.44
1:E:40:PHE:CE1	2:F:1017:LEU:CD1	3.01	0.44
2:F:1017:LEU:C	2:F:1019:LYS:H	2.21	0.44
2:H:907:LEU:HD23	2:H:907:LEU:H	1.83	0.44
2:H:1017:LEU:C	2:H:1019:LYS:H	2.20	0.44
2:H:1315:LYS:HD2	2:H:1315:LYS:N	2.32	0.44
2:H:1405:ARG:HE	2:H:1437:LEU:HD23	1.82	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:45:PRO:HB3	3:I:62:THR:HG22	1.99	0.44
3:I:110:TYR:CE1	3:I:135:ASN:HB3	2.53	0.44
3:I:349:PRO:HG2	3:I:352:TRP:HB3	1.99	0.44
3:J:216:THR:O	3:J:220:VAL:HG23	2.18	0.44
3:K:76:ILE:HG12	3:K:197:PHE:CE1	2.52	0.44
3:K:705:ARG:HA	3:K:705:ARG:HD3	1.87	0.44
3:L:435:ASN:O	3:L:439:VAL:HG23	2.18	0.44
1:C:93:GLN:HE21	1:C:627:SER:HB2	1.82	0.44
2:D:1103:ILE:HD12	2:D:1103:ILE:N	2.32	0.44
1:E:147:ASN:HB2	1:E:148:PRO:CD	2.48	0.44
2:F:1286:THR:HG22	3:K:665:ALA:HB3	2.00	0.44
1:G:302:LEU:HG	1:G:326:ILE:HD11	2.00	0.44
3:I:342:SER:HA	3:I:383:LEU:HD21	2.00	0.44
3:J:57:TRP:O	3:J:58:SER:C	2.56	0.44
1:E:10:ASN:HA	1:E:623:THR:HG23	1.98	0.44
1:E:469:THR:O	1:E:511:ALA:HA	2.18	0.44
2:H:732:ASP:CG	2:H:733:ILE:H	2.21	0.44
3:I:32:ALA:HA	3:I:57:TRP:HZ3	1.83	0.44
4:K:1353:NAG:H83	4:K:1353:NAG:O3	2.18	0.44
3:L:454:GLY:H	3:L:570:ILE:HA	1.83	0.44
1:A:147:ASN:HB2	1:A:148:PRO:CD	2.48	0.44
2:B:1539:TYR:HB2	2:B:1562:PHE:HB2	2.00	0.44
1:C:469:THR:O	1:C:511:ALA:HA	2.18	0.44
2:D:839:LYS:HB3	2:D:895:TYR:HB2	1.99	0.44
2:D:1331:LYS:CA	2:D:1332:ASP:HB2	2.48	0.44
2:F:1481:ASN:ND2	2:F:1567:LYS:HE3	2.32	0.44
2:H:1055:TRP:HZ2	2:H:1248:GLN:HE21	1.66	0.44
3:I:371:GLY:O	3:I:373:PRO:HD3	2.18	0.44
3:K:118:ARG:NH1	3:K:130:THR:HA	2.33	0.44
3:L:343:TRP:HA	3:L:344:PRO:HD3	1.86	0.44
1:A:215:GLU:HG2	1:A:321:ARG:HH22	1.83	0.43
1:C:624:PHE:H	1:C:632:THR:CG2	2.31	0.43
2:D:1119:MET:SD	2:D:1157:ASN:HB2	2.58	0.43
2:D:1155:GLU:HG3	2:D:1184:LEU:HD21	1.99	0.43
1:E:145:ILE:O	1:E:153:VAL:HG22	2.17	0.43
2:F:850:PHE:CZ	2:F:907:LEU:HD21	2.52	0.43
1:G:147:ASN:HB2	1:G:148:PRO:CD	2.48	0.43
1:G:443:LEU:HD11	1:G:449:LEU:HD22	1.98	0.43
2:H:811:LEU:HD22	2:H:890:VAL:HG22	1.99	0.43
2:H:853:LEU:HB2	2:H:860:HIS:CD2	2.53	0.43
2:H:1064:PHE:O	2:H:1068:VAL:HG13	2.18	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:216:THR:O	3:I:220:VAL:HG23	2.18	0.43
3:I:478:ARG:HB2	3:I:482:GLY:HA3	2.00	0.43
3:J:622:ILE:HA	3:J:658:THR:HG22	2.00	0.43
1:A:6:ILE:CG2	1:A:625:THR:HB	2.48	0.43
2:B:853:LEU:HB2	2:B:860:HIS:CD2	2.53	0.43
2:D:1337:ASN:HB3	2:D:1338:LYS:HD2	1.99	0.43
1:E:98:VAL:HG21	2:F:1017:LEU:HD21	2.00	0.43
2:F:839:LYS:HB3	2:F:895:TYR:HB2	2.00	0.43
1:G:15:GLU:CG	1:G:70:ALA:HB2	2.48	0.43
3:I:19:ILE:HG13	3:I:71:ALA:C	2.39	0.43
3:I:705:ARG:HA	3:I:705:ARG:HD3	1.87	0.43
1:C:14:LEU:HD22	1:C:69:PRO:O	2.18	0.43
2:D:824:GLU:OE2	2:D:875:PRO:HB3	2.19	0.43
2:F:958:ILE:O	2:F:1299:SER:HA	2.19	0.43
2:H:804:MET:HG2	2:H:805:GLN:H	1.82	0.43
2:H:958:ILE:O	2:H:1299:SER:HA	2.18	0.43
2:H:1165:TYR:HD1	2:H:1210:ALA:HB2	1.83	0.43
3:I:679:ILE:HG21	3:I:686:PHE:HB3	2.01	0.43
3:J:456:VAL:HG12	3:J:457:TRP:H	1.83	0.43
3:K:27:LEU:O	3:K:28:GLN:O	2.37	0.43
2:B:824:GLU:OE2	2:B:875:PRO:HB3	2.19	0.43
2:B:854:ALA:HB2	2:B:860:HIS:HB3	1.98	0.43
2:B:1376:ALA:HB3	2:B:1429:VAL:HG23	1.99	0.43
2:B:1380:ILE:N	2:B:1380:ILE:HD12	2.32	0.43
2:B:1641:ASN:N	3:I:326:SER:O	2.51	0.43
2:F:824:GLU:OE2	2:F:875:PRO:HB3	2.18	0.43
2:F:1056:LEU:O	2:F:1060:VAL:HG23	2.18	0.43
1:G:255:ASP:CG	1:G:256:GLY:H	2.22	0.43
1:G:469:THR:O	1:G:511:ALA:HA	2.17	0.43
3:I:172:LEU:HD11	3:I:191:PRO:HB3	2.00	0.43
3:I:328:THR:CG2	3:I:367:HIS:HA	2.49	0.43
3:J:29:GLU:N	3:J:30:GLY:CA	2.70	0.43
3:L:110:TYR:CE1	3:L:135:ASN:HB3	2.52	0.43
3:L:121:GLN:HE21	3:L:127:SER:HB3	1.84	0.43
1:A:344:PRO:HD2	1:A:433:TYR:CE1	2.54	0.43
2:B:751:TRP:CD1	3:I:108:ASP:HB2	2.54	0.43
2:B:811:LEU:HD22	2:B:890:VAL:HG22	1.99	0.43
2:B:1496:CYS:HB3	2:B:1568:CYS:HB3	1.80	0.43
1:C:439:LEU:H	1:C:439:LEU:HD12	1.83	0.43
2:D:927:PRO:O	2:D:928:GLU:HB2	2.19	0.43
2:D:1017:LEU:C	2:D:1019:LYS:H	2.22	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:1378:MET:HB3	2:D:1378:MET:HE2	1.89	0.43
1:E:40:PHE:HD2	1:E:83:PHE:HB2	1.83	0.43
2:F:1458:TYR:HB3	2:F:1466:SER:HB3	1.99	0.43
3:K:220:VAL:O	3:K:222:ALA:N	2.50	0.43
3:L:45:PRO:HB3	3:L:62:THR:HG22	1.99	0.43
1:A:100:LEU:HD21	1:A:638:LEU:HA	1.99	0.43
1:A:255:ASP:CG	1:A:256:GLY:H	2.21	0.43
2:B:1064:PHE:O	2:B:1068:VAL:HG13	2.18	0.43
2:B:1332:ASP:HB3	2:B:1333:GLN:H	1.68	0.43
1:C:241:LYS:HG3	2:D:832:TYR:CE1	2.54	0.43
1:C:255:ASP:CG	1:C:256:GLY:H	2.21	0.43
1:C:344:PRO:HD2	1:C:433:TYR:CE1	2.54	0.43
2:D:1397:LYS:HZ2	2:D:1412:LEU:HD23	1.83	0.43
1:E:302:LEU:HG	1:E:326:ILE:HD11	2.01	0.43
2:F:1031:TYR:O	2:F:1035:LEU:HG	2.19	0.43
2:F:1108:ILE:HD11	2:F:1112:ARG:HA	2.01	0.43
1:G:193:GLN:CD	1:G:193:GLN:H	2.21	0.43
2:H:1257:LEU:O	2:H:1261:GLN:HG2	2.19	0.43
2:H:1520:ASP:HB2	2:H:1586:SER:HB3	1.99	0.43
3:I:344:PRO:HB2	3:I:346:ASP:HB2	2.01	0.43
2:B:1260:TYR:O	2:B:1264:ALA:HB2	2.19	0.43
1:C:23:GLU:CG	1:C:483:ARG:HH21	2.31	0.43
1:C:628:SER:HB2	1:C:630:GLN:NE2	2.16	0.43
1:E:215:GLU:HG2	1:E:321:ARG:HH22	1.83	0.43
1:E:439:LEU:HD12	1:E:439:LEU:H	1.83	0.43
1:G:344:PRO:HD2	1:G:433:TYR:CE1	2.54	0.43
2:H:824:GLU:OE2	2:H:875:PRO:HB3	2.18	0.43
2:H:1593:LYS:HE2	2:H:1596:LEU:HD11	2.01	0.43
3:K:28:GLN:O	3:K:29:GLU:HB2	2.18	0.43
3:K:407:PRO:O	3:K:408:LEU:HD22	2.19	0.43
1:A:469:THR:O	1:A:511:ALA:HA	2.19	0.43
2:B:1031:TYR:O	2:B:1035:LEU:HG	2.19	0.43
1:C:219:LYS:NZ	1:C:356:ASN:HD22	2.17	0.43
2:D:1520:ASP:HB2	2:D:1586:SER:HB3	2.01	0.43
1:E:25:HIS:HA	1:E:26:ASP:HA	1.55	0.43
2:F:1223:ASP:O	2:F:1227:VAL:HG23	2.19	0.43
3:K:82:HIS:HE1	3:K:150:ARG:HB2	1.82	0.43
3:K:172:LEU:HD11	3:K:191:PRO:HB3	2.01	0.43
2:B:1017:LEU:C	2:B:1019:LYS:H	2.21	0.43
2:B:1215:LEU:HD23	2:B:1256:ALA:HB1	2.00	0.43
2:B:1223:ASP:O	2:B:1227:VAL:HG23	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:1497:PHE:HA	2:B:1601:GLY:O	2.18	0.43
1:E:255:ASP:CG	1:E:256:GLY:H	2.22	0.43
