Full wwPDB X-ray Structure Validation Report ⓘ

Aug 7, 2020 – 08:01 AM BST

PDB ID	:	6SS6
Title	:	Structure of arginase-2 in complex with the inhibitory human antigen-binding fragment Fab C0020187
Authors	:	Burschowsky, D.; Addyman, A.; Fiedler, S.; Groves, M.; Haynes, S.; Seewooruthun, C.; Carr, M.
Deposited on	:	2019-09-06
Resolution	:	3.25 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 following versions of software and data (see references ①) were used in the production of this report:

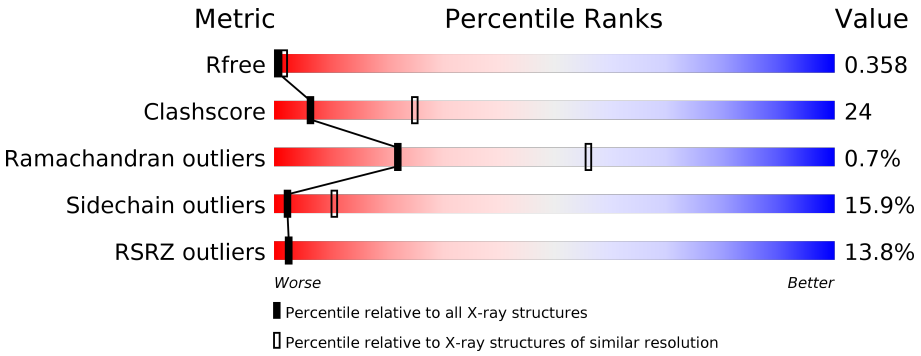
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.13.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.13.1

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 3.25 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.



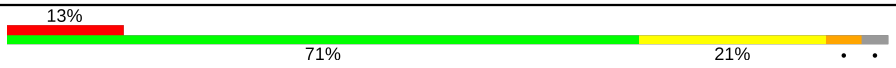
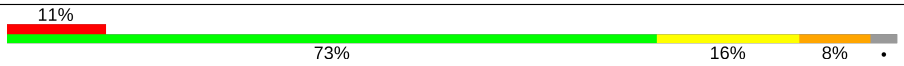
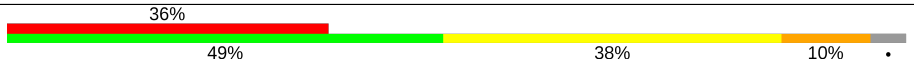
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1191 (3.30-3.22)
Clashscore	141614	1251 (3.30-3.22)
Ramachandran outliers	138981	1229 (3.30-3.22)
Sidechain outliers	138945	1228 (3.30-3.22)
RSRZ outliers	127900	1154 (3.30-3.22)

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 on 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	AAA	346	5% 52% 30% 10% 8%
1	BBB	346	4% 58% 24% 7% • 11%
1	CCC	346	6% 56% 26% 8% • 8%
2	HHH	233	6% 68% 22% 5% 5%
2	III	233	14% 63% 27% 5% 5%
2	JJJ	233	33% 60% 28% 5% 6%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
3	LLL	220	
3	MMM	220	
3	NNN	220	

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
5	SO4	AAA	405	-	-	-	X
5	SO4	HHH	303	-	-	-	X
5	SO4	HHH	305	-	-	-	X
5	SO4	III	301	-	-	-	X
5	SO4	JJJ	301	-	-	-	X

2 Entry composition

There are 5 unique types of molecules in this entry. The entry contains 33558 atoms, of which 16603 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 Arginase-2, mitochondrial.

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
1	AAA	318	Total	C	H	N	O	S	121	0	0
			4848	1534	2419	422	464	9			
1	BBB	308	Total	C	H	N	O	S	116	0	0
			4691	1482	2341	411	448	9			
1	CCC	317	Total	C	H	N	O	S	120	0	0
			4837	1531	2414	421	462	9			

There are 42 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
AAA	22	MET	-	initiating methionine	UNP P78540
AAA	355	GLY	-	expression tag	UNP P78540
AAA	356	GLY	-	expression tag	UNP P78540
AAA	357	GLY	-	expression tag	UNP P78540
AAA	358	HIS	-	expression tag	UNP P78540
AAA	359	HIS	-	expression tag	UNP P78540
AAA	360	HIS	-	expression tag	UNP P78540
AAA	361	HIS	-	expression tag	UNP P78540
AAA	362	HIS	-	expression tag	UNP P78540
AAA	363	HIS	-	expression tag	UNP P78540
AAA	364	HIS	-	expression tag	UNP P78540
AAA	365	HIS	-	expression tag	UNP P78540
AAA	366	HIS	-	expression tag	UNP P78540
AAA	367	HIS	-	expression tag	UNP P78540
BBB	22	MET	-	initiating methionine	UNP P78540
BBB	355	GLY	-	expression tag	UNP P78540
BBB	356	GLY	-	expression tag	UNP P78540
BBB	357	GLY	-	expression tag	UNP P78540
BBB	358	HIS	-	expression tag	UNP P78540
BBB	359	HIS	-	expression tag	UNP P78540
BBB	360	HIS	-	expression tag	UNP P78540
BBB	361	HIS	-	expression tag	UNP P78540
BBB	362	HIS	-	expression tag	UNP P78540

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
BBB	363	HIS	-	expression tag	UNP P78540
BBB	364	HIS	-	expression tag	UNP P78540
BBB	365	HIS	-	expression tag	UNP P78540
BBB	366	HIS	-	expression tag	UNP P78540
BBB	367	HIS	-	expression tag	UNP P78540
CCC	22	MET	-	initiating methionine	UNP P78540
CCC	355	GLY	-	expression tag	UNP P78540
CCC	356	GLY	-	expression tag	UNP P78540
CCC	357	GLY	-	expression tag	UNP P78540
CCC	358	HIS	-	expression tag	UNP P78540
CCC	359	HIS	-	expression tag	UNP P78540
CCC	360	HIS	-	expression tag	UNP P78540
CCC	361	HIS	-	expression tag	UNP P78540
CCC	362	HIS	-	expression tag	UNP P78540
CCC	363	HIS	-	expression tag	UNP P78540
CCC	364	HIS	-	expression tag	UNP P78540
CCC	365	HIS	-	expression tag	UNP P78540
CCC	366	HIS	-	expression tag	UNP P78540
CCC	367	HIS	-	expression tag	UNP P78540

- Molecule 2 is a protein called Fab C0020187 heavy chain (IgG1).

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
2	HHH	222	Total	C	H	N	O	S	93	0	0
			3267	1032	1624	280	324	7			
2	III	222	Total	C	H	N	O	S	93	0	0
			3267	1032	1624	280	324	7			
2	JJJ	218	Total	C	H	N	O	S	92	0	0
			3205	1013	1593	275	317	7			

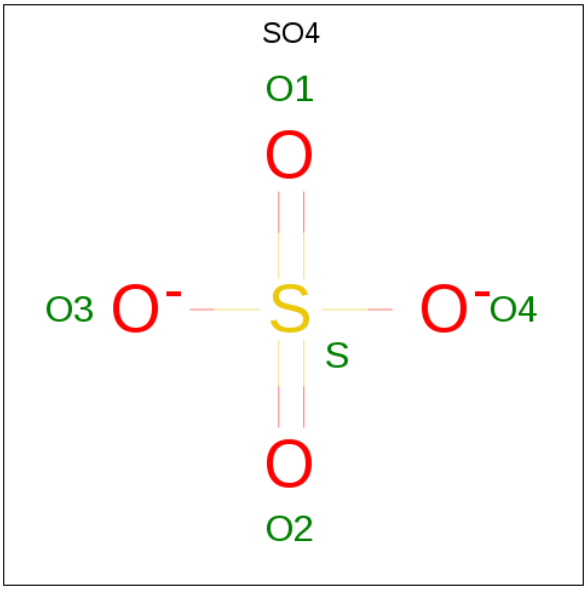
- Molecule 3 is a protein called Fab C0020187 light chain (IgG1).

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf	Trace
3	LLL	214	Total	C	H	N	O	S	103	0	0
			3120	990	1538	262	326	4			
3	MMM	213	Total	C	H	N	O	S	103	0	0
			3105	985	1532	261	323	4			
3	NNN	211	Total	C	H	N	O	S	102	0	0
			3077	976	1518	259	320	4			

- Molecule 4 is MANGANESE (II) ION (three-letter code: MN) (formula: Mn).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	CCC	2	Total Mn 2 2	0	0
4	BBB	2	Total Mn 2 2	0	0
4	AAA	2	Total Mn 2 2	0	0

- Molecule 5 is SULFATE ION (three-letter code: SO4) (formula: O_4S).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	AAA	1	Total O S 5 4 1	0	0
5	AAA	1	Total O S 5 4 1	0	0
5	AAA	1	Total O S 5 4 1	0	0
5	BBB	1	Total O S 5 4 1	0	0
5	BBB	1	Total O S 5 4 1	0	0
5	BBB	1	Total O S 5 4 1	0	0
5	CCC	1	Total O S 5 4 1	0	0
5	CCC	1	Total O S 5 4 1	0	0
5	CCC	1	Total O S 5 4 1	0	0

Continued on next page...

Continued from previous page...

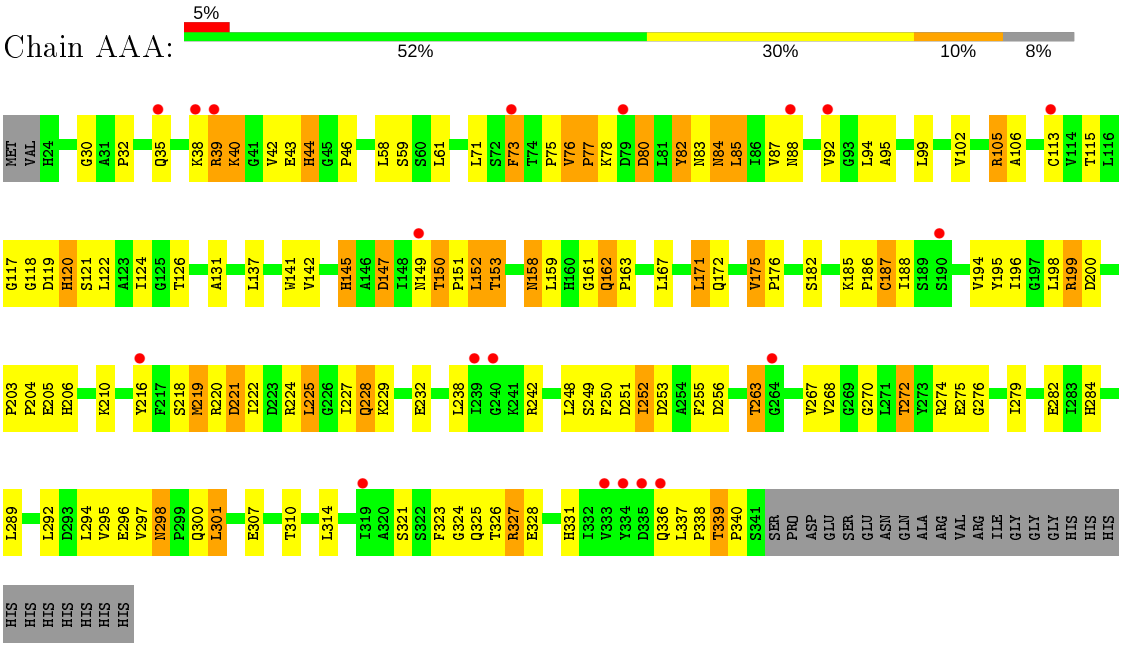
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	CCC	1	Total O S 5 4 1	0	0
5	CCC	1	Total O S 5 4 1	0	0
5	CCC	1	Total O S 5 4 1	0	0
5	HHH	1	Total O S 5 4 1	0	0
5	HHH	1	Total O S 5 4 1	0	0
5	HHH	1	Total O S 5 4 1	0	0
5	HHH	1	Total O S 5 4 1	0	0
5	HHH	1	Total O S 5 4 1	0	0
5	III	1	Total O S 5 4 1	0	0
5	III	1	Total O S 5 4 1	0	0
5	III	1	Total O S 5 4 1	0	0
5	III	1	Total O S 5 4 1	0	0
5	JJJ	1	Total O S 5 4 1	0	0
5	LLL	1	Total O S 5 4 1	0	0
5	LLL	1	Total O S 5 4 1	0	0
5	MMM	1	Total O S 5 4 1	0	0
5	MMM	1	Total O S 5 4 1	0	0
5	MMM	1	Total O S 5 4 1	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.

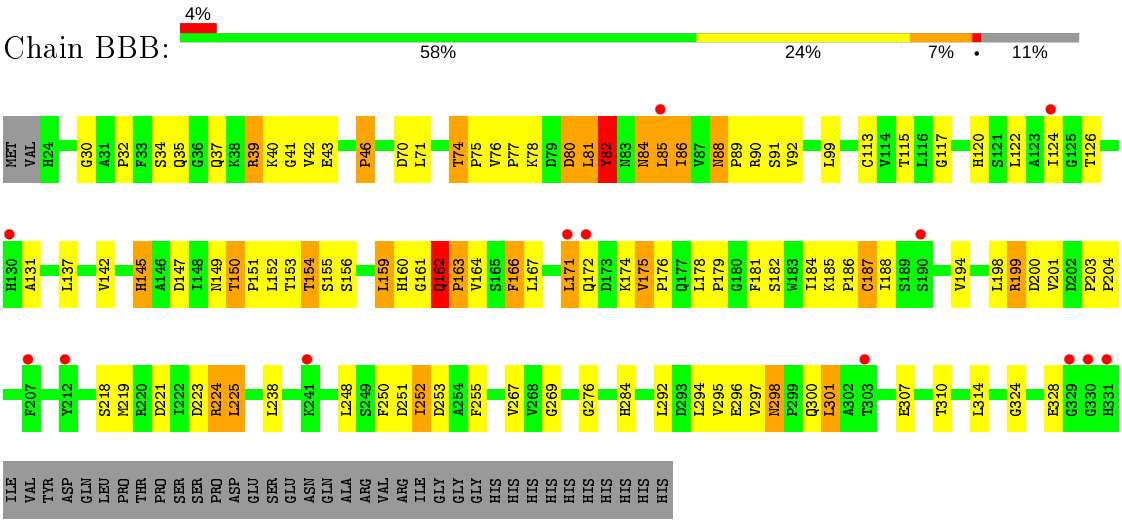
- Molecule 1: Arginase-2, mitochondrial

Chain AAA:



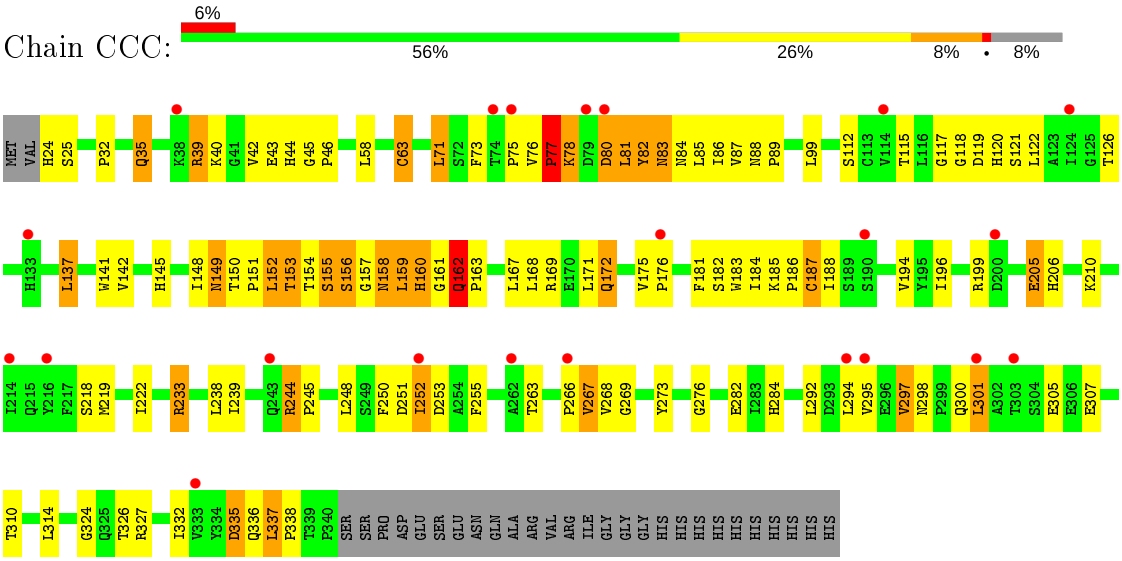
- Molecule 1: Arginase-2, mitochondrial

Chain BBB:



