Full wwPDB X-ray Structure Validation Report ⓘ

Oct 17, 2021 – 03:11 AM EDT

PDB ID	:	1SX3
Title	:	GroEL14-(ATPgammaS)14
Authors	:	Chaudhry, C.; Horwich, A.L.; Brunger, A.T.; Adams, P.D.
Deposited on	:	2004-03-30
Resolution	:	2.00 Å(reported)

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

We welcome your comments at *validation@mail.wwpdb.org*
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the ⓘ symbol.

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

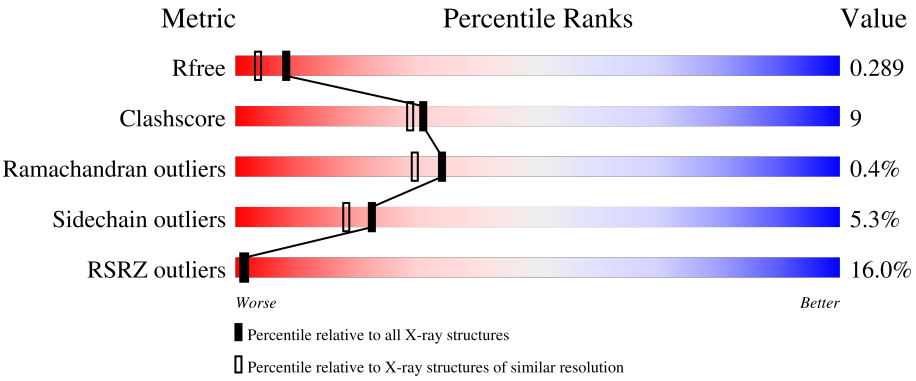
MolProbity	:	4.02b-467
Mogul	:	1.8.5 (274361), CSD as541be (2020)
Xtriage (Phenix)	:	1.13
EDS	:	2.23.2
buster-report	:	1.1.7 (2018)
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.23.2

1 Overall quality at a glance (i)

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

The reported resolution of this entry is 2.00 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



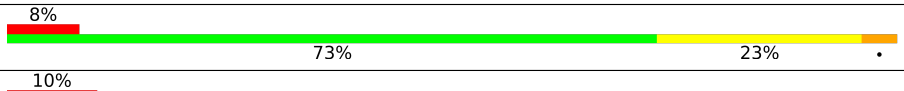
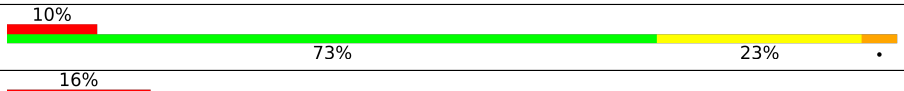
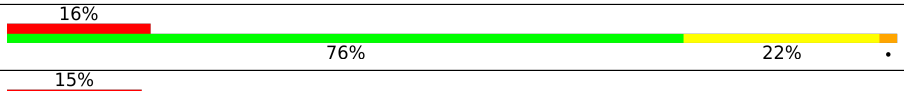
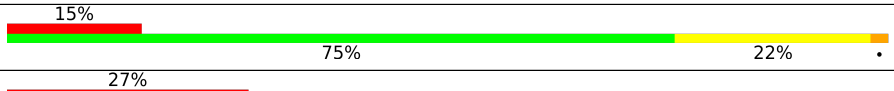
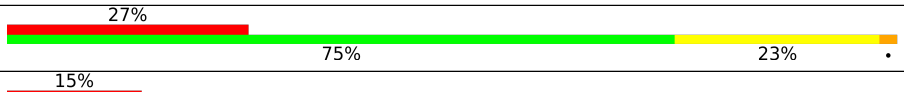
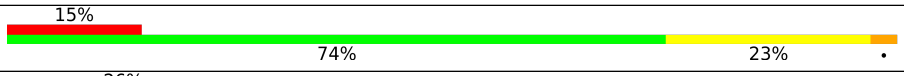
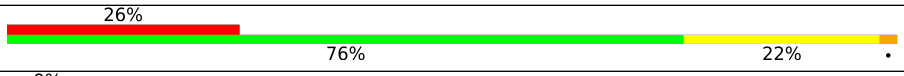
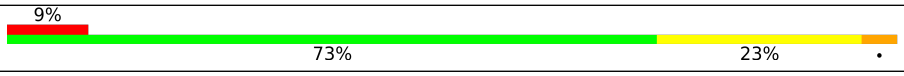
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	8085 (2.00-2.00)
Clashscore	141614	9178 (2.00-2.00)
Ramachandran outliers	138981	9054 (2.00-2.00)
Sidechain outliers	138945	9053 (2.00-2.00)
RSRZ outliers	127900	7900 (2.00-2.00)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=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	525	12% 75% 22%
1	B	525	22% 73% 22%
1	C	525	20% 75% 21%
1	D	525	5% 76% 21%
1	E	525	17% 72% 23%

Continued on next page...

Continued from previous page...

Mol	Chain	Length	Quality of chain
1	F	525	
1	G	525	
1	H	525	
1	I	525	
1	J	525	
1	K	525	
1	L	525	
1	M	525	
1	N	525	

2 Entry composition (i)

There are 5 unique types of molecules in this entry. The entry contains 55380 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 groEL protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	525	Total	C	N	O	S	0	0	0
			3855	2399	664	772	20			
1	B	525	Total	C	N	O	S	0	0	0
			3855	2399	664	772	20			
1	C	525	Total	C	N	O	S	0	0	0
			3855	2399	664	772	20			
1	D	525	Total	C	N	O	S	0	0	0
			3855	2399	664	772	20			
1	E	525	Total	C	N	O	S	0	0	0
			3855	2399	664	772	20			
1	F	525	Total	C	N	O	S	0	0	0
			3855	2399	664	772	20			
1	G	525	Total	C	N	O	S	0	0	0
			3855	2399	664	772	20			
1	H	525	Total	C	N	O	S	0	0	0
			3855	2399	664	772	20			
1	I	525	Total	C	N	O	S	0	0	0
			3855	2399	664	772	20			
1	J	525	Total	C	N	O	S	0	0	0
			3855	2399	664	772	20			
1	K	525	Total	C	N	O	S	0	0	0
			3855	2399	664	772	20			
1	L	525	Total	C	N	O	S	0	0	0
			3855	2399	664	772	20			
1	M	525	Total	C	N	O	S	0	0	0
			3855	2399	664	772	20			
1	N	525	Total	C	N	O	S	0	0	0
			3855	2399	664	772	20			

There are 28 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	13	GLY	ARG	engineered mutation	UNP P0A6F5

Continued on next page...

Continued from previous page...

Chain	Residue	Modelled	Actual	Comment	Reference
A	126	VAL	ALA	engineered mutation	UNP P0A6F5
B	13	GLY	ARG	engineered mutation	UNP P0A6F5
B	126	VAL	ALA	engineered mutation	UNP P0A6F5
C	13	GLY	ARG	engineered mutation	UNP P0A6F5
C	126	VAL	ALA	engineered mutation	UNP P0A6F5
D	13	GLY	ARG	engineered mutation	UNP P0A6F5
D	126	VAL	ALA	engineered mutation	UNP P0A6F5
E	13	GLY	ARG	engineered mutation	UNP P0A6F5
E	126	VAL	ALA	engineered mutation	UNP P0A6F5
F	13	GLY	ARG	engineered mutation	UNP P0A6F5
F	126	VAL	ALA	engineered mutation	UNP P0A6F5
G	13	GLY	ARG	engineered mutation	UNP P0A6F5
G	126	VAL	ALA	engineered mutation	UNP P0A6F5
H	13	GLY	ARG	engineered mutation	UNP P0A6F5
H	126	VAL	ALA	engineered mutation	UNP P0A6F5
I	13	GLY	ARG	engineered mutation	UNP P0A6F5
I	126	VAL	ALA	engineered mutation	UNP P0A6F5
J	13	GLY	ARG	engineered mutation	UNP P0A6F5
J	126	VAL	ALA	engineered mutation	UNP P0A6F5
K	13	GLY	ARG	engineered mutation	UNP P0A6F5
K	126	VAL	ALA	engineered mutation	UNP P0A6F5
L	13	GLY	ARG	engineered mutation	UNP P0A6F5
L	126	VAL	ALA	engineered mutation	UNP P0A6F5
M	13	GLY	ARG	engineered mutation	UNP P0A6F5
M	126	VAL	ALA	engineered mutation	UNP P0A6F5
N	13	GLY	ARG	engineered mutation	UNP P0A6F5
N	126	VAL	ALA	engineered mutation	UNP P0A6F5

- Molecule 2 is MAGNESIUM ION (three-letter code: MG) (formula: Mg).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	A	1	Total Mg 1 1	0	0
2	B	1	Total Mg 1 1	0	0
2	C	1	Total Mg 1 1	0	0
2	D	1	Total Mg 1 1	0	0
2	E	1	Total Mg 1 1	0	0
2	F	1	Total Mg 1 1	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	G	1	Total Mg 1 1	0	0
2	H	1	Total Mg 1 1	0	0
2	I	1	Total Mg 1 1	0	0
2	J	1	Total Mg 1 1	0	0
2	K	1	Total Mg 1 1	0	0
2	L	1	Total Mg 1 1	0	0
2	M	1	Total Mg 1 1	0	0
2	N	1	Total Mg 1 1	0	0

- Molecule 3 is POTASSIUM ION (three-letter code: K) (formula: K).

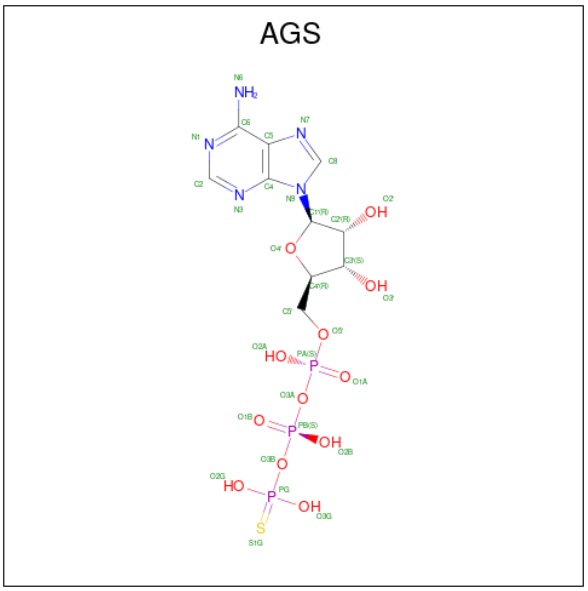
Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	A	1	Total K 1 1	0	0
3	B	1	Total K 1 1	0	0
3	C	1	Total K 1 1	0	0
3	D	2	Total K 2 2	0	0
3	E	2	Total K 2 2	0	0
3	F	1	Total K 1 1	0	0
3	G	1	Total K 1 1	0	0
3	H	1	Total K 1 1	0	0
3	I	1	Total K 1 1	0	0
3	J	1	Total K 1 1	0	0
3	K	1	Total K 1 1	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
3	L	1	Total K 1 1	0	0
3	M	1	Total K 1 1	0	0
3	N	1	Total K 1 1	0	0

- Molecule 4 is PHOSPHOTHIOPHOSPHORIC ACID-ADENYLATE ESTER (three-letter code: AGS) (formula: $C_{10}H_{16}N_5O_{12}P_3S$).



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
4	A	1	Total C N O P S 31 10 5 12 3 1	0	0
4	B	1	Total C N O P S 31 10 5 12 3 1	0	0
4	C	1	Total C N O P S 31 10 5 12 3 1	0	0
4	D	1	Total C N O P S 31 10 5 12 3 1	0	0
4	E	1	Total C N O P S 31 10 5 12 3 1	0	0
4	F	1	Total C N O P S 31 10 5 12 3 1	0	0
4	G	1	Total C N O P S 31 10 5 12 3 1	0	0
4	H	1	Total C N O P S 31 10 5 12 3 1	0	0

Continued on next page...

Continued from previous page...

Mol	Chain	Residues	Atoms						ZeroOcc	AltConf
4	I	1	Total	C	N	O	P	S	0	0
			31	10	5	12	3	1		
4	J	1	Total	C	N	O	P	S	0	0
			31	10	5	12	3	1		
4	K	1	Total	C	N	O	P	S	0	0
			31	10	5	12	3	1		
4	L	1	Total	C	N	O	P	S	0	0
			31	10	5	12	3	1		
4	M	1	Total	C	N	O	P	S	0	0
			31	10	5	12	3	1		
4	N	1	Total	C	N	O	P	S	0	0
			31	10	5	12	3	1		

- Molecule 5 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	A	62	Total	O	0	0
			62	62		
5	B	83	Total	O	0	0
			83	83		
5	C	57	Total	O	0	0
			57	57		
5	D	91	Total	O	0	0
			91	91		
5	E	92	Total	O	0	0
			92	92		
5	F	71	Total	O	0	0
			71	71		
5	G	83	Total	O	0	0
			83	83		
5	H	77	Total	O	0	0
			77	77		
5	I	60	Total	O	0	0
			60	60		
5	J	50	Total	O	0	0
			50	50		
5	K	47	Total	O	0	0
			47	47		
5	L	61	Total	O	0	0
			61	61		
5	M	53	Total	O	0	0
			53	53		

Continued on next page...

Continued from previous page...

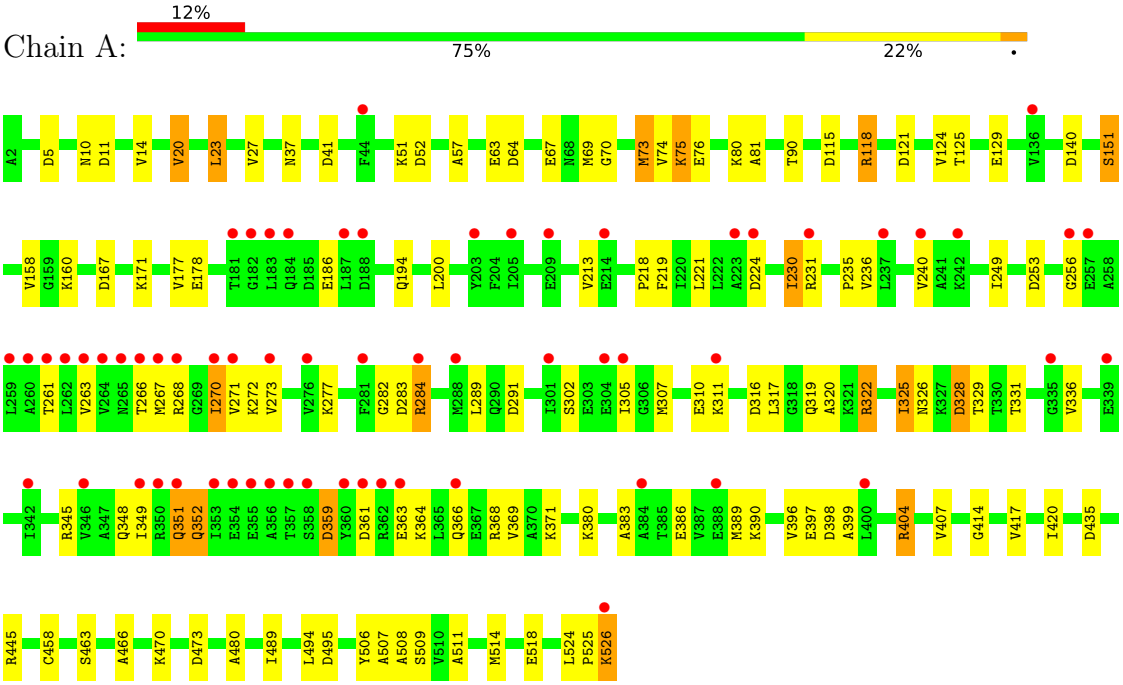
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
5	N	59	Total	O	0	0
			59	59		

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.

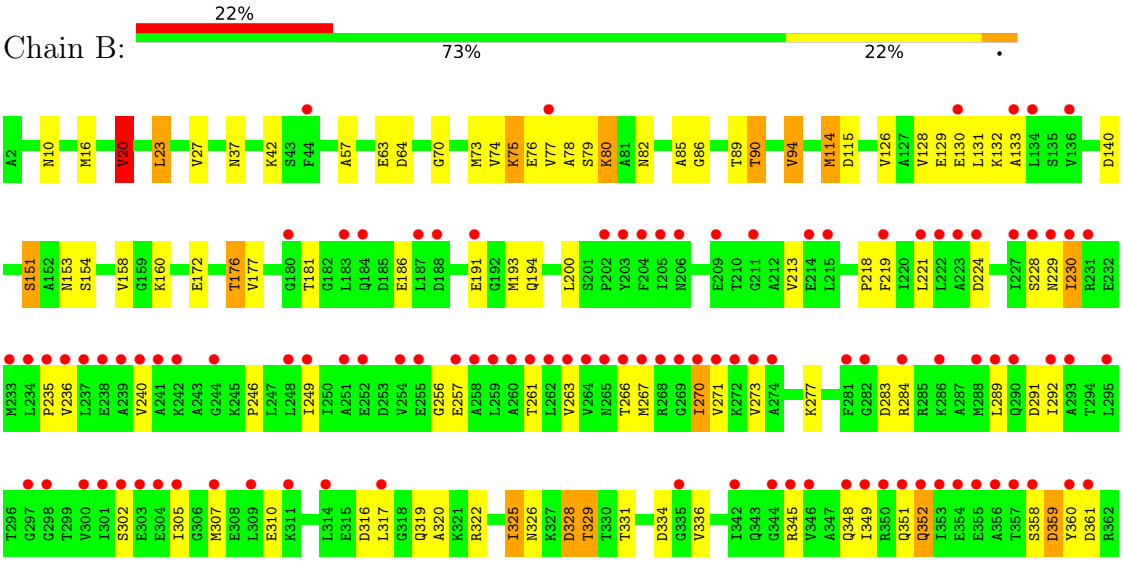
• Molecule 1: groEL protein

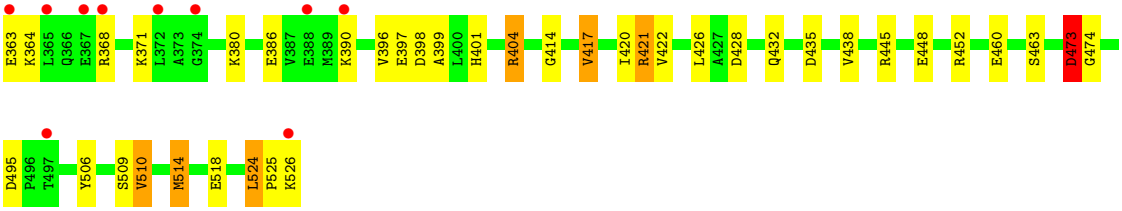
Chain A:



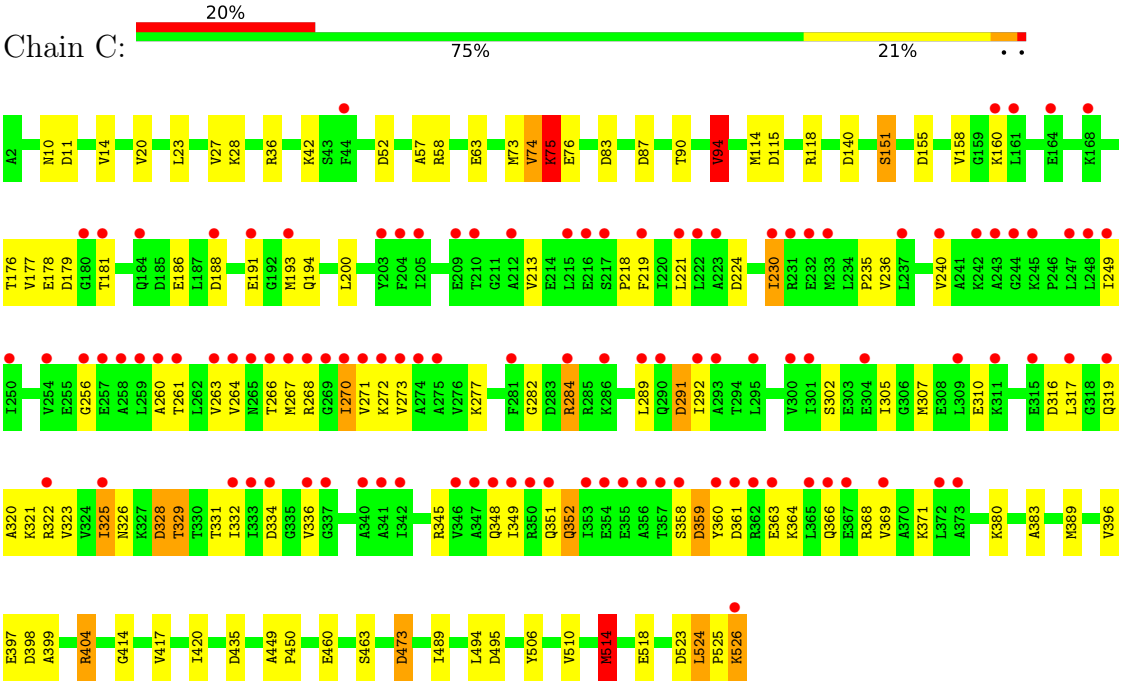
• Molecule 1: groEL protein

Chain B:

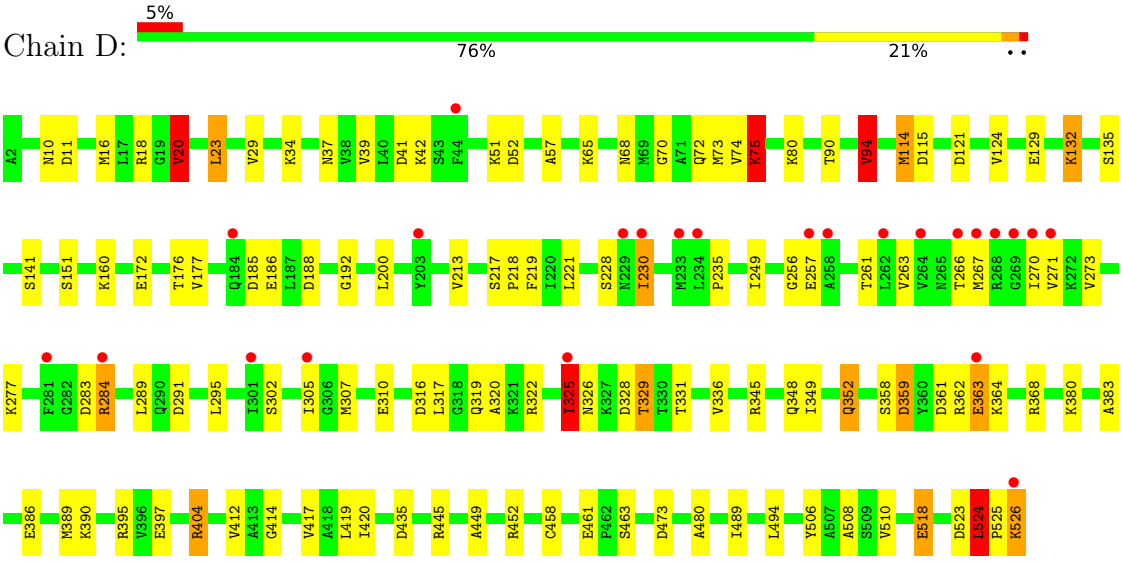




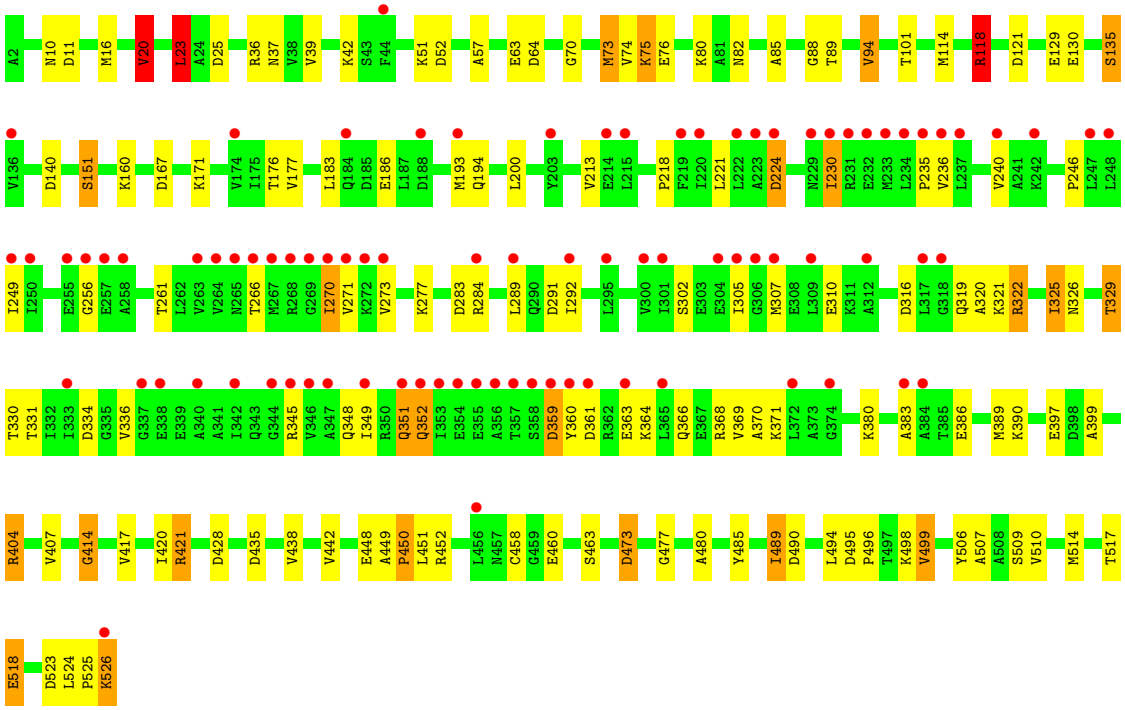
• Molecule 1: groEL protein



• Molecule 1: groEL protein

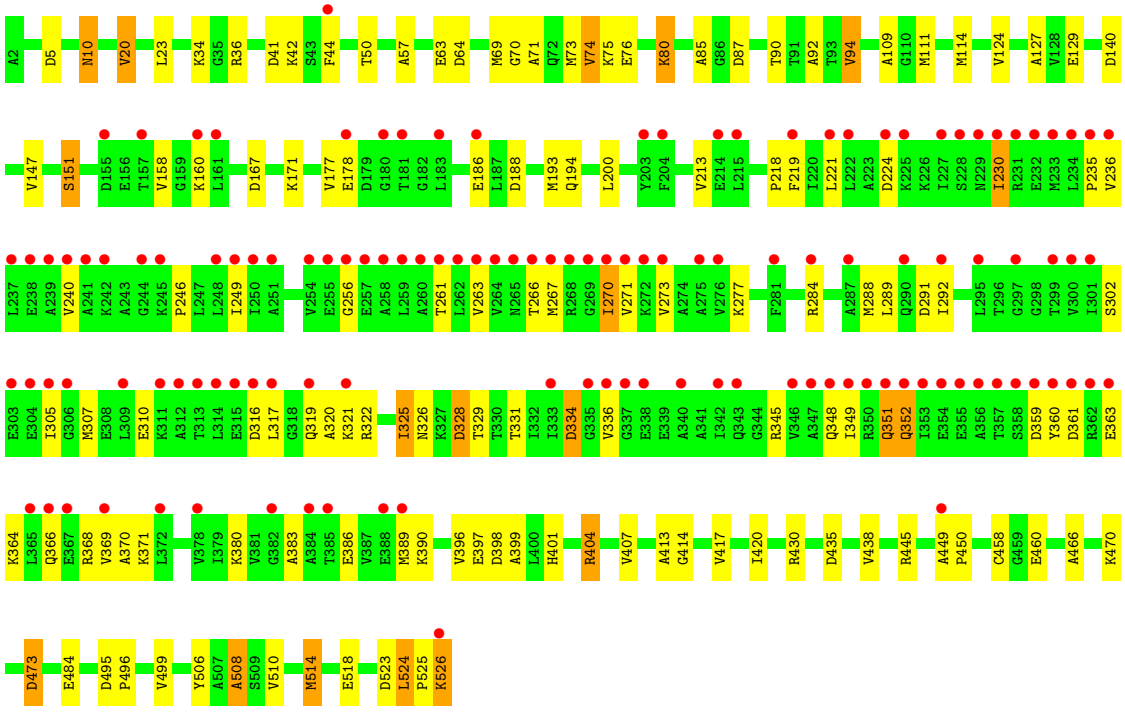


• Molecule 1: groEL protein



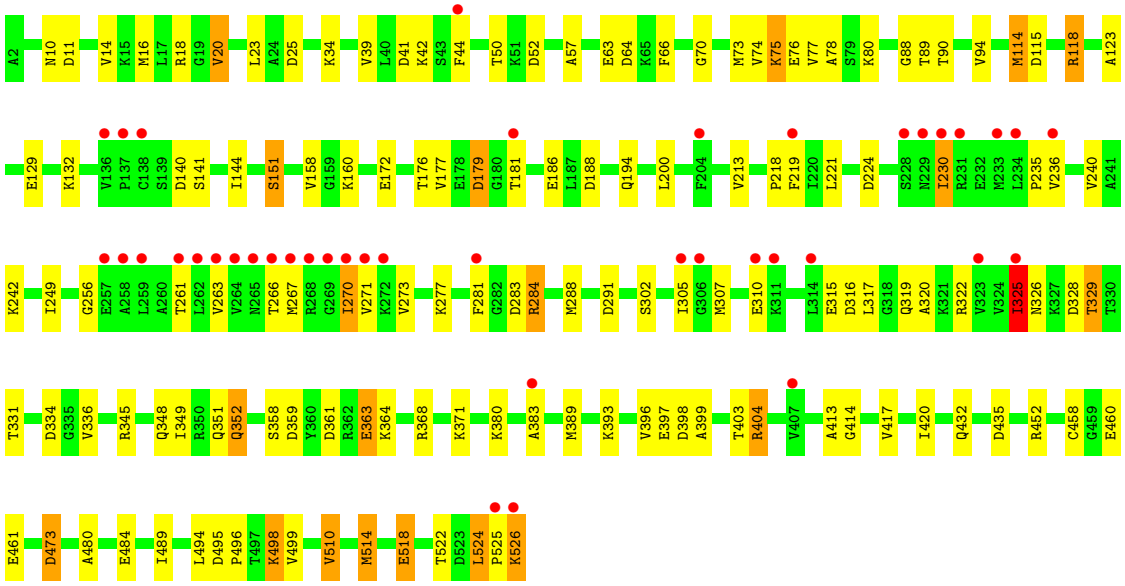
• Molecule 1: groEL protein

Chain F:



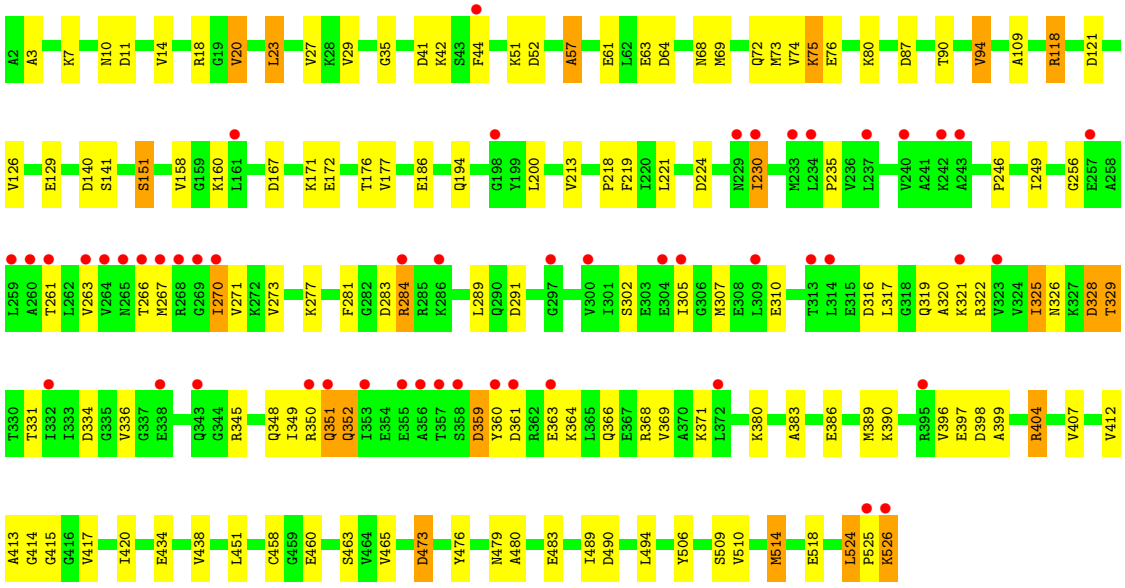
• Molecule 1: groEL protein

Chain G:



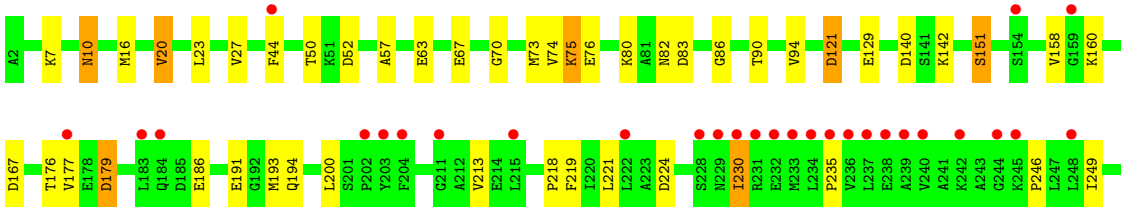
• Molecule 1: groEL protein

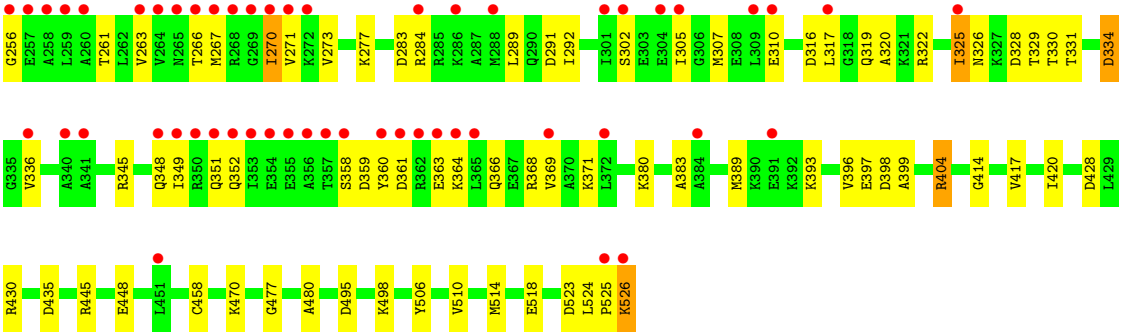
Chain H:



• Molecule 1: groEL protein

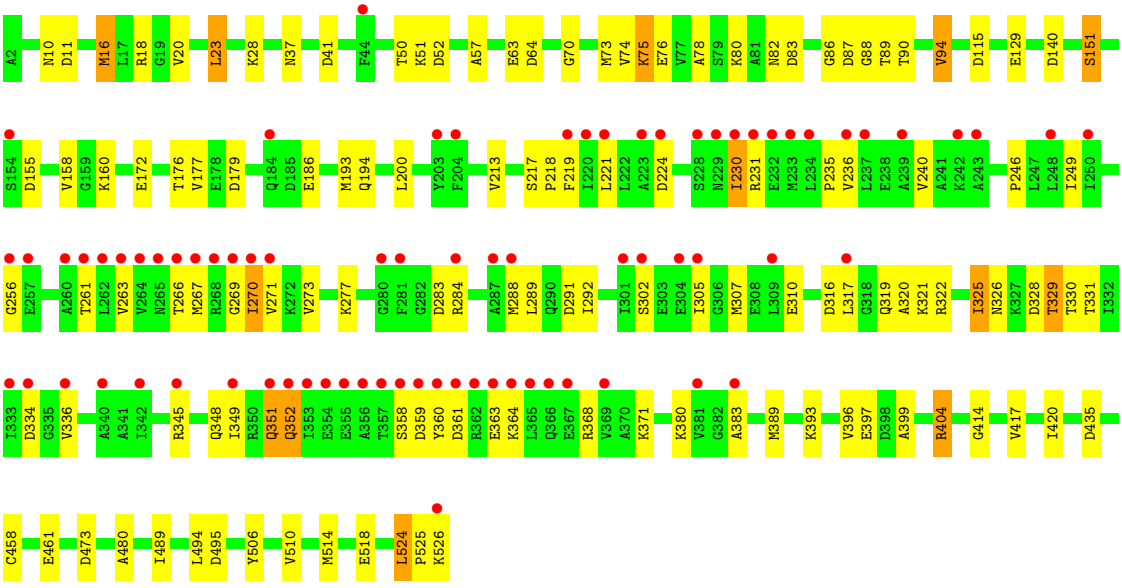
Chain I:





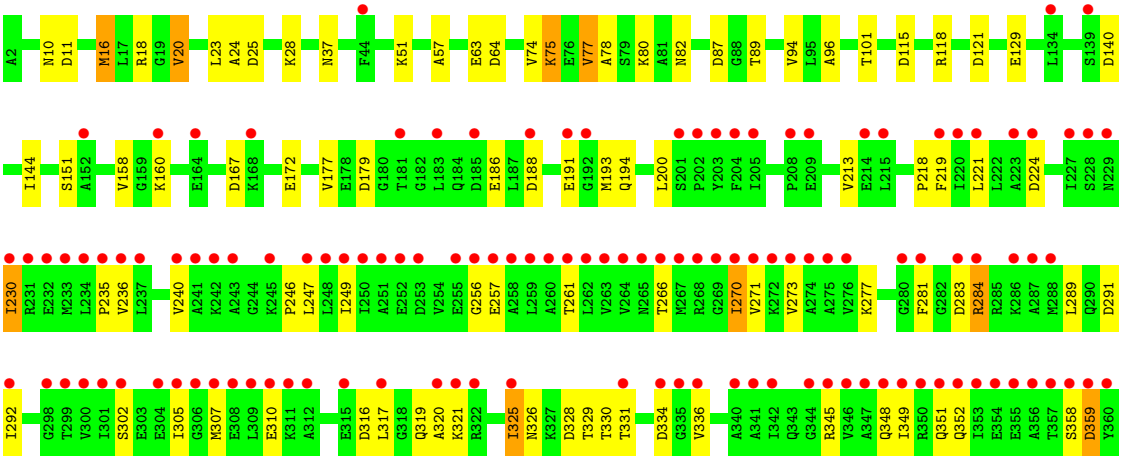
• Molecule 1: groEL protein

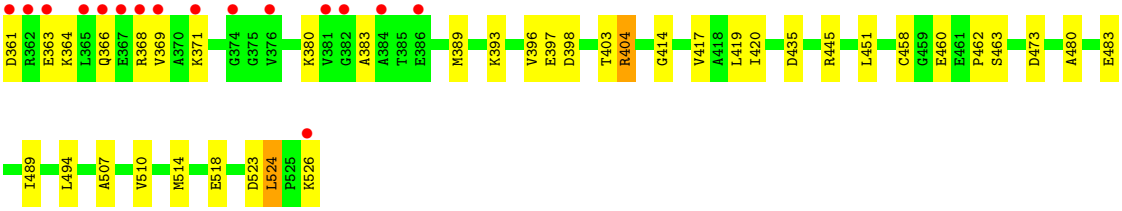
Chain J:



• Molecule 1: groEL protein

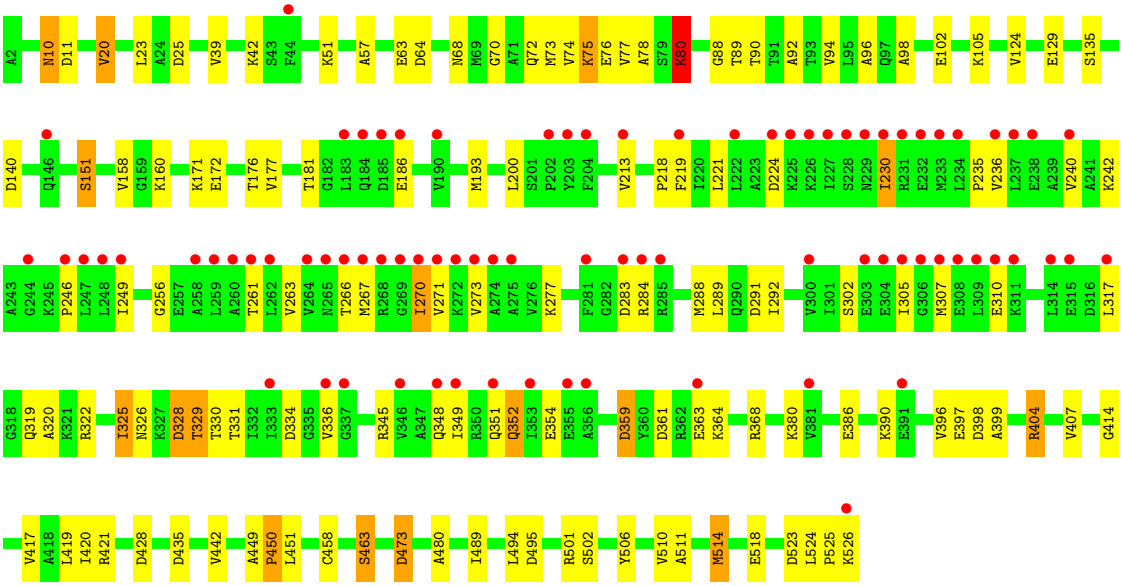
Chain K:





