



# Full wwPDB X-ray Structure Validation Report ⓘ

Oct 9, 2023 – 01:57 PM EDT

PDB ID : 7U8M  
Title : Crystal structure of chimeric hemagglutinin cH15/3 in complex with broad protective antibodies 31.a.83 and FluA-20  
Authors : Zhu, X.; Wilson, I.A.  
Deposited on : 2022-03-08  
Resolution : 5.39 Å(reported)

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

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4.02b-467  
Xtriage (Phenix) : 1.13  
EDS : 2.35.1  
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) : 2.35.1

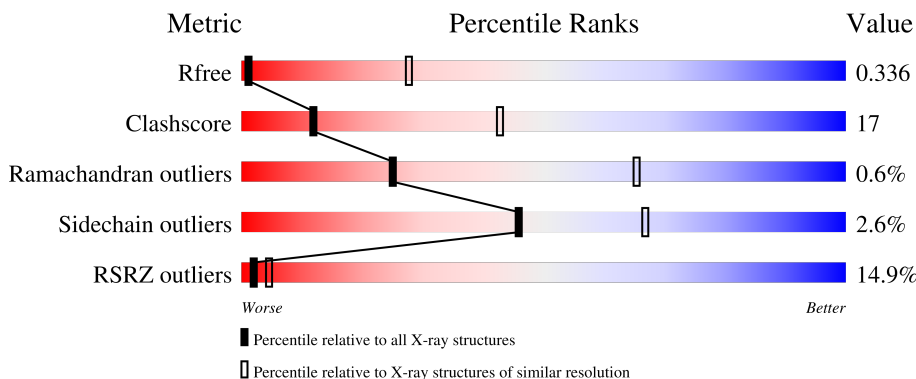
# 1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

*X-RAY DIFFRACTION*

The reported resolution of this entry is 5.39 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	1207 (7.00-3.80)
Clashscore	141614	1016 (6.92-3.86)
Ramachandran outliers	138981	1210 (7.00-3.80)
Sidechain outliers	138945	1181 (7.00-3.80)
RSRZ outliers	127900	1021 (7.04-3.76)

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

Mol	Chain	Length	Quality of chain
1	A	333	
1	C	333	
1	G	333	
2	B	176	
2	D	176	

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Mol	Chain	Length	Quality of chain
2	I	176	 6% 85% 13% ..
3	E	214	 12% 80% 18% .
3	J	214	 6% 79% 19% .
3	L	214	 7% 77% 21% .
4	F	234	 12% 75% 20% ..
4	H	234	 6% 72% 22% ..
4	K	234	 9% 74% 21% ..
5	N	229	 20% 75% 19% ..
5	Q	229	 19% 69% 24% ..
5	T	229	 26% 66% 28% ..
6	O	214	 11% 85% 14% .
6	R	214	 21% 79% 19% .
6	U	214	 21% 79% 20% .

## 2 Entry composition [i](#)

There are 6 unique types of molecules in this entry. The entry contains 31560 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 hemagglutinin HA1 subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	322	Total 2482	C 1545	N 444	O 480	S 13	0	0	0
1	C	321	Total 2474	C 1539	N 443	O 479	S 13	0	0	0
1	G	322	Total 2482	C 1545	N 444	O 480	S 13	0	0	0

- Molecule 2 is a protein called hemagglutinin HA2 subunit.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	173	Total 1396	C 869	N 247	O 274	S 6	0	0	0
2	D	172	Total 1390	C 866	N 246	O 272	S 6	0	0	0
2	I	173	Total 1396	C 869	N 247	O 274	S 6	0	0	0

- Molecule 3 is a protein called Antibody 31.a.83 Fab light chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	L	213	Total 1643	C 1025	N 281	O 331	S 6	0	0	0
3	E	213	Total 1643	C 1025	N 281	O 331	S 6	0	0	0
3	J	213	Total 1643	C 1025	N 281	O 331	S 6	0	0	0

- Molecule 4 is a protein called antibody 31.a.83 Fab heavy chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	H	226	Total 1699	C 1074	N 280	O 338	S 7	0	0	0

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	F	226	Total	C	N	O	S	0	0	0
			1699	1074	280	338	7			
4	K	226	Total	C	N	O	S	0	0	0
			1699	1074	280	338	7			

- Molecule 5 is a protein called antibody FluA-20 Fab heavy chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	N	222	Total	C	N	O	S	0	0	0
			1662	1050	273	332	7			
5	Q	221	Total	C	N	O	S	0	0	0
			1658	1048	272	331	7			
5	T	221	Total	C	N	O	S	0	0	0
			1656	1047	272	330	7			

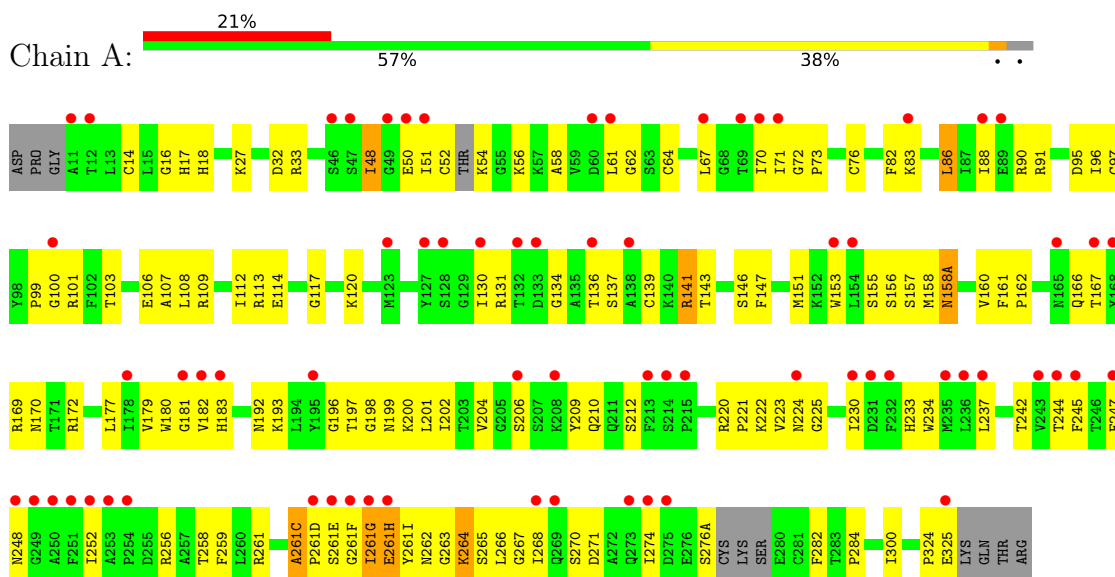
- Molecule 6 is a protein called antibody FluA-20 Fab light chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
6	O	213	Total	C	N	O	S	0	0	0
			1646	1031	281	329	5			
6	R	213	Total	C	N	O	S	0	0	0
			1646	1031	281	329	5			
6	U	213	Total	C	N	O	S	0	0	0
			1646	1031	281	329	5			

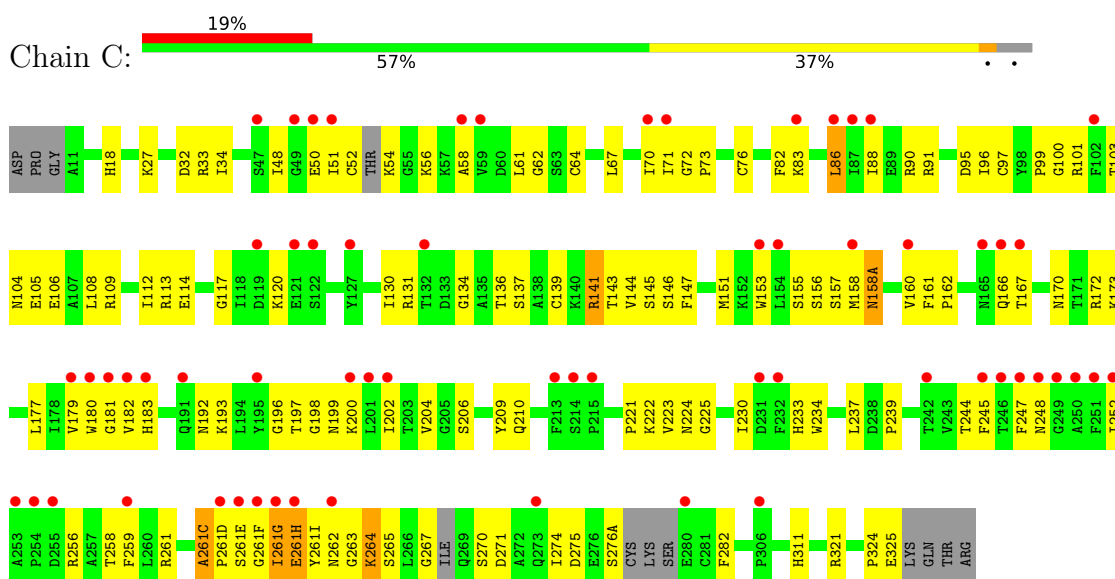
### 3 Residue-property plots [i](#)

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.

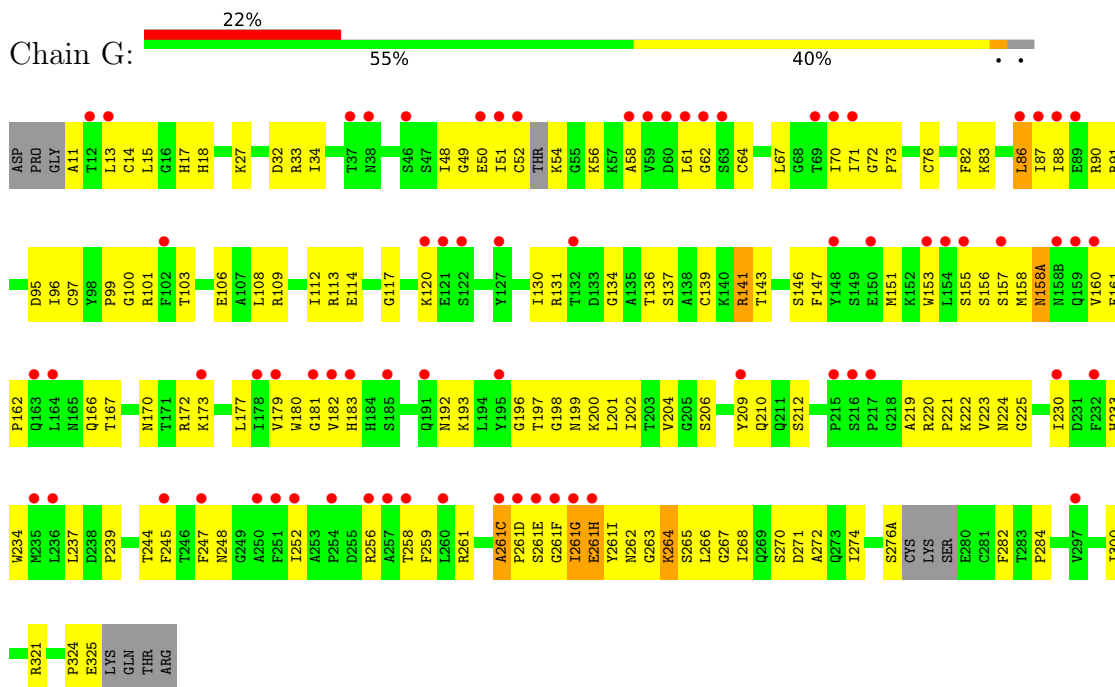
- Molecule 1: hemagglutinin HA1 subunit



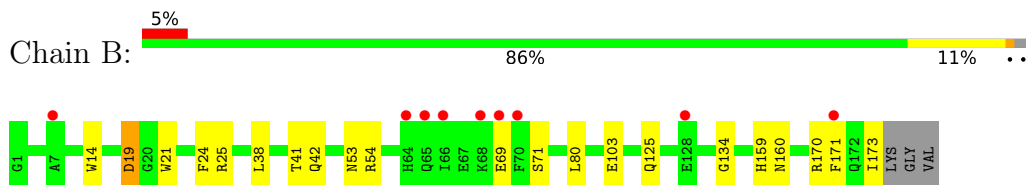
- Molecule 1: hemagglutinin HA1 subunit



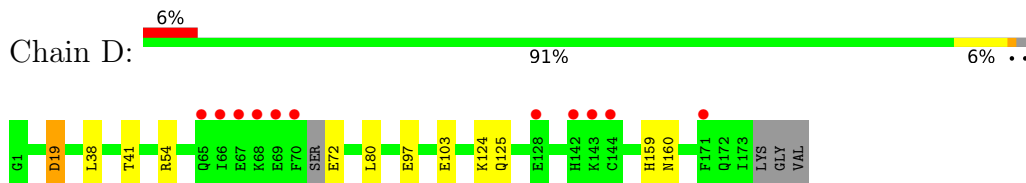
- Molecule 1: hemagglutinin HA1 subunit



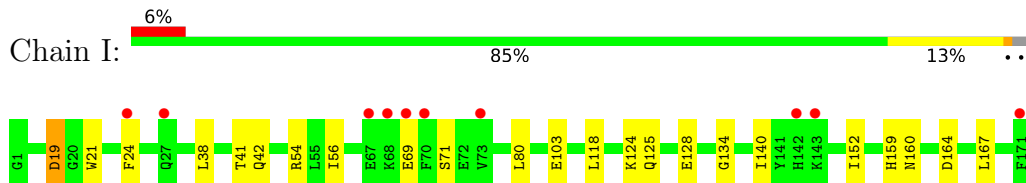
- Molecule 2: hemagglutinin HA2 subunit



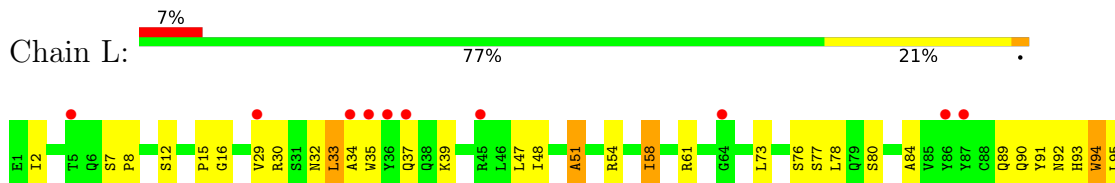
- Molecule 2: hemagglutinin HA2 subunit



- Molecule 2: hemagglutinin HA2 subunit

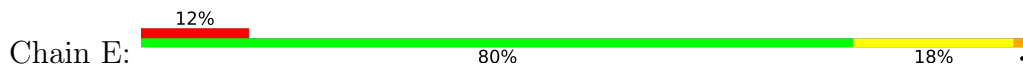


- Molecule 3: Antibody 31.a.83 Fab light chain

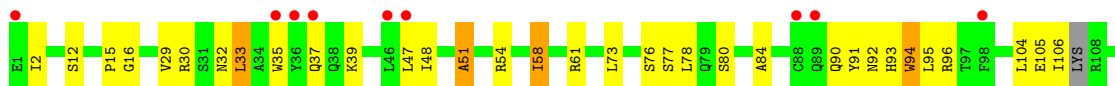
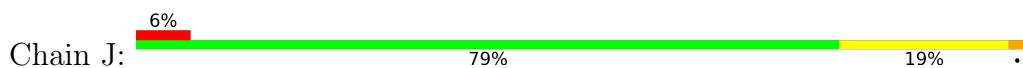




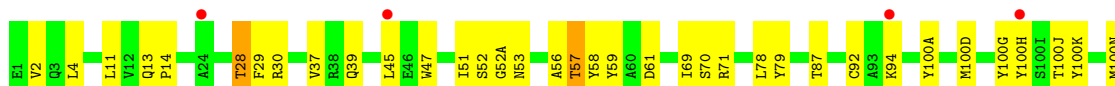
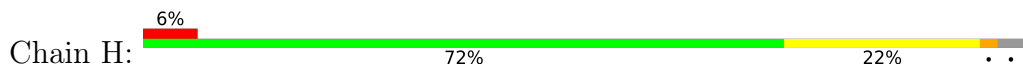
- Molecule 3: Antibody 31.a.83 Fab light chain



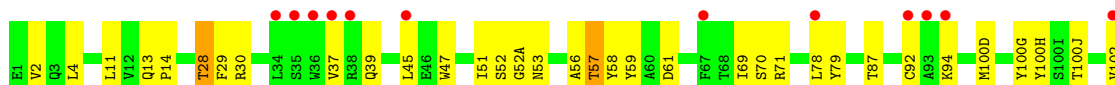
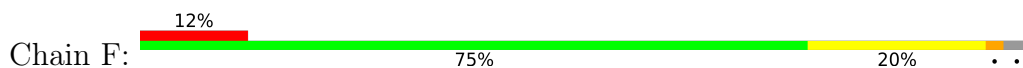
- Molecule 3: Antibody 31.a.83 Fab light chain



- Molecule 4: antibody 31.a.83 Fab heavy chain



- Molecule 4: antibody 31.a.83 Fab heavy chain

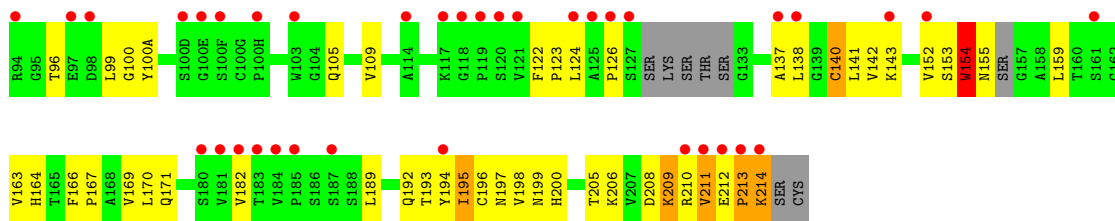


- Molecule 4: antibody 31.a.83 Fab heavy chain

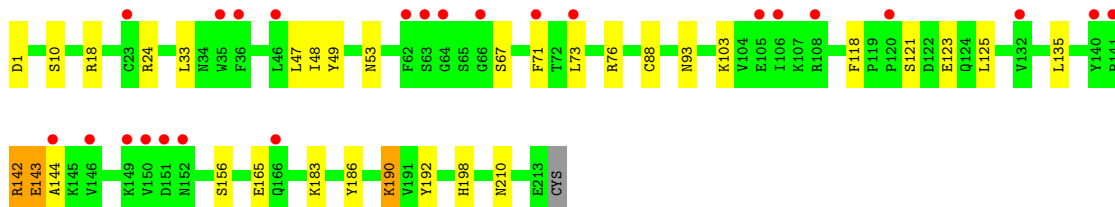
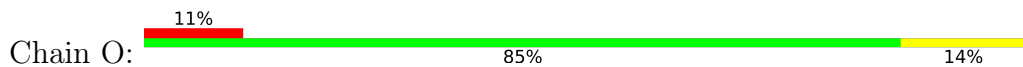