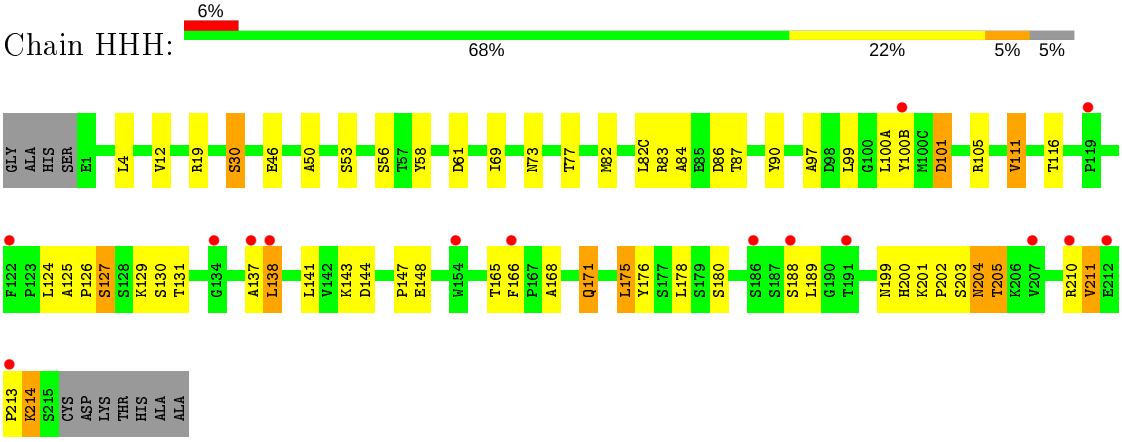
- Molecule 1: Arginase-2, mitochondrial

Chain CCC:



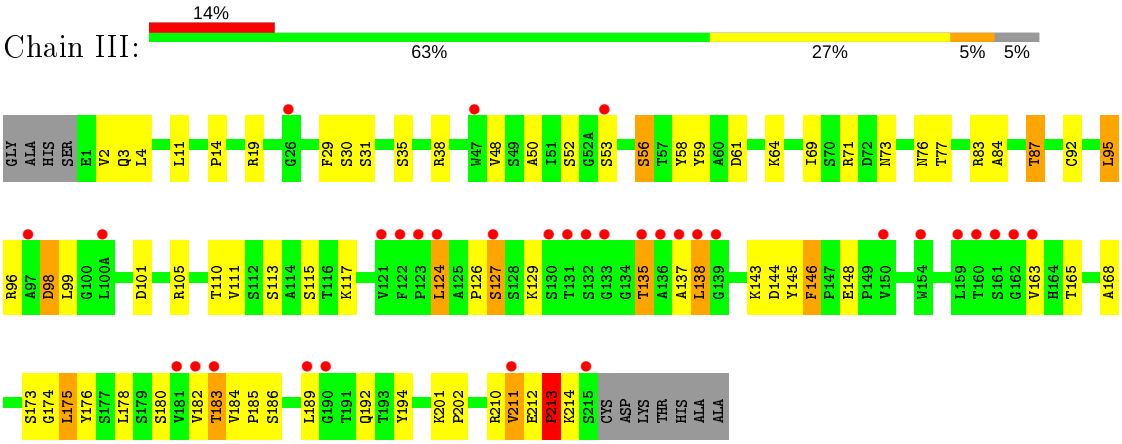
• Molecule 2: Fab C0020187 heavy chain (IgG1)

Chain HHH:



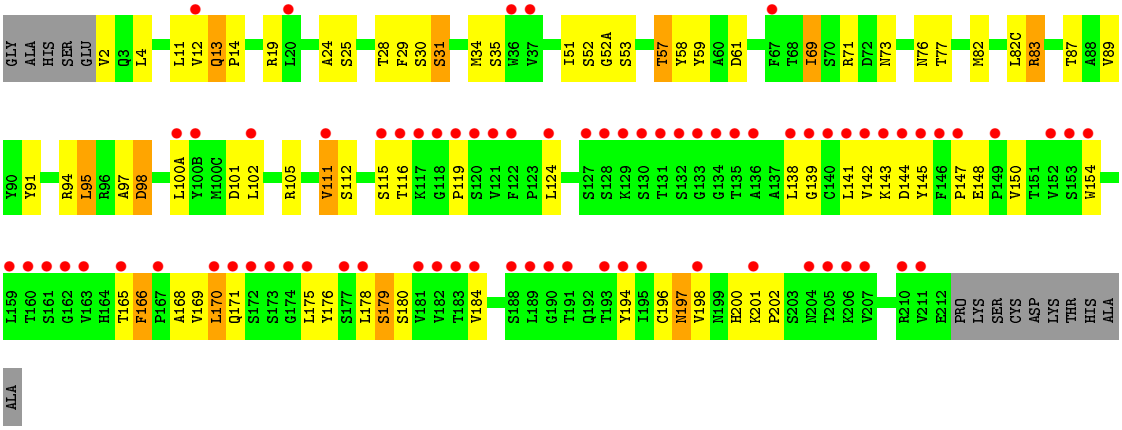
• Molecule 2: Fab C0020187 heavy chain (IgG1)

Chain III:



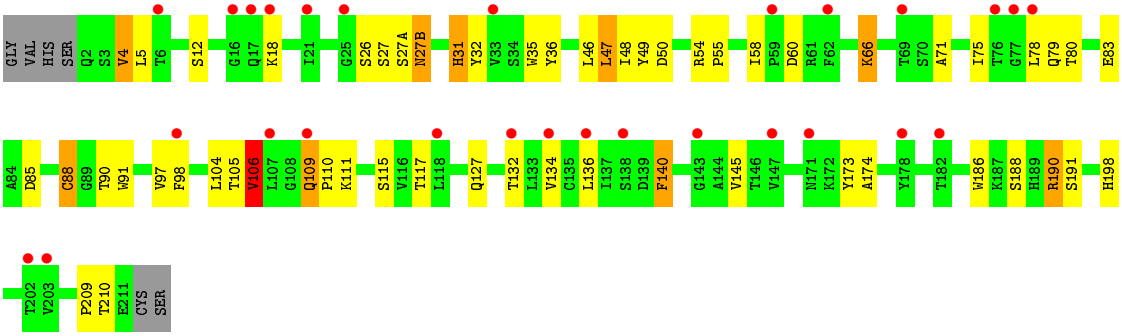
• Molecule 2: Fab C0020187 heavy chain (IgG1)

Chain JJJ:



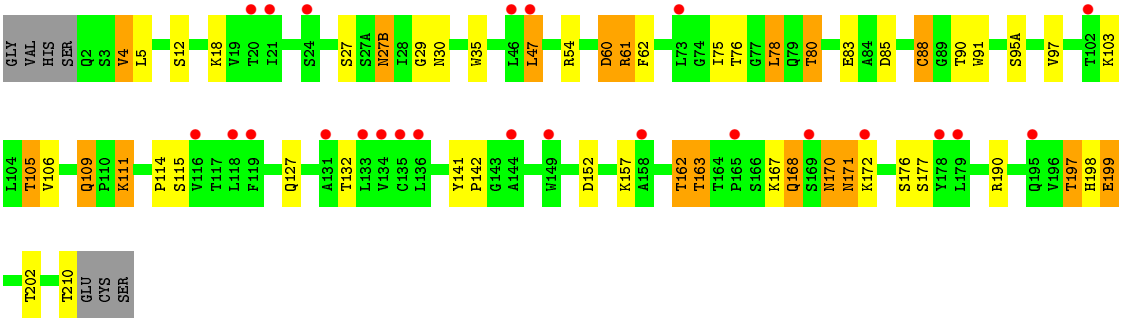
• Molecule 3: Fab C0020187 light chain (IgG1)

Chain LLL:



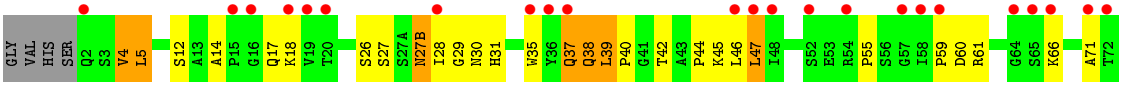
• Molecule 3: Fab C0020187 light chain (IgG1)

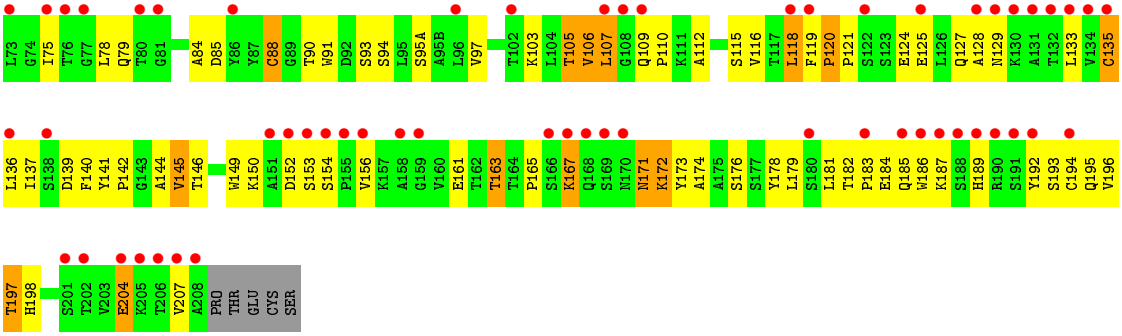
Chain MMM:



• Molecule 3: Fab C0020187 light chain (IgG1)

Chain NNN:




L73 G74 I75 T76 G77 L78 Q79 T80 G81 A84 D85 Y86 Y87 C88 G89 T90 W91 D92 S93 S94 L95 S95A A95B L96 V97 T102 K103 L104 T105 V106 L107 G108 Q109 P110 K111 A112 S115 V116 T117 L118 F119 P120 P121 S122 S123 E124 E125 L126 Q127 A128 N129 K130 A131 T132 L133 V134 C135
L136 I137 S138 D139 F140 Y141 P142 G143 A144 V145 T146 W149 K150 A151 D152 S153 S154 P155 V156 K157 A158 G159 V160 E161 T162 T163 T164 P165 S166 K167 Q168 S169 N170 N171 K172 Y173 A174 A175 S176 S177 Y178 L179 S180 L181 T182 P183 E184 Q185 W186 K187 S188 H189 R190 S191 Y192 S193 C194 Q195 V196
T197 H198 S201 T202 V203 E204 K205 T206 V207 A208 PRO THR GLU CYS SER

4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 65 2 2	Depositor
Cell constants a, b, c, α, β, γ	138.13Å 138.13Å 551.31Å 90.00° 90.00° 120.00°	Depositor
Resolution (Å)	48.76 – 3.25 48.78 – 3.25	Depositor EDS
% Data completeness (in resolution range)	99.9 (48.76-3.25) 100.0 (48.78-3.25)	Depositor EDS
R_{merge}	0.78	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	1.54 (at 3.25Å)	Xtriage
Refinement program	REFMAC 5.8.0253	Depositor
R, R_{free}	0.300 , 0.361 0.298 , 0.358	Depositor DCC
R_{free} test set	2549 reflections (5.07%)	wwPDB-VP
Wilson B-factor (Å^2)	87.5	Xtriage
Anisotropy	0.564	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.35 , 66.9	EDS
L-test for twinning[2]	$< \|L\| > = 0.36$, $< L^2 > = 0.20$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.88	EDS
Total number of atoms	33558	wwPDB-VP
Average B, all atoms (Å^2)	108.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 1.82% of the height of the origin peak. No significant pseudotranslation is detected.*

[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: MN, SO4

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	AAA	0.66	0/2483	0.81	0/3380
1	BBB	0.67	0/2401	0.85	3/3265 (0.1%)
1	CCC	0.67	0/2477	0.86	1/3372 (0.0%)
2	HHH	0.68	0/1679	0.81	0/2283
2	III	0.68	0/1679	0.85	1/2283 (0.0%)
2	JJJ	0.69	0/1647	0.81	0/2240
3	LLL	0.67	0/1621	0.81	0/2216
3	MMM	0.66	0/1612	0.78	0/2204
3	NNN	0.68	0/1597	0.86	0/2182
All	All	0.67	0/17196	0.83	5/23425 (0.0%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	CCC	0	2

There are no bond length outliers.

All (5) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	BBB	82	TYR	CB-CA-C	9.43	129.25	110.40
1	CCC	77	PRO	N-CA-CB	-8.01	93.69	103.30
2	III	213	PRO	CA-N-CD	-5.89	103.25	111.50
1	BBB	82	TYR	CA-CB-CG	5.63	124.09	113.40
1	BBB	88	ASN	CB-CA-C	5.00	120.41	110.40

There are no chirality outliers.

All (2) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	CCC	157	GLY	Peptide
1	CCC	158	ASN	Peptide

5.2 Too-close contacts

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	AAA	2429	2419	2406	148	4
1	BBB	2350	2341	2328	127	4
1	CCC	2423	2414	2399	135	0
2	HHH	1643	1624	1624	60	1
2	III	1643	1624	1624	74	1
2	JJJ	1612	1593	1590	84	0
3	LLL	1582	1538	1534	50	3
3	MMM	1573	1532	1528	35	0
3	NNN	1559	1518	1514	137	7
4	AAA	2	0	0	0	0
4	BBB	2	0	0	0	0
4	CCC	2	0	0	0	0
5	AAA	15	0	0	1	0
5	BBB	15	0	0	0	0
5	CCC	30	0	0	1	0
5	HHH	25	0	0	0	0
5	III	20	0	0	0	0
5	JJJ	5	0	0	0	0
5	LLL	10	0	0	0	0
5	MMM	15	0	0	0	0
All	All	16955	16603	16547	799	12

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 24.

All (799) 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:NNN:149:TRP:CZ3	3:NNN:194:CYS:CB	2.11	1.33

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BBB:149:ASN:HB3	1:BBB:154:THR:CG2	1.58	1.32
1:BBB:149:ASN:CB	1:BBB:154:THR:HG21	1.62	1.30
1:CCC:88:ASN:OD1	1:CCC:89:PRO:HD3	1.41	1.19
1:AAA:150:THR:HG23	1:AAA:153:THR:HG21	1.25	1.18
3:NNN:149:TRP:CZ3	3:NNN:194:CYS:HB2	1.73	1.17
3:NNN:135:CYS:HB3	3:NNN:149:TRP:CH2	1.80	1.15
3:NNN:167:LYS:HD3	3:NNN:173:TYR:CZ	1.82	1.13
1:BBB:35:GLN:HE21	1:BBB:39:ARG:HG2	1.10	1.12
3:NNN:39:LEU:HB3	3:NNN:40:PRO:HD2	1.23	1.11
2:III:87:THR:HG22	2:III:110:THR:HA	1.25	1.09
2:III:87:THR:CG2	2:III:110:THR:HA	1.81	1.09
2:III:184:VAL:HG21	2:III:194:TYR:OH	1.51	1.09
2:HHH:144:ASP:HA	2:HHH:175:LEU:HD11	1.28	1.09
3:NNN:149:TRP:CE3	3:NNN:194:CYS:HA	1.87	1.08
1:CCC:119:ASP:OD1	1:CCC:121:SER:OG	1.70	1.08
3:NNN:135:CYS:HB3	3:NNN:149:TRP:HH2	0.98	1.08
3:NNN:149:TRP:CZ3	3:NNN:194:CYS:CA	2.37	1.07
2:HHH:87:THR:OG1	2:HHH:111:VAL:HG23	1.52	1.07
3:NNN:149:TRP:CH2	3:NNN:194:CYS:SG	2.48	1.06
1:CCC:199:ARG:NE	1:CCC:267:VAL:HG12	1.71	1.05
3:NNN:135:CYS:CB	3:NNN:149:TRP:HH2	1.70	1.05
1:AAA:102:VAL:O	1:AAA:105:ARG:HG3	1.57	1.04
1:BBB:149:ASN:HB3	1:BBB:154:THR:HG22	1.37	1.04
1:CCC:199:ARG:HE	1:CCC:267:VAL:HG12	1.20	1.03
1:CCC:159:LEU:HD12	1:CCC:159:LEU:H	1.22	1.00
3:NNN:118:LEU:HD21	3:NNN:207:VAL:HG13	1.44	1.00
2:III:144:ASP:HA	2:III:175:LEU:CD1	1.91	0.98
3:NNN:149:TRP:HZ3	3:NNN:194:CYS:HB2	1.06	0.98
1:BBB:34:SER:HB3	1:BBB:43:GLU:OE2	1.63	0.98
3:NNN:149:TRP:CZ3	3:NNN:194:CYS:SG	2.56	0.97
3:NNN:149:TRP:HZ3	3:NNN:194:CYS:CB	1.58	0.97
1:AAA:150:THR:OG1	1:AAA:153:THR:HG22	1.64	0.97
2:III:144:ASP:CA	2:III:175:LEU:CD1	2.43	0.96
1:BBB:46:PRO:HD3	1:BBB:117:GLY:O	1.65	0.95
1:CCC:199:ARG:HE	1:CCC:267:VAL:CG1	1.79	0.95
1:CCC:39:ARG:NH1	1:CCC:160:HIS:ND1	2.14	0.95
1:AAA:150:THR:HG23	1:AAA:153:THR:CG2	1.96	0.93
3:NNN:140:PHE:CE2	3:NNN:174:ALA:HA	2.02	0.93
3:MMM:80:THR:HA	3:MMM:106:VAL:HG21	1.50	0.93
3:NNN:39:LEU:HB3	3:NNN:40:PRO:CD	1.98	0.92
1:BBB:150:THR:O	1:BBB:162:GLN:NE2	2.03	0.92