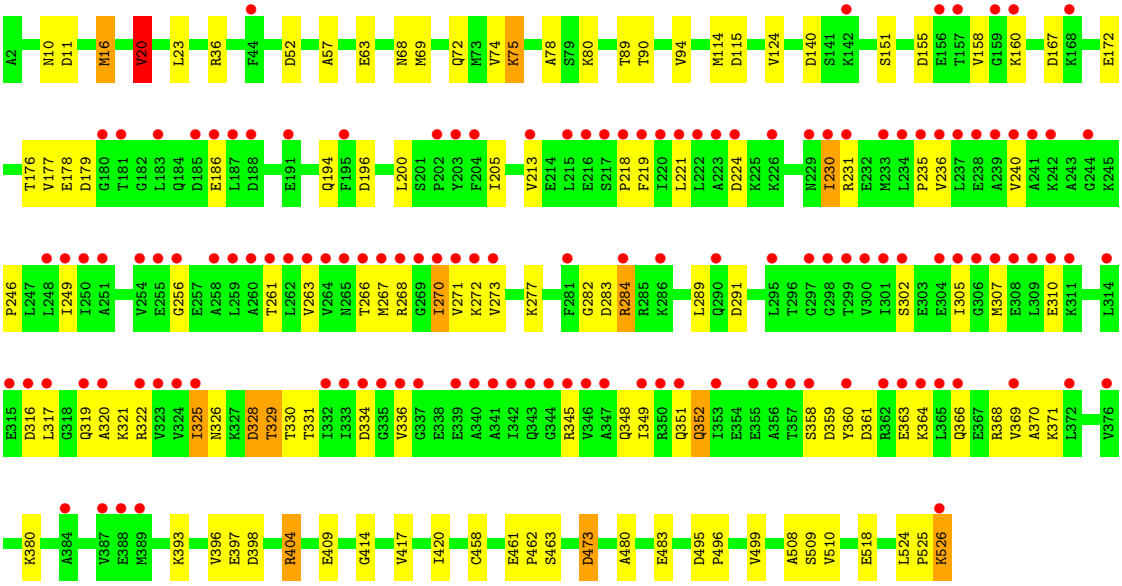
• Molecule 1: groEL protein

Chain L:



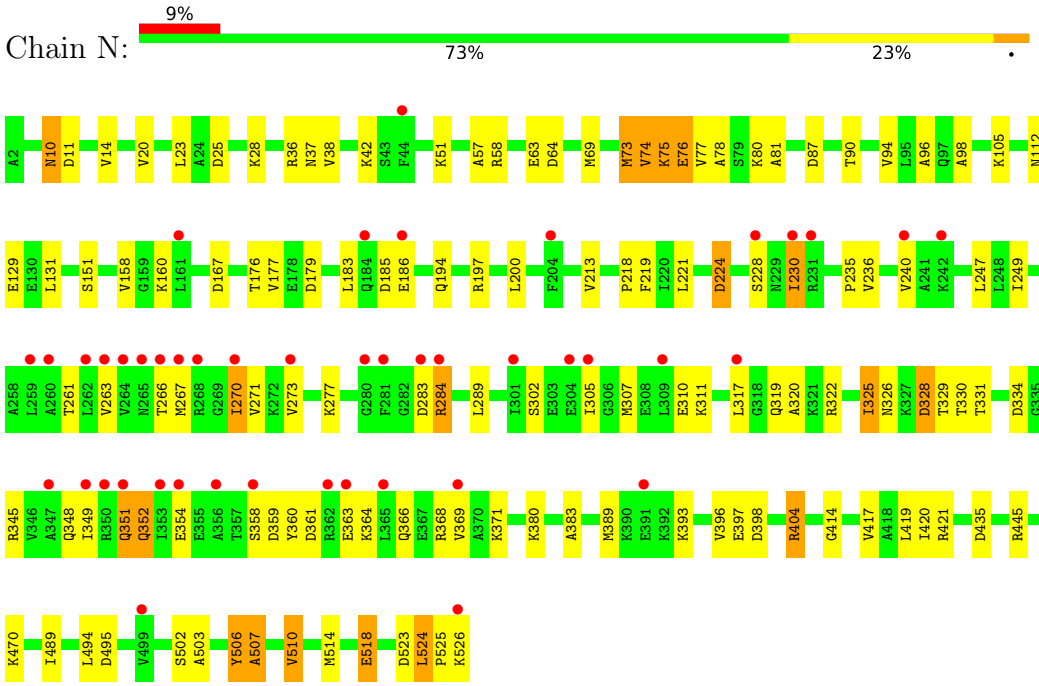
• Molecule 1: groEL protein

Chain M:



• Molecule 1: groEL protein

Chain N:



4 Data and refinement statistics (i)

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α, β, γ	135.57Å 260.11Å 150.20Å 90.00° 101.14° 90.00°	Depositor
Resolution (Å)	39.84 – 2.00 39.89 – 2.00	Depositor EDS
% Data completeness (in resolution range)	(Not available) (39.84-2.00) 79.1 (39.89-2.00)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$< I/\sigma(I) >$ [1]	0.57 (at 2.00Å)	Xtriage
Refinement program	REFMAC refmac_5.1.19	Depositor
R, R_{free}	0.245 , 0.265 0.274 , 0.289	Depositor DCC
R_{free} test set	12780 reflections (1.98%)	wwPDB-VP
Wilson B-factor (Å^2)	30.6	Xtriage
Anisotropy	0.362	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.34 , 55.6	EDS
L-test for twinning[2]	$< \|L\| > = 0.49$, $< L^2 > = 0.32$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
F_o,F_c correlation	0.94	EDS
Total number of atoms	55380	wwPDB-VP
Average B, all atoms (Å^2)	13.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 3.58% 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 (i)

5.1 Standard geometry (i)

Bond lengths and bond angles in the following residue types are not validated in this section: K, AGS, MG

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	1.09	12/3883 (0.3%)	1.03	21/5243 (0.4%)
1	B	1.27	27/3883 (0.7%)	1.11	25/5243 (0.5%)
1	C	1.02	10/3883 (0.3%)	0.99	22/5243 (0.4%)
1	D	1.28	18/3883 (0.5%)	1.13	25/5243 (0.5%)
1	E	1.31	32/3883 (0.8%)	1.19	37/5243 (0.7%)
1	F	1.10	18/3883 (0.5%)	1.04	21/5243 (0.4%)
1	G	1.26	25/3883 (0.6%)	1.09	21/5243 (0.4%)
1	H	1.25	32/3883 (0.8%)	1.09	24/5243 (0.5%)
1	I	1.11	9/3883 (0.2%)	1.02	19/5243 (0.4%)
1	J	1.08	11/3883 (0.3%)	1.08	21/5243 (0.4%)
1	K	1.03	10/3883 (0.3%)	1.00	18/5243 (0.3%)
1	L	1.15	19/3883 (0.5%)	1.07	22/5243 (0.4%)
1	M	1.03	10/3883 (0.3%)	1.08	18/5243 (0.3%)
1	N	1.15	16/3883 (0.4%)	1.09	26/5243 (0.5%)
All	All	1.16	249/54362 (0.5%)	1.07	320/73402 (0.4%)

All (249) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	510	VAL	CB-CG2	14.81	1.83	1.52
1	B	129	GLU	CD-OE2	13.14	1.40	1.25
1	B	510	VAL	CB-CG2	12.46	1.79	1.52
1	E	490	ASP	CB-CG	-11.51	1.27	1.51
1	B	129	GLU	CG-CD	11.47	1.69	1.51
1	E	506	TYR	CD2-CE2	10.89	1.55	1.39
1	B	129	GLU	CD-OE1	10.70	1.37	1.25
1	K	510	VAL	CB-CG2	9.95	1.73	1.52
1	J	510	VAL	CB-CG2	9.69	1.73	1.52
1	F	510	VAL	CB-CG2	9.64	1.73	1.52
1	G	129	GLU	CD-OE2	9.58	1.36	1.25
1	J	506	TYR	CD1-CE1	9.37	1.53	1.39

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	H	506	TYR	CD1-CE1	9.29	1.53	1.39
1	E	510	VAL	CB-CG2	9.28	1.72	1.52
1	B	132	LYS	CD-CE	9.16	1.74	1.51
1	N	506	TYR	CD2-CE2	8.89	1.52	1.39
1	G	460	GLU	CD-OE1	8.89	1.35	1.25
1	D	114	MET	CG-SD	8.76	2.04	1.81
1	D	129	GLU	CD-OE2	8.54	1.35	1.25
1	L	88	GLY	C-O	8.45	1.37	1.23
1	A	129	GLU	CD-OE1	8.39	1.34	1.25
1	L	92	ALA	CA-CB	8.22	1.69	1.52
1	G	129	GLU	CG-CD	8.17	1.64	1.51
1	D	129	GLU	CD-OE1	8.07	1.34	1.25
1	D	363	GLU	CD-OE2	8.03	1.34	1.25
1	D	510	VAL	CB-CG2	8.02	1.69	1.52
1	L	172	GLU	CD-OE2	7.98	1.34	1.25
1	L	124	VAL	CB-CG2	-7.92	1.36	1.52
1	D	141	SER	CB-OG	-7.87	1.32	1.42
1	I	510	VAL	CB-CG2	7.80	1.69	1.52
1	L	511	ALA	CA-CB	-7.78	1.36	1.52
1	M	510	VAL	CB-CG2	7.77	1.69	1.52
1	N	96	ALA	CA-CB	-7.76	1.36	1.52
1	C	114	MET	CG-SD	7.74	2.01	1.81
1	H	438	VAL	CB-CG2	7.74	1.69	1.52
1	B	432	GLN	CG-CD	7.69	1.68	1.51
1	N	507	ALA	CA-CB	-7.67	1.36	1.52
1	B	130	GLU	CD-OE2	7.60	1.34	1.25
1	H	506	TYR	CD2-CE2	7.46	1.50	1.39
1	F	438	VAL	CB-CG2	7.42	1.68	1.52
1	G	510	VAL	CB-CG2	7.41	1.68	1.52
1	H	44	PHE	CD2-CE2	7.40	1.54	1.39
1	L	80	LYS	CG-CD	7.37	1.77	1.52
1	B	460	GLU	CD-OE2	7.31	1.33	1.25
1	B	90	THR	C-O	7.30	1.37	1.23
1	E	460	GLU	CD-OE2	7.30	1.33	1.25
1	G	114	MET	CG-SD	7.25	2.00	1.81
1	L	129	GLU	CD-OE2	7.24	1.33	1.25
1	J	129	GLU	CD-OE1	7.17	1.33	1.25
1	N	73	MET	SD-CE	-7.17	1.37	1.77
1	E	485	TYR	CE2-CZ	7.17	1.47	1.38
1	A	129	GLU	CD-OE2	7.16	1.33	1.25
1	H	509	SER	CB-OG	-7.16	1.32	1.42
1	I	526	LYS	CD-CE	7.16	1.69	1.51

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	N	98	ALA	C-O	-7.16	1.09	1.23
1	E	129	GLU	CD-OE2	7.13	1.33	1.25
1	A	81	ALA	CA-CB	-7.11	1.37	1.52
1	C	510	VAL	CB-CG2	7.09	1.67	1.52
1	L	129	GLU	CG-CD	7.08	1.62	1.51
1	D	506	TYR	CD2-CE2	7.03	1.49	1.39
1	D	445	ARG	NE-CZ	7.02	1.42	1.33
1	J	461	GLU	CD-OE2	6.97	1.33	1.25
1	I	44	PHE	CE1-CZ	6.95	1.50	1.37
1	N	506	TYR	CD1-CE1	6.95	1.49	1.39
1	B	422	VAL	CB-CG1	-6.93	1.38	1.52
1	H	129	GLU	CD-OE1	6.92	1.33	1.25
1	F	445	ARG	NE-CZ	6.91	1.42	1.33
1	G	141	SER	CB-OG	-6.90	1.33	1.42
1	I	506	TYR	CD1-CE1	6.90	1.49	1.39
1	H	415	GLY	C-O	6.87	1.34	1.23
1	K	172	GLU	CD-OE2	6.86	1.33	1.25
1	B	506	TYR	CD1-CE1	6.85	1.49	1.39
1	J	16	MET	SD-CE	6.81	2.16	1.77
1	D	412	VAL	CB-CG1	6.76	1.67	1.52
1	H	526	LYS	CB-CG	6.75	1.70	1.52
1	E	130	GLU	CD-OE2	6.73	1.33	1.25
1	B	128	VAL	CB-CG1	-6.70	1.38	1.52
1	M	483	GLU	CD-OE2	6.70	1.33	1.25
1	E	498	LYS	CE-NZ	6.63	1.65	1.49
1	H	506	TYR	CZ-OH	6.63	1.49	1.37
1	E	442	VAL	CB-CG2	-6.61	1.39	1.52
1	N	38	VAL	CB-CG2	-6.60	1.39	1.52
1	A	511	ALA	CA-CB	-6.52	1.38	1.52
1	B	114	MET	CG-SD	6.49	1.98	1.81
1	B	114	MET	CB-CG	6.49	1.72	1.51
1	H	460	GLU	CD-OE1	6.49	1.32	1.25
1	E	94	VAL	C-O	-6.48	1.11	1.23
1	L	502	SER	CB-OG	6.42	1.50	1.42
1	E	129	GLU	CD-OE1	6.42	1.32	1.25
1	E	88	GLY	C-O	6.42	1.33	1.23
1	H	126	VAL	CB-CG1	6.37	1.66	1.52
1	G	498	LYS	CE-NZ	6.36	1.65	1.49
1	B	126	VAL	CB-CG2	6.35	1.66	1.52
1	B	506	TYR	CD2-CE2	6.29	1.48	1.39
1	E	507	ALA	CA-CB	-6.29	1.39	1.52
1	H	483	GLU	CD-OE1	6.21	1.32	1.25

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	L	463	SER	CB-OG	6.21	1.50	1.42
1	D	449	ALA	CA-CB	6.20	1.65	1.52
1	D	129	GLU	CG-CD	6.15	1.61	1.51
1	K	24	ALA	CA-CB	6.13	1.65	1.52
1	H	526	LYS	CE-NZ	6.12	1.64	1.49
1	D	75	LYS	CE-NZ	-6.10	1.33	1.49
1	I	526	LYS	CB-CG	6.09	1.69	1.52
1	H	526	LYS	CD-CE	6.07	1.66	1.51
1	N	81	ALA	CA-CB	6.05	1.65	1.52
1	E	73	MET	SD-CE	-6.04	1.44	1.77
1	E	80	LYS	CG-CD	6.00	1.72	1.52
1	L	510	VAL	CB-CG2	6.00	1.65	1.52
1	F	80	LYS	CE-NZ	5.99	1.64	1.49
1	F	526	LYS	CE-NZ	5.97	1.64	1.49
1	J	172	GLU	CD-OE2	5.97	1.32	1.25
1	B	448	GLU	CD-OE1	5.96	1.32	1.25
1	G	526	LYS	CB-CG	5.96	1.68	1.52
1	A	129	GLU	CG-CD	5.95	1.60	1.51
1	K	483	GLU	CD-OE1	5.94	1.32	1.25
1	B	445	ARG	CG-CD	5.94	1.66	1.51
1	H	44	PHE	CE1-CZ	5.93	1.48	1.37
1	J	514	MET	CG-SD	5.92	1.96	1.81
1	E	490	ASP	CG-OD1	5.91	1.39	1.25
1	B	438	VAL	CB-CG2	5.91	1.65	1.52
1	J	461	GLU	CD-OE1	5.88	1.32	1.25
1	N	445	ARG	NE-CZ	5.88	1.40	1.33
1	D	363	GLU	CD-OE1	5.87	1.32	1.25
1	F	92	ALA	C-O	5.87	1.34	1.23
1	L	80	LYS	CE-NZ	5.86	1.63	1.49
1	F	127	ALA	CA-CB	5.84	1.64	1.52
1	L	96	ALA	CA-CB	-5.84	1.40	1.52
1	N	58	ARG	CG-CD	5.83	1.66	1.51
1	F	71	ALA	CA-CB	5.82	1.64	1.52
1	E	448	GLU	CA-CB	5.82	1.66	1.53
1	C	94	VAL	CB-CG2	-5.81	1.40	1.52
1	N	105	LYS	CE-NZ	5.81	1.63	1.49
1	K	507	ALA	CA-CB	-5.79	1.40	1.52
1	M	114	MET	CG-SD	5.79	1.96	1.81
1	F	460	GLU	CD-OE1	5.79	1.32	1.25
1	H	44	PHE	CD1-CE1	5.78	1.50	1.39
1	G	526	LYS	CE-NZ	5.77	1.63	1.49
1	L	506	TYR	CD1-CE1	5.77	1.48	1.39

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	F	484	GLU	CD-OE2	5.74	1.31	1.25
1	H	465	VAL	CB-CG1	5.72	1.64	1.52
1	A	506	TYR	CD2-CE2	5.71	1.48	1.39
1	L	506	TYR	CB-CG	5.71	1.60	1.51
1	J	129	GLU	CG-CD	5.70	1.60	1.51
1	C	514	MET	CG-SD	5.70	1.96	1.81
1	E	490	ASP	CA-CB	-5.69	1.41	1.53
1	H	44	PHE	CE2-CZ	5.68	1.48	1.37
1	H	510	VAL	CB-CG2	5.68	1.64	1.52
1	D	172	GLU	CG-CD	5.68	1.60	1.51
1	A	67	GLU	CD-OE1	5.67	1.31	1.25
1	G	123	ALA	CA-CB	-5.66	1.40	1.52
1	L	98	ALA	CA-CB	5.65	1.64	1.52
1	H	476	TYR	CZ-OH	5.64	1.47	1.37
1	E	101	THR	CB-CG2	5.63	1.71	1.52
1	G	432	GLN	CG-CD	5.63	1.64	1.51
1	B	474	GLY	C-O	5.62	1.32	1.23
1	B	509	SER	N-CA	-5.62	1.35	1.46
1	N	58	ARG	NE-CZ	5.61	1.40	1.33
1	A	526	LYS	CE-NZ	5.61	1.63	1.49
1	I	67	GLU	CD-OE2	5.61	1.31	1.25
1	I	498	LYS	CE-NZ	5.60	1.63	1.49
1	G	76	GLU	CD-OE2	5.60	1.31	1.25
1	M	16	MET	SD-CE	5.60	2.09	1.77
1	C	526	LYS	CD-CE	5.59	1.65	1.51
1	D	132	LYS	CD-CE	5.58	1.65	1.51
1	K	96	ALA	CA-CB	-5.58	1.40	1.52
1	E	80	LYS	CE-NZ	5.57	1.62	1.49
1	C	75	LYS	CD-CE	-5.57	1.37	1.51
1	F	44	PHE	CE1-CZ	5.56	1.48	1.37
1	E	509	SER	CB-OG	-5.56	1.35	1.42
1	M	463	SER	CB-OG	5.56	1.49	1.42
1	H	514	MET	CG-SD	5.55	1.95	1.81
1	E	85	ALA	CA-CB	5.54	1.64	1.52
1	M	461	GLU	CD-OE2	5.53	1.31	1.25
1	F	129	GLU	CD-OE2	5.51	1.31	1.25
1	H	57	ALA	CA-CB	5.51	1.64	1.52
1	G	363	GLU	CD-OE2	5.51	1.31	1.25
1	E	506	TYR	CZ-OH	5.51	1.47	1.37
1	G	172	GLU	CD-OE2	5.49	1.31	1.25
1	E	414	GLY	C-O	5.47	1.32	1.23
1	H	483	GLU	CD-OE2	5.46	1.31	1.25

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	F	506	TYR	CD2-CE2	5.45	1.47	1.39
1	G	44	PHE	CB-CG	5.45	1.60	1.51
1	E	114	MET	CG-SD	5.45	1.95	1.81
1	K	514	MET	CG-SD	5.44	1.95	1.81
1	C	506	TYR	CD1-CE1	5.43	1.47	1.39
1	G	20	VAL	CA-CB	5.42	1.66	1.54
1	N	129	GLU	CD-OE2	5.42	1.31	1.25
1	H	3	ALA	CA-CB	-5.41	1.41	1.52
1	E	129	GLU	CG-CD	5.40	1.60	1.51
1	M	172	GLU	CD-OE2	5.39	1.31	1.25
1	F	114	MET	CB-CG	5.38	1.68	1.51
1	H	172	GLU	CD-OE2	5.38	1.31	1.25
1	N	129	GLU	CG-CD	5.38	1.60	1.51
1	I	44	PHE	CD2-CE2	5.36	1.50	1.39
1	G	88	GLY	C-O	5.36	1.32	1.23
1	B	509	SER	CB-OG	-5.36	1.35	1.42
1	F	514	MET	CG-SD	5.34	1.95	1.81
1	G	526	LYS	CD-CE	5.33	1.64	1.51
1	G	44	PHE	CE1-CZ	5.32	1.47	1.37
1	C	463	SER	CB-OG	5.32	1.49	1.42
1	H	141	SER	CB-OG	-5.31	1.35	1.42
1	K	101	THR	C-O	-5.31	1.13	1.23
1	L	501	ARG	CG-CD	-5.29	1.38	1.51
1	C	460	GLU	CD-OE2	5.29	1.31	1.25
1	F	129	GLU	CG-CD	5.29	1.59	1.51
1	J	88	GLY	C-O	5.28	1.32	1.23
1	L	105	LYS	C-O	5.27	1.33	1.23
1	N	76	GLU	N-CA	5.25	1.56	1.46
1	C	58	ARG	NE-CZ	5.25	1.39	1.33
1	E	438	VAL	CB-CG2	5.25	1.63	1.52
1	A	509	SER	CB-OG	-5.24	1.35	1.42
1	H	61	GLU	CD-OE2	5.23	1.31	1.25
1	I	129	GLU	CG-CD	5.23	1.59	1.51
1	G	132	LYS	CD-CE	5.23	1.64	1.51
1	J	129	GLU	CD-OE2	5.23	1.31	1.25
1	G	172	GLU	CG-CD	5.22	1.59	1.51
1	H	29	VAL	CB-CG1	5.22	1.63	1.52
1	E	514	MET	CG-SD	5.22	1.94	1.81
1	L	450	PRO	CG-CD	5.20	1.67	1.50
1	A	507	ALA	CA-CB	-5.20	1.41	1.52
1	K	445	ARG	NE-CZ	5.18	1.39	1.33
1	D	172	GLU	CD-OE1	5.18	1.31	1.25

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	D	461	GLU	CD-OE1	5.16	1.31	1.25
1	E	473	ASP	CB-CG	-5.16	1.41	1.51
1	D	526	LYS	CD-CE	5.15	1.64	1.51
1	G	129	GLU	CD-OE1	5.14	1.31	1.25
1	F	508	ALA	CA-CB	5.14	1.63	1.52
1	B	172	GLU	CD-OE2	5.13	1.31	1.25
1	K	129	GLU	CG-CD	5.12	1.59	1.51
1	M	509	SER	CB-OG	-5.12	1.35	1.42
1	M	526	LYS	CE-NZ	5.10	1.61	1.49
1	B	80	LYS	CD-CE	5.10	1.64	1.51
1	G	473	ASP	CB-CG	-5.09	1.41	1.51
1	B	114	MET	SD-CE	5.09	2.06	1.77
1	H	27	VAL	CB-CG2	-5.09	1.42	1.52
1	E	450	PRO	CG-CD	5.08	1.67	1.50
1	F	129	GLU	CD-OE1	5.07	1.31	1.25
1	A	73	MET	SD-CE	-5.07	1.49	1.77
1	A	526	LYS	CD-CE	5.07	1.64	1.51
1	G	14	VAL	CB-CG2	-5.06	1.42	1.52
1	B	126	VAL	CB-CG1	5.06	1.63	1.52
1	M	80	LYS	CD-CE	5.05	1.63	1.51
1	E	526	LYS	CE-NZ	5.04	1.61	1.49
1	E	75	LYS	CD-CE	-5.04	1.38	1.51
1	G	484	GLU	CD-OE2	5.01	1.31	1.25
1	B	130	GLU	CD-OE1	5.01	1.31	1.25
1	H	412	VAL	CB-CG2	5.01	1.63	1.52
1	H	434	GLU	CA-CB	5.00	1.65	1.53
1	H	129	GLU	CD-OE2	5.00	1.31	1.25

All (320) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	M	284	ARG	NE-CZ-NH2	21.49	131.04	120.30
1	M	284	ARG	NE-CZ-NH1	-20.20	110.20	120.30
1	J	231	ARG	NE-CZ-NH2	19.91	130.25	120.30
1	J	231	ARG	NE-CZ-NH1	-18.92	110.84	120.30
1	N	368	ARG	NE-CZ-NH2	16.05	128.32	120.30
1	N	368	ARG	NE-CZ-NH1	-15.30	112.65	120.30
1	M	284	ARG	CD-NE-CZ	10.41	138.18	123.60
1	E	473	ASP	CB-CG-OD2	10.12	127.41	118.30
1	F	435	ASP	CB-CG-OD2	9.77	127.09	118.30
1	E	490	ASP	CB-CG-OD2	-9.69	109.58	118.30
1	J	52	ASP	CB-CG-OD2	9.65	126.98	118.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	E	428	ASP	CB-CG-OD2	9.35	126.72	118.30
1	E	421	ARG	NE-CZ-NH1	-9.32	115.64	120.30
1	J	231	ARG	CD-NE-CZ	9.31	136.63	123.60
1	E	36	ARG	NE-CZ-NH1	-9.24	115.68	120.30
1	B	428	ASP	CB-CG-OD2	9.09	126.48	118.30
1	G	435	ASP	CB-CG-OD2	9.05	126.45	118.30
1	B	132	LYS	CD-CE-NZ	8.72	131.77	111.70
1	A	41	ASP	CB-CG-OD2	8.68	126.11	118.30
1	K	435	ASP	CB-CG-OD2	8.68	126.11	118.30
1	D	328	ASP	CB-CG-OD2	8.59	126.03	118.30
1	H	167	ASP	CB-CG-OD2	8.20	125.68	118.30
1	B	473	ASP	CB-CG-OD2	8.13	125.61	118.30
1	M	495	ASP	CB-CG-OD2	8.13	125.61	118.30
1	I	435	ASP	CB-CG-OD2	8.04	125.54	118.30
1	D	11	ASP	CB-CG-OD2	7.99	125.49	118.30
1	B	64	ASP	CB-CG-OD2	7.91	125.42	118.30
1	J	140	ASP	CB-CG-OD2	7.79	125.31	118.30
1	N	368	ARG	CD-NE-CZ	7.79	134.50	123.60
1	F	495	ASP	CB-CG-OD2	7.69	125.22	118.30
1	E	523	ASP	CB-CG-OD2	7.67	125.21	118.30
1	M	52	ASP	CB-CG-OD2	7.66	125.20	118.30
1	F	20	VAL	CG1-CB-CG2	7.59	123.05	110.90
1	E	435	ASP	CB-CG-OD2	7.57	125.11	118.30
1	H	140	ASP	CB-CG-OD2	7.54	125.09	118.30
1	M	11	ASP	CB-CG-OD2	7.54	125.09	118.30
1	L	361	ASP	CB-CG-OD2	7.53	125.08	118.30
1	L	435	ASP	CB-CG-OD2	7.49	125.04	118.30
1	F	167	ASP	CB-CG-OD2	7.44	125.00	118.30
1	I	430	ARG	NE-CZ-NH1	7.42	124.01	120.30
1	N	435	ASP	CB-CG-OD2	7.34	124.90	118.30
1	E	499	VAL	CG1-CB-CG2	7.19	122.40	110.90
1	I	121	ASP	CB-CG-OD2	7.17	124.75	118.30
1	B	398	ASP	CB-CG-OD2	7.17	124.75	118.30
1	G	328	ASP	CB-CG-OD2	7.16	124.74	118.30
1	D	435	ASP	CB-CG-OD2	7.15	124.74	118.30
1	D	121	ASP	CB-CG-OD2	7.15	124.73	118.30
1	A	167	ASP	CB-CG-OD2	7.09	124.68	118.30
1	L	20	VAL	CG1-CB-CG2	7.09	122.24	110.90
1	C	52	ASP	CB-CG-OD2	7.07	124.67	118.30
1	H	11	ASP	CB-CG-OD2	7.05	124.64	118.30
1	G	42	LYS	CD-CE-NZ	-7.03	95.53	111.70
1	K	523	ASP	CB-CG-OD2	7.02	124.61	118.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	F	74	VAL	CG1-CB-CG2	-6.91	99.84	110.90
1	D	283	ASP	CB-CG-OD2	6.87	124.48	118.30
1	A	52	ASP	CB-CG-OD2	6.85	124.46	118.30
1	E	121	ASP	CB-CG-OD2	6.84	124.46	118.30
1	I	523	ASP	CB-CG-OD2	6.84	124.45	118.30
1	N	328	ASP	CB-CG-OD2	6.83	124.45	118.30
1	C	140	ASP	CB-CG-OD2	6.80	124.42	118.30
1	J	41	ASP	CB-CG-OD2	6.80	124.42	118.30
1	K	11	ASP	CB-CG-OD2	6.79	124.41	118.30
1	B	140	ASP	CB-CG-OD2	6.78	124.41	118.30
1	A	20	VAL	CG1-CB-CG2	6.78	121.74	110.90
1	H	398	ASP	CB-CG-OD2	6.75	124.38	118.30
1	L	495	ASP	CB-CG-OD2	6.74	124.37	118.30
1	J	11	ASP	CB-CG-OD2	6.73	124.35	118.30
1	K	16	MET	CG-SD-CE	6.71	110.94	100.20
1	N	11	ASP	CB-CG-OD2	6.71	124.34	118.30
1	M	398	ASP	CB-CG-OD2	6.70	124.33	118.30
1	C	11	ASP	CB-CG-OD2	6.68	124.31	118.30
1	N	398	ASP	CB-CG-OD2	6.66	124.29	118.30
1	H	524	LEU	CB-CG-CD2	-6.64	99.71	111.00
1	E	421	ARG	NE-CZ-NH2	6.59	123.60	120.30
1	K	398	ASP	CB-CG-OD2	6.59	124.24	118.30
1	G	115	ASP	CB-CG-OD2	6.59	124.23	118.30
1	J	83	ASP	CB-CG-OD2	6.58	124.22	118.30
1	E	20	VAL	CG1-CB-CG2	6.57	121.42	110.90
1	A	5	ASP	CB-CG-OD1	6.57	124.21	118.30
1	L	398	ASP	CB-CG-OD2	6.54	124.19	118.30
1	L	140	ASP	CB-CG-OD2	6.53	124.18	118.30
1	D	361	ASP	CB-CG-OD2	6.53	124.17	118.30
1	D	41	ASP	CB-CG-OD2	6.52	124.17	118.30
1	D	52	ASP	CB-CG-OD2	6.47	124.12	118.30
1	E	495	ASP	CB-CG-OD2	6.46	124.12	118.30
1	K	28	LYS	CD-CE-NZ	-6.46	96.83	111.70
1	B	361	ASP	CB-CG-OD2	6.43	124.09	118.30
1	J	87	ASP	CB-CG-OD2	6.42	124.08	118.30
1	J	495	ASP	CB-CG-OD2	6.40	124.06	118.30
1	I	179	ASP	CB-CG-OD2	6.40	124.06	118.30
1	N	523	ASP	CB-CG-OD2	6.39	124.05	118.30
1	A	64	ASP	CB-CG-OD1	6.39	124.05	118.30
1	D	523	ASP	CB-CG-OD2	6.38	124.04	118.30
1	E	52	ASP	CB-CG-OD2	6.38	124.04	118.30
1	D	445	ARG	NE-CZ-NH2	6.35	123.48	120.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	H	52	ASP	CB-CG-OD2	6.35	124.01	118.30
1	E	64	ASP	CB-CG-OD2	6.34	124.01	118.30
1	H	490	ASP	CB-CG-OD2	6.34	124.00	118.30
1	B	316	ASP	CB-CG-OD2	6.29	123.97	118.30
1	G	334	ASP	CB-CG-OD2	6.29	123.96	118.30
1	F	42	LYS	CD-CE-NZ	-6.28	97.25	111.70
1	I	83	ASP	CB-CG-OD2	6.28	123.95	118.30
1	D	328	ASP	CB-CG-OD1	-6.25	112.67	118.30
1	I	398	ASP	CB-CG-OD2	6.24	123.92	118.30
1	I	140	ASP	CB-CG-OD2	6.24	123.92	118.30
1	N	361	ASP	CB-CG-OD2	6.23	123.91	118.30
1	C	328	ASP	CB-CG-OD2	6.23	123.91	118.30
1	E	451	LEU	CB-CG-CD2	-6.22	100.42	111.00
1	A	121	ASP	CB-CG-OD2	6.22	123.90	118.30
1	N	167	ASP	CB-CG-OD2	6.21	123.89	118.30
1	N	42	LYS	CD-CE-NZ	-6.20	97.44	111.70
1	E	23	LEU	CB-CG-CD2	6.20	121.53	111.00
1	J	435	ASP	CB-CG-OD2	6.17	123.86	118.30
1	F	473	ASP	CB-CG-OD2	6.17	123.85	118.30
1	E	101	THR	OG1-CB-CG2	-6.17	95.81	110.00
1	A	495	ASP	CB-CG-OD2	6.16	123.84	118.30
1	F	111	MET	CG-SD-CE	6.15	110.04	100.20
1	A	361	ASP	CB-CG-OD2	6.14	123.82	118.30
1	F	140	ASP	CB-CG-OD2	6.11	123.80	118.30
1	L	25	ASP	CB-CG-OD2	6.11	123.80	118.30
1	A	398	ASP	CB-CG-OD2	6.11	123.79	118.30
1	K	316	ASP	CB-CG-OD2	6.11	123.80	118.30
1	I	7	LYS	CD-CE-NZ	-6.10	97.67	111.70
1	B	495	ASP	CB-CG-OD2	6.08	123.77	118.30
1	I	316	ASP	CB-CG-OD2	6.07	123.76	118.30
1	G	473	ASP	CB-CG-OD2	-6.06	112.84	118.30
1	H	328	ASP	CB-CG-OD2	6.05	123.74	118.30
1	I	361	ASP	CB-CG-OD2	6.04	123.74	118.30
1	F	430	ARG	NE-CZ-NH2	-6.04	117.28	120.30
1	D	325	ILE	CG1-CB-CG2	-6.03	98.14	111.40
1	E	490	ASP	CB-CA-C	-6.03	98.35	110.40
1	D	316	ASP	CB-CG-OD2	6.01	123.71	118.30
1	E	283	ASP	CB-CG-OD2	6.01	123.71	118.30
1	B	417	VAL	CG1-CB-CG2	6.00	120.51	110.90
1	M	361	ASP	CB-CG-OD2	6.00	123.70	118.30
1	K	167	ASP	CB-CG-OD2	6.00	123.69	118.30
1	N	74	VAL	CG1-CB-CG2	-5.96	101.37	110.90

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	I	495	ASP	CB-CG-OD2	5.95	123.66	118.30
1	C	316	ASP	CB-CG-OD2	5.93	123.64	118.30
1	E	167	ASP	CB-CG-OD2	5.92	123.63	118.30
1	N	25	ASP	CB-CG-OD2	5.92	123.63	118.30
1	H	283	ASP	CB-CG-OD2	5.90	123.61	118.30
1	B	20	VAL	CG1-CB-CG2	5.90	120.34	110.90
1	K	64	ASP	CB-CG-OD2	5.88	123.59	118.30
1	L	11	ASP	CB-CG-OD2	5.88	123.59	118.30
1	I	52	ASP	CB-CG-OD2	5.88	123.59	118.30
1	E	11	ASP	CB-CG-OD2	5.87	123.58	118.30
1	M	140	ASP	CB-CG-OD2	5.87	123.58	118.30
1	D	115	ASP	CB-CG-OD2	5.85	123.56	118.30
1	E	118	ARG	NE-CZ-NH2	-5.85	117.38	120.30
1	H	451	LEU	CB-CG-CD2	-5.85	101.06	111.00
1	B	115	ASP	CB-CG-OD2	5.84	123.56	118.30
1	G	283	ASP	CB-CG-OD2	5.83	123.55	118.30
1	E	452	ARG	NE-CZ-NH1	-5.83	117.39	120.30
1	K	361	ASP	CB-CG-OD2	5.82	123.53	118.30
1	H	42	LYS	CD-CE-NZ	-5.81	98.34	111.70
1	F	316	ASP	CB-CG-OD2	5.80	123.52	118.30
1	D	94	VAL	CG1-CB-CG2	5.80	120.18	110.90
1	N	131	LEU	CB-CG-CD2	-5.80	101.14	111.00
1	G	25	ASP	CB-CG-OD1	5.79	123.51	118.30
1	G	52	ASP	CB-CG-OD2	5.79	123.51	118.30
1	M	196	ASP	CB-CG-OD2	5.79	123.51	118.30
1	N	64	ASP	CB-CG-OD2	5.78	123.50	118.30
1	F	398	ASP	CB-CG-OD2	5.76	123.48	118.30
1	N	334	ASP	CB-CG-OD2	5.76	123.48	118.30
1	F	64	ASP	CB-CG-OD2	5.76	123.48	118.30
1	D	395	ARG	NE-CZ-NH1	-5.75	117.42	120.30
1	J	283	ASP	CB-CG-OD2	5.75	123.48	118.30
1	H	41	ASP	CB-CG-OD2	5.75	123.47	118.30
1	L	523	ASP	CB-CG-OD2	5.74	123.46	118.30
1	D	20	VAL	CG1-CB-CG2	5.72	120.06	110.90
1	L	64	ASP	CB-CG-OD2	5.72	123.45	118.30
1	F	41	ASP	CB-CG-OD2	5.72	123.45	118.30
1	I	328	ASP	CB-CG-OD2	5.71	123.44	118.30
1	M	473	ASP	CB-CG-OD2	5.71	123.44	118.30
1	C	398	ASP	CB-CG-OD2	5.70	123.43	118.30
1	C	74	VAL	CG1-CB-CG2	-5.70	101.78	110.90
1	M	328	ASP	CB-CG-OD2	5.70	123.42	118.30
1	L	283	ASP	CB-CG-OD2	5.69	123.42	118.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	M	115	ASP	CB-CG-OD2	5.69	123.42	118.30
1	N	452	ARG	NE-CZ-NH2	-5.69	117.46	120.30
1	E	25	ASP	CB-CG-OD2	5.69	123.42	118.30
1	B	421	ARG	NE-CZ-NH1	-5.68	117.46	120.30
1	H	64	ASP	CB-CG-OD2	5.68	123.41	118.30
1	L	514	MET	CG-SD-CE	-5.68	91.11	100.20
1	G	179	ASP	CB-CG-OD2	5.68	123.41	118.30
1	N	87	ASP	CB-CG-OD1	5.67	123.40	118.30
1	N	283	ASP	CB-CG-OD2	5.67	123.40	118.30
1	L	328	ASP	CB-CG-OD2	5.66	123.40	118.30
1	A	435	ASP	CB-CG-OD2	5.65	123.39	118.30
1	H	7	LYS	CD-CE-NZ	-5.65	98.71	111.70
1	D	188	ASP	CB-CG-OD2	5.65	123.38	118.30
1	C	495	ASP	CB-CG-OD2	5.62	123.36	118.30
1	E	359	ASP	CB-CG-OD2	5.61	123.35	118.30
1	M	155	ASP	CB-CG-OD2	5.61	123.34	118.30
1	E	20	VAL	CA-CB-CG2	5.60	119.30	110.90
1	N	421	ARG	NE-CZ-NH2	-5.60	117.50	120.30
1	E	140	ASP	CB-CG-OD2	5.59	123.33	118.30
1	G	41	ASP	CB-CG-OD2	5.58	123.33	118.30
1	H	20	VAL	CG1-CB-CG2	5.57	119.81	110.90
1	J	328	ASP	CB-CG-OD2	5.57	123.31	118.30
1	F	328	ASP	CB-CG-OD2	5.56	123.30	118.30
1	B	131	LEU	CA-CB-CG	5.56	128.08	115.30
1	M	316	ASP	CB-CG-OD2	5.55	123.30	118.30
1	H	473	ASP	CB-CG-OD2	5.55	123.30	118.30
1	H	23	LEU	CA-CB-CG	-5.54	102.55	115.30
1	C	361	ASP	CB-CG-OD2	5.54	123.29	118.30
1	B	524	LEU	CB-CG-CD1	5.54	120.41	111.00
1	C	523	ASP	CB-CG-OD2	5.53	123.28	118.30
1	B	283	ASP	CB-CG-OD2	5.53	123.28	118.30
1	E	42	LYS	CD-CE-NZ	-5.51	99.03	111.70
1	C	179	ASP	CB-CG-OD2	5.50	123.25	118.30
1	I	334	ASP	CB-CG-OD2	5.50	123.25	118.30
1	K	25	ASP	CB-CG-OD2	5.49	123.24	118.30
1	J	115	ASP	CB-CG-OD2	5.49	123.24	118.30
1	B	428	ASP	OD1-CG-OD2	-5.48	112.88	123.30
1	L	435	ASP	OD1-CG-OD2	-5.47	112.90	123.30
1	K	87	ASP	CB-CG-OD2	5.47	123.22	118.30
1	K	140	ASP	CB-CG-OD2	5.47	123.22	118.30
1	A	283	ASP	CB-CG-OD2	5.47	123.22	118.30
1	G	50	THR	OG1-CB-CG2	-5.46	97.44	110.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	G	11	ASP	CB-CG-OD2	5.44	123.20	118.30
1	H	359	ASP	CB-CG-OD2	5.44	123.20	118.30
1	D	185	ASP	CB-CG-OD2	5.44	123.19	118.30
1	C	435	ASP	CB-CG-OD2	5.44	123.19	118.30
1	J	50	THR	OG1-CB-CG2	-5.43	97.50	110.00
1	B	42	LYS	CD-CE-NZ	-5.43	99.21	111.70
1	E	489	ILE	CG1-CB-CG2	-5.43	99.45	111.40
1	G	495	ASP	CB-CG-OD2	5.42	123.18	118.30
1	B	23	LEU	CA-CB-CG	-5.41	102.85	115.30
1	N	28	LYS	CD-CE-NZ	-5.40	99.28	111.70
1	G	16	MET	CG-SD-CE	5.39	108.83	100.20
1	C	28	LYS	CD-CE-NZ	-5.38	99.32	111.70
1	N	224	ASP	CB-CG-OD2	5.38	123.15	118.30
1	J	23	LEU	CA-CB-CG	-5.37	102.95	115.30
1	A	125	THR	OG1-CB-CG2	-5.37	97.65	110.00
1	I	283	ASP	CB-CG-OD2	5.36	123.13	118.30
1	L	334	ASP	CB-CG-OD2	5.35	123.11	118.30
1	D	23	LEU	CB-CG-CD2	5.33	120.06	111.00
1	L	428	ASP	CB-CG-OD2	5.31	123.08	118.30
1	I	167	ASP	CB-CG-OD2	5.31	123.08	118.30
1	C	87	ASP	CB-CG-OD2	5.31	123.08	118.30
1	A	322	ARG	NE-CZ-NH1	5.31	122.95	120.30
1	N	514	MET	CG-SD-CE	-5.31	91.71	100.20
1	H	87	ASP	CB-CG-OD2	5.30	123.07	118.30
1	A	359	ASP	CB-CG-OD2	5.29	123.07	118.30
1	F	361	ASP	CB-CG-OD2	5.29	123.06	118.30
1	G	325	ILE	CG1-CB-CG2	-5.29	99.76	111.40
1	E	361	ASP	CB-CG-OD2	5.29	123.06	118.30
1	K	121	ASP	CB-CG-OD2	5.29	123.06	118.30
1	J	361	ASP	CB-CG-OD2	5.29	123.06	118.30
1	I	50	THR	OG1-CB-CG2	-5.28	97.85	110.00
1	M	283	ASP	CB-CG-OD2	5.28	123.05	118.30
1	N	185	ASP	CB-CG-OD2	5.27	123.05	118.30
1	N	495	ASP	CB-CG-OD1	5.27	123.04	118.30
1	B	133	ALA	O-C-N	-5.26	114.28	122.70
1	J	64	ASP	CB-CG-OD2	5.26	123.03	118.30
1	F	334	ASP	CB-CG-OD2	5.25	123.03	118.30
1	A	253	ASP	CB-CG-OD2	5.24	123.02	118.30
1	C	291	ASP	CB-CG-OD2	5.23	123.00	118.30
1	H	361	ASP	CB-CG-OD2	5.23	123.00	118.30
1	E	490	ASP	OD1-CG-OD2	5.21	133.20	123.30
1	D	524	LEU	CB-CG-CD1	5.21	119.85	111.00