2:F:1064:PHE:O	2:F:1068:VAL:HG13	2.19	0.43
1:G:25:HIS:HA	1:G:26:ASP:HA	1.52	0.43
2:H:904:ARG:HH22	3:L:82:HIS:HB2	1.83	0.43
2:H:956:THR:HG23	2:H:1324:THR:HG22	2.00	0.43
3:I:347:VAL:HA	3:I:348:PRO:O	2.18	0.43
3:J:278:TYR:CD1	3:J:450:LEU:HD11	2.54	0.43
2:B:746:PRO:HG2	2:B:774:LYS:HE3	2.01	0.43
2:B:927:PRO:O	2:B:928:GLU:HB2	2.19	0.43
2:F:966:ALA:HB2	2:F:1291:TRP:CH2	2.54	0.43
2:F:1405:ARG:HE	2:F:1437:LEU:HD23	1.84	0.43
3:K:250:LEU:HD12	3:K:362:MET:HB2	2.00	0.43
3:L:25:ARG:CZ	3:L:27:LEU:HD21	2.49	0.43
3:L:101:GLU:HG2	3:L:119:THR:OG1	2.19	0.43
3:L:216:THR:O	3:L:220:VAL:HG23	2.19	0.43
1:A:82:LYS:HD2	1:A:103:LEU:HD21	2.01	0.42
2:B:1110:GLY:HA3	2:B:1165:TYR:CZ	2.54	0.42
2:D:1231:VAL:HG21	2:D:1260:TYR:CE1	2.54	0.42
2:D:1264:ALA:HA	2:D:1265:PRO:HD3	1.89	0.42
2:D:1458:TYR:HB3	2:D:1466:SER:HB3	2.00	0.42
2:H:1227:VAL:HB	2:H:1228:PRO:HD3	2.01	0.42
3:I:121:GLN:HE21	3:I:127:SER:HB3	1.84	0.42
3:I:458:GLU:HA	3:I:459:HIS:C	2.38	0.42
3:I:582:LEU:HD21	3:I:597:LEU:HD21	2.01	0.42
3:J:69:ARG:H	3:J:69:ARG:HD2	1.84	0.42
3:L:705:ARG:HA	3:L:705:ARG:HD3	1.87	0.42
2:B:816:SER:HB2	2:B:910:VAL:HG23	2.00	0.42
2:F:956:THR:HG23	2:F:1324:THR:HG22	2.00	0.42
3:I:364:ASP:HB3	3:I:406:GLY:HA3	2.01	0.42
3:I:435:ASN:O	3:I:439:VAL:HG23	2.18	0.42
3:J:76:ILE:HG12	3:J:197:PHE:CE1	2.54	0.42
3:L:171:THR:HG23	3:L:412:VAL:HG22	2.01	0.42
3:L:210:LEU:HD11	3:L:443:MET:HG2	2.01	0.42
3:L:371:GLY:O	3:L:373:PRO:HD3	2.18	0.42
1:C:147:ASN:HB2	1:C:148:PRO:CD	2.49	0.42
2:D:958:ILE:O	2:D:1299:SER:HA	2.20	0.42
2:D:1257:LEU:O	2:D:1261:GLN:HG2	2.19	0.42
2:D:1405:ARG:HE	2:D:1437:LEU:HD23	1.84	0.42
1:E:323:GLY:O	1:E:325:PRO:HD3	2.18	0.42
3:I:189:THR:HG22	3:I:420:LYS:HB3	2.01	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:269:VAL:HG13	3:I:311:THR:HG23	2.02	0.42
3:I:692:ILE:HG12	3:I:717:HIS:CE1	2.54	0.42
3:I:706:GLN:C	3:I:708:GLN:H	2.23	0.42
3:J:41:PHE:HB3	3:J:74:ARG:O	2.19	0.42
3:K:692:ILE:HG12	3:K:717:HIS:CE1	2.54	0.42
3:L:437:GLU:HB3	3:L:441:TYR:HE2	1.84	0.42
1:A:567:HIS:ND1	2:B:760:PRO:HG3	2.34	0.42
2:B:1108:ILE:HD11	2:B:1112:ARG:HA	2.01	0.42
2:D:1031:TYR:O	2:D:1035:LEU:HG	2.19	0.42
2:D:1056:LEU:O	2:D:1060:VAL:HG23	2.18	0.42
2:D:1064:PHE:O	2:D:1068:VAL:HG13	2.19	0.42
2:D:1107:MET:O	2:D:1248:GLN:HG2	2.19	0.42
2:D:1397:LYS:NZ	2:D:1412:LEU:HD23	2.34	0.42
1:E:344:PRO:HD2	1:E:433:TYR:CE1	2.53	0.42
2:F:1119:MET:SD	2:F:1157:ASN:HB2	2.58	0.42
1:G:45:LEU:HA	1:G:46:VAL:HA	1.67	0.42
2:H:1008:GLU:CD	2:H:1262:LYS:HD3	2.39	0.42
2:H:1119:MET:SD	2:H:1157:ASN:HB2	2.59	0.42
2:H:1296:LEU:HD23	2:H:1298:ARG:CZ	2.50	0.42
3:I:82:HIS:HE1	3:I:150:ARG:HB2	1.83	0.42
3:J:172:LEU:HD11	3:J:191:PRO:HB3	2.01	0.42
3:J:343:TRP:HA	3:J:344:PRO:HD3	1.90	0.42
3:K:80:ARG:HA	3:K:81:PRO:HD3	1.92	0.42
3:K:289:TYR:CG	3:K:333:ALA:HB2	2.54	0.42
3:L:172:LEU:HD11	3:L:191:PRO:HB3	2.01	0.42
3:L:683:ARG:O	3:L:685:ARG:HG2	2.20	0.42
2:B:1390:ALA:HA	2:B:1391:PRO:HD3	1.93	0.42
1:C:40:PHE:HD2	1:C:83:PHE:HB2	1.82	0.42
2:F:732:ASP:CG	2:F:733:ILE:H	2.22	0.42
2:F:927:PRO:O	2:F:928:GLU:HB2	2.19	0.42
2:F:1231:VAL:HG21	2:F:1260:TYR:CE1	2.54	0.42
2:F:1593:LYS:HE2	2:F:1596:LEU:HD11	2.01	0.42
2:H:1154:LEU:HB2	2:H:1174:LEU:HD21	2.00	0.42
3:J:69:ARG:CD	3:J:69:ARG:N	2.82	0.42
3:J:299:VAL:HG13	3:J:340:MET:HE2	2.01	0.42
3:J:341:MET:SD	3:J:380:ILE:HG23	2.59	0.42
3:K:57:TRP:O	3:K:58:SER:C	2.57	0.42
3:L:476:VAL:HB	3:L:484:GLU:HB3	2.00	0.42
2:B:1477:ASP:OD1	2:B:1479:LYS:HD3	2.19	0.42
1:C:302:LEU:HG	1:C:326:ILE:HD11	2.01	0.42
2:D:956:THR:HG23	2:D:1324:THR:HG22	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:853:LEU:HB2	2:F:860:HIS:CD2	2.54	0.42
2:F:1227:VAL:HB	2:F:1228:PRO:HD3	2.02	0.42
2:F:1376:ALA:HB3	2:F:1429:VAL:HG23	2.01	0.42
1:G:5:SER:OG	1:G:23:GLU:HB2	2.19	0.42
2:H:1477:ASP:OD1	2:H:1479:LYS:HD3	2.19	0.42
3:J:353:ASN:HB2	3:J:394:ARG:NH1	2.35	0.42
3:J:582:LEU:HD21	3:J:597:LEU:HD21	2.01	0.42
3:K:692:ILE:HA	3:K:717:HIS:ND1	2.35	0.42
3:L:32:ALA:HA	3:L:57:TRP:HZ3	1.83	0.42
2:D:853:LEU:HB2	2:D:860:HIS:CD2	2.54	0.42
2:D:1227:VAL:HB	2:D:1228:PRO:HD3	2.01	0.42
1:E:152:PRO:O	2:F:1296:LEU:HD12	2.20	0.42
2:F:966:ALA:HB2	2:F:1291:TRP:CZ3	2.55	0.42
2:F:1165:TYR:HD1	2:F:1210:ALA:HB2	1.84	0.42
2:F:1397:LYS:HZ2	2:F:1412:LEU:HD23	1.84	0.42
1:G:323:GLY:O	1:G:325:PRO:HD3	2.19	0.42
2:H:776:SER:HB2	2:H:780:TRP:CZ2	2.55	0.42
3:I:171:THR:HG23	3:I:412:VAL:HG22	2.02	0.42
3:J:101:GLU:HG2	3:J:119:THR:OG1	2.20	0.42
3:L:82:HIS:HE1	3:L:150:ARG:HB2	1.82	0.42
3:L:269:VAL:HG13	3:L:311:THR:HG23	2.01	0.42
3:L:296:TRP:CE2	3:L:317:ILE:HG22	2.55	0.42
3:L:464:ASP:C	3:L:466:HIS:H	2.22	0.42
1:A:10:ASN:ND2	1:A:618:SER:O	2.50	0.42
2:D:1143:LEU:O	2:D:1147:ILE:HG13	2.19	0.42
2:D:1393:THR:O	2:D:1397:LYS:HD3	2.19	0.42
1:E:329:SER:HA	1:E:330:PRO:HD3	1.87	0.42
1:G:215:GLU:HG2	1:G:321:ARG:HH22	1.83	0.42
1:G:439:LEU:HD12	1:G:439:LEU:H	1.84	0.42
2:H:1539:TYR:HB2	2:H:1562:PHE:HB2	2.01	0.42
3:I:125:ARG:HE	3:I:198:MET:HB3	1.85	0.42
3:J:431:LYS:HB3	3:J:435:ASN:HD22	1.84	0.42
3:J:692:ILE:HG12	3:J:717:HIS:CE1	2.55	0.42
3:L:692:ILE:HG12	3:L:717:HIS:CE1	2.55	0.42
1:A:323:GLY:O	1:A:325:PRO:HD3	2.19	0.42
2:B:732:ASP:O	2:B:733:ILE:HG12	2.20	0.42
2:B:1257:LEU:O	2:B:1261:GLN:HG2	2.19	0.42
1:C:45:LEU:H	1:C:45:LEU:CD2	2.30	0.42
2:D:904:ARG:NH2	3:J:82:HIS:HB2	2.34	0.42
2:D:1617:ASP:C	2:D:1619:GLU:H	2.23	0.42
1:E:110:ILE:HG12	1:E:127:ILE:HG13	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:1393:THR:O	2:F:1397:LYS:HD3	2.19	0.42
2:H:997:THR:CG2	2:H:1251:PHE:HB2	2.50	0.42
3:I:431:LYS:HB3	3:I:435:ASN:ND2	2.35	0.42
3:J:692:ILE:HA	3:J:717:HIS:ND1	2.35	0.42
3:K:61:LYS:HG2	3:K:67:THR:HG23	2.02	0.42
3:K:298:LYS:HZ2	3:K:340:MET:HA	1.85	0.42
3:K:408:LEU:HA	3:K:408:LEU:HD13	1.75	0.42
1:A:439:LEU:H	1:A:439:LEU:HD12	1.84	0.42
2:B:1527:LEU:HD23	2:B:1575:GLU:C	2.40	0.42
1:C:22:LEU:HB2	1:C:62:GLY:HA3	2.02	0.42