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BBB:159:LEU:HA	1:BBB:162:GLN:HB3	1.52	0.91
1:BBB:149:ASN:CB	1:BBB:154:THR:CG2	2.32	0.91
3:NNN:149:TRP:CZ3	3:NNN:194:CYS:HA	2.04	0.90
1:CCC:35:GLN:NE2	1:CCC:35:GLN:HA	1.89	0.87
1:BBB:149:ASN:HB2	1:BBB:154:THR:HG21	1.55	0.86
1:CCC:39:ARG:HB3	1:CCC:39:ARG:CZ	2.05	0.86
2:III:144:ASP:CA	2:III:175:LEU:HD12	2.05	0.86
2:III:126:PRO:HA	2:III:138:LEU:HD21	1.55	0.86
1:AAA:42:VAL:HG12	1:AAA:118:GLY:HA2	1.56	0.86
1:CCC:82:TYR:HA	1:CCC:85:LEU:HD23	1.55	0.85
1:CCC:162:GLN:H	1:CCC:163:PRO:CD	1.89	0.85
2:III:144:ASP:HA	2:III:175:LEU:HD12	1.57	0.85
2:III:144:ASP:HA	2:III:175:LEU:HD13	1.58	0.85
1:BBB:35:GLN:NE2	1:BBB:39:ARG:HG2	1.92	0.84
3:MMM:162:THR:OG1	3:MMM:177:SER:HB2	1.77	0.84
1:AAA:162:GLN:N	1:AAA:163:PRO:HD3	1.92	0.83
2:HHH:214:LYS:CE	2:HHH:214:LYS:H	1.91	0.83
1:AAA:159:LEU:HD23	1:AAA:162:GLN:CD	1.99	0.83
2:III:144:ASP:C	2:III:175:LEU:CD1	2.47	0.82
1:BBB:251:ASP:OD2	1:BBB:296:GLU:OE1	1.96	0.82
2:HHH:125:ALA:HB1	2:HHH:214:LYS:NZ	1.95	0.82
3:NNN:150:LYS:HD2	3:NNN:195:GLN:NE2	1.94	0.82
1:CCC:199:ARG:NE	1:CCC:267:VAL:CG1	2.40	0.82
2:III:144:ASP:CB	2:III:175:LEU:HD12	2.10	0.82
3:MMM:162:THR:OG1	3:MMM:177:SER:CB	2.28	0.81
1:AAA:73:PHE:HB3	1:AAA:75:PRO:HD3	1.61	0.81
2:HHH:175:LEU:HD13	2:HHH:175:LEU:C	2.00	0.81
1:AAA:162:GLN:H	1:AAA:163:PRO:HD3	1.47	0.80
3:NNN:120:PRO:HB2	3:NNN:121:PRO:HD2	1.63	0.80
1:AAA:42:VAL:HG12	1:AAA:118:GLY:CA	2.11	0.80
1:AAA:159:LEU:CD2	1:AAA:162:GLN:NE2	2.44	0.80
2:III:87:THR:HG23	2:III:111:VAL:N	1.95	0.80
1:AAA:159:LEU:HD23	1:AAA:162:GLN:NE2	1.97	0.80
3:NNN:167:LYS:HD3	3:NNN:173:TYR:OH	1.82	0.80
1:AAA:83:ASN:HA	1:AAA:87:VAL:HG13	1.63	0.79
3:NNN:118:LEU:HD21	3:NNN:207:VAL:CG1	2.12	0.79
1:CCC:162:GLN:N	1:CCC:163:PRO:CD	2.45	0.79
3:NNN:167:LYS:HD3	3:NNN:173:TYR:CE1	2.18	0.79
1:BBB:90:ARG:HG3	1:BBB:179:PRO:O	1.83	0.79
2:JJJ:124:LEU:HD13	3:NNN:119:PHE:HD2	1.48	0.79
1:BBB:162:GLN:N	1:BBB:163:PRO:HD3	1.97	0.79

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AAA:42:VAL:CG1	1:AAA:118:GLY:CA	2.60	0.78
2:III:87:THR:HG23	2:III:111:VAL:H	1.49	0.78
1:BBB:85:LEU:HD22	1:BBB:85:LEU:H	1.47	0.78
1:BBB:81:LEU:HD23	1:BBB:81:LEU:O	1.84	0.78
1:BBB:147:ASP:O	1:BBB:163:PRO:HD2	1.83	0.77
3:NNN:118:LEU:HB2	3:NNN:135:CYS:HB2	1.66	0.77
1:BBB:46:PRO:HD3	1:BBB:117:GLY:C	2.06	0.77
1:CCC:39:ARG:NE	1:CCC:160:HIS:CE1	2.53	0.76
2:JJJ:124:LEU:HD13	3:NNN:119:PHE:CD2	2.20	0.76
1:CCC:162:GLN:N	1:CCC:163:PRO:HD2	2.00	0.76
1:CCC:199:ARG:HB2	1:CCC:267:VAL:HG11	1.66	0.76
1:CCC:337:LEU:H	1:CCC:337:LEU:HD12	1.50	0.76
3:NNN:31:HIS:CE1	3:NNN:93:SER:OG	2.39	0.76
1:CCC:159:LEU:HD12	1:CCC:159:LEU:N	2.00	0.76
3:NNN:39:LEU:CB	3:NNN:40:PRO:HD2	2.12	0.76
1:AAA:145:HIS:HB2	1:AAA:147:ASP:OD1	1.85	0.76
1:AAA:221:ASP:OD2	1:AAA:221:ASP:N	2.18	0.76
1:CCC:159:LEU:H	1:CCC:159:LEU:CD1	1.88	0.76
2:HHH:87:THR:OG1	2:HHH:111:VAL:CG2	2.31	0.75
1:CCC:83:ASN:HA	1:CCC:87:VAL:HB	1.69	0.74
2:JJJ:13:GLN:NE2	2:JJJ:14:PRO:HD2	2.02	0.74
1:CCC:159:LEU:HA	1:CCC:162:GLN:HE22	1.53	0.74
2:III:144:ASP:CA	2:III:175:LEU:HD13	2.16	0.74
2:III:144:ASP:C	2:III:175:LEU:HD13	2.06	0.74
3:MMM:78:LEU:HD23	3:MMM:106:VAL:HG12	1.70	0.73
2:HHH:214:LYS:HE2	2:HHH:214:LYS:H	1.53	0.73
2:JJJ:35:SER:HB2	2:JJJ:95:LEU:HD22	1.71	0.73
1:BBB:159:LEU:H	1:BBB:159:LEU:HD12	1.52	0.73
1:CCC:199:ARG:CB	1:CCC:267:VAL:HG11	2.18	0.73
1:BBB:159:LEU:HB3	1:BBB:162:GLN:HG2	1.69	0.73
1:CCC:150:THR:OG1	1:CCC:153:THR:OG1	2.06	0.73
3:NNN:4:VAL:HG21	3:NNN:97:VAL:HG12	1.71	0.72
1:CCC:149:ASN:OD1	1:CCC:205:GLU:OE2	2.07	0.72
1:AAA:150:THR:H	1:AAA:153:THR:HG23	1.55	0.72
3:NNN:78:LEU:HG	3:NNN:106:VAL:CG2	2.20	0.71
2:JJJ:94:ARG:NH1	2:JJJ:101:ASP:OD2	2.17	0.71
2:JJJ:165:THR:OG1	2:JJJ:180:SER:CB	2.38	0.71
3:NNN:149:TRP:HZ3	3:NNN:194:CYS:CA	1.87	0.71
1:BBB:30:GLY:O	1:BBB:71:LEU:HD23	1.89	0.71
1:AAA:159:LEU:HB3	1:AAA:162:GLN:HB2	1.72	0.71
2:III:184:VAL:CG2	2:III:194:TYR:OH	2.37	0.71

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:NNN:133:LEU:HD12	3:NNN:179:LEU:HD23	1.73	0.71
1:AAA:150:THR:H	1:AAA:153:THR:CG2	2.04	0.70
1:BBB:84:ASN:HD22	1:BBB:84:ASN:H	1.36	0.70
3:NNN:149:TRP:CH2	3:NNN:194:CYS:HB2	2.24	0.70
3:LLL:4:VAL:HG21	3:LLL:97:VAL:HG12	1.72	0.70
1:AAA:150:THR:CG2	1:AAA:153:THR:CG2	2.68	0.70
1:AAA:150:THR:CB	1:AAA:153:THR:HG22	2.21	0.70
1:BBB:198:LEU:O	1:BBB:218:SER:HB2	1.90	0.70
2:HHH:138:LEU:HD21	2:HHH:211:VAL:HB	1.73	0.69
1:BBB:34:SER:CB	1:BBB:43:GLU:OE2	2.38	0.69
1:CCC:85:LEU:HB3	2:JJJ:97:ALA:CB	2.22	0.69
1:AAA:84:ASN:H	1:AAA:84:ASN:ND2	1.88	0.69
2:III:126:PRO:HB3	2:III:213:PRO:HA	1.74	0.69
3:NNN:135:CYS:SG	3:NNN:135:CYS:O	2.50	0.69
3:NNN:145:VAL:HG12	3:NNN:198:HIS:CD2	2.28	0.69
3:NNN:149:TRP:CH2	3:NNN:194:CYS:CB	2.72	0.69
1:CCC:298:ASN:OD1	1:CCC:301:LEU:N	2.20	0.69
1:CCC:156:SER:HB3	2:JJJ:52:SER:HB2	1.75	0.69
2:JJJ:145:TYR:OH	2:JJJ:178:LEU:HD23	1.92	0.69
1:BBB:159:LEU:O	1:BBB:162:GLN:N	2.24	0.68
1:CCC:199:ARG:CZ	1:CCC:267:VAL:HG12	2.22	0.68
1:CCC:80:ASP:HB3	1:CCC:81:LEU:HD13	1.75	0.68
3:LLL:140:PHE:HD2	3:LLL:198:HIS:HD2	1.41	0.68
1:BBB:42:VAL:HB	1:BBB:298:ASN:HB2	1.74	0.68
3:NNN:140:PHE:CZ	3:NNN:174:ALA:HA	2.27	0.68
1:BBB:178:LEU:HG	1:BBB:179:PRO:HD2	1.75	0.68
1:BBB:32:PRO:HB3	1:BBB:43:GLU:HB3	1.75	0.68
2:JJJ:165:THR:OG1	2:JJJ:180:SER:OG	2.13	0.67
3:NNN:38:GLN:O	3:NNN:84:ALA:HB1	1.94	0.67
3:MMM:171:ASN:ND2	3:MMM:171:ASN:O	2.26	0.67
1:BBB:84:ASN:ND2	2:III:58:TYR:OH	2.27	0.67
3:NNN:107:LEU:HD11	3:NNN:142:PRO:HG3	1.75	0.67
2:HHH:87:THR:HG1	2:HHH:111:VAL:HG23	1.59	0.67
1:AAA:42:VAL:CG1	1:AAA:118:GLY:HA2	2.23	0.67
1:CCC:154:THR:O	2:JJJ:31:SER:HA	1.95	0.67
3:NNN:150:LYS:HD2	3:NNN:195:GLN:HE21	1.59	0.66
1:CCC:305:GLU:N	1:CCC:305:GLU:OE1	2.28	0.66
1:BBB:159:LEU:HD12	1:BBB:159:LEU:N	2.10	0.66
3:LLL:46:LEU:O	3:LLL:58:ILE:HD11	1.94	0.66
1:AAA:35:GLN:HB3	1:AAA:39:ARG:HD2	1.77	0.66
1:CCC:199:ARG:HG2	1:CCC:219:MET:HG2	1.78	0.66

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AAA:43:GLU:HG2	1:AAA:73:PHE:CE1	2.31	0.66
3:NNN:144:ALA:HB2	3:NNN:165:PRO:HG3	1.78	0.66
1:CCC:39:ARG:NE	1:CCC:160:HIS:HE1	1.94	0.65
3:NNN:150:LYS:CD	3:NNN:195:GLN:HE21	2.09	0.65
3:NNN:135:CYS:CB	3:NNN:149:TRP:CH2	2.57	0.65
1:CCC:58:LEU:O	1:CCC:63:CYS:SG	2.54	0.65
1:AAA:199:ARG:HB3	1:AAA:267:VAL:HG11	1.79	0.65
1:AAA:92:VAL:HG21	1:AAA:158:ASN:OD1	1.97	0.65
1:CCC:120:HIS:NE2	1:CCC:141:TRP:CZ2	2.65	0.64
2:JJJ:144:ASP:HA	2:JJJ:175:LEU:HB3	1.80	0.64
1:AAA:199:ARG:HD3	1:AAA:219:MET:HG2	1.80	0.64
2:HHH:125:ALA:HB1	2:HHH:214:LYS:HZ2	1.62	0.64
2:III:137:ALA:HB2	2:III:183:THR:HG23	1.79	0.64
2:JJJ:196:CYS:SG	2:JJJ:196:CYS:O	2.55	0.64
1:BBB:71:LEU:H	1:BBB:71:LEU:HD23	1.63	0.64
3:LLL:83:GLU:CD	3:LLL:106:VAL:HG23	2.17	0.64
1:AAA:337:LEU:HD21	1:BBB:174:LYS:NZ	2.13	0.64
2:HHH:144:ASP:HA	2:HHH:175:LEU:CD1	2.16	0.64
2:HHH:125:ALA:HB1	2:HHH:214:LYS:HZ3	1.62	0.64
2:III:144:ASP:HB3	2:III:175:LEU:HD12	1.78	0.64
1:AAA:162:GLN:N	1:AAA:163:PRO:CD	2.61	0.64
1:CCC:78:LYS:HB3	1:CCC:81:LEU:HD21	1.80	0.64
1:CCC:39:ARG:CZ	1:CCC:160:HIS:ND1	2.61	0.63
1:CCC:46:PRO:HD3	1:CCC:117:GLY:O	1.97	0.63
2:JJJ:166:PHE:HE1	3:NNN:136:LEU:HD13	1.63	0.63
2:JJJ:197:ASN:N	2:JJJ:197:ASN:OD1	2.32	0.63
3:NNN:172:LYS:CE	3:NNN:172:LYS:HA	2.28	0.63
2:HHH:175:LEU:HD13	2:HHH:176:TYR:N	2.13	0.63
3:NNN:31:HIS:CE1	3:NNN:93:SER:HG	2.16	0.63
2:III:184:VAL:HG21	2:III:194:TYR:CZ	2.32	0.63
2:III:52:SER:HB3	2:III:56:SER:HB2	1.80	0.63
1:CCC:39:ARG:NH2	1:CCC:39:ARG:HB3	2.13	0.63
2:III:87:THR:CG2	2:III:110:THR:CA	2.70	0.63
1:AAA:198:LEU:HD12	1:AAA:216:TYR:CD1	2.34	0.63
1:CCC:151:PRO:HG2	1:CCC:176:PRO:HD2	1.81	0.63
1:CCC:239:ILE:HG22	1:CCC:244:ARG:HG3	1.81	0.62
1:CCC:46:PRO:HD3	1:CCC:117:GLY:C	2.19	0.62
1:CCC:194:VAL:HG23	1:CCC:238:LEU:HD21	1.80	0.62
2:III:146:PHE:CE2	2:III:174:GLY:O	2.52	0.62
1:AAA:152:LEU:HD11	1:CCC:338:PRO:CB	2.28	0.62
1:AAA:42:VAL:CG1	1:AAA:118:GLY:C	2.68	0.62