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	H	316	ASP	CB-CG-OD2	5.21	122.99	118.30
1	M	20	VAL	CG1-CB-CG2	5.20	119.22	110.90
1	C	155	ASP	CB-CG-OD2	5.20	122.98	118.30
1	A	316	ASP	CB-CG-OD2	5.20	122.98	118.30
1	E	322	ARG	NE-CZ-NH1	5.20	122.90	120.30
1	F	5	ASP	CB-CG-OD1	5.20	122.98	118.30
1	A	140	ASP	CB-CG-OD2	5.19	122.97	118.30
1	F	87	ASP	CB-CG-OD1	5.19	122.97	118.30
1	G	361	ASP	CB-CG-OD2	5.19	122.97	118.30
1	C	42	LYS	CD-CE-NZ	-5.19	99.77	111.70
1	M	167	ASP	CB-CG-OD2	5.19	122.97	118.30
1	B	132	LYS	N-CA-C	-5.19	97.00	111.00
1	B	132	LYS	CB-CG-CD	5.18	125.07	111.60
1	L	51	LYS	CD-CE-NZ	-5.18	99.78	111.70
1	G	398	ASP	CB-CG-OD2	5.18	122.96	118.30
1	H	23	LEU	CB-CG-CD2	5.17	119.80	111.00
1	C	83	ASP	CB-CG-OD2	5.17	122.95	118.30
1	C	188	ASP	CB-CG-OD2	5.17	122.95	118.30
1	C	359	ASP	CB-CG-OD2	5.17	122.95	118.30
1	K	283	ASP	CB-CG-OD2	5.15	122.94	118.30
1	B	359	ASP	CB-CG-OD2	5.14	122.92	118.30
1	I	445	ARG	NE-CZ-NH1	5.14	122.87	120.30
1	E	42	LYS	CB-CG-CD	-5.13	98.26	111.60
1	E	224	ASP	CB-CG-OD2	5.13	122.92	118.30
1	L	42	LYS	CD-CE-NZ	-5.12	99.92	111.70
1	L	359	ASP	CB-CG-OD2	5.12	122.91	118.30
1	B	328	ASP	CB-CG-OD2	5.11	122.90	118.30
1	B	435	ASP	CB-CG-OD2	5.11	122.90	118.30
1	C	115	ASP	CB-CG-OD2	5.10	122.89	118.30
1	F	523	ASP	CB-CG-OD2	5.10	122.89	118.30
1	E	316	ASP	CB-CG-OD2	5.09	122.89	118.30
1	H	121	ASP	CB-CG-OD2	5.09	122.88	118.30
1	J	28	LYS	CD-CE-NZ	-5.09	99.99	111.70
1	D	362	ARG	NE-CZ-NH1	-5.08	117.76	120.30
1	N	131	LEU	CA-CB-CG	5.08	126.98	115.30
1	L	20	VAL	CA-CB-CG2	5.07	118.51	110.90
1	K	115	ASP	CB-CG-OD2	5.07	122.86	118.30
1	E	473	ASP	CB-CG-OD1	-5.06	113.75	118.30
1	G	316	ASP	CB-CG-OD2	5.05	122.84	118.30
1	D	42	LYS	CD-CE-NZ	-5.04	100.10	111.70
1	D	452	ARG	NE-CZ-NH1	-5.04	117.78	120.30
1	K	359	ASP	CB-CG-OD2	5.04	122.84	118.30

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
1	A	23	LEU	CA-CB-CG	-5.04	103.71	115.30
1	C	473	ASP	CB-CG-OD2	5.04	122.83	118.30
1	D	359	ASP	CB-CG-OD1	5.04	122.83	118.30
1	J	316	ASP	CB-CG-OD2	5.03	122.83	118.30
1	G	20	VAL	CG1-CB-CG2	5.03	118.95	110.90
1	L	473	ASP	CB-CG-OD2	5.03	122.83	118.30
1	A	11	ASP	CB-CG-OD2	5.03	122.82	118.30
1	E	322	ARG	NE-CZ-NH2	-5.03	117.79	120.30
1	K	328	ASP	CB-CG-OD2	5.02	122.82	118.30
1	G	64	ASP	CB-CG-OD2	5.02	122.82	118.30
1	F	50	THR	OG1-CB-CG2	-5.02	98.46	110.00
1	J	155	ASP	CB-CG-OD2	5.01	122.81	118.30
1	A	328	ASP	CB-CG-OD2	5.01	122.81	118.30
1	L	421	ARG	NE-CZ-NH2	-5.01	117.80	120.30
1	H	94	VAL	CG1-CB-CG2	5.01	118.91	110.90

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3855	0	3979	74	1
1	B	3855	0	3979	76	0
1	C	3855	0	3979	71	0
1	D	3855	0	3979	75	0
1	E	3855	0	3979	68	0
1	F	3855	0	3979	77	0
1	G	3855	0	3979	82	2
1	H	3855	0	3979	68	1
1	I	3855	0	3979	64	1
1	J	3855	0	3979	66	0
1	K	3855	0	3979	67	0
1	L	3855	0	3979	75	1
1	M	3855	0	3979	77	0
1	N	3855	0	3979	70	4

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
2	E	1	0	0	0	0
2	F	1	0	0	0	0
2	G	1	0	0	0	0
2	H	1	0	0	0	0
2	I	1	0	0	0	0
2	J	1	0	0	0	0
2	K	1	0	0	0	0
2	L	1	0	0	0	0
2	M	1	0	0	0	0
2	N	1	0	0	0	0
3	A	1	0	0	0	0
3	B	1	0	0	0	0
3	C	1	0	0	1	0
3	D	2	0	0	0	0
3	E	2	0	0	0	0
3	F	1	0	0	0	0
3	G	1	0	0	0	0
3	H	1	0	0	0	0
3	I	1	0	0	0	0
3	J	1	0	0	0	0
3	K	1	0	0	0	0
3	L	1	0	0	0	0
3	M	1	0	0	0	0
3	N	1	0	0	0	0
4	A	31	0	12	3	0
4	B	31	0	12	4	0
4	C	31	0	12	2	0
4	D	31	0	12	4	0
4	E	31	0	12	3	0
4	F	31	0	11	3	0
4	G	31	0	12	4	0
4	H	31	0	12	4	0
4	I	31	0	12	4	0
4	J	31	0	12	5	0
4	K	31	0	12	2	0
4	L	31	0	12	3	0
4	M	31	0	12	3	0
4	N	31	0	12	5	0

Continued on next page...

Continued from previous page...

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
5	A	62	0	0	3	0
5	B	83	0	0	5	0
5	C	57	0	0	3	0
5	D	91	0	0	6	0
5	E	92	0	0	4	0
5	F	71	0	0	1	0
5	G	83	0	0	8	0
5	H	77	0	0	4	0
5	I	60	0	0	3	0
5	J	50	0	0	1	0
5	K	47	0	0	3	0
5	L	61	0	0	2	0
5	M	53	0	0	3	0
5	N	59	0	0	2	0
All	All	55380	0	55873	997	5

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 9.

All (997) 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:L:80:LYS:CD	1:L:80:LYS:CG	1.77	1.62
1:B:510:VAL:CG2	1:B:510:VAL:CB	1.79	1.61
4:A:1:AGS:PG	4:A:1:AGS:S1G	1.53	1.52
1:N:510:VAL:CG2	1:N:510:VAL:CB	1.83	1.51
4:B:1:AGS:PG	4:B:1:AGS:S1G	1.52	1.51
4:J:1:AGS:PG	4:J:1:AGS:S1G	1.52	1.51
4:C:1:AGS:PG	4:C:1:AGS:S1G	1.51	1.51
4:H:1:AGS:PG	4:H:1:AGS:S1G	1.51	1.51
4:K:1:AGS:PG	4:K:1:AGS:S1G	1.51	1.50
4:F:1:AGS:PG	4:F:1:AGS:S1G	1.51	1.50
4:M:1:AGS:PG	4:M:1:AGS:S1G	1.51	1.49
4:I:1:AGS:PG	4:I:1:AGS:S1G	1.50	1.49
4:D:561:AGS:PG	4:D:561:AGS:S1G	1.48	1.47
4:L:1:AGS:PG	4:L:1:AGS:S1G	1.49	1.47
1:G:114:MET:SD	1:G:114:MET:CE	2.02	1.47
4:E:1:AGS:PG	4:E:1:AGS:S1G	1.47	1.46
4:N:1:AGS:PG	4:N:1:AGS:S1G	1.47	1.46
1:E:16:MET:SD	1:E:16:MET:CE	2.03	1.46
1:L:514:MET:SD	1:L:514:MET:CE	2.04	1.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:16:MET:SD	1:B:16:MET:CE	2.03	1.45
1:B:114:MET:SD	1:B:114:MET:CE	2.06	1.44
1:D:114:MET:SD	1:D:114:MET:CG	2.03	1.44
4:G:1:AGS:PG	4:G:1:AGS:S1G	1.45	1.44
1:D:114:MET:SD	1:D:114:MET:CE	2.02	1.44
1:M:16:MET:CE	1:M:16:MET:SD	2.09	1.41
3:C:560:K:K	5:C:566:HOH:O	1.34	1.34
1:J:16:MET:SD	1:J:16:MET:CE	2.16	1.33
1:H:463:SER:HB2	5:H:583:HOH:O	1.34	1.24
1:A:463:SER:HB2	5:A:570:HOH:O	1.43	1.16
1:K:463:SER:HB2	5:K:572:HOH:O	1.43	1.12
1:B:404:ARG:NH1	5:B:586:HOH:O	1.93	1.02
1:C:63:GLU:OE2	1:D:526:LYS:HE2	1.62	0.99
1:M:268:ARG:O	1:N:257:GLU:HG3	1.63	0.99
1:I:10:ASN:ND2	5:I:600:HOH:O	1.97	0.95
1:A:282:GLY:HA3	1:G:181:THR:O	1.67	0.95
4:E:1:AGS:S1G	4:E:1:AGS:O3B	2.26	0.94
1:A:231:ARG:NH1	1:G:242:LYS:HA	1.81	0.93
1:E:63:GLU:OE2	1:F:526:LYS:HE2	1.70	0.91
1:F:10:ASN:ND2	5:F:630:HOH:O	2.03	0.91
1:G:404:ARG:NH1	5:G:576:HOH:O	2.05	0.90
1:A:63:GLU:OE2	1:B:526:LYS:HE2	1.75	0.85
1:H:177:VAL:HG21	1:H:397:GLU:HG3	1.58	0.84
1:N:10:ASN:ND2	5:N:598:HOH:O	2.09	0.84
1:B:177:VAL:HG21	1:B:397:GLU:HG3	1.61	0.83
1:L:514:MET:HB3	1:L:514:MET:HE3	1.60	0.82
1:J:349:ILE:HA	1:J:352:GLN:HG3	1.61	0.82
1:K:349:ILE:HA	1:K:352:GLN:HG3	1.62	0.82
1:L:514:MET:CE	1:L:514:MET:HB3	2.10	0.82
1:M:349:ILE:HA	1:M:352:GLN:HG3	1.62	0.81
1:C:177:VAL:HG21	1:C:397:GLU:HG3	1.62	0.81
4:C:1:AGS:S1G	4:C:1:AGS:O3G	2.39	0.81
1:E:345:ARG:HA	1:E:348:GLN:HE21	1.46	0.81
1:N:349:ILE:HA	1:N:352:GLN:HG3	1.63	0.80
1:L:10:ASN:ND2	5:L:586:HOH:O	2.14	0.80
1:F:177:VAL:HG21	1:F:397:GLU:HG3	1.63	0.80
1:C:349:ILE:HA	1:C:352:GLN:HG3	1.64	0.80
1:L:514:MET:CE	1:L:514:MET:CB	2.60	0.80
1:L:80:LYS:CD	1:L:80:LYS:CB	2.60	0.79
1:A:326:ASN:HD22	1:A:329:THR:HB	1.48	0.79
1:A:177:VAL:HG21	1:A:397:GLU:HG3	1.65	0.79

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:H:349:ILE:HA	1:H:352:GLN:HG3	1.65	0.79
1:J:177:VAL:HG21	1:J:397:GLU:HG3	1.65	0.79
1:F:349:ILE:HA	1:F:352:GLN:HG3	1.64	0.78
1:L:177:VAL:HG21	1:L:397:GLU:HG3	1.62	0.78
1:B:213:VAL:HB	1:B:325:ILE:HG12	1.64	0.78
4:L:1:AGS:S1G	4:L:1:AGS:O3B	2.41	0.78
1:E:177:VAL:HG21	1:E:397:GLU:HG3	1.66	0.78
1:E:349:ILE:HA	1:E:352:GLN:HG3	1.65	0.78
1:L:349:ILE:HA	1:L:352:GLN:HG3	1.66	0.78
1:A:349:ILE:HA	1:A:352:GLN:HG3	1.65	0.78
1:G:177:VAL:HG21	1:G:397:GLU:HG3	1.66	0.78
1:E:404:ARG:NH1	5:E:604:HOH:O	2.15	0.77
1:B:349:ILE:HA	1:B:352:GLN:HG3	1.65	0.77
1:H:404:ARG:NH1	5:H:626:HOH:O	2.16	0.77
1:M:177:VAL:HG21	1:M:397:GLU:HG3	1.64	0.77
1:D:349:ILE:HA	1:D:352:GLN:HG3	1.66	0.77
1:E:213:VAL:HB	1:E:325:ILE:HG12	1.65	0.77
1:I:177:VAL:HG21	1:I:397:GLU:HG3	1.64	0.77
4:M:1:AGS:S1G	4:M:1:AGS:O2G	2.43	0.77
4:A:1:AGS:S1G	4:A:1:AGS:O3B	2.43	0.77
4:N:1:AGS:S1G	4:N:1:AGS:O3G	2.42	0.76
1:G:57:ALA:O	1:G:75:LYS:HE3	1.85	0.76
1:A:345:ARG:HA	1:A:348:GLN:HE21	1.51	0.76
1:F:213:VAL:HB	1:F:325:ILE:HG12	1.67	0.76
4:H:1:AGS:S1G	4:H:1:AGS:O3B	2.44	0.76
1:M:213:VAL:HB	1:M:325:ILE:HG12	1.66	0.76
1:I:349:ILE:HA	1:I:352:GLN:HG3	1.66	0.76
4:F:1:AGS:S1G	4:F:1:AGS:O3G	2.43	0.76
1:K:177:VAL:HG21	1:K:397:GLU:HG3	1.67	0.75
1:K:326:ASN:HD22	1:K:329:THR:HB	1.49	0.75
1:D:177:VAL:HG21	1:D:397:GLU:HG3	1.68	0.75
1:D:345:ARG:HA	1:D:348:GLN:HE21	1.52	0.75
4:G:1:AGS:S1G	4:G:1:AGS:O3B	2.44	0.75
1:J:63:GLU:OE2	1:K:526:LYS:HE2	1.87	0.75
4:B:1:AGS:S1G	4:B:1:AGS:O3B	2.44	0.75
1:C:326:ASN:HD22	1:C:329:THR:HB	1.52	0.75
1:N:177:VAL:HG21	1:N:397:GLU:HG3	1.69	0.75
1:I:63:GLU:OE2	1:J:526:LYS:HE2	1.87	0.75
1:F:345:ARG:HA	1:F:348:GLN:HE21	1.51	0.74
1:N:73:MET:O	1:N:76:GLU:HB2	1.87	0.74
4:F:1:AGS:S1G	4:F:1:AGS:O3B	2.45	0.74

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:462:PRO:HD2	5:M:605:HOH:O	1.86	0.74
1:B:86:GLY:HA3	1:B:401:HIS:CE1	2.22	0.74
1:D:326:ASN:HD22	1:D:329:THR:HB	1.53	0.73
1:I:213:VAL:HB	1:I:325:ILE:HG12	1.70	0.73
1:B:73:MET:O	1:B:76:GLU:HB2	1.88	0.73
1:A:213:VAL:HB	1:A:325:ILE:HG12	1.70	0.73
1:J:345:ARG:HA	1:J:348:GLN:HE21	1.54	0.73
1:M:326:ASN:HD22	1:M:329:THR:HB	1.52	0.72
1:B:345:ARG:HA	1:B:348:GLN:HE21	1.53	0.72
1:C:404:ARG:HG2	1:C:404:ARG:HH11	1.55	0.72
1:B:510:VAL:CG2	1:B:510:VAL:CA	2.67	0.72
1:N:326:ASN:HD22	1:N:329:THR:HB	1.55	0.72
1:G:345:ARG:HA	1:G:348:GLN:HE21	1.55	0.71
1:A:57:ALA:O	1:A:75:LYS:HE3	1.90	0.71
1:A:268:ARG:O	1:B:257:GLU:HG3	1.90	0.71
4:J:1:AGS:S1G	4:J:1:AGS:O3B	2.49	0.71
1:K:213:VAL:HB	1:K:325:ILE:HG12	1.73	0.71
1:J:359:ASP:O	1:J:363:GLU:HG2	1.90	0.71
4:D:561:AGS:S1G	4:D:561:AGS:O3B	2.48	0.71
4:D:561:AGS:S1G	4:D:561:AGS:O3G	2.47	0.71
1:G:359:ASP:O	1:G:363:GLU:HG2	1.91	0.71
1:H:213:VAL:HB	1:H:325:ILE:HG12	1.71	0.71
1:K:345:ARG:HA	1:K:348:GLN:HE21	1.55	0.70
1:N:359:ASP:O	1:N:363:GLU:HG2	1.91	0.70
1:G:489:ILE:HD12	1:G:494:LEU:CD2	2.21	0.70
1:I:345:ARG:HA	1:I:348:GLN:HE21	1.56	0.70
1:B:510:VAL:CG2	1:B:510:VAL:CG1	2.68	0.70
1:B:359:ASP:O	1:B:363:GLU:HG2	1.91	0.70
1:G:349:ILE:HA	1:G:352:GLN:HG3	1.74	0.70
1:H:345:ARG:HA	1:H:348:GLN:HE21	1.56	0.70
1:N:345:ARG:HA	1:N:348:GLN:HE21	1.57	0.70
1:L:326:ASN:HD22	1:L:329:THR:HB	1.57	0.70
1:B:63:GLU:OE2	1:C:526:LYS:HE2	1.91	0.69
1:C:213:VAL:HB	1:C:325:ILE:HG12	1.74	0.69
1:J:213:VAL:HB	1:J:325:ILE:HG12	1.74	0.69
1:K:359:ASP:O	1:K:363:GLU:HG2	1.92	0.69
4:K:1:AGS:S1G	4:K:1:AGS:O3B	2.47	0.69
1:L:63:GLU:OE2	1:M:526:LYS:HE2	1.91	0.69
1:I:73:MET:O	1:I:76:GLU:HB2	1.92	0.69
1:N:176:THR:HG21	1:N:322:ARG:HH12	1.58	0.69
1:F:57:ALA:O	1:F:75:LYS:HE3	1.92	0.69

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:G:1:AGS:S1G	4:G:1:AGS:O3G	2.51	0.69
1:L:73:MET:O	1:L:76:GLU:HB2	1.92	0.69
1:C:291:ASP:OD2	1:C:368:ARG:HD2	1.93	0.68
4:G:1:AGS:S1G	4:G:1:AGS:O2G	2.48	0.68
1:F:326:ASN:HD22	1:F:329:THR:HB	1.58	0.68
4:H:1:AGS:S1G	4:H:1:AGS:O3G	2.49	0.68
1:I:525:PRO:O	1:I:526:LYS:HG2	1.94	0.68
1:L:181:THR:O	1:M:282:GLY:HA3	1.93	0.68
1:M:359:ASP:O	1:M:363:GLU:HG2	1.93	0.68
1:H:404:ARG:HG2	1:H:404:ARG:HH11	1.59	0.68
1:A:231:ARG:HH11	1:G:242:LYS:HA	1.56	0.68
1:H:57:ALA:O	1:H:75:LYS:HE3	1.93	0.68
1:B:70:GLY:HA2	1:B:73:MET:HE3	1.76	0.67
1:A:23:LEU:HD22	1:A:74:VAL:HG13	1.75	0.67
1:L:291:ASP:OD2	1:L:368:ARG:HD2	1.95	0.67
4:M:1:AGS:S1G	4:M:1:AGS:O3G	2.47	0.67
1:H:359:ASP:O	1:H:363:GLU:HG2	1.95	0.67
4:J:1:AGS:S1G	4:J:1:AGS:O2G	2.50	0.67
1:L:213:VAL:HB	1:L:325:ILE:HG12	1.77	0.67
1:D:176:THR:HG21	1:D:322:ARG:HH12	1.59	0.67
1:D:404:ARG:HG2	1:D:404:ARG:HH11	1.60	0.67
1:J:23:LEU:HD22	1:J:74:VAL:HG13	1.76	0.67
1:J:291:ASP:OD2	1:J:368:ARG:HD2	1.96	0.66
1:N:510:VAL:CG2	1:N:510:VAL:CA	2.73	0.66
1:L:359:ASP:O	1:L:363:GLU:HG2	1.95	0.66
1:M:291:ASP:OD2	1:M:368:ARG:HD2	1.95	0.66
1:M:345:ARG:HA	1:M:348:GLN:HE21	1.60	0.66
1:E:359:ASP:O	1:E:363:GLU:HG2	1.96	0.66
1:M:404:ARG:HG2	1:M:404:ARG:HH11	1.61	0.66
4:B:1:AGS:S1G	4:B:1:AGS:O3G	2.51	0.66
1:L:23:LEU:HD22	1:L:74:VAL:HG13	1.79	0.65
1:G:23:LEU:HD22	1:G:74:VAL:HG13	1.76	0.65
4:I:1:AGS:S1G	4:I:1:AGS:O3G	2.49	0.65
1:E:194:GLN:O	1:E:371:LYS:HE3	1.97	0.65
1:N:510:VAL:CG2	1:N:510:VAL:CG1	2.70	0.65
1:E:218:PRO:HD2	1:E:320:ALA:O	1.97	0.65
1:C:359:ASP:O	1:C:363:GLU:HG2	1.97	0.65
1:D:359:ASP:O	1:D:363:GLU:HG2	1.97	0.65
1:D:489:ILE:HD12	1:D:494:LEU:CD2	2.27	0.65
1:G:213:VAL:HB	1:G:325:ILE:HG12	1.79	0.65
1:M:63:GLU:OE2	1:N:526:LYS:HE2	1.95	0.64

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:80:LYS:CG	1:L:80:LYS:NZ	2.60	0.64
1:G:291:ASP:OD2	1:G:368:ARG:HD2	1.98	0.64
1:F:63:GLU:OE2	1:G:526:LYS:HE2	1.96	0.64
1:J:326:ASN:HD22	1:J:329:THR:HB	1.62	0.64
1:D:291:ASP:OD2	1:D:368:ARG:HD2	1.98	0.64
1:A:359:ASP:O	1:A:363:GLU:HG2	1.98	0.64
1:E:489:ILE:HD12	1:E:494:LEU:CD2	2.28	0.64
1:L:266:THR:HG21	1:L:273:VAL:O	1.98	0.64
1:M:194:GLN:O	1:M:371:LYS:HE3	1.98	0.64
1:M:23:LEU:HD22	1:M:74:VAL:HG13	1.80	0.63
1:B:326:ASN:HD22	1:B:329:THR:HB	1.62	0.63
1:F:359:ASP:O	1:F:363:GLU:HG2	1.98	0.63
1:C:345:ARG:HA	1:C:348:GLN:HE21	1.62	0.63
1:G:326:ASN:HD22	1:G:329:THR:HB	1.64	0.63
1:D:213:VAL:HB	1:D:325:ILE:HG12	1.79	0.63
1:H:266:THR:CG2	1:H:273:VAL:H	2.12	0.63
1:E:326:ASN:HD22	1:E:329:THR:HB	1.63	0.63
1:K:404:ARG:HG2	1:K:404:ARG:HH11	1.62	0.63
1:D:23:LEU:HD22	1:D:74:VAL:HG13	1.81	0.63
1:I:291:ASP:OD2	1:I:368:ARG:HD2	1.98	0.63
1:K:291:ASP:OD2	1:K:368:ARG:HD2	1.98	0.63
1:E:291:ASP:OD2	1:E:368:ARG:HD2	1.99	0.62
1:G:218:PRO:HD2	1:G:320:ALA:O	1.99	0.62
4:A:1:AGS:S1G	4:A:1:AGS:O3G	2.51	0.62
1:F:291:ASP:OD2	1:F:368:ARG:HD2	1.99	0.62
1:I:326:ASN:HD22	1:I:329:THR:HB	1.65	0.62
1:N:266:THR:HG21	1:N:273:VAL:O	2.00	0.62
1:C:181:THR:N	5:C:615:HOH:O	2.29	0.62
1:M:272:LYS:NZ	1:N:228:SER:HB2	2.14	0.62
1:K:266:THR:HG21	1:K:273:VAL:O	2.00	0.62
1:L:345:ARG:HA	1:L:348:GLN:HE21	1.65	0.62
1:F:266:THR:HG21	1:F:273:VAL:O	1.99	0.61
1:G:114:MET:HB3	5:G:608:HOH:O	1.98	0.61
1:H:326:ASN:HD22	1:H:329:THR:HB	1.64	0.61
1:M:525:PRO:O	1:M:526:LYS:HG2	2.00	0.61
1:A:445:ARG:NH2	5:A:607:HOH:O	2.32	0.61
1:E:525:PRO:O	1:E:526:LYS:HG2	2.00	0.61
1:K:23:LEU:HD22	1:K:74:VAL:HG13	1.83	0.61
1:B:463:SER:HB2	5:B:601:HOH:O	1.99	0.61
4:N:1:AGS:S1G	4:N:1:AGS:O2G	2.51	0.61
1:E:414:GLY:O	1:E:417:VAL:HG13	2.01	0.61

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:78:ALA:HB1	1:B:89:THR:HB	1.83	0.61
1:B:218:PRO:HD2	1:B:320:ALA:O	2.00	0.61
4:I:1:AGS:S1G	4:I:1:AGS:O2G	2.55	0.61
1:G:498:LYS:NZ	5:G:586:HOH:O	1.97	0.61
1:F:73:MET:O	1:F:76:GLU:HB2	2.01	0.60
1:I:428:ASP:HB2	5:I:608:HOH:O	2.00	0.60
1:L:266:THR:CG2	1:L:273:VAL:H	2.14	0.60
1:M:319:GLN:HB3	1:M:336:VAL:HG21	1.82	0.60
1:B:266:THR:HG21	1:B:273:VAL:O	2.00	0.60
1:C:266:THR:CG2	1:C:273:VAL:H	2.14	0.60
1:H:414:GLY:O	1:H:417:VAL:HG13	2.01	0.60
1:I:23:LEU:HD22	1:I:74:VAL:HG13	1.83	0.60
1:G:266:THR:HG21	1:G:273:VAL:O	2.01	0.60
1:L:176:THR:HG21	1:L:322:ARG:HH12	1.67	0.60
1:D:266:THR:HG21	1:D:273:VAL:O	2.02	0.60
1:L:90:THR:OG1	4:L:1:AGS:S1G	2.59	0.60
1:M:496:PRO:HB2	1:M:499:VAL:HG13	1.83	0.60
1:N:213:VAL:HB	1:N:325:ILE:HG12	1.82	0.60
1:D:284:ARG:HH11	1:D:364:LYS:HD2	1.67	0.59
1:E:57:ALA:O	1:E:75:LYS:HE3	2.02	0.59
4:N:1:AGS:S1G	4:N:1:AGS:O3B	2.57	0.59
4:E:1:AGS:S1G	4:E:1:AGS:O3G	2.53	0.59
1:G:266:THR:CG2	1:G:273:VAL:H	2.16	0.59
1:A:458:CYS:SG	1:A:480:ALA:HB1	2.42	0.59
1:B:23:LEU:HD22	1:B:74:VAL:HG13	1.84	0.59
1:K:414:GLY:O	1:K:417:VAL:HG13	2.02	0.59
1:L:218:PRO:HD2	1:L:320:ALA:O	2.03	0.59
1:E:266:THR:CG2	1:E:273:VAL:H	2.15	0.59
1:F:74:VAL:HG22	1:F:74:VAL:O	2.02	0.59
1:A:266:THR:HG21	1:A:273:VAL:O	2.02	0.59
1:H:266:THR:HG21	1:H:273:VAL:O	2.02	0.59
1:I:525:PRO:O	1:I:526:LYS:CG	2.51	0.59
1:E:266:THR:HG21	1:E:273:VAL:O	2.01	0.58
1:J:266:THR:CG2	1:J:273:VAL:H	2.16	0.58
1:G:18:ARG:NE	5:G:595:HOH:O	2.22	0.58
1:I:359:ASP:O	1:I:363:GLU:HG2	2.03	0.58
1:J:266:THR:HG21	1:J:273:VAL:O	2.04	0.58
1:N:218:PRO:HD2	1:N:320:ALA:O	2.03	0.58
1:D:90:THR:OG1	4:D:561:AGS:S1G	2.58	0.58
1:F:266:THR:CG2	1:F:273:VAL:H	2.16	0.58
1:J:200:LEU:HD21	1:J:277:LYS:HG3	1.85	0.58

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:525:PRO:O	1:B:526:LYS:HG2	2.04	0.58
1:C:194:GLN:O	1:C:371:LYS:HE3	2.02	0.58
1:I:383:ALA:HB3	1:I:389:MET:HB2	1.86	0.58
1:K:218:PRO:HD2	1:K:320:ALA:O	2.03	0.58
1:B:305:ILE:HD12	1:B:307:MET:HE2	1.86	0.57
1:J:176:THR:HG21	1:J:322:ARG:HH12	1.68	0.57
1:B:90:THR:O	1:B:94:VAL:HG13	2.03	0.57
1:I:305:ILE:HD12	1:I:307:MET:HE2	1.87	0.57
1:A:194:GLN:O	1:A:371:LYS:HE3	2.03	0.57
1:B:266:THR:CG2	1:B:273:VAL:H	2.17	0.57
1:L:57:ALA:O	1:L:75:LYS:HE3	2.05	0.57
1:I:194:GLN:O	1:I:371:LYS:HE3	2.05	0.57
1:M:266:THR:CG2	1:M:273:VAL:H	2.17	0.57
1:A:526:LYS:HE2	1:G:63:GLU:OE2	2.04	0.57
1:G:230:ILE:HD12	1:G:261:THR:HG21	1.86	0.57
1:D:132:LYS:HE2	5:D:595:HOH:O	2.04	0.57
1:J:218:PRO:HD2	1:J:320:ALA:O	2.05	0.57
1:C:266:THR:HG22	1:C:273:VAL:H	1.70	0.56
1:H:526:LYS:HE2	1:N:63:GLU:OE2	2.05	0.56
1:I:266:THR:CG2	1:I:273:VAL:H	2.18	0.56
1:L:242:LYS:HA	1:M:231:ARG:NH1	2.20	0.56
1:A:266:THR:CG2	1:A:273:VAL:H	2.18	0.56
1:B:525:PRO:O	1:B:526:LYS:CG	2.53	0.56
1:C:218:PRO:HD2	1:C:320:ALA:O	2.04	0.56
1:C:266:THR:HG21	1:C:273:VAL:O	2.05	0.56
1:D:305:ILE:HD12	1:D:307:MET:HE2	1.86	0.56
1:E:266:THR:HG22	1:E:273:VAL:H	1.71	0.56
1:I:266:THR:HG21	1:I:273:VAL:O	2.04	0.56
1:I:448:GLU:OE2	1:I:470:LYS:NZ	2.32	0.56
1:L:266:THR:HG22	1:L:273:VAL:H	1.69	0.56
1:L:514:MET:CE	1:L:514:MET:CG	2.83	0.56
1:A:200:LEU:HD21	1:A:277:LYS:HG3	1.88	0.56
1:J:23:LEU:CD2	1:J:74:VAL:HG13	2.35	0.56
1:M:266:THR:HG21	1:M:273:VAL:O	2.05	0.56
1:C:23:LEU:HD22	1:C:74:VAL:HG13	1.87	0.56
1:K:266:THR:CG2	1:K:273:VAL:H	2.18	0.56
1:M:305:ILE:HD12	1:M:307:MET:HE2	1.88	0.56
1:A:231:ARG:NH1	1:G:242:LYS:CA	2.64	0.56
1:H:525:PRO:O	1:H:526:LYS:CG	2.54	0.56
1:I:57:ALA:O	1:I:75:LYS:HE3	2.05	0.56
1:D:266:THR:CG2	1:D:273:VAL:H	2.19	0.56

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:266:THR:HG22	1:I:271:VAL:O	2.05	0.56
1:J:404:ARG:HG2	1:J:404:ARG:HH11	1.71	0.56
1:B:291:ASP:OD2	1:B:368:ARG:HD2	2.05	0.56
1:E:319:GLN:HB3	1:E:336:VAL:HG21	1.88	0.55
1:A:291:ASP:OD2	1:A:368:ARG:HD2	2.06	0.55
1:F:389:MET:HE3	1:G:281:PHE:CE2	2.41	0.55
1:N:23:LEU:HD22	1:N:74:VAL:HG13	1.88	0.55
1:D:218:PRO:HD2	1:D:320:ALA:O	2.05	0.55
1:G:525:PRO:O	1:G:526:LYS:CG	2.54	0.55
1:H:73:MET:O	1:H:76:GLU:HB2	2.06	0.55
1:B:85:ALA:O	1:B:401:HIS:HE1	1.89	0.55
1:M:414:GLY:O	1:M:417:VAL:HG13	2.07	0.55
1:N:266:THR:CG2	1:N:273:VAL:H	2.20	0.55
1:A:404:ARG:HG2	1:A:404:ARG:HH11	1.72	0.55
1:C:230:ILE:HD12	1:C:261:THR:HG21	1.88	0.55
1:G:525:PRO:O	1:G:526:LYS:HG2	2.06	0.55
1:F:178:GLU:OE2	1:F:322:ARG:HD3	2.06	0.55
1:H:171:LYS:HB2	1:H:407:VAL:HG11	1.87	0.55
1:J:18:ARG:NE	5:J:572:HOH:O	2.27	0.55
1:J:194:GLN:O	1:J:371:LYS:HE3	2.05	0.55
1:M:266:THR:HG22	1:M:273:VAL:H	1.72	0.55
1:D:18:ARG:NE	5:D:587:HOH:O	2.36	0.55
1:E:345:ARG:HA	1:E:348:GLN:NE2	2.21	0.55
1:G:266:THR:HG22	1:G:271:VAL:O	2.06	0.55
1:M:200:LEU:HD21	1:M:277:LYS:HG3	1.88	0.55
1:D:383:ALA:HB3	1:D:389:MET:HB2	1.88	0.54
1:H:23:LEU:HD22	1:H:74:VAL:HG13	1.88	0.54
1:L:80:LYS:CG	1:L:80:LYS:CE	2.79	0.54
1:M:178:GLU:OE2	1:M:322:ARG:HD3	2.06	0.54
1:A:231:ARG:HH12	1:G:242:LYS:CG	2.21	0.54
1:D:90:THR:O	1:D:94:VAL:HG13	2.07	0.54
1:B:176:THR:HG21	1:B:322:ARG:HH12	1.72	0.54
1:C:200:LEU:HD21	1:C:277:LYS:HG3	1.90	0.54
1:F:266:THR:HG22	1:F:273:VAL:H	1.72	0.54
1:G:461:GLU:OE1	5:G:630:HOH:O	2.19	0.54
1:N:404:ARG:HH11	1:N:404:ARG:HG2	1.72	0.54
1:N:319:GLN:HB3	1:N:336:VAL:HG21	1.89	0.54
1:G:305:ILE:HD12	1:G:307:MET:HE2	1.90	0.54
1:C:272:LYS:HZ3	1:D:228:SER:HB2	1.73	0.54
1:D:70:GLY:HA2	1:D:73:MET:HE3	1.90	0.54
1:A:218:PRO:HD2	1:A:320:ALA:O	2.08	0.54