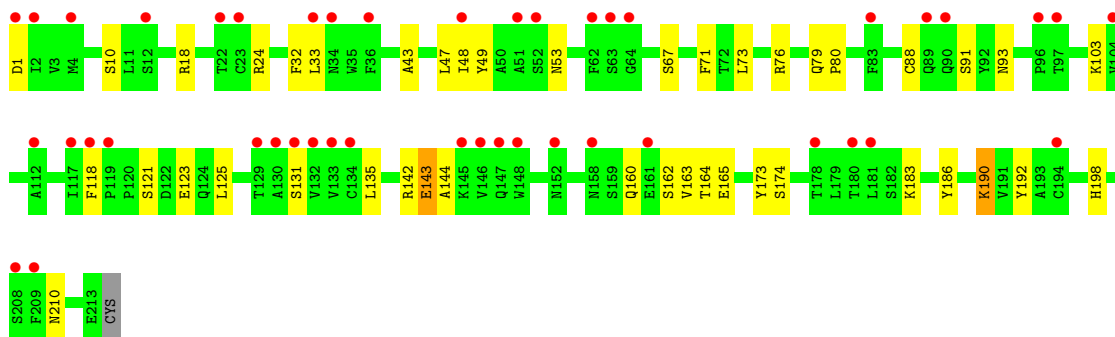
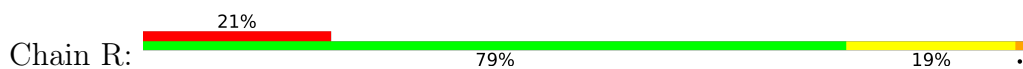




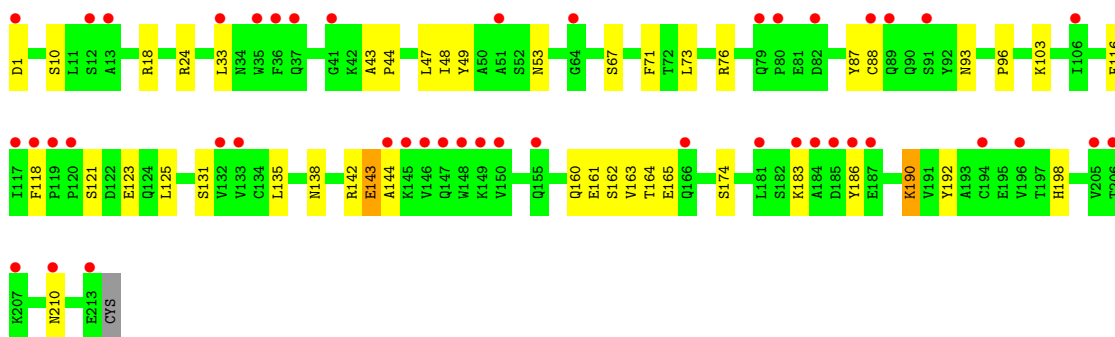
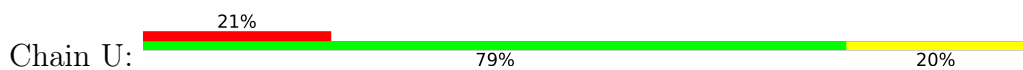
- Molecule 6: antibody FluA-20 Fab light chain



- Molecule 6: antibody FluA-20 Fab light chain



- Molecule 6: antibody FluA-20 Fab light chain



## 4 Data and refinement statistics

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	272.92Å 155.73Å 156.89Å 90.00° 94.63° 90.00°	Depositor
Resolution (Å)	49.94 – 5.39 49.94 – 5.39	Depositor EDS
% Data completeness (in resolution range)	95.9 (49.94-5.39) 96.0 (49.94-5.39)	Depositor EDS
$R_{merge}$	(Not available)	Depositor
$R_{sym}$	0.10	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	1.46 (at 5.39Å)	Xtrriage
Refinement program	PHENIX 1.19.2_4158	Depositor
R, $R_{free}$	0.304 , 0.342 0.304 , 0.336	Depositor DCC
$R_{free}$ test set	1073 reflections (4.92%)	wwPDB-VP
Wilson B-factor (Å <sup>2</sup> )	248.6	Xtrriage
Anisotropy	0.330	Xtrriage
Bulk solvent $k_{sol}$ (e/Å <sup>3</sup> ), $B_{sol}$ (Å <sup>2</sup> )	0.32 , 294.7	EDS
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.40$ , $\langle L^2 \rangle = 0.23$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
$F_o, F_c$ correlation	0.81	EDS
Total number of atoms	31560	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	312.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.21% of the height of the origin peak. No significant pseudotranslation is detected.*

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

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

## 5 Model quality [i](#)

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

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 5$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	A	0.49	0/2531	0.75	5/3422 (0.1%)
1	C	0.49	0/2522	0.75	5/3408 (0.1%)
1	G	0.49	0/2531	0.75	5/3422 (0.1%)
2	B	0.31	0/1420	0.46	0/1906
2	D	0.31	0/1413	0.46	0/1895
2	I	0.31	0/1420	0.46	0/1906
3	E	0.43	0/1677	0.55	0/2277
3	J	0.42	0/1677	0.55	0/2277
3	L	0.43	0/1677	0.55	0/2277
4	F	0.36	0/1741	0.56	0/2376
4	H	0.36	0/1741	0.56	0/2376
4	K	0.36	0/1741	0.56	0/2376
5	N	0.70	1/1704 (0.1%)	0.91	4/2330 (0.2%)
5	Q	0.70	1/1699 (0.1%)	0.91	3/2322 (0.1%)
5	T	0.70	1/1697 (0.1%)	0.91	3/2319 (0.1%)
6	O	0.66	1/1683 (0.1%)	0.95	6/2285 (0.3%)
6	R	0.66	1/1683 (0.1%)	0.95	6/2285 (0.3%)
6	U	0.66	1/1683 (0.1%)	0.94	6/2285 (0.3%)
All	All	0.51	6/32240 (0.0%)	0.73	43/43744 (0.1%)

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
5	N	0	1
5	Q	0	1
5	T	0	1
6	O	0	1
6	R	0	1
6	U	0	1
All	All	0	6

All (6) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	Q	140	CYS	CB-SG	-6.67	1.71	1.82
5	T	140	CYS	CB-SG	-6.67	1.71	1.82
5	N	140	CYS	CB-SG	-6.63	1.71	1.82
6	U	93	ASN	C-N	-5.47	1.21	1.34
6	O	93	ASN	C-N	-5.47	1.21	1.34
6	R	93	ASN	C-N	-5.44	1.21	1.34

All (43) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	C	261(C)	ALA	C-N-CD	-9.17	100.43	120.60
1	G	261(C)	ALA	C-N-CD	-9.15	100.47	120.60
1	A	261(C)	ALA	C-N-CD	-9.15	100.48	120.60
6	R	24	ARG	NE-CZ-NH1	9.14	124.87	120.30
6	O	24	ARG	NE-CZ-NH1	9.10	124.85	120.30
6	U	24	ARG	NE-CZ-NH1	9.02	124.81	120.30
6	O	144	ALA	N-CA-C	-7.73	90.13	111.00
6	U	144	ALA	N-CA-C	-7.73	90.14	111.00
6	R	144	ALA	N-CA-C	-7.71	90.19	111.00
1	A	263	GLY	N-CA-C	7.48	131.80	113.10
1	C	263	GLY	N-CA-C	7.46	131.74	113.10
1	G	263	GLY	N-CA-C	7.45	131.73	113.10
5	T	140	CYS	CA-CB-SG	7.02	126.63	114.00
5	Q	140	CYS	CA-CB-SG	7.01	126.61	114.00
5	N	140	CYS	CA-CB-SG	7.00	126.61	114.00
1	G	72	GLY	N-CA-C	6.70	129.85	113.10
1	A	72	GLY	N-CA-C	6.69	129.82	113.10
1	C	72	GLY	N-CA-C	6.68	129.81	113.10
1	G	264	LYS	N-CA-C	6.61	128.84	111.00
1	C	264	LYS	N-CA-C	6.61	128.84	111.00
1	A	264	LYS	N-CA-C	6.59	128.80	111.00
6	U	142	ARG	CG-CD-NE	6.06	124.53	111.80
6	O	24	ARG	NE-CZ-NH2	-6.04	117.28	120.30
6	U	24	ARG	NE-CZ-NH2	-6.04	117.28	120.30
6	O	142	ARG	CG-CD-NE	6.03	124.46	111.80
6	R	24	ARG	NE-CZ-NH2	-6.01	117.29	120.30
6	R	142	ARG	CG-CD-NE	5.99	124.38	111.80
6	R	47	LEU	CA-CB-CG	5.81	128.67	115.30
6	U	47	LEU	CA-CB-CG	5.77	128.58	115.30
6	O	47	LEU	CA-CB-CG	5.77	128.57	115.30
5	N	138	LEU	CB-CG-CD2	5.73	120.74	111.00
5	T	138	LEU	CB-CG-CD2	5.71	120.71	111.00

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	Q	138	LEU	CB-CG-CD2	5.70	120.69	111.00
1	A	261(H)	GLU	N-CA-C	-5.65	95.74	111.00
1	C	261(H)	GLU	N-CA-C	-5.64	95.78	111.00
1	G	261(H)	GLU	N-CA-C	-5.64	95.78	111.00
5	T	154	TRP	O-C-N	-5.63	113.69	122.70
5	N	154	TRP	O-C-N	-5.63	113.70	122.70
5	Q	154	TRP	O-C-N	-5.59	113.76	122.70
6	U	190	LYS	CG-CD-CE	-5.33	95.90	111.90
6	O	190	LYS	CG-CD-CE	-5.31	95.96	111.90
6	R	190	LYS	CG-CD-CE	-5.31	95.97	111.90
5	N	199	ASN	CB-CA-C	5.02	120.44	110.40

There are no chirality outliers.

All (6) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
5	N	154	TRP	Mainchain
6	O	143	GLU	Mainchain
5	Q	154	TRP	Mainchain
6	R	143	GLU	Mainchain
5	T	154	TRP	Mainchain
6	U	143	GLU	Mainchain

## 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	2482	0	2431	162	0
1	C	2474	0	2418	148	0
1	G	2482	0	2430	183	0
2	B	1396	0	1331	49	0
2	D	1390	0	1324	26	0
2	I	1396	0	1330	40	0
3	E	1643	0	1592	41	0
3	J	1643	0	1592	45	0
3	L	1643	0	1592	46	0
4	F	1699	0	1650	67	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
4	H	1699	0	1650	85	0
4	K	1699	0	1650	56	0
5	N	1662	0	1618	59	0
5	Q	1658	0	1614	90	0
5	T	1656	0	1612	121	0
6	O	1646	0	1608	38	0
6	R	1646	0	1608	64	0
6	U	1646	0	1608	74	0
All	All	31560	0	30658	1078	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 17.

All (1078) close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:51:ILE:HD11	1:G:268:ILE:CG2	1.37	1.51
1:A:106:GLU:CB	2:B:71:SER:HB2	1.47	1.43
1:C:101:ARG:NE	5:N:100:GLY:HA2	1.40	1.32
1:G:106:GLU:CB	2:I:71:SER:HB2	1.60	1.31
1:G:106:GLU:HB3	2:I:71:SER:CB	1.60	1.31
5:T:169:VAL:CG1	6:U:162:SER:HB3	1.61	1.30
1:A:106:GLU:HB3	2:B:71:SER:CB	1.62	1.27
1:C:101:ARG:HE	5:N:100:GLY:CA	1.50	1.23
1:G:106:GLU:CG	2:I:71:SER:HB3	1.67	1.23
5:T:166:PHE:CD1	6:U:164:THR:HG23	1.74	1.21
1:A:33:ARG:HH22	3:J:2:ILE:CD1	1.56	1.17
2:I:42:GLN:OE1	4:K:100(G):TYR:HB3	1.43	1.16
1:C:51:ILE:HB	1:C:86:LEU:CD2	1.76	1.16
1:G:220:ARG:HG2	5:T:96:THR:HG21	1.17	1.15
5:Q:212:GLU:HG3	5:Q:213:PRO:HD2	1.29	1.14
1:G:51:ILE:HD11	1:G:268:ILE:HG23	1.17	1.14
5:T:169:VAL:HG13	6:U:162:SER:HB3	1.17	1.14
1:A:221:PRO:HB2	6:R:49:TYR:CE2	1.80	1.14
1:A:268:ILE:HB	1:A:284:PRO:O	1.46	1.13
1:G:51:ILE:HB	1:G:86:LEU:HG	1.31	1.13
5:N:212:GLU:HG3	5:N:213:PRO:HD2	1.29	1.13
1:C:51:ILE:HD12	1:C:86:LEU:HD13	1.27	1.12
1:C:51:ILE:CB	1:C:86:LEU:HD22	1.78	1.12
5:T:212:GLU:HG3	5:T:213:PRO:HD2	1.29	1.12
1:G:86:LEU:HD22	1:G:86:LEU:C	1.70	1.12

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:51:ILE:HG13	1:G:268:ILE:HD13	1.29	1.12
1:G:52:CYS:O	1:G:56:LYS:HG3	1.48	1.11
1:A:106:GLU:HG3	2:B:71:SER:HB3	1.28	1.10
1:G:106:GLU:CG	2:I:71:SER:CB	2.30	1.10
1:G:51:ILE:HD11	1:G:268:ILE:HG21	1.14	1.09
1:A:33:ARG:HH22	3:J:2:ILE:HD12	1.17	1.09
1:C:101:ARG:CZ	5:N:100:GLY:HA2	1.82	1.09
2:B:41:THR:HG21	4:H:100(G):TYR:CE1	1.88	1.09
5:T:124:LEU:HB3	6:U:118:PHE:CE1	1.87	1.09
1:A:33:ARG:NH2	3:J:2:ILE:HD12	1.67	1.08
1:G:268:ILE:HB	1:G:284:PRO:O	1.54	1.08
1:G:86:LEU:C	1:G:86:LEU:CD2	2.20	1.08
1:G:51:ILE:CD1	1:G:268:ILE:CG2	2.33	1.06
1:C:221:PRO:HB2	6:O:49:TYR:CE2	1.89	1.06
2:D:38:LEU:CD2	4:F:53:ASN:HB3	1.86	1.05
3:L:2:ILE:CD1	1:C:33:ARG:HH22	1.67	1.05
5:Q:169:VAL:CG1	6:R:162:SER:HB2	1.86	1.05
2:D:41:THR:HG21	4:F:100(G):TYR:CE1	1.90	1.05
4:F:114:ALA:HB3	4:F:148:PHE:CE2	1.94	1.03
1:G:106:GLU:HG3	2:I:71:SER:HB3	1.38	1.02
4:H:114:ALA:HB3	4:H:148:PHE:CE2	1.94	1.02
1:G:106:GLU:CB	2:I:71:SER:CB	2.25	1.02
4:K:114:ALA:HB3	4:K:148:PHE:CE2	1.94	1.02
3:L:2:ILE:HD12	1:C:33:ARG:HH22	1.21	1.02
1:C:173:LYS:HE2	5:T:55:GLY:HA3	1.42	1.01
5:Q:166:PHE:CD1	6:R:164:THR:HG23	1.94	1.01
1:G:52:CYS:C	1:G:56:LYS:HG3	1.80	1.01
1:G:220:ARG:HG2	5:T:96:THR:CG2	1.90	1.00
1:A:268:ILE:HG22	1:A:284:PRO:HA	1.43	1.00
4:H:114:ALA:CB	4:H:148:PHE:CE2	2.45	1.00
4:F:114:ALA:CB	4:F:148:PHE:CE2	2.45	1.00
4:K:114:ALA:CB	4:K:148:PHE:CE2	2.45	1.00
3:L:93:HIS:HB2	1:C:33:ARG:HH11	1.25	0.99
1:G:51:ILE:CD1	1:G:268:ILE:HG23	1.91	0.99
1:A:51:ILE:HD11	1:A:268:ILE:CG2	1.92	0.99
1:A:106:GLU:CG	2:B:71:SER:CB	2.40	0.99
2:B:38:LEU:HA	4:H:100(G):TYR:OH	1.62	0.99
3:E:2:ILE:HD12	1:G:33:ARG:HH22	1.28	0.98
1:G:49:GLY:HA3	1:G:272:ALA:HB3	1.43	0.98
5:N:214:LYS:HD3	5:N:214:LYS:H	1.28	0.98
2:B:38:LEU:O	4:H:100(G):TYR:HE2	1.46	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:2:ILE:HD12	1:C:33:ARG:NH2	1.78	0.98
5:Q:212:GLU:CG	5:Q:213:PRO:HD2	1.93	0.98
5:N:212:GLU:CG	5:N:213:PRO:HD2	1.93	0.97
5:T:61:PRO:HA	5:T:64:LYS:HE2	1.41	0.97
1:A:51:ILE:HB	1:A:86:LEU:HD22	1.45	0.97
1:C:101:ARG:HE	5:N:100:GLY:HA2	0.91	0.97
5:Q:214:LYS:H	5:Q:214:LYS:HD3	1.28	0.97
1:A:106:GLU:CB	2:B:71:SER:CB	2.29	0.97
5:T:212:GLU:CG	5:T:213:PRO:HD2	1.93	0.97
5:T:214:LYS:H	5:T:214:LYS:HD3	1.28	0.96
1:G:86:LEU:HD22	1:G:86:LEU:O	1.64	0.96
1:G:106:GLU:HB3	2:I:71:SER:HB2	0.96	0.95
1:G:261(E):SER:OG	5:Q:64:LYS:HE2	1.67	0.95
1:A:106:GLU:CG	2:B:71:SER:HB3	1.94	0.94
1:G:49:GLY:HA3	1:G:272:ALA:CB	1.97	0.94
1:A:101:ARG:HG3	5:Q:100:GLY:HA2	1.49	0.93
5:T:124:LEU:HD12	6:U:118:PHE:CG	2.03	0.93
2:B:38:LEU:CD2	4:H:53:ASN:HB3	1.98	0.93
1:A:101:ARG:HG3	5:Q:100:GLY:CA	1.99	0.93
3:E:2:ILE:CD1	1:G:33:ARG:HH22	1.82	0.93
1:G:51:ILE:CG1	1:G:268:ILE:HD13	1.99	0.92
5:T:166:PHE:CD1	6:U:164:THR:CG2	2.52	0.92
1:G:51:ILE:CD1	1:G:268:ILE:HG21	1.97	0.91
5:T:169:VAL:HG13	6:U:162:SER:CB	2.01	0.91
5:T:124:LEU:HB3	6:U:118:PHE:CZ	2.04	0.91
5:T:154:TRP:O	5:T:155:ASN:HB2	1.70	0.90
5:Q:124:LEU:HB3	6:R:118:PHE:CE1	2.07	0.90
1:G:51:ILE:HB	1:G:86:LEU:CG	2.02	0.90
1:C:221:PRO:HB2	6:O:49:TYR:CD2	2.07	0.89
1:C:51:ILE:CD1	1:C:86:LEU:HD13	2.01	0.89
5:Q:169:VAL:HG13	6:R:162:SER:HB2	1.51	0.89
1:G:86:LEU:HD23	1:G:87:ILE:N	1.88	0.88
5:Q:154:TRP:O	5:Q:155:ASN:HB2	1.69	0.88
1:G:221:PRO:HB2	6:U:49:TYR:CE2	2.08	0.88
5:N:154:TRP:O	5:N:155:ASN:HB2	1.70	0.88
1:A:51:ILE:HD11	1:A:268:ILE:HG21	1.53	0.88
2:B:38:LEU:O	4:H:100(G):TYR:CE2	2.27	0.88
1:C:51:ILE:HD12	1:C:86:LEU:CD1	2.03	0.88
5:T:61:PRO:CA	5:T:64:LYS:HE2	2.04	0.88
5:T:159:LEU:HD22	5:T:194:TYR:CE1	2.09	0.88
5:T:166:PHE:HE1	6:U:174:SER:C	1.76	0.88