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BBB:298:ASN:OD1	1:BBB:301:LEU:HD23	2.00	0.62
1:BBB:35:GLN:HE21	1:BBB:39:ARG:CG	2.01	0.62
2:III:117:LYS:HE3	2:III:144:ASP:O	1.99	0.61
2:JJJ:141:LEU:HA	2:JJJ:179:SER:OG	2.00	0.61
2:HHH:203:SER:OG	2:HHH:205:THR:OG1	2.16	0.61
1:BBB:84:ASN:H	1:BBB:84:ASN:ND2	1.98	0.61
1:AAA:151:PRO:HG2	1:AAA:176:PRO:CG	2.31	0.61
1:BBB:117:GLY:HA3	1:BBB:295:VAL:HG12	1.82	0.61
2:HHH:99:LEU:HB3	3:LLL:50:ASP:OD2	1.99	0.61
3:NNN:176:SER:HG	3:NNN:178:TYR:HE2	1.47	0.61
2:JJJ:143:LYS:HD3	2:JJJ:144:ASP:HB2	1.82	0.61
3:LLL:47:LEU:HD23	3:LLL:58:ILE:HD13	1.82	0.61
3:MMM:54:ARG:HD3	3:MMM:62:PHE:O	2.01	0.61
3:NNN:171:ASN:ND2	3:NNN:173:TYR:CE2	2.69	0.61
1:AAA:251:ASP:CG	1:AAA:296:GLU:HG3	2.20	0.61
1:CCC:39:ARG:CZ	1:CCC:160:HIS:CE1	2.84	0.61
1:AAA:120:HIS:NE2	1:AAA:141:TRP:CZ2	2.68	0.61
1:AAA:82:TYR:HB2	2:HHH:100(A):LEU:HD11	1.83	0.61
3:NNN:137:ILE:HG22	3:NNN:140:PHE:CE2	2.35	0.61
1:AAA:152:LEU:HD11	1:CCC:338:PRO:HB2	1.82	0.61
3:LLL:80:THR:HA	3:LLL:106:VAL:HG21	1.82	0.60
1:AAA:85:LEU:HB3	2:HHH:97:ALA:CB	2.31	0.60
1:BBB:159:LEU:HA	1:BBB:162:GLN:CB	2.29	0.60
3:NNN:137:ILE:HG12	3:NNN:196:VAL:HG11	1.83	0.60
3:NNN:195:GLN:NE2	3:NNN:204:GLU:OE2	2.34	0.60
2:III:126:PRO:CG	2:III:213:PRO:HA	2.31	0.60
3:MMM:105:THR:HG21	3:MMM:142:PRO:HB3	1.83	0.60
1:AAA:256:ASP:HB2	1:AAA:270:GLY:O	2.01	0.60
1:CCC:81:LEU:HB3	3:NNN:91:TRP:CZ2	2.36	0.60
2:JJJ:119:PRO:HD3	2:JJJ:200:HIS:ND1	2.17	0.60
3:MMM:111:LYS:O	3:MMM:111:LYS:HD3	2.01	0.60
1:CCC:149:ASN:H	1:CCC:149:ASN:HD22	1.49	0.60
1:AAA:337:LEU:N	1:AAA:338:PRO:HD3	2.17	0.60
1:BBB:32:PRO:O	1:BBB:43:GLU:HG2	2.02	0.60
2:III:30:SER:HB3	2:III:73:ASN:HB3	1.84	0.59
2:JJJ:94:ARG:NE	2:JJJ:101:ASP:OD1	2.31	0.59
3:NNN:39:LEU:HD22	3:NNN:39:LEU:N	2.18	0.59
1:CCC:149:ASN:CG	1:CCC:205:GLU:OE2	2.41	0.59
3:MMM:163:THR:HG1	3:MMM:176:SER:HG	1.51	0.59
3:LLL:109:GLN:N	3:LLL:110:PRO:HD3	2.17	0.59
1:AAA:203:PRO:HG2	1:AAA:204:PRO:HD3	1.85	0.59

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:III:50:ALA:C	2:III:69:ILE:HD13	2.23	0.59
3:MMM:162:THR:HG1	3:MMM:177:SER:CB	2.16	0.59
2:JJJ:4:LEU:HD12	2:JJJ:102:LEU:HG	1.84	0.59
3:NNN:145:VAL:HG12	3:NNN:198:HIS:HD2	1.68	0.59
1:CCC:298:ASN:HD21	1:CCC:300:GLN:HB2	1.67	0.59
1:CCC:32:PRO:HB3	1:CCC:43:GLU:HB3	1.85	0.59
2:III:14:PRO:HG3	2:III:113:SER:HB2	1.84	0.59
3:LLL:27(A):SER:O	3:LLL:31:HIS:CE1	2.56	0.58
1:CCC:85:LEU:HB3	2:JJJ:97:ALA:HB2	1.84	0.58
2:JJJ:13:GLN:HE21	2:JJJ:14:PRO:HD2	1.68	0.58
1:AAA:327:ARG:HB3	1:BBB:199:ARG:HA	1.86	0.58
3:NNN:5:LEU:HD11	3:NNN:90:THR:HG22	1.84	0.58
1:AAA:252:ILE:HB	1:AAA:297:VAL:HG22	1.84	0.58
1:BBB:30:GLY:O	1:BBB:71:LEU:CD2	2.50	0.58
2:JJJ:166:PHE:CE1	3:NNN:136:LEU:HD13	2.38	0.58
3:NNN:27(B):ASN:OD1	3:NNN:27(B):ASN:N	2.37	0.58
3:NNN:150:LYS:CD	3:NNN:195:GLN:NE2	2.66	0.58
1:AAA:153:THR:OG1	1:AAA:153:THR:O	2.22	0.58
1:BBB:82:TYR:O	1:BBB:84:ASN:ND2	2.37	0.58
1:CCC:149:ASN:HB2	1:CCC:162:GLN:HB2	1.87	0.57
1:CCC:85:LEU:N	1:CCC:85:LEU:HD22	2.19	0.57
3:NNN:116:VAL:HG21	3:NNN:196:VAL:HG21	1.86	0.57
3:LLL:140:PHE:HD2	3:LLL:198:HIS:CD2	2.20	0.57
1:CCC:119:ASP:CG	1:CCC:121:SER:OG	2.41	0.57
2:III:126:PRO:CB	2:III:213:PRO:HA	2.34	0.57
2:JJJ:201:LYS:HB3	2:JJJ:202:PRO:HD3	1.85	0.57
1:BBB:178:LEU:CG	1:BBB:179:PRO:HD2	2.35	0.57
3:NNN:140:PHE:HE2	3:NNN:174:ALA:HA	1.65	0.57
3:NNN:179:LEU:HD11	3:NNN:181:LEU:HD21	1.87	0.57
1:CCC:88:ASN:OD1	1:CCC:89:PRO:CD	2.34	0.57
3:LLL:27(A):SER:O	3:LLL:31:HIS:HE1	1.88	0.57
1:AAA:150:THR:HG1	1:AAA:153:THR:HG22	1.68	0.56
1:CCC:122:LEU:HD21	1:CCC:295:VAL:HG12	1.86	0.56
2:III:11:LEU:HD23	2:III:11:LEU:C	2.25	0.56
3:NNN:46:LEU:HD23	3:NNN:55:PRO:HG3	1.86	0.56
1:AAA:117:GLY:HA3	1:AAA:295:VAL:HG12	1.86	0.56
3:MMM:105:THR:HG21	3:MMM:142:PRO:CB	2.35	0.56
3:NNN:172:LYS:HA	3:NNN:172:LYS:NZ	2.20	0.56
1:AAA:151:PRO:CG	1:AAA:176:PRO:HD2	2.34	0.56
3:NNN:149:TRP:HE3	3:NNN:194:CYS:HA	1.63	0.56
1:AAA:42:VAL:HG11	1:AAA:119:ASP:N	2.20	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AAA:187:CYS:HB2	1:AAA:188:ILE:HG23	1.87	0.56
3:NNN:28:ILE:HG23	3:NNN:66:LYS:HE2	1.88	0.56
1:AAA:150:THR:CB	1:AAA:153:THR:CG2	2.83	0.56
1:BBB:150:THR:C	1:BBB:162:GLN:NE2	2.57	0.56
1:BBB:99:LEU:HD21	1:BBB:126:THR:CG2	2.35	0.56
2:JJJ:116:THR:OG1	2:JJJ:147:PRO:HG3	2.06	0.56
3:NNN:116:VAL:HG13	3:NNN:137:ILE:HG13	1.86	0.56
1:BBB:159:LEU:C	1:BBB:162:GLN:H	2.09	0.56
1:AAA:251:ASP:OD1	1:AAA:296:GLU:HB2	2.06	0.56
2:HHH:126:PRO:HG3	2:HHH:138:LEU:HD23	1.87	0.56
2:HHH:144:ASP:CA	2:HHH:175:LEU:HD11	2.19	0.56
3:MMM:4:VAL:HG21	3:MMM:97:VAL:HG12	1.87	0.56
1:AAA:35:GLN:HB2	1:AAA:158:ASN:HB2	1.88	0.56
1:BBB:149:ASN:CG	1:BBB:154:THR:HG21	2.24	0.56
1:CCC:162:GLN:H	1:CCC:163:PRO:HD3	1.70	0.56
2:III:192:GLN:HG3	2:III:194:TYR:CZ	2.41	0.56
2:JJJ:94:ARG:HE	2:JJJ:101:ASP:CG	2.08	0.55
1:CCC:99:LEU:HD21	1:CCC:126:THR:CG2	2.37	0.55
3:NNN:167:LYS:HB3	3:NNN:173:TYR:CD1	2.41	0.55
3:NNN:182:THR:N	3:NNN:185:GLN:OE1	2.26	0.55
1:CCC:86:ILE:HD12	1:CCC:86:ILE:O	2.06	0.55
2:HHH:214:LYS:H	2:HHH:214:LYS:HE3	1.69	0.55
1:AAA:42:VAL:HG11	1:AAA:118:GLY:C	2.27	0.55
1:AAA:149:ASN:ND2	1:AAA:205:GLU:CD	2.60	0.55
1:CCC:171:LEU:HG	1:CCC:171:LEU:O	2.06	0.55
1:CCC:73:PHE:CG	1:CCC:73:PHE:O	2.58	0.55
1:AAA:99:LEU:HD21	1:AAA:126:THR:CG2	2.36	0.55
1:AAA:251:ASP:OD2	1:AAA:296:GLU:HG3	2.07	0.55
2:HHH:178:LEU:HD12	2:HHH:178:LEU:C	2.27	0.55
1:BBB:187:CYS:HB2	1:BBB:188:ILE:HG23	1.88	0.55
1:CCC:44:HIS:CD2	1:CCC:44:HIS:H	2.25	0.55
2:HHH:204:ASN:CG	2:HHH:204:ASN:O	2.43	0.55
2:III:178:LEU:C	2:III:178:LEU:HD12	2.27	0.55
2:JJJ:89:VAL:HG11	2:JJJ:91:TYR:CZ	2.42	0.55
3:LLL:36:TYR:CE1	3:LLL:98:PHE:HE2	2.24	0.55
1:CCC:42:VAL:HG22	1:CCC:118:GLY:CA	2.37	0.55
1:CCC:162:GLN:O	1:CCC:162:GLN:HG2	2.06	0.55
1:AAA:327:ARG:HD3	1:AAA:327:ARG:N	2.22	0.54
1:BBB:172:GLN:HA	1:BBB:175:VAL:CG2	2.37	0.54
2:HHH:99:LEU:C	2:HHH:99:LEU:HD23	2.27	0.54
2:JJJ:147:PRO:HG2	2:JJJ:200:HIS:NE2	2.22	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:NNN:139:ASP:HA	3:NNN:172:LYS:HB3	1.90	0.54
1:AAA:35:GLN:CB	1:AAA:39:ARG:HD2	2.37	0.54
2:JJJ:89:VAL:CG1	2:JJJ:91:TYR:CZ	2.90	0.54
3:MMM:80:THR:O	3:MMM:83:GLU:HB3	2.07	0.54
3:NNN:167:LYS:HB3	3:NNN:173:TYR:CE1	2.43	0.54
3:NNN:5:LEU:N	3:NNN:5:LEU:HD23	2.22	0.54
1:AAA:172:GLN:HA	1:AAA:175:VAL:CG2	2.37	0.54
1:BBB:39:ARG:O	1:BBB:39:ARG:HG3	2.06	0.54
1:CCC:42:VAL:O	1:CCC:45:GLY:N	2.39	0.54
2:HHH:143:LYS:HE2	3:LLL:132:THR:OG1	2.07	0.54
3:LLL:35:TRP:CH2	3:LLL:88:CYS:HB2	2.43	0.54
1:AAA:276:GLY:HA2	1:AAA:279:ILE:HD12	1.89	0.54
1:BBB:162:GLN:HG3	1:BBB:162:GLN:O	2.08	0.54
2:JJJ:30:SER:HB2	2:JJJ:73:ASN:ND2	2.23	0.54
1:BBB:162:GLN:N	1:BBB:163:PRO:CD	2.69	0.54
1:BBB:194:VAL:HG23	1:BBB:238:LEU:HD21	1.89	0.54
3:MMM:35:TRP:CZ3	3:MMM:88:CYS:HB2	2.42	0.54
1:CCC:307:GLU:O	1:CCC:310:THR:HG22	2.08	0.54
3:LLL:35:TRP:CZ3	3:LLL:88:CYS:HB2	2.43	0.54
3:NNN:112:ALA:HB3	3:NNN:141:TYR:N	2.23	0.54
1:AAA:251:ASP:OD1	1:AAA:296:GLU:HG3	2.08	0.53
2:HHH:101:ASP:HA	3:LLL:46:LEU:HD22	1.90	0.53
1:AAA:152:LEU:HD21	1:CCC:338:PRO:HB2	1.89	0.53
2:III:135:THR:HB	2:III:183:THR:HG21	1.91	0.53
3:NNN:133:LEU:HB2	3:NNN:179:LEU:HB3	1.90	0.53
1:AAA:339:THR:OG1	1:AAA:340:PRO:HD2	2.09	0.53
1:BBB:151:PRO:HG2	1:BBB:176:PRO:HD2	1.90	0.53
1:BBB:203:PRO:N	1:BBB:204:PRO:HD2	2.24	0.53
2:HHH:99:LEU:CD2	3:LLL:32:TYR:CE2	2.91	0.53
1:BBB:166:PHE:N	1:BBB:166:PHE:HD2	2.06	0.53
3:LLL:190:ARG:NE	3:LLL:190:ARG:HA	2.23	0.53
2:JJJ:178:LEU:C	2:JJJ:178:LEU:HD12	2.28	0.53
2:HHH:138:LEU:HD13	2:HHH:138:LEU:C	2.29	0.53
1:CCC:151:PRO:HD2	1:CCC:176:PRO:HD2	1.90	0.53
1:CCC:35:GLN:NE2	1:CCC:159:LEU:CD1	2.72	0.53
2:III:52:SER:O	2:III:71:ARG:NH1	2.41	0.53
3:NNN:109:GLN:HB3	3:NNN:110:PRO:HD2	1.91	0.53
1:CCC:239:ILE:HG22	1:CCC:244:ARG:CG	2.39	0.53
3:MMM:35:TRP:CH2	3:MMM:88:CYS:HB2	2.43	0.53
1:BBB:35:GLN:NE2	1:BBB:39:ARG:HE	2.07	0.53
1:AAA:203:PRO:CG	1:AAA:204:PRO:HD3	2.39	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AAA:252:ILE:CB	1:AAA:297:VAL:HG22	2.39	0.52
1:BBB:41:GLY:HA3	1:BBB:300:GLN:HG3	1.90	0.52
2:HHH:127:SER:OG	2:HHH:130:SER:N	2.36	0.52
2:JJJ:51:ILE:CG2	2:JJJ:69:ILE:HD13	2.40	0.52
1:AAA:224:ARG:HB3	1:AAA:225:LEU:HG	1.92	0.52
1:BBB:166:PHE:N	1:BBB:166:PHE:CD2	2.77	0.52
1:BBB:39:ARG:HD2	1:BBB:42:VAL:HG11	1.92	0.52
1:CCC:84:ASN:HA	1:CCC:88:ASN:HD21	1.75	0.52
2:HHH:189:LEU:HD11	2:HHH:213:PRO:HD3	1.91	0.52
2:III:126:PRO:HG3	2:III:213:PRO:HA	1.90	0.52
3:NNN:28:ILE:O	3:NNN:66:LYS:NZ	2.39	0.52
1:AAA:42:VAL:HA	1:AAA:298:ASN:HB2	1.92	0.52
1:BBB:89:PRO:O	1:BBB:92:VAL:HB	2.09	0.52
2:JJJ:154:TRP:CZ3	2:JJJ:196:CYS:HB3	2.45	0.52
1:BBB:81:LEU:HD12	3:MMM:95(A):SER:CB	2.39	0.52
3:NNN:124:GLU:N	3:NNN:124:GLU:OE2	2.37	0.52
3:NNN:38:GLN:HG3	3:NNN:44:PRO:HD3	1.91	0.52
3:NNN:129:ASN:HA	3:NNN:183:PRO:CG	2.40	0.52
1:AAA:147:ASP:HA	1:AAA:161:GLY:HA2	1.91	0.51
3:NNN:78:LEU:HG	3:NNN:106:VAL:HG21	1.93	0.51
1:AAA:105:ARG:HG3	1:AAA:106:ALA:H	1.74	0.51
1:BBB:99:LEU:HD21	1:BBB:126:THR:HG23	1.93	0.51
1:AAA:35:GLN:HG2	1:AAA:39:ARG:NE	2.25	0.51
2:JJJ:28:THR:HB	2:JJJ:31:SER:HB2	1.93	0.51
3:NNN:133:LEU:HD23	3:NNN:133:LEU:N	2.26	0.51
2:III:145:TYR:N	2:III:175:LEU:HD13	2.26	0.51
1:AAA:151:PRO:HA	1:AAA:162:GLN:NE2	2.25	0.51
1:AAA:206:HIS:CE1	1:AAA:210:LYS:HG3	2.46	0.51
1:AAA:43:GLU:HB3	1:AAA:73:PHE:CZ	2.46	0.51
3:NNN:4:VAL:HG21	3:NNN:97:VAL:CG1	2.39	0.51
1:BBB:85:LEU:N	1:BBB:85:LEU:HD22	2.20	0.51
2:III:59:TYR:O	2:III:64:LYS:HE3	2.11	0.51
2:HHH:99:LEU:HD21	3:LLL:32:TYR:CZ	2.45	0.51
2:JJJ:4:LEU:HD23	2:JJJ:24:ALA:HB2	1.93	0.51
3:NNN:149:TRP:CE3	3:NNN:194:CYS:CA	2.66	0.51
3:NNN:35:TRP:CH2	3:NNN:88:CYS:HB2	2.46	0.51
1:AAA:120:HIS:CE1	1:AAA:251:ASP:HB2	2.46	0.50
1:AAA:32:PRO:O	1:AAA:43:GLU:HG3	2.11	0.50
1:CCC:199:ARG:HB3	1:CCC:267:VAL:HG11	1.93	0.50
1:CCC:78:LYS:HB3	1:CCC:81:LEU:CD2	2.40	0.50
2:JJJ:51:ILE:HB	2:JJJ:69:ILE:HG21	1.91	0.50