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:305:ILE:HD12	1:E:307:MET:HE2	1.90	0.54
1:I:230:ILE:HD12	1:I:261:THR:HG21	1.89	0.54
1:B:404:ARG:HH11	1:B:404:ARG:HG2	1.72	0.54
1:C:73:MET:O	1:C:76:GLU:HB2	2.08	0.54
1:G:404:ARG:HH11	1:G:404:ARG:HG2	1.72	0.54
1:H:266:THR:HG22	1:H:271:VAL:O	2.06	0.54
1:B:181:THR:O	1:C:282:GLY:HA3	2.08	0.54
1:L:525:PRO:O	1:L:526:LYS:HG2	2.08	0.54
1:G:270:ILE:HG22	1:G:271:VAL:HG23	1.89	0.54
1:H:218:PRO:HD2	1:H:320:ALA:O	2.08	0.54
1:K:266:THR:HG22	1:K:273:VAL:H	1.73	0.54
1:M:230:ILE:HD12	1:M:261:THR:HG21	1.89	0.54
1:C:235:PRO:HG3	1:C:310:GLU:HA	1.91	0.53
1:C:305:ILE:HD12	1:C:307:MET:HE2	1.90	0.53
1:K:23:LEU:CD2	1:K:74:VAL:HG13	2.37	0.53
1:F:414:GLY:O	1:F:417:VAL:HG13	2.08	0.53
1:N:305:ILE:HD12	1:N:307:MET:HE2	1.90	0.53
1:F:200:LEU:HD21	1:F:277:LYS:HG3	1.89	0.53
1:F:345:ARG:HA	1:F:348:GLN:NE2	2.21	0.53
1:N:270:ILE:HG22	1:N:271:VAL:HG23	1.91	0.53
1:E:73:MET:O	1:E:76:GLU:HB2	2.08	0.53
1:E:525:PRO:O	1:E:526:LYS:CG	2.57	0.53
1:N:200:LEU:HD21	1:N:277:LYS:HG3	1.90	0.53
1:J:266:THR:HG22	1:J:273:VAL:H	1.71	0.53
1:M:218:PRO:HD2	1:M:320:ALA:O	2.08	0.53
1:G:266:THR:HG22	1:G:273:VAL:H	1.73	0.53
1:B:57:ALA:O	1:B:75:LYS:HE3	2.08	0.53
1:E:525:PRO:HD3	5:E:594:HOH:O	2.09	0.53
1:N:158:VAL:HG13	1:N:396:VAL:HG22	1.90	0.53
1:E:200:LEU:HD21	1:E:277:LYS:HG3	1.90	0.53
1:E:496:PRO:HB2	1:E:499:VAL:HG13	1.91	0.53
1:F:305:ILE:HD12	1:F:307:MET:HE2	1.91	0.53
1:J:224:ASP:HB3	1:J:302:SER:HB3	1.91	0.53
1:L:230:ILE:HD12	1:L:261:THR:HG21	1.90	0.53
1:A:270:ILE:HA	1:B:229:ASN:OD1	2.09	0.53
1:C:319:GLN:HB3	1:C:336:VAL:HG21	1.91	0.53
1:H:291:ASP:OD2	1:H:368:ARG:HD2	2.09	0.53
1:A:345:ARG:HA	1:A:348:GLN:NE2	2.22	0.53
1:A:231:ARG:HH12	1:G:242:LYS:HG3	1.74	0.52
1:D:270:ILE:HG22	1:D:271:VAL:HG23	1.90	0.52
1:J:219:PHE:HB3	1:J:317:LEU:HD23	1.91	0.52

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:I:200:LEU:HD21	1:I:277:LYS:HG3	1.91	0.52
1:M:319:GLN:HB3	1:M:336:VAL:CG2	2.39	0.52
1:B:200:LEU:HD21	1:B:277:LYS:HG3	1.90	0.52
1:A:414:GLY:O	1:A:417:VAL:HG13	2.09	0.52
1:H:200:LEU:HD21	1:H:277:LYS:HG3	1.91	0.52
1:I:404:ARG:HG2	1:I:404:ARG:HH11	1.75	0.52
1:K:404:ARG:HH11	1:K:404:ARG:CG	2.22	0.52
1:L:80:LYS:CG	1:L:80:LYS:HZ3	2.21	0.52
1:L:158:VAL:HG13	1:L:396:VAL:HG22	1.91	0.52
1:A:115:ASP:OD2	5:A:610:HOH:O	2.19	0.52
1:C:268:ARG:O	1:D:257:GLU:HG3	2.09	0.52
1:H:90:THR:O	1:H:94:VAL:HG13	2.10	0.52
1:H:266:THR:HG22	1:H:273:VAL:H	1.74	0.52
1:J:230:ILE:HD12	1:J:261:THR:HG21	1.90	0.52
1:C:272:LYS:NZ	1:D:228:SER:CB	2.73	0.52
1:J:37:ASN:ND2	1:J:51:LYS:HE3	2.25	0.52
1:J:458:CYS:SG	1:J:480:ALA:HB1	2.50	0.52
1:K:200:LEU:HD21	1:K:277:LYS:HG3	1.91	0.52
1:A:230:ILE:HD12	1:A:261:THR:HG21	1.91	0.52
1:L:414:GLY:O	1:L:417:VAL:HG13	2.09	0.52
1:A:525:PRO:O	1:A:526:LYS:HG2	2.09	0.52
1:B:16:MET:O	1:B:20:VAL:HG13	2.09	0.52
1:I:235:PRO:HG3	1:I:310:GLU:HA	1.92	0.52
1:L:200:LEU:HD21	1:L:277:LYS:HG3	1.91	0.52
1:I:218:PRO:HD2	1:I:320:ALA:O	2.11	0.51
1:L:319:GLN:HB3	1:L:336:VAL:HG21	1.91	0.51
1:M:176:THR:HG21	1:M:322:ARG:HH12	1.75	0.51
1:M:525:PRO:O	1:M:526:LYS:CG	2.58	0.51
1:M:525:PRO:HD3	5:M:596:HOH:O	2.10	0.51
1:A:272:LYS:NZ	1:B:228:SER:HB2	2.25	0.51
1:E:383:ALA:HB3	1:E:389:MET:HB2	1.91	0.51
1:H:230:ILE:HD12	1:H:261:THR:HG21	1.93	0.51
1:H:305:ILE:HD12	1:H:307:MET:HE2	1.92	0.51
1:F:186:GLU:HB2	1:F:380:LYS:HB2	1.93	0.51
1:B:266:THR:HG22	1:B:273:VAL:H	1.74	0.51
1:B:414:GLY:O	1:B:417:VAL:HG13	2.11	0.51
1:F:404:ARG:HG2	1:F:404:ARG:HH11	1.75	0.51
1:M:266:THR:HG22	1:M:271:VAL:O	2.10	0.51
1:J:270:ILE:HG22	1:J:271:VAL:HG23	1.92	0.51
1:F:235:PRO:HG3	1:F:310:GLU:HA	1.93	0.51
1:H:176:THR:HG21	1:H:322:ARG:HH12	1.75	0.51

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:414:GLY:O	1:N:417:VAL:HG13	2.11	0.51
1:A:224:ASP:HB3	1:A:302:SER:HB3	1.92	0.51
1:B:194:GLN:O	1:B:371:LYS:HE3	2.11	0.51
1:E:230:ILE:HD12	1:E:261:THR:HG21	1.92	0.51
1:K:57:ALA:O	1:K:75:LYS:HE3	2.11	0.51
1:B:230:ILE:HD12	1:B:261:THR:HG21	1.91	0.51
1:D:132:LYS:CE	5:D:595:HOH:O	2.58	0.51
1:G:345:ARG:HA	1:G:348:GLN:NE2	2.24	0.51
1:H:525:PRO:O	1:H:526:LYS:HG2	2.11	0.51
1:I:270:ILE:HG22	1:I:271:VAL:HG23	1.92	0.51
1:B:270:ILE:HG22	1:B:271:VAL:HG23	1.92	0.51
1:K:489:ILE:HD12	1:K:494:LEU:CD2	2.41	0.51
1:A:489:ILE:HD12	1:A:494:LEU:CD2	2.41	0.50
1:H:194:GLN:O	1:H:371:LYS:HE3	2.11	0.50
1:K:230:ILE:HD12	1:K:261:THR:HG21	1.91	0.50
1:N:489:ILE:HD12	1:N:494:LEU:CD2	2.40	0.50
1:C:525:PRO:HD3	5:C:588:HOH:O	2.11	0.50
1:D:37:ASN:ND2	1:D:51:LYS:HE3	2.27	0.50
1:F:74:VAL:O	1:F:74:VAL:CG2	2.58	0.50
1:N:230:ILE:HD12	1:N:261:THR:HG21	1.93	0.50
1:C:272:LYS:HZ1	1:D:228:SER:HB3	1.77	0.50
1:D:458:CYS:SG	1:D:480:ALA:HB1	2.52	0.50
1:F:218:PRO:HD2	1:F:320:ALA:O	2.11	0.50
1:I:219:PHE:HB3	1:I:317:LEU:HD23	1.94	0.50
1:D:345:ARG:HA	1:D:348:GLN:NE2	2.24	0.50
1:G:219:PHE:HB3	1:G:317:LEU:HD23	1.94	0.50
1:J:266:THR:HG22	1:J:271:VAL:O	2.12	0.50
1:J:414:GLY:O	1:J:417:VAL:HG13	2.12	0.50
1:L:514:MET:CB	1:L:514:MET:HE2	2.41	0.50
1:A:266:THR:HG22	1:A:273:VAL:H	1.76	0.50
1:I:70:GLY:HA2	1:I:73:MET:HE3	1.94	0.50
1:K:305:ILE:HD12	1:K:307:MET:HE2	1.94	0.50
1:M:270:ILE:HG22	1:M:271:VAL:HG23	1.93	0.50
1:N:345:ARG:HA	1:N:348:GLN:NE2	2.24	0.50
1:B:452:ARG:HD3	5:B:594:HOH:O	2.11	0.50
1:G:176:THR:HG21	1:G:322:ARG:HH12	1.77	0.50
1:G:221:LEU:HD23	1:G:249:ILE:HD12	1.93	0.50
1:G:319:GLN:HB3	1:G:336:VAL:HG21	1.94	0.50
1:K:270:ILE:HG22	1:K:271:VAL:HG23	1.93	0.50
1:I:176:THR:HG21	1:I:322:ARG:HH12	1.76	0.49
1:M:272:LYS:HZ3	1:N:228:SER:HB2	1.77	0.49

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:194:GLN:O	1:N:371:LYS:HE3	2.10	0.49
1:D:525:PRO:O	1:D:526:LYS:HG2	2.11	0.49
1:E:266:THR:HG22	1:E:271:VAL:O	2.12	0.49
1:F:230:ILE:HD12	1:F:261:THR:HG21	1.94	0.49
1:G:186:GLU:HB2	1:G:380:LYS:HB2	1.93	0.49
1:J:179:ASP:OD1	1:J:393:LYS:HE3	2.13	0.49
1:J:525:PRO:O	1:J:526:LYS:HG2	2.11	0.49
1:K:460:GLU:HB3	5:K:586:HOH:O	2.12	0.49
1:E:23:LEU:HD22	1:E:74:VAL:HG13	1.93	0.49
1:A:305:ILE:HD12	1:A:307:MET:HE2	1.95	0.49
1:F:90:THR:O	1:F:94:VAL:HG13	2.13	0.49
1:F:224:ASP:HB3	1:F:302:SER:HB3	1.93	0.49
1:G:70:GLY:HA2	1:G:73:MET:HE3	1.93	0.49
1:C:404:ARG:HG2	1:C:404:ARG:NH1	2.25	0.49
1:F:319:GLN:HB3	1:F:336:VAL:HG21	1.93	0.49
1:L:186:GLU:HB2	1:L:380:LYS:HB2	1.95	0.49
1:L:305:ILE:HD12	1:L:307:MET:HE2	1.94	0.49
1:E:366:GLN:O	1:E:369:VAL:HG22	2.13	0.49
1:H:235:PRO:HG3	1:H:310:GLU:HA	1.95	0.49
1:B:266:THR:HG22	1:B:271:VAL:O	2.13	0.49
1:D:200:LEU:HD21	1:D:277:LYS:HG3	1.94	0.49
1:M:458:CYS:SG	1:M:480:ALA:HB1	2.53	0.49
1:B:235:PRO:HG3	1:B:310:GLU:HA	1.94	0.49
1:C:414:GLY:O	1:C:417:VAL:HG13	2.13	0.49
1:H:68:ASN:O	1:H:72:GLN:HG2	2.13	0.49
1:I:325:ILE:HG22	1:I:330:THR:HG23	1.95	0.49
1:K:266:THR:HG22	1:K:271:VAL:O	2.13	0.49
1:N:266:THR:HG22	1:N:271:VAL:O	2.12	0.49
1:L:270:ILE:HG22	1:L:271:VAL:HG23	1.95	0.48
1:C:36:ARG:HG3	1:D:518:GLU:HG2	1.95	0.48
1:C:270:ILE:HG22	1:C:271:VAL:HG23	1.94	0.48
1:D:192:GLY:HA2	1:D:295:LEU:HD11	1.93	0.48
1:D:266:THR:HG22	1:D:273:VAL:H	1.77	0.48
1:F:151:SER:HB2	1:F:399:ALA:HA	1.96	0.48
1:B:74:VAL:O	1:B:77:VAL:HB	2.12	0.48
1:B:151:SER:HB2	1:B:399:ALA:HA	1.96	0.48
1:H:319:GLN:HB3	1:H:336:VAL:HG21	1.95	0.48
1:N:77:VAL:O	1:N:78:ALA:C	2.51	0.48
1:I:266:THR:HG22	1:I:273:VAL:H	1.79	0.48
1:J:345:ARG:HA	1:J:348:GLN:NE2	2.26	0.48
1:D:177:VAL:CG2	1:D:397:GLU:HG3	2.41	0.48

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:325:ILE:HG22	1:L:330:THR:HG23	1.95	0.48
1:M:90:THR:O	1:M:94:VAL:HG13	2.13	0.48
1:I:121:ASP:OD1	5:I:594:HOH:O	2.20	0.48
1:K:460:GLU:O	1:K:462:PRO:HD3	2.14	0.48
1:L:404:ARG:HH11	1:L:404:ARG:HG2	1.78	0.48
1:C:236:VAL:O	1:C:240:VAL:HG23	2.13	0.48
1:A:235:PRO:HG3	1:A:310:GLU:HA	1.96	0.48
1:E:82:ASN:HB2	1:E:89:THR:HG21	1.95	0.48
1:E:325:ILE:HG22	1:E:330:THR:HG23	1.94	0.48
1:G:489:ILE:HD12	1:G:494:LEU:HD22	1.95	0.48
1:H:266:THR:HG21	1:H:273:VAL:H	1.78	0.48
1:M:404:ARG:HH11	1:M:404:ARG:CG	2.26	0.48
1:N:74:VAL:O	1:N:74:VAL:HG22	2.13	0.48
1:A:178:GLU:OE2	1:A:322:ARG:HD3	2.13	0.48
1:B:176:THR:HG22	1:B:177:VAL:H	1.78	0.48
1:C:186:GLU:HB2	1:C:380:LYS:HB2	1.96	0.48
1:I:345:ARG:HA	1:I:348:GLN:NE2	2.26	0.48
1:N:186:GLU:HB2	1:N:380:LYS:HB2	1.95	0.48
1:F:194:GLN:O	1:F:371:LYS:HE3	2.13	0.47
1:G:194:GLN:O	1:G:371:LYS:HE3	2.14	0.47
1:I:23:LEU:CD2	1:I:74:VAL:HG13	2.43	0.47
1:J:383:ALA:HB3	1:J:389:MET:HB2	1.95	0.47
1:M:321:LYS:HB2	1:M:334:ASP:HB3	1.96	0.47
1:N:266:THR:HG22	1:N:273:VAL:H	1.78	0.47
1:G:90:THR:O	1:G:94:VAL:HG13	2.13	0.47
1:G:179:ASP:OD1	1:G:393:LYS:HE3	2.14	0.47
1:G:452:ARG:HD3	5:G:585:HOH:O	2.15	0.47
1:L:80:LYS:CD	1:L:80:LYS:HB2	2.43	0.47
1:D:414:GLY:O	1:D:417:VAL:HG13	2.13	0.47
1:M:224:ASP:HB3	1:M:302:SER:HB3	1.95	0.47
1:D:404:ARG:HH11	1:D:404:ARG:CG	2.25	0.47
1:E:235:PRO:HG3	1:E:310:GLU:HA	1.96	0.47
1:F:63:GLU:HB2	1:G:524:LEU:CD2	2.45	0.47
1:J:236:VAL:O	1:J:240:VAL:HG23	2.14	0.47
1:M:78:ALA:HB1	1:M:89:THR:HB	1.97	0.47
1:F:70:GLY:HA2	1:F:73:MET:HE3	1.96	0.47
1:F:85:ALA:O	1:F:401:HIS:HE1	1.98	0.47
1:F:525:PRO:O	1:F:526:LYS:HG2	2.14	0.47
1:G:458:CYS:SG	1:G:480:ALA:HB1	2.54	0.47
1:D:29:VAL:HG11	1:E:518:GLU:HG3	1.97	0.47
1:E:82:ASN:HB2	1:E:89:THR:CG2	2.45	0.47

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:383:ALA:HB3	1:N:389:MET:HB2	1.95	0.47
1:A:73:MET:O	1:A:76:GLU:HB2	2.15	0.47
1:F:270:ILE:HG22	1:F:271:VAL:HG23	1.95	0.47
1:H:345:ARG:HA	1:H:348:GLN:NE2	2.29	0.47
1:H:479:ASN:OD1	1:H:479:ASN:C	2.53	0.47
1:I:221:LEU:HD23	1:I:249:ILE:HD12	1.96	0.47
1:K:345:ARG:HA	1:K:348:GLN:NE2	2.26	0.47
1:M:235:PRO:HG3	1:M:310:GLU:HA	1.96	0.47
1:D:263:VAL:O	1:D:267:MET:HB2	2.14	0.47
1:E:319:GLN:HB3	1:E:336:VAL:CG2	2.44	0.47
1:E:489:ILE:HD12	1:E:494:LEU:HD22	1.97	0.47
1:I:319:GLN:HB3	1:I:336:VAL:HG21	1.96	0.47
1:J:305:ILE:HD12	1:J:307:MET:HE2	1.96	0.47
1:L:77:VAL:O	1:L:78:ALA:C	2.53	0.47
1:G:236:VAL:O	1:G:240:VAL:HG23	2.13	0.47
1:G:383:ALA:HB3	1:G:389:MET:HB2	1.97	0.47
1:L:235:PRO:HG3	1:L:310:GLU:HA	1.97	0.47
1:A:74:VAL:HG22	1:A:74:VAL:O	2.14	0.47
1:B:319:GLN:HB3	1:B:336:VAL:HG21	1.97	0.46
1:D:230:ILE:HD12	1:D:261:THR:HG21	1.96	0.46
1:G:18:ARG:NH2	5:G:595:HOH:O	2.41	0.46
1:K:158:VAL:HG13	1:K:396:VAL:HG22	1.96	0.46
1:K:194:GLN:O	1:K:371:LYS:HE3	2.15	0.46
1:N:525:PRO:O	1:N:526:LYS:HG2	2.14	0.46
1:G:263:VAL:O	1:G:267:MET:HB2	2.15	0.46
1:K:236:VAL:O	1:K:240:VAL:HG23	2.15	0.46
1:N:90:THR:OG1	4:N:1:AGS:S1G	2.63	0.46
1:A:124:VAL:HG21	1:A:508:ALA:HB2	1.97	0.46
1:C:319:GLN:HB3	1:C:336:VAL:CG2	2.45	0.46
1:F:389:MET:CE	1:G:281:PHE:CE2	2.97	0.46
1:G:77:VAL:HG23	1:G:510:VAL:HG21	1.98	0.46
1:I:177:VAL:CG2	1:I:397:GLU:HG3	2.40	0.46
1:J:70:GLY:HA2	1:J:73:MET:HE3	1.98	0.46
1:K:235:PRO:HG3	1:K:310:GLU:HA	1.98	0.46
1:L:70:GLY:HA2	1:L:73:MET:HE3	1.97	0.46
1:M:218:PRO:HB3	1:M:246:PRO:HG2	1.97	0.46
1:N:348:GLN:O	1:N:352:GLN:HG2	2.15	0.46
1:C:219:PHE:HB3	1:C:317:LEU:HD23	1.95	0.46
1:H:90:THR:OG1	4:H:1:AGS:S1G	2.69	0.46
1:L:319:GLN:HB3	1:L:336:VAL:CG2	2.45	0.46
1:B:77:VAL:HG23	1:B:510:VAL:HG21	1.97	0.46

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:224:ASP:HB3	1:G:302:SER:HB3	1.96	0.46
1:I:360:TYR:CE1	1:I:364:LYS:HE3	2.51	0.46
1:I:364:LYS:HA	1:I:364:LYS:HD3	1.70	0.46
1:D:57:ALA:O	1:D:75:LYS:CE	2.63	0.46
1:E:151:SER:HB2	1:E:399:ALA:HA	1.98	0.46
1:E:221:LEU:HD23	1:E:249:ILE:HD12	1.97	0.46
1:H:151:SER:HB2	1:H:399:ALA:HA	1.98	0.46
1:J:193:MET:CE	1:J:292:ILE:HG12	2.46	0.46
1:K:319:GLN:HB3	1:K:336:VAL:HG21	1.96	0.46
1:L:102:GLU:HB2	1:L:442:VAL:HG13	1.98	0.46
1:A:404:ARG:HH11	1:A:404:ARG:CG	2.28	0.46
1:D:34:LYS:HE2	1:E:118:ARG:HH22	1.80	0.46
1:E:270:ILE:HG22	1:E:271:VAL:HG23	1.97	0.46
1:I:179:ASP:OD1	1:I:393:LYS:HE3	2.16	0.46
1:K:404:ARG:CG	1:K:404:ARG:NH1	2.79	0.46
1:L:221:LEU:HD23	1:L:249:ILE:HD12	1.98	0.46
1:M:360:TYR:CE1	1:M:364:LYS:HE3	2.51	0.46
1:C:27:VAL:HG12	1:C:90:THR:HG23	1.98	0.46
1:C:323:VAL:HG12	1:C:332:ILE:HA	1.98	0.46
1:G:284:ARG:HH12	1:G:364:LYS:NZ	2.14	0.46
1:J:489:ILE:HD12	1:J:494:LEU:CD2	2.46	0.46
1:K:451:LEU:C	1:K:451:LEU:HD23	2.36	0.46
1:N:235:PRO:HG3	1:N:310:GLU:HA	1.98	0.46
1:N:263:VAL:O	1:N:267:MET:HB2	2.16	0.46
1:A:270:ILE:HG22	1:A:271:VAL:HG23	1.97	0.46
1:B:191:GLU:O	1:B:334:ASP:HA	2.14	0.46
1:H:489:ILE:HD12	1:H:494:LEU:CD2	2.45	0.46
1:I:151:SER:HB2	1:I:399:ALA:HA	1.98	0.46
1:J:218:PRO:HB3	1:J:246:PRO:HG2	1.97	0.46
1:M:57:ALA:O	1:M:75:LYS:CE	2.63	0.46
1:D:68:ASN:O	1:D:72:GLN:HG2	2.16	0.46
1:E:176:THR:HG21	1:E:322:ARG:HH12	1.81	0.46
1:I:57:ALA:O	1:I:75:LYS:CE	2.64	0.46
1:K:219:PHE:HB3	1:K:317:LEU:HD23	1.98	0.46
1:L:68:ASN:O	1:L:72:GLN:HG2	2.15	0.46
1:A:70:GLY:HA2	1:A:73:MET:HE3	1.98	0.45
1:A:171:LYS:HB2	1:A:407:VAL:HG11	1.98	0.45
1:A:219:PHE:HB3	1:A:317:LEU:HD23	1.98	0.45
1:C:321:LYS:HB2	1:C:334:ASP:HB3	1.97	0.45
1:E:193:MET:CE	1:E:292:ILE:HG12	2.47	0.45
1:F:449:ALA:N	1:F:450:PRO:CD	2.79	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:176:THR:HG22	1:M:177:VAL:H	1.80	0.45
1:M:236:VAL:O	1:M:240:VAL:HG23	2.17	0.45
1:N:360:TYR:CE1	1:N:364:LYS:HE3	2.52	0.45
1:C:266:THR:HG22	1:C:271:VAL:O	2.16	0.45
1:E:463:SER:HB2	5:E:649:HOH:O	2.16	0.45
1:G:284:ARG:HH11	1:G:364:LYS:HD2	1.80	0.45
1:N:351:GLN:HE21	1:N:351:GLN:HB3	1.65	0.45
1:F:219:PHE:HB3	1:F:317:LEU:HD23	1.98	0.45
1:F:386:GLU:O	1:F:390:LYS:HG2	2.16	0.45
1:H:35:GLY:O	1:H:51:LYS:HE2	2.16	0.45
1:B:263:VAL:O	1:B:267:MET:HB2	2.17	0.45
1:B:345:ARG:HA	1:B:348:GLN:NE2	2.27	0.45
1:E:404:ARG:HG2	1:E:404:ARG:HH11	1.82	0.45
1:H:63:GLU:OE2	1:I:526:LYS:HE2	2.16	0.45
1:B:90:THR:OG1	4:B:1:AGS:S1G	2.66	0.45
1:F:171:LYS:HB2	1:F:407:VAL:HG11	1.97	0.45
1:F:360:TYR:CE1	1:F:364:LYS:HE3	2.52	0.45
1:H:177:VAL:CG2	1:H:397:GLU:HG3	2.40	0.45
1:H:263:VAL:O	1:H:267:MET:HB2	2.17	0.45
1:K:77:VAL:O	1:K:78:ALA:C	2.55	0.45
1:L:80:LYS:NZ	1:L:80:LYS:HG2	2.32	0.45
1:L:177:VAL:CG2	1:L:397:GLU:HG3	2.42	0.45
1:D:57:ALA:O	1:D:75:LYS:HE3	2.16	0.45
1:D:221:LEU:HD23	1:D:249:ILE:HD12	1.98	0.45
1:E:218:PRO:HB3	1:E:246:PRO:HG2	1.99	0.45
1:G:413:ALA:HB3	1:G:417:VAL:HG22	1.99	0.45
1:H:186:GLU:HB2	1:H:380:LYS:HB2	1.98	0.45
1:I:82:ASN:O	1:I:86:GLY:N	2.45	0.45
1:L:193:MET:CE	1:L:292:ILE:HG12	2.46	0.45
1:L:224:ASP:HB3	1:L:302:SER:HB3	1.98	0.45
1:B:158:VAL:HG13	1:B:396:VAL:HG22	1.99	0.45
1:D:219:PHE:HB3	1:D:317:LEU:HD23	1.98	0.45
1:E:224:ASP:HB3	1:E:302:SER:HB3	1.97	0.45
1:G:235:PRO:HG3	1:G:310:GLU:HA	1.99	0.45
1:H:360:TYR:CE1	1:H:364:LYS:HE3	2.52	0.45
1:J:57:ALA:O	1:J:75:LYS:CE	2.65	0.45
1:K:221:LEU:HD23	1:K:249:ILE:HD12	1.98	0.45
1:K:321:LYS:HB2	1:K:334:ASP:HB3	1.98	0.45
1:L:78:ALA:HB1	1:L:89:THR:HB	1.99	0.45
1:M:219:PHE:HB3	1:M:317:LEU:HD23	1.99	0.45
1:C:449:ALA:N	1:C:450:PRO:CD	2.79	0.45

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:325:ILE:HG23	1:D:325:ILE:HD13	1.67	0.45
1:E:70:GLY:HA2	1:E:73:MET:HE3	1.97	0.45
1:F:413:ALA:CB	1:F:417:VAL:HG22	2.47	0.45
1:L:449:ALA:N	1:L:450:PRO:CD	2.79	0.45
1:C:57:ALA:O	1:C:75:LYS:HE3	2.17	0.45
1:D:235:PRO:HG3	1:D:310:GLU:HA	1.99	0.45
1:H:221:LEU:HD23	1:H:249:ILE:HD12	1.98	0.45
1:L:386:GLU:O	1:L:390:LYS:HG2	2.16	0.45
1:I:193:MET:CE	1:I:292:ILE:HG12	2.47	0.44
1:J:82:ASN:O	1:J:86:GLY:N	2.49	0.44
1:J:158:VAL:HG13	1:J:396:VAL:HG22	1.99	0.44
1:A:386:GLU:O	1:A:390:LYS:HG2	2.16	0.44
1:A:489:ILE:HD12	1:A:494:LEU:HD22	1.98	0.44
1:E:458:CYS:SG	1:E:480:ALA:HB1	2.57	0.44
1:F:221:LEU:HD23	1:F:249:ILE:HD12	1.98	0.44
1:G:200:LEU:HD21	1:G:277:LYS:HG3	1.99	0.44
1:G:514:MET:HE3	1:G:514:MET:HB3	1.92	0.44
1:I:27:VAL:HG12	1:I:90:THR:HG23	1.99	0.44
1:I:366:GLN:O	1:I:369:VAL:HG22	2.17	0.44
1:M:36:ARG:HG3	1:N:518:GLU:HG2	1.98	0.44
1:E:449:ALA:N	1:E:450:PRO:CD	2.80	0.44
1:F:236:VAL:O	1:F:240:VAL:HG23	2.17	0.44
1:F:266:THR:HG22	1:F:271:VAL:O	2.18	0.44
1:K:186:GLU:HB2	1:K:380:LYS:HB2	2.00	0.44
1:K:218:PRO:HB3	1:K:246:PRO:HG2	1.99	0.44
1:K:224:ASP:HB3	1:K:302:SER:HB3	1.99	0.44
1:M:68:ASN:O	1:M:72:GLN:HG2	2.17	0.44
1:C:57:ALA:O	1:C:75:LYS:CE	2.66	0.44
1:G:288:MET:HG2	1:G:368:ARG:HD3	1.98	0.44
1:G:414:GLY:O	1:G:417:VAL:HG13	2.17	0.44
1:J:319:GLN:HB3	1:J:336:VAL:HG21	1.99	0.44
1:C:383:ALA:HB3	1:C:389:MET:HB2	1.99	0.44
1:F:193:MET:CE	1:F:292:ILE:HG12	2.48	0.44
1:G:496:PRO:HB2	1:G:499:VAL:HG13	1.99	0.44
1:A:383:ALA:HB3	1:A:389:MET:HB2	1.99	0.44
1:H:224:ASP:HB3	1:H:302:SER:HB3	2.00	0.44
1:I:348:GLN:O	1:I:352:GLN:HG2	2.17	0.44
1:I:458:CYS:SG	1:I:480:ALA:HB1	2.58	0.44
1:J:90:THR:O	1:J:94:VAL:HG13	2.17	0.44
1:K:179:ASP:OD1	1:K:393:LYS:HE3	2.18	0.44
1:K:383:ALA:HB3	1:K:389:MET:HB2	1.98	0.44

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:463:SER:HB2	5:L:612:HOH:O	2.17	0.44
1:D:217:SER:N	1:D:218:PRO:HD3	2.33	0.44
1:D:404:ARG:CG	1:D:404:ARG:NH1	2.79	0.44
1:F:36:ARG:HG3	1:G:518:GLU:HG2	1.98	0.44
1:H:386:GLU:O	1:H:390:LYS:HG2	2.17	0.44
1:I:186:GLU:HB2	1:I:380:LYS:HB2	1.99	0.44
1:K:82:ASN:HB2	1:K:89:THR:HG21	1.99	0.44
1:L:451:LEU:HD23	1:L:451:LEU:C	2.38	0.44
1:N:236:VAL:O	1:N:240:VAL:HG23	2.17	0.44
1:F:524:LEU:O	1:F:526:LYS:N	2.51	0.44
1:I:514:MET:HE3	1:I:514:MET:HB3	1.94	0.44
1:J:63:GLU:HB2	1:K:524:LEU:HD21	2.00	0.44
1:J:151:SER:HB2	1:J:399:ALA:HA	1.99	0.44
1:J:325:ILE:HG22	1:J:330:THR:HG23	2.00	0.44
1:J:404:ARG:HH11	1:J:404:ARG:CG	2.29	0.44
1:K:193:MET:CE	1:K:292:ILE:HG12	2.47	0.44
1:L:219:PHE:HB3	1:L:317:LEU:HD23	1.98	0.44
1:N:69:MET:O	1:N:73:MET:HE2	2.17	0.44
1:B:186:GLU:HB2	1:B:380:LYS:HB2	2.00	0.44
1:C:178:GLU:OE2	1:C:322:ARG:HD3	2.18	0.44
1:E:369:VAL:HG23	1:E:370:ALA:N	2.33	0.44
1:I:351:GLN:HE21	1:I:351:GLN:HB3	1.69	0.44
1:I:417:VAL:HG11	1:I:477:GLY:HA3	1.99	0.44
1:N:37:ASN:ND2	1:N:51:LYS:HE3	2.33	0.44
1:A:221:LEU:HD23	1:A:249:ILE:HD12	1.99	0.43
1:C:151:SER:HB2	1:C:399:ALA:HA	2.00	0.43
1:G:151:SER:HB2	1:G:399:ALA:HA	1.99	0.43
1:J:364:LYS:HA	1:J:364:LYS:HD3	1.84	0.43
1:L:263:VAL:O	1:L:267:MET:HB2	2.18	0.43
1:F:263:VAL:O	1:F:267:MET:HB2	2.18	0.43
1:J:263:VAL:O	1:J:267:MET:HB2	2.18	0.43
1:M:158:VAL:HG13	1:M:396:VAL:HG22	1.99	0.43
1:N:319:GLN:HB3	1:N:336:VAL:CG2	2.48	0.43
1:A:525:PRO:O	1:A:526:LYS:CG	2.65	0.43
1:B:78:ALA:O	1:B:79:SER:C	2.55	0.43
1:B:82:ASN:HB2	1:B:89:THR:HG21	2.00	0.43
1:F:23:LEU:HD22	1:F:74:VAL:HG13	2.00	0.43
1:F:369:VAL:HG23	1:F:370:ALA:N	2.33	0.43
1:K:524:LEU:O	1:K:526:LYS:N	2.51	0.43
1:N:506:TYR:O	1:N:507:ALA:C	2.56	0.43
1:B:364:LYS:HD3	1:B:364:LYS:HA	1.76	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:473:ASP:HB2	5:B:599:HOH:O	2.19	0.43
1:D:524:LEU:O	1:D:526:LYS:N	2.51	0.43
1:E:386:GLU:O	1:E:390:LYS:HG2	2.17	0.43
1:F:147:VAL:O	1:F:151:SER:OG	2.36	0.43
1:J:235:PRO:HG3	1:J:310:GLU:HA	2.00	0.43
1:F:514:MET:HE3	1:F:514:MET:HB3	1.85	0.43
1:K:144:ILE:HG23	1:K:403:THR:HG21	2.00	0.43
1:L:151:SER:HB2	1:L:399:ALA:HA	2.00	0.43
1:L:489:ILE:HD12	1:L:494:LEU:CD2	2.49	0.43
1:A:118:ARG:HH22	1:G:34:LYS:HE2	1.84	0.43
1:A:151:SER:HB2	1:A:399:ALA:HA	2.01	0.43
1:A:514:MET:HE3	1:A:514:MET:HB3	1.73	0.43
1:C:23:LEU:O	1:C:23:LEU:HG	2.11	0.43
1:C:514:MET:HE3	1:C:514:MET:HB3	1.93	0.43
1:D:284:ARG:HH12	1:D:364:LYS:NZ	2.16	0.43
1:H:218:PRO:HB3	1:H:246:PRO:HG2	2.00	0.43
1:B:193:MET:HE1	1:B:292:ILE:HG12	2.00	0.43
1:B:221:LEU:HD23	1:B:249:ILE:HD12	2.01	0.43
1:E:37:ASN:ND2	1:E:51:LYS:HE3	2.33	0.43
1:E:186:GLU:HB2	1:E:380:LYS:HB2	2.00	0.43
1:F:351:GLN:HE21	1:F:351:GLN:HB3	1.64	0.43
1:H:366:GLN:O	1:H:369:VAL:HG22	2.18	0.43
1:J:351:GLN:HE21	1:J:351:GLN:HB3	1.66	0.43
1:B:224:ASP:HB3	1:B:302:SER:HB3	1.99	0.43
1:C:191:GLU:O	1:C:334:ASP:HA	2.18	0.43
1:D:325:ILE:HD12	1:D:325:ILE:HG21	1.64	0.43
1:H:351:GLN:HE21	1:H:351:GLN:HB3	1.68	0.43
1:K:364:LYS:HA	1:K:364:LYS:HD3	1.83	0.43
1:L:266:THR:HG22	1:L:271:VAL:O	2.18	0.43
1:M:178:GLU:HG2	1:M:322:ARG:NH1	2.33	0.43
1:A:186:GLU:HB2	1:A:380:LYS:HB2	2.01	0.43
1:B:82:ASN:HB2	1:B:89:THR:CG2	2.49	0.43
1:C:284:ARG:HH11	1:C:364:LYS:HD2	1.84	0.43
1:H:158:VAL:HG13	1:H:396:VAL:HG22	2.00	0.43
1:H:458:CYS:SG	1:H:480:ALA:HB1	2.58	0.43
1:I:224:ASP:HB3	1:I:302:SER:HB3	2.01	0.43
1:J:186:GLU:HB2	1:J:380:LYS:HB2	2.01	0.43
1:K:366:GLN:O	1:K:369:VAL:HG22	2.19	0.43
1:M:404:ARG:CG	1:M:404:ARG:NH1	2.82	0.43
1:A:466:ALA:O	1:A:470:LYS:HG3	2.19	0.43
1:E:236:VAL:O	1:E:240:VAL:HG23	2.19	0.43

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:L:39:VAL:HG12	1:M:69:MET:CE	2.49	0.43
1:A:124:VAL:HG21	1:A:508:ALA:CB	2.49	0.42
1:A:364:LYS:HA	1:A:364:LYS:HD3	1.85	0.42
1:C:364:LYS:HA	1:C:364:LYS:HD3	1.82	0.42
1:D:186:GLU:HB2	1:D:380:LYS:HB2	2.01	0.42
1:F:366:GLN:O	1:F:369:VAL:HG22	2.18	0.42
1:G:325:ILE:HG23	1:G:325:ILE:HD13	1.78	0.42
1:K:63:GLU:OE2	1:L:526:LYS:HE2	2.18	0.42
1:K:284:ARG:HH11	1:K:364:LYS:HD2	1.84	0.42
1:B:193:MET:CE	1:B:292:ILE:HG12	2.49	0.42
1:B:218:PRO:HB3	1:B:246:PRO:HG2	2.01	0.42
1:C:272:LYS:NZ	1:D:228:SER:HB2	2.34	0.42
1:F:177:VAL:CG2	1:F:397:GLU:HG3	2.43	0.42
1:H:219:PHE:HB3	1:H:317:LEU:HD23	2.00	0.42
1:J:389:MET:HE3	1:K:281:PHE:CD2	2.54	0.42
1:L:345:ARG:HA	1:L:348:GLN:NE2	2.34	0.42
1:N:179:ASP:OD1	1:N:393:LYS:HE3	2.19	0.42
1:N:284:ARG:HH11	1:N:364:LYS:HD2	1.84	0.42
1:B:514:MET:HE3	1:B:514:MET:HB3	1.71	0.42
1:M:186:GLU:HB2	1:M:380:LYS:HB2	2.01	0.42
1:N:240:VAL:HG11	1:N:247:LEU:HB2	2.01	0.42
1:A:27:VAL:HG12	1:A:90:THR:HG23	2.01	0.42
1:C:263:VAL:O	1:C:267:MET:HB2	2.19	0.42
1:E:135:SER:HB3	5:E:618:HOH:O	2.18	0.42
1:F:319:GLN:HB3	1:F:336:VAL:CG2	2.50	0.42
1:F:413:ALA:HB3	1:F:417:VAL:HG22	2.00	0.42
1:H:404:ARG:NH1	1:H:404:ARG:HG2	2.32	0.42
1:J:360:TYR:CE1	1:J:364:LYS:HE3	2.54	0.42
1:K:37:ASN:ND2	1:K:51:LYS:HE3	2.34	0.42
1:A:263:VAL:O	1:A:267:MET:HB2	2.18	0.42
1:C:404:ARG:NH1	1:C:404:ARG:CG	2.81	0.42
1:D:404:ARG:HG2	1:D:404:ARG:NH1	2.30	0.42
1:F:288:MET:HG2	1:F:368:ARG:HD3	2.00	0.42
1:F:383:ALA:HB3	1:F:389:MET:HB2	2.01	0.42
1:H:364:LYS:HA	1:H:364:LYS:HD3	1.86	0.42
1:B:386:GLU:O	1:B:390:LYS:HG2	2.19	0.42
1:C:489:ILE:HD12	1:C:494:LEU:CD2	2.49	0.42
1:F:109:ALA:HB2	1:H:109:ALA:HB2	2.02	0.42
1:F:158:VAL:HG13	1:F:396:VAL:HG22	2.01	0.42
1:F:389:MET:CE	1:G:281:PHE:HE2	2.33	0.42
1:F:466:ALA:O	1:F:470:LYS:HG3	2.20	0.42