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:Q:166:PHE:CE1	6:R:164:THR:HG23	2.09	0.87
2:B:41:THR:HB	4:H:100(G):TYR:CZ	2.09	0.87
5:N:159:LEU:HD22	5:N:194:TYR:CE1	2.09	0.87
5:Q:159:LEU:HD22	5:Q:194:TYR:CE1	2.09	0.87
1:C:222:LYS:O	6:O:53:ASN:HB3	1.75	0.86
6:R:190:LYS:HZ1	6:R:210:ASN:HA	1.40	0.86
1:G:106:GLU:HG2	2:I:71:SER:HB3	1.57	0.86
5:T:166:PHE:CE1	6:U:164:THR:HG23	2.10	0.86
1:C:101:ARG:NH2	5:N:100:GLY:HA2	1.91	0.86
1:C:261:ARG:NH1	1:C:261(H):GLU:HG3	1.91	0.85
3:E:2:ILE:HD12	1:G:33:ARG:NH2	1.89	0.85
1:G:51:ILE:CB	1:G:86:LEU:HG	2.07	0.85
5:Q:59:TYR:HB2	5:Q:64:LYS:HG2	1.57	0.85
1:G:261:ARG:NH1	1:G:261(H):GLU:HG3	1.91	0.84
1:G:220:ARG:CG	5:T:96:THR:HG21	2.03	0.84
4:H:100(J):THR:HG23	4:H:100(K):TYR:CE1	2.12	0.84
1:G:58:ALA:CB	1:G:86:LEU:HD13	2.08	0.84
2:B:41:THR:CG2	4:H:100(G):TYR:CE1	2.61	0.83
1:A:261:ARG:NH1	1:A:261(H):GLU:HG3	1.91	0.83
5:N:212:GLU:OE2	5:N:213:PRO:HD3	1.78	0.83
6:O:190:LYS:HZ1	6:O:210:ASN:HA	1.43	0.83
5:T:212:GLU:OE2	5:T:213:PRO:HD3	1.78	0.83
2:D:41:THR:HG21	4:F:100(G):TYR:CZ	2.14	0.83
1:G:52:CYS:C	1:G:56:LYS:CG	2.47	0.83
5:Q:212:GLU:OE2	5:Q:213:PRO:HD3	1.78	0.83
5:T:166:PHE:HZ	6:U:174:SER:HB3	1.42	0.83
6:U:190:LYS:HZ1	6:U:210:ASN:HA	1.43	0.83
5:T:59:TYR:HB2	5:T:64:LYS:HG2	1.58	0.82
1:G:268:ILE:HG22	1:G:284:PRO:HA	1.61	0.82
2:D:38:LEU:HD21	4:F:53:ASN:HB3	1.60	0.81
5:T:166:PHE:HA	6:U:164:THR:HG22	1.62	0.81
1:A:221:PRO:CB	6:R:49:TYR:CE2	2.63	0.81
1:A:33:ARG:CZ	3:J:2:ILE:HD12	2.11	0.81
1:C:221:PRO:HG2	6:O:49:TYR:CZ	2.16	0.81
5:T:169:VAL:CG1	6:U:162:SER:CB	2.53	0.81
1:A:131:ARG:HG3	1:A:157:SER:HA	1.63	0.81
1:A:48:ILE:HD13	1:A:50:GLU:OE1	1.81	0.80
1:C:101:ARG:NE	5:N:100:GLY:CA	2.22	0.80
1:C:131:ARG:HG3	1:C:157:SER:HA	1.63	0.80
1:A:51:ILE:HD11	1:A:268:ILE:HG23	1.63	0.80
3:L:93:HIS:HB2	1:C:33:ARG:NH1	1.96	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:261(F):GLY:O	1:A:261(G):ILE:HG13	1.82	0.79
2:B:42:GLN:HB2	4:H:100(G):TYR:HD2	1.47	0.79
1:G:86:LEU:CD2	1:G:87:ILE:N	2.45	0.79
1:C:51:ILE:HB	1:C:86:LEU:HD22	0.86	0.79
1:G:131:ARG:HG3	1:G:157:SER:HA	1.63	0.79
1:G:261(F):GLY:O	1:G:261(G):ILE:HG13	1.82	0.79
1:A:48:ILE:CD1	1:A:50:GLU:OE1	2.31	0.79
5:T:169:VAL:HG11	6:U:162:SER:HB3	1.60	0.78
5:Q:166:PHE:CD1	6:R:164:THR:CG2	2.65	0.78
5:T:166:PHE:CZ	6:U:174:SER:HB3	2.19	0.78
2:I:42:GLN:OE1	4:K:100(G):TYR:CB	2.30	0.78
6:R:190:LYS:NZ	6:R:190:LYS:O	2.17	0.78
1:C:261(F):GLY:O	1:C:261(G):ILE:HG13	1.82	0.77
1:C:311:HIS:CE1	2:D:97:GLU:OE1	2.37	0.77
6:O:190:LYS:O	6:O:190:LYS:NZ	2.17	0.77
6:U:190:LYS:NZ	6:U:190:LYS:O	2.17	0.77
1:G:58:ALA:HB2	1:G:86:LEU:HD13	1.67	0.77
1:G:106:GLU:HG2	2:I:71:SER:CB	2.09	0.77
1:A:33:ARG:NH2	3:J:2:ILE:CD1	2.33	0.77
5:T:159:LEU:HD22	5:T:194:TYR:HE1	1.50	0.76
5:T:124:LEU:HD12	6:U:118:PHE:CD2	2.20	0.76
1:A:261(E):SER:O	5:N:59:TYR:CD2	2.37	0.76
5:T:166:PHE:CZ	6:U:174:SER:CB	2.69	0.76
4:K:14:PRO:HD3	4:K:112:SER:O	1.86	0.76
5:N:153:SER:HB2	5:N:197:ASN:ND2	2.01	0.75
1:G:261(E):SER:OG	5:Q:64:LYS:CE	2.35	0.75
1:C:170:ASN:HB2	1:C:237:LEU:HD23	1.68	0.75
1:G:51:ILE:HB	1:G:86:LEU:CD1	2.16	0.75
5:T:153:SER:HB2	5:T:197:ASN:ND2	2.01	0.75
1:G:170:ASN:HB2	1:G:237:LEU:HD23	1.68	0.75
4:H:52:SER:HB3	4:H:100(H):TYR:HD1	1.52	0.75
1:G:51:ILE:HG13	1:G:268:ILE:CD1	2.15	0.75
2:B:38:LEU:HD23	4:H:53:ASN:HB3	1.68	0.75
3:E:32:ASN:HB3	3:E:91:TYR:HB3	1.69	0.75
5:T:167:PRO:HD3	6:U:164:THR:HA	1.67	0.75
4:F:52:SER:HB3	4:F:100(H):TYR:HD1	1.52	0.74
5:Q:153:SER:HB2	5:Q:197:ASN:ND2	2.01	0.74
1:A:222:LYS:HE2	1:A:225:GLY:HA2	1.69	0.74
3:L:32:ASN:HB3	3:L:91:TYR:HB3	1.69	0.74
4:H:14:PRO:HD3	4:H:112:SER:O	1.86	0.74
1:G:51:ILE:O	1:G:86:LEU:HD12	1.87	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:T:167:PRO:CD	6:U:164:THR:HA	2.17	0.74
4:F:14:PRO:HD3	4:F:112:SER:O	1.86	0.74
5:T:143:LYS:HE3	6:U:131:SER:OG	1.87	0.74
1:C:221:PRO:CB	6:O:49:TYR:CE2	2.69	0.74
4:K:52:SER:HB3	4:K:100(H):TYR:HD1	1.52	0.74
3:J:32:ASN:HB3	3:J:91:TYR:HB3	1.69	0.74
5:N:214:LYS:H	5:N:214:LYS:CD	2.00	0.74
1:A:170:ASN:HB2	1:A:237:LEU:HD23	1.68	0.73
1:G:222:LYS:HE2	1:G:225:GLY:HA2	1.70	0.73
1:C:222:LYS:HE2	1:C:225:GLY:HA2	1.69	0.73
5:T:171:GLN:HA	6:U:160:GLN:OE1	1.89	0.73
1:A:51:ILE:HD13	1:A:266:LEU:HD23	1.70	0.73
5:Q:124:LEU:HD12	6:R:118:PHE:CG	2.24	0.73
5:Q:159:LEU:HD22	5:Q:194:TYR:HE1	1.50	0.72
1:G:86:LEU:C	1:G:86:LEU:HD23	2.09	0.72
5:T:214:LYS:H	5:T:214:LYS:CD	2.00	0.72
1:G:27:LYS:NZ	1:G:32:ASP:OD1	2.23	0.72
1:C:221:PRO:CB	6:O:49:TYR:CD2	2.73	0.72
1:C:27:LYS:NZ	1:C:32:ASP:OD1	2.23	0.72
2:B:42:GLN:HB2	4:H:100(G):TYR:CD2	2.24	0.71
1:A:131:ARG:HB2	1:A:155:SER:HB2	1.71	0.71
1:A:220:ARG:HG2	5:Q:96:THR:HG21	1.71	0.71
4:H:28:THR:HG21	4:H:94:LYS:HZ1	1.55	0.71
5:N:159:LEU:HD22	5:N:194:TYR:HE1	1.50	0.71
5:N:208:ASP:O	5:N:209:LYS:HD2	1.91	0.71
4:K:11:LEU:HD11	4:K:148:PHE:HE2	1.54	0.71
1:C:90:ARG:NH1	1:C:270:SER:O	2.24	0.71
1:C:131:ARG:HB2	1:C:155:SER:HB2	1.71	0.71
2:D:41:THR:CG2	4:F:100(G):TYR:CZ	2.74	0.71
5:T:208:ASP:O	5:T:209:LYS:HD2	1.91	0.71
1:C:104:ASN:OD1	2:D:72:GLU:HG3	1.90	0.71
5:Q:208:ASP:O	5:Q:209:LYS:HD2	1.91	0.71
1:A:27:LYS:NZ	1:A:32:ASP:OD1	2.23	0.71
1:A:90:ARG:NH1	1:A:270:SER:O	2.24	0.71
1:A:141:ARG:O	1:A:143:THR:HG22	1.91	0.71
1:C:141:ARG:O	1:C:143:THR:HG22	1.91	0.71
1:G:90:ARG:NH1	1:G:270:SER:O	2.24	0.71
1:A:106:GLU:CG	2:B:71:SER:HB2	2.09	0.70
1:C:311:HIS:NE2	2:D:97:GLU:OE1	2.24	0.70
1:G:141:ARG:O	1:G:143:THR:HG22	1.91	0.70
3:J:96:ARG:NH1	4:K:47:TRP:CD1	2.59	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:101:ARG:HG3	5:Q:100:GLY:HA3	1.73	0.70
2:B:41:THR:CB	4:H:100(G):TYR:CZ	2.75	0.70
1:C:261(G):ILE:CG2	5:T:65:SER:O	2.39	0.70
4:F:56:ALA:HA	4:F:57:THR:HG22	1.74	0.70
1:G:131:ARG:HB2	1:G:155:SER:HB2	1.72	0.70
1:G:222:LYS:O	6:U:53:ASN:HB3	1.92	0.70
6:R:190:LYS:HE2	6:R:210:ASN:HB3	1.73	0.70
1:A:221:PRO:HG2	6:R:49:TYR:CZ	2.26	0.70
6:U:190:LYS:HE2	6:U:210:ASN:HB3	1.73	0.70
2:B:80:LEU:HG	2:D:80:LEU:HD21	1.74	0.70
2:D:54:ARG:NH2	2:D:103:GLU:OE2	2.24	0.69
3:E:164:THR:HG23	4:F:174:PHE:CD2	2.28	0.69
6:O:190:LYS:HE2	6:O:210:ASN:HB3	1.73	0.69
2:B:41:THR:CG2	4:H:100(G):TYR:CZ	2.75	0.69
4:F:11:LEU:HD11	4:F:148:PHE:HE2	1.54	0.69
1:A:136:THR:HG23	1:A:139:CYS:H	1.58	0.69
1:A:221:PRO:HB2	6:R:49:TYR:CD2	2.27	0.69
1:C:136:THR:HG23	1:C:139:CYS:H	1.58	0.69
6:O:123:GLU:OE1	6:O:123:GLU:N	2.25	0.69
4:H:56:ALA:HA	4:H:57:THR:HG22	1.74	0.69
4:K:56:ALA:HA	4:K:57:THR:HG22	1.74	0.69
5:Q:212:GLU:OE2	5:Q:213:PRO:CD	2.41	0.68
5:T:212:GLU:OE2	5:T:213:PRO:CD	2.41	0.68
6:R:79:GLN:HG2	6:R:80:PRO:HD2	1.75	0.68
5:Q:214:LYS:H	5:Q:214:LYS:CD	2.00	0.68
5:T:167:PRO:HG2	6:U:163:VAL:O	1.94	0.68
1:A:261(F):GLY:HA2	5:N:59:TYR:HE2	1.59	0.68
2:B:54:ARG:NH2	2:B:103:GLU:OE2	2.24	0.68
5:N:212:GLU:OE2	5:N:213:PRO:CD	2.42	0.68
1:G:219:ALA:HB3	5:T:1:GLN:OE1	1.95	0.67
4:K:114:ALA:HB1	4:K:148:PHE:CD2	2.28	0.67
4:F:114:ALA:HB1	4:F:148:PHE:CD2	2.28	0.67
5:N:195:ILE:HG12	5:N:195:ILE:O	1.94	0.67
4:H:114:ALA:HB1	4:H:148:PHE:CD2	2.28	0.67
2:D:41:THR:HB	4:F:100(G):TYR:CE2	2.30	0.67
1:G:58:ALA:HB1	1:G:86:LEU:HD13	1.76	0.67
1:G:136:THR:HG23	1:G:139:CYS:H	1.58	0.67
1:A:51:ILE:HG23	1:A:282:PHE:CD1	2.29	0.67
6:R:190:LYS:NZ	6:R:190:LYS:C	2.48	0.67
5:T:166:PHE:CE1	6:U:174:SER:C	2.65	0.67
1:G:219:ALA:CB	5:T:1:GLN:HE22	2.08	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:U:190:LYS:NZ	6:U:190:LYS:C	2.48	0.67
3:J:202:SER:HB3	6:R:173:TYR:OH	1.95	0.67
2:I:54:ARG:NH2	2:I:103:GLU:OE2	2.24	0.67
1:C:51:ILE:HG23	1:C:282:PHE:CD1	2.29	0.67
1:C:101:ARG:HH21	5:N:100:GLY:HA2	1.60	0.66
6:O:190:LYS:NZ	6:O:190:LYS:C	2.48	0.66
1:A:200:LYS:HA	1:A:248:ASN:ND2	2.11	0.66
1:G:51:ILE:HG23	1:G:282:PHE:CD1	2.30	0.66
1:G:200:LYS:HA	1:G:248:ASN:ND2	2.11	0.66
4:K:112:SER:OG	4:K:114:ALA:N	2.29	0.66
5:Q:60:ASN:O	5:Q:64:LYS:HG3	1.94	0.66
5:Q:195:ILE:HG12	5:Q:195:ILE:O	1.94	0.66
6:R:123:GLU:OE1	6:R:123:GLU:N	2.25	0.66
1:C:96:ILE:HD13	1:C:99:PRO:HA	1.78	0.66
1:A:33:ARG:NH1	3:J:2:ILE:HD12	2.11	0.66
1:A:96:ILE:HD13	1:A:99:PRO:HA	1.78	0.66
3:L:78:LEU:HD11	3:L:104:LEU:HD21	1.78	0.66
1:G:221:PRO:HB2	6:U:49:TYR:CD2	2.30	0.66
4:K:28:THR:HG21	4:K:94:LYS:HZ1	1.61	0.66
5:T:195:ILE:HG12	5:T:195:ILE:O	1.94	0.66
2:D:41:THR:CG2	4:F:100(G):TYR:CE1	2.75	0.65
1:G:101:ARG:NH2	5:T:99:LEU:HD12	2.11	0.65
4:H:112:SER:OG	4:H:114:ALA:N	2.29	0.65
5:T:105:GLN:HG2	6:U:43:ALA:H	1.62	0.65
1:A:200:LYS:HA	1:A:248:ASN:HD21	1.61	0.65
1:C:200:LYS:HA	1:C:248:ASN:ND2	2.11	0.65
1:G:200:LYS:HA	1:G:248:ASN:HD21	1.61	0.65
1:A:180:TRP:CE2	1:A:233:HIS:HB2	2.32	0.65
4:F:11:LEU:HD11	4:F:148:PHE:CE2	2.32	0.65
1:G:96:ILE:HD13	1:G:99:PRO:HA	1.78	0.65
1:G:180:TRP:CE2	1:G:233:HIS:HB2	2.32	0.65
3:J:78:LEU:HD11	3:J:104:LEU:HD21	1.78	0.65
4:K:11:LEU:HD11	4:K:148:PHE:CE2	2.32	0.65
1:G:50:GLU:OE1	1:G:274:ILE:HG12	1.96	0.65
5:T:59:TYR:O	5:T:64:LYS:HD3	1.97	0.65
3:L:125:LEU:O	3:L:183:LYS:HD2	1.97	0.65
1:A:202:ILE:HG23	1:A:247:PHE:HB3	1.80	0.64
1:C:261:ARG:HH12	1:C:261(H):GLU:HG3	1.60	0.64
1:C:200:LYS:HA	1:C:248:ASN:HD21	1.61	0.64
4:F:112:SER:OG	4:F:114:ALA:N	2.29	0.64
5:Q:124:LEU:HB3	6:R:118:PHE:CZ	2.32	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:268:ILE:CB	1:A:284:PRO:O	2.35	0.64
1:G:101:ARG:HD3	5:T:100:GLY:N	2.12	0.64
3:J:125:LEU:O	3:J:183:LYS:HD2	1.97	0.64
4:K:28:THR:HG21	4:K:94:LYS:NZ	2.13	0.64
6:O:190:LYS:C	6:O:190:LYS:HZ2	2.01	0.64
1:G:86:LEU:HD21	1:G:88:ILE:HG12	1.79	0.64
2:B:41:THR:HG21	4:H:100(G):TYR:CZ	2.32	0.64
3:E:96:ARG:NH1	4:F:47:TRP:CD1	2.66	0.64
5:N:159:LEU:HD22	5:N:194:TYR:CD1	2.33	0.64
5:Q:205:THR:O	5:Q:206:LYS:HD3	1.98	0.64
5:T:105:GLN:HA	6:U:43:ALA:HA	1.78	0.64
5:T:205:THR:O	5:T:206:LYS:HD3	1.98	0.64
1:C:180:TRP:CE2	1:C:233:HIS:HB2	2.32	0.64
3:E:125:LEU:O	3:E:183:LYS:HD2	1.97	0.64
4:F:28:THR:HG21	4:F:94:LYS:NZ	2.13	0.64
1:C:202:ILE:HG23	1:C:247:PHE:HB3	1.80	0.63
2:B:41:THR:HB	4:H:100(G):TYR:CE2	2.33	0.63
3:E:78:LEU:HD11	3:E:104:LEU:HD21	1.78	0.63
1:G:261:ARG:HH12	1:G:261(H):GLU:HG3	1.60	0.63
5:Q:84:ALA:O	5:Q:87:THR:HG22	1.98	0.63
5:T:166:PHE:CE1	6:U:174:SER:HB2	2.33	0.63
5:T:61:PRO:HA	5:T:64:LYS:CE	2.23	0.63
6:U:190:LYS:NZ	6:U:210:ASN:HA	2.13	0.63
5:Q:159:LEU:HD22	5:Q:194:TYR:CD1	2.33	0.63
4:H:28:THR:HG21	4:H:94:LYS:NZ	2.13	0.63
1:G:49:GLY:CA	1:G:272:ALA:HB3	2.23	0.63
6:R:18:ARG:HH21	6:R:76:ARG:NH2	1.97	0.63
5:T:84:ALA:O	5:T:87:THR:HG22	1.98	0.63
5:T:166:PHE:CZ	6:U:174:SER:HB2	2.33	0.63
6:U:18:ARG:HH21	6:U:76:ARG:NH2	1.97	0.63
6:U:123:GLU:OE1	6:U:123:GLU:N	2.25	0.63
1:A:261:ARG:HH12	1:A:261(H):GLU:HG3	1.60	0.62
1:C:173:LYS:CE	5:T:55:GLY:HA3	2.24	0.62
3:L:37:GLN:HB2	3:L:47:LEU:HD11	1.81	0.62
1:G:202:ILE:HG23	1:G:247:PHE:HB3	1.80	0.62
5:N:84:ALA:O	5:N:87:THR:HG22	1.98	0.62
5:T:159:LEU:HD22	5:T:194:TYR:CD1	2.33	0.62
5:Q:169:VAL:HG11	6:R:162:SER:HB2	1.77	0.62
3:J:199:GLN:HB3	6:R:10:SER:OG	1.99	0.62
6:U:190:LYS:C	6:U:190:LYS:HZ2	2.01	0.62
2:I:56:ILE:HG13	4:K:100:ILE:HG12	1.82	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:O:18:ARG:HH21	6:O:76:ARG:NH2	1.97	0.62
1:C:58:ALA:HB2	1:C:86:LEU:HD23	1.82	0.62
6:R:190:LYS:NZ	6:R:210:ASN:HA	2.13	0.62
1:A:220:ARG:HG2	5:Q:96:THR:CG2	2.30	0.62
1:A:101:ARG:CG	5:Q:100:GLY:HA3	2.30	0.62
1:A:170:ASN:ND2	1:A:237:LEU:O	2.32	0.62
2:D:38:LEU:HD21	4:F:53:ASN:CB	2.30	0.62
1:A:120:LYS:HB2	1:A:256:ARG:HH21	1.65	0.61
4:K:13:GLN:HE22	4:K:113:SER:CB	2.13	0.61
3:J:37:GLN:HB2	3:J:47:LEU:HD11	1.81	0.61
5:Q:212:GLU:CG	5:Q:213:PRO:CD	2.76	0.61
5:T:105:GLN:HG2	6:U:43:ALA:N	2.14	0.61
1:A:106:GLU:HB3	2:B:71:SER:HB2	0.66	0.61
1:C:101:ARG:HH21	5:N:100:GLY:CA	2.13	0.61
1:G:101:ARG:HG2	1:G:101:ARG:HH11	1.64	0.61
5:T:60:ASN:O	5:T:64:LYS:HG3	2.00	0.61
3:E:37:GLN:HB2	3:E:47:LEU:HD11	1.81	0.61
5:Q:166:PHE:HE1	6:R:174:SER:C	2.04	0.61
1:G:120:LYS:HB2	1:G:256:ARG:HH21	1.65	0.61
1:G:170:ASN:ND2	1:G:237:LEU:O	2.32	0.61
6:O:190:LYS:NZ	6:O:210:ASN:HA	2.14	0.61
5:T:166:PHE:CE1	6:U:174:SER:CB	2.84	0.61
1:A:33:ARG:HH12	3:J:2:ILE:CD1	2.14	0.61
4:H:13:GLN:HE22	4:H:113:SER:CB	2.14	0.61
4:H:100(A):TYR:CE1	4:H:100(K):TYR:CE2	2.88	0.61
1:C:101:ARG:HH21	5:N:100:GLY:C	2.04	0.61
2:I:41:THR:HG21	4:K:100(G):TYR:CZ	2.36	0.61
4:F:13:GLN:HE22	4:F:113:SER:CB	2.14	0.60
1:A:58:ALA:HB2	1:A:86:LEU:CD2	2.31	0.60
1:A:160:VAL:HA	1:A:196:GLY:HA3	1.83	0.60
1:C:100:GLY:HA3	1:C:230:ILE:O	2.01	0.60
1:C:160:VAL:HA	1:C:196:GLY:HA3	1.83	0.60
1:G:15:LEU:CD1	2:I:118:LEU:HG	2.31	0.60
1:C:170:ASN:ND2	1:C:237:LEU:O	2.32	0.60
1:G:100:GLY:HA3	1:G:230:ILE:O	2.01	0.60
2:B:19:ASP:OD1	2:B:19:ASP:N	2.35	0.60
3:J:94:TRP:HZ3	4:K:59:TYR:O	1.84	0.60
1:A:261(D):PRO:O	1:A:261(E):SER:HB2	2.02	0.60
1:G:172:ARG:HD3	1:G:259:PHE:CZ	2.37	0.60
1:G:261(D):PRO:O	1:G:261(E):SER:HB2	2.02	0.60
1:A:33:ARG:HH22	3:J:2:ILE:HD11	1.57	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:261(D):PRO:O	1:C:261(E):SER:HB2	2.02	0.60
1:A:100:GLY:HA3	1:A:230:ILE:O	2.01	0.60
1:C:172:ARG:HD3	1:C:259:PHE:CZ	2.37	0.60
5:T:137:ALA:CB	6:U:116:PHE:CZ	2.85	0.60
1:A:172:ARG:HD3	1:A:259:PHE:CZ	2.37	0.60
1:A:221:PRO:HB2	6:R:49:TYR:CZ	2.34	0.60
1:C:120:LYS:HB2	1:C:256:ARG:HH21	1.65	0.60
2:D:38:LEU:HD23	4:F:53:ASN:HB3	1.82	0.60
1:G:130:ILE:HG23	1:G:155:SER:O	2.02	0.60
5:T:137:ALA:HB3	6:U:116:PHE:CZ	2.35	0.60
2:D:124:LYS:HD3	2:I:134:GLY:HA2	1.84	0.60
1:G:97:CYS:O	1:G:224:ASN:ND2	2.35	0.60
1:G:261(G):ILE:CG2	5:Q:65:SER:O	2.49	0.60
2:I:19:ASP:OD1	2:I:19:ASP:N	2.34	0.60
3:L:124:GLN:HA	4:H:122:PHE:CE1	2.37	0.60
5:T:6:GLU:HG3	5:T:92:CYS:SG	2.42	0.60
4:H:114:ALA:HB1	4:H:148:PHE:CE2	2.36	0.59
1:A:130:ILE:HG23	1:A:155:SER:O	2.02	0.59
1:G:268:ILE:CG2	1:G:284:PRO:HA	2.31	0.59
5:Q:210:ARG:HG3	5:Q:210:ARG:HH11	1.67	0.59
2:B:38:LEU:CD2	4:H:53:ASN:CB	2.75	0.59
1:G:160:VAL:HA	1:G:196:GLY:HA3	1.83	0.59
5:N:212:GLU:CG	5:N:213:PRO:CD	2.76	0.59
1:A:221:PRO:CB	6:R:49:TYR:CZ	2.86	0.59
1:A:261(F):GLY:HA2	5:N:59:TYR:CE2	2.37	0.59
2:B:38:LEU:HA	4:H:100(G):TYR:CZ	2.36	0.59
2:D:41:THR:HB	4:F:100(G):TYR:CZ	2.37	0.59
1:A:52:CYS:O	1:A:56:LYS:HG2	2.03	0.59
3:L:96:ARG:NH1	4:H:47:TRP:CD1	2.71	0.59
1:G:219:ALA:HB1	5:T:1:GLN:HE22	1.66	0.59
1:C:50:GLU:OE1	1:C:274:ILE:HG12	2.03	0.59
5:N:18:LEU:HD13	5:N:109:VAL:HG11	1.85	0.59
5:Q:6:GLU:HG3	5:Q:92:CYS:SG	2.42	0.59
5:Q:143:LYS:HE3	6:R:131:SER:OG	2.01	0.59
1:A:70:ILE:HG21	1:A:179:VAL:HG21	1.85	0.59
1:A:97:CYS:O	1:A:224:ASN:ND2	2.34	0.59
5:N:6:GLU:HG3	5:N:92:CYS:SG	2.42	0.59
5:N:210:ARG:HG3	5:N:210:ARG:HH11	1.67	0.59
5:Q:18:LEU:HD13	5:Q:109:VAL:HG11	1.84	0.59
1:C:97:CYS:O	1:C:224:ASN:ND2	2.35	0.58
1:C:130:ILE:HG23	1:C:155:SER:O	2.02	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:15:LEU:HD12	2:I:118:LEU:HG	1.85	0.58