2:D:1133:LYS:HA	2:D:1143:LEU:HD21	2.02	0.42
2:D:1165:TYR:HD1	2:D:1210:ALA:HB2	1.84	0.42
2:D:1223:ASP:O	2:D:1227:VAL:HG23	2.19	0.42
1:E:360:SER:HA	1:E:361:PRO:HD3	1.95	0.42
3:I:25:ARG:CZ	3:I:27:LEU:HD21	2.49	0.42
3:I:296:TRP:CE2	3:I:317:ILE:HG22	2.54	0.42
3:K:19:ILE:HD11	3:K:73:CYS:CB	2.44	0.42
3:K:68:VAL:C	3:K:70:LYS:N	2.72	0.42
3:K:171:THR:HG23	3:K:412:VAL:HG22	2.02	0.42
3:K:563:TYR:CE1	3:K:569:PRO:HD3	2.55	0.42
2:B:1386:MET:SD	2:B:1473:PRO:HD3	2.60	0.41
2:B:1397:LYS:NZ	2:B:1412:LEU:HD23	2.34	0.41
2:D:1331:LYS:HA	2:D:1332:ASP:CB	2.50	0.41
2:D:1333:GLN:HA	2:D:1334:LEU:C	2.40	0.41
1:G:630:GLN:H	1:G:630:GLN:NE2	2.18	0.41
2:H:1331:LYS:CA	2:H:1332:ASP:HB2	2.50	0.41
3:J:705:ARG:HA	3:J:705:ARG:HD3	1.86	0.41
3:K:44:TYR:HB3	3:K:73:CYS:CA	2.49	0.41
3:K:62:THR:HG23	3:K:68:VAL:HG21	2.02	0.41
3:K:683:ARG:O	3:K:685:ARG:HG2	2.20	0.41
3:L:45:PRO:HG3	3:L:68:VAL:HG21	2.02	0.41
3:L:582:LEU:HD21	3:L:597:LEU:HD21	2.01	0.41
3:L:706:GLN:C	3:L:708:GLN:H	2.23	0.41
1:A:342:PHE:CD2	1:A:391:THR:HG21	2.55	0.41
2:B:1227:VAL:HB	2:B:1228:PRO:HD3	2.02	0.41
2:B:1405:ARG:HE	2:B:1437:LEU:HD23	1.83	0.41
1:C:1:SER:HA	1:C:2:PRO:HD3	1.93	0.41
2:D:1370:TYR:CD1	2:D:1376:ALA:HB2	2.55	0.41
1:G:304:VAL:O	1:G:320:GLU:HA	2.21	0.41
2:H:1331:LYS:HA	2:H:1332:ASP:HB2	2.02	0.41
3:I:59:THR:HG23	3:I:61:LYS:HG2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:683:ARG:O	3:I:685:ARG:HG2	2.20	0.41
3:J:568:ARG:HA	3:J:569:PRO:HD3	1.88	0.41
3:J:706:GLN:C	3:J:708:GLN:H	2.23	0.41
3:K:42:TYR:CE1	3:K:74:ARG:HB2	2.55	0.41
3:L:218:GLU:HB3	3:L:452:LEU:CD2	2.50	0.41
1:A:304:VAL:O	1:A:320:GLU:HA	2.20	0.41
2:B:813:LEU:HD23	2:B:907:LEU:HD13	2.01	0.41
2:B:1165:TYR:HD1	2:B:1210:ALA:HB2	1.85	0.41
2:B:1231:VAL:HG21	2:B:1260:TYR:CE1	2.56	0.41
2:B:1393:THR:O	2:B:1397:LYS:HD3	2.20	0.41
2:B:1581:LEU:HB2	2:B:1609:TRP:HE3	1.85	0.41
2:D:746:PRO:HG2	2:D:774:LYS:HE3	2.02	0.41
2:D:1215:LEU:HD23	2:D:1256:ALA:HB1	2.01	0.41
2:D:1477:ASP:OD1	2:D:1479:LYS:HD3	2.21	0.41
1:E:83:PHE:CD2	1:E:100:LEU:HA	2.55	0.41
2:F:1370:TYR:CD1	2:F:1376:ALA:HB2	2.55	0.41
2:F:1386:MET:SD	2:F:1473:PRO:HD3	2.60	0.41
2:F:1477:ASP:OD1	2:F:1479:LYS:HD3	2.20	0.41
1:G:219:LYS:NZ	1:G:356:ASN:HD22	2.18	0.41
1:G:567:HIS:ND1	2:H:760:PRO:HG3	2.34	0.41
2:H:1155:GLU:HG3	2:H:1184:LEU:HD21	2.01	0.41
3:I:101:GLU:HG2	3:I:119:THR:OG1	2.20	0.41
3:J:69:ARG:H	3:J:69:ARG:CD	2.32	0.41
3:J:121:GLN:HE21	3:J:127:SER:HB3	1.85	0.41
3:J:222:ALA:CA	3:J:223:GLU:C	2.87	0.41
3:J:289:TYR:CG	3:J:333:ALA:HB2	2.55	0.41
3:K:706:GLN:C	3:K:708:GLN:H	2.23	0.41
2:B:958:ILE:O	2:B:1299:SER:HA	2.19	0.41
2:D:813:LEU:HD23	2:D:907:LEU:HD13	2.02	0.41
2:D:1263:ASP:O	2:D:1265:PRO:HD3	2.20	0.41
2:D:1481:ASN:HD22	2:D:1567:LYS:HE3	1.85	0.41
2:F:1257:LEU:O	2:F:1261:GLN:HG2	2.20	0.41
3:I:347:VAL:HG13	3:I:349:PRO:HG3	2.02	0.41
3:K:216:THR:O	3:K:216:THR:HG22	2.20	0.41
3:K:431:LYS:HB3	3:K:435:ASN:HD22	1.85	0.41
3:K:531:HIS:HA	3:K:532:PRO:HD3	1.93	0.41
3:L:173:ARG:HA	3:L:415:ASN:ND2	2.35	0.41
3:L:431:LYS:HB3	3:L:435:ASN:ND2	2.36	0.41
3:L:666:ASP:HA	3:L:667:PRO:HD3	1.93	0.41
1:A:459:ARG:HA	1:A:462:GLU:CG	2.51	0.41
1:A:614:ALA:HB1	1:A:632:THR:HA	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:304:VAL:O	1:C:320:GLU:HA	2.21	0.41
1:C:468:TYR:HB2	1:C:484:GLN:HB3	2.02	0.41
1:E:22:LEU:HB2	1:E:62:GLY:HA3	2.03	0.41
1:E:219:LYS:NZ	1:E:356:ASN:HD22	2.18	0.41
1:E:440:ARG:HA	1:E:440:ARG:HD2	1.92	0.41
2:F:1095:VAL:HG13	2:F:1122:THR:OG1	2.20	0.41
2:F:1163:ARG:O	2:F:1167:VAL:HG23	2.20	0.41
2:H:1231:VAL:HG21	2:H:1260:TYR:CE1	2.55	0.41
3:J:585:PRO:HA	3:J:586:PRO:HD3	1.95	0.41
3:J:635:ALA:HB3	3:J:647:ILE:HD11	2.02	0.41
3:J:706:GLN:O	3:J:707:LYS:HB2	2.21	0.41
3:K:101:GLU:HG2	3:K:119:THR:OG1	2.20	0.41
3:L:59:THR:HG23	3:L:61:LYS:HG2	2.02	0.41
1:A:360:SER:HA	1:A:361:PRO:HD3	1.95	0.41
2:B:1360:ASN:O	2:B:1361:THR:O	2.38	0.41
2:B:1593:LYS:HE2	2:B:1596:LEU:HD11	2.01	0.41
2:B:1617:ASP:C	2:B:1619:GLU:H	2.24	0.41
2:D:1110:GLY:HA3	2:D:1165:TYR:CZ	2.55	0.41
2:D:1338:LYS:HD2	2:D:1338:LYS:H	1.86	0.41
2:D:1390:ALA:HA	2:D:1391:PRO:HD3	1.93	0.41
1:E:14:LEU:HD22	1:E:69:PRO:O	2.20	0.41
1:E:304:VAL:O	1:E:320:GLU:HA	2.21	0.41
1:G:69:PRO:CA	1:G:70:ALA:CB	2.91	0.41
2:H:927:PRO:O	2:H:928:GLU:HB2	2.19	0.41
2:H:1370:TYR:CD1	2:H:1376:ALA:HB2	2.55	0.41
3:J:351:GLY:HA2	3:J:354:ARG:HE	1.85	0.41
3:K:125:ARG:HE	3:K:198:MET:HB3	1.85	0.41
2:B:1370:TYR:CD1	2:B:1376:ALA:HB2	2.55	0.41
2:D:912:GLU:HG3	2:D:1331:LYS:NZ	2.35	0.41
2:D:997:THR:CG2	2:D:1251:PHE:HB2	2.50	0.41
2:D:1051:ALA:HA	2:D:1052:PRO:HD3	1.96	0.41
2:D:1108:ILE:HD11	2:D:1112:ARG:HA	2.01	0.41
1:E:268:ARG:NH1	2:F:1378:MET:HE3	2.20	0.41
2:F:1378:MET:HB3	2:F:1378:MET:HE2	1.90	0.41
2:F:1539:TYR:HB2	2:F:1562:PHE:HB2	2.02	0.41
2:H:1397:LYS:NZ	2:H:1412:LEU:HD23	2.35	0.41
3:I:247:TYR:OH	3:I:357:HIS:HD2	2.03	0.41
3:I:437:GLU:HB3	3:I:441:TYR:HE2	1.84	0.41
3:J:216:THR:O	3:J:216:THR:HG22	2.21	0.41
3:K:121:GLN:HE21	3:K:127:SER:HB3	1.85	0.41
1:A:7:ILE:HG22	1:A:622:LEU:HD22	2.03	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:69:PRO:HB3	1:A:70:ALA:C	2.41	0.41
2:B:1163:ARG:O	2:B:1167:VAL:HG23	2.21	0.41
1:C:567:HIS:ND1	2:D:760:PRO:HG3	2.34	0.41
2:D:1564:SER:HA	2:D:1565:PRO:HD3	1.97	0.41
1:E:567:HIS:ND1	2:F:760:PRO:HG3	2.35	0.41
1:G:207:LEU:HA	1:G:208:PRO:HD3	1.96	0.41
1:G:342:PHE:CD2	1:G:391:THR:HG21	2.55	0.41
2:H:850:PHE:HZ	2:H:907:LEU:HD21	1.85	0.41
2:H:1126:LEU:HD13	2:H:1150:ALA:HB3	2.03	0.41
2:H:1133:LYS:HA	2:H:1143:LEU:HD21	2.03	0.41
2:H:1143:LEU:O	2:H:1147:ILE:HG13	2.20	0.41
2:H:1581:LEU:HB2	2:H:1609:TRP:HE3	1.86	0.41
2:H:1617:ASP:C	2:H:1619:GLU:H	2.23	0.41
3:I:568:ARG:HG3	3:I:569:PRO:HD2	2.03	0.41
3:I:706:GLN:O	3:I:707:LYS:HB2	2.20	0.41
3:J:42:TYR:HA	3:J:43:PRO:HD3	1.97	0.41
3:K:463:THR:HB	3:K:466:HIS:CE1	2.55	0.41
3:L:216:THR:O	3:L:216:THR:HG22	2.21	0.41