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:18:ARG:CZ	5:G:595:HOH:O	2.66	0.42
1:I:218:PRO:HB3	1:I:246:PRO:HG2	2.01	0.42
1:J:217:SER:N	1:J:218:PRO:HD3	2.35	0.42
1:J:288:MET:HG2	1:J:368:ARG:HD3	2.02	0.42
1:N:57:ALA:O	1:N:75:LYS:CE	2.68	0.42
1:B:153:ASN:O	1:B:154:SER:HB2	2.20	0.42
1:C:63:GLU:HB2	1:D:524:LEU:HD21	2.01	0.42
1:E:171:LYS:HB2	1:E:407:VAL:HG11	2.02	0.42
1:F:124:VAL:HG21	1:F:508:ALA:CB	2.49	0.42
1:G:144:ILE:HG23	1:G:403:THR:HG21	2.02	0.42
1:G:158:VAL:HG13	1:G:396:VAL:HG22	2.02	0.42
1:H:118:ARG:HG3	5:H:587:HOH:O	2.18	0.42
1:N:404:ARG:HH11	1:N:404:ARG:CG	2.32	0.42
1:C:272:LYS:NZ	1:D:228:SER:HB3	2.35	0.42
1:E:351:GLN:HE21	1:E:351:GLN:HB3	1.66	0.42
1:F:348:GLN:O	1:F:352:GLN:HG2	2.20	0.42
1:G:118:ARG:HE	1:G:118:ARG:HB2	1.78	0.42
1:G:489:ILE:HD12	1:G:494:LEU:HD21	2.01	0.42
1:H:305:ILE:HG22	1:H:305:ILE:O	2.20	0.42
1:H:413:ALA:HB3	1:H:417:VAL:HG22	2.01	0.42
1:H:514:MET:HE3	1:H:514:MET:HB3	1.80	0.42
1:J:489:ILE:HD12	1:J:494:LEU:HD22	2.00	0.42
1:D:65:LYS:HG2	5:D:646:HOH:O	2.19	0.42
1:E:421:ARG:HH11	1:E:421:ARG:HD3	1.60	0.42
1:I:158:VAL:HG13	1:I:396:VAL:HG22	2.01	0.42
1:I:414:GLY:O	1:I:417:VAL:HG13	2.20	0.42
1:J:221:LEU:HD23	1:J:249:ILE:HD12	2.01	0.42
1:K:18:ARG:NE	5:K:590:HOH:O	2.47	0.42
1:L:171:LYS:HB2	1:L:407:VAL:HG11	2.02	0.42
1:L:218:PRO:HB3	1:L:246:PRO:HG2	2.00	0.42
1:M:325:ILE:HG22	1:M:330:THR:HG23	2.01	0.42
1:E:118:ARG:HE	1:E:118:ARG:HB2	1.80	0.42
1:E:321:LYS:HB2	1:E:334:ASP:HB3	2.02	0.42
1:F:188:ASP:OD1	1:F:188:ASP:N	2.53	0.42
1:H:270:ILE:HG22	1:H:271:VAL:HG23	2.02	0.42
1:H:383:ALA:HB3	1:H:389:MET:HB2	2.01	0.42
1:A:37:ASN:ND2	1:A:51:LYS:HE3	2.35	0.41
1:A:236:VAL:O	1:A:240:VAL:HG23	2.20	0.41
1:F:321:LYS:HB2	1:F:334:ASP:HB3	2.02	0.41
1:H:18:ARG:NE	5:H:584:HOH:O	2.32	0.41
1:H:284:ARG:HH11	1:H:364:LYS:HD2	1.85	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:319:GLN:HB3	1:K:336:VAL:CG2	2.50	0.41
1:L:288:MET:HG2	1:L:368:ARG:HD3	2.02	0.41
1:L:458:CYS:SG	1:L:480:ALA:HB1	2.60	0.41
1:M:366:GLN:O	1:M:369:VAL:HG22	2.20	0.41
1:M:409:GLU:OE1	5:M:578:HOH:O	2.22	0.41
1:N:489:ILE:HD12	1:N:494:LEU:HD22	2.00	0.41
1:N:502:SER:O	1:N:503:ALA:C	2.59	0.41
1:F:218:PRO:HB3	1:F:246:PRO:HG2	2.03	0.41
1:F:305:ILE:O	1:F:305:ILE:HG22	2.20	0.41
1:H:69:MET:O	1:H:73:MET:HG3	2.20	0.41
1:M:23:LEU:CD2	1:M:74:VAL:HG13	2.49	0.41
1:M:179:ASP:OD1	1:M:393:LYS:HE3	2.20	0.41
1:M:263:VAL:O	1:M:267:MET:HB2	2.20	0.41
1:N:224:ASP:HB3	1:N:302:SER:HB3	2.02	0.41
1:A:319:GLN:HB3	1:A:336:VAL:HG21	2.02	0.41
1:B:27:VAL:HG12	1:B:90:THR:HG23	2.02	0.41
1:C:118:ARG:HE	1:C:118:ARG:HB2	1.79	0.41
1:C:193:MET:CE	1:C:292:ILE:HG12	2.51	0.41
1:D:16:MET:O	1:D:20:VAL:HG13	2.21	0.41
1:A:351:GLN:HE21	1:A:351:GLN:HB3	1.65	0.41
1:N:219:PHE:HB3	1:N:317:LEU:HD23	2.02	0.41
1:B:219:PHE:HB3	1:B:317:LEU:HD23	2.02	0.41
1:D:419:LEU:HA	1:D:419:LEU:HD23	1.82	0.41
1:E:417:VAL:HG11	1:E:477:GLY:HA3	2.01	0.41
1:H:281:PHE:CD2	1:N:389:MET:HE3	2.54	0.41
4:I:1:AGS:S1G	4:I:1:AGS:O3B	2.59	0.41
1:J:269:GLY:HA3	1:K:257:GLU:HG3	2.03	0.41
1:M:221:LEU:HD23	1:M:249:ILE:HD12	2.02	0.41
1:M:360:TYR:CZ	1:M:364:LYS:HE3	2.55	0.41
1:A:266:THR:HG22	1:A:271:VAL:O	2.20	0.41
1:A:366:GLN:O	1:A:369:VAL:HG22	2.20	0.41
1:C:524:LEU:O	1:C:526:LYS:N	2.53	0.41
1:J:90:THR:OG1	4:J:1:AGS:S1G	2.68	0.41
1:M:205:ILE:HA	1:M:213:VAL:HG22	2.03	0.41
1:N:366:GLN:O	1:N:369:VAL:HG22	2.21	0.41
1:B:37:ASN:ND2	5:B:628:HOH:O	2.47	0.41
1:G:266:THR:HG21	1:G:273:VAL:H	1.86	0.41
1:K:219:PHE:O	1:K:247:LEU:HD12	2.20	0.41
1:L:236:VAL:O	1:L:240:VAL:HG23	2.21	0.41
1:L:419:LEU:HD23	1:L:419:LEU:HA	1.96	0.41
1:M:305:ILE:HG22	1:M:305:ILE:O	2.21	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:M:345:ARG:HA	1:M:348:GLN:NE2	2.32	0.41
1:N:419:LEU:HD23	1:N:419:LEU:HA	1.91	0.41
1:A:158:VAL:HG13	1:A:396:VAL:HG22	2.02	0.41
1:B:426:LEU:HD23	1:B:426:LEU:HA	1.82	0.41
1:C:90:THR:O	1:C:94:VAL:HG13	2.21	0.41
1:C:158:VAL:HG13	1:C:396:VAL:HG22	2.03	0.41
1:C:260:ALA:O	1:C:264:VAL:HG23	2.20	0.41
1:D:39:VAL:HG23	1:E:517:THR:CG2	2.51	0.41
1:G:319:GLN:HB3	1:G:336:VAL:CG2	2.50	0.41
1:I:235:PRO:CG	1:I:310:GLU:HA	2.51	0.41
1:J:73:MET:O	1:J:76:GLU:HB2	2.20	0.41
1:J:78:ALA:HB1	1:J:89:THR:HB	2.03	0.41
4:J:1:AGS:S1G	4:J:1:AGS:O3G	2.57	0.41
1:K:177:VAL:CG2	1:K:397:GLU:HG3	2.44	0.41
1:M:57:ALA:O	1:M:75:LYS:HE2	2.21	0.41
1:N:112:ASN:HA	1:N:113:PRO:HD3	1.96	0.41
1:N:221:LEU:HD23	1:N:249:ILE:HD12	2.02	0.41
1:A:69:MET:CE	1:G:39:VAL:HG12	2.50	0.41
1:C:224:ASP:HB3	1:C:302:SER:HB3	2.03	0.41
1:C:345:ARG:HA	1:C:348:GLN:NE2	2.31	0.41
1:D:18:ARG:NH2	5:D:587:HOH:O	2.51	0.41
1:E:16:MET:O	1:E:20:VAL:HG13	2.21	0.41
1:E:39:VAL:HG12	1:F:69:MET:CE	2.51	0.41
1:G:78:ALA:HB1	1:G:89:THR:HB	2.03	0.41
1:I:16:MET:O	1:I:20:VAL:HG13	2.21	0.41
1:I:191:GLU:O	1:I:334:ASP:HA	2.21	0.41
1:I:263:VAL:O	1:I:267:MET:HB2	2.21	0.41
1:K:348:GLN:O	1:K:352:GLN:HG2	2.20	0.41
1:L:364:LYS:HD3	1:L:364:LYS:HA	1.73	0.41
1:M:404:ARG:HG2	1:M:404:ARG:NH1	2.33	0.41
1:C:176:THR:HG21	1:C:322:ARG:HH12	1.86	0.41
1:C:366:GLN:O	1:C:369:VAL:HG22	2.21	0.41
1:D:124:VAL:HG21	1:D:508:ALA:HB2	2.03	0.41
1:D:302:SER:H	1:D:307:MET:CE	2.34	0.41
1:D:319:GLN:HB3	1:D:336:VAL:HG21	2.02	0.41
1:D:386:GLU:O	1:D:390:LYS:HG2	2.20	0.41
1:D:463:SER:HB2	5:D:644:HOH:O	2.20	0.41
1:F:34:LYS:HG3	1:F:458:CYS:SG	2.61	0.41
1:H:321:LYS:HB2	1:H:334:ASP:HB3	2.02	0.41
1:K:16:MET:O	1:K:20:VAL:HG13	2.21	0.41
1:K:325:ILE:HG22	1:K:330:THR:HG23	2.02	0.41

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:N:197:ARG:HD2	1:N:277:LYS:HB2	2.03	0.41
1:A:348:GLN:O	1:A:352:GLN:HG2	2.22	0.40
1:B:236:VAL:O	1:B:240:VAL:HG23	2.21	0.40
1:C:193:MET:HE1	1:C:292:ILE:HG12	2.01	0.40
1:D:266:THR:HG22	1:D:271:VAL:O	2.21	0.40
1:F:496:PRO:HB2	1:F:499:VAL:HG13	2.03	0.40
1:K:188:ASP:OD1	1:K:188:ASP:N	2.54	0.40
1:K:191:GLU:O	1:K:334:ASP:HA	2.22	0.40
1:M:364:LYS:HD3	1:M:364:LYS:HA	1.86	0.40
1:A:231:ARG:NH1	1:G:242:LYS:CG	2.83	0.40
1:E:360:TYR:CE1	1:E:364:LYS:HE3	2.56	0.40
1:F:178:GLU:HG2	1:F:322:ARG:NH1	2.36	0.40
1:G:66:PHE:CZ	1:G:522:THR:HG22	2.57	0.40
1:K:458:CYS:SG	1:K:480:ALA:HB1	2.61	0.40
1:M:16:MET:O	1:M:20:VAL:HG13	2.21	0.40
1:N:466:ALA:O	1:N:470:LYS:HG3	2.21	0.40
1:A:284:ARG:HH11	1:A:364:LYS:HD2	1.87	0.40
1:J:57:ALA:O	1:J:75:LYS:HE3	2.20	0.40
1:M:124:VAL:HG21	1:M:508:ALA:CB	2.51	0.40
1:N:325:ILE:HG22	1:N:330:THR:HG23	2.02	0.40
1:C:360:TYR:CE1	1:C:364:LYS:HE3	2.56	0.40
1:H:404:ARG:NH1	1:H:404:ARG:CG	2.83	0.40
1:I:63:GLU:HB2	1:J:524:LEU:HD21	2.04	0.40
1:K:419:LEU:HD23	1:K:419:LEU:HA	1.94	0.40
1:L:348:GLN:O	1:L:352:GLN:HG2	2.21	0.40
1:M:57:ALA:O	1:M:75:LYS:HE3	2.20	0.40
1:M:176:THR:HG22	1:M:177:VAL:N	2.36	0.40
1:A:404:ARG:CG	1:A:404:ARG:NH1	2.84	0.40
1:B:360:TYR:CE1	1:B:364:LYS:HE3	2.57	0.40
1:C:221:LEU:HD23	1:C:249:ILE:HD12	2.03	0.40
1:D:114:MET:CG	1:D:114:MET:CE	2.99	0.40
1:J:321:LYS:HB2	1:J:334:ASP:HB3	2.03	0.40
1:M:63:GLU:HB2	1:N:524:LEU:CD2	2.52	0.40
1:M:369:VAL:HG23	1:M:370:ALA:N	2.36	0.40
1:N:36:ARG:HD2	5:N:614:HOH:O	2.21	0.40

All (5) 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:I:142:LYS:NZ	1:N:354:GLU:O[2_646]	1.85	0.35

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:315:GLU:OE2	1:N:338:GLU:OE1[1_554]	2.05	0.15
1:A:311:LYS:NZ	1:N:311:LYS:O[1_554]	2.09	0.11
1:H:350:ARG:NH1	1:L:354:GLU:OE1[1_455]	2.11	0.09
1:G:315:GLU:OE1	1:N:338:GLU:OE2[1_554]	2.14	0.06

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	523/525 (100%)	509 (97%)	12 (2%)	2 (0%)	34	30
1	B	523/525 (100%)	506 (97%)	15 (3%)	2 (0%)	34	30
1	C	523/525 (100%)	505 (97%)	16 (3%)	2 (0%)	34	30
1	D	523/525 (100%)	509 (97%)	13 (2%)	1 (0%)	47	44
1	E	523/525 (100%)	507 (97%)	14 (3%)	2 (0%)	34	30
1	F	523/525 (100%)	508 (97%)	13 (2%)	2 (0%)	34	30
1	G	523/525 (100%)	511 (98%)	10 (2%)	2 (0%)	34	30
1	H	523/525 (100%)	508 (97%)	13 (2%)	2 (0%)	34	30
1	I	523/525 (100%)	511 (98%)	10 (2%)	2 (0%)	34	30
1	J	523/525 (100%)	509 (97%)	12 (2%)	2 (0%)	34	30
1	K	523/525 (100%)	505 (97%)	15 (3%)	3 (1%)	25	19
1	L	523/525 (100%)	508 (97%)	13 (2%)	2 (0%)	34	30
1	M	523/525 (100%)	512 (98%)	9 (2%)	2 (0%)	34	30
1	N	523/525 (100%)	503 (96%)	18 (3%)	2 (0%)	34	30
All	All	7322/7350 (100%)	7111 (97%)	183 (2%)	28 (0%)	34	30

All (28) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	D	256	GLY
1	A	256	GLY
1	B	256	GLY
1	C	256	GLY
1	E	256	GLY
1	F	256	GLY
1	G	256	GLY
1	H	256	GLY
1	I	256	GLY
1	J	256	GLY
1	K	256	GLY
1	L	256	GLY
1	M	256	GLY
1	N	256	GLY
1	N	270	ILE
1	I	270	ILE
1	H	270	ILE
1	K	270	ILE
1	L	270	ILE
1	M	270	ILE
1	B	270	ILE
1	C	270	ILE
1	E	270	ILE
1	F	270	ILE
1	G	270	ILE
1	K	77	VAL
1	A	270	ILE
1	J	270	ILE

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	404/405 (100%)	383 (95%)	21 (5%)	23 19
1	B	404/405 (100%)	379 (94%)	25 (6%)	18 13
1	C	404/405 (100%)	381 (94%)	23 (6%)	20 16

Continued on next page...

Continued from previous page...

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	D	404/405 (100%)	383 (95%)	21 (5%)	23	19
1	E	404/405 (100%)	382 (95%)	22 (5%)	22	18
1	F	404/405 (100%)	385 (95%)	19 (5%)	26	22
1	G	404/405 (100%)	381 (94%)	23 (6%)	20	16
1	H	404/405 (100%)	382 (95%)	22 (5%)	22	18
1	I	404/405 (100%)	387 (96%)	17 (4%)	30	27
1	J	404/405 (100%)	383 (95%)	21 (5%)	23	19
1	K	404/405 (100%)	384 (95%)	20 (5%)	24	20
1	L	404/405 (100%)	382 (95%)	22 (5%)	22	18
1	M	404/405 (100%)	384 (95%)	20 (5%)	24	20
1	N	404/405 (100%)	381 (94%)	23 (6%)	20	16
All	All	5656/5670 (100%)	5357 (95%)	299 (5%)	22	18

All (299) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	10	ASN
1	A	14	VAL
1	A	20	VAL
1	A	75	LYS
1	A	80	LYS
1	A	118	ARG
1	A	151	SER
1	A	160	LYS
1	A	230	ILE
1	A	284	ARG
1	A	289	LEU
1	A	325	ILE
1	A	328	ASP
1	A	331	THR
1	A	351	GLN
1	A	352	GLN
1	A	404	ARG
1	A	420	ILE
1	A	473	ASP
1	A	518	GLU
1	A	524	LEU
1	B	10	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	20	VAL
1	B	75	LYS
1	B	80	LYS
1	B	94	VAL
1	B	151	SER
1	B	160	LYS
1	B	176	THR
1	B	230	ILE
1	B	284	ARG
1	B	289	LEU
1	B	325	ILE
1	B	328	ASP
1	B	329	THR
1	B	331	THR
1	B	351	GLN
1	B	352	GLN
1	B	358	SER
1	B	404	ARG
1	B	420	ILE
1	B	421	ARG
1	B	473	ASP
1	B	514	MET
1	B	518	GLU
1	B	524	LEU
1	C	10	ASN
1	C	14	VAL
1	C	20	VAL
1	C	75	LYS
1	C	94	VAL
1	C	151	SER
1	C	160	LYS
1	C	230	ILE
1	C	284	ARG
1	C	289	LEU
1	C	325	ILE
1	C	328	ASP
1	C	329	THR
1	C	331	THR
1	C	351	GLN
1	C	352	GLN
1	C	358	SER
1	C	404	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	C	420	ILE
1	C	473	ASP
1	C	514	MET
1	C	518	GLU
1	C	524	LEU
1	D	10	ASN
1	D	20	VAL
1	D	75	LYS
1	D	80	LYS
1	D	94	VAL
1	D	135	SER
1	D	151	SER
1	D	160	LYS
1	D	230	ILE
1	D	284	ARG
1	D	289	LEU
1	D	325	ILE
1	D	329	THR
1	D	331	THR
1	D	352	GLN
1	D	358	SER
1	D	404	ARG
1	D	420	ILE
1	D	473	ASP
1	D	518	GLU
1	D	524	LEU
1	E	10	ASN
1	E	20	VAL
1	E	23	LEU
1	E	94	VAL
1	E	118	ARG
1	E	135	SER
1	E	151	SER
1	E	160	LYS
1	E	183	LEU
1	E	230	ILE
1	E	284	ARG
1	E	289	LEU
1	E	325	ILE
1	E	329	THR
1	E	331	THR
1	E	351	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	E	352	GLN
1	E	404	ARG
1	E	420	ILE
1	E	473	ASP
1	E	518	GLU
1	E	524	LEU
1	F	10	ASN
1	F	20	VAL
1	F	80	LYS
1	F	94	VAL
1	F	151	SER
1	F	160	LYS
1	F	230	ILE
1	F	284	ARG
1	F	289	LEU
1	F	325	ILE
1	F	328	ASP
1	F	331	THR
1	F	351	GLN
1	F	352	GLN
1	F	404	ARG
1	F	420	ILE
1	F	473	ASP
1	F	518	GLU
1	F	524	LEU
1	G	10	ASN
1	G	20	VAL
1	G	75	LYS
1	G	80	LYS
1	G	118	ARG
1	G	140	ASP
1	G	151	SER
1	G	160	LYS
1	G	188	ASP
1	G	230	ILE
1	G	284	ARG
1	G	325	ILE
1	G	329	THR
1	G	331	THR
1	G	351	GLN
1	G	352	GLN
1	G	358	SER

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	G	404	ARG
1	G	420	ILE
1	G	473	ASP
1	G	514	MET
1	G	518	GLU
1	G	524	LEU
1	H	10	ASN
1	H	14	VAL
1	H	20	VAL
1	H	75	LYS
1	H	80	LYS
1	H	118	ARG
1	H	151	SER
1	H	160	LYS
1	H	230	ILE
1	H	284	ARG
1	H	289	LEU
1	H	325	ILE
1	H	328	ASP
1	H	329	THR
1	H	331	THR
1	H	351	GLN
1	H	352	GLN
1	H	404	ARG
1	H	420	ILE
1	H	473	ASP
1	H	518	GLU
1	H	524	LEU
1	I	10	ASN
1	I	20	VAL
1	I	75	LYS
1	I	80	LYS
1	I	94	VAL
1	I	151	SER
1	I	160	LYS
1	I	230	ILE
1	I	284	ARG
1	I	289	LEU
1	I	325	ILE
1	I	331	THR
1	I	358	SER
1	I	404	ARG

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	I	420	ILE
1	I	518	GLU
1	I	524	LEU
1	J	10	ASN
1	J	20	VAL
1	J	75	LYS
1	J	80	LYS
1	J	94	VAL
1	J	151	SER
1	J	160	LYS
1	J	230	ILE
1	J	284	ARG
1	J	289	LEU
1	J	325	ILE
1	J	329	THR
1	J	331	THR
1	J	351	GLN
1	J	352	GLN
1	J	358	SER
1	J	404	ARG
1	J	420	ILE
1	J	473	ASP
1	J	518	GLU
1	J	524	LEU
1	K	10	ASN
1	K	20	VAL
1	K	75	LYS
1	K	80	LYS
1	K	94	VAL
1	K	118	ARG
1	K	151	SER
1	K	160	LYS
1	K	230	ILE
1	K	284	ARG
1	K	289	LEU
1	K	325	ILE
1	K	331	THR
1	K	351	GLN
1	K	358	SER
1	K	404	ARG
1	K	420	ILE
1	K	473	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	K	518	GLU
1	K	524	LEU
1	L	10	ASN
1	L	20	VAL
1	L	75	LYS
1	L	80	LYS
1	L	94	VAL
1	L	135	SER
1	L	151	SER
1	L	160	LYS
1	L	230	ILE
1	L	284	ARG
1	L	289	LEU
1	L	325	ILE
1	L	328	ASP
1	L	329	THR
1	L	331	THR
1	L	351	GLN
1	L	352	GLN
1	L	404	ARG
1	L	420	ILE
1	L	473	ASP
1	L	518	GLU
1	L	524	LEU
1	M	10	ASN
1	M	20	VAL
1	M	75	LYS
1	M	151	SER
1	M	160	LYS
1	M	230	ILE
1	M	284	ARG
1	M	289	LEU
1	M	325	ILE
1	M	328	ASP
1	M	329	THR
1	M	331	THR
1	M	351	GLN
1	M	352	GLN
1	M	358	SER
1	M	404	ARG
1	M	420	ILE
1	M	473	ASP

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	M	518	GLU
1	M	524	LEU
1	N	10	ASN
1	N	14	VAL
1	N	20	VAL
1	N	75	LYS
1	N	80	LYS
1	N	94	VAL
1	N	118	ARG
1	N	151	SER
1	N	160	LYS
1	N	183	LEU
1	N	230	ILE
1	N	284	ARG
1	N	289	LEU
1	N	325	ILE
1	N	328	ASP
1	N	331	THR
1	N	351	GLN
1	N	352	GLN
1	N	358	SER
1	N	404	ARG
1	N	420	ILE
1	N	518	GLU
1	N	524	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (132) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	37	ASN
1	A	146	GLN
1	A	229	ASN
1	A	265	ASN
1	A	326	ASN
1	A	348	GLN
1	A	351	GLN
1	A	366	GLN
1	A	453	GLN
1	A	475	ASN
1	B	37	ASN
1	B	146	GLN
1	B	265	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	B	326	ASN
1	B	348	GLN
1	B	351	GLN
1	B	366	GLN
1	B	401	HIS
1	B	453	GLN
1	B	475	ASN
1	C	37	ASN
1	C	146	GLN
1	C	265	ASN
1	C	326	ASN
1	C	348	GLN
1	C	351	GLN
1	C	366	GLN
1	C	401	HIS
1	C	453	GLN
1	C	475	ASN
1	D	37	ASN
1	D	146	GLN
1	D	265	ASN
1	D	326	ASN
1	D	348	GLN
1	D	351	GLN
1	D	366	GLN
1	D	453	GLN
1	E	37	ASN
1	E	146	GLN
1	E	265	ASN
1	E	326	ASN
1	E	348	GLN
1	E	351	GLN
1	E	366	GLN
1	E	475	ASN
1	F	37	ASN
1	F	146	GLN
1	F	265	ASN
1	F	326	ASN
1	F	348	GLN
1	F	351	GLN
1	F	366	GLN
1	F	401	HIS
1	F	453	GLN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	F	475	ASN
1	G	37	ASN
1	G	146	GLN
1	G	265	ASN
1	G	326	ASN
1	G	348	GLN
1	G	351	GLN
1	G	366	GLN
1	G	453	GLN
1	G	475	ASN
1	H	37	ASN
1	H	146	GLN
1	H	265	ASN
1	H	326	ASN
1	H	348	GLN
1	H	351	GLN
1	H	366	GLN
1	H	401	HIS
1	H	453	GLN
1	H	475	ASN
1	I	37	ASN
1	I	146	GLN
1	I	265	ASN
1	I	326	ASN
1	I	348	GLN
1	I	351	GLN
1	I	366	GLN
1	I	401	HIS
1	I	453	GLN
1	I	475	ASN
1	J	37	ASN
1	J	146	GLN
1	J	265	ASN
1	J	326	ASN
1	J	348	GLN
1	J	351	GLN
1	J	366	GLN
1	J	453	GLN
1	J	475	ASN
1	K	37	ASN
1	K	146	GLN
1	K	265	ASN

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type
1	K	326	ASN
1	K	348	GLN
1	K	351	GLN
1	K	366	GLN
1	K	453	GLN
1	K	475	ASN
1	L	10	ASN
1	L	37	ASN
1	L	146	GLN
1	L	229	ASN
1	L	265	ASN
1	L	326	ASN
1	L	348	GLN
1	L	351	GLN
1	L	401	HIS
1	L	453	GLN
1	M	37	ASN
1	M	146	GLN
1	M	265	ASN
1	M	326	ASN
1	M	348	GLN
1	M	351	GLN
1	M	366	GLN
1	M	453	GLN
1	M	475	ASN
1	N	37	ASN
1	N	146	GLN
1	N	265	ASN
1	N	326	ASN
1	N	348	GLN
1	N	351	GLN
1	N	366	GLN
1	N	401	HIS
1	N	453	GLN
1	N	475	ASN

5.3.3 RNA

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 44 ligands modelled in this entry, 30 are monoatomic - leaving 14 for Mogul analysis.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\#\|Z\| > 2$	Counts	RMSZ	$\#\|Z\| > 2$
4	AGS	I	1	2,3	26,33,33	3.95	5 (19%)	26,52,52	1.55	3 (11%)
4	AGS	D	561	2,3	26,33,33	4.20	6 (23%)	26,52,52	1.65	7 (26%)
4	AGS	K	1	2,3	26,33,33	3.88	6 (23%)	26,52,52	1.60	4 (15%)
4	AGS	C	1	2,3	26,33,33	3.77	4 (15%)	26,52,52	1.93	3 (11%)
4	AGS	L	1	2,3	26,33,33	3.94	5 (19%)	26,52,52	2.22	4 (15%)
4	AGS	A	1	2,3	26,33,33	3.60	5 (19%)	26,52,52	2.35	8 (30%)
4	AGS	E	1	2,3	26,33,33	4.26	4 (15%)	26,52,52	2.13	9 (34%)
4	AGS	G	1	2,3	26,33,33	4.37	7 (26%)	26,52,52	1.98	9 (34%)
4	AGS	B	1	2,3	26,33,33	3.72	5 (19%)	26,52,52	1.75	6 (23%)
4	AGS	F	1	2,3	26,33,33	3.81	4 (15%)	26,52,52	1.71	7 (26%)
4	AGS	J	1	2,3	26,33,33	3.63	4 (15%)	26,52,52	1.75	6 (23%)
4	AGS	H	1	2,3	26,33,33	3.86	6 (23%)	26,52,52	1.83	5 (19%)
4	AGS	M	1	2,3	26,33,33	3.82	5 (19%)	26,52,52	2.59	4 (15%)
4	AGS	N	1	2,3	26,33,33	4.20	5 (19%)	26,52,52	2.26	8 (30%)

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

Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	AGS	I	1	2,3	-	2/17/38/38	0/3/3/3
4	AGS	D	561	2,3	-	3/17/38/38	0/3/3/3
4	AGS	K	1	2,3	-	4/17/38/38	0/3/3/3
4	AGS	C	1	2,3	-	2/17/38/38	0/3/3/3
4	AGS	L	1	2,3	-	1/17/38/38	0/3/3/3
4	AGS	A	1	2,3	-	2/17/38/38	0/3/3/3
4	AGS	E	1	2,3	-	3/17/38/38	0/3/3/3
4	AGS	G	1	2,3	-	2/17/38/38	0/3/3/3
4	AGS	B	1	2,3	-	2/17/38/38	0/3/3/3
4	AGS	F	1	2,3	-	2/17/38/38	0/3/3/3
4	AGS	J	1	2,3	-	2/17/38/38	0/3/3/3
4	AGS	H	1	2,3	-	3/17/38/38	0/3/3/3
4	AGS	M	1	2,3	-	3/17/38/38	0/3/3/3
4	AGS	N	1	2,3	-	1/17/38/38	0/3/3/3

All (71) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	G	1	AGS	PG-S1G	-20.65	1.45	1.90
4	E	1	AGS	PG-S1G	-20.02	1.47	1.90
4	N	1	AGS	PG-S1G	-20.00	1.47	1.90
4	D	561	AGS	PG-S1G	-19.20	1.48	1.90
4	L	1	AGS	PG-S1G	-18.80	1.49	1.90
4	I	1	AGS	PG-S1G	-18.44	1.50	1.90
4	F	1	AGS	PG-S1G	-18.21	1.51	1.90
4	C	1	AGS	PG-S1G	-18.19	1.51	1.90
4	H	1	AGS	PG-S1G	-18.18	1.51	1.90
4	K	1	AGS	PG-S1G	-18.11	1.51	1.90
4	M	1	AGS	PG-S1G	-18.06	1.51	1.90
4	B	1	AGS	PG-S1G	-17.69	1.52	1.90
4	J	1	AGS	PG-S1G	-17.59	1.52	1.90
4	A	1	AGS	PG-S1G	-17.05	1.53	1.90
4	D	561	AGS	C4-N3	5.11	1.42	1.35
4	E	1	AGS	C2-N3	4.89	1.40	1.32
4	D	561	AGS	C2-N3	4.82	1.39	1.32
4	G	1	AGS	C2-N3	4.72	1.39	1.32
4	N	1	AGS	C2-N3	4.19	1.38	1.32
4	N	1	AGS	O4'-C1'	-4.15	1.35	1.41
4	A	1	AGS	C2-N3	4.15	1.38	1.32
4	E	1	AGS	PA-O1A	-4.09	1.36	1.50
4	M	1	AGS	C2'-C1'	-3.93	1.47	1.53

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	K	1	AGS	O4'-C1'	3.93	1.46	1.41
4	K	1	AGS	C2-N3	3.87	1.38	1.32
4	I	1	AGS	C2-N3	3.80	1.38	1.32
4	F	1	AGS	PA-O1A	-3.50	1.38	1.50
4	D	561	AGS	C2-N1	3.49	1.40	1.33
4	M	1	AGS	C2-N3	3.48	1.37	1.32
4	H	1	AGS	C2-N3	3.42	1.37	1.32
4	C	1	AGS	C2-N3	3.40	1.37	1.32
4	F	1	AGS	O3'-C3'	-3.36	1.35	1.43
4	B	1	AGS	C2-N3	3.14	1.37	1.32
4	G	1	AGS	PA-O1A	-3.10	1.39	1.50
4	I	1	AGS	C2'-C1'	-3.06	1.49	1.53
4	K	1	AGS	PB-O1B	-3.01	1.40	1.50
4	L	1	AGS	PA-O1A	-2.94	1.40	1.50
4	D	561	AGS	PG-O2G	2.82	1.64	1.54
4	L	1	AGS	C2-N1	2.81	1.39	1.33
4	I	1	AGS	O4'-C4'	-2.79	1.38	1.45
4	J	1	AGS	C2-N3	2.78	1.36	1.32
4	G	1	AGS	C2-N1	2.78	1.39	1.33
4	L	1	AGS	C2'-C1'	-2.70	1.49	1.53
4	N	1	AGS	PA-O1A	-2.69	1.41	1.50
4	B	1	AGS	PA-O1A	-2.56	1.41	1.50
4	A	1	AGS	O4'-C1'	-2.55	1.37	1.41
4	F	1	AGS	C2-N3	2.50	1.36	1.32
4	G	1	AGS	O3'-C3'	-2.50	1.37	1.43
4	B	1	AGS	C2'-C1'	2.49	1.57	1.53
4	H	1	AGS	O2'-C2'	-2.46	1.37	1.43
4	E	1	AGS	PB-O1B	-2.43	1.42	1.50
4	H	1	AGS	C4-N3	-2.38	1.32	1.35
4	C	1	AGS	C2-N1	2.37	1.38	1.33
4	B	1	AGS	O4'-C1'	-2.37	1.37	1.41
4	D	561	AGS	PA-O1A	-2.35	1.42	1.50
4	A	1	AGS	C8-N7	2.35	1.38	1.34
4	M	1	AGS	O2'-C2'	-2.29	1.37	1.43
4	N	1	AGS	C2-N1	2.28	1.38	1.33
4	L	1	AGS	C2-N3	2.28	1.35	1.32
4	C	1	AGS	PA-O1A	-2.20	1.43	1.50
4	I	1	AGS	PA-O2A	2.20	1.65	1.55
4	J	1	AGS	O4'-C4'	-2.20	1.40	1.45
4	M	1	AGS	C8-N7	2.17	1.38	1.34
4	H	1	AGS	O4'-C1'	-2.12	1.38	1.41
4	K	1	AGS	O2'-C2'	-2.09	1.38	1.43

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	H	1	AGS	PB-O1B	-2.08	1.43	1.50
4	A	1	AGS	PA-O1A	-2.06	1.43	1.50
4	G	1	AGS	C4-N3	-2.05	1.32	1.35
4	K	1	AGS	C2-N1	2.05	1.37	1.33
4	G	1	AGS	O4'-C1'	2.03	1.43	1.41
4	J	1	AGS	C2-N1	2.01	1.37	1.33

All (83) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	M	1	AGS	N3-C2-N1	-8.87	114.81	128.68
4	L	1	AGS	N3-C2-N1	-8.34	115.64	128.68
4	C	1	AGS	N3-C2-N1	-8.26	115.77	128.68
4	A	1	AGS	N3-C2-N1	-7.13	117.53	128.68
4	M	1	AGS	O4'-C1'-C2'	-6.87	96.88	106.93
4	N	1	AGS	N3-C2-N1	-5.71	119.75	128.68
4	E	1	AGS	N3-C2-N1	-5.28	120.43	128.68
4	B	1	AGS	N3-C2-N1	-5.26	120.46	128.68
4	G	1	AGS	N3-C2-N1	-4.84	121.11	128.68
4	H	1	AGS	O5'-PA-O1A	-4.84	90.15	109.07
4	N	1	AGS	O5'-PA-O1A	-4.83	90.20	109.07
4	A	1	AGS	O3'-C3'-C4'	-4.79	97.21	111.05
4	J	1	AGS	N3-C2-N1	-4.66	121.40	128.68
4	H	1	AGS	N3-C2-N1	-4.58	121.51	128.68
4	I	1	AGS	N3-C2-N1	-4.42	121.77	128.68
4	G	1	AGS	C1'-N9-C4	-4.39	118.93	126.64
4	N	1	AGS	C1'-N9-C4	-4.36	118.98	126.64
4	L	1	AGS	C1'-N9-C4	-4.34	119.02	126.64
4	E	1	AGS	O4'-C1'-C2'	-4.31	100.62	106.93
4	K	1	AGS	N3-C2-N1	-4.30	121.96	128.68
4	N	1	AGS	C4-C5-N7	-4.13	105.10	109.40
4	I	1	AGS	C1'-N9-C4	-3.85	119.88	126.64
4	J	1	AGS	O4'-C1'-C2'	-3.84	101.31	106.93
4	F	1	AGS	N3-C2-N1	-3.82	122.70	128.68
4	M	1	AGS	C1'-N9-C4	-3.70	120.14	126.64
4	F	1	AGS	C5'-C4'-C3'	-3.68	101.38	115.18
4	J	1	AGS	C4-C5-N7	-3.44	105.82	109.40
4	B	1	AGS	C1'-N9-C4	-3.41	120.65	126.64
4	D	561	AGS	N3-C2-N1	-3.40	123.37	128.68
4	E	1	AGS	C1'-N9-C4	-3.39	120.69	126.64
4	N	1	AGS	C5'-C4'-C3'	-3.33	102.68	115.18
4	K	1	AGS	O2G-PG-O3B	3.28	115.60	104.64

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	A	1	AGS	C1'-N9-C4	-3.28	120.88	126.64
4	D	561	AGS	O5'-PA-O1A	-3.23	96.44	109.07
4	L	1	AGS	O3'-C3'-C4'	-3.22	101.75	111.05
4	F	1	AGS	O4'-C1'-C2'	-3.20	102.25	106.93
4	E	1	AGS	O3G-PG-O3B	3.17	115.23	104.64
4	E	1	AGS	O2A-PA-O5'	3.14	122.31	107.75
4	E	1	AGS	C5'-C4'-C3'	-3.04	103.79	115.18
4	E	1	AGS	C3'-C2'-C1'	-2.96	96.51	100.98
4	J	1	AGS	C5-C6-N6	2.96	124.85	120.35
4	H	1	AGS	C1'-N9-C4	-2.95	121.46	126.64
4	K	1	AGS	PA-O3A-PB	-2.94	122.75	132.83
4	H	1	AGS	O3G-PG-O3B	2.91	114.35	104.64
4	G	1	AGS	C5-C6-N6	2.89	124.75	120.35
4	G	1	AGS	C3'-C2'-C1'	-2.84	96.70	100.98
4	A	1	AGS	O4'-C1'-C2'	-2.84	102.78	106.93
4	A	1	AGS	C5-C6-N6	2.82	124.63	120.35
4	D	561	AGS	C5'-C4'-C3'	-2.78	104.75	115.18
4	D	561	AGS	O2B-PB-O1B	2.70	125.59	112.24
4	C	1	AGS	C2-N1-C6	2.69	123.36	118.75
4	I	1	AGS	C5'-C4'-C3'	-2.66	105.22	115.18
4	M	1	AGS	N6-C6-N1	-2.64	113.08	118.57
4	L	1	AGS	C5'-C4'-C3'	-2.63	105.34	115.18
4	C	1	AGS	C5'-C4'-C3'	-2.61	105.39	115.18
4	G	1	AGS	O3G-PG-O3B	2.60	113.32	104.64
4	F	1	AGS	C5-C6-N6	2.60	124.30	120.35
4	D	561	AGS	C1'-N9-C4	-2.59	122.09	126.64
4	B	1	AGS	C5'-C4'-C3'	-2.59	105.49	115.18
4	N	1	AGS	O2A-PA-O1A	2.51	124.67	112.24
4	B	1	AGS	O4'-C1'-C2'	-2.50	103.27	106.93
4	K	1	AGS	O2A-PA-O5'	2.45	119.12	107.75
4	F	1	AGS	C1'-N9-C4	-2.41	122.41	126.64
4	A	1	AGS	O2G-PG-O3B	2.39	112.63	104.64
4	A	1	AGS	O5'-PA-O1A	-2.37	99.82	109.07
4	E	1	AGS	O4'-C4'-C3'	-2.31	100.55	105.11
4	B	1	AGS	C5-C6-N6	2.26	123.79	120.35
4	G	1	AGS	O2A-PA-O5'	2.23	118.10	107.75
4	F	1	AGS	O3'-C3'-C4'	-2.22	104.64	111.05
4	D	561	AGS	O3'-C3'-C4'	-2.21	104.67	111.05
4	N	1	AGS	C5-C6-N6	2.20	123.69	120.35
4	A	1	AGS	O2A-PA-O5'	2.19	117.93	107.75
4	F	1	AGS	C4-C5-N7	-2.15	107.15	109.40
4	E	1	AGS	C2'-C3'-C4'	2.14	106.79	102.64

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms	Z	Observed(^{o})	Ideal(^{o})
4	G	1	AGS	O3'-C3'-C4'	-2.13	104.89	111.05
4	B	1	AGS	O4'-C4'-C3'	2.12	109.32	105.11
4	N	1	AGS	O5'-C5'-C4'	2.09	116.17	108.99
4	J	1	AGS	N6-C6-N1	-2.08	114.26	118.57
4	J	1	AGS	O3G-PG-O3B	2.08	111.58	104.64
4	H	1	AGS	O3'-C3'-C4'	-2.06	105.09	111.05
4	G	1	AGS	C5'-C4'-C3'	-2.03	107.58	115.18
4	G	1	AGS	C4-C5-N7	-2.03	107.29	109.40
4	D	561	AGS	PA-O3A-PB	-2.01	125.92	132.83

There are no chirality outliers.