2:I:41:THR:HG21	4:K:100(G):TYR:CE1	2.38	0.58
1:C:261(G):ILE:HG22	5:T:65:SER:O	2.02	0.58
4:F:28:THR:HG21	4:F:94:LYS:HZ1	1.68	0.58
5:N:199:ASN:OD1	5:N:206:LYS:HG3	2.03	0.58
6:R:190:LYS:C	6:R:190:LYS:HZ2	2.05	0.58
5:Q:153:SER:HB2	5:Q:197:ASN:HD21	1.67	0.58
5:T:210:ARG:HG3	5:T:210:ARG:HH11	1.67	0.58
1:C:101:ARG:HE	5:N:100:GLY:HA3	1.60	0.58
5:T:18:LEU:HD13	5:T:109:VAL:HG11	1.85	0.58
1:C:70:ILE:HG21	1:C:179:VAL:HG21	1.85	0.58
3:E:27:GLN:OE1	1:G:33:ARG:CZ	2.52	0.58
1:G:70:ILE:HG21	1:G:179:VAL:HG21	1.85	0.58
6:O:143:GLU:O	6:O:198:HIS:HD2	1.87	0.58
6:R:143:GLU:O	6:R:198:HIS:HD2	1.87	0.58
5:T:214:LYS:HD3	5:T:214:LYS:N	2.10	0.58
6:U:143:GLU:O	6:U:198:HIS:HD2	1.87	0.58
1:G:261(E):SER:CB	5:Q:64:LYS:HE2	2.34	0.58
1:G:86:LEU:HD21	1:G:88:ILE:CG1	2.33	0.58
1:G:101:ARG:CZ	5:T:99:LEU:HB2	2.33	0.58
1:G:261(E):SER:HB3	5:Q:64:LYS:HB3	1.85	0.58
1:C:50:GLU:HG2	1:C:275:ASP:O	2.03	0.57
3:E:2:ILE:HD12	1:G:33:ARG:CZ	2.33	0.57
1:A:261(C):ALA:HB3	1:A:261(I):TYR:HB2	1.87	0.57
3:L:164:THR:HG23	4:H:174:PHE:CD2	2.39	0.57
5:T:153:SER:HB2	5:T:197:ASN:HD21	1.67	0.57
4:H:114:ALA:CB	4:H:148:PHE:CD2	2.87	0.57
1:C:261(C):ALA:HB3	1:C:261(I):TYR:HB2	1.87	0.57
4:H:70:SER:HB3	4:H:79:TYR:HB2	1.86	0.57
4:F:70:SER:HB3	4:F:79:TYR:HB2	1.86	0.57
4:F:100(H):TYR:CE2	4:F:100(J):THR:HA	2.40	0.57
3:L:202:SER:OG	6:O:142:ARG:CB	2.53	0.57
3:J:202:SER:CB	6:R:173:TYR:OH	2.51	0.57
4:K:70:SER:HB3	4:K:79:TYR:HB2	1.86	0.57
5:T:124:LEU:CB	6:U:118:PHE:CE1	2.77	0.57
1:A:103:THR:HG22	1:A:233:HIS:HA	1.87	0.57
4:H:100(H):TYR:CE2	4:H:100(J):THR:HA	2.40	0.57
4:F:114:ALA:CB	4:F:148:PHE:CD2	2.86	0.57
5:N:152:VAL:HG22	5:N:198:VAL:HG22	1.87	0.56
1:A:206:SER:HB3	1:A:209:TYR:HB3	1.87	0.56
6:O:103:LYS:NZ	6:O:165:GLU:OE2	2.38	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:T:61:PRO:CB	5:T:64:LYS:HE2	2.35	0.56
5:T:212:GLU:CG	5:T:213:PRO:CD	2.76	0.56
1:A:14:CYS:O	2:B:24:PHE:HA	2.05	0.56
5:Q:60:ASN:C	5:Q:64:LYS:HG3	2.26	0.56
5:T:105:GLN:HA	6:U:43:ALA:CA	2.35	0.56
1:A:221:PRO:CB	6:R:49:TYR:CD2	2.88	0.56
2:B:38:LEU:C	4:H:100(G):TYR:HE2	2.09	0.56
1:C:206:SER:HB3	1:C:209:TYR:HB3	1.87	0.56
1:C:261(G):ILE:O	1:C:261(G):ILE:HD12	2.06	0.56
1:G:261(G):ILE:HD12	1:G:261(G):ILE:O	2.06	0.56
5:T:60:ASN:C	5:T:64:LYS:HG3	2.26	0.56
3:E:2:ILE:HD12	1:G:33:ARG:NH1	2.20	0.56
3:E:94:TRP:HZ3	4:F:59:TYR:O	1.87	0.56
1:G:103:THR:HG22	1:G:233:HIS:HA	1.87	0.56
1:C:103:THR:HG22	1:C:233:HIS:HA	1.87	0.56
1:G:261(C):ALA:HB3	1:G:261(I):TYR:HB2	1.86	0.56
5:Q:142:VAL:HG22	5:Q:198:VAL:HG21	1.88	0.56
5:Q:152:VAL:HG22	5:Q:198:VAL:HG22	1.87	0.56
2:D:41:THR:CB	4:F:100(G):TYR:CZ	2.88	0.56
1:G:51:ILE:CD1	1:G:268:ILE:HD13	2.36	0.56
4:K:100(H):TYR:CE2	4:K:100(J):THR:HA	2.40	0.56
1:A:51:ILE:CD1	1:A:266:LEU:HD23	2.36	0.55
4:F:114:ALA:HB3	4:F:148:PHE:HE2	1.68	0.55
1:A:261(G):ILE:HG22	5:N:64:LYS:O	2.06	0.55
1:C:58:ALA:HB2	1:C:86:LEU:CD2	2.36	0.55
5:T:152:VAL:HG22	5:T:198:VAL:HG22	1.87	0.55
2:B:53:ASN:HB2	4:H:100(K):TYR:CZ	2.40	0.55
5:N:142:VAL:HG22	5:N:198:VAL:HG21	1.88	0.55
3:E:2:ILE:HD12	1:G:33:ARG:HH12	1.71	0.55
1:G:206:SER:HB3	1:G:209:TYR:HB3	1.87	0.55
4:F:4:LEU:HD23	4:F:94:LYS:HE2	1.89	0.55
4:K:4:LEU:HD23	4:K:94:LYS:HE2	1.89	0.55
4:K:114:ALA:HB1	4:K:148:PHE:CE2	2.37	0.55
5:T:142:VAL:HG22	5:T:198:VAL:HG21	1.87	0.55
1:A:58:ALA:HB2	1:A:86:LEU:HD23	1.88	0.55
1:A:261(G):ILE:HD12	1:A:261(G):ILE:O	2.06	0.55
1:A:52:CYS:O	1:A:282:PHE:CE1	2.60	0.54
1:G:52:CYS:O	1:G:282:PHE:CE1	2.60	0.54
6:U:103:LYS:NZ	6:U:165:GLU:OE2	2.38	0.54
4:H:4:LEU:HD23	4:H:94:LYS:HE2	1.89	0.54
4:F:87:THR:HG23	4:F:110:THR:HA	1.90	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:204:VAL:O	1:A:210:GLN:HA	2.08	0.54
2:D:38:LEU:O	4:F:100(G):TYR:HE2	1.89	0.54
1:G:67:LEU:N	1:G:95:ASP:OD1	2.41	0.54
1:G:139:CYS:HB2	1:G:146:SER:O	2.07	0.54
6:R:121:SER:O	6:R:125:LEU:HD13	2.08	0.54
1:C:52:CYS:O	1:C:282:PHE:CE1	2.60	0.54
3:E:105:GLU:CD	3:E:173:TYR:HH	2.11	0.54
5:N:153:SER:HB2	5:N:197:ASN:HD21	1.67	0.54
6:O:121:SER:O	6:O:125:LEU:HD13	2.08	0.54
5:T:166:PHE:HE1	6:U:174:SER:O	1.90	0.54
1:A:139:CYS:HB2	1:A:146:SER:O	2.07	0.54
1:C:204:VAL:O	1:C:210:GLN:HA	2.08	0.54
1:G:204:VAL:O	1:G:210:GLN:HA	2.08	0.54
5:T:164:HIS:NE2	6:U:138:ASN:OD1	2.41	0.54
3:L:202:SER:OG	6:O:142:ARG:HB2	2.07	0.54
2:D:19:ASP:OD1	2:D:19:ASP:N	2.35	0.54
3:E:164:THR:HG23	4:F:174:PHE:CE2	2.42	0.54
4:H:87:THR:HG23	4:H:110:THR:HA	1.89	0.53
1:C:221:PRO:HG2	6:O:49:TYR:CE1	2.42	0.53
1:A:14:CYS:N	2:B:25:ARG:O	2.28	0.53
2:D:38:LEU:HA	4:F:100(G):TYR:CE2	2.43	0.53
5:Q:166:PHE:HZ	6:R:174:SER:HB3	1.73	0.53
1:C:51:ILE:CG1	1:C:86:LEU:HD13	2.38	0.53
1:C:139:CYS:HB2	1:C:146:SER:O	2.07	0.53
5:Q:163:VAL:HG22	5:Q:182:VAL:CG1	2.38	0.53
1:C:61:LEU:HB3	1:C:64:CYS:HB3	1.90	0.53
2:I:42:GLN:NE2	4:K:100(H):TYR:O	2.42	0.53
5:N:163:VAL:HG22	5:N:182:VAL:CG1	2.38	0.53
6:U:121:SER:O	6:U:125:LEU:HD13	2.08	0.53
1:A:61:LEU:HB3	1:A:64:CYS:HB3	1.89	0.53
1:A:120:LYS:HB2	1:A:256:ARG:NH2	2.24	0.53
3:L:48:ILE:HA	3:L:54:ARG:HA	1.91	0.53
3:E:48:ILE:HA	3:E:54:ARG:HA	1.91	0.53
1:G:61:LEU:HB3	1:G:64:CYS:HB3	1.89	0.53
3:E:30:ARG:H	3:E:91:TYR:HE1	1.57	0.53
1:G:222:LYS:CE	1:G:225:GLY:HA2	2.39	0.53
2:I:42:GLN:OE1	4:K:100(G):TYR:CD2	2.62	0.53
4:K:112:SER:OG	4:K:113:SER:N	2.42	0.53
4:H:112:SER:OG	4:H:113:SER:N	2.42	0.53
6:R:103:LYS:NZ	6:R:165:GLU:OE2	2.38	0.53
3:L:164:THR:HG23	4:H:174:PHE:CE2	2.44	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:88:ILE:HD12	1:C:274:ILE:HD11	1.90	0.53
2:I:38:LEU:HD21	4:K:53:ASN:HB3	1.90	0.53
4:K:87:THR:HG23	4:K:110:THR:HA	1.90	0.53
5:Q:59:TYR:O	5:Q:64:LYS:HD2	2.09	0.53
1:A:67:LEU:N	1:A:95:ASP:OD1	2.41	0.53
3:L:124:GLN:CA	4:H:122:PHE:CE1	2.92	0.53
4:F:51:ILE:HG23	4:F:71:ARG:HH21	1.74	0.53
5:Q:210:ARG:HG3	5:Q:210:ARG:NH1	2.24	0.53
1:C:120:LYS:HB2	1:C:256:ARG:NH2	2.24	0.53
1:G:173:LYS:HE2	5:Q:55:GLY:HA3	1.90	0.53
5:T:163:VAL:HG22	5:T:182:VAL:CG1	2.38	0.53
4:H:51:ILE:HG23	4:H:71:ARG:HH21	1.74	0.52
1:G:88:ILE:HD12	1:G:274:ILE:HD11	1.90	0.52
3:J:48:ILE:HA	3:J:54:ARG:HA	1.91	0.52
5:T:163:VAL:HG22	5:T:182:VAL:HG12	1.92	0.52
5:T:210:ARG:HG3	5:T:210:ARG:NH1	2.24	0.52
5:N:210:ARG:HG3	5:N:210:ARG:NH1	2.24	0.52
5:T:159:LEU:CD2	5:T:194:TYR:CE1	2.90	0.52
1:A:221:PRO:CG	6:R:49:TYR:CZ	2.92	0.52
1:G:120:LYS:HB2	1:G:256:ARG:NH2	2.24	0.52
1:C:192:ASN:HA	1:C:196:GLY:O	2.10	0.52
4:F:112:SER:OG	4:F:113:SER:N	2.42	0.52
5:Q:100(A):TYR:C	6:R:32:PHE:CE2	2.83	0.52
3:L:124:GLN:HG3	4:H:122:PHE:CZ	2.45	0.52
1:G:50:GLU:OE1	1:G:50:GLU:HA	2.09	0.52
1:A:91:ARG:NH2	1:A:271:ASP:OD2	2.43	0.52
1:A:113:ARG:HB3	1:A:267:GLY:HA3	1.92	0.52
1:G:91:ARG:NH2	1:G:271:ASP:OD2	2.43	0.52
4:K:51:ILE:HG23	4:K:71:ARG:HH21	1.74	0.52
1:A:192:ASN:HA	1:A:196:GLY:O	2.10	0.52
1:C:261(G):ILE:HG21	5:T:65:SER:O	2.10	0.52
1:G:219:ALA:CB	5:T:1:GLN:NE2	2.72	0.52
5:N:47:TRP:CH2	5:N:49:GLY:HA2	2.44	0.52
5:T:47:TRP:CH2	5:T:49:GLY:HA2	2.44	0.52
4:F:100(H):TYR:HE2	4:F:100(J):THR:HA	1.75	0.52
5:N:163:VAL:HG22	5:N:182:VAL:HG12	1.92	0.52
1:A:88:ILE:HD12	1:A:274:ILE:HD11	1.90	0.52
3:L:30:ARG:H	3:L:91:TYR:HE1	1.57	0.52
3:J:39:LYS:HG3	3:J:84:ALA:HB2	1.92	0.52
5:Q:47:TRP:CH2	5:Q:49:GLY:HA2	2.44	0.52
1:C:91:ARG:NH2	1:C:271:ASP:OD2	2.43	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:K:100(H):TYR:HE2	4:K:100(J):THR:HA	1.75	0.51
1:A:268:ILE:CG2	1:A:284:PRO:HA	2.28	0.51
1:C:52:CYS:C	1:C:56:LYS:HB2	2.30	0.51
3:E:105:GLU:CD	3:E:173:TYR:OH	2.49	0.51
5:T:47:TRP:CD2	6:U:96:PRO:HD2	2.45	0.51
5:T:47:TRP:CE3	6:U:96:PRO:HD2	2.45	0.51
4:H:136:GLY:HA2	6:O:156:SER:HB3	1.92	0.51
1:C:222:LYS:CE	1:C:225:GLY:HA2	2.39	0.51
1:A:261(G):ILE:CG2	5:N:64:LYS:O	2.59	0.51
3:J:30:ARG:H	3:J:91:TYR:HE1	1.57	0.51
5:Q:163:VAL:HG22	5:Q:182:VAL:HG12	1.92	0.51
1:C:221:PRO:CG	6:O:49:TYR:CZ	2.92	0.51
1:G:113:ARG:HB3	1:G:267:GLY:HA3	1.92	0.51
1:G:192:ASN:HA	1:G:196:GLY:O	2.10	0.51
3:J:105:GLU:CD	3:J:173:TYR:OH	2.49	0.51
5:N:154:TRP:CH2	5:N:196:CYS:HB3	2.46	0.51
6:R:18:ARG:HE	6:R:76:ARG:NH1	2.09	0.51
1:A:181:GLY:HA3	1:A:252:ILE:HB	1.93	0.51
4:F:13:GLN:OE1	4:F:113:SER:HA	2.11	0.51
5:Q:154:TRP:O	5:Q:155:ASN:CB	2.35	0.51
5:T:154:TRP:CH2	5:T:196:CYS:HB3	2.46	0.51
1:A:48:ILE:HD12	1:A:50:GLU:OE1	2.11	0.51
3:E:39:LYS:HG3	3:E:84:ALA:HB2	1.93	0.51
3:J:54:ARG:HB2	3:J:58:ILE:HD11	1.93	0.51
1:C:113:ARG:HB3	1:C:267:GLY:HA3	1.92	0.51
3:E:2:ILE:CD1	1:G:33:ARG:HH12	2.24	0.51
3:L:94:TRP:HZ3	4:H:59:TYR:O	1.93	0.50
2:I:38:LEU:CD2	4:K:53:ASN:HB3	2.41	0.50
4:K:13:GLN:OE1	4:K:113:SER:HA	2.11	0.50
6:O:18:ARG:HE	6:O:76:ARG:NH1	2.09	0.50
5:Q:154:TRP:CH2	5:Q:196:CYS:HB3	2.46	0.50
4:H:13:GLN:OE1	4:H:113:SER:HA	2.11	0.50
1:G:139:CYS:O	1:G:146:SER:HB3	2.11	0.50
6:U:18:ARG:HE	6:U:76:ARG:NH1	2.09	0.50
3:L:105:GLU:CD	3:L:173:TYR:OH	2.49	0.50
1:C:52:CYS:O	1:C:56:LYS:HG2	2.10	0.50
1:G:106:GLU:HB3	2:I:71:SER:OG	2.09	0.50
3:L:213:GLU:O	3:L:214:CYS:SG	2.70	0.50
4:H:100(A):TYR:CD1	4:H:100(K):TYR:CE2	2.98	0.50
2:D:38:LEU:HA	4:F:100(G):TYR:OH	2.12	0.50
3:E:213:GLU:O	3:E:214:CYS:SG	2.70	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:R:143:GLU:O	6:R:198:HIS:CD2	2.65	0.50
6:U:186:TYR:O	6:U:192:TYR:OH	2.30	0.50
3:L:39:LYS:HG3	3:L:84:ALA:HB2	1.92	0.50
1:C:139:CYS:O	1:C:146:SER:HB3	2.11	0.50
6:O:186:TYR:O	6:O:192:TYR:OH	2.30	0.50
1:A:139:CYS:O	1:A:146:SER:HB3	2.11	0.50
1:G:101:ARG:NE	5:T:99:LEU:HB2	2.27	0.50
4:H:100(H):TYR:HE2	4:H:100(J):THR:HA	1.75	0.50
4:H:136:GLY:HA3	6:O:156:SER:HB2	1.94	0.50
4:F:114:ALA:CB	4:F:148:PHE:CZ	2.95	0.50
4:F:59:TYR:CE1	4:F:69:ILE:HD13	2.47	0.50
4:K:59:TYR:CE1	4:K:69:ILE:HD13	2.47	0.50
3:L:199:GLN:HG3	6:O:10:SER:OG	2.11	0.49
1:G:14:CYS:O	2:I:24:PHE:HA	2.11	0.49
1:G:181:GLY:HA3	1:G:252:ILE:HB	1.93	0.49
6:O:143:GLU:O	6:O:198:HIS:CD2	2.65	0.49
3:L:54:ARG:HB2	3:L:58:ILE:HD11	1.93	0.49
4:H:213:LYS:N	4:H:214:PRO:CD	2.76	0.49
1:C:67:LEU:N	1:C:95:ASP:OD1	2.41	0.49
4:K:13:GLN:HE22	4:K:113:SER:HB2	1.77	0.49
6:R:186:TYR:O	6:R:192:TYR:OH	2.30	0.49
3:E:95:LEU:HG	4:F:47:TRP:HZ3	1.77	0.49
4:K:213:LYS:N	4:K:214:PRO:CD	2.75	0.49
5:Q:171:GLN:HA	6:R:160:GLN:OE1	2.12	0.49
6:U:143:GLU:O	6:U:198:HIS:CD2	2.65	0.49
3:E:96:ARG:NH1	4:F:47:TRP:NE1	2.60	0.49
3:J:213:GLU:O	3:J:214:CYS:SG	2.69	0.49
1:A:153:TRP:HZ2	1:A:183:HIS:CE1	2.31	0.49
1:C:181:GLY:HA3	1:C:252:ILE:HB	1.93	0.49
3:E:54:ARG:HB2	3:E:58:ILE:HD11	1.93	0.49
4:H:13:GLN:HE22	4:H:113:SER:HB2	1.77	0.49
1:C:167:THR:HG22	1:C:244:THR:OG1	2.13	0.49
6:U:103:LYS:CE	6:U:165:GLU:OE2	2.61	0.49
2:B:41:THR:HB	4:H:100(G):TYR:OH	2.13	0.49
3:L:33:LEU:HD12	3:L:51:ALA:HA	1.95	0.49
3:L:124:GLN:HG3	4:H:122:PHE:CE2	2.48	0.49
4:F:213:LYS:N	4:F:214:PRO:CD	2.76	0.49
6:R:103:LYS:CE	6:R:165:GLU:OE2	2.61	0.49
1:A:167:THR:HG22	1:A:244:THR:OG1	2.13	0.49
4:H:59:TYR:CE1	4:H:69:ILE:HD13	2.47	0.49
1:C:153:TRP:HZ2	1:C:183:HIS:CE1	2.31	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:K:114:ALA:CB	4:K:148:PHE:CZ	2.95	0.49
1:A:222:LYS:CE	1:A:225:GLY:HA2	2.39	0.49
1:A:51:ILE:HB	1:A:86:LEU:CD2	2.32	0.48
1:G:51:ILE:HD13	1:G:266:LEU:HD23	1.94	0.48
1:G:167:THR:HG22	1:G:244:THR:OG1	2.13	0.48
1:G:324:PRO:O	1:G:325:GLU:HB2	2.13	0.48
4:H:147:TYR:CE2	4:H:152:VAL:HG13	2.48	0.48
4:F:187:LEU:C	4:F:187:LEU:HD12	2.34	0.48
5:Q:200:HIS:HB3	5:Q:205:THR:OG1	2.13	0.48
5:T:208:ASP:C	5:T:209:LYS:HD2	2.33	0.48
1:A:261(E):SER:O	5:N:59:TYR:HD2	1.92	0.48
4:F:147:TYR:CE2	4:F:152:VAL:HG13	2.48	0.48
5:N:200:HIS:HB3	5:N:205:THR:OG1	2.13	0.48
5:Q:208:ASP:C	5:Q:209:LYS:HD2	2.32	0.48
5:N:208:ASP:C	5:N:209:LYS:HD2	2.32	0.48
6:O:103:LYS:CE	6:O:165:GLU:OE2	2.61	0.48
4:H:187:LEU:C	4:H:187:LEU:HD12	2.34	0.48
3:J:105:GLU:CD	3:J:173:TYR:HH	2.17	0.48
5:N:50:TYR:CE2	5:N:58:ASN:HB3	2.49	0.48
3:E:33:LEU:HD12	3:E:51:ALA:HA	1.94	0.48
4:F:13:GLN:HE22	4:F:113:SER:HB2	1.77	0.48
5:Q:43:LYS:HE2	5:Q:43:LYS:HB3	1.57	0.48
1:A:33:ARG:NH1	3:J:2:ILE:CD1	2.75	0.48
1:G:51:ILE:HG23	1:G:282:PHE:HD1	1.79	0.48
1:G:67:LEU:HB2	1:G:95:ASP:OD1	2.14	0.48
1:G:153:TRP:HZ2	1:G:183:HIS:CE1	2.31	0.48
1:G:261(E):SER:HG	5:Q:64:LYS:HE2	1.76	0.48
5:T:166:PHE:HD1	6:U:164:THR:HG23	1.62	0.48
1:A:70:ILE:HD11	1:A:112:ILE:HG13	1.96	0.48
1:C:101:ARG:NH2	5:N:100:GLY:CA	2.68	0.48
5:N:126:PRO:HG3	5:N:189:LEU:HD22	1.96	0.48
5:Q:199:ASN:CG	5:Q:206:LYS:HD2	2.34	0.48
2:B:38:LEU:HA	4:H:100(G):TYR:CE2	2.49	0.48
1:C:67:LEU:HB2	1:C:95:ASP:OD1	2.14	0.48
1:C:70:ILE:HD11	1:C:112:ILE:HG13	1.95	0.48
4:K:37:VAL:HG22	4:K:47:TRP:HA	1.96	0.48
5:T:126:PRO:HG3	5:T:189:LEU:HD22	1.96	0.48
5:T:200:HIS:HB3	5:T:205:THR:OG1	2.13	0.48
1:A:51:ILE:HD12	1:A:86:LEU:HD13	1.95	0.48
1:G:101:ARG:HH21	5:T:99:LEU:HD12	1.78	0.48
2:I:42:GLN:OE1	4:K:100(G):TYR:HD2	1.96	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:T:154:TRP:O	5:T:155:ASN:C	2.52	0.48
1:A:324:PRO:O	1:A:325:GLU:HB2	2.13	0.47
1:G:300:ILE:HD11	2:I:69:GLU:HG3	1.96	0.47
5:Q:154:TRP:O	5:Q:155:ASN:C	2.52	0.47
5:Q:166:PHE:CE1	6:R:164:THR:CG2	2.91	0.47
5:Q:169:VAL:HG13	6:R:162:SER:CB	2.35	0.47
1:A:33:ARG:HH12	3:J:2:ILE:HD12	1.74	0.47
3:L:95:LEU:HD11	4:H:61:ASP:H	1.79	0.47
2:D:38:LEU:O	4:F:100(G):TYR:CE2	2.68	0.47
1:G:156:SER:O	1:G:157:SER:OG	2.23	0.47
4:K:187:LEU:C	4:K:187:LEU:HD12	2.34	0.47
5:Q:166:PHE:HA	6:R:164:THR:HG22	1.96	0.47
5:T:50:TYR:CE2	5:T:58:ASN:HB3	2.49	0.47
5:T:91:PHE:CE1	6:U:44:PRO:HD3	2.49	0.47
5:T:199:ASN:CG	5:T:206:LYS:HD2	2.34	0.47
1:C:161:PHE:HB3	1:C:248:ASN:O	2.15	0.47
2:D:38:LEU:HA	4:F:100(G):TYR:HE2	1.79	0.47
2:D:159:HIS:CE1	2:D:160:ASN:OD1	2.67	0.47
1:A:67:LEU:HG	1:A:109:ARG:HG2	1.97	0.47
1:A:101:ARG:CG	5:Q:100:GLY:CA	2.82	0.47
4:H:100(A):TYR:CD1	4:H:100(K):TYR:HE2	2.31	0.47
1:G:51:ILE:HB	1:G:86:LEU:HD12	1.94	0.47
3:J:199:GLN:CB	6:R:10:SER:OG	2.62	0.47
5:Q:61:PRO:HA	5:Q:64:LYS:HD3	1.95	0.47
1:A:222:LYS:O	6:R:53:ASN:HB3	2.13	0.47
1:C:51:ILE:HD12	1:C:86:LEU:HB2	1.96	0.47
1:C:161:PHE:HA	1:C:162:PRO:HD3	1.74	0.47
1:G:161:PHE:HB3	1:G:248:ASN:O	2.15	0.47
1:A:51:ILE:CB	1:A:86:LEU:HD22	2.32	0.47
1:A:67:LEU:HB2	1:A:95:ASP:OD1	2.14	0.47
1:A:182:VAL:HG22	1:A:202:ILE:HD12	1.97	0.47
2:B:53:ASN:OD1	2:B:53:ASN:O	2.33	0.47
2:B:170:ARG:HH21	2:I:128:GLU:CD	2.18	0.47
4:H:100(J):THR:HG23	4:H:100(K):TYR:CZ	2.49	0.47
4:H:114:ALA:HB3	4:H:148:PHE:HE2	1.68	0.47
1:C:324:PRO:O	1:C:325:GLU:HB2	2.13	0.47
1:G:70:ILE:HD11	1:G:112:ILE:HG13	1.95	0.47
2:I:159:HIS:CE1	2:I:160:ASN:OD1	2.67	0.47
4:K:115:SER:O	4:K:116:THR:C	2.52	0.47
4:K:147:TYR:CE2	4:K:152:VAL:HG13	2.48	0.47
5:N:154:TRP:O	5:N:155:ASN:C	2.52	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:T:137:ALA:HB3	6:U:116:PHE:CE1	2.50	0.47
4:H:37:VAL:HG22	4:H:47:TRP:HA	1.96	0.47
3:J:33:LEU:HD12	3:J:51:ALA:HA	1.95	0.47