2:B:1143:LEU:O	2:B:1147:ILE:HG13	2.20	0.41
2:B:1331:LYS:CA	2:B:1332:ASP:HB2	2.51	0.41
2:B:1641:ASN:OXT	3:I:253:SER:HB2	2.21	0.41
1:C:329:SER:HA	1:C:330:PRO:HD3	1.87	0.41
1:C:630:GLN:NE2	1:C:630:GLN:H	2.19	0.41
2:D:776:SER:HB2	2:D:780:TRP:CZ2	2.56	0.41
1:E:151:ILE:CG2	2:F:1297:LEU:HG	2.50	0.41
1:E:453:PHE:HB2	1:E:493:VAL:HG22	2.03	0.41
1:E:468:TYR:HB2	1:E:484:GLN:HB3	2.03	0.41
2:F:776:SER:HB2	2:F:780:TRP:CZ2	2.56	0.41
2:F:1260:TYR:O	2:F:1264:ALA:HB2	2.21	0.41
1:G:103:LEU:HD22	1:G:103:LEU:H	1.86	0.41
1:G:152:PRO:O	2:H:1296:LEU:HD12	2.20	0.41
1:G:187:TYR:CD1	1:G:192:PRO:HA	2.56	0.41
1:G:459:ARG:HA	1:G:462:GLU:CG	2.51	0.41
1:G:468:TYR:HB2	1:G:484:GLN:HB3	2.03	0.41
2:H:1490:ARG:HD2	2:H:1590:TRP:CZ3	2.56	0.41
2:H:1532:LEU:N	2:H:1532:LEU:HD12	2.35	0.41
3:J:563:TYR:CE1	3:J:569:PRO:HD3	2.55	0.41
3:K:27:LEU:C	3:K:28:GLN:HG2	2.40	0.41
3:K:463:THR:HB	3:K:466:HIS:ND1	2.36	0.41
3:K:582:LEU:HD21	3:K:597:LEU:HD21	2.02	0.41
1:A:219:LYS:NZ	1:A:356:ASN:HD22	2.18	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:813:LEU:HD23	2:B:907:LEU:HD22	2.03	0.41
2:B:997:THR:CG2	2:B:1251:PHE:HB2	2.51	0.41
2:B:1346:LYS:HA	2:B:1347:PRO:HD3	1.95	0.41
1:C:459:ARG:HA	1:C:462:GLU:CG	2.51	0.41
1:C:614:ALA:HB1	1:C:632:THR:HA	2.03	0.41
2:D:1163:ARG:O	2:D:1167:VAL:HG23	2.21	0.41
2:D:1260:TYR:O	2:D:1264:ALA:HB2	2.21	0.41
2:F:1110:GLY:HA3	2:F:1165:TYR:CZ	2.56	0.41
2:F:1397:LYS:NZ	2:F:1412:LEU:HD23	2.35	0.41
2:F:1641:ASN:OXT	3:K:255:SER:HB3	2.21	0.41
2:H:746:PRO:HG2	2:H:774:LYS:HE3	2.02	0.41
3:I:254:GLY:HA2	3:I:319:TYR:OH	2.21	0.41
3:I:289:TYR:CG	3:I:333:ALA:HB2	2.56	0.41
3:J:463:THR:HB	3:J:466:HIS:CE1	2.56	0.41
1:A:630:GLN:NE2	1:A:630:GLN:H	2.19	0.40
1:C:5:SER:OG	1:C:23:GLU:HB2	2.21	0.40
1:E:241:LYS:HG3	2:F:832:TYR:CE1	2.57	0.40
2:F:927:PRO:C	2:F:929:ARG:H	2.24	0.40
2:F:1472:HIS:HA	2:F:1473:PRO:HD3	1.99	0.40
2:H:1272:LEU:O	2:H:1288:ARG:HA	2.21	0.40
2:H:1332:ASP:HB3	2:H:1333:GLN:H	1.69	0.40
3:I:45:PRO:HG3	3:I:68:VAL:HG21	2.03	0.40
3:I:692:ILE:HA	3:I:717:HIS:ND1	2.35	0.40
3:J:423:ASN:ND2	3:J:583:ARG:HB2	2.36	0.40
3:J:464:ASP:C	3:J:466:HIS:H	2.24	0.40
3:J:683:ARG:O	3:J:685:ARG:HG2	2.21	0.40
3:L:408:LEU:HD22	3:L:408:LEU:N	2.37	0.40
3:L:563:TYR:CE1	3:L:569:PRO:HD3	2.55	0.40
3:L:706:GLN:O	3:L:707:LYS:HB2	2.21	0.40
1:A:111:GLN:O	1:A:125:TYR:HA	2.22	0.40
2:D:887:GLU:OE2	2:D:904:ARG:HD2	2.21	0.40
2:D:990:GLU:O	2:D:994:ILE:HG13	2.22	0.40
2:D:1296:LEU:HD23	2:D:1298:ARG:CZ	2.51	0.40
2:D:1386:MET:SD	2:D:1473:PRO:HD3	2.61	0.40
2:D:1472:HIS:HA	2:D:1473:PRO:HD3	1.98	0.40
2:F:912:GLU:HG3	2:F:1331:LYS:NZ	2.36	0.40
2:F:1215:LEU:HD23	2:F:1256:ALA:HB1	2.02	0.40
2:F:1231:VAL:HG21	2:F:1260:TYR:CD1	2.56	0.40
1:G:363:TYR:HD1	1:G:381:GLY:HA2	1.87	0.40
1:G:614:ALA:HB1	1:G:632:THR:HA	2.03	0.40
2:H:839:LYS:O	2:H:895:TYR:HD1	2.04	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:1031:TYR:O	2:H:1035:LEU:HG	2.20	0.40
2:H:1065:SER:OG	2:H:1132:ALA:HB2	2.21	0.40
2:H:1108:ILE:HD11	2:H:1112:ARG:HA	2.02	0.40
3:I:265:LYS:O	3:I:269:VAL:HG23	2.21	0.40
3:J:39:SER:OG	3:J:122:VAL:HG21	2.21	0.40
3:J:68:VAL:HG12	3:J:69:ARG:N	2.34	0.40
3:J:125:ARG:HE	3:J:198:MET:HB3	1.86	0.40
3:K:299:VAL:HG13	3:K:340:MET:HE2	2.02	0.40
3:K:706:GLN:O	3:K:707:LYS:HB2	2.21	0.40
3:L:265:LYS:O	3:L:269:VAL:HG23	2.22	0.40
1:A:40:PHE:CD1	1:A:41:PRO:HA	2.56	0.40
2:B:776:SER:HB2	2:B:780:TRP:CZ2	2.56	0.40
2:D:917:ASN:HD22	4:D:1917:NAG:C7	2.28	0.40
2:D:1055:TRP:HZ2	2:D:1248:GLN:HE21	1.69	0.40
2:D:1346:LYS:HA	2:D:1347:PRO:HD3	1.95	0.40
1:E:445:PRO:HG2	1:E:504:ILE:HD11	2.04	0.40
2:F:1617:ASP:C	2:F:1619:GLU:H	2.23	0.40
1:G:22:LEU:HD13	1:G:33:VAL:HG11	2.02	0.40
1:G:100:LEU:HD12	1:G:101:VAL:H	1.86	0.40
3:I:341:MET:SD	3:I:380:ILE:HG23	2.61	0.40
3:K:452:LEU:HB3	3:K:455:MET:HG3	2.03	0.40
1:A:22:LEU:HD13	1:A:33:VAL:HG11	2.03	0.40
1:C:83:PHE:CD2	1:C:100:LEU:HA	2.56	0.40
2:D:1385:MET:HE2	2:D:1385:MET:HA	2.04	0.40
1:E:187:TYR:CD1	1:E:192:PRO:HA	2.57	0.40
2:F:804:MET:HG2	2:F:805:GLN:H	1.87	0.40
2:F:1055:TRP:HZ2	2:F:1248:GLN:HE21	1.70	0.40
1:G:75:LYS:CA	1:G:82:LYS:HZ1	2.34	0.40
1:G:111:GLN:O	1:G:125:TYR:HA	2.21	0.40
1:G:505:PRO:HG3	1:G:595:TRP:CE3	2.55	0.40
3:I:216:THR:O	3:I:216:THR:HG22	2.21	0.40
3:I:343:TRP:CB	3:I:347:VAL:HG12	2.45	0.40
3:K:173:ARG:HA	3:K:415:ASN:ND2	2.35	0.40
3:K:405:VAL:HG11	3:K:433:MET:HE1	2.03	0.40
3:K:635:ALA:HB3	3:K:647:ILE:HD11	2.03	0.40
3:L:125:ARG:HE	3:L:198:MET:HB3	1.85	0.40
3:L:676:GLY:HA2	3:L:677:PRO:HD3	1.84	0.40
1:A:75:LYS:CA	1:A:82:LYS:HZ3	2.35	0.40
1:A:100:LEU:HD12	1:A:101:VAL:H	1.86	0.40
1:A:468:TYR:HB2	1:A:484:GLN:HB3	2.02	0.40
2:B:845:LEU:N	2:B:845:LEU:HD12	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:927:PRO:C	2:B:929:ARG:H	2.24	0.40
2:B:986:SER:HB2	1:E:257:GLU:CG	2.52	0.40
2:B:1301:GLU:CD	2:B:1301:GLU:N	2.74	0.40
1:E:269:ILE:HA	1:E:270:PRO:HD3	1.92	0.40
1:E:363:TYR:HD1	1:E:381:GLY:HA2	1.87	0.40
2:F:740:VAL:HG21	3:K:94:PRO:HB3	2.03	0.40
1:G:187:TYR:HB3	1:G:195:VAL:HA	2.04	0.40
2:H:742:ARG:NH1	2:H:777:ILE:HG13	2.36	0.40
3:I:37:CYS:HA	3:I:38:PRO:HD3	1.95	0.40
3:I:563:TYR:CE1	3:I:569:PRO:HD3	2.56	0.40
3:I:641:TYR:HA	3:I:644:VAL:HG23	2.04	0.40
3:J:132:ILE:HG12	3:J:144:GLY:HA3	2.03	0.40
3:J:435:ASN:O	3:J:439:VAL:HG23	2.22	0.40
3:K:57:TRP:CD1	3:K:57:TRP:N	2.89	0.40
3:K:210:LEU:HD11	3:K:443:MET:HG2	2.04	0.40
3:L:568:ARG:HG3	3:L:569:PRO:HD2	2.04	0.40
3:L:660:GLY:HA3	3:L:714:ARG:NH1	2.37	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	636/645 (99%)	574 (90%)	56 (9%)	6 (1%)	17	55
1	C	636/645 (99%)	575 (90%)	57 (9%)	4 (1%)	25	63
1	E	636/645 (99%)	573 (90%)	58 (9%)	5 (1%)	19	58
1	G	636/645 (99%)	578 (91%)	53 (8%)	5 (1%)	19	58
2	B	895/915 (98%)	785 (88%)	95 (11%)	15 (2%)	9	43
2	D	895/915 (98%)	787 (88%)	95 (11%)	13 (2%)	10	45
2	F	895/915 (98%)	785 (88%)	97 (11%)	13 (2%)	10	45