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BBB:42:VAL:HA	1:BBB:298:ASN:HA	1.92	0.50
1:CCC:35:GLN:NE2	1:CCC:159:LEU:HD11	2.26	0.50
1:BBB:37:GLN:HB2	2:III:56:SER:OG	2.10	0.50
1:AAA:150:THR:CG2	1:AAA:153:THR:HG22	2.40	0.50
1:CCC:152:LEU:HD21	1:CCC:176:PRO:HD3	1.93	0.50
1:AAA:220:ARG:HG2	1:CCC:327:ARG:NH2	2.25	0.50
2:JJJ:184:VAL:HB	2:JJJ:194:TYR:OH	2.11	0.50
3:NNN:129:ASN:HA	3:NNN:183:PRO:HG3	1.93	0.50
1:CCC:44:HIS:CD2	1:CCC:44:HIS:N	2.78	0.50
2:III:29:PHE:CD2	2:III:76:ASN:HA	2.46	0.50
1:BBB:75:PRO:HB2	1:BBB:78:LYS:HE2	1.93	0.50
3:NNN:118:LEU:O	3:NNN:118:LEU:HD23	2.11	0.50
1:AAA:159:LEU:HD23	1:AAA:162:GLN:OE1	2.11	0.50
1:CCC:159:LEU:HA	1:CCC:162:GLN:NE2	2.23	0.49
2:JJJ:145:TYR:HB2	2:JJJ:200:HIS:HE1	1.76	0.49
2:JJJ:166:PHE:CZ	3:NNN:136:LEU:HB3	2.46	0.49
3:MMM:5:LEU:HD11	3:MMM:90:THR:HG22	1.93	0.49
2:III:184:VAL:CG2	2:III:185:PRO:HD2	2.42	0.49
1:AAA:159:LEU:CD2	1:AAA:162:GLN:CD	2.74	0.49
1:AAA:194:VAL:HG23	1:AAA:238:LEU:HD21	1.94	0.49
2:JJJ:145:TYR:HB2	2:JJJ:200:HIS:CE1	2.47	0.49
2:JJJ:51:ILE:HG22	2:JJJ:69:ILE:HD13	1.92	0.49
3:NNN:167:LYS:CD	3:NNN:173:TYR:CE1	2.93	0.49
3:LLL:55:PRO:HD2	3:LLL:58:ILE:HD12	1.94	0.49
3:NNN:31:HIS:NE2	3:NNN:93:SER:OG	2.44	0.49
1:AAA:32:PRO:HB3	1:AAA:43:GLU:HA	1.94	0.49
1:BBB:154:THR:HG23	1:BBB:162:GLN:NE2	2.27	0.49
1:BBB:154:THR:O	1:BBB:154:THR:OG1	2.31	0.49
1:CCC:120:HIS:CE1	1:CCC:141:TRP:CZ2	3.00	0.49
1:CCC:206:HIS:CE1	1:CCC:210:LYS:HG3	2.47	0.49
3:MMM:197:THR:HG1	3:MMM:202:THR:HG1	1.54	0.49
3:NNN:137:ILE:HD11	3:NNN:196:VAL:HG21	1.94	0.49
1:AAA:147:ASP:OD1	1:AAA:147:ASP:N	2.46	0.49
1:AAA:147:ASP:CB	1:AAA:161:GLY:HA2	2.43	0.49
2:III:115:SER:O	2:III:146:PHE:HB3	2.13	0.49
2:JJJ:87:THR:OG1	2:JJJ:111:VAL:HG13	2.13	0.49
1:BBB:159:LEU:CB	1:BBB:162:GLN:HG2	2.42	0.49
1:AAA:105:ARG:HG3	1:AAA:106:ALA:N	2.28	0.49
1:AAA:99:LEU:HD21	1:AAA:126:THR:HG23	1.95	0.49
1:AAA:297:VAL:O	1:AAA:297:VAL:HG12	2.13	0.49
1:BBB:151:PRO:HA	1:BBB:162:GLN:NE2	2.28	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BBB:181:PHE:HB3	1:BBB:184:ILE:HD12	1.94	0.49
2:III:124:LEU:HD23	2:III:124:LEU:N	2.28	0.49
2:JJJ:51:ILE:HB	2:JJJ:69:ILE:CG2	2.43	0.49
1:BBB:71:LEU:HG	1:BBB:71:LEU:O	2.12	0.48
1:BBB:251:ASP:OD1	1:BBB:296:GLU:HB2	2.13	0.48
3:MMM:105:THR:CG2	3:MMM:142:PRO:HB3	2.43	0.48
3:MMM:61:ARG:HB3	3:MMM:76:THR:O	2.13	0.48
1:AAA:94:LEU:HD12	1:AAA:95:ALA:N	2.28	0.48
1:CCC:82:TYR:C	1:CCC:82:TYR:CD2	2.87	0.48
2:HHH:50:ALA:C	2:HHH:69:ILE:HD13	2.33	0.48
2:HHH:175:LEU:CD1	2:HHH:175:LEU:C	2.75	0.48
1:AAA:220:ARG:NH2	5:AAA:404:SO4:O3	2.47	0.48
2:III:35:SER:HB2	2:III:95:LEU:CD2	2.43	0.48
2:HHH:100(B):TYR:CG	3:LLL:49:TYR:HB2	2.49	0.48
3:LLL:80:THR:O	3:LLL:83:GLU:HB2	2.13	0.48
3:NNN:60:ASP:N	3:NNN:60:ASP:OD1	2.44	0.48
3:NNN:28:ILE:CG2	3:NNN:66:LYS:HE2	2.44	0.48
1:AAA:42:VAL:HG12	1:AAA:118:GLY:N	2.28	0.48
1:AAA:124:ILE:HA	1:AAA:167:LEU:HD11	1.95	0.48
3:MMM:60:ASP:N	3:MMM:60:ASP:OD1	2.47	0.48
1:BBB:307:GLU:O	1:BBB:310:THR:HG22	2.13	0.48
3:LLL:27(B):ASN:HA	3:LLL:91:TRP:O	2.13	0.48
3:NNN:35:TRP:CZ3	3:NNN:88:CYS:HB2	2.48	0.48
3:MMM:170:ASN:HD21	3:MMM:172:LYS:HB2	1.78	0.48
2:JJJ:51:ILE:HB	2:JJJ:69:ILE:HD13	1.96	0.47
1:AAA:147:ASP:HA	1:AAA:161:GLY:CA	2.44	0.47
2:III:184:VAL:HG11	2:III:194:TYR:CZ	2.49	0.47
2:JJJ:2:VAL:N	2:JJJ:25:SER:O	2.47	0.47
3:NNN:144:ALA:CB	3:NNN:165:PRO:HG3	2.43	0.47
1:AAA:282:GLU:OE1	1:AAA:282:GLU:HA	2.14	0.47
1:CCC:148:ILE:O	1:CCC:148:ILE:HG12	2.15	0.47
3:LLL:140:PHE:N	3:LLL:140:PHE:CD1	2.81	0.47
3:NNN:78:LEU:CG	3:NNN:106:VAL:CG2	2.92	0.47
1:BBB:74:THR:N	1:BBB:75:PRO:HD2	2.29	0.47
1:CCC:42:VAL:HG22	1:CCC:118:GLY:N	2.29	0.47
1:CCC:148:ILE:O	1:CCC:148:ILE:HG23	2.14	0.47
1:CCC:149:ASN:N	1:CCC:149:ASN:HD22	2.11	0.47
3:NNN:135:CYS:HB3	3:NNN:149:TRP:CZ2	2.44	0.47
1:BBB:178:LEU:CD1	1:BBB:179:PRO:HD2	2.44	0.47
1:CCC:120:HIS:CE1	1:CCC:251:ASP:HB2	2.49	0.47
2:HHH:200:HIS:CD2	2:HHH:202:PRO:HD2	2.50	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:III:184:VAL:HG23	2:III:185:PRO:HD2	1.95	0.47
1:AAA:151:PRO:CG	1:AAA:176:PRO:HG2	2.45	0.47
1:AAA:255:PHE:CD2	1:AAA:314:LEU:HD21	2.49	0.47
3:LLL:5:LEU:HD11	3:LLL:90:THR:HG22	1.97	0.47
3:NNN:133:LEU:HG	3:NNN:179:LEU:HG	1.97	0.47
1:CCC:39:ARG:HE	1:CCC:160:HIS:CE1	2.31	0.47
3:MMM:114:PRO:HD3	3:MMM:198:HIS:HD2	1.80	0.47
3:MMM:62:PHE:CD2	3:MMM:75:ILE:HG12	2.50	0.47
3:NNN:121:PRO:HD2	3:NNN:186:TRP:CZ2	2.50	0.47
3:NNN:39:LEU:N	3:NNN:39:LEU:CD2	2.78	0.47
3:NNN:78:LEU:HD21	3:NNN:106:VAL:HG23	1.97	0.47
1:AAA:147:ASP:HB3	1:AAA:163:PRO:HD2	1.96	0.47
2:HHH:144:ASP:C	2:HHH:175:LEU:HD21	2.36	0.47
2:HHH:201:LYS:HB3	2:HHH:202:PRO:HD3	1.96	0.47
2:JJJ:29:PHE:CD2	2:JJJ:76:ASN:HA	2.50	0.47
3:LLL:83:GLU:CG	3:LLL:106:VAL:CG2	2.93	0.47
1:AAA:307:GLU:O	1:AAA:310:THR:HG22	2.14	0.46
1:CCC:151:PRO:CG	1:CCC:176:PRO:HD2	2.44	0.46
2:JJJ:169:VAL:HB	3:NNN:163:THR:HG22	1.96	0.46
1:AAA:159:LEU:HD22	1:AAA:162:GLN:NE2	2.26	0.46
1:AAA:38:LYS:HD2	1:AAA:39:ARG:CZ	2.45	0.46
1:BBB:32:PRO:C	1:BBB:43:GLU:HG2	2.36	0.46
1:CCC:137:LEU:HA	1:CCC:245:PRO:HG2	1.97	0.46
1:CCC:199:ARG:NH1	1:CCC:267:VAL:HG12	2.30	0.46
2:JJJ:139:GLY:HA2	2:JJJ:154:TRP:HH2	1.80	0.46
3:NNN:137:ILE:HD11	3:NNN:196:VAL:CG2	2.45	0.46
1:BBB:151:PRO:HA	1:BBB:162:GLN:CD	2.36	0.46
2:JJJ:83:ARG:O	2:JJJ:111:VAL:HG11	2.15	0.46
3:LLL:47:LEU:HA	3:LLL:58:ILE:CD1	2.45	0.46
3:NNN:167:LYS:HB3	3:NNN:173:TYR:CZ	2.49	0.46
1:BBB:252:ILE:HG21	1:BBB:297:VAL:HG22	1.97	0.46
2:HHH:171:GLN:HG2	2:HHH:175:LEU:O	2.16	0.46
2:HHH:165:THR:HG23	2:HHH:180:SER:HB2	1.98	0.46
2:HHH:189:LEU:HD12	2:HHH:189:LEU:O	2.15	0.46
1:AAA:122:LEU:HD12	1:AAA:122:LEU:C	2.36	0.46
1:AAA:151:PRO:HG2	1:AAA:176:PRO:HG2	1.97	0.46
1:BBB:147:ASP:HB3	1:BBB:160:HIS:O	2.15	0.46
1:AAA:284:HIS:CD2	1:AAA:324:GLY:HA2	2.51	0.46
1:BBB:219:MET:HG3	1:BBB:269:GLY:O	2.15	0.46
3:LLL:140:PHE:HD1	3:LLL:140:PHE:N	2.14	0.46
1:AAA:120:HIS:CD2	1:AAA:141:TRP:CZ2	3.03	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AAA:76:VAL:HG12	1:AAA:77:PRO:HD3	1.97	0.46
1:BBB:224:ARG:HB3	1:BBB:225:LEU:HG	1.97	0.46
3:NNN:37:GLN:HG3	3:NNN:37:GLN:O	2.15	0.46
1:BBB:120:HIS:CE1	1:BBB:251:ASP:HB2	2.49	0.46
1:BBB:147:ASP:OD1	1:BBB:161:GLY:HA2	2.15	0.46
1:BBB:149:ASN:CG	1:BBB:154:THR:CG2	2.83	0.46
1:BBB:122:LEU:HD21	1:BBB:295:VAL:CG1	2.46	0.46
1:CCC:255:PHE:CD2	1:CCC:314:LEU:HD21	2.50	0.46
2:HHH:189:LEU:HD11	2:HHH:213:PRO:CD	2.45	0.46
3:NNN:167:LYS:HB3	3:NNN:173:TYR:CG	2.51	0.46
3:NNN:184:GLU:OE2	3:NNN:184:GLU:N	2.38	0.46
1:CCC:81:LEU:HD12	3:NNN:91:TRP:HH2	1.81	0.46
1:CCC:335:ASP:N	1:CCC:335:ASP:OD1	2.42	0.45
2:HHH:166:PHE:CZ	3:LLL:136:LEU:HB3	2.51	0.45
2:III:127:SER:O	2:III:127:SER:OG	2.29	0.45
2:III:61:ASP:HA	2:III:64:LYS:HD2	1.98	0.45
3:NNN:120:PRO:HB2	3:NNN:121:PRO:CD	2.41	0.45
1:AAA:42:VAL:CG1	1:AAA:118:GLY:N	2.79	0.45
1:AAA:274:ARG:HB3	1:BBB:223:ASP:OD2	2.17	0.45
1:AAA:289:LEU:HD23	1:AAA:323:PHE:CE1	2.51	0.45
1:BBB:255:PHE:CD2	1:BBB:314:LEU:HD21	2.52	0.45
1:BBB:122:LEU:HD21	1:BBB:295:VAL:HG12	1.97	0.45
2:HHH:99:LEU:O	2:HHH:99:LEU:HD23	2.16	0.45
2:III:212:GLU:HG3	2:III:212:GLU:O	2.16	0.45
3:LLL:78:LEU:HD11	3:LLL:104:LEU:HD21	1.97	0.45
1:BBB:145:HIS:ND1	1:BBB:145:HIS:N	2.65	0.45
1:BBB:159:LEU:O	1:BBB:163:PRO:CD	2.65	0.45
2:JJJ:34:MET:HG2	2:JJJ:71:ARG:HH12	1.80	0.45
1:AAA:199:ARG:HB2	1:AAA:199:ARG:CZ	2.46	0.45
1:BBB:122:LEU:C	1:BBB:122:LEU:HD12	2.37	0.45
3:NNN:167:LYS:HB2	3:NNN:171:ASN:HA	1.98	0.45
1:BBB:284:HIS:CD2	1:BBB:324:GLY:HA2	2.52	0.45
1:CCC:80:ASP:HA	2:JJJ:58:TYR:CE1	2.51	0.45
2:JJJ:139:GLY:HA2	2:JJJ:154:TRP:CH2	2.52	0.45
2:HHH:166:PHE:CE1	3:LLL:136:LEU:HB3	2.51	0.45
3:MMM:27(B):ASN:HA	3:MMM:91:TRP:O	2.17	0.45
1:AAA:248:LEU:O	1:AAA:292:LEU:HA	2.17	0.45
1:BBB:124:ILE:HA	1:BBB:167:LEU:HD11	1.97	0.45
1:BBB:30:GLY:HA3	1:BBB:70:ASP:OD1	2.17	0.45
1:CCC:122:LEU:C	1:CCC:122:LEU:HD12	2.37	0.45
1:CCC:152:LEU:HG	1:CCC:152:LEU:H	1.51	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CCC:99:LEU:HD21	1:CCC:126:THR:HG23	1.98	0.45
2:III:137:ALA:HB2	2:III:183:THR:CG2	2.47	0.45
2:JJJ:89:VAL:HB	2:JJJ:91:TYR:CE2	2.52	0.45
3:LLL:27(B):ASN:O	3:LLL:31:HIS:ND1	2.26	0.45
3:NNN:107:LEU:CD1	3:NNN:142:PRO:HG3	2.44	0.45
3:MMM:109:GLN:OE1	3:MMM:141:TYR:CE1	2.69	0.45
1:AAA:227:ILE:HD11	1:AAA:279:ILE:CG1	2.47	0.45
1:BBB:178:LEU:HD12	1:BBB:179:PRO:HD2	1.98	0.45
1:CCC:297:VAL:HG12	1:CCC:297:VAL:O	2.17	0.45
2:JJJ:89:VAL:CG1	2:JJJ:91:TYR:CE2	3.00	0.45
1:BBB:153:THR:O	2:III:31:SER:OG	2.32	0.45
1:CCC:282:GLU:HA	1:CCC:282:GLU:OE1	2.17	0.45
1:AAA:85:LEU:HB3	2:HHH:97:ALA:HB3	1.98	0.45
3:LLL:83:GLU:HG3	3:LLL:106:VAL:HG22	1.99	0.45
1:CCC:298:ASN:OD1	1:CCC:301:LEU:HB2	2.17	0.44
2:III:144:ASP:C	2:III:175:LEU:HD11	2.35	0.44
2:III:184:VAL:HG11	2:III:194:TYR:CE1	2.52	0.44
2:HHH:137:ALA:CB	3:LLL:117:THR:HG21	2.46	0.44
3:MMM:47:LEU:HA	3:MMM:47:LEU:HD23	1.84	0.44
1:CCC:167:LEU:HB3	1:CCC:187:CYS:SG	2.58	0.44
3:LLL:140:PHE:HE1	3:LLL:174:ALA:HA	1.81	0.44
3:NNN:103:LYS:HE2	3:NNN:105:THR:HG23	1.99	0.44
3:NNN:140:PHE:CE2	3:NNN:173:TYR:O	2.70	0.44
1:BBB:142:VAL:HG11	1:BBB:250:PHE:CE2	2.53	0.44
2:HHH:147:PRO:HD2	2:HHH:202:PRO:HB3	2.00	0.44
2:HHH:168:ALA:HA	2:HHH:178:LEU:HB3	1.98	0.44
2:JJJ:168:ALA:HB2	2:JJJ:178:LEU:HB3	1.99	0.44
1:AAA:338:PRO:HB2	1:BBB:152:LEU:HD11	1.98	0.44
1:BBB:200:ASP:CB	1:BBB:267:VAL:HG21	2.48	0.44
1:BBB:248:LEU:O	1:BBB:292:LEU:HA	2.17	0.44
2:HHH:30:SER:HB3	2:HHH:73:ASN:ND2	2.33	0.44
2:JJJ:57:THR:HG23	2:JJJ:59:TYR:CE2	2.53	0.44
2:JJJ:57:THR:OG1	2:JJJ:69:ILE:HG22	2.17	0.44
2:JJJ:89:VAL:HG12	2:JJJ:91:TYR:CE2	2.52	0.44
3:LLL:46:LEU:O	3:LLL:58:ILE:CD1	2.63	0.44
3:NNN:18:LYS:HA	3:NNN:75:ILE:O	2.18	0.44
2:HHH:100(B):TYR:CD1	3:LLL:49:TYR:CB	3.01	0.44
3:LLL:173:TYR:N	3:LLL:173:TYR:CD2	2.86	0.44
3:MMM:170:ASN:ND2	3:MMM:172:LYS:HB2	2.31	0.44
3:MMM:18:LYS:HA	3:MMM:75:ILE:O	2.18	0.44
3:NNN:120:PRO:CB	3:NNN:121:PRO:HD2	2.39	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:NNN:135:CYS:SG	3:NNN:149:TRP:CH2	3.11	0.44
3:NNN:167:LYS:HA	3:NNN:173:TYR:HA	2.00	0.44
1:AAA:172:GLN:HG3	1:AAA:186:PRO:HG2	2.00	0.44
1:AAA:228:GLN:NE2	1:AAA:232:GLU:OE2	2.51	0.44
1:AAA:35:GLN:HB3	1:AAA:39:ARG:HB2	1.99	0.44
1:BBB:75:PRO:HB2	1:BBB:78:LYS:CE	2.48	0.44
1:CCC:149:ASN:N	1:CCC:149:ASN:ND2	2.65	0.44
1:CCC:151:PRO:CD	1:CCC:176:PRO:HD2	2.47	0.44
2:HHH:100(A):LEU:HA	2:HHH:100(A):LEU:HD23	1.79	0.44
2:JJJ:165:THR:OG1	2:JJJ:180:SER:HB2	2.15	0.44
1:AAA:337:LEU:HD21	1:BBB:174:LYS:HZ2	1.83	0.44
1:AAA:84:ASN:O	1:AAA:85:LEU:HB2	2.17	0.44
1:BBB:162:GLN:H	1:BBB:163:PRO:HD3	1.80	0.44
1:CCC:206:HIS:CE1	1:CCC:210:LYS:HE3	2.53	0.44
1:CCC:219:MET:HG3	1:CCC:269:GLY:O	2.17	0.44
2:JJJ:170:LEU:HD23	2:JJJ:176:TYR:CD2	2.53	0.44
1:BBB:37:GLN:HG3	1:BBB:80:ASP:OD1	2.18	0.44
1:BBB:82:TYR:CE1	1:BBB:86:ILE:HG21	2.53	0.44
2:HHH:124:LEU:HD21	2:HHH:141:LEU:HB2	2.00	0.44
2:JJJ:166:PHE:CE1	3:NNN:136:LEU:HD22	2.53	0.44
1:AAA:131:ALA:HA	1:AAA:137:LEU:HD23	1.99	0.43
1:AAA:43:GLU:O	1:AAA:46:PRO:HD2	2.18	0.43
1:CCC:42:VAL:HG22	1:CCC:118:GLY:H	1.82	0.43
2:HHH:84:ALA:HA	2:HHH:111:VAL:HB	1.99	0.43
2:III:168:ALA:HA	2:III:178:LEU:HB3	2.00	0.43
3:LLL:140:PHE:CD2	3:LLL:198:HIS:HD2	2.28	0.43
3:LLL:4:VAL:HG21	3:LLL:97:VAL:CG1	2.43	0.43
1:AAA:142:VAL:HG11	1:AAA:250:PHE:CE2	2.53	0.43
3:NNN:59:PRO:HB2	3:NNN:61:ARG:HG3	2.00	0.43
1:BBB:155:SER:HB3	2:III:31:SER:HA	2.00	0.43
1:CCC:248:LEU:O	1:CCC:292:LEU:HA	2.17	0.43
1:CCC:284:HIS:CD2	1:CCC:324:GLY:HA2	2.54	0.43
1:CCC:71:LEU:HA	1:CCC:71:LEU:HD23	1.87	0.43
2:III:84:ALA:O	2:III:87:THR:OG1	2.34	0.43
3:NNN:121:PRO:CD	3:NNN:186:TRP:CH2	3.01	0.43
3:NNN:136:LEU:HD23	3:NNN:176:SER:HB2	2.00	0.43
3:NNN:38:GLN:CG	3:NNN:44:PRO:HD3	2.48	0.43
1:AAA:61:LEU:HD21	1:AAA:325:GLN:HB2	2.00	0.43
1:CCC:142:VAL:HG11	1:CCC:250:PHE:CZ	2.54	0.43
2:III:4:LEU:HB3	2:III:92:CYS:SG	2.58	0.43
3:MMM:114:PRO:HD3	3:MMM:198:HIS:CD2	2.53	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AAA:268:VAL:HG23	1:CCC:273:TYR:CZ	2.53	0.43
1:AAA:272:THR:OG1	1:AAA:275:GLU:HG3	2.18	0.43
1:BBB:298:ASN:O	1:BBB:301:LEU:HB2	2.18	0.43
2:HHH:214:LYS:HE2	2:HHH:214:LYS:N	2.29	0.43
3:LLL:18:LYS:HA	3:LLL:75:ILE:O	2.17	0.43
1:BBB:81:LEU:CD2	1:BBB:81:LEU:O	2.61	0.43
3:LLL:83:GLU:HB2	3:LLL:106:VAL:CG2	2.49	0.43
3:LLL:83:GLU:CG	3:LLL:106:VAL:HG22	2.48	0.43
1:BBB:159:LEU:CD1	1:BBB:159:LEU:N	2.78	0.43
2:JJJ:170:LEU:HD23	2:JJJ:176:TYR:CE2	2.53	0.43
1:CCC:155:SER:O	2:JJJ:53:SER:N	2.51	0.43
1:AAA:121:SER:HA	1:AAA:163:PRO:HG3	2.00	0.43
1:AAA:30:GLY:O	1:AAA:71:LEU:N	2.44	0.43
1:CCC:252:ILE:HA	1:CCC:252:ILE:HD13	1.82	0.43
1:BBB:172:GLN:HG3	1:BBB:186:PRO:HG2	2.01	0.43
1:BBB:76:VAL:HB	1:BBB:77:PRO:CD	2.49	0.43
1:CCC:263:THR:HG23	1:CCC:266:PRO:HB3	2.01	0.43
2:III:98:ASP:OD1	2:III:98:ASP:N	2.50	0.43
3:NNN:14:ALA:O	3:NNN:17:GLN:HB2	2.19	0.43
1:CCC:218:SER:O	1:CCC:222:ILE:HG13	2.19	0.43
1:CCC:255:PHE:CZ	1:CCC:276:GLY:HA3	2.54	0.43
1:CCC:85:LEU:H	1:CCC:85:LEU:HD22	1.84	0.43
2:HHH:127:SER:O	2:HHH:131:THR:HG23	2.19	0.43
2:III:87:THR:HG23	2:III:110:THR:HA	1.88	0.43
2:III:165:THR:HG23	2:III:180:SER:HB2	1.99	0.43
2:JJJ:13:GLN:HE21	2:JJJ:14:PRO:CD	2.31	0.43
3:NNN:125:GLU:HA	3:NNN:128:ALA:HB3	2.01	0.43
1:BBB:142:VAL:HG11	1:BBB:250:PHE:CZ	2.54	0.42
1:BBB:145:HIS:HD1	1:BBB:145:HIS:H	1.66	0.42
1:BBB:32:PRO:CB	1:BBB:43:GLU:HB3	2.46	0.42
3:LLL:79:GLN:HG3	3:LLL:80:THR:N	2.34	0.42
1:CCC:43:GLU:O	1:CCC:46:PRO:HD2	2.19	0.42
3:LLL:35:TRP:HB2	3:LLL:48:ILE:HB	2.01	0.42
2:JJJ:147:PRO:HB2	2:JJJ:202:PRO:HB2	2.01	0.42
2:JJJ:91:TYR:N	2:JJJ:91:TYR:CD2	2.88	0.42
3:NNN:47:LEU:HD23	3:NNN:47:LEU:HA	1.88	0.42
1:AAA:142:VAL:HG11	1:AAA:250:PHE:CZ	2.54	0.42
1:CCC:152:LEU:CD2	1:CCC:176:PRO:HD3	2.48	0.42
2:JJJ:178:LEU:HD12	2:JJJ:179:SER:N	2.35	0.42
1:AAA:171:LEU:O	1:AAA:175:VAL:HG22	2.20	0.42
1:AAA:39:ARG:O	1:AAA:42:VAL:HG23	2.20	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:AAA:44:HIS:N	1:AAA:44:HIS:ND1	2.64	0.42
2:III:192:GLN:CG	2:III:194:TYR:CZ	3.02	0.42
3:LLL:66:LYS:HA	3:LLL:71:ALA:HA	2.01	0.42
3:MMM:27:SER:HA	3:MMM:29:GLY:HA3	2.01	0.42
3:NNN:27:SER:HA	3:NNN:29:GLY:HA3	2.02	0.42
1:AAA:42:VAL:HG12	1:AAA:118:GLY:H	1.85	0.42
1:BBB:39:ARG:NH2	1:BBB:160:HIS:CE1	2.88	0.42
1:CCC:35:GLN:CD	1:CCC:159:LEU:CD1	2.88	0.42
2:JJJ:138:LEU:C	2:JJJ:138:LEU:HD12	2.40	0.42
2:JJJ:147:PRO:HG2	2:JJJ:200:HIS:CE1	2.53	0.42
2:JJJ:34:MET:HG2	2:JJJ:71:ARG:NH1	2.34	0.42
1:AAA:42:VAL:CA	1:AAA:298:ASN:HB2	2.49	0.42
1:CCC:142:VAL:HG11	1:CCC:250:PHE:CE2	2.55	0.42
2:JJJ:142:VAL:HG12	2:JJJ:145:TYR:CD2	2.55	0.42
2:JJJ:83:ARG:C	2:JJJ:111:VAL:HG21	2.40	0.42
3:NNN:136:LEU:CD2	3:NNN:176:SER:HB2	2.49	0.42
3:NNN:167:LYS:HB3	3:NNN:173:TYR:CE2	2.54	0.42
1:AAA:142:VAL:HA	1:AAA:196:ILE:O	2.19	0.42
1:AAA:195:TYR:HB2	1:AAA:216:TYR:HB2	2.01	0.42
2:JJJ:143:LYS:HD3	2:JJJ:144:ASP:CB	2.50	0.42
3:NNN:167:LYS:CD	3:NNN:173:TYR:OH	2.63	0.42
1:AAA:145:HIS:ND1	1:AAA:145:HIS:N	2.66	0.42
2:III:138:LEU:HD12	2:III:211:VAL:HB	2.02	0.42
3:LLL:31:HIS:CD2	3:LLL:91:TRP:HD1	2.37	0.42
3:NNN:121:PRO:HD2	3:NNN:186:TRP:CH2	2.53	0.42
1:BBB:159:LEU:O	1:BBB:163:PRO:HD3	2.19	0.42
3:NNN:146:THR:N	3:NNN:197:THR:O	2.53	0.42
1:BBB:255:PHE:CZ	1:BBB:276:GLY:HA3	2.56	0.41
2:HHH:99:LEU:HD21	3:LLL:32:TYR:CE2	2.55	0.41
2:III:124:LEU:CD2	2:III:124:LEU:N	2.83	0.41
1:CCC:44:HIS:HD2	1:CCC:44:HIS:H	1.65	0.41
2:HHH:99:LEU:HB3	3:LLL:50:ASP:CG	2.40	0.41
2:III:144:ASP:CB	2:III:175:LEU:CD1	2.86	0.41
3:MMM:168:GLN:HE21	3:MMM:168:GLN:HB3	1.69	0.41
3:NNN:141:TYR:HA	3:NNN:142:PRO:HA	1.89	0.41
3:NNN:66:LYS:HA	3:NNN:71:ALA:HA	2.02	0.41
1:AAA:327:ARG:HD3	1:AAA:327:ARG:H	1.84	0.41
1:BBB:131:ALA:HA	1:BBB:137:LEU:HD23	2.01	0.41
2:III:143:LYS:HE3	3:MMM:132:THR:OG1	2.21	0.41
2:III:35:SER:HB2	2:III:95:LEU:HD23	2.02	0.41
2:JJJ:184:VAL:HG11	2:JJJ:194:TYR:CE1	2.55	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:NNN:167:LYS:HB3	3:NNN:173:TYR:CD2	2.55	0.41
1:CCC:81:LEU:HD11	3:NNN:95(A):SER:OG	2.21	0.41
1:BBB:171:LEU:O	1:BBB:175:VAL:HG22	2.21	0.41
1:CCC:153:THR:H	1:CCC:153:THR:HG1	1.63	0.41
1:CCC:233:ARG:NH1	5:CCC:407:SO4:O3	2.54	0.41
2:JJJ:116:THR:HA	2:JJJ:147:PRO:HD3	2.00	0.41
2:JJJ:98:ASP:OD1	2:JJJ:98:ASP:N	2.53	0.41
3:NNN:192:TYR:HB2	3:NNN:207:VAL:HG23	2.02	0.41
3:NNN:26:SER:O	3:NNN:27(B):ASN:OD1	2.39	0.41
2:III:184:VAL:CG2	2:III:185:PRO:CD	2.99	0.41
1:CCC:84:ASN:ND2	2:JJJ:58:TYR:OH	2.39	0.41
2:III:137:ALA:HA	2:III:183:THR:HA	2.03	0.41
2:JJJ:82:MET:HB3	2:JJJ:82(C):LEU:HD21	2.02	0.41
3:LLL:186:TRP:CZ2	3:LLL:209:PRO:HA	2.55	0.41
1:BBB:74:THR:N	1:BBB:75:PRO:CD	2.83	0.41
3:NNN:133:LEU:HD13	3:NNN:186:TRP:HZ3	1.86	0.41
1:AAA:147:ASP:HB3	1:AAA:161:GLY:HA2	2.03	0.41
1:AAA:151:PRO:HG2	1:AAA:176:PRO:CD	2.50	0.41
1:CCC:263:THR:CG2	1:CCC:266:PRO:HB3	2.51	0.41
2:III:129:LYS:HG2	2:III:129:LYS:O	2.21	0.41
2:JJJ:52(A):GLY:O	2:JJJ:73:ASN:ND2	2.40	0.41
3:NNN:133:LEU:CD1	3:NNN:186:TRP:HZ3	2.34	0.41
1:AAA:35:GLN:HA	1:AAA:158:ASN:ND2	2.36	0.41
1:AAA:328:GLU:HG2	1:AAA:328:GLU:O	2.21	0.41
1:BBB:162:GLN:CG	1:BBB:162:GLN:O	2.69	0.41
1:CCC:142:VAL:HA	1:CCC:196:ILE:O	2.21	0.41
2:JJJ:150:VAL:HG12	2:JJJ:200:HIS:CD2	2.56	0.41
1:AAA:117:GLY:HA2	1:AAA:118:GLY:HA3	1.92	0.41
1:AAA:80:ASP:HB3	2:HHH:58:TYR:CE1	2.55	0.41
1:BBB:166:PHE:H	1:BBB:166:PHE:HD2	1.67	0.41
1:BBB:200:ASP:HB3	1:BBB:267:VAL:HG21	2.03	0.41
1:CCC:183:TRP:CE2	1:CCC:184:ILE:HG13	2.56	0.41
2:HHH:86:ASP:O	2:HHH:90:TYR:OH	2.32	0.41
1:AAA:263:THR:O	1:AAA:301:LEU:HD12	2.21	0.41
1:AAA:337:LEU:HD21	1:BBB:174:LYS:CE	2.50	0.41
1:CCC:181:PHE:HB3	1:CCC:184:ILE:HD12	2.02	0.41
2:III:201:LYS:N	2:III:202:PRO:CD	2.84	0.41
3:MMM:199:GLU:OE2	3:MMM:199:GLU:HA	2.20	0.41
1:AAA:326:THR:OG1	1:AAA:327:ARG:N	2.54	0.40
1:AAA:337:LEU:HD23	1:AAA:337:LEU:O	2.21	0.40
1:BBB:252:ILE:HG12	1:BBB:297:VAL:HG22	2.03	0.40