5:Q:50:TYR:CE2	5:Q:58:ASN:HB3	2.49	0.47
5:Q:124:LEU:HD12	6:R:118:PHE:CD2	2.50	0.47
3:J:199:GLN:CG	6:R:10:SER:OG	2.63	0.47
1:A:71:ILE:HG22	1:A:151:MET:HE3	1.97	0.47
1:G:71:ILE:HG22	1:G:151:MET:HE3	1.97	0.47
5:Q:159:LEU:CD2	5:Q:194:TYR:CE1	2.90	0.47
2:B:159:HIS:CE1	2:B:160:ASN:OD1	2.68	0.46
4:H:114:ALA:CB	4:H:148:PHE:CZ	2.95	0.46
1:C:71:ILE:CG2	1:C:151:MET:HE1	2.45	0.46
1:C:223:VAL:HG22	6:O:53:ASN:ND2	2.29	0.46
1:G:67:LEU:HG	1:G:109:ARG:HG2	1.97	0.46
5:T:170:LEU:O	6:U:160:GLN:NE2	2.46	0.46
1:A:180:TRP:NE1	1:A:233:HIS:HB2	2.31	0.46
5:N:154:TRP:O	5:N:155:ASN:CB	2.35	0.46
4:H:115:SER:O	4:H:116:THR:C	2.53	0.46
1:G:177:LEU:HB3	1:G:258:THR:HB	1.98	0.46
5:N:159:LEU:CD2	5:N:194:TYR:CE1	2.90	0.46
5:T:137:ALA:HB2	6:U:116:PHE:CZ	2.49	0.46
1:C:62:GLY:HA2	1:C:90:ARG:HG3	1.98	0.46
1:C:177:LEU:HB3	1:C:258:THR:HB	1.98	0.46
6:O:67:SER:HA	6:O:71:PHE:CE2	2.51	0.46
5:Q:126:PRO:HG3	5:Q:189:LEU:HD22	1.96	0.46
1:A:161:PHE:HB3	1:A:248:ASN:O	2.15	0.46
3:L:121:SER:HB3	4:H:123:PRO:HD2	1.96	0.46
4:H:39:GLN:HB2	4:H:45:LEU:HD13	1.98	0.46
1:C:67:LEU:HG	1:C:109:ARG:HG2	1.97	0.46
1:G:158(A):ASN:OD1	1:G:193:LYS:HE2	2.16	0.46
5:T:59:TYR:CB	5:T:64:LYS:HG2	2.37	0.46
3:E:199:GLN:CD	6:U:10:SER:OG	2.54	0.46
4:F:37:VAL:HG22	4:F:47:TRP:HA	1.96	0.46
4:F:115:SER:O	4:F:116:THR:C	2.52	0.46
1:G:17:HIS:HA	2:I:21:TRP:O	2.16	0.46
1:C:71:ILE:HG21	1:C:151:MET:HE1	1.98	0.46
1:C:156:SER:O	1:C:157:SER:OG	2.23	0.46
4:F:145:LYS:HE3	4:F:179:GLN:OE1	2.16	0.46
1:G:51:ILE:HD12	1:G:86:LEU:HG	1.96	0.46
1:G:62:GLY:HA2	1:G:90:ARG:HG3	1.98	0.46
2:B:53:ASN:HB2	4:H:100(K):TYR:OH	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:L:91:TYR:HB2	3:L:92:ASN:HB3	1.98	0.46
1:G:182:VAL:HG22	1:G:202:ILE:HD12	1.97	0.46
4:H:145:LYS:HE3	4:H:179:GLN:OE1	2.16	0.46
3:E:95:LEU:HD11	4:F:61:ASP:H	1.81	0.46
2:B:38:LEU:HD22	4:H:53:ASN:HB3	1.93	0.45
1:C:182:VAL:HG22	1:C:202:ILE:HD12	1.97	0.45
1:G:13:LEU:CD2	2:I:152:ILE:HG21	2.45	0.45
5:Q:166:PHE:CZ	6:R:174:SER:HB3	2.51	0.45
5:T:166:PHE:HZ	6:U:174:SER:CB	2.13	0.45
1:A:158(A):ASN:OD1	1:A:193:LYS:HE2	2.16	0.45
1:A:177:LEU:HB3	1:A:258:THR:HB	1.98	0.45
1:A:300:ILE:HD11	2:B:69:GLU:HG3	1.98	0.45
1:G:108:LEU:HD13	1:G:234:TRP:CE3	2.52	0.45
1:A:56:LYS:HD3	1:A:56:LYS:HA	1.76	0.45
1:C:180:TRP:NE1	1:C:233:HIS:HB2	2.31	0.45
1:C:200:LYS:HD3	1:C:248:ASN:ND2	2.31	0.45
1:G:13:LEU:HD22	2:I:152:ILE:HG21	1.98	0.45
1:G:166:GLN:HB2	1:G:245:PHE:HB2	1.98	0.45
1:G:219:ALA:CB	5:T:1:GLN:OE1	2.64	0.45
3:J:91:TYR:HB2	3:J:92:ASN:HB3	1.98	0.45
1:A:200:LYS:HA	1:A:200:LYS:HD3	1.78	0.45
1:C:157:SER:O	1:C:158:MET:HG3	2.17	0.45
1:C:173:LYS:HD2	1:C:173:LYS:N	2.32	0.45
3:E:91:TYR:HB2	3:E:92:ASN:HB3	1.98	0.45
1:G:52:CYS:O	1:G:282:PHE:HE1	2.00	0.45
1:G:157:SER:O	1:G:158:MET:HG3	2.17	0.45
1:G:200:LYS:HD3	1:G:248:ASN:ND2	2.31	0.45
1:C:108:LEU:HD13	1:C:234:TRP:CE3	2.52	0.45
1:C:166:GLN:HB2	1:C:245:PHE:HB2	1.99	0.45
3:J:96:ARG:NH1	4:K:100(N):MET:HE3	2.32	0.45
5:N:214:LYS:CD	5:N:214:LYS:N	2.75	0.45
5:T:91:PHE:CE1	6:U:44:PRO:CD	2.99	0.45
6:U:67:SER:HA	6:U:71:PHE:CE2	2.51	0.45
1:A:33:ARG:HH11	3:J:93:HIS:HB2	1.81	0.45
1:A:51:ILE:O	1:A:86:LEU:HD22	2.17	0.45
1:A:200:LYS:HD3	1:A:248:ASN:ND2	2.31	0.45
3:E:12:SER:HA	3:E:105:GLU:HB2	1.99	0.45
3:E:95:LEU:HA	4:F:47:TRP:CZ3	2.52	0.45
1:G:180:TRP:NE1	1:G:233:HIS:HB2	2.31	0.45
1:A:131:ARG:CG	1:A:157:SER:HA	2.41	0.45
1:A:157:SER:O	1:A:158:MET:HG3	2.17	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:261(D):PRO:O	5:N:57:THR:O	2.35	0.45
1:C:134:GLY:HA3	1:C:153:TRP:HB3	1.98	0.45
6:R:67:SER:HA	6:R:71:PHE:CE2	2.51	0.45
1:A:108:LEU:HD13	1:A:234:TRP:CE3	2.52	0.45
1:C:158(A):ASN:OD1	1:C:193:LYS:HE2	2.16	0.45
4:K:39:GLN:HB2	4:K:45:LEU:HD13	1.98	0.45
5:Q:166:PHE:CZ	6:R:174:SER:CB	3.00	0.45
1:A:48:ILE:H	1:A:48:ILE:HG13	1.55	0.45
2:B:173:ILE:HA	2:I:164:ASP:OD1	2.17	0.45
3:L:124:GLN:HB2	4:H:122:PHE:CD1	2.52	0.45
4:F:30:ARG:NH2	4:F:71:ARG:HG3	2.32	0.45
3:J:164:THR:HG23	4:K:174:PHE:CE2	2.52	0.45
5:Q:105:GLN:HG2	6:R:43:ALA:N	2.32	0.45
1:C:108:LEU:HD13	1:C:234:TRP:CD2	2.52	0.44
1:A:58:ALA:CB	1:A:86:LEU:HG	2.47	0.44
1:A:108:LEU:HD13	1:A:234:TRP:CD2	2.52	0.44
1:A:172:ARG:HD3	1:A:259:PHE:CE2	2.52	0.44
1:G:134:GLY:HA3	1:G:153:TRP:HB3	1.98	0.44
4:K:145:LYS:HE3	4:K:179:GLN:OE1	2.16	0.44
5:Q:214:LYS:CD	5:Q:214:LYS:N	2.75	0.44
1:C:52:CYS:O	1:C:282:PHE:HE1	2.00	0.44
1:C:223:VAL:O	1:C:224:ASN:HB2	2.17	0.44
2:D:38:LEU:CA	4:F:100(G):TYR:HE2	2.30	0.44
1:G:223:VAL:O	1:G:224:ASN:HB2	2.18	0.44
3:L:12:SER:HA	3:L:105:GLU:HB2	1.99	0.44
4:F:39:GLN:HB2	4:F:45:LEU:HD13	1.98	0.44
1:A:62:GLY:HA2	1:A:90:ARG:HG3	1.98	0.44
1:A:130:ILE:HG22	1:A:131:ARG:O	2.18	0.44
3:L:199:GLN:CG	6:O:10:SER:OG	2.66	0.44
4:H:30:ARG:NH2	4:H:71:ARG:HG3	2.32	0.44
1:G:130:ILE:HG22	1:G:131:ARG:O	2.18	0.44
1:G:172:ARG:HD3	1:G:259:PHE:CE2	2.52	0.44
1:G:54:LYS:HD2	1:G:276(A):SER:O	2.18	0.44
1:A:221:PRO:HG2	6:R:49:TYR:CE1	2.52	0.44
1:A:223:VAL:O	1:A:224:ASN:HB2	2.18	0.44
4:H:100(N):MET:H	4:H:100(N):MET:HG2	1.60	0.44
1:C:54:LYS:HD2	1:C:276(A):SER:O	2.18	0.44
1:C:172:ARG:HD3	1:C:259:PHE:CE2	2.52	0.44
1:G:173:LYS:HD2	1:G:173:LYS:N	2.32	0.44
1:G:221:PRO:CB	6:U:49:TYR:CD2	3.01	0.44
5:T:123:PRO:HB3	5:T:211:VAL:HG13	2.00	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:134:GLY:HA3	1:A:153:TRP:HB3	1.98	0.44
1:A:166:GLN:HB2	1:A:245:PHE:HB2	1.99	0.44
2:B:53:ASN:ND2	4:H:100(K):TYR:CE1	2.79	0.44
4:H:100(J):THR:HG23	4:H:100(K):TYR:CD1	2.52	0.44
1:G:221:PRO:HG2	6:U:49:TYR:CZ	2.52	0.44
5:Q:167:PRO:HG2	6:R:163:VAL:O	2.18	0.44
6:U:33:LEU:HD21	6:U:88:CYS:HB2	2.00	0.44
6:U:48:ILE:HD12	6:U:73:LEU:HD13	1.99	0.44
3:L:121:SER:CB	4:H:123:PRO:HD2	2.48	0.44
4:H:4:LEU:HD11	4:H:92:CYS:O	2.18	0.44
1:C:82:PHE:CE2	1:C:117:GLY:HA2	2.53	0.44
1:A:54:LYS:HD2	1:A:276(A):SER:O	2.18	0.43
1:C:51:ILE:HG23	1:C:282:PHE:HD1	1.79	0.43
1:G:108:LEU:HD13	1:G:234:TRP:CD2	2.52	0.43
5:N:212:GLU:CD	5:N:213:PRO:CD	2.86	0.43
6:O:48:ILE:HD12	6:O:73:LEU:HD13	1.99	0.43
1:G:82:PHE:CE2	1:G:117:GLY:HA2	2.53	0.43
5:N:123:PRO:HB3	5:N:211:VAL:HG13	2.00	0.43
1:A:51:ILE:HG23	1:A:282:PHE:HD1	1.78	0.43
1:A:82:PHE:CE2	1:A:117:GLY:HA2	2.53	0.43
1:A:114:GLU:HA	1:A:265:SER:O	2.18	0.43
1:A:117:GLY:C	1:A:261:ARG:HG3	2.39	0.43
4:H:11:LEU:HG	4:H:110:THR:OG1	2.18	0.43
1:G:96:ILE:HD11	5:T:100(A):TYR:OH	2.17	0.43
4:K:4:LEU:HD11	4:K:92:CYS:O	2.18	0.43
6:O:33:LEU:HD21	6:O:88:CYS:HB2	2.00	0.43
6:R:33:LEU:HD21	6:R:88:CYS:HB2	2.00	0.43
5:T:169:VAL:HG11	6:U:161:GLU:O	2.18	0.43
5:T:212:GLU:CD	5:T:213:PRO:CD	2.86	0.43
1:C:67:LEU:HD23	1:C:67:LEU:HA	1.64	0.43
1:C:86:LEU:HG	1:C:86:LEU:O	2.19	0.43
1:C:114:GLU:HA	1:C:265:SER:O	2.18	0.43
1:C:130:ILE:HG22	1:C:131:ARG:O	2.18	0.43
1:C:221:PRO:HB3	6:O:49:TYR:CG	2.53	0.43
4:F:4:LEU:HD11	4:F:92:CYS:O	2.18	0.43
3:J:16:GLY:H	3:J:78:LEU:HB3	1.84	0.43
5:Q:167:PRO:HD3	6:R:164:THR:HA	2.00	0.43
2:B:80:LEU:HD21	2:I:80:LEU:HG	2.01	0.43
3:J:12:SER:HA	3:J:105:GLU:HB2	1.99	0.43
3:J:47:LEU:HB3	3:J:48:ILE:HD12	2.00	0.43
6:R:48:ILE:HD12	6:R:73:LEU:HD13	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:156:SER:O	1:A:157:SER:OG	2.23	0.43
1:C:52:CYS:HA	1:C:54:LYS:N	2.34	0.43
3:E:47:LEU:HB3	3:E:48:ILE:HD12	2.01	0.43
3:E:92:ASN:OD1	3:E:92:ASN:N	2.52	0.43
5:Q:212:GLU:CD	5:Q:213:PRO:CD	2.86	0.43
1:G:11:ALA:O	2:I:140:ILE:HB	2.18	0.43
3:J:80:SER:HA	3:J:106:ILE:HG12	2.01	0.43
4:K:30:ARG:NH2	4:K:71:ARG:HG3	2.32	0.43
5:Q:100(A):TYR:O	6:R:32:PHE:CD2	2.71	0.43
2:B:80:LEU:CG	2:D:80:LEU:HD21	2.46	0.43
2:B:134:GLY:HA2	2:I:124:LYS:HD3	2.00	0.43
3:L:7:SER:HA	3:L:8:PRO:HA	1.87	0.43
1:C:117:GLY:C	1:C:261:ARG:HG3	2.39	0.43
4:F:94:LYS:HG3	4:F:102:VAL:HB	2.01	0.43
1:G:101:ARG:HG2	1:G:101:ARG:NH1	2.32	0.43
1:G:131:ARG:CG	1:G:157:SER:HA	2.41	0.43
1:A:16:GLY:HA3	2:B:14:TRP:CH2	2.54	0.43
1:A:52:CYS:C	1:A:56:LYS:HG2	2.40	0.42
3:L:47:LEU:HB3	3:L:48:ILE:HD12	2.00	0.42
3:L:185:ASP:HA	3:L:188:LYS:HD3	2.01	0.42
4:H:94:LYS:HG3	4:H:102:VAL:HB	2.01	0.42
1:G:114:GLU:HA	1:G:265:SER:O	2.18	0.42
1:A:86:LEU:HG	1:A:86:LEU:O	2.20	0.42
1:C:101:ARG:NH1	1:C:105:GLU:OE2	2.52	0.42
3:E:16:GLY:H	3:E:78:LEU:HB3	1.84	0.42
3:E:131:SER:HG	4:F:145:LYS:HZ3	1.62	0.42
1:G:108:LEU:HD22	1:G:234:TRP:CD1	2.55	0.42
6:R:125:LEU:HB3	6:R:183:LYS:HD2	2.01	0.42
6:U:125:LEU:HB3	6:U:183:LYS:HD2	2.00	0.42
1:A:161:PHE:HA	1:A:162:PRO:HD3	1.74	0.42
4:H:51:ILE:HG21	4:H:78:LEU:HD13	2.02	0.42
1:C:131:ARG:CG	1:C:157:SER:HA	2.41	0.42
4:F:51:ILE:HG21	4:F:78:LEU:HD13	2.02	0.42
3:J:205:VAL:CG2	6:R:143:GLU:OE1	2.67	0.42
5:T:78:PHE:CZ	5:T:92:CYS:HB2	2.54	0.42
5:T:124:LEU:C	6:U:118:PHE:CE1	2.93	0.42
1:A:197:THR:HG22	1:A:198:GLY:N	2.35	0.42
1:A:199:ASN:O	1:A:248:ASN:ND2	2.52	0.42
3:L:92:ASN:OD1	3:L:92:ASN:N	2.52	0.42
3:J:92:ASN:OD1	3:J:92:ASN:N	2.52	0.42
4:K:13:GLN:HA	4:K:112:SER:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:108:LEU:HD22	1:A:234:TRP:CD1	2.54	0.42
1:C:105:GLU:HG3	1:C:106:GLU:OE1	2.20	0.42
1:G:117:GLY:C	1:G:261:ARG:HG3	2.39	0.42
1:G:146:SER:OG	1:G:147:PHE:N	2.53	0.42
3:J:91:TYR:HA	3:J:92:ASN:HA	1.80	0.42
5:N:78:PHE:CZ	5:N:92:CYS:HB2	2.54	0.42
5:T:59:TYR:O	5:T:64:LYS:CG	2.68	0.42
5:T:212:GLU:CD	5:T:213:PRO:HD2	2.40	0.42
4:H:14:PRO:HD3	4:H:112:SER:C	2.40	0.42
3:E:185:ASP:HA	3:E:188:LYS:HD3	2.02	0.42
1:G:199:ASN:O	1:G:248:ASN:ND2	2.52	0.42
4:K:114:ALA:HB3	4:K:148:PHE:HE2	1.68	0.42
5:T:124:LEU:HB3	6:U:118:PHE:CD1	2.46	0.42
1:A:52:CYS:O	1:A:282:PHE:HE1	2.00	0.42
3:L:80:SER:HA	3:L:106:ILE:HG12	2.01	0.42
4:H:58:TYR:HE2	4:H:100(H):TYR:CG	2.38	0.42
1:C:146:SER:OG	1:C:147:PHE:N	2.53	0.42
1:C:197:THR:HG22	1:C:198:GLY:N	2.35	0.42
1:G:11:ALA:O	2:I:140:ILE:N	2.38	0.42
1:G:86:LEU:HD22	1:G:87:ILE:N	2.23	0.42
1:A:17:HIS:HA	2:B:21:TRP:O	2.20	0.42
1:C:199:ASN:O	1:C:248:ASN:ND2	2.52	0.42
4:K:215:SER:O	4:K:217:THR:HG23	2.20	0.42
1:A:51:ILE:HG13	1:A:268:ILE:HD13	2.01	0.42
1:A:73:PRO:HD2	1:A:76:CYS:HB2	2.02	0.42
3:L:61:ARG:HD2	3:L:77:SER:O	2.20	0.42
1:C:50:GLU:CD	1:C:274:ILE:HG23	2.39	0.42
1:C:200:LYS:HA	1:C:200:LYS:HD3	1.77	0.42
3:E:80:SER:HA	3:E:106:ILE:HG12	2.01	0.42
2:I:56:ILE:HG21	4:K:100:ILE:HG21	2.00	0.42
5:Q:212:GLU:CD	5:Q:213:PRO:HD2	2.39	0.42
1:A:83:LYS:HD3	1:A:262:ASN:HB2	2.02	0.42
3:E:30:ARG:N	3:E:91:TYR:HE1	2.18	0.42
4:F:215:SER:O	4:F:217:THR:HG23	2.20	0.42
4:K:14:PRO:HD3	4:K:112:SER:C	2.40	0.42
6:O:125:LEU:HB3	6:O:183:LYS:HD2	2.00	0.42
5:Q:78:PHE:CZ	5:Q:92:CYS:HB2	2.54	0.42
5:Q:123:PRO:HB3	5:Q:211:VAL:HG13	2.00	0.42
3:L:16:GLY:H	3:L:78:LEU:HB3	1.84	0.41
1:C:108:LEU:HD22	1:C:234:TRP:CD1	2.55	0.41
4:F:13:GLN:HA	4:F:112:SER:O	2.19	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:F:14:PRO:HD3	4:F:112:SER:C	2.40	0.41
3:E:34:ALA:HB3	3:E:89:GLN:HG2	2.02	0.41
1:G:73:PRO:HD2	1:G:76:CYS:HB2	2.02	0.41
3:J:61:ARG:HD2	3:J:77:SER:O	2.20	0.41
3:J:185:ASP:HA	3:J:188:LYS:HD3	2.02	0.41
4:K:94:LYS:HG3	4:K:102:VAL:HB	2.01	0.41
1:A:109:ARG:O	1:A:113:ARG:HG3	2.21	0.41
1:A:146:SER:OG	1:A:147:PHE:N	2.53	0.41
1:C:52:CYS:O	1:C:56:LYS:CG	2.68	0.41
1:C:73:PRO:HD2	1:C:76:CYS:HB2	2.02	0.41
3:E:61:ARG:HD2	3:E:77:SER:O	2.20	0.41
4:F:58:TYR:HE2	4:F:100(H):TYR:CG	2.38	0.41
1:G:197:THR:HG22	1:G:198:GLY:N	2.35	0.41
1:G:201:LEU:HD11	1:G:212:SER:HB2	2.03	0.41
5:N:142:VAL:CG2	5:N:198:VAL:HG21	2.51	0.41
5:Q:100(A):TYR:C	6:R:32:PHE:HE2	2.24	0.41
5:Q:100(G):CYS:SG	6:R:91:SER:CB	3.09	0.41
5:T:142:VAL:CG2	5:T:198:VAL:HG21	2.51	0.41
4:H:13:GLN:HA	4:H:112:SER:O	2.19	0.41
1:G:71:ILE:HG21	1:G:151:MET:HE1	2.03	0.41
5:Q:100(G):CYS:SG	6:R:91:SER:HB2	2.61	0.41
1:A:48:ILE:HB	1:A:50:GLU:OE1	2.20	0.41
2:B:171:PHE:HD1	2:I:167:LEU:HD13	1.86	0.41
1:C:83:LYS:HD3	1:C:262:ASN:HB2	2.02	0.41
1:G:83:LYS:HD3	1:G:262:ASN:HB2	2.02	0.41
5:Q:59:TYR:O	5:Q:64:LYS:CG	2.68	0.41
1:C:86:LEU:HD11	1:C:88:ILE:HG12	2.03	0.41
1:C:261(G):ILE:HG22	5:T:65:SER:HA	2.02	0.41
1:G:161:PHE:HA	1:G:162:PRO:HD3	1.74	0.41
1:A:169:ARG:HB2	1:A:242:THR:HG22	2.02	0.41
3:L:30:ARG:N	3:L:91:TYR:HE1	2.18	0.41
3:L:105:GLU:CD	3:L:173:TYR:HH	2.23	0.41
1:C:221:PRO:HB3	6:O:49:TYR:CD2	2.55	0.41
3:J:35:TRP:CE3	3:J:73:LEU:HD22	2.56	0.41
3:J:95:LEU:HA	4:K:47:TRP:CZ3	2.56	0.41
4:K:51:ILE:HG21	4:K:78:LEU:HD13	2.02	0.41
4:K:58:TYR:HE2	4:K:100(H):TYR:CG	2.38	0.41
5:N:124:LEU:HB3	6:O:118:PHE:CD1	2.56	0.41
5:Q:142:VAL:CG2	5:Q:198:VAL:HG21	2.51	0.41
5:Q:214:LYS:HD3	5:Q:214:LYS:N	2.10	0.41
5:T:122:PHE:O	5:T:141:LEU:N	2.46	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:95:LEU:HG	4:F:47:TRP:CZ3	2.56	0.41
5:T:59:TYR:O	5:T:64:LYS:CD	2.67	0.41
3:L:34:ALA:HB3	3:L:89:GLN:HG2	2.02	0.40
3:J:15:PRO:HA	3:J:78:LEU:HD22	2.03	0.40
5:T:39:GLN:NE2	6:U:87:TYR:OH	2.32	0.40
1:A:107:ALA:N	2:B:71:SER:OG	2.54	0.40
1:A:166:GLN:O	1:A:245:PHE:N	2.38	0.40
1:A:201:LEU:HD11	1:A:212:SER:HB2	2.03	0.40
3:L:35:TRP:CE3	3:L:73:LEU:HD22	2.56	0.40
1:C:34:ILE:HD11	1:C:321:ARG:NE	2.37	0.40
1:C:144:VAL:HG22	1:C:145:SER:N	2.37	0.40
1:C:173:LYS:O	1:C:239:PRO:HG3	2.22	0.40
1:G:15:LEU:HD11	2:I:118:LEU:HG	2.00	0.40
1:G:261(C):ALA:HA	1:G:261(D):PRO:HD2	1.90	0.40
6:O:18:ARG:HH21	6:O:76:ARG:CZ	2.34	0.40
6:U:18:ARG:HH21	6:U:76:ARG:CZ	2.34	0.40
1:A:71:ILE:HG21	1:A:151:MET:HE1	2.03	0.40
3:L:15:PRO:HA	3:L:78:LEU:HD22	2.03	0.40
1:C:71:ILE:HG22	1:C:151:MET:CE	2.51	0.40
1:C:71:ILE:HG22	1:C:151:MET:HE3	2.03	0.40
1:C:109:ARG:O	1:C:113:ARG:HG3	2.20	0.40
1:G:34:ILE:HD11	1:G:321:ARG:NE	2.37	0.40
4:H:215:SER:O	4:H:217:THR:HG23	2.20	0.40
1:C:221:PRO:HD2	5:N:98:ASP:OD2	2.21	0.40
6:R:18:ARG:HH21	6:R:76:ARG:CZ	2.34	0.40
2:B:38:LEU:CA	4:H:100(G):TYR:CE2	3.04	0.40
1:G:173:LYS:O	1:G:239:PRO:HG3	2.22	0.40
5:T:43:LYS:HE2	5:T:43:LYS:HB3	1.57	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	316/333 (95%)	307 (97%)	7 (2%)	2 (1%)	25	65
1	C	313/333 (94%)	306 (98%)	5 (2%)	2 (1%)	25	65
1	G	316/333 (95%)	308 (98%)	6 (2%)	2 (1%)	25	65
2	B	171/176 (97%)	164 (96%)	7 (4%)	0	100	100
2	D	168/176 (96%)	161 (96%)	7 (4%)	0	100	100
2	I	171/176 (97%)	164 (96%)	7 (4%)	0	100	100
3	E	209/214 (98%)	193 (92%)	13 (6%)	3 (1%)	11	46
3	J	209/214 (98%)	193 (92%)	13 (6%)	3 (1%)	11	46
3	L	209/214 (98%)	193 (92%)	13 (6%)	3 (1%)	11	46
4	F	222/234 (95%)	209 (94%)	11 (5%)	2 (1%)	17	56
4	H	222/234 (95%)	209 (94%)	11 (5%)	2 (1%)	17	56
4	K	222/234 (95%)	209 (94%)	11 (5%)	2 (1%)	17	56
5	N	218/229 (95%)	209 (96%)	8 (4%)	1 (0%)	29	69
5	Q	215/229 (94%)	208 (97%)	6 (3%)	1 (0%)	29	69
5	T	215/229 (94%)	208 (97%)	6 (3%)	1 (0%)	29	69
6	O	211/214 (99%)	207 (98%)	4 (2%)	0	100	100
6	R	211/214 (99%)	207 (98%)	4 (2%)	0	100	100
6	U	211/214 (99%)	207 (98%)	4 (2%)	0	100	100
All	All	4029/4200 (96%)	3862 (96%)	143 (4%)	24 (1%)	25	65