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
2	H	895/915 (98%)	790 (88%)	92 (10%)	13 (2%)	10 45
3	I	706/741 (95%)	636 (90%)	62 (9%)	8 (1%)	14 51
3	J	707/741 (95%)	630 (89%)	65 (9%)	12 (2%)	9 43
3	K	707/741 (95%)	627 (89%)	67 (10%)	13 (2%)	8 41
3	L	705/741 (95%)	641 (91%)	59 (8%)	5 (1%)	22 61
All	All	8949/9204 (97%)	7981 (89%)	856 (10%)	112 (1%)	12 48

All (112) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	733	ILE
2	B	965	VAL
2	B	1361	THR
2	D	733	ILE
2	D	965	VAL
2	D	969	THR
2	D	1361	THR
2	D	1498	ILE
2	F	733	ILE
2	F	965	VAL
2	F	1361	THR
2	F	1498	ILE
2	H	733	ILE
2	H	965	VAL
2	H	1361	THR
3	I	348	PRO
3	J	17	VAL
3	J	28	GLN
3	J	38	PRO
3	K	17	VAL
3	K	28	GLN
3	K	38	PRO
3	K	407	PRO
1	A	574	VAL
2	B	1335	THR
2	B	1377	THR
2	B	1498	ILE
2	B	1505	VAL
1	C	574	VAL
2	D	1335	THR