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:CCC:149:ASN:ND2	1:CCC:161:GLY:O	2.54	0.40
2:III:38:ARG:HD3	2:III:48:VAL:HG22	2.02	0.40
1:BBB:151:PRO:HA	1:BBB:162:GLN:OE1	2.22	0.40
2:III:148:GLU:HG3	2:III:176:TYR:CD2	2.56	0.40
2:III:38:ARG:HD3	2:III:48:VAL:CG2	2.51	0.40
1:AAA:32:PRO:HB3	1:AAA:43:GLU:CB	2.51	0.40
1:AAA:58:LEU:HA	1:AAA:61:LEU:HD12	2.03	0.40
1:CCC:172:GLN:HA	1:CCC:175:VAL:HG22	2.03	0.40
2:HHH:127:SER:HB3	2:HHH:130:SER:HB3	2.03	0.40
2:HHH:82:MET:HB3	2:HHH:82(C):LEU:HD21	2.03	0.40
3:MMM:105:THR:CB	3:MMM:142:PRO:HB3	2.52	0.40
2:JJJ:171:GLN:HA	3:NNN:161:GLU:HG3	2.04	0.40
1:AAA:200:ASP:CB	1:AAA:267:VAL:HG21	2.52	0.40
1:CCC:42:VAL:CG2	1:CCC:118:GLY:C	2.90	0.40
1:CCC:85:LEU:CD2	1:CCC:85:LEU:N	2.85	0.40
2:III:184:VAL:HG21	2:III:194:TYR:HH	1.77	0.40
2:JJJ:145:TYR:O	2:JJJ:176:TYR:N	2.55	0.40
2:JJJ:14:PRO:HD3	2:JJJ:112:SER:O	2.22	0.40
2:JJJ:165:THR:HG23	2:JJJ:178:LEU:HD13	2.03	0.40