All (32) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
4	A	1	AGS	PB-O3B-PG-O3G
4	B	1	AGS	PB-O3B-PG-O3G
4	C	1	AGS	PB-O3B-PG-O2G
4	C	1	AGS	PB-O3B-PG-O3G
4	D	561	AGS	PB-O3B-PG-O2G
4	D	561	AGS	PB-O3B-PG-O3G
4	E	1	AGS	PB-O3B-PG-O3G
4	F	1	AGS	PB-O3B-PG-O3G
4	G	1	AGS	PB-O3B-PG-O2G
4	G	1	AGS	PB-O3B-PG-O3G
4	H	1	AGS	PB-O3B-PG-O3G
4	I	1	AGS	PB-O3B-PG-O2G
4	I	1	AGS	PB-O3B-PG-O3G
4	J	1	AGS	PB-O3B-PG-O2G
4	J	1	AGS	PB-O3B-PG-O3G
4	K	1	AGS	PB-O3B-PG-O3G
4	M	1	AGS	PB-O3B-PG-O2G
4	M	1	AGS	PB-O3B-PG-O3G
4	N	1	AGS	PB-O3B-PG-O3G
4	E	1	AGS	PB-O3A-PA-O1A
4	K	1	AGS	C5'-O5'-PA-O3A
4	F	1	AGS	PA-O3A-PB-O1B
4	H	1	AGS	PB-O3B-PG-O2G
4	B	1	AGS	PA-O3A-PB-O1B
4	L	1	AGS	PA-O3A-PB-O1B
4	A	1	AGS	PA-O3A-PB-O1B
4	D	561	AGS	PA-O3A-PB-O2B
4	E	1	AGS	PA-O3A-PB-O2B

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	Atoms
4	K	1	AGS	PA-O3A-PB-O1B
4	M	1	AGS	PA-O3A-PB-O2B
4	H	1	AGS	C5'-O5'-PA-O1A
4	K	1	AGS	C5'-O5'-PA-O1A

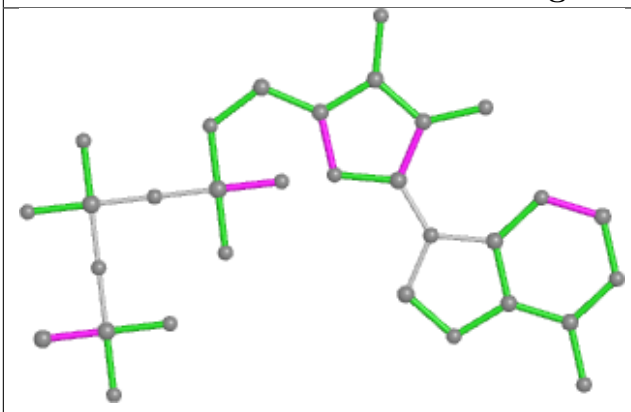
There are no ring outliers.

14 monomers are involved in 49 short contacts:

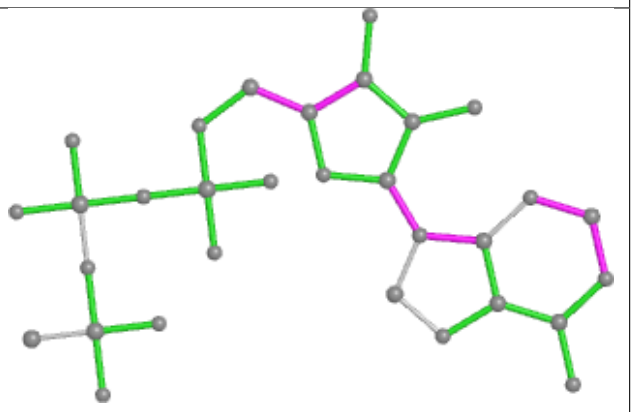
Mol	Chain	Res	Type	Clashes	Symm-Clashes
4	I	1	AGS	4	0
4	D	561	AGS	4	0
4	K	1	AGS	2	0
4	C	1	AGS	2	0
4	L	1	AGS	3	0
4	A	1	AGS	3	0
4	E	1	AGS	3	0
4	G	1	AGS	4	0
4	B	1	AGS	4	0
4	F	1	AGS	3	0
4	J	1	AGS	5	0
4	H	1	AGS	4	0
4	M	1	AGS	3	0
4	N	1	AGS	5	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less then 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.