All (24) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
3	L	94	TRP
3	E	94	TRP
3	J	94	TRP
1	A	141	ARG
3	L	76	SER
1	C	141	ARG
3	E	76	SER
1	G	141	ARG
3	J	76	SER
3	L	51	ALA
3	E	51	ALA
3	J	51	ALA
4	H	114	ALA
4	F	114	ALA

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Mol	Chain	Res	Type
4	K	114	ALA
1	A	261(G)	ILE
1	C	261(G)	ILE
1	G	261(G)	ILE
4	H	52(A)	GLY
4	F	52(A)	GLY
4	K	52(A)	GLY
5	N	213	PRO
5	Q	213	PRO
5	T	213	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	275/285 (96%)	269 (98%)	6 (2%)	52 71
1	C	274/285 (96%)	268 (98%)	6 (2%)	52 71
1	G	275/285 (96%)	269 (98%)	6 (2%)	52 71
2	B	146/148 (99%)	144 (99%)	2 (1%)	67 81
2	D	145/148 (98%)	143 (99%)	2 (1%)	67 81
2	I	146/148 (99%)	144 (99%)	2 (1%)	67 81
3	E	186/187 (100%)	182 (98%)	4 (2%)	52 71
3	J	186/187 (100%)	182 (98%)	4 (2%)	52 71
3	L	186/187 (100%)	182 (98%)	4 (2%)	52 71
4	F	189/196 (96%)	182 (96%)	7 (4%)	34 58
4	H	189/196 (96%)	182 (96%)	7 (4%)	34 58
4	K	189/196 (96%)	181 (96%)	8 (4%)	30 54
5	N	192/199 (96%)	182 (95%)	10 (5%)	23 49
5	Q	192/199 (96%)	182 (95%)	10 (5%)	23 49
5	T	191/199 (96%)	182 (95%)	9 (5%)	26 52
6	O	189/190 (100%)	187 (99%)	2 (1%)	73 85