All (12) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:BBB:76:VAL:HG12	3:NNN:95(A):SER:HG[8_555]	0.79	0.81
1:AAA:300:GLN:OE1	1:AAA:300:GLN:OE1[8_555]	1.48	0.72
1:AAA:40:LYS:HZ3	1:AAA:40:LYS:HZ3[8_555]	1.17	0.43
1:AAA:40:LYS:HZ2	1:AAA:40:LYS:HZ2[8_555]	1.20	0.40
3:LLL:188:SER:HG	3:NNN:26:SER:OG[8_545]	1.35	0.25
1:BBB:76:VAL:CG1	3:NNN:95(A):SER:HG[8_555]	1.39	0.21
3:LLL:188:SER:OG	3:NNN:26:SER:HG[8_545]	1.43	0.17
2:HHH:204:ASN:ND2	2:III:105:ARG:O[8_555]	2.10	0.10
1:BBB:76:VAL:HG12	3:NNN:95(A):SER:OG[8_555]	1.51	0.09
1:BBB:76:VAL:CG1	3:NNN:95(A):SER:OG[8_555]	2.14	0.06
3:LLL:188:SER:OG	3:NNN:26:SER:OG[8_545]	2.15	0.05
1:AAA:40:LYS:NZ	1:AAA:40:LYS:NZ[8_555]	2.16	0.04

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	AAA	316/346 (91%)	287 (91%)	27 (8%)	2 (1%)	25	59
1	BBB	306/346 (88%)	278 (91%)	25 (8%)	3 (1%)	15	47
1	CCC	315/346 (91%)	282 (90%)	28 (9%)	5 (2%)	9	37
2	HHH	220/233 (94%)	206 (94%)	13 (6%)	1 (0%)	29	62
2	III	220/233 (94%)	205 (93%)	13 (6%)	2 (1%)	17	50
2	JJJ	216/233 (93%)	206 (95%)	9 (4%)	1 (0%)	29	62
3	LLL	212/220 (96%)	198 (93%)	13 (6%)	1 (0%)	29	62
3	MMM	211/220 (96%)	195 (92%)	16 (8%)	0	100	100
3	NNN	209/220 (95%)	189 (90%)	19 (9%)	1 (0%)	29	62
All	All	2225/2397 (93%)	2046 (92%)	163 (7%)	16 (1%)	22	56

All (16) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	AAA	77	PRO
1	CCC	77	PRO
1	CCC	162	GLN
2	III	56	SER
2	III	213	PRO
1	BBB	163	PRO
2	HHH	127	SER
1	CCC	75	PRO
2	JJJ	115	SER
1	BBB	164	VAL
1	AAA	162	GLN
1	BBB	162	GLN
1	CCC	186	PRO
3	NNN	39	LEU
1	CCC	297	VAL
3	LLL	106	VAL

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	AAA	268/292 (92%)	219 (82%)	49 (18%)	1 7
1	BBB	258/292 (88%)	221 (86%)	37 (14%)	3 14
1	CCC	267/292 (91%)	219 (82%)	48 (18%)	1 7
2	HHH	183/190 (96%)	157 (86%)	26 (14%)	3 15
2	III	183/190 (96%)	156 (85%)	27 (15%)	3 13
2	JJJ	179/190 (94%)	158 (88%)	21 (12%)	5 21
3	LLL	179/184 (97%)	155 (87%)	24 (13%)	4 16
3	MMM	178/184 (97%)	149 (84%)	29 (16%)	2 10
3	NNN	176/184 (96%)	140 (80%)	36 (20%)	1 4
All	All	1871/1998 (94%)	1574 (84%)	297 (16%)	2 11

All (297) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	AAA	39	ARG
1	AAA	40	LYS
1	AAA	44	HIS
1	AAA	59	SER
1	AAA	73	PHE
1	AAA	76	VAL
1	AAA	78	LYS
1	AAA	80	ASP
1	AAA	82	TYR
1	AAA	84	ASN
1	AAA	85	LEU
1	AAA	88	ASN
1	AAA	105	ARG
1	AAA	113	CYS
1	AAA	115	THR
1	AAA	120	HIS
1	AAA	145	HIS
1	AAA	147	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	AAA	150	THR
1	AAA	152	LEU
1	AAA	153	THR
1	AAA	158	ASN
1	AAA	171	LEU
1	AAA	175	VAL
1	AAA	182	SER
1	AAA	185	LYS
1	AAA	187	CYS
1	AAA	199	ARG
1	AAA	218	SER
1	AAA	219	MET
1	AAA	221	ASP
1	AAA	222	ILE
1	AAA	225	LEU
1	AAA	228	GLN
1	AAA	229	LYS
1	AAA	242	ARG
1	AAA	249	SER
1	AAA	252	ILE
1	AAA	253	ASP
1	AAA	263	THR
1	AAA	272	THR
1	AAA	294	LEU
1	AAA	298	ASN
1	AAA	301	LEU
1	AAA	321	SER
1	AAA	327	ARG
1	AAA	331	HIS
1	AAA	336	GLN
1	AAA	339	THR
1	BBB	39	ARG
1	BBB	40	LYS
1	BBB	46	PRO
1	BBB	74	THR
1	BBB	80	ASP
1	BBB	81	LEU
1	BBB	82	TYR
1	BBB	84	ASN
1	BBB	85	LEU
1	BBB	86	ILE
1	BBB	88	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	BBB	91	SER
1	BBB	113	CYS
1	BBB	115	THR
1	BBB	145	HIS
1	BBB	150	THR
1	BBB	154	THR
1	BBB	156	SER
1	BBB	159	LEU
1	BBB	162	GLN
1	BBB	166	PHE
1	BBB	171	LEU
1	BBB	175	VAL
1	BBB	182	SER
1	BBB	185	LYS
1	BBB	187	CYS
1	BBB	199	ARG
1	BBB	201	VAL
1	BBB	221	ASP
1	BBB	224	ARG
1	BBB	225	LEU
1	BBB	252	ILE
1	BBB	253	ASP
1	BBB	294	LEU
1	BBB	298	ASN
1	BBB	301	LEU
1	BBB	328	GLU
1	CCC	24	HIS
1	CCC	25	SER
1	CCC	35	GLN
1	CCC	39	ARG
1	CCC	40	LYS
1	CCC	63	CYS
1	CCC	71	LEU
1	CCC	76	VAL
1	CCC	77	PRO
1	CCC	78	LYS
1	CCC	80	ASP
1	CCC	81	LEU
1	CCC	82	TYR
1	CCC	83	ASN
1	CCC	112	SER
1	CCC	115	THR

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	CCC	137	LEU
1	CCC	145	HIS
1	CCC	149	ASN
1	CCC	152	LEU
1	CCC	153	THR
1	CCC	155	SER
1	CCC	156	SER
1	CCC	158	ASN
1	CCC	159	LEU
1	CCC	160	HIS
1	CCC	162	GLN
1	CCC	168	LEU
1	CCC	169	ARG
1	CCC	172	GLN
1	CCC	182	SER
1	CCC	185	LYS
1	CCC	187	CYS
1	CCC	188	ILE
1	CCC	205	GLU
1	CCC	233	ARG
1	CCC	244	ARG
1	CCC	252	ILE
1	CCC	253	ASP
1	CCC	267	VAL
1	CCC	268	VAL
1	CCC	294	LEU
1	CCC	301	LEU
1	CCC	326	THR
1	CCC	332	ILE
1	CCC	335	ASP
1	CCC	336	GLN
1	CCC	337	LEU
2	HHH	4	LEU
2	HHH	12	VAL
2	HHH	19	ARG
2	HHH	30	SER
2	HHH	46	GLU
2	HHH	53	SER
2	HHH	56	SER
2	HHH	61	ASP
2	HHH	77	THR
2	HHH	83	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	HHH	101	ASP
2	HHH	105	ARG
2	HHH	111	VAL
2	HHH	116	THR
2	HHH	129	LYS
2	HHH	138	LEU
2	HHH	148	GLU
2	HHH	171	GLN
2	HHH	175	LEU
2	HHH	188	SER
2	HHH	199	ASN
2	HHH	204	ASN
2	HHH	205	THR
2	HHH	210	ARG
2	HHH	211	VAL
2	HHH	214	LYS
2	III	2	VAL
2	III	3	GLN
2	III	19	ARG
2	III	53	SER
2	III	77	THR
2	III	83	ARG
2	III	87	THR
2	III	95	LEU
2	III	96	ARG
2	III	98	ASP
2	III	99	LEU
2	III	101	ASP
2	III	124	LEU
2	III	127	SER
2	III	135	THR
2	III	138	LEU
2	III	146	PHE
2	III	163	VAL
2	III	173	SER
2	III	175	LEU
2	III	182	VAL
2	III	183	THR
2	III	186	SER
2	III	189	LEU
2	III	210	ARG
2	III	211	VAL

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
2	III	214	LYS
2	JJJ	11	LEU
2	JJJ	12	VAL
2	JJJ	13	GLN
2	JJJ	19	ARG
2	JJJ	31	SER
2	JJJ	57	THR
2	JJJ	61	ASP
2	JJJ	69	ILE
2	JJJ	77	THR
2	JJJ	83	ARG
2	JJJ	95	LEU
2	JJJ	98	ASP
2	JJJ	100(A)	LEU
2	JJJ	105	ARG
2	JJJ	111	VAL
2	JJJ	148	GLU
2	JJJ	166	PHE
2	JJJ	170	LEU
2	JJJ	179	SER
2	JJJ	197	ASN
2	JJJ	198	VAL
3	LLL	4	VAL
3	LLL	12	SER
3	LLL	26	SER
3	LLL	27	SER
3	LLL	27(B)	ASN
3	LLL	31	HIS
3	LLL	47	LEU
3	LLL	54	ARG
3	LLL	60	ASP
3	LLL	66	LYS
3	LLL	85	ASP
3	LLL	88	CYS
3	LLL	105	THR
3	LLL	106	VAL
3	LLL	109	GLN
3	LLL	111	LYS
3	LLL	115	SER
3	LLL	127	GLN
3	LLL	134	VAL
3	LLL	140	PHE

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	LLL	145	VAL
3	LLL	190	ARG
3	LLL	191	SER
3	LLL	210	THR
3	MMM	4	VAL
3	MMM	12	SER
3	MMM	27(B)	ASN
3	MMM	30	ASN
3	MMM	47	LEU
3	MMM	60	ASP
3	MMM	61	ARG
3	MMM	78	LEU
3	MMM	80	THR
3	MMM	85	ASP
3	MMM	88	CYS
3	MMM	103	LYS
3	MMM	105	THR
3	MMM	109	GLN
3	MMM	111	LYS
3	MMM	115	SER
3	MMM	127	GLN
3	MMM	152	ASP
3	MMM	157	LYS
3	MMM	162	THR
3	MMM	163	THR
3	MMM	167	LYS
3	MMM	168	GLN
3	MMM	170	ASN
3	MMM	171	ASN
3	MMM	190	ARG
3	MMM	197	THR
3	MMM	199	GLU
3	MMM	210	THR
3	NNN	4	VAL
3	NNN	5	LEU
3	NNN	12	SER
3	NNN	27(B)	ASN
3	NNN	30	ASN
3	NNN	37	GLN
3	NNN	38	GLN
3	NNN	42	THR
3	NNN	45	LYS

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
3	NNN	47	LEU
3	NNN	79	GLN
3	NNN	85	ASP
3	NNN	88	CYS
3	NNN	94	SER
3	NNN	105	THR
3	NNN	106	VAL
3	NNN	107	LEU
3	NNN	115	SER
3	NNN	118	LEU
3	NNN	120	PRO
3	NNN	127	GLN
3	NNN	135	CYS
3	NNN	145	VAL
3	NNN	152	ASP
3	NNN	153	SER
3	NNN	154	SER
3	NNN	156	VAL
3	NNN	163	THR
3	NNN	167	LYS
3	NNN	171	ASN
3	NNN	172	LYS
3	NNN	187	LYS
3	NNN	189	HIS
3	NNN	193	SER
3	NNN	197	THR
3	NNN	204	GLU

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. There are no such sidechains identified.