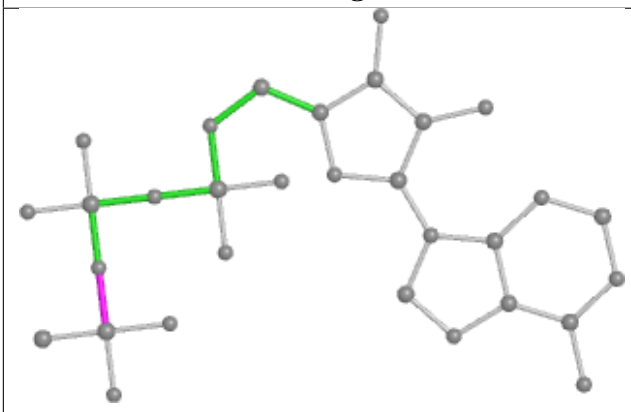
Ligand AGS I 1



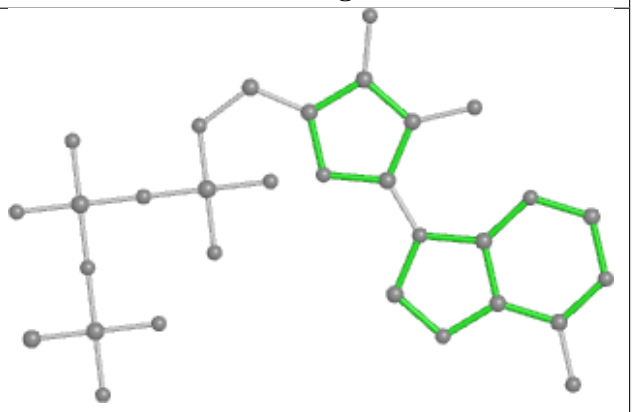
Bond lengths



Bond angles

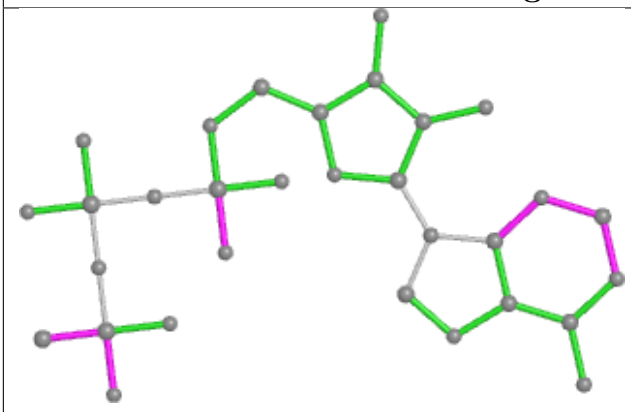


Torsions

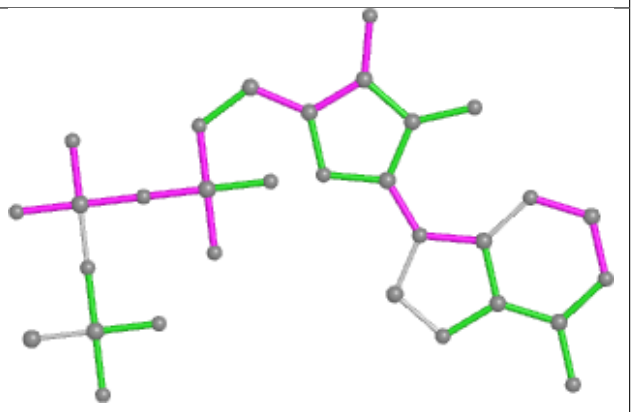


Rings

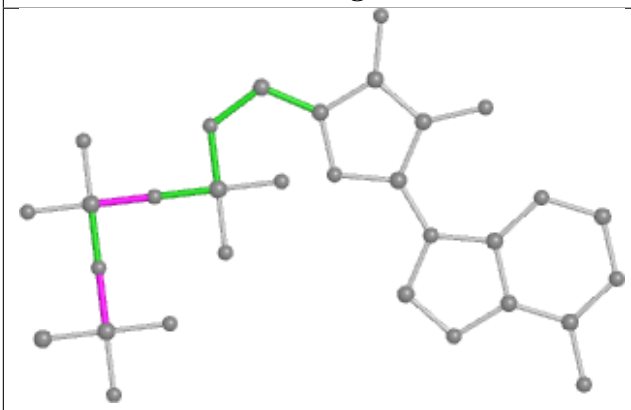
Ligand AGS D 561



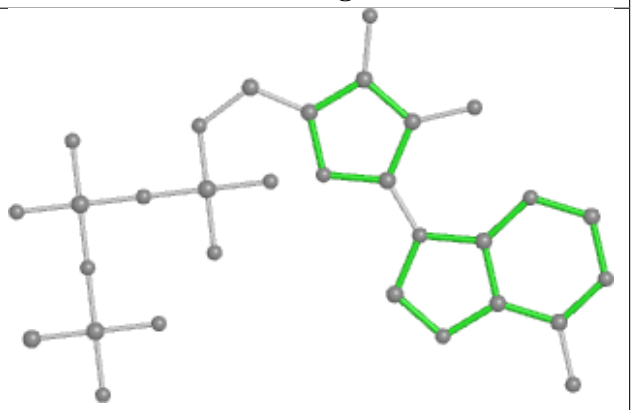
Bond lengths



Bond angles

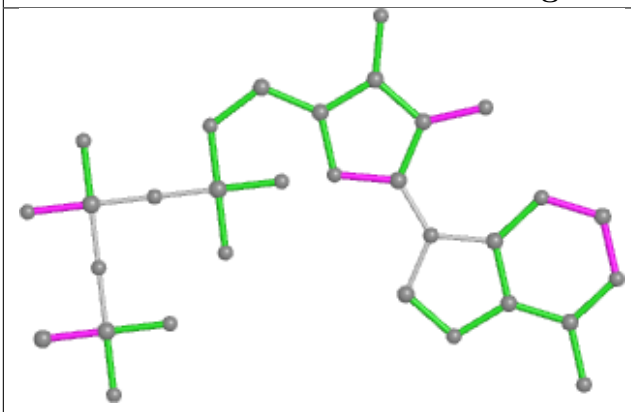


Torsions

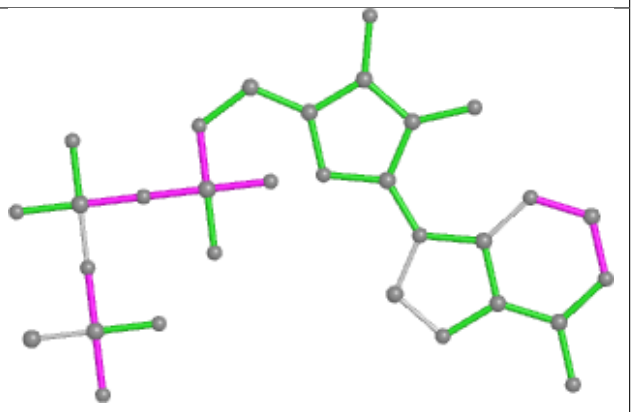


Rings

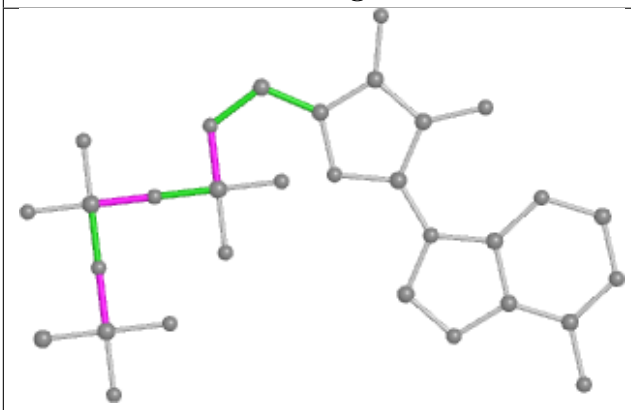
Ligand AGS K 1



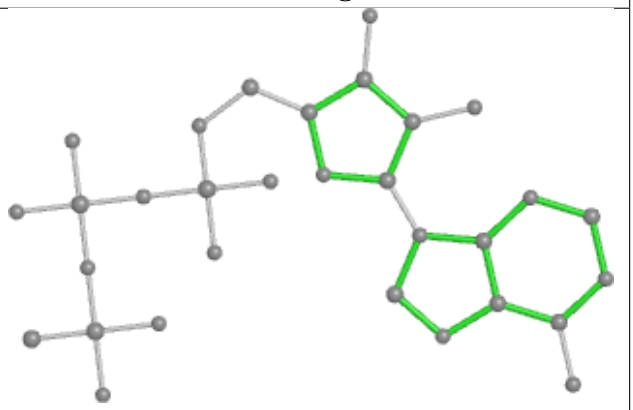
Bond lengths



Bond angles

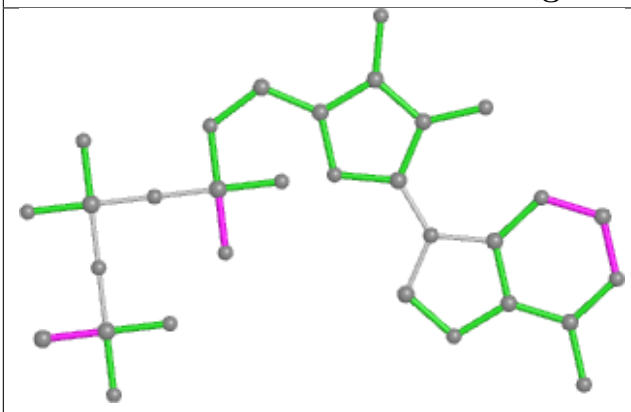


Torsions

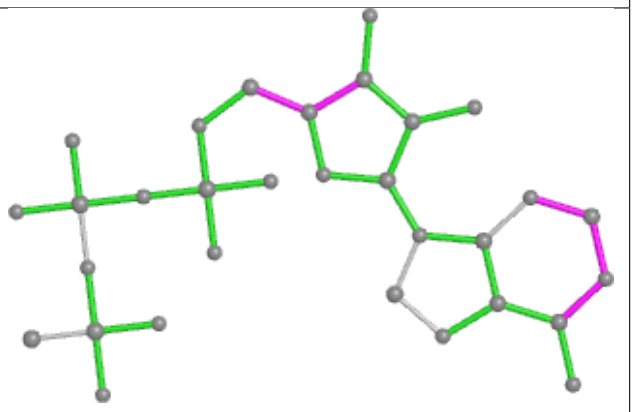


Rings

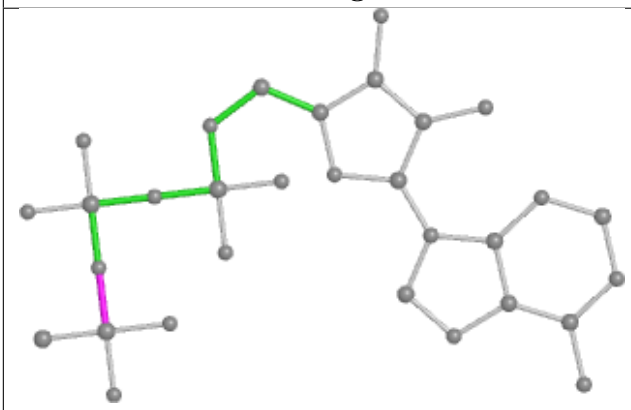
Ligand AGS C 1



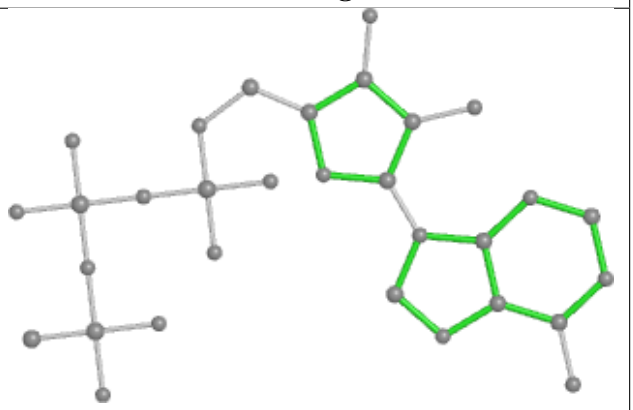
Bond lengths



Bond angles

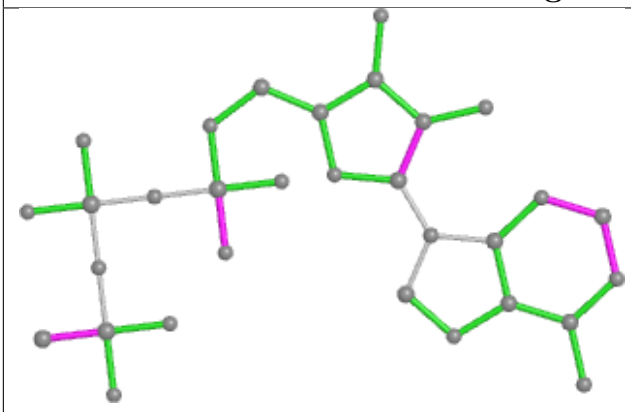


Torsions

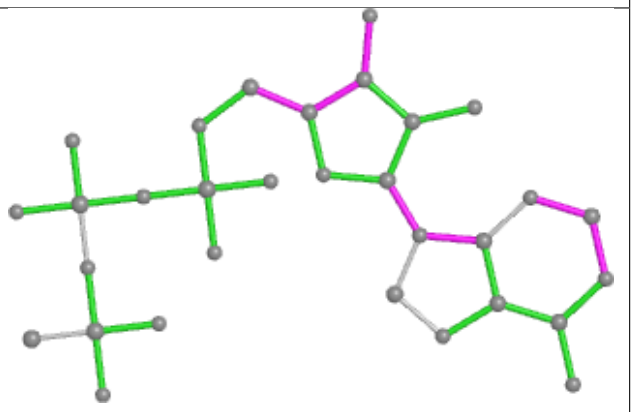


Rings

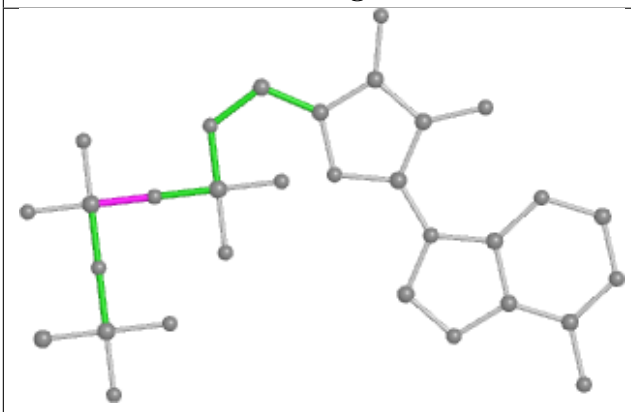
Ligand AGS L 1



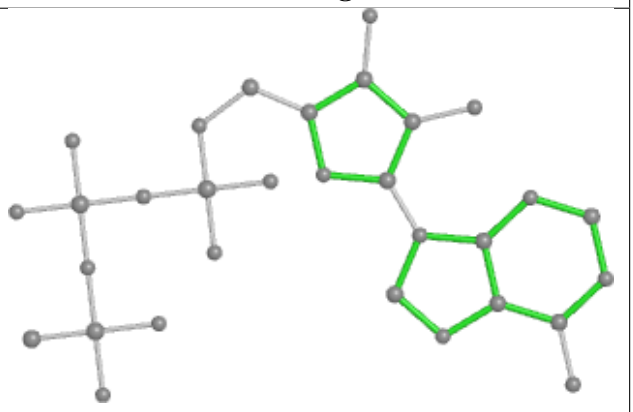
Bond lengths



Bond angles

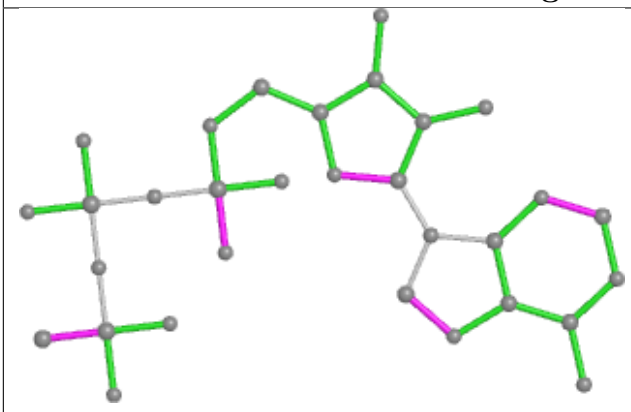


Torsions

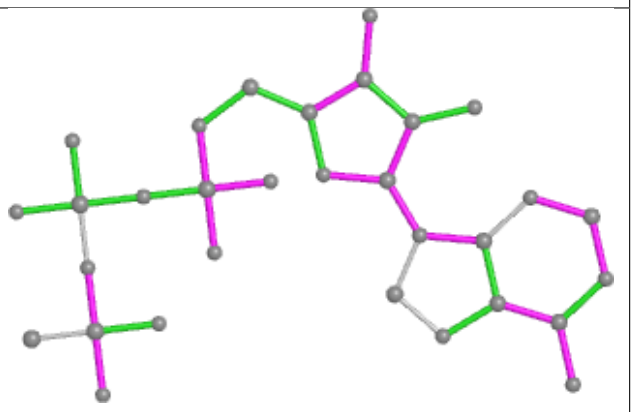


Rings

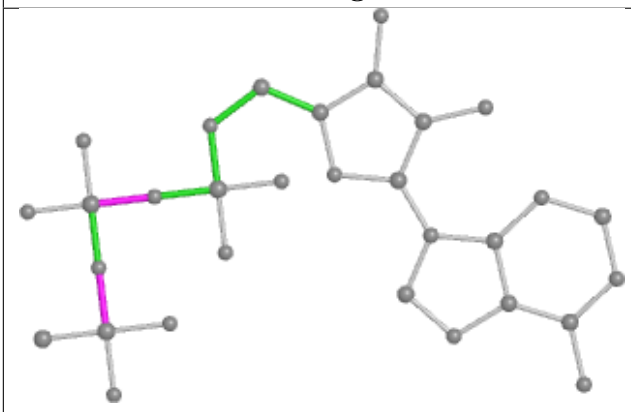
Ligand AGS A 1



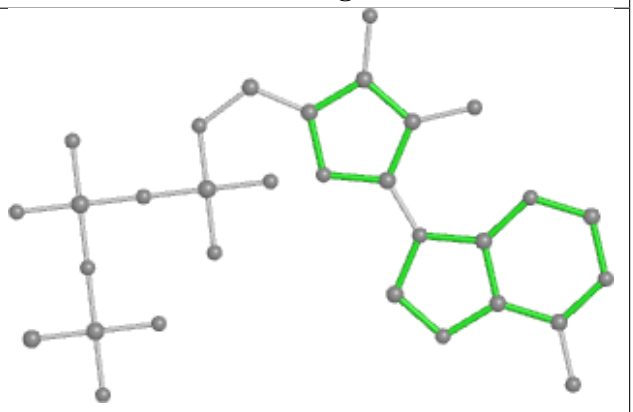
Bond lengths



Bond angles

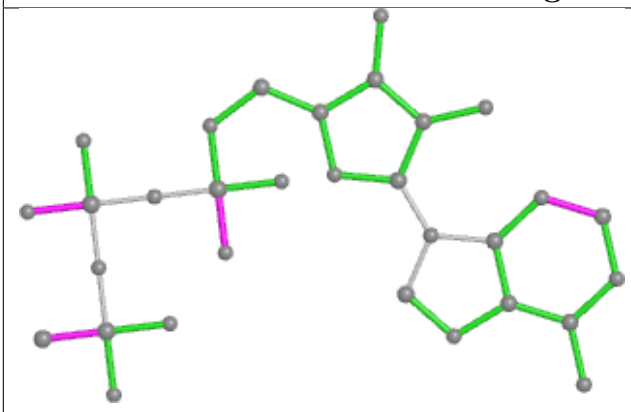


Torsions

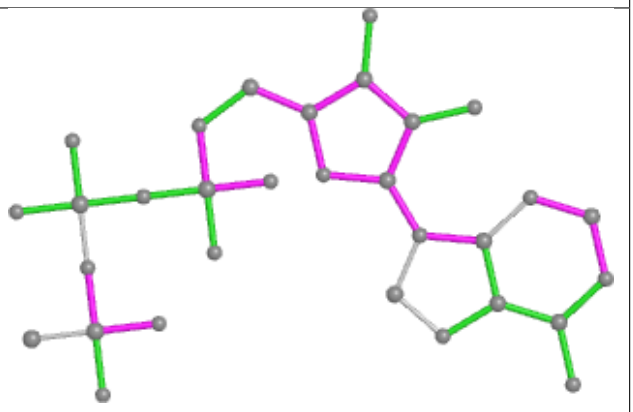


Rings

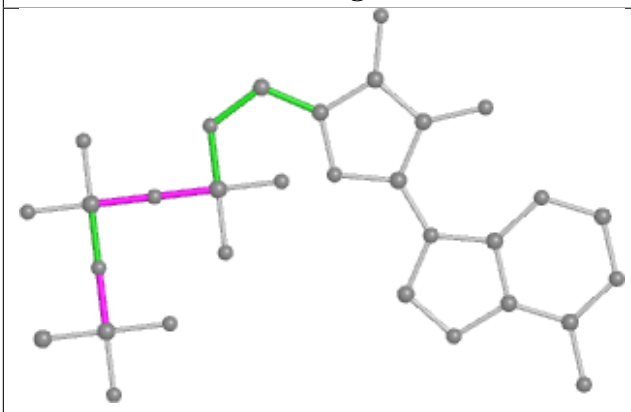
Ligand AGS E 1



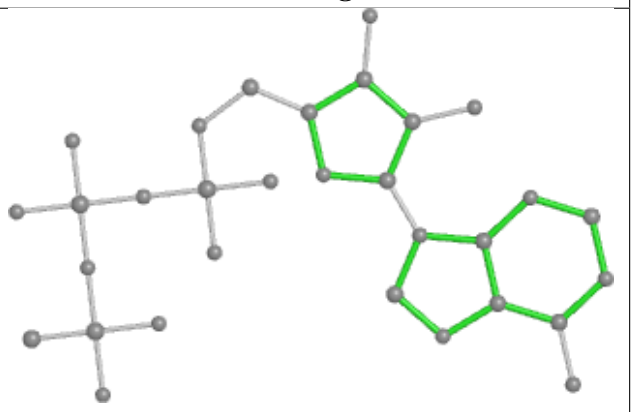
Bond lengths



Bond angles

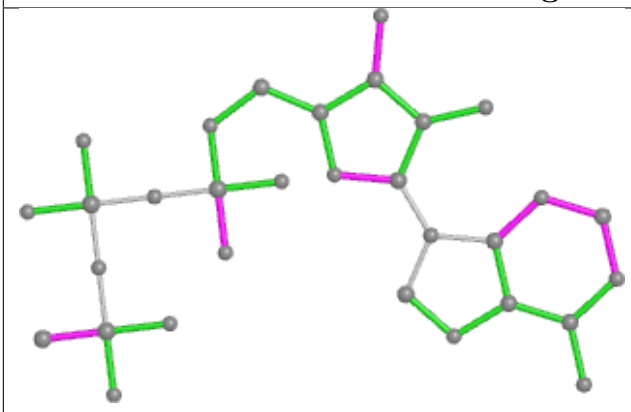


Torsions

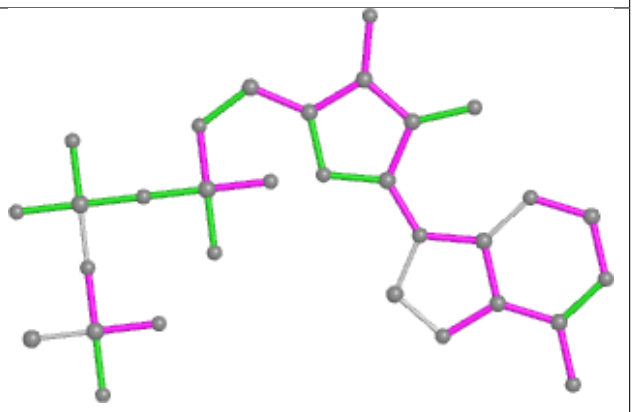


Rings

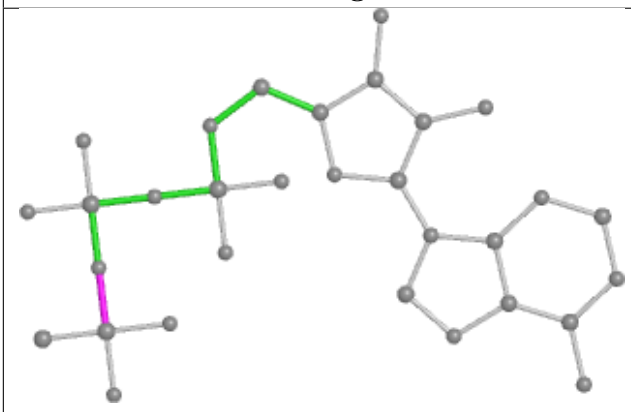
Ligand AGS G 1



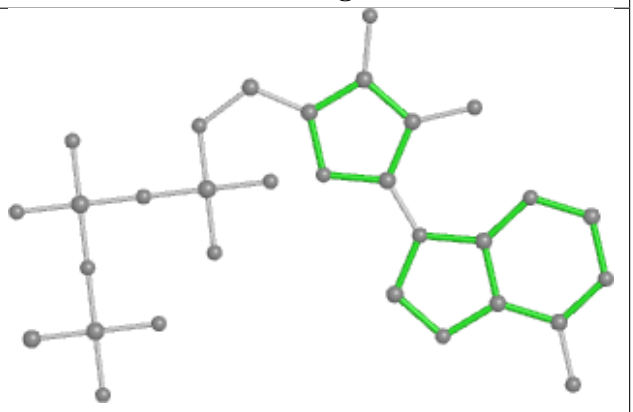
Bond lengths



Bond angles

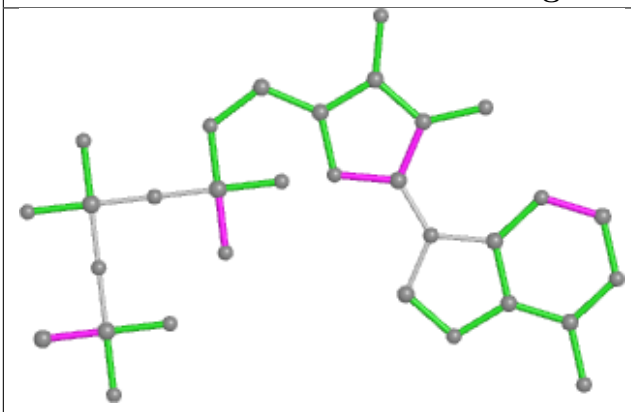


Torsions

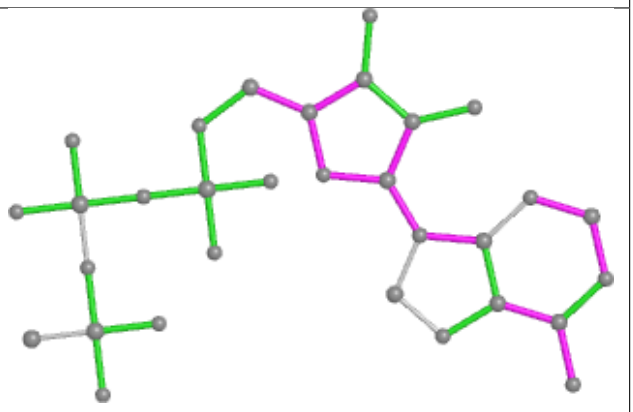


Rings

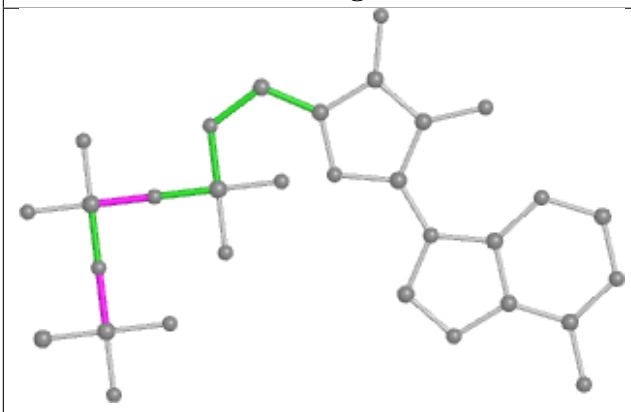
Ligand AGS B 1



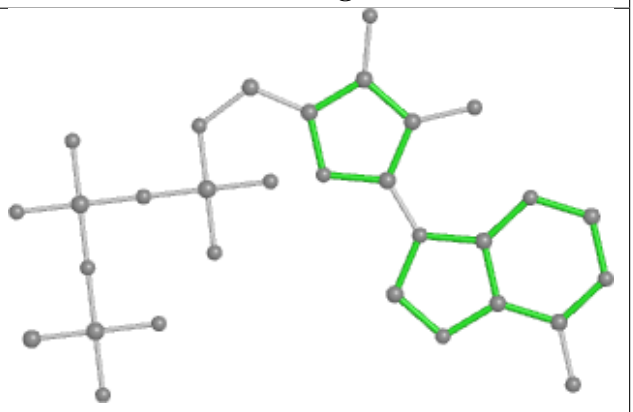
Bond lengths



Bond angles

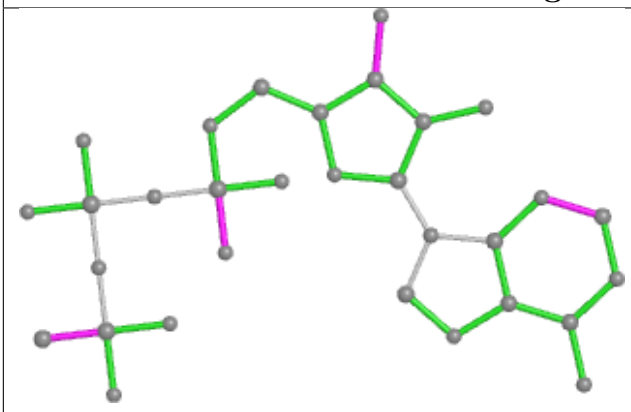


Torsions

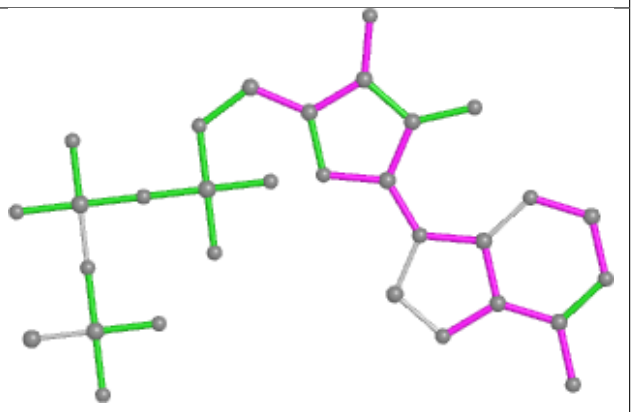


Rings

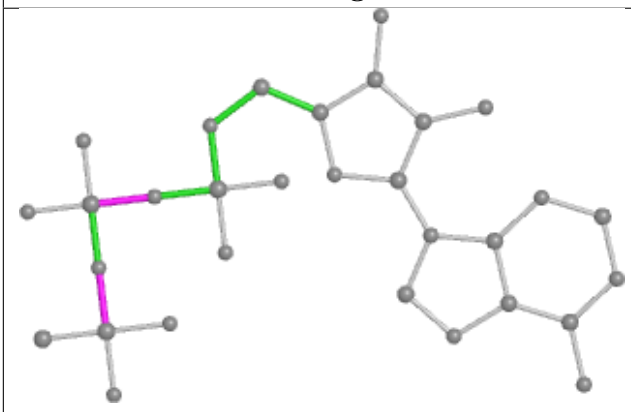
Ligand AGS F 1



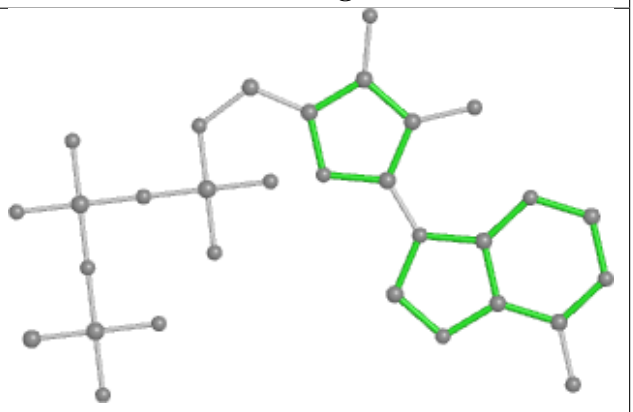
Bond lengths



Bond angles

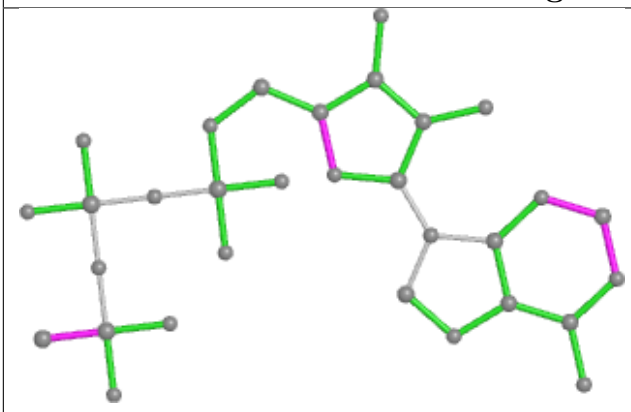


Torsions

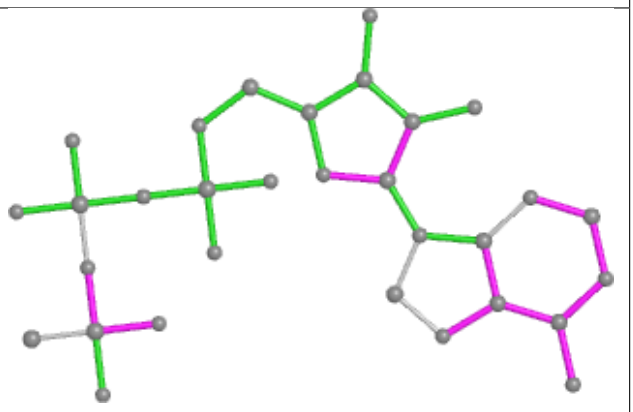


Rings

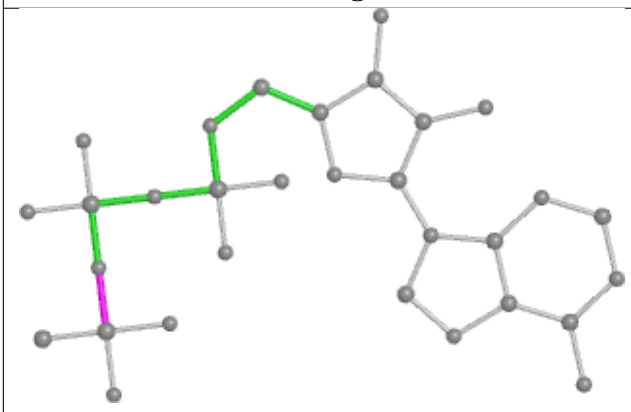
Ligand AGS J 1



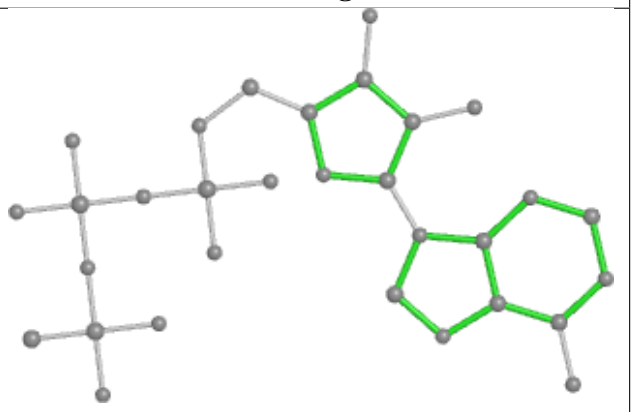
Bond lengths



Bond angles

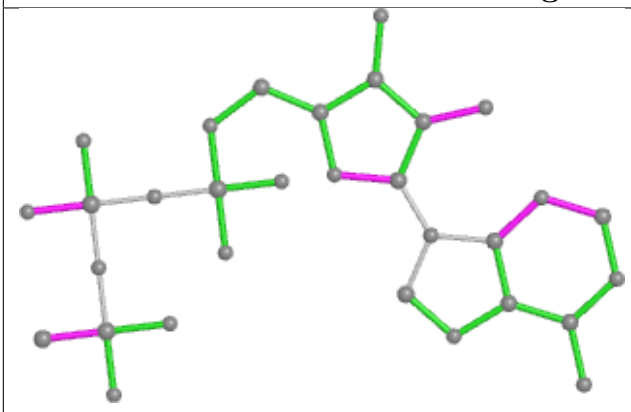


Torsions

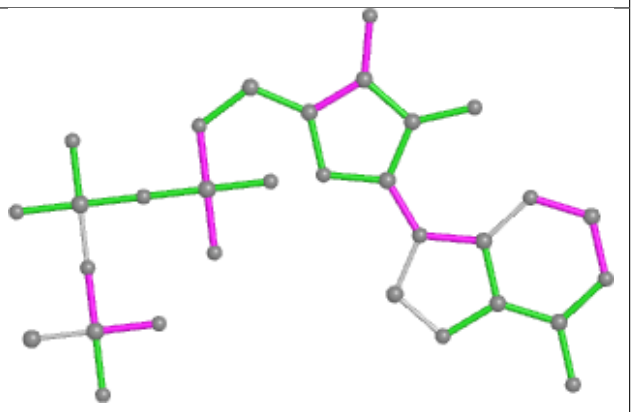


Rings

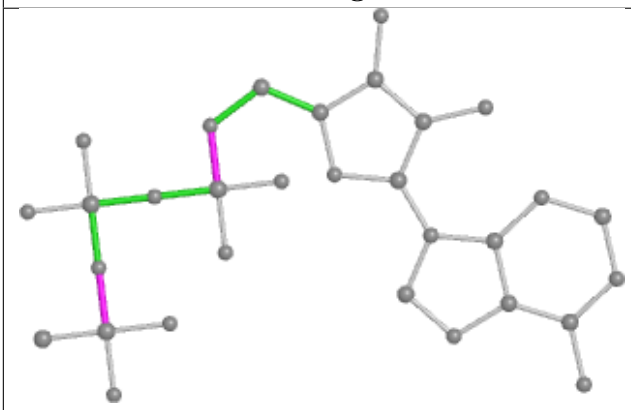
Ligand AGS H 1



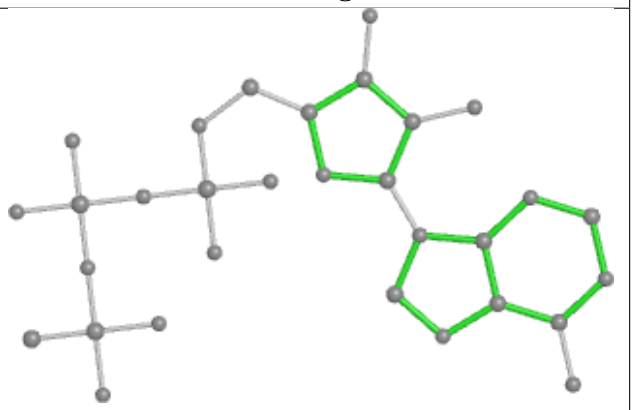
Bond lengths



Bond angles

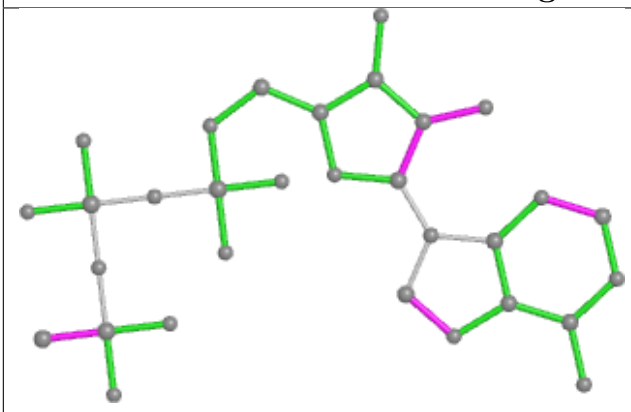


Torsions

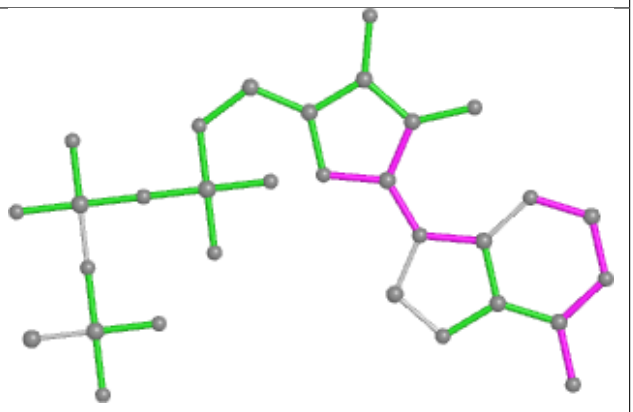


Rings

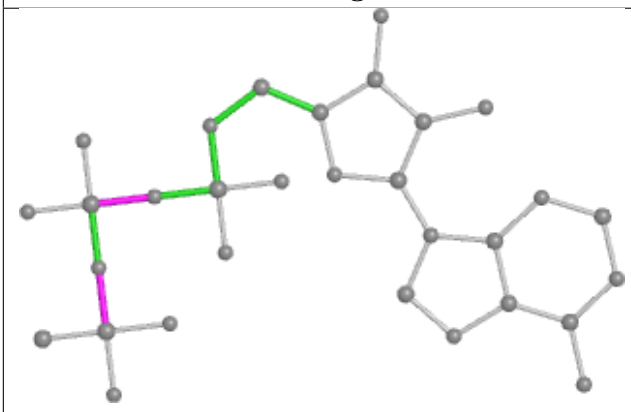
Ligand AGS M 1



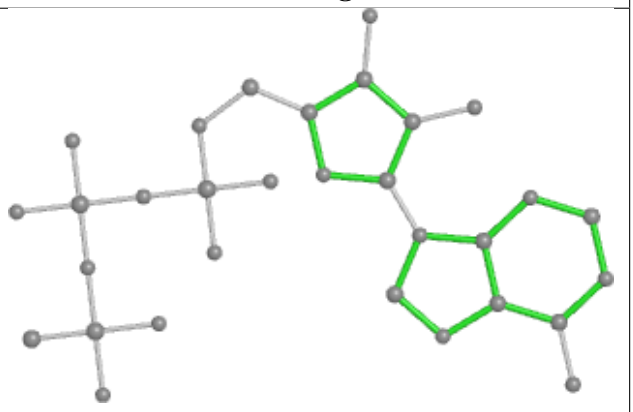
Bond lengths



Bond angles

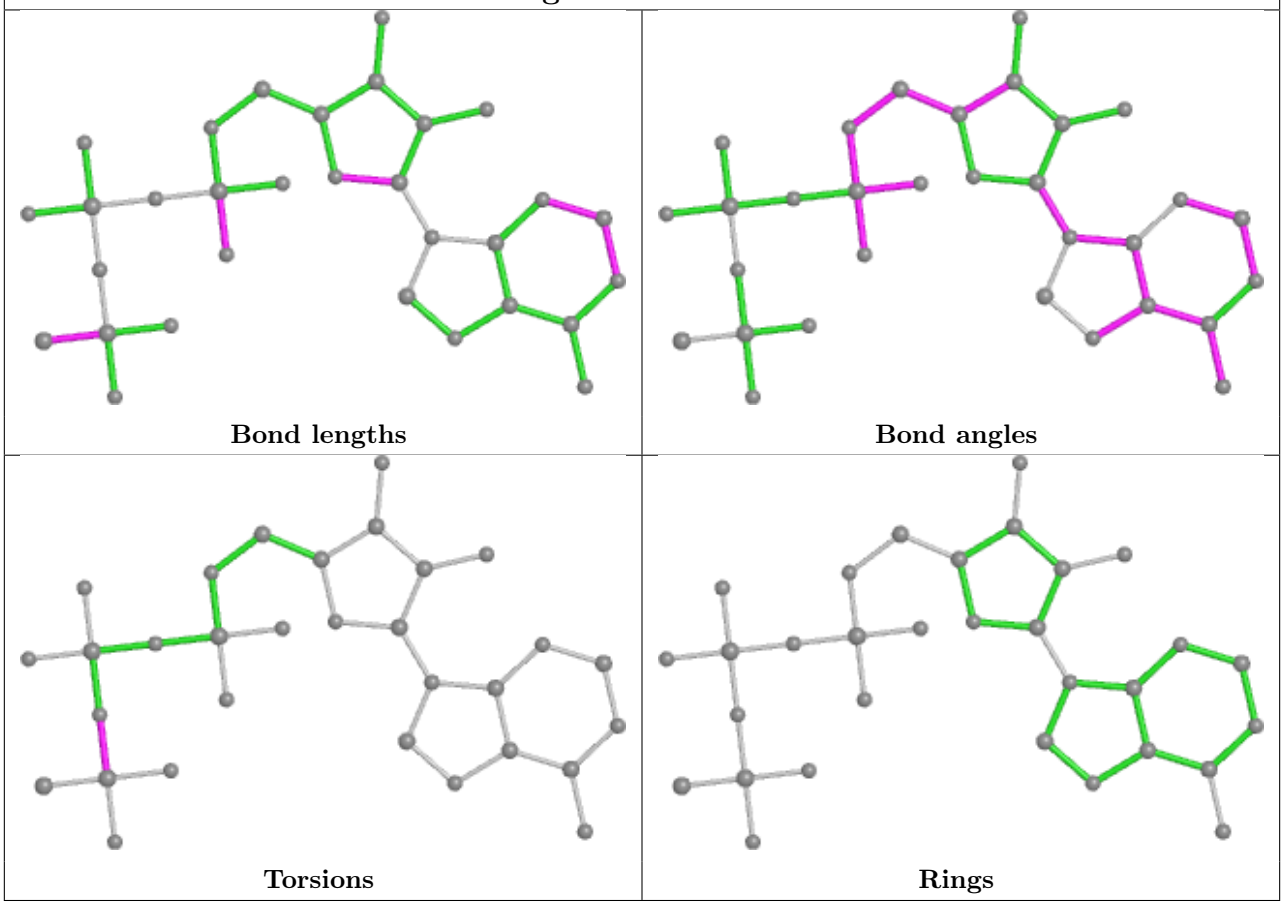


Torsions



Rings

Ligand AGS N 1



5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å^2)	Q<0.9
1	A	525/525 (100%)	0.68	63 (12%) 4 3	10, 14, 16, 20	0
1	B	525/525 (100%)	1.32	117 (22%) 0 0	10, 14, 16, 20	0
1	C	525/525 (100%)	1.12	107 (20%) 1 0	10, 14, 16, 20	0
1	D	525/525 (100%)	0.50	24 (4%) 32 31	10, 14, 16, 20	0
1	E	525/525 (100%)	1.02	87 (16%) 1 1	9, 14, 16, 20	0
1	F	525/525 (100%)	1.28	126 (24%) 0 0	10, 14, 16, 20	0
1	G	525/525 (100%)	0.64	41 (7%) 13 12	10, 14, 16, 20	0
1	H	525/525 (100%)	0.65	51 (9%) 7 7	9, 14, 16, 20	0
1	I	525/525 (100%)	0.98	82 (15%) 2 1	9, 14, 16, 20	0
1	J	525/525 (100%)	0.91	77 (14%) 2 2	10, 14, 16, 20	0
1	K	525/525 (100%)	1.38	140 (26%) 0 0	10, 14, 16, 20	0
1	L	525/525 (100%)	0.88	81 (15%) 2 1	10, 14, 16, 20	0
1	M	525/525 (100%)	1.36	134 (25%) 0 0	10, 14, 16, 20	0
1	N	525/525 (100%)	0.67	48 (9%) 9 8	10, 14, 16, 20	0
All	All	7350/7350 (100%)	0.96	1178 (16%) 1 1	9, 14, 16, 20	0

All (1178) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	M	270	ILE	13.1
1	F	240	VAL	11.9
1	K	269	GLY	11.6
1	C	349	ILE	11.1
1	F	233	MET	10.9
1	B	353	ILE	10.8
1	B	349	ILE	10.5
1	M	267	MET	10.5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	F	353	ILE	10.4
1	K	349	ILE	10.2
1	K	305	ILE	10.2
1	M	356	ALA	9.8
1	F	349	ILE	9.5
1	F	309	LEU	9.4
1	K	231	ARG	9.4
1	M	223	ALA	9.4
1	B	233	MET	9.3
1	K	271	VAL	9.3
1	I	270	ILE	9.2
1	K	270	ILE	9.2
1	K	309	LEU	9.2
1	E	353	ILE	9.2
1	F	314	LEU	9.1
1	M	309	LEU	9.1
1	J	271	VAL	9.1
1	B	264	VAL	9.0
1	E	356	ALA	8.8
1	J	356	ALA	8.8
1	M	353	ILE	8.7
1	C	356	ALA	8.7
1	E	234	LEU	8.6
1	K	230	ILE	8.5
1	K	260	ALA	8.5
1	E	271	VAL	8.4
1	F	357	THR	8.4
1	J	269	GLY	8.3
1	B	257	GLU	8.3
1	M	221	LEU	8.2
1	F	268	ARG	8.1
1	F	219	PHE	8.1
1	K	236	VAL	8.1
1	C	353	ILE	8.0
1	M	271	VAL	7.9
1	B	240	VAL	7.8
1	K	233	MET	7.8
1	K	265	ASN	7.7
1	J	270	ILE	7.7
1	I	305	ILE	7.7
1	M	357	THR	7.7
1	M	263	VAL	7.6

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	B	258	ALA	7.5
1	F	242	LYS	7.5
1	K	259	LEU	7.5
1	L	264	VAL	7.5
1	M	237	LEU	7.4
1	J	349	ILE	7.3
1	B	356	ALA	7.2
1	M	264	VAL	7.2
1	J	357	THR	7.2
1	F	270	ILE	7.2
1	L	231	ARG	7.2
1	B	301	ILE	7.2
1	M	268	ARG	7.2
1	F	237	LEU	7.2
1	M	233	MET	7.1
1	J	44	PHE	7.1
1	N	349	ILE	7.1
1	B	281	PHE	7.1
1	N	263	VAL	7.1
1	M	203	TYR	7.1
1	M	306	GLY	7.1
1	K	360	TYR	7.0
1	K	268	ARG	7.0
1	K	203	TYR	7.0
1	M	349	ILE	7.0
1	K	335	GLY	6.9
1	B	268	ARG	6.9
1	K	267	MET	6.9
1	B	357	THR	6.8
1	K	237	LEU	6.8
1	L	266	THR	6.8
1	B	270	ILE	6.8
1	E	233	MET	6.7
1	I	268	ARG	6.7
1	C	270	ILE	6.7
1	J	233	MET	6.7
1	L	234	LEU	6.6
1	M	244	GLY	6.6
1	H	270	ILE	6.6
1	B	271	VAL	6.6
1	L	270	ILE	6.6
1	A	353	ILE	6.5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	F	260	ALA	6.5
1	B	365	LEU	6.5
1	C	271	VAL	6.5
1	L	230	ILE	6.5
1	E	223	ALA	6.5
1	M	240	VAL	6.5
1	I	356	ALA	6.4
1	M	314	LEU	6.4
1	E	305	ILE	6.4
1	E	349	ILE	6.4
1	E	272	LYS	6.4
1	C	44	PHE	6.4
1	E	230	ILE	6.4
1	J	266	THR	6.3
1	K	219	PHE	6.3
1	F	360	TYR	6.3
1	C	268	ARG	6.3
1	K	234	LEU	6.3
1	K	264	VAL	6.3
1	F	230	ILE	6.3
1	L	309	LEU	6.3
1	K	356	ALA	6.3
1	M	186	GLU	6.3
1	B	234	LEU	6.2
1	E	309	LEU	6.2
1	I	267	MET	6.2
1	F	317	LEU	6.2
1	A	263	VAL	6.2
1	G	230	ILE	6.1
1	B	355	GLU	6.1
1	K	353	ILE	6.1
1	F	356	ALA	6.1
1	F	267	MET	6.0
1	C	266	THR	6.0
1	F	346	VAL	6.0
1	K	188	ASP	6.0
1	M	238	GLU	6.0
1	I	264	VAL	6.0
1	B	203	TYR	5.9
1	B	259	LEU	5.9
1	B	314	LEU	5.9
1	C	360	TYR	5.9

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	F	272	LYS	5.9
1	B	77	VAL	5.9
1	I	230	ILE	5.9
1	N	231	ARG	5.9
1	L	271	VAL	5.9
1	M	204	PHE	5.8
1	L	268	ARG	5.8
1	M	358	SER	5.8
1	C	362	ARG	5.8
1	K	357	THR	5.8
1	J	305	ILE	5.7
1	A	356	ALA	5.7
1	I	265	ASN	5.7
1	C	292	ILE	5.7
1	F	222	LEU	5.7
1	B	351	GLN	5.7
1	E	357	THR	5.7
1	B	44	PHE	5.7
1	M	260	ALA	5.6
1	M	266	THR	5.6
1	B	230	ILE	5.6
1	F	44	PHE	5.6
1	M	305	ILE	5.6
1	M	273	VAL	5.6
1	I	349	ILE	5.6
1	J	526	LYS	5.6
1	K	228	SER	5.6
1	I	351	GLN	5.6
1	C	351	GLN	5.6
1	J	264	VAL	5.6
1	B	286	LYS	5.5
1	M	320	ALA	5.5
1	F	342	ILE	5.5
1	E	270	ILE	5.5
1	I	44	PHE	5.5
1	K	351	GLN	5.5
1	M	351	GLN	5.5
1	J	309	LEU	5.5
1	B	304	GLU	5.5
1	F	231	ARG	5.5
1	H	309	LEU	5.5
1	F	263	VAL	5.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	K	232	GLU	5.4
1	F	264	VAL	5.4
1	M	340	ALA	5.4
1	J	353	ILE	5.4
1	F	244	GLY	5.4
1	E	268	ARG	5.4
1	J	229	ASN	5.3
1	B	307	MET	5.3
1	H	233	MET	5.3
1	J	268	ARG	5.3
1	G	267	MET	5.3
1	K	256	GLY	5.3
1	M	336	VAL	5.3
1	B	266	THR	5.3
1	E	269	GLY	5.3
1	M	300	VAL	5.3
1	C	365	LEU	5.3
1	K	276	VAL	5.2
1	B	354	GLU	5.2
1	B	526	LYS	5.2
1	C	263	VAL	5.2
1	E	301	ILE	5.2
1	K	306	GLY	5.2
1	H	234	LEU	5.2
1	C	259	LEU	5.2
1	G	264	VAL	5.2
1	K	369	VAL	5.2
1	L	267	MET	5.2
1	M	230	ILE	5.2
1	B	223	ALA	5.2
1	M	365	LEU	5.2
1	I	266	THR	5.1
1	I	353	ILE	5.1
1	C	242	LYS	5.1
1	J	358	SER	5.1
1	I	240	VAL	5.1
1	B	227	ILE	5.1
1	H	266	THR	5.1
1	I	271	VAL	5.1
1	G	268	ARG	5.1
1	I	360	TYR	5.1
1	I	526	LYS	5.1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	D	271	VAL	5.0
1	B	229	ASN	5.0
1	J	237	LEU	5.0
1	M	272	LYS	5.0
1	F	269	GLY	5.0
1	C	233	MET	5.0
1	I	233	MET	5.0
1	C	237	LEU	5.0
1	C	295	LEU	5.0
1	J	263	VAL	5.0
1	N	270	ILE	5.0
1	I	234	LEU	5.0
1	K	340	ALA	4.9
1	C	244	GLY	4.9
1	K	227	ILE	4.9
1	I	203	TYR	4.9
1	I	355	GLU	4.9
1	M	259	LEU	4.9
1	J	231	ARG	4.9
1	B	260	ALA	4.9
1	F	203	TYR	4.9
1	H	44	PHE	4.9
1	G	269	GLY	4.9
1	M	317	LEU	4.9
1	I	352	GLN	4.9
1	H	353	ILE	4.9
1	J	351	GLN	4.9
1	J	360	TYR	4.8
1	M	218	PRO	4.8
1	M	251	ALA	4.8
1	F	255	GLU	4.8
1	M	235	PRO	4.8
1	N	230	ILE	4.8
1	K	341	ALA	4.8
1	I	363	GLU	4.8
1	J	204	PHE	4.8
1	N	281	PHE	4.8
1	A	284	ARG	4.8
1	C	369	VAL	4.8
1	F	271	VAL	4.8
1	E	354	GLU	4.8
1	J	367	GLU	4.8

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	C	273	VAL	4.7
1	L	305	ILE	4.7
1	B	309	LEU	4.7
1	K	365	LEU	4.7
1	H	265	ASN	4.7
1	K	304	GLU	4.7
1	G	44	PHE	4.7
1	M	335	GLY	4.7
1	C	333	ILE	4.7
1	C	181	THR	4.7
1	J	248	LEU	4.7
1	K	358	SER	4.7
1	F	236	VAL	4.7
1	K	302	SER	4.6
1	B	251	ALA	4.6
1	M	219	PHE	4.6
1	F	256	GLY	4.6
1	K	272	LYS	4.6
1	M	236	VAL	4.6
1	M	262	LEU	4.6
1	H	264	VAL	4.6
1	H	297	GLY	4.6
1	C	340	ALA	4.6
1	A	305	ILE	4.6
1	A	358	SER	4.6
1	E	263	VAL	4.6
1	H	242	LYS	4.6
1	E	44	PHE	4.6
1	M	265	ASN	4.6
1	F	241	ALA	4.6
1	F	355	GLU	4.5
1	L	269	GLY	4.5
1	M	183	LEU	4.5
1	K	160	LYS	4.5
1	M	216	GLU	4.5
1	B	293	ALA	4.5
1	F	204	PHE	4.5
1	B	206	ASN	4.5
1	L	224	ASP	4.5
1	K	275	ALA	4.5
1	C	357	THR	4.5
1	I	269	GLY	4.5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	B	265	ASN	4.5
1	A	44	PHE	4.5
1	A	361	ASP	4.5
1	K	224	ASP	4.5
1	D	264	VAL	4.4
1	M	159	GLY	4.4
1	E	231	ARG	4.4
1	M	44	PHE	4.4
1	C	355	GLU	4.4
1	M	526	LYS	4.4
1	C	350	ARG	4.4
1	E	295	LEU	4.4
1	F	259	LEU	4.4
1	E	240	VAL	4.4
1	B	363	GLU	4.4
1	L	233	MET	4.4
1	K	205	ILE	4.4
1	I	336	VAL	4.4
1	D	268	ARG	4.4
1	K	44	PHE	4.4
1	B	372	LEU	4.3
1	F	266	THR	4.3
1	K	181	THR	4.3
1	K	281	PHE	4.3
1	B	272	LYS	4.3
1	G	229	ASN	4.3
1	F	181	THR	4.3
1	E	355	GLU	4.3
1	A	357	THR	4.3
1	F	261	THR	4.3
1	K	191	GLU	4.3
1	F	358	SER	4.3
1	I	237	LEU	4.3
1	M	222	LEU	4.3
1	N	309	LEU	4.3
1	A	271	VAL	4.3
1	C	240	VAL	4.3
1	C	256	GLY	4.3
1	B	244	GLY	4.3
1	M	301	ILE	4.3
1	E	267	MET	4.2
1	B	295	LEU	4.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	F	221	LEU	4.2
1	E	351	GLN	4.2
1	B	302	SER	4.2
1	M	187	LEU	4.2
1	C	347	ALA	4.2
1	I	184	GLN	4.2
1	D	526	LYS	4.2
1	M	160	LYS	4.2
1	F	234	LEU	4.2
1	I	309	LEU	4.2
1	L	237	LEU	4.2
1	B	263	VAL	4.2
1	H	263	VAL	4.2
1	F	249	ILE	4.2
1	B	236	VAL	4.2
1	B	273	VAL	4.2
1	I	211	GLY	4.2
1	D	270	ILE	4.2
1	K	249	ILE	4.2
1	M	220	ILE	4.2
1	E	526	LYS	4.2
1	H	268	ARG	4.1
1	A	257	GLU	4.1
1	F	351	GLN	4.1
1	K	350	ARG	4.1
1	K	204	PHE	4.1
1	C	264	VAL	4.1
1	J	342	ILE	4.1
1	F	337	GLY	4.1
1	J	317	LEU	4.1
1	M	248	LEU	4.1
1	C	249	ILE	4.1
1	B	303	GLU	4.1
1	B	209	GLU	4.1
1	L	306	GLY	4.0
1	G	257	GLU	4.0
1	F	225	LYS	4.0
1	I	272	LYS	4.0
1	L	311	LYS	4.0
1	M	350	ARG	4.0
1	H	357	THR	4.0
1	E	242	LYS	4.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	M	363	GLU	4.0
1	B	237	LEU	4.0
1	I	357	THR	4.0
1	C	358	SER	4.0
1	L	228	SER	4.0
1	E	307	MET	4.0
1	C	204	PHE	4.0
1	K	273	VAL	4.0
1	H	356	ALA	4.0
1	B	269	GLY	4.0
1	K	301	ILE	4.0
1	J	265	ASN	4.0
1	I	310	GLU	4.0
1	M	355	GLU	4.0
1	L	203	TYR	4.0
1	K	346	VAL	4.0
1	K	250	ILE	4.0
1	B	204	PHE	3.9
1	M	347	ALA	3.9
1	E	264	VAL	3.9
1	I	263	VAL	3.9
1	L	227	ILE	3.9
1	E	247	LEU	3.9
1	B	242	LYS	3.9
1	M	360	TYR	3.9
1	N	264	VAL	3.9
1	K	261	THR	3.9
1	K	355	GLU	3.9
1	C	274	ALA	3.9
1	F	389	MET	3.9
1	K	307	MET	3.9
1	F	186	GLU	3.9
1	K	257	GLU	3.9
1	L	336	VAL	3.9
1	C	230	ILE	3.9
1	C	526	LYS	3.9
1	I	260	ALA	3.9
1	G	259	LEU	3.9
1	K	248	LEU	3.9
1	J	281	PHE	3.9
1	K	266	THR	3.9
1	M	249	ILE	3.9

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	H	526	LYS	3.9
1	H	355	GLU	3.9
1	F	227	ILE	3.9
1	E	358	SER	3.8
1	J	262	LEU	3.8
1	B	231	ARG	3.8
1	B	289	LEU	3.8
1	E	273	VAL	3.8
1	H	351	GLN	3.8
1	K	362	ARG	3.8
1	C	304	GLU	3.8
1	F	354	GLU	3.8
1	B	224	ASP	3.8
1	K	345	ARG	3.8
1	J	257	GLU	3.8
1	M	168	LYS	3.8
1	K	247	LEU	3.8
1	M	202	PRO	3.8
1	D	269	GLY	3.8
1	K	240	VAL	3.8
1	N	44	PHE	3.8
1	G	258	ALA	3.8
1	M	250	ILE	3.7
1	A	187	LEU	3.7
1	J	256	GLY	3.7
1	F	273	VAL	3.7
1	B	249	ILE	3.7
1	M	181	THR	3.7
1	F	365	LEU	3.7
1	B	284	ARG	3.7
1	C	346	VAL	3.7
1	A	355	GLU	3.7
1	B	305	ILE	3.7
1	D	230	ILE	3.7
1	F	363	GLU	3.7
1	M	333	ILE	3.7
1	K	342	ILE	3.7
1	A	209	GLU	3.7
1	K	202	PRO	3.7
1	C	286	LYS	3.7
1	B	342	ILE	3.7
1	H	305	ILE	3.7

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	M	310	GLU	3.7
1	F	180	GLY	3.7
1	G	266	THR	3.7
1	C	272	LYS	3.6
1	L	526	LYS	3.6
1	E	256	GLY	3.6
1	E	229	ASN	3.6
1	I	358	SER	3.6
1	B	282	GLY	3.6
1	B	134	LEU	3.6
1	K	263	VAL	3.6
1	F	229	ASN	3.6
1	B	262	LEU	3.6
1	N	283	ASP	3.6
1	E	219	PHE	3.6
1	A	268	ARG	3.6
1	F	238	GLU	3.6
1	I	231	ARG	3.6
1	L	249	ILE	3.6
1	N	354	GLU	3.6
1	A	351	GLN	3.6
1	M	342	ILE	3.6
1	F	319	GLN	3.6
1	D	44	PHE	3.5
1	J	267	MET	3.5
1	F	214	GLU	3.5
1	H	243	ALA	3.5
1	K	183	LEU	3.5
1	M	241	ALA	3.5
1	D	266	THR	3.5
1	H	360	TYR	3.5
1	M	254	VAL	3.5
1	N	350	ARG	3.5
1	K	310	GLU	3.5
1	I	256	GLY	3.5
1	L	356	ALA	3.5
1	J	228	SER	3.5
1	B	350	ARG	3.5
1	A	349	ILE	3.5
1	J	223	ALA	3.5
1	E	236	VAL	3.5
1	E	360	TYR	3.5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	J	361	ASP	3.4
1	N	266	THR	3.4
1	C	265	ASN	3.4
1	K	371	LYS	3.4
1	F	251	ALA	3.4
1	F	347	ALA	3.4
1	M	304	GLU	3.4
1	B	335	GLY	3.4
1	I	183	LEU	3.4
1	L	258	ALA	3.4
1	A	266	THR	3.4
1	E	266	THR	3.4
1	L	307	MET	3.4
1	G	311	LYS	3.4
1	C	161	LEU	3.4
1	J	365	LEU	3.4
1	M	346	VAL	3.4
1	A	265	ASN	3.4
1	K	312	ALA	3.4
1	G	231	ARG	3.4
1	C	261	THR	3.4
1	E	136	VAL	3.4
1	A	363	GLU	3.4
1	N	351	GLN	3.4
1	C	223	ALA	3.4
1	K	347	ALA	3.4
1	A	183	LEU	3.4
1	K	317	LEU	3.4
1	L	272	LYS	3.4
1	I	354	GLU	3.4
1	N	240	VAL	3.4
1	F	290	GLN	3.4
1	B	183	LEU	3.3
1	C	221	LEU	3.3
1	E	265	ASN	3.3
1	F	305	ILE	3.3
1	C	222	LEU	3.3
1	N	526	LYS	3.3
1	A	264	VAL	3.3
1	J	260	ALA	3.3
1	K	354	GLU	3.3
1	L	44	PHE	3.3

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	M	269	GLY	3.3
1	H	230	ILE	3.3
1	F	352	GLN	3.3
1	G	271	VAL	3.3
1	F	384	ALA	3.3
1	C	337	GLY	3.3
1	C	215	LEU	3.3
1	K	152	ALA	3.3
1	B	298	GLY	3.3
1	G	306	GLY	3.3
1	M	388	GLU	3.3
1	E	342	ILE	3.3
1	K	229	ASN	3.3
1	E	345	ARG	3.2
1	G	181	THR	3.2
1	C	301	ILE	3.2
1	E	222	LEU	3.2
1	H	314	LEU	3.2
1	H	358	SER	3.2
1	K	322	ARG	3.2
1	M	299	THR	3.2
1	C	267	MET	3.2
1	F	178	GLU	3.2
1	C	372	LEU	3.2
1	J	333	ILE	3.2
1	I	242	LYS	3.2
1	M	224	ASP	3.2
1	C	309	LEU	3.2
1	I	204	PHE	3.2
1	L	353	ILE	3.2
1	M	242	LYS	3.2
1	A	339	GLU	3.2
1	C	363	GLU	3.2
1	F	232	GLU	3.2
1	F	315	GLU	3.2
1	H	257	GLU	3.2
1	L	310	GLU	3.2
1	F	335	GLY	3.2
1	K	311	LYS	3.2
1	D	281	PHE	3.2
1	E	312	ALA	3.2
1	K	255	GLU	3.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	B	221	LEU	3.2
1	B	317	LEU	3.2
1	M	322	ARG	3.2
1	F	306	GLY	3.2
1	E	304	GLU	3.2
1	I	258	ALA	3.2
1	K	223	ALA	3.2
1	K	262	LEU	3.2
1	M	295	LEU	3.2
1	E	250	ILE	3.2
1	E	292	ILE	3.2
1	F	215	LEU	3.1
1	L	317	LEU	3.1
1	H	313	THR	3.1
1	C	336	VAL	3.1
1	E	188	ASP	3.1
1	F	228	SER	3.1
1	M	384	ALA	3.1
1	B	215	LEU	3.1
1	J	261	THR	3.1
1	F	362	ARG	3.1
1	M	389	MET	3.1
1	C	260	ALA	3.1
1	K	164	GLU	3.1
1	L	183	LEU	3.1
1	L	259	LEU	3.1
1	D	267	MET	3.1
1	C	191	GLU	3.1
1	F	265	ASN	3.1
1	N	265	ASN	3.1
1	K	221	LEU	3.1
1	L	314	LEU	3.1
1	M	195	PHE	3.1
1	A	304	GLU	3.1
1	C	315	GLU	3.1
1	K	331	THR	3.1
1	C	354	GLU	3.1
1	E	255	GLU	3.1
1	F	343	GLN	3.1
1	J	230	ILE	3.1
1	B	297	GLY	3.0
1	E	384	ALA	3.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	B	202	PRO	3.0
1	K	299	THR	3.0
1	F	372	LEU	3.0
1	M	372	LEU	3.0
1	A	270	ILE	3.0
1	F	369	VAL	3.0
1	B	222	LEU	3.0
1	F	526	LYS	3.0
1	L	265	ASN	3.0
1	I	365	LEU	3.0
1	L	244	GLY	3.0
1	E	300	VAL	3.0
1	N	356	ALA	3.0
1	E	317	LEU	3.0
1	F	361	ASP	3.0
1	K	334	ASP	3.0
1	J	219	PHE	3.0
1	J	363	GLU	3.0
1	F	297	GLY	3.0
1	D	284	ARG	3.0
1	E	284	ARG	3.0
1	L	185	ASP	3.0
1	F	161	LEU	3.0
1	G	262	LEU	3.0
1	I	215	LEU	3.0
1	K	235	PRO	3.0
1	L	202	PRO	3.0
1	L	222	LEU	3.0
1	C	243	ALA	3.0
1	A	346	VAL	3.0
1	N	267	MET	3.0
1	J	354	GLU	3.0
1	K	209	GLU	3.0
1	L	238	GLU	3.0
1	A	335	GLY	2.9
1	M	142	LYS	2.9
1	M	286	LYS	2.9
1	G	228	SER	2.9
1	M	290	GLN	2.9
1	C	284	ARG	2.9
1	N	304	GLU	2.9
1	E	224	ASP	2.9

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	F	224	ASP	2.9
1	M	344	GLY	2.9
1	N	353	ILE	2.9
1	E	203	TYR	2.9
1	J	232	GLU	2.9
1	I	259	LEU	2.9
1	M	234	LEU	2.9
1	L	236	VAL	2.9
1	A	354	GLU	2.9
1	M	339	GLU	2.9
1	G	525	PRO	2.9
1	A	259	LEU	2.9
1	D	262	LEU	2.9
1	A	231	ARG	2.9
1	C	300	VAL	2.9
1	C	342	ILE	2.9
1	J	220	ILE	2.9
1	B	360	TYR	2.9
1	F	239	ALA	2.9
1	F	275	ALA	2.9
1	C	322	ARG	2.9
1	B	358	SER	2.9
1	K	253	ASP	2.9
1	L	283	ASP	2.9
1	C	216	GLU	2.9
1	C	232	GLU	2.9
1	A	260	ALA	2.9
1	I	361	ASP	2.9
1	N	228	SER	2.9
1	I	202	PRO	2.9
1	J	242	LYS	2.9
1	G	136	VAL	2.8
1	F	250	ILE	2.8
1	A	223	ALA	2.8
1	C	217	SER	2.8
1	N	317	LEU	2.8
1	I	325	ILE	2.8
1	M	229	ASN	2.8
1	E	257	GLU	2.8
1	K	283	ASP	2.8
1	M	334	ASP	2.8
1	F	336	VAL	2.8

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	M	366	GLN	2.8
1	N	358	SER	2.8
1	M	188	ASP	2.8
1	H	300	VAL	2.8
1	J	366	GLN	2.8
1	E	383	ALA	2.8
1	F	340	ALA	2.8
1	B	228	SER	2.8
1	D	325	ILE	2.8
1	J	362	ARG	2.8
1	L	333	ILE	2.8
1	F	295	LEU	2.8
1	B	300	VAL	2.8
1	I	257	GLU	2.8
1	M	255	GLU	2.8
1	G	383	ALA	2.8
1	E	249	ILE	2.8
1	G	265	ASN	2.8
1	B	252	GLU	2.8
1	I	245	LYS	2.8
1	K	363	GLU	2.8
1	F	258	ALA	2.7
1	L	275	ALA	2.7
1	N	260	ALA	2.7
1	F	292	ILE	2.7
1	G	325	ILE	2.7
1	C	231	ARG	2.7
1	H	284	ARG	2.7
1	M	217	SER	2.7
1	B	248	LEU	2.7
1	A	242	LYS	2.7
1	N	268	ARG	2.7
1	M	307	MET	2.7
1	E	220	ILE	2.7
1	F	245	LYS	2.7
1	N	363	GLU	2.7
1	C	203	TYR	2.7
1	M	180	GLY	2.7
1	L	346	VAL	2.7
1	J	250	ILE	2.7
1	N	256	GLY	2.7
1	L	262	LEU	2.7

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	A	261	THR	2.7
1	C	325	ILE	2.7
1	K	292	ILE	2.7
1	M	231	ARG	2.7
1	B	255	GLU	2.7
1	K	241	ALA	2.7
1	L	308	GLU	2.7
1	I	364	LYS	2.7
1	H	361	ASP	2.7
1	M	316	ASP	2.7
1	K	288	MET	2.7
1	M	343	GLN	2.7
1	J	301	ILE	2.7
1	H	304	GLU	2.7
1	F	235	PRO	2.7
1	K	243	ALA	2.7
1	J	345	ARG	2.7
1	N	284	ARG	2.7
1	I	229	ASN	2.7
1	J	288	MET	2.7
1	G	272	LYS	2.6
1	B	292	ILE	2.6
1	D	305	ILE	2.6
1	J	243	ALA	2.6
1	G	310	GLU	2.6
1	E	346	VAL	2.6
1	C	334	ASP	2.6
1	J	284	ARG	2.6
1	L	281	PHE	2.6
1	H	267	MET	2.6
1	J	221	LEU	2.6
1	N	161	LEU	2.6
1	F	350	ARG	2.6
1	B	235	PRO	2.6
1	B	388	GLU	2.6
1	A	526	LYS	2.6
1	B	133	ALA	2.6
1	B	205	ILE	2.6
1	G	305	ILE	2.6
1	K	274	ALA	2.6
1	K	139	SER	2.6
1	M	261	THR	2.6