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
6	R	189/190 (100%)	187 (99%)	2 (1%)	73	85
6	U	189/190 (100%)	187 (99%)	2 (1%)	73	85
All	All	3528/3615 (98%)	3435 (97%)	93 (3%)	46	67

All (93) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	18	HIS
1	A	48	ILE
1	A	86	LEU
1	A	137	SER
1	A	158(A)	ASN
1	A	264	LYS
2	B	19	ASP
2	B	125	GLN
3	L	29	VAL
3	L	33	LEU
3	L	58	ILE
3	L	90	GLN
4	H	2	VAL
4	H	28	THR
4	H	29	PHE
4	H	57	THR
4	H	100(D)	MET
4	H	115	SER
4	H	187	LEU
1	C	18	HIS
1	C	48	ILE
1	C	86	LEU
1	C	137	SER
1	C	158(A)	ASN
1	C	264	LYS
2	D	19	ASP
2	D	125	GLN
3	E	29	VAL
3	E	33	LEU
3	E	58	ILE
3	E	90	GLN
4	F	2	VAL
4	F	28	THR
4	F	29	PHE

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>
4	F	57	THR
4	F	100(D)	MET
4	F	115	SER
4	F	187	LEU
1	G	18	HIS
1	G	48	ILE
1	G	86	LEU
1	G	137	SER
1	G	158(A)	ASN
1	G	264	LYS
2	I	19	ASP
2	I	125	GLN
3	J	29	VAL
3	J	33	LEU
3	J	58	ILE
3	J	90	GLN
4	K	2	VAL
4	K	28	THR
4	K	29	PHE
4	K	57	THR
4	K	100(D)	MET
4	K	115	SER
4	K	187	LEU
4	K	216	ASN
5	N	31	SER
5	N	33	ILE
5	N	140	CYS
5	N	156	SER
5	N	192	GLN
5	N	193	THR
5	N	195	ILE
5	N	209	LYS
5	N	211	VAL
5	N	214	LYS
6	O	1	ASP
6	O	135	LEU
5	Q	31	SER
5	Q	33	ILE
5	Q	140	CYS
5	Q	156	SER
5	Q	192	GLN
5	Q	193	THR

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Mol	Chain	Res	Type
5	Q	195	ILE
5	Q	209	LYS
5	Q	211	VAL
5	Q	214	LYS
6	R	1	ASP
6	R	135	LEU
5	T	31	SER
5	T	33	ILE
5	T	140	CYS
5	T	192	GLN
5	T	193	THR
5	T	195	ILE
5	T	209	LYS
5	T	211	VAL
5	T	214	LYS
6	U	1	ASP
6	U	135	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (21) such sidechains are listed below:

Mol	Chain	Res	Type
2	B	42	GLN
2	B	159	HIS
3	L	32	ASN
3	L	147	GLN
3	L	210	ASN
4	H	13	GLN
2	D	159	HIS
3	E	147	GLN
3	E	210	ASN
4	F	13	GLN
2	I	159	HIS
3	J	147	GLN
3	J	210	ASN
4	K	13	GLN
4	K	172	HIS
4	K	211	ASN
6	O	199	GLN
6	R	138	ASN
6	R	199	GLN
5	T	39	GLN
6	U	199	GLN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

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

There are no ligands in this entry.

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

There are no such residues in this entry.

### 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

## 6 Fit of model and data

### 6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å <sup>2</sup> )	Q<0.9
1	A	322/333 (96%)	1.22	69 (21%) 0 2	219, 365, 393, 401	0
1	C	321/333 (96%)	1.13	62 (19%) 1 2	219, 348, 383, 391	0
1	G	322/333 (96%)	1.39	72 (22%) 0 2	219, 375, 402, 405	0
2	B	173/176 (98%)	0.66	9 (5%) 27 25	213, 245, 324, 353	0
2	D	172/176 (97%)	0.71	11 (6%) 19 17	214, 248, 328, 355	0
2	I	173/176 (98%)	0.68	11 (6%) 19 17	215, 248, 325, 359	0
3	E	213/214 (99%)	0.66	26 (12%) 4 7	246, 298, 321, 344	0
3	J	213/214 (99%)	0.64	13 (6%) 21 19	244, 289, 328, 366	0
3	L	213/214 (99%)	0.49	14 (6%) 18 16	245, 279, 309, 331	0
4	F	226/234 (96%)	0.77	27 (11%) 4 7	230, 276, 345, 359	0
4	H	226/234 (96%)	0.61	15 (6%) 18 16	239, 268, 306, 315	0
4	K	226/234 (96%)	0.68	21 (9%) 8 10	228, 267, 327, 340	0
5	N	222/229 (96%)	0.98	45 (20%) 1 2	303, 333, 349, 359	0
5	Q	221/229 (96%)	1.02	44 (19%) 1 2	328, 347, 373, 381	0
5	T	221/229 (96%)	1.34	59 (26%) 0 1	337, 370, 384, 388	0
6	O	213/214 (99%)	0.81	24 (11%) 5 7	287, 309, 343, 348	0
6	R	213/214 (99%)	1.13	44 (20%) 1 2	330, 347, 366, 372	0
6	U	213/214 (99%)	1.09	45 (21%) 1 2	336, 357, 385, 388	0
All	All	4103/4200 (97%)	0.92	611 (14%) 2 4	213, 317, 386, 405	0

All (611) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	G	51	ILE	13.2
1	A	181	GLY	11.1
1	A	182	VAL	10.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	C	51	ILE	9.7
1	G	59	VAL	8.7
1	A	250	ALA	8.6
1	C	251	PHE	8.6
1	A	252	ILE	8.3
1	G	120	LYS	8.2
4	K	127	SER	8.2
5	T	194	TYR	8.1
5	T	211	VAL	7.9
1	G	250	ALA	7.7
1	G	60	ASP	7.7
1	C	261(E)	SER	7.5
4	K	225	VAL	7.3
1	C	250	ALA	7.2
1	C	261(F)	GLY	7.1
1	G	127	TYR	7.0
2	B	65	GLN	6.6
1	G	58	ALA	6.6
1	C	49	GLY	6.5
1	C	50	GLU	6.4
5	T	118	GLY	6.4
5	Q	143	LYS	6.4
1	A	70	ILE	6.4
1	C	214	SER	6.3
5	T	1	GLN	6.3
1	G	179	VAL	6.2
5	Q	120	SER	6.2
1	G	252	ILE	6.1
1	G	251	PHE	6.1
4	K	126	PRO	6.1
1	G	181	GLY	6.1
5	N	138	LEU	6.1
1	G	261(F)	GLY	6.1
5	Q	121	VAL	6.0
5	T	100(E)	GLY	6.0
1	C	261(D)	PRO	5.9
5	T	119	PRO	5.9
1	G	86	LEU	5.9
1	A	251	PHE	5.9
1	C	121	GLU	5.9
1	G	254	PRO	5.8
5	Q	119	PRO	5.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	A	127	TYR	5.7
5	N	137	ALA	5.7
3	L	37	GLN	5.6
5	Q	123	PRO	5.6
1	G	88	ILE	5.6
3	E	37	GLN	5.5
5	T	27	VAL	5.5
1	A	214	SER	5.5
1	G	50	GLU	5.4
1	C	154	LEU	5.4
1	G	182	VAL	5.4
1	G	183	HIS	5.4
6	R	96	PRO	5.4
5	T	8	GLY	5.3
1	A	51	ILE	5.2
5	Q	100(H)	PRO	5.2
1	A	128	SER	5.1
1	A	132	THR	5.1
4	F	36	TRP	5.1
1	G	154	LEU	5.0
6	R	181	LEU	5.0
5	T	100(F)	SER	5.0
2	D	68	LYS	5.0
1	G	121	GLU	5.0
1	A	274	ILE	4.9
5	N	51	ILE	4.9
6	O	63	SER	4.9
1	A	71	ILE	4.9
6	U	146	VAL	4.8
2	I	68	LYS	4.8
4	K	222	ARG	4.8
1	G	132	THR	4.7
1	G	52	CYS	4.7
1	A	261(H)	GLU	4.6
5	T	213	PRO	4.6
1	C	254	PRO	4.6
1	G	256	ARG	4.6
5	N	126	PRO	4.6
6	R	2	ILE	4.5
1	C	166	GLN	4.5
5	T	2	VAL	4.5
1	C	181	GLY	4.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	G	46	SER	4.5
5	N	143	LYS	4.5
3	E	98	PHE	4.4
5	T	127	SER	4.4
5	Q	94	ARG	4.4
6	U	155	GLN	4.4
1	C	247	PHE	4.4
5	T	210	ARG	4.4
5	T	184	VAL	4.4
6	O	62	PHE	4.3
5	T	183	THR	4.3
1	A	261(F)	GLY	4.3
6	U	106	ILE	4.3
5	T	35(A)	TRP	4.3
1	G	217	PRO	4.3
1	A	230	ILE	4.3
1	A	249	GLY	4.3
6	R	145	LYS	4.3
6	R	146	VAL	4.3
6	R	134	CYS	4.2
5	N	71	ILE	4.2
1	G	70	ILE	4.2
1	C	213	PHE	4.2
1	A	235	MET	4.1
1	G	87	ILE	4.1
5	Q	183	THR	4.1
1	C	195	TYR	4.1
5	T	48	ILE	4.1
4	F	226	GLU	4.1
1	A	243	VAL	4.1
3	E	119	PRO	4.0
3	L	212	GLY	4.0
2	I	70	PHE	4.0
4	F	227	PRO	4.0
1	C	249	GLY	4.0
3	J	98	PHE	4.0
5	Q	122	PHE	4.0
4	H	94	LYS	3.9
5	N	140	CYS	3.9
5	T	29	VAL	3.9
6	O	36	PHE	3.9
1	C	153	TRP	3.9