5.3.3 RNA (i)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

Of 33 ligands modelled in this entry, 6 are monoatomic - leaving 27 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	$\#\|Z\| > 2$
5	SO4	BBB	403	-	4,4,4	0.38	0	6,6,6	0.04	0
5	SO4	AAA	405	-	4,4,4	0.38	0	6,6,6	0.05	0
5	SO4	CCC	407	-	4,4,4	0.38	0	6,6,6	0.04	0
5	SO4	HHH	304	-	4,4,4	0.37	0	6,6,6	0.05	0
5	SO4	MMM	303	-	4,4,4	0.37	0	6,6,6	0.05	0
5	SO4	CCC	405	-	4,4,4	0.38	0	6,6,6	0.05	0
5	SO4	BBB	405	-	4,4,4	0.38	0	6,6,6	0.06	0
5	SO4	CCC	403	-	4,4,4	0.38	0	6,6,6	0.05	0
5	SO4	BBB	404	-	4,4,4	0.38	0	6,6,6	0.05	0
5	SO4	MMM	301	-	4,4,4	0.37	0	6,6,6	0.05	0
5	SO4	MMM	302	-	4,4,4	0.38	0	6,6,6	0.06	0
5	SO4	JJJ	301	-	4,4,4	0.38	0	6,6,6	0.07	0
5	SO4	HHH	305	-	4,4,4	0.38	0	6,6,6	0.04	0
5	SO4	CCC	408	-	4,4,4	0.39	0	6,6,6	0.05	0
5	SO4	III	304	-	4,4,4	0.38	0	6,6,6	0.06	0
5	SO4	LLL	301	-	4,4,4	0.38	0	6,6,6	0.05	0
5	SO4	III	303	-	4,4,4	0.40	0	6,6,6	0.06	0
5	SO4	HHH	303	-	4,4,4	0.39	0	6,6,6	0.05	0
5	SO4	LLL	302	-	4,4,4	0.39	0	6,6,6	0.05	0
5	SO4	CCC	406	-	4,4,4	0.39	0	6,6,6	0.05	0
5	SO4	III	302	-	4,4,4	0.38	0	6,6,6	0.05	0
5	SO4	III	301	-	4,4,4	0.38	0	6,6,6	0.04	0
5	SO4	HHH	301	-	4,4,4	0.38	0	6,6,6	0.06	0
5	SO4	AAA	403	-	4,4,4	0.36	0	6,6,6	0.08	0
5	SO4	CCC	404	-	4,4,4	0.38	0	6,6,6	0.04	0
5	SO4	HHH	302	-	4,4,4	0.37	0	6,6,6	0.05	0
5	SO4	AAA	404	-	4,4,4	0.37	0	6,6,6	0.08	0

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

2 monomers are involved in 2 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	CCC	407	SO4	1	0
5	AAA	404	SO4	1	0

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95^{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	AAA	318/346 (91%)	0.43	19 (5%)	21	21	44, 91, 128, 203	0
1	BBB	308/346 (89%)	0.48	13 (4%)	36	33	50, 95, 129, 150	0
1	CCC	317/346 (91%)	0.57	22 (6%)	16	16	59, 96, 133, 215	0
2	HHH	222/233 (95%)	0.52	15 (6%)	17	16	55, 91, 154, 190	0
2	III	222/233 (95%)	0.76	33 (14%)	2	2	50, 101, 175, 204	0
2	JJJ	218/233 (93%)	1.92	76 (34%)	0	0	74, 117, 213, 245	0
3	LLL	214/220 (97%)	0.76	28 (13%)	3	3	71, 105, 128, 159	0
3	MMM	213/220 (96%)	0.60	24 (11%)	5	5	35, 111, 147, 165	0
3	NNN	211/220 (95%)	1.65	80 (37%)	0	0	87, 140, 185, 224	0
All	All	2243/2397 (93%)	0.81	310 (13%)	2	2	35, 102, 176, 245	0

All (310) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	JJJ	152	VAL	11.5
2	JJJ	134	GLY	10.0
2	III	137	ALA	9.4
2	JJJ	173	SER	8.6
2	JJJ	128	SER	8.1
2	JJJ	130	SER	8.0
2	JJJ	161	SER	7.9
3	NNN	108	GLY	7.9
2	JJJ	139	GLY	7.6
2	JJJ	149	PRO	7.2
2	JJJ	142	VAL	7.1
2	JJJ	184	VAL	7.0
2	JJJ	163	VAL	7.0
2	JJJ	129	LYS	6.8
2	JJJ	131	THR	6.7

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
2	JJJ	133	GLY	6.7
2	JJJ	211	VAL	6.5
2	JJJ	175	LEU	6.5
2	JJJ	171	GLN	6.4
2	JJJ	118	GLY	6.4
2	JJJ	178	LEU	6.3
2	JJJ	153	SER	6.3
2	JJJ	124	LEU	6.2
3	NNN	152	ASP	6.2
2	JJJ	127	SER	6.0
2	JJJ	183	THR	6.0
2	JJJ	198	VAL	5.8
2	JJJ	154	TRP	5.8
2	JJJ	174	GLY	5.8
3	NNN	169	SER	5.7
2	III	162	GLY	5.7
3	NNN	155	PRO	5.5
2	JJJ	121	VAL	5.5
2	JJJ	144	ASP	5.4
2	JJJ	191	THR	5.3
3	NNN	188	SER	5.2
2	JJJ	206	LYS	5.2
2	JJJ	138	LEU	5.1
3	NNN	186	TRP	5.1
3	NNN	47	LEU	5.0
2	III	136	ALA	5.0
3	MMM	116	VAL	5.0
1	CCC	303	THR	5.0
2	JJJ	205	THR	4.9
2	JJJ	143	LYS	4.9
1	CCC	190	SER	4.8
2	JJJ	170	LEU	4.8
3	LLL	76	THR	4.8
3	NNN	19	VAL	4.8
2	III	163	VAL	4.7
3	NNN	73	LEU	4.6
2	HHH	134	GLY	4.6
2	JJJ	165	THR	4.5
3	NNN	109	GLN	4.5
2	III	150	VAL	4.5
2	JJJ	194	TYR	4.5
3	LLL	77	GLY	4.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
3	NNN	15	PRO	4.4
2	JJJ	182	VAL	4.4
2	JJJ	122	PHE	4.4
2	JJJ	172	SER	4.3
3	NNN	194	CYS	4.3
3	NNN	132	THR	4.3
3	NNN	128	ALA	4.3
1	AAA	336	GLN	4.3
1	CCC	79	ASP	4.3
1	AAA	79	ASP	4.3
3	NNN	2	GLN	4.3
2	JJJ	162	GLY	4.3
2	JJJ	195	ILE	4.2
3	NNN	58	ILE	4.2
1	AAA	335	ASP	4.2
3	NNN	52	SER	4.2
3	LLL	147	VAL	4.2
1	BBB	331	HIS	4.2
3	NNN	136	LEU	4.1
3	NNN	191	SER	4.1
2	III	132	SER	4.1
3	NNN	35	TRP	4.0
3	LLL	17	GLN	4.0
2	III	135	THR	4.0
2	III	215	SER	4.0
3	NNN	57	GLY	4.0
2	JJJ	117	LYS	4.0
2	III	189	LEU	4.0
3	NNN	138	SER	3.9
3	LLL	143	GLY	3.9
3	NNN	190	ARG	3.9
3	NNN	170	ASN	3.9
2	HHH	191	THR	3.9
3	NNN	208	ALA	3.9
2	JJJ	132	SER	3.8
3	NNN	168	GLN	3.8
1	BBB	330	GLY	3.8
1	AAA	190	SER	3.8
3	NNN	72	THR	3.8
3	NNN	37	GLN	3.8
3	NNN	107	LEU	3.8
3	NNN	154	SER	3.8

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
2	JJJ	177	SER	3.7
2	III	190	GLY	3.7
2	JJJ	136	ALA	3.7
2	JJJ	141	LEU	3.7
3	NNN	135	CYS	3.7
1	CCC	266	PRO	3.7
3	NNN	131	ALA	3.7
3	NNN	153	SER	3.7
1	CCC	262	ALA	3.6
3	NNN	134	VAL	3.6
2	III	181	VAL	3.6
3	NNN	20	THR	3.6
2	JJJ	120	SER	3.6
1	CCC	214	ILE	3.5
2	HHH	186	SER	3.5
3	LLL	202	THR	3.5
2	JJJ	119	PRO	3.5
1	CCC	333	VAL	3.5
1	AAA	334	TYR	3.5
2	III	182	VAL	3.5
2	JJJ	159	LEU	3.5
2	III	121	VAL	3.5
2	III	183	THR	3.5
3	NNN	75	ILE	3.5
3	NNN	125	GLU	3.4
1	CCC	176	PRO	3.4
1	CCC	75	PRO	3.4
2	JJJ	145	TYR	3.4
3	NNN	122	SER	3.4
1	CCC	38	LYS	3.3
3	NNN	86	TYR	3.3
2	JJJ	210	ARG	3.3
1	CCC	200	ASP	3.3
3	LLL	69	THR	3.3
3	NNN	66	LYS	3.3
3	NNN	189	HIS	3.3
2	III	47	TRP	3.3
3	NNN	54	ARG	3.3
2	JJJ	201	LYS	3.2
1	BBB	190	SER	3.2
1	AAA	333	VAL	3.2
3	NNN	119	PHE	3.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
3	NNN	16	GLY	3.2
1	AAA	216	TYR	3.2
3	MMM	24	SER	3.2
2	JJJ	36	TRP	3.2
3	LLL	78	LEU	3.1
3	MMM	131	ALA	3.1
3	LLL	25	GLY	3.1
3	MMM	118	LEU	3.1
2	JJJ	181	VAL	3.1
3	LLL	107	LEU	3.1
2	JJJ	135	THR	3.1
1	BBB	241	LYS	3.1
3	MMM	158	ALA	3.0
3	LLL	18	LYS	3.0
3	NNN	151	ALA	3.0
3	NNN	48	ILE	3.0
2	JJJ	146	PHE	3.0
2	JJJ	12	VAL	3.0
3	NNN	46	LEU	3.0
3	NNN	81	GLY	3.0
1	CCC	74	THR	3.0
1	CCC	301	LEU	3.0
3	LLL	109	GLN	3.0
2	III	133	GLY	3.0
3	MMM	179	LEU	3.0
2	JJJ	116	THR	3.0
2	JJJ	188	SER	2.9
3	MMM	133	LEU	2.9
1	CCC	133	HIS	2.9
1	CCC	295	VAL	2.9
2	JJJ	189	LEU	2.9
2	III	26	GLY	2.9
2	JJJ	160	THR	2.9
2	JJJ	37	VAL	2.8
3	NNN	156	VAL	2.8
2	HHH	210	ARG	2.8
1	AAA	73	PHE	2.8
3	LLL	118	LEU	2.8
2	JJJ	193	THR	2.8
3	NNN	96	LEU	2.8
2	JJJ	102	LEU	2.8
2	HHH	213	PRO	2.8

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
3	LLL	132	THR	2.8
2	III	97	ALA	2.8
2	JJJ	100(B)	TYR	2.8
2	III	131	THR	2.8
3	NNN	201	SER	2.8
3	MMM	47	LEU	2.8
2	III	161	SER	2.8
2	JJJ	67	PHE	2.8
1	CCC	124	ILE	2.7
3	NNN	159	GLY	2.7
1	CCC	80	ASP	2.7
2	III	154	TRP	2.7
3	LLL	98	PHE	2.7
3	MMM	195	GLN	2.7
3	NNN	118	LEU	2.7
1	BBB	212	TYR	2.7
1	CCC	114	VAL	2.7
2	JJJ	140	CYS	2.7
1	BBB	172	GLN	2.6
3	NNN	207	VAL	2.6
2	III	138	LEU	2.6
1	AAA	264	GLY	2.6
3	NNN	80	THR	2.6
3	MMM	119	PHE	2.6
3	NNN	18	LYS	2.6
3	NNN	77	GLY	2.6
1	BBB	85	LEU	2.6
3	LLL	62	PHE	2.6
3	NNN	129	ASN	2.6
3	MMM	102	THR	2.6
2	JJJ	115	SER	2.5
3	LLL	33	VAL	2.5
1	AAA	38	LYS	2.5
1	CCC	252	ILE	2.5
3	MMM	21	ILE	2.5
3	NNN	133	LEU	2.5
2	HHH	122	PHE	2.5
2	JJJ	100(A)	LEU	2.5
3	LLL	178	TYR	2.5
3	NNN	36	TYR	2.5
2	III	122	PHE	2.5
3	NNN	59	PRO	2.5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
3	NNN	167	LYS	2.4
3	LLL	182	THR	2.4
3	MMM	73	LEU	2.4
2	HHH	137	ALA	2.4
3	NNN	206	THR	2.4
3	LLL	21	ILE	2.4
1	CCC	216	TYR	2.4
1	BBB	124	ILE	2.4
2	JJJ	111	VAL	2.4
3	LLL	134	VAL	2.4
3	MMM	165	PRO	2.4
3	LLL	6	THR	2.4
3	NNN	158	ALA	2.4
2	HHH	166	PHE	2.4
2	JJJ	167	PRO	2.4
3	NNN	130	LYS	2.3
1	AAA	240	GLY	2.3
2	HHH	212	GLU	2.3
1	CCC	294	LEU	2.3
2	JJJ	204	ASN	2.3
1	BBB	171	LEU	2.3
3	MMM	135	CYS	2.3
1	AAA	319	ILE	2.3
3	LLL	16	GLY	2.3
3	NNN	202	THR	2.3
3	MMM	169	SER	2.3
3	MMM	178	TYR	2.3
3	NNN	183	PRO	2.3
1	AAA	149	ASN	2.3
2	III	139	GLY	2.3
2	III	160	THR	2.2
3	NNN	185	GLN	2.2
3	MMM	144	ALA	2.2
2	III	100(A)	LEU	2.2
3	NNN	65	SER	2.2
1	BBB	329	GLY	2.2
3	NNN	187	LYS	2.2
3	LLL	203	VAL	2.2
3	NNN	180	SER	2.2
3	LLL	171	ASN	2.2
3	NNN	102	THR	2.2
1	BBB	130	HIS	2.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	BBB	207	PHE	2.2
3	NNN	71	ALA	2.2
3	NNN	76	THR	2.2
1	AAA	239	ILE	2.2
2	III	124	LEU	2.2
2	JJJ	20	LEU	2.2
2	HHH	119	PRO	2.2
3	NNN	205	LYS	2.2
2	JJJ	190	GLY	2.2
2	III	127	SER	2.2
1	AAA	113	CYS	2.2
1	BBB	303	THR	2.2
2	HHH	207	VAL	2.1
2	JJJ	207	VAL	2.1
2	HHH	188	SER	2.1
2	HHH	100(B)	TYR	2.1
3	LLL	136	LEU	2.1
3	NNN	166	SER	2.1
3	NNN	192	TYR	2.1
2	III	53	SER	2.1
3	MMM	172	LYS	2.1
1	AAA	92	VAL	2.1
2	III	159	LEU	2.1
3	MMM	46	LEU	2.1
3	LLL	138	SER	2.1
1	AAA	39	ARG	2.1
3	NNN	204	GLU	2.1
3	NNN	28	ILE	2.1
1	CCC	243	GLN	2.1
2	III	123	PRO	2.1
2	III	130	SER	2.1
3	NNN	64	GLY	2.1
2	III	211	VAL	2.0
3	MMM	20	THR	2.0
2	HHH	154	TRP	2.0
3	MMM	136	LEU	2.0
1	AAA	88	ASN	2.0
2	JJJ	147	PRO	2.0
1	AAA	35	GLN	2.0
3	MMM	134	VAL	2.0
2	HHH	138	LEU	2.0
3	MMM	149	TRP	2.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
3	LLL	59	PRO	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
5	SO4	AAA	405	5/5	0.40	0.42	186,188,190,191	0
5	SO4	HHH	305	5/5	0.47	0.60	178,183,184,185	0
5	SO4	CCC	405	5/5	0.48	0.38	161,163,168,170	0
5	SO4	BBB	405	5/5	0.56	0.35	175,175,179,180	0
5	SO4	CCC	407	5/5	0.57	0.31	138,141,146,155	0
5	SO4	III	304	5/5	0.58	0.28	175,175,182,186	0
5	SO4	JJJ	301	5/5	0.59	0.57	171,176,180,185	0
5	SO4	MMM	302	5/5	0.61	0.33	145,147,149,150	0
5	SO4	HHH	304	5/5	0.62	0.39	152,160,162,162	0
5	SO4	LLL	301	5/5	0.64	0.24	157,157,159,161	0
5	SO4	CCC	406	5/5	0.65	0.29	170,174,176,180	0
5	SO4	III	301	5/5	0.68	0.45	181,182,187,189	0
5	SO4	CCC	408	5/5	0.69	0.30	162,164,169,169	0
5	SO4	AAA	404	5/5	0.70	0.28	111,115,116,121	0
5	SO4	HHH	303	5/5	0.75	0.52	177,184,188,189	0
4	MN	CCC	402	1/1	0.78	0.14	121,121,121,121	0
5	SO4	III	302	5/5	0.78	0.39	129,130,132,135	0
5	SO4	MMM	303	5/5	0.79	0.30	132,133,137,138	0
5	SO4	HHH	302	5/5	0.79	0.27	102,103,106,107	0
5	SO4	BBB	404	5/5	0.79	0.29	152,155,156,156	0
5	SO4	BBB	403	5/5	0.81	0.27	155,161,163,166	0
5	SO4	III	303	5/5	0.83	0.28	140,142,146,148	0

Continued on next page...

Continued from previous page...

Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
4	MN	AAA	402	1/1	0.84	0.14	100,100,100,100	0
5	SO4	LLL	302	5/5	0.84	0.18	135,136,138,140	0
5	SO4	AAA	403	5/5	0.85	0.14	117,119,122,124	0
5	SO4	MMM	301	5/5	0.86	0.25	129,133,136,136	0
5	SO4	CCC	404	5/5	0.88	0.17	141,145,148,156	0
5	SO4	HHH	301	5/5	0.92	0.15	103,104,107,108	0
5	SO4	CCC	403	5/5	0.93	0.15	111,111,113,117	0
4	MN	BBB	402	1/1	0.95	0.16	98,98,98,98	0
4	MN	BBB	401	1/1	0.95	0.18	87,87,87,87	0
4	MN	CCC	401	1/1	0.97	0.13	86,86,86,86	0
4	MN	AAA	401	1/1	0.97	0.16	75,75,75,75	0

6.5 Other polymers

There are no such residues in this entry.