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Mol	Chain	Res	Type
2	D	1377	THR
2	D	1505	VAL
1	E	574	VAL
2	F	1335	THR
2	F	1377	THR
1	G	574	VAL
2	H	1335	THR
2	H	1377	THR
2	H	1498	ILE
2	H	1505	VAL
3	I	197	PHE
3	I	199	TYR
3	J	67	THR
3	J	197	PHE
3	J	199	TYR
3	J	349	PRO
3	J	457	TRP
3	K	67	THR
3	K	197	PHE
3	K	199	TYR
3	L	197	PHE
3	L	199	TYR
1	A	71	ASN
1	A	549	GLU
2	B	732	ASP
2	B	969	THR
1	C	549	GLU
1	E	549	GLU
2	F	1505	VAL
1	G	549	GLU
2	H	1331	LYS
2	H	1535	ASP
3	I	740	ALA
3	J	740	ALA
3	K	740	ALA
3	L	740	ALA
1	A	505	PRO
2	B	1196	ASN
2	B	1331	LYS
1	C	505	PRO
2	D	1196	ASN
1	E	505	PRO

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Mol	Chain	Res	Type
2	F	1196	ASN
2	F	1535	ASP
1	G	505	PRO
2	H	1196	ASN
3	J	456	VAL
3	K	73	CYS
3	K	406	GLY
1	A	442	GLU
2	B	988	CYS
2	B	1265	PRO
2	B	1486	ASP
1	C	442	GLU
2	D	988	CYS
2	D	1535	ASP
1	E	442	GLU
2	F	969	THR
2	F	988	CYS
1	G	442	GLU
2	H	988	CYS
2	H	1486	ASP
3	I	241	SER
3	I	481	LYS
3	K	348	PRO
3	K	479	PRO
2	D	1486	ASP
2	F	1486	ASP
3	I	345	ASP
3	J	406	GLY
3	J	479	PRO
3	K	68	VAL
2	B	1201	PRO
2	D	1201	PRO
2	F	1201	PRO
2	H	1201	PRO
3	L	479	PRO
1	A	555	PRO
1	E	555	PRO
1	G	555	PRO
3	I	45	PRO
3	L	45	PRO