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	G	61	LEU	3.9
4	K	221	LYS	3.9
1	A	69	THR	3.9
1	C	261(H)	GLU	3.9
5	Q	184	VAL	3.9
6	O	35	TRP	3.9
6	U	144	ALA	3.9
1	G	163	GLN	3.9
2	B	64	HIS	3.9
2	D	143	LYS	3.9
1	A	154	LEU	3.9
4	F	162	ASN	3.9
1	C	58	ALA	3.8
5	T	71	ILE	3.8
1	G	235	MET	3.8
6	U	196	VAL	3.8
1	G	261(D)	PRO	3.8
1	C	202	ILE	3.8
4	F	37	VAL	3.8
4	F	228	LYS	3.8
1	G	261(E)	SER	3.8
4	F	206	TYR	3.8
5	N	50	TYR	3.8
5	T	214	LYS	3.8
6	O	150	VAL	3.8
5	N	183	THR	3.7
6	U	35	TRP	3.7
5	N	179	SER	3.7
1	C	245	PHE	3.7
3	J	36	TYR	3.7
2	B	70	PHE	3.7
1	C	232	PHE	3.7
3	E	120	PRO	3.7
1	A	254	PRO	3.7
6	R	130	ALA	3.7
5	T	100(D)	SER	3.7
1	A	183	HIS	3.7
4	K	206	TYR	3.7
1	C	160	VAL	3.7
5	Q	142	VAL	3.7
3	L	45	ARG	3.7
5	Q	101	ASN	3.7

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	A	61	LEU	3.7
5	N	142	VAL	3.7
1	C	182	VAL	3.6
1	A	231	ASP	3.6
1	C	87	ILE	3.6
5	T	70	SER	3.6
2	D	69	GLU	3.6
1	C	261(G)	ILE	3.6
1	G	261(H)	GLU	3.6
5	Q	213	PRO	3.6
1	A	46	SER	3.6
1	A	47	SER	3.6
1	A	273	GLN	3.6
5	T	181	VAL	3.6
5	N	182	VAL	3.6
4	F	35	SER	3.6
1	A	213	PHE	3.5
1	C	127	TYR	3.5
3	L	214	CYS	3.5
5	N	213	PRO	3.5
5	T	185	PRO	3.5
5	Q	144	ASP	3.5
1	G	62	GLY	3.5
6	U	36	PHE	3.5
4	H	200	THR	3.5
6	R	97	THR	3.5
6	O	64	GLY	3.5
6	R	131	SER	3.5
6	U	145	LYS	3.5
1	C	253	ALA	3.4
5	Q	35(A)	TRP	3.4
1	A	167	THR	3.4
3	E	194	CYS	3.4
4	F	94	LYS	3.4
1	G	122	SER	3.4
4	F	166	LEU	3.4
4	F	127	SER	3.4
3	L	98	PHE	3.4
5	Q	127	SER	3.4
4	K	140	LEU	3.4
1	C	59	VAL	3.4
1	C	246	THR	3.4

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	C	201	LEU	3.4
5	T	47	TRP	3.4
1	A	195	TYR	3.3
2	B	66	ILE	3.3
4	F	126	PRO	3.3
6	R	62	PHE	3.3
3	J	47	LEU	3.3
6	R	12	SER	3.3
6	U	132	VAL	3.3
1	A	261(E)	SER	3.3
1	A	268	ILE	3.3
1	C	191	GLN	3.3
1	G	159	GLN	3.3
5	N	139	GLY	3.3
3	E	34	ALA	3.3
5	T	35(B)	THR	3.3
6	U	133	VAL	3.3
6	U	210	ASN	3.3
3	E	84	ALA	3.3
6	U	207	LYS	3.3
1	G	71	ILE	3.3
1	C	71	ILE	3.3
1	G	191	GLN	3.3
5	N	123	PRO	3.3
4	K	125	ALA	3.3
4	F	196	SER	3.3
1	G	89	GLU	3.2
2	I	67	GLU	3.2
3	E	193	ALA	3.2
6	U	89	GLN	3.2
5	T	3	GLN	3.2
1	A	253	ALA	3.2
5	N	212	GLU	3.2
6	O	106	ILE	3.2
5	Q	141	LEU	3.2
1	G	236	LEU	3.2
1	C	215	PRO	3.2
4	H	24	ALA	3.2
1	C	86	LEU	3.2
1	A	49	GLY	3.2
6	R	132	VAL	3.2
6	U	33	LEU	3.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
5	N	125	ALA	3.2
5	T	24	VAL	3.2
5	T	120	SER	3.2
1	A	165	ASN	3.2
6	R	117	ILE	3.1
1	A	89	GLU	3.1
3	J	192	TYR	3.1
5	Q	102	HIS	3.1
6	O	140	TYR	3.1
5	Q	115	SER	3.1
5	T	97	GLU	3.1
4	H	45	LEU	3.1
6	R	152	ASN	3.1
1	G	178	ILE	3.1
6	U	120	PRO	3.1
3	E	181	LEU	3.1
1	A	261(D)	PRO	3.0
6	O	151	ASP	3.0
1	A	50	GLU	3.0
1	A	244	THR	3.0
4	K	121	VAL	3.0
1	G	69	THR	3.0
2	I	171	PHE	3.0
6	U	37	GLN	3.0
1	G	185	SER	3.0
5	N	2	VAL	3.0
1	G	150	GLU	3.0
5	T	137	ALA	3.0
5	Q	133	GLY	3.0
5	N	100(E)	GLY	3.0
1	C	83	LYS	3.0
6	R	209	PHE	3.0
5	N	35(A)	TRP	3.0
5	N	119	PRO	3.0
1	A	12	THR	3.0
6	U	147	GLN	3.0
5	T	212	GLU	3.0
1	C	252	ILE	3.0
2	D	66	ILE	3.0
5	T	26	GLY	2.9
6	R	180	THR	2.9
1	A	153	TRP	2.9

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
3	J	88	CYS	2.9
1	G	215	PRO	2.9
6	U	148	TRP	2.9
1	G	261(G)	ILE	2.9
1	C	119	ASP	2.9
6	U	82	ASP	2.9
6	R	133	VAL	2.9
3	E	192	TYR	2.9
1	A	60	ASP	2.9
4	F	45	LEU	2.9
1	G	153	TRP	2.9
2	I	69	GLU	2.9
3	J	35	TRP	2.9
4	H	199	GLY	2.9
5	T	28	SER	2.9
6	U	119	PRO	2.9
4	H	127	SER	2.9
1	G	209	TYR	2.8
4	F	119	PRO	2.8
6	U	149	LYS	2.8
5	N	28	SER	2.8
1	G	232	PHE	2.8
5	Q	140	CYS	2.8
5	Q	71	ILE	2.8
5	T	46	GLU	2.8
1	C	122	SER	2.8
3	E	89	GLN	2.8
3	E	104	LEU	2.8
1	G	230	ILE	2.8
1	G	164	LEU	2.8
5	T	152	VAL	2.8
5	T	124	LEU	2.8
6	U	88	CYS	2.8
2	D	67	GLU	2.8
3	L	86	TYR	2.8
4	H	103	TRP	2.8
1	A	208	LYS	2.8
1	A	245	PHE	2.8
2	B	69	GLU	2.8
2	D	142	HIS	2.8
4	H	228	LYS	2.8
5	T	161	SER	2.8

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	C	158	MET	2.8
6	R	119	PRO	2.8
1	C	88	ILE	2.8
3	L	64	GLY	2.8
6	O	105	GLU	2.8
6	U	166	GLN	2.7
1	C	255	ASP	2.7
6	O	152	ASN	2.7
6	R	36	PHE	2.7
5	N	127	SER	2.7
5	T	25	SER	2.7
3	J	185	ASP	2.7
1	C	200	LYS	2.7
4	K	228	LYS	2.7
3	J	181	LEU	2.7
5	T	80	LEU	2.7
6	U	150	VAL	2.7
6	U	194	CYS	2.7
5	Q	2	VAL	2.7
6	U	64	GLY	2.7
4	F	102	VAL	2.7
6	U	91	SER	2.7
6	R	147	GLN	2.7
3	E	180	THR	2.7
5	N	136	ALA	2.6
5	T	100(H)	PRO	2.6
5	T	138	LEU	2.6
5	Q	112	SER	2.6
2	I	173	ILE	2.6
1	A	133	ASP	2.6
6	U	51	ALA	2.6
1	C	165	ASN	2.6
4	K	24	ALA	2.6
1	A	100	GLY	2.6
1	G	297	VAL	2.6
1	C	306	PRO	2.6
5	T	187	SER	2.6
3	E	131	SER	2.6
6	R	129	THR	2.6
3	E	117	ILE	2.6
3	J	186	TYR	2.6
1	G	102	PHE	2.6

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
6	U	181	LEU	2.6
5	N	52	PHE	2.6
6	R	90	GLN	2.6
1	A	325	GLU	2.6
6	O	144	ALA	2.6
1	C	167	THR	2.6
5	Q	135	THR	2.6
6	R	1	ASP	2.6
6	R	63	SER	2.6
6	U	117	ILE	2.6
1	G	195	TYR	2.6
5	Q	114	ALA	2.5
5	Q	18	LEU	2.5
5	T	79	SER	2.5
2	D	144	CYS	2.5
3	E	63	SER	2.5
5	T	121	VAL	2.5
6	O	73	LEU	2.5
6	O	149	LYS	2.5
6	U	13	ALA	2.5
1	A	67	LEU	2.5
4	H	221	LYS	2.5
4	K	37	VAL	2.5
4	K	34	LEU	2.5
5	T	180	SER	2.5
6	R	158	ASN	2.5
1	G	258	THR	2.5
5	T	125	ALA	2.5
6	O	23	CYS	2.5
6	O	71	PHE	2.5
5	Q	13	LYS	2.5
5	Q	19	SER	2.5
5	N	161	SER	2.5
1	C	280	GLU	2.5
4	F	221	LYS	2.5
4	K	38	ARG	2.5
6	R	64	GLY	2.5
1	A	248	ASN	2.5
1	G	261(C)	ALA	2.5
4	F	67	PHE	2.5
4	K	94	LYS	2.5
1	C	242	THR	2.5

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
2	D	171	PHE	2.5
5	N	100(D)	SER	2.5
6	U	12	SER	2.5
6	U	185	ASP	2.5
1	G	13	LEU	2.5
1	C	180	TRP	2.4
5	N	141	LEU	2.4
1	A	261(G)	ILE	2.4
5	N	94	ARG	2.4
2	D	70	PHE	2.4
2	I	73	VAL	2.4
5	N	1	GLN	2.4
5	N	47	TRP	2.4
5	Q	117	LYS	2.4
6	U	118	PHE	2.4
5	Q	113	SER	2.4
2	I	143	LYS	2.4
3	L	35	TRP	2.4
3	J	1	GLU	2.4
6	U	187	GLU	2.4
5	T	94	ARG	2.4
1	C	259	PHE	2.4
1	A	168	TYR	2.4
6	O	166	GLN	2.4
5	T	81	ARG	2.4
1	G	216	SER	2.4
3	L	36	TYR	2.4
1	G	158(B)	ASN	2.4
4	F	34	LEU	2.4
2	D	65	GLN	2.4
3	L	34	ALA	2.4
4	H	206	TYR	2.4
6	R	33	LEU	2.4
6	R	118	PHE	2.4
1	C	248	ASN	2.4
4	K	208	CYS	2.4
6	R	194	CYS	2.4
5	N	34	TYR	2.4
5	T	143	LYS	2.4
5	T	30	THR	2.4
5	N	180	SER	2.3
6	U	183	LYS	2.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
5	Q	182	VAL	2.3
1	G	155	SER	2.3
1	G	160	VAL	2.3
5	N	24	VAL	2.3
5	T	103	TRP	2.3
4	F	78	LEU	2.3
3	E	1	GLU	2.3
6	U	205	VAL	2.3
1	A	237	LEU	2.3
2	I	27	GLN	2.3
5	N	80	LEU	2.3
6	R	52	SER	2.3
3	E	97	THR	2.3
6	O	66	GLY	2.3
3	E	47	LEU	2.3
5	N	32	ASP	2.3
6	R	51	ALA	2.3
3	E	146	VAL	2.3
5	Q	136	ALA	2.3
5	T	117	LYS	2.3
5	Q	12	VAL	2.3
5	Q	211	VAL	2.3
6	R	161	GLU	2.3
5	T	126	PRO	2.3
3	E	86	TYR	2.3
5	N	208	ASP	2.3
1	A	178	ILE	2.3
6	R	178	THR	2.3
3	E	32	ASN	2.3
6	R	34	ASN	2.3
6	U	80	PRO	2.3
2	I	142	HIS	2.3
3	J	46	LEU	2.3
4	H	121	VAL	2.3
6	R	22	THR	2.3
4	F	103	TRP	2.3
1	A	138	ALA	2.3
1	G	63	SER	2.3
4	F	205	THR	2.3
1	A	88	ILE	2.3
6	U	186	TYR	2.3
1	A	136	THR	2.3

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
6	O	120	PRO	2.3
1	A	275	ASP	2.3
3	L	5	THR	2.3
1	G	257	ALA	2.2
4	K	139	ALA	2.2
1	C	179	VAL	2.2
1	A	206	SER	2.2
5	Q	80	LEU	2.2
3	J	89	GLN	2.2
4	F	225	VAL	2.2
5	Q	145	TYR	2.2
2	I	24	PHE	2.2
1	G	12	THR	2.2
1	A	130	ILE	2.2
1	C	70	ILE	2.2
5	N	121	VAL	2.2
1	C	231	ASP	2.2
1	G	247	PHE	2.2
2	B	68	LYS	2.2
2	B	171	PHE	2.2
3	E	209	PHE	2.2
3	L	181	LEU	2.2
1	A	232	PHE	2.2
3	J	37	GLN	2.2
4	H	140	LEU	2.2
1	C	132	THR	2.2
4	F	38	ARG	2.2
1	A	269	GLN	2.2
1	A	236	LEU	2.2
6	O	132	VAL	2.2
4	K	166	LEU	2.2
1	A	247	PHE	2.2
6	O	46	LEU	2.2
5	Q	196	CYS	2.2
5	N	27	VAL	2.2
1	A	11	ALA	2.2
2	D	128	GLU	2.2
6	U	41	GLY	2.2
6	R	4	MET	2.2
6	R	148	TRP	2.2
6	U	213	GLU	2.2
1	C	183	HIS	2.2

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<b>Mol</b>	<b>Chain</b>	<b>Res</b>	<b>Type</b>	<b>RSRZ</b>
1	G	260	LEU	2.2
6	U	206	THR	2.2
1	C	47	SER	2.2
1	G	157	SER	2.2
5	Q	194	TYR	2.2
1	A	123	MET	2.1
1	G	37	THR	2.1
1	A	215	PRO	2.1
6	O	146	VAL	2.1
5	N	58	ASN	2.1
6	U	79	GLN	2.1
1	G	38	ASN	2.1
6	O	141	PRO	2.1
4	H	100(H)	TYR	2.1
6	R	208	SER	2.1
1	A	224	ASN	2.1
4	F	93	ALA	2.1
1	A	83	LYS	2.1
1	G	173	LYS	2.1
5	N	100(A)	TYR	2.1
5	T	98	ASP	2.1
5	N	56	ASP	2.1
6	R	23	CYS	2.1
6	R	112	ALA	2.1
6	U	184	ALA	2.1
5	T	114	ALA	2.1
4	H	101	ASP	2.1
3	E	4	MET	2.1
6	U	1	ASP	2.1
5	N	181	VAL	2.1
6	R	104	VAL	2.1
3	E	62	PHE	2.1
1	C	102	PHE	2.1
6	R	48	ILE	2.1
4	K	165	ALA	2.1
5	Q	207	VAL	2.1
1	C	262	ASN	2.1
3	L	29	VAL	2.1
4	F	121	VAL	2.1
5	Q	198	VAL	2.1
5	N	57	THR	2.1
1	C	273	GLN	2.0

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Mol	Chain	Res	Type	RSRZ
5	Q	103	TRP	2.0
6	R	89	GLN	2.0
3	E	45	ARG	2.0
6	O	108	ARG	2.0
5	Q	1	GLN	2.0
6	R	83	PHE	2.0
1	G	245	PHE	2.0
4	F	92	CYS	2.0
5	N	38	ARG	2.0
5	T	7	SER	2.0
4	H	166	LEU	2.0
2	B	7	ALA	2.0
4	K	199	GLY	2.0
5	T	9	PRO	2.0
5	T	182	VAL	2.0
1	G	148	TYR	2.0
3	L	87	TYR	2.0
5	Q	100(E)	GLY	2.0
4	K	109	VAL	2.0
2	B	128	GLU	2.0

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

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

## 6.3 Carbohydrates [i](#)

There are no monosaccharides in this entry.

## 6.4 Ligands [i](#)

There are no ligands in this entry.

## 6.5 Other polymers [i](#)

There are no such residues in this entry.