5.3.2 Protein sidechains (i)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	564/567 (100%)	559 (99%)	5 (1%)	78	88
1	C	564/567 (100%)	559 (99%)	5 (1%)	78	88
1	E	564/567 (100%)	559 (99%)	5 (1%)	78	88
1	G	564/567 (100%)	559 (99%)	5 (1%)	78	88
2	B	797/810 (98%)	789 (99%)	8 (1%)	76	86
2	D	797/810 (98%)	791 (99%)	6 (1%)	81	89
2	F	797/810 (98%)	791 (99%)	6 (1%)	81	89
2	H	797/810 (98%)	791 (99%)	6 (1%)	81	89
3	I	616/643 (96%)	613 (100%)	3 (0%)	88	93
3	J	616/643 (96%)	605 (98%)	11 (2%)	59	77
3	K	618/643 (96%)	606 (98%)	12 (2%)	57	75
3	L	616/643 (96%)	614 (100%)	2 (0%)	92	95
All	All	7910/8080 (98%)	7836 (99%)	74 (1%)	78	88

All (74) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	59	ASN
1	A	370	GLN
1	A	404	THR
1	A	547	GLN
1	A	630	GLN
2	B	770	ASN
2	B	959	LEU
2	B	1301	GLU
2	B	1334	LEU
2	B	1342	LYS
2	B	1462	ASN
2	B	1463	LEU
2	B	1573	LYS
1	C	59	ASN

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Mol	Chain	Res	Type
1	C	370	GLN
1	C	404	THR
1	C	547	GLN
1	C	630	GLN
2	D	959	LEU
2	D	1238	ARG
2	D	1334	LEU
2	D	1342	LYS
2	D	1462	ASN
2	D	1573	LYS
1	E	59	ASN
1	E	370	GLN
1	E	404	THR
1	E	547	GLN
1	E	630	GLN
2	F	770	ASN
2	F	959	LEU
2	F	1334	LEU
2	F	1342	LYS
2	F	1462	ASN
2	F	1573	LYS
1	G	59	ASN
1	G	370	GLN
1	G	404	THR
1	G	547	GLN
1	G	630	GLN
2	H	770	ASN
2	H	959	LEU
2	H	1334	LEU
2	H	1342	LYS
2	H	1462	ASN
2	H	1573	LYS
3	I	347	VAL
3	I	465	TYR
3	I	654	ARG
3	J	19	ILE
3	J	33	LEU
3	J	48	THR
3	J	57	TRP
3	J	60	LEU
3	J	62	THR
3	J	69	ARG

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Mol	Chain	Res	Type
3	J	76	ILE
3	J	408	LEU
3	J	468	GLN
3	J	654	ARG
3	K	19	ILE
3	K	26	LEU
3	K	27	LEU
3	K	33	LEU
3	K	48	THR
3	K	57	TRP
3	K	60	LEU
3	K	62	THR
3	K	69	ARG
3	K	408	LEU
3	K	468	GLN
3	K	654	ARG
3	L	468	GLN
3	L	654	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (122) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	38	HIS
1	A	59	ASN
1	A	71	ASN
1	A	87	GLN
1	A	104	GLN
1	A	356	ASN
1	A	370	GLN
1	A	392	HIS
1	A	414	GLN
1	A	558	GLN
1	A	587	ASN
1	A	630	GLN
2	B	770	ASN
2	B	835	ASN
2	B	860	HIS
2	B	961	GLN
2	B	1090	GLN
2	B	1130	GLN
2	B	1237	GLN
2	B	1443	GLN

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Mol	Chain	Res	Type
2	B	1462	ASN
2	B	1534	ASN
2	B	1545	GLN
1	C	38	HIS
1	C	59	ASN
1	C	87	GLN
1	C	104	GLN
1	C	132	HIS
1	C	356	ASN
1	C	370	GLN
1	C	414	GLN
1	C	558	GLN
1	C	587	ASN
1	C	630	GLN
2	D	752	ASN
2	D	770	ASN
2	D	835	ASN
2	D	860	HIS
2	D	961	GLN
2	D	1090	GLN
2	D	1130	GLN
2	D	1443	GLN
2	D	1462	ASN
2	D	1545	GLN
1	E	38	HIS
1	E	59	ASN
1	E	87	GLN
1	E	104	GLN
1	E	356	ASN
1	E	370	GLN
1	E	414	GLN
1	E	558	GLN
1	E	587	ASN
1	E	630	GLN
2	F	752	ASN
2	F	770	ASN
2	F	835	ASN
2	F	860	HIS
2	F	961	GLN
2	F	1090	GLN
2	F	1130	GLN
2	F	1237	GLN

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Mol	Chain	Res	Type
2	F	1443	GLN
2	F	1462	ASN
2	F	1545	GLN
1	G	38	HIS
1	G	59	ASN
1	G	71	ASN
1	G	87	GLN
1	G	104	GLN
1	G	356	ASN
1	G	370	GLN
1	G	414	GLN
1	G	558	GLN
1	G	587	ASN
1	G	630	GLN
2	H	770	ASN
2	H	835	ASN
2	H	860	HIS
2	H	961	GLN
2	H	1090	GLN
2	H	1130	GLN
2	H	1237	GLN
2	H	1443	GLN
2	H	1462	ASN
2	H	1481	ASN
2	H	1545	GLN
3	I	121	GLN
3	I	194	GLN
3	I	313	GLN
3	I	357	HIS
3	I	415	ASN
3	I	448	GLN
3	I	483	HIS
3	I	591	GLN
3	J	77	HIS
3	J	121	GLN
3	J	194	GLN
3	J	313	GLN
3	J	357	HIS
3	J	415	ASN
3	J	423	ASN
3	J	448	GLN
3	J	591	GLN

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Mol	Chain	Res	Type
3	J	708	GLN
3	K	194	GLN
3	K	313	GLN
3	K	357	HIS
3	K	415	ASN
3	K	423	ASN
3	K	435	ASN
3	K	448	GLN
3	K	591	GLN
3	K	708	GLN
3	L	121	GLN
3	L	194	GLN
3	L	313	GLN
3	L	357	HIS
3	L	415	ASN
3	L	448	GLN
3	L	591	GLN
3	L	708	GLN

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 12 ligands modelled in this entry, 4 are monoatomic - leaving 8 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the

expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
4	NAG	J	1353	3	14,14,15	0.53	0	17,19,21	0.66	0
4	NAG	D	1917	2	14,14,15	0.50	0	17,19,21	1.18	1 (5%)
4	NAG	F	1917	2	14,14,15	0.51	0	17,19,21	0.86	0
4	NAG	L	1353	3	14,14,15	0.54	0	17,19,21	0.63	0
4	NAG	H	1917	2	14,14,15	0.48	0	17,19,21	1.17	2 (11%)
4	NAG	I	1353	3	14,14,15	0.42	0	17,19,21	1.30	1 (5%)
4	NAG	B	1917	2	14,14,15	0.52	0	17,19,21	1.05	1 (5%)
4	NAG	K	1353	3	14,14,15	0.57	0	17,19,21	1.98	3 (17%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	NAG	J	1353	3	-	0/6/23/26	0/1/1/1
4	NAG	D	1917	2	-	2/6/23/26	0/1/1/1
4	NAG	F	1917	2	-	0/6/23/26	0/1/1/1
4	NAG	L	1353	3	-	0/6/23/26	0/1/1/1
4	NAG	H	1917	2	-	1/6/23/26	0/1/1/1
4	NAG	I	1353	3	-	3/6/23/26	0/1/1/1
4	NAG	B	1917	2	-	3/6/23/26	0/1/1/1
4	NAG	K	1353	3	-	2/6/23/26	0/1/1/1

There are no bond length outliers.

All (8) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	K	1353	NAG	C2-N2-C7	-6.11	114.20	122.90
4	I	1353	NAG	C1-O5-C5	4.34	118.08	112.19
4	D	1917	NAG	C2-N2-C7	-3.62	117.75	122.90
4	K	1353	NAG	O5-C1-C2	-3.56	105.67	111.29
4	K	1353	NAG	C1-C2-N2	3.37	116.25	110.49
4	H	1917	NAG	C1-O5-C5	2.81	116.00	112.19
4	B	1917	NAG	C1-O5-C5	2.51	115.60	112.19
4	H	1917	NAG	O5-C1-C2	2.07	114.55	111.29

There are no chirality outliers.

All (11) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	K	1353	NAG	C8-C7-N2-C2
4	K	1353	NAG	O7-C7-N2-C2
4	D	1917	NAG	C8-C7-N2-C2
4	D	1917	NAG	O7-C7-N2-C2
4	I	1353	NAG	C8-C7-N2-C2
4	I	1353	NAG	O7-C7-N2-C2
4	I	1353	NAG	O5-C5-C6-O6
4	B	1917	NAG	C8-C7-N2-C2
4	H	1917	NAG	C4-C5-C6-O6
4	B	1917	NAG	O7-C7-N2-C2
4	B	1917	NAG	O5-C5-C6-O6

There are no ring outliers.

3 monomers are involved in 8 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	J	1353	NAG	1	0
4	D	1917	NAG	1	0
4	K	1353	NAG	6	0

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{th} percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	640/645 (99%)	0.23	10 (1%)	72	62	68, 145, 225, 312	0
1	C	640/645 (99%)	0.13	13 (2%)	65	56	64, 139, 220, 312	0
1	E	640/645 (99%)	0.10	16 (2%)	57	47	69, 140, 221, 313	0
1	G	640/645 (99%)	0.23	23 (3%)	42	34	69, 146, 224, 313	0
2	B	901/915 (98%)	-0.01	11 (1%)	79	70	48, 112, 181, 342	0
2	D	901/915 (98%)	-0.09	9 (0%)	82	74	44, 110, 191, 351	0
2	F	901/915 (98%)	-0.11	13 (1%)	75	65	52, 112, 189, 337	0
2	H	901/915 (98%)	-0.03	8 (0%)	84	77	47, 112, 183, 341	0
3	I	712/741 (96%)	-0.15	7 (0%)	82	74	46, 113, 180, 276	0
3	J	713/741 (96%)	-0.09	7 (0%)	82	74	42, 110, 197, 343	0
3	K	713/741 (96%)	-0.01	19 (2%)	54	44	43, 112, 201, 357	0
3	L	711/741 (95%)	-0.13	7 (0%)	82	74	45, 112, 181, 276	0
All	All	9013/9204 (97%)	-0.01	143 (1%)	72	62	42, 119, 202, 357	0

All (143) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	B	1065	SER	5.9
1	C	372	GLU	5.7
2	H	1536	PHE	5.0
2	F	860	HIS	5.0
1	C	368	ALA	4.8
2	D	855	THR	4.6
2	H	1535	ASP	4.4
2	F	862	GLN	4.4
3	J	703	GLN	4.2
2	D	860	HIS	3.8
1	C	373	ASP	3.7

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Mol	Chain	Res	Type	RSRZ
1	E	390	ASN	3.6
1	G	368	ALA	3.6
2	B	1340	ASP	3.6
3	I	704	LYS	3.6
2	F	859	ARG	3.5
1	C	375	VAL	3.5
1	A	377	SER	3.5
2	B	1359	LYS	3.5
1	E	373	ASP	3.4
1	G	457	MET	3.4
3	L	703	GLN	3.3
3	I	703	GLN	3.3
2	F	730	ASP	3.3
1	G	385	ALA	3.3
2	F	857	LYS	3.2
3	I	240	PRO	3.2
2	F	933	GLU	3.2
3	L	704	LYS	3.1
1	G	549	GLU	3.1
2	D	1503	ASP	3.1
1	C	386	LYS	3.1
2	H	1503	ASP	3.0
3	L	708	GLN	3.0
3	I	241	SER	3.0
2	F	855	THR	3.0
3	K	706	GLN	2.9
1	C	390	ASN	2.9
2	B	1388	GLY	2.9
1	C	374	THR	2.9
1	E	374	THR	2.9
2	H	1359	LYS	2.9
3	K	525	ILE	2.9
1	G	51	LYS	2.8
1	G	31	VAL	2.8
3	K	466	HIS	2.8
1	E	389	ILE	2.8
1	E	453	PHE	2.8
2	F	934	GLY	2.8
1	G	376	GLN	2.7
3	K	565	GLN	2.7
2	F	858	ARG	2.7
2	D	856	THR	2.7

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Mol	Chain	Res	Type	RSRZ
1	C	367	VAL	2.7
1	C	371	GLY	2.7
3	K	15	GLU	2.7
3	K	514	VAL	2.7
1	G	32	PRO	2.7
1	C	60	HIS	2.7
3	K	513	LYS	2.7
1	E	551	ARG	2.6
2	H	1533	SER	2.6
1	G	465	ILE	2.6
1	G	52	THR	2.6
1	E	368	ALA	2.6
2	F	861	GLN	2.5
3	K	558	LYS	2.5
3	K	555	ILE	2.5
1	A	469	THR	2.5
1	E	454	LEU	2.5
1	G	456	ARG	2.5
3	L	241	SER	2.5
1	A	453	PHE	2.5
1	A	454	LEU	2.5
3	J	706	GLN	2.5
3	L	10	GLY	2.5
1	G	464	LYS	2.4
1	E	372	GLU	2.4
1	E	435	HIS	2.4
3	K	559	ASN	2.4
1	G	23	GLU	2.4
2	D	854	ALA	2.4
3	K	520	LYS	2.4
1	E	88	ALA	2.4
2	F	1503	ASP	2.4
1	G	374	THR	2.4
1	G	440	ARG	2.4
1	G	78	LYS	2.4
1	A	376	GLN	2.4
1	G	411	GLU	2.4
2	D	1269	GLU	2.3
3	K	454	GLY	2.3
3	L	240	PRO	2.3
1	A	348	PHE	2.3
1	G	387	LEU	2.3

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Mol	Chain	Res	Type	RSRZ
2	F	856	THR	2.3
1	A	636	ALA	2.3
1	E	432	ASN	2.3
1	E	634	GLN	2.3
1	A	403	ARG	2.2
1	G	350	LEU	2.2
3	K	456	VAL	2.2
1	A	486	ARG	2.2
3	K	560	LYS	2.2
1	C	456	ARG	2.2
2	H	1315	LYS	2.2
3	I	454	GLY	2.2
3	J	557	LEU	2.2
1	E	30	ASP	2.2
1	G	367	VAL	2.2
1	C	403	ARG	2.2
2	H	1537	ASP	2.2
2	B	1443	GLN	2.2
2	D	1414	LYS	2.2
3	I	521	ARG	2.1
2	F	1531	GLN	2.1
3	K	561	LEU	2.1
3	J	514	VAL	2.1
1	G	364	ARG	2.1
2	B	1255	GLN	2.1
3	K	704	LYS	2.1
2	B	1195	LYS	2.1
2	D	1499	GLN	2.1
2	B	960	LEU	2.1
1	G	461	HIS	2.1
2	B	1076	GLN	2.1
1	E	391	THR	2.1
2	D	933	GLU	2.1
3	K	522	ASP	2.1
3	K	481	LYS	2.1
1	E	51	LYS	2.1
3	K	703	GLN	2.1
2	B	1289	ILE	2.1
3	J	704	LYS	2.0
3	I	520	LYS	2.0
3	J	520	LYS	2.0
1	C	369	VAL	2.0

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Mol	Chain	Res	Type	RSRZ
2	H	1196	ASN	2.0
3	J	702	ASN	2.0
1	G	362	ALA	2.0
3	L	671	ARG	2.0
2	B	1360	ASN	2.0
1	A	259	ARG	2.0

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

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

6.3 Carbohydrates (i)

There are no monosaccharides in this entry.

6.4 Ligands (i)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95^{th} percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists the number of atoms with occupancy less than 0.9.

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	NAG	K	1353	14/15	0.67	0.33	124,166,186,214	0
4	NAG	F	1917	14/15	0.71	0.45	155,176,239,261	0
4	NAG	H	1917	14/15	0.72	0.34	95,176,221,230	0
4	NAG	D	1917	14/15	0.73	0.37	103,150,180,210	0
4	NAG	B	1917	14/15	0.73	0.43	142,178,199,206	0
4	NAG	L	1353	14/15	0.77	0.34	105,162,190,209	0
4	NAG	J	1353	14/15	0.84	0.27	107,156,170,179	0
4	NAG	I	1353	14/15	0.85	0.23	111,169,185,187	0
5	NI	I	1742	1/1	0.95	0.24	209,209,209,209	0
5	NI	L	1742	1/1	0.99	0.11	85,85,85,85	0
5	NI	K	1742	1/1	1.00	0.17	102,102,102,102	0
5	NI	J	1742	1/1	1.00	0.12	62,62,62,62	0

6.5 Other polymers (i)

There are no such residues in this entry.