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	N	362	ARG	2.6
1	A	214	GLU	2.6
1	M	215	LEU	2.6
1	A	273	VAL	2.6
1	M	239	ALA	2.6
1	A	184	GLN	2.6
1	A	342	ILE	2.6
1	I	302	SER	2.6
1	K	308	GLU	2.6
1	G	526	LYS	2.6
1	M	281	PHE	2.6
1	N	204	PHE	2.6
1	E	237	LEU	2.6
1	L	240	VAL	2.6
1	M	376	VAL	2.6
1	C	184	GLN	2.6
1	B	368	ARG	2.6
1	C	367	GLU	2.6
1	J	355	GLU	2.6
1	L	146	GLN	2.6
1	L	348	GLN	2.6
1	C	373	ALA	2.6
1	F	321	LYS	2.6
1	I	228	SER	2.6
1	A	288	MET	2.6
1	F	157	THR	2.6
1	A	262	LEU	2.6
1	I	372	LEU	2.6
1	K	366	GLN	2.6
1	K	242	LYS	2.5
1	B	136	VAL	2.5
1	E	306	GLY	2.5
1	A	301	ILE	2.5
1	H	229	ASN	2.5
1	E	184	GLN	2.5
1	F	160	LYS	2.5
1	G	281	PHE	2.5
1	I	525	PRO	2.5
1	E	365	LEU	2.5
1	J	381	VAL	2.5
1	C	269	GLY	2.5
1	I	232	GLU	2.5

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	J	280	GLY	2.5
1	H	261	THR	2.5
1	M	226	LYS	2.5
1	L	351	GLN	2.5
1	C	250	ILE	2.5
1	F	303	GLU	2.5
1	H	363	GLU	2.5
1	I	451	LEU	2.5
1	C	341	ALA	2.5
1	M	369	VAL	2.5
1	E	359	ASP	2.5
1	F	316	ASP	2.5
1	M	157	THR	2.5
1	A	360	TYR	2.5
1	M	315	GLU	2.5
1	H	286	LYS	2.5
1	H	198	GLY	2.5
1	E	361	ASP	2.5
1	J	224	ASP	2.5
1	I	235	PRO	2.5
1	K	526	LYS	2.5
1	L	284	ARG	2.5
1	L	285	ARG	2.5
1	M	284	ARG	2.5
1	C	180	GLY	2.5
1	C	281	PHE	2.5
1	H	269	GLY	2.5
1	E	456	LEU	2.5
1	K	320	ALA	2.5
1	L	315	GLU	2.5
1	N	369	VAL	2.5
1	G	138	CYS	2.5
1	A	188	ASP	2.5
1	A	182	GLY	2.5
1	F	304	GLU	2.5
1	G	270	ILE	2.5
1	I	391	GLU	2.5
1	M	256	GLY	2.5
1	F	300	VAL	2.4
1	B	367	GLU	2.4
1	C	205	ILE	2.4
1	I	340	ALA	2.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	F	281	PHE	2.4
1	G	261	THR	2.4
1	E	215	LEU	2.4
1	H	259	LEU	2.4
1	K	361	ASP	2.4
1	C	168	LYS	2.4
1	J	302	SER	2.4
1	K	381	VAL	2.4
1	A	350	ARG	2.4
1	B	352	GLN	2.4
1	C	348	GLN	2.4
1	I	362	ARG	2.4
1	M	332	ILE	2.4
1	E	258	ALA	2.4
1	E	347	ALA	2.4
1	I	341	ALA	2.4
1	M	258	ALA	2.4
1	F	155	ASP	2.4
1	I	244	GLY	2.4
1	N	280	GLY	2.4
1	D	184	GLN	2.4
1	M	345	ARG	2.4
1	J	239	ALA	2.4
1	A	181	THR	2.4
1	A	281	PHE	2.4
1	B	130	GLU	2.4
1	M	156	GLU	2.4
1	N	365	LEU	2.4
1	B	348	GLN	2.4
1	C	290	GLN	2.4
1	I	284	ARG	2.4
1	K	376	VAL	2.4
1	M	323	VAL	2.4
1	L	260	ALA	2.4
1	C	210	THR	2.4
1	K	325	ILE	2.4
1	C	160	LYS	2.4
1	F	284	ARG	2.4
1	C	248	LEU	2.4
1	F	183	LEU	2.4
1	G	204	PHE	2.4
1	A	276	VAL	2.4

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	B	346	VAL	2.4
1	I	236	VAL	2.4
1	L	213	VAL	2.4
1	N	273	VAL	2.4
1	F	257	GLU	2.4
1	J	340	ALA	2.4
1	I	348	GLN	2.4
1	K	352	GLN	2.4
1	M	311	LYS	2.4
1	M	298	GLY	2.4
1	L	349	ILE	2.4
1	A	388	GLU	2.3
1	B	191	GLU	2.3
1	B	238	GLU	2.3
1	C	257	GLU	2.3
1	K	215	LEU	2.3
1	F	378	VAL	2.3
1	K	168	LYS	2.3
1	L	273	VAL	2.3
1	M	324	VAL	2.3
1	A	362	ARG	2.3
1	C	319	GLN	2.3
1	H	343	GLN	2.3
1	J	352	GLN	2.3
1	N	184	GLN	2.3
1	A	267	MET	2.3
1	K	384	ALA	2.3
1	L	304	GLU	2.3
1	A	203	TYR	2.3
1	D	203	TYR	2.3
1	B	390	LYS	2.3
1	C	247	LEU	2.3
1	I	222	LEU	2.3
1	L	300	VAL	2.3
1	M	213	VAL	2.3
1	B	361	ASP	2.3
1	K	192	GLY	2.3
1	I	304	GLU	2.3
1	M	308	GLU	2.3
1	N	186	GLU	2.3
1	J	364	LYS	2.3
1	E	352	GLN	2.3

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	C	317	LEU	2.3
1	E	372	LEU	2.3
1	E	232	GLU	2.3
1	F	388	GLU	2.3
1	I	238	GLU	2.3
1	L	219	PHE	2.3
1	B	188	ASP	2.3
1	B	211	GLY	2.3
1	F	359	ASP	2.3
1	J	359	ASP	2.3
1	C	245	LYS	2.3
1	N	242	LYS	2.3
1	L	229	ASN	2.3
1	F	301	ILE	2.3
1	H	525	PRO	2.3
1	K	208	PRO	2.3
1	M	185	ASP	2.3
1	B	311	LYS	2.3
1	I	317	LEU	2.3
1	K	201	SER	2.3
1	K	374	GLY	2.3
1	L	248	LEU	2.3
1	C	258	ALA	2.3
1	F	312	ALA	2.3
1	F	366	GLN	2.3
1	G	323	VAL	2.3
1	H	260	ALA	2.3
1	B	261	THR	2.3
1	L	184	GLN	2.3
1	E	338	GLU	2.3
1	F	262	LEU	2.3
1	K	134	LEU	2.3
1	B	219	PHE	2.3
1	D	257	GLU	2.3
1	G	219	PHE	2.3
1	K	287	ALA	2.3
1	G	407	VAL	2.3
1	I	177	VAL	2.3
1	M	325	ILE	2.3
1	B	187	LEU	2.2
1	B	241	ALA	2.2
1	D	258	ALA	2.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	K	300	VAL	2.2
1	H	350	ARG	2.2
1	I	350	ARG	2.2
1	L	391	GLU	2.2
1	K	344	GLY	2.2
1	I	301	ILE	2.2
1	B	239	ALA	2.2
1	B	267	MET	2.2
1	K	315	GLU	2.2
1	A	240	VAL	2.2
1	B	254	VAL	2.2
1	F	348	GLN	2.2
1	L	190	VAL	2.2
1	M	387	VAL	2.2
1	I	286	LYS	2.2
1	A	224	ASP	2.2
1	B	288	MET	2.2
1	E	214	GLU	2.2
1	M	191	GLU	2.2
1	N	305	ILE	2.2
1	C	212	ALA	2.2
1	J	203	TYR	2.2
1	F	338	GLU	2.2
1	C	366	GLN	2.2
1	H	321	LYS	2.2
1	F	287	ALA	2.2
1	L	274	ALA	2.2
1	N	347	ALA	2.2
1	B	180	GLY	2.2
1	E	289	LEU	2.2
1	E	318	GLY	2.2
1	I	154	SER	2.2
1	I	159	GLY	2.2
1	C	219	PHE	2.2
1	F	367	GLU	2.2
1	N	391	GLU	2.2
1	G	263	VAL	2.2
1	M	319	GLN	2.2
1	E	340	ALA	2.2
1	F	313	THR	2.2
1	I	384	ALA	2.2
1	E	337	GLY	2.2

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	L	337	GLY	2.2
1	A	237	LEU	2.2
1	L	381	VAL	2.2
1	N	499	VAL	2.2
1	L	355	GLU	2.2
1	B	497	THR	2.2
1	L	261	THR	2.2
1	M	364	LYS	2.2
1	E	333	ILE	2.1
1	F	333	ILE	2.1
1	K	220	ILE	2.1
1	H	372	LEU	2.1
1	C	254	VAL	2.1
1	J	369	VAL	2.1
1	C	311	LYS	2.1
1	E	193	MET	2.1
1	J	383	ALA	2.1
1	M	297	GLY	2.1
1	K	252	GLU	2.1
1	N	257	GLU	2.1
1	K	286	LYS	2.1
1	K	185	ASP	2.1
1	B	345	ARG	2.1
1	K	348	GLN	2.1
1	A	384	ALA	2.1
1	K	258	ALA	2.1
1	M	302	SER	2.1
1	D	363	GLU	2.1
1	E	363	GLU	2.1
1	K	386	GLU	2.1
1	A	311	LYS	2.1
1	J	334	ASP	2.1
1	C	289	LEU	2.1
1	D	234	LEU	2.1
1	A	366	GLN	2.1
1	B	344	GLY	2.1
1	B	374	GLY	2.1
1	G	236	VAL	2.1
1	H	240	VAL	2.1
1	J	236	VAL	2.1
1	L	363	GLU	2.1
1	J	154	SER	2.1

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	L	204	PHE	2.1
1	G	137	PRO	2.1
1	I	239	ALA	2.1
1	L	225	LYS	2.1
1	H	395	ARG	2.1
1	K	368	ARG	2.1
1	J	304	GLU	2.1
1	K	214	GLU	2.1
1	C	332	ILE	2.1
1	E	248	LEU	2.1
1	F	382	GLY	2.1
1	G	234	LEU	2.1
1	H	237	LEU	2.1
1	J	234	LEU	2.1
1	M	337	GLY	2.1
1	N	259	LEU	2.1
1	D	233	MET	2.1
1	F	254	VAL	2.1
1	I	369	VAL	2.1
1	J	336	VAL	2.1
1	C	293	ALA	2.1
1	C	209	GLU	2.1
1	E	344	GLY	2.1
1	D	301	ILE	2.1
1	F	248	LEU	2.1
1	G	314	LEU	2.1
1	L	247	LEU	2.1
1	D	229	ASN	2.1
1	E	235	PRO	2.1
1	K	336	VAL	2.1
1	K	367	GLU	2.1
1	B	184	GLN	2.1
1	F	299	THR	2.1
1	J	287	ALA	2.1
1	K	251	ALA	2.1
1	M	341	ALA	2.1
1	B	214	GLU	2.0
1	C	164	GLU	2.0
1	L	232	GLU	2.0
1	L	303	GLU	2.0
1	A	205	ILE	2.0
1	C	361	ASP	2.0

Continued on next page...

Continued from previous page...

Mol	Chain	Res	Type	RSRZ
1	I	248	LEU	2.0
1	K	284	ARG	2.0
1	N	262	LEU	2.0
1	N	301	ILE	2.0
1	I	288	MET	2.0
1	A	136	VAL	2.0
1	C	275	ALA	2.0
1	F	311	LYS	2.0
1	F	385	THR	2.0
1	F	449	ALA	2.0
1	H	323	VAL	2.0
1	L	186	GLU	2.0
1	M	362	ARG	2.0
1	B	290	GLN	2.0
1	K	245	LYS	2.0
1	L	226	LYS	2.0
1	G	233	MET	2.0
1	B	274	ALA	2.0
1	E	174	VAL	2.0
1	F	276	VAL	2.0
1	H	338	GLU	2.0
1	N	254	VAL	2.0
1	A	256	GLY	2.0
1	E	374	GLY	2.0
1	K	298	GLY	2.0
1	C	188	ASP	2.0
1	L	246	PRO	2.0
1	C	193	MET	2.0
1	A	400	LEU	2.0
1	H	161	LEU	2.0
1	H	332	ILE	2.0
1	J	184	GLN	2.0
1	K	280	GLY	2.0
1	K	321	LYS	2.0
1	K	359	ASP	2.0
1	K	382	GLY	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
2	MG	L	550	1/1	0.88	0.12	9,9,9,9	0
2	MG	N	550	1/1	0.90	0.14	7,7,7,7	0
2	MG	B	550	1/1	0.92	0.12	8,8,8,8	0
4	AGS	L	1	31/31	0.94	0.13	2,8,11,18	0
4	AGS	K	1	31/31	0.95	0.14	6,14,21,24	0
2	MG	G	550	1/1	0.95	0.15	9,9,9,9	0
4	AGS	M	1	31/31	0.95	0.13	5,12,18,21	0
2	MG	F	550	1/1	0.96	0.15	7,7,7,7	0
2	MG	C	550	1/1	0.96	0.10	9,9,9,9	0
4	AGS	C	1	31/31	0.96	0.14	8,13,19,20	0
4	AGS	D	561	31/31	0.96	0.15	2,11,18,21	0
4	AGS	E	1	31/31	0.96	0.12	2,11,19,20	0
4	AGS	F	1	31/31	0.96	0.13	2,11,22,23	0
4	AGS	G	1	31/31	0.96	0.14	4,9,16,16	0
4	AGS	H	1	31/31	0.96	0.12	3,9,15,17	0
4	AGS	I	1	31/31	0.96	0.14	5,12,16,20	0
4	AGS	J	1	31/31	0.96	0.10	2,7,14,15	0
2	MG	H	550	1/1	0.96	0.13	4,4,4,4	0
2	MG	I	550	1/1	0.96	0.15	9,9,9,9	0
2	MG	K	550	1/1	0.96	0.08	7,7,7,7	0
4	AGS	N	1	31/31	0.96	0.12	4,10,17,19	0
3	K	B	560	1/1	0.97	0.12	13,13,13,13	0
3	K	N	560	1/1	0.97	0.10	11,11,11,11	0
4	AGS	A	1	31/31	0.97	0.13	4,11,16,20	0
4	AGS	B	1	31/31	0.97	0.11	8,13,21,24	0
2	MG	A	550	1/1	0.97	0.14	7,7,7,7	0
2	MG	D	550	1/1	0.97	0.09	10,10,10,10	0
2	MG	M	550	1/1	0.97	0.16	7,7,7,7	0
2	MG	J	550	1/1	0.97	0.12	8,8,8,8	0
2	MG	E	550	1/1	0.98	0.09	6,6,6,6	0
3	K	E	527	1/1	0.98	0.14	31,31,31,31	0
3	K	G	560	1/1	0.98	0.13	16,16,16,16	0

Continued on next page...

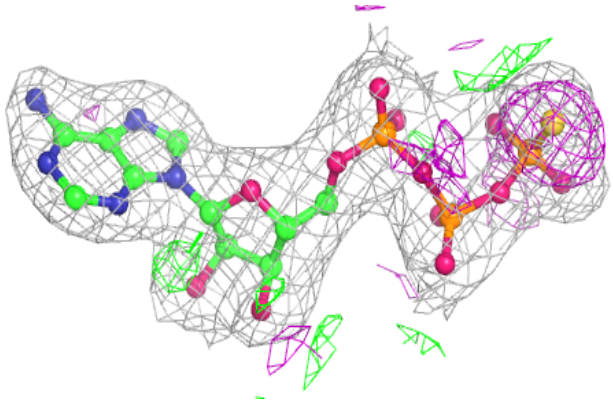
Continued from previous page...

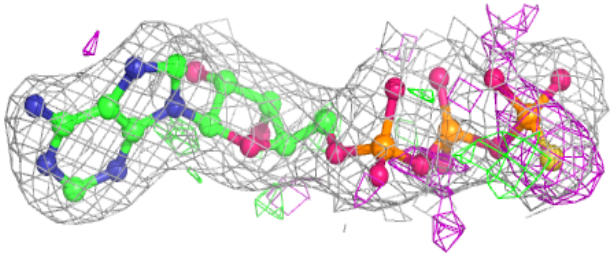
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å^2)	Q<0.9
3	K	H	560	1/1	0.98	0.12	15,15,15,15	0
3	K	J	560	1/1	0.98	0.11	11,11,11,11	0
3	K	D	560	1/1	0.99	0.14	16,16,16,16	0
3	K	K	560	1/1	0.99	0.09	11,11,11,11	0
3	K	L	560	1/1	0.99	0.12	6,6,6,6	0
3	K	A	560	1/1	0.99	0.09	13,13,13,13	0
3	K	E	560	1/1	0.99	0.10	11,11,11,11	0
3	K	F	560	1/1	0.99	0.09	13,13,13,13	0
3	K	C	560	1/1	0.99	0.08	19,19,19,19	0
3	K	D	1	1/1	0.99	0.35	29,29,29,29	0
3	K	I	560	1/1	0.99	0.14	11,11,11,11	0
3	K	M	560	1/1	1.00	0.12	14,14,14,14	0

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.

Electron density around AGS L 1:

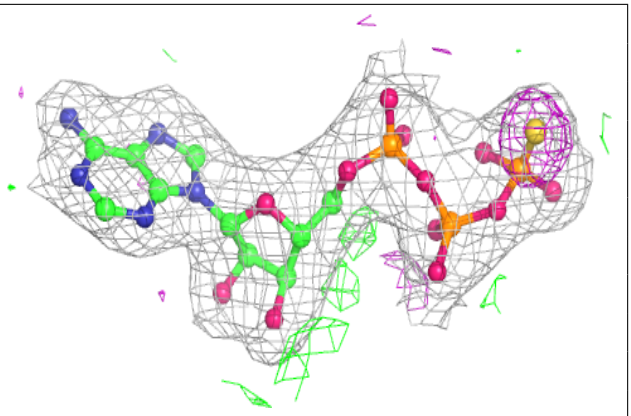
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

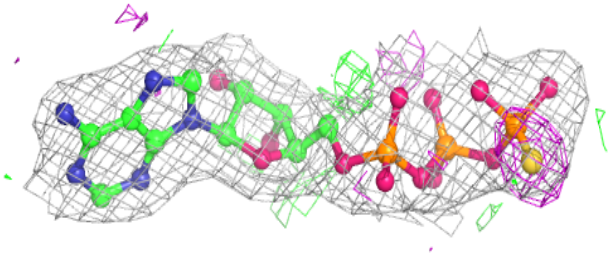


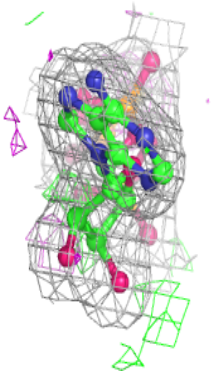


Electron density around AGS K 1:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

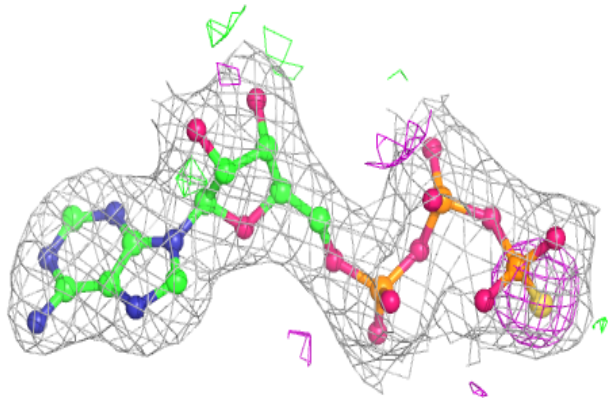


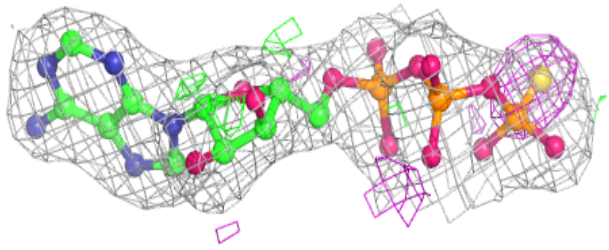


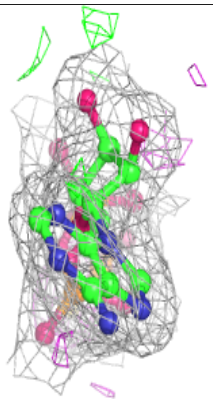


Electron density around AGS M 1:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

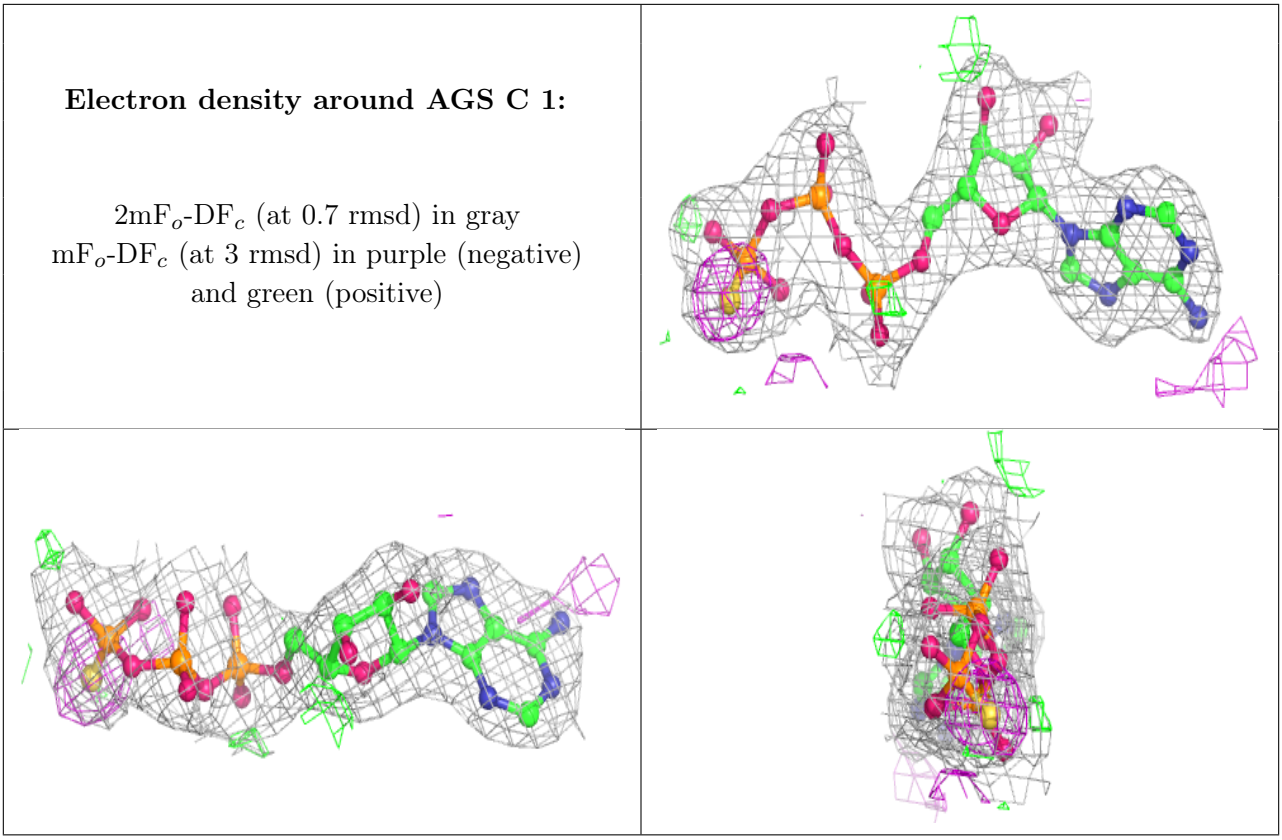






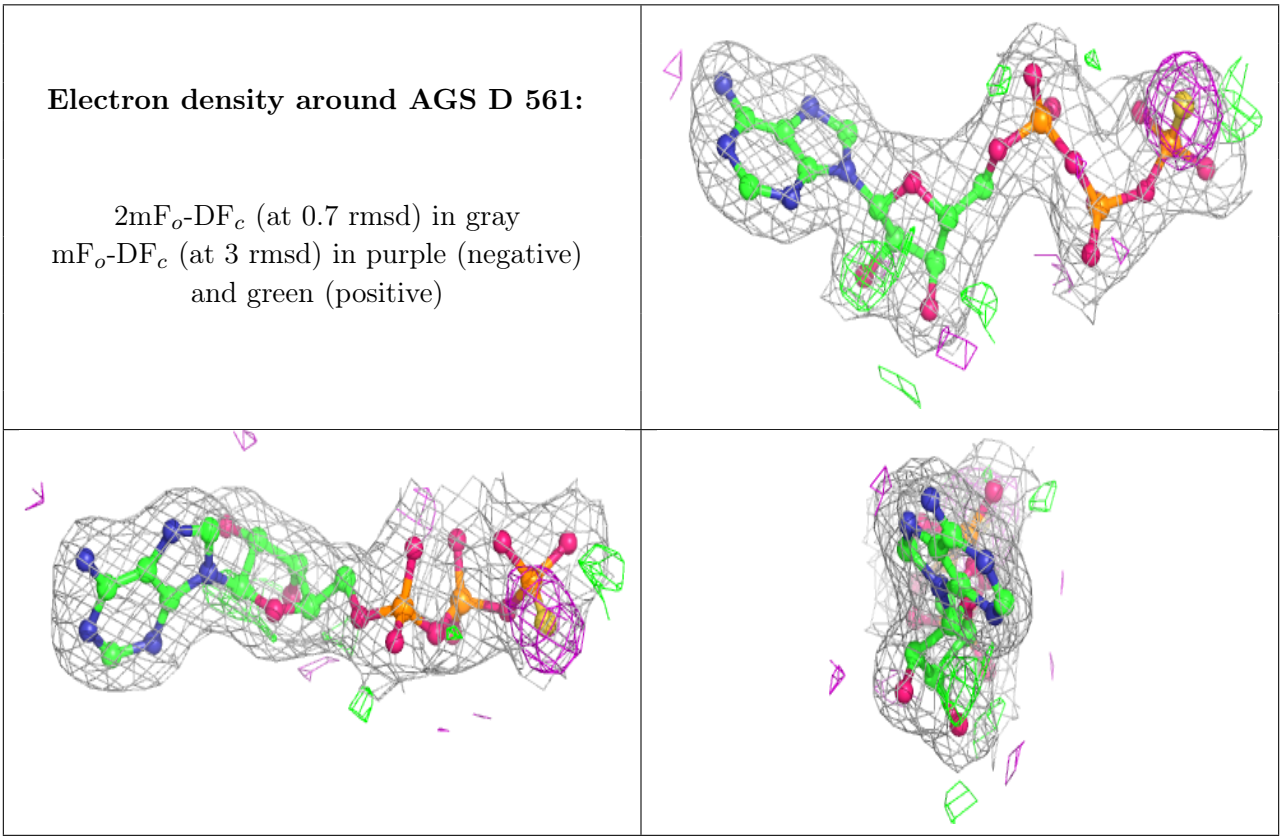
Electron density around AGS C 1:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



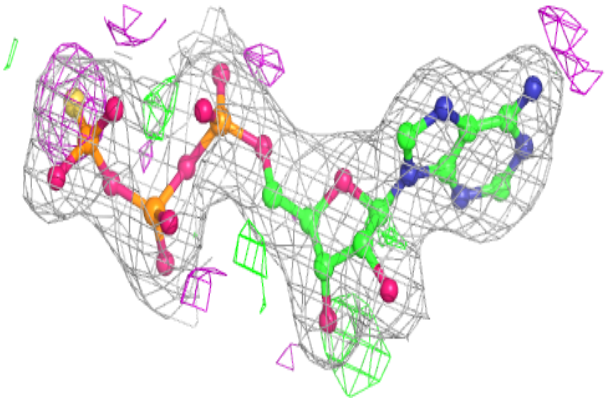
Electron density around AGS D 561:

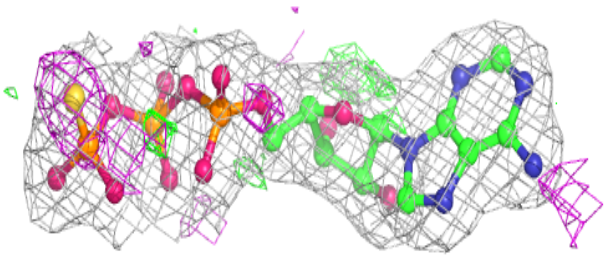
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

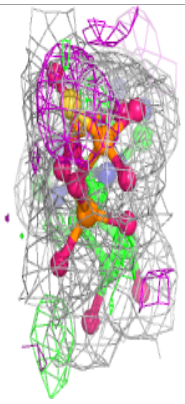


Electron density around AGS E 1:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

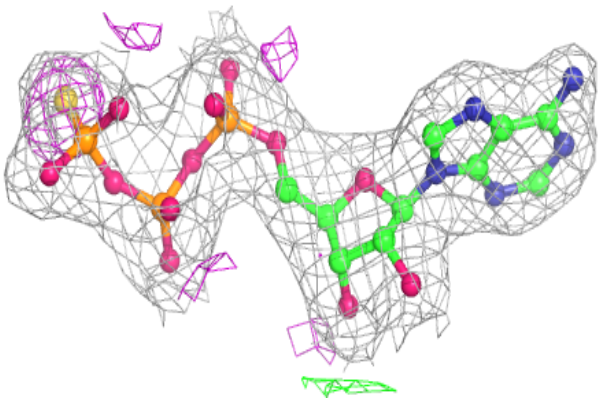


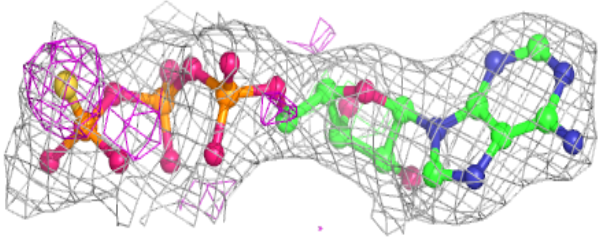


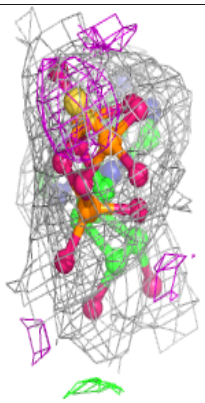


Electron density around AGS F 1:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

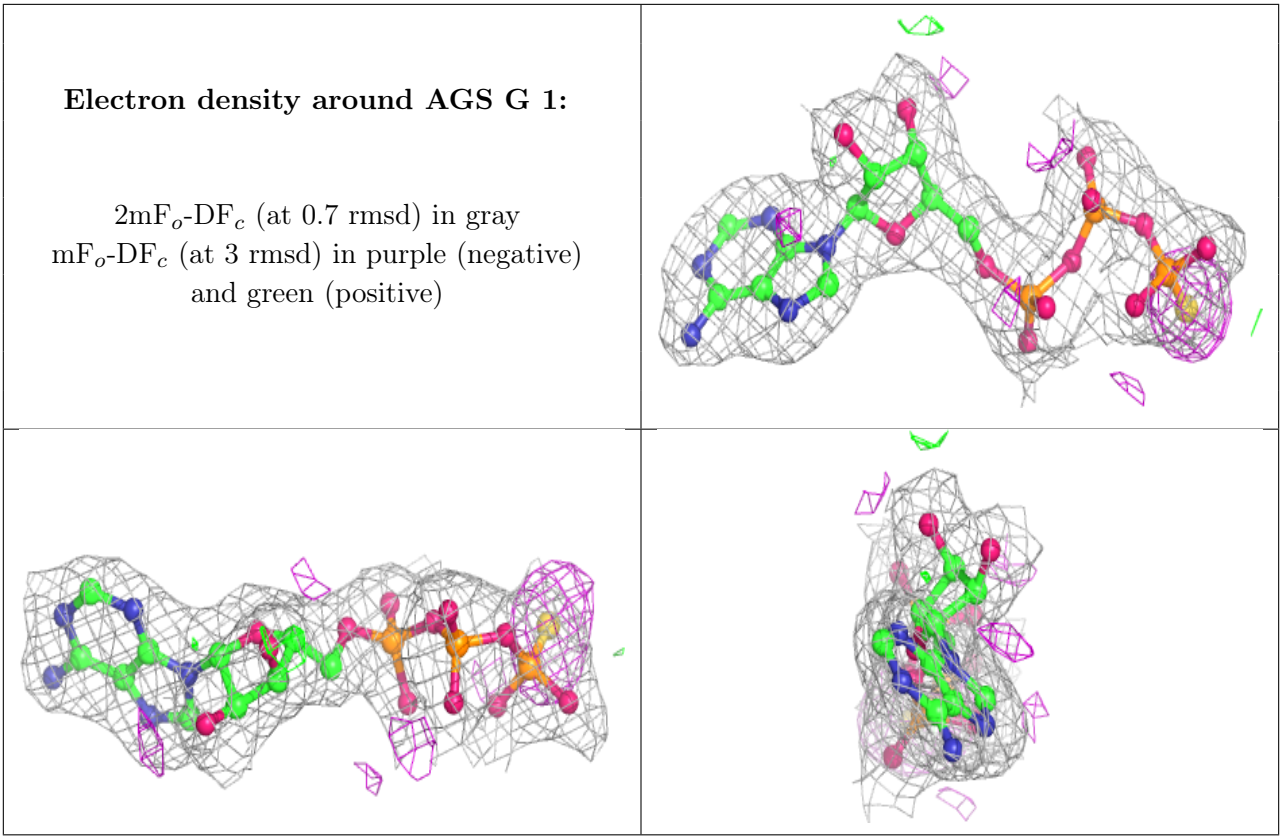






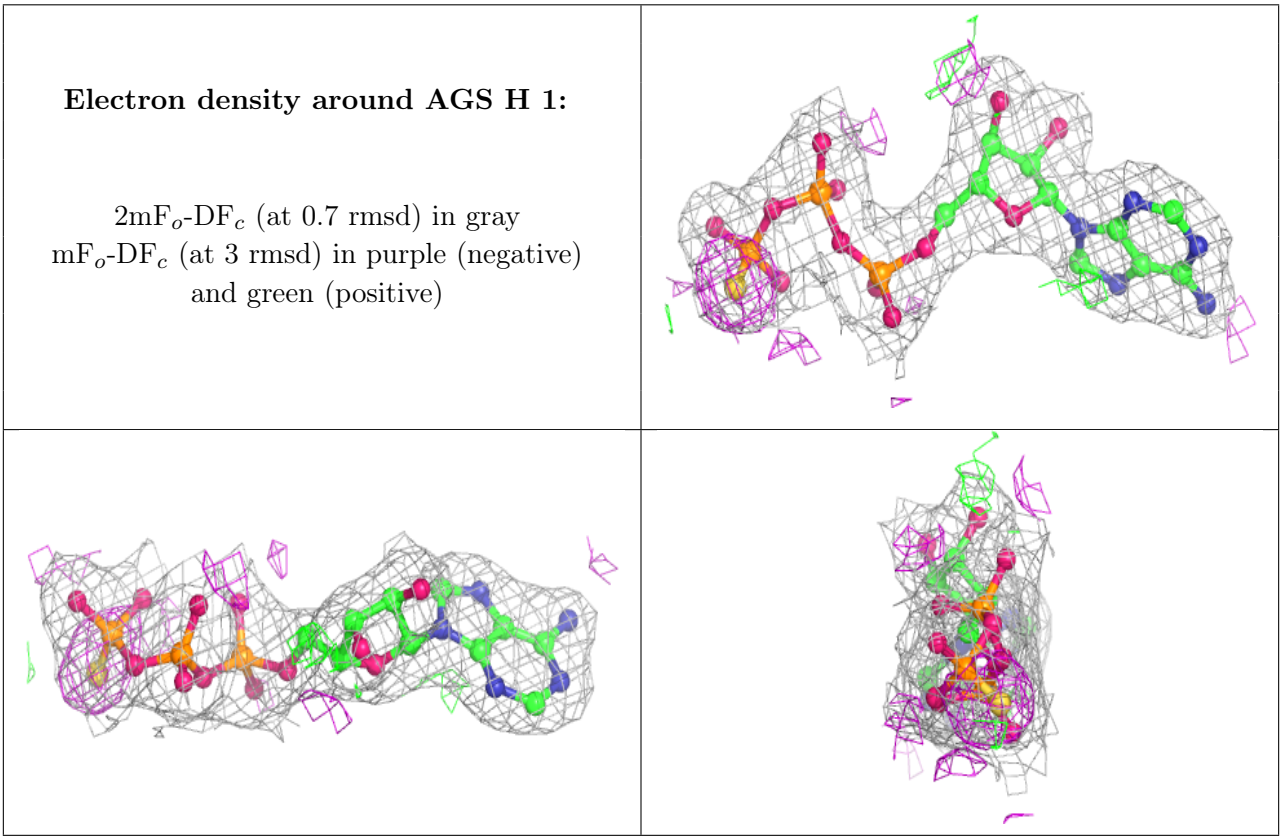
Electron density around AGS G 1:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



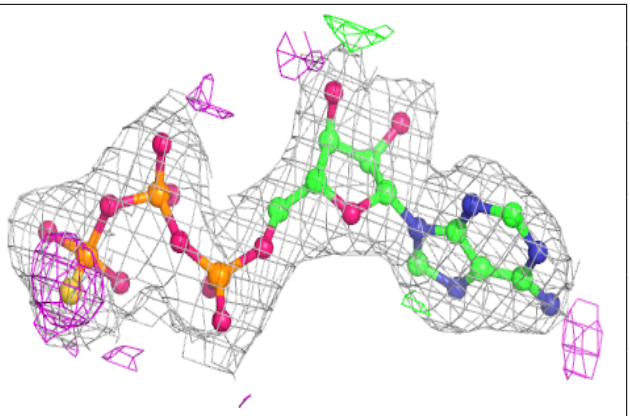
Electron density around AGS H 1:

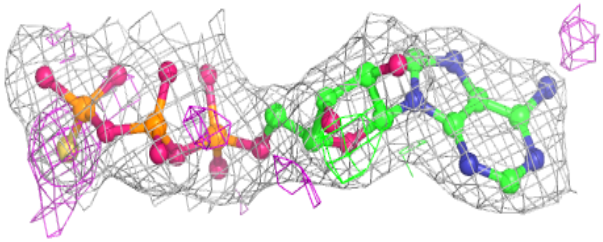
$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

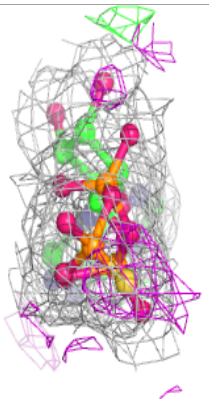


Electron density around AGS I 1:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

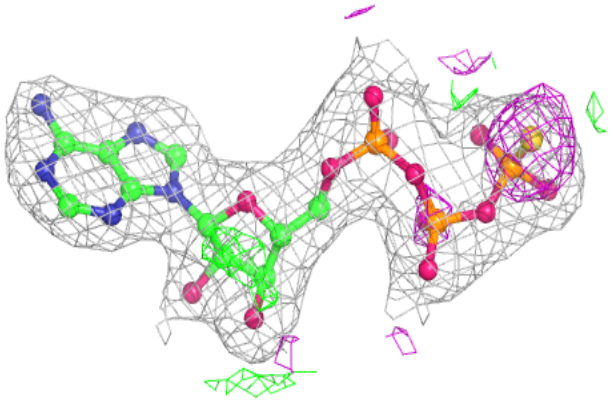


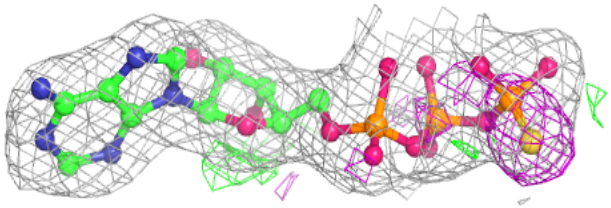


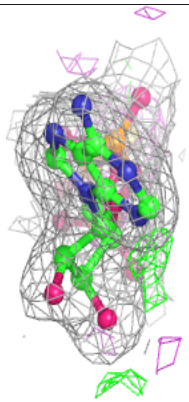


Electron density around AGS J 1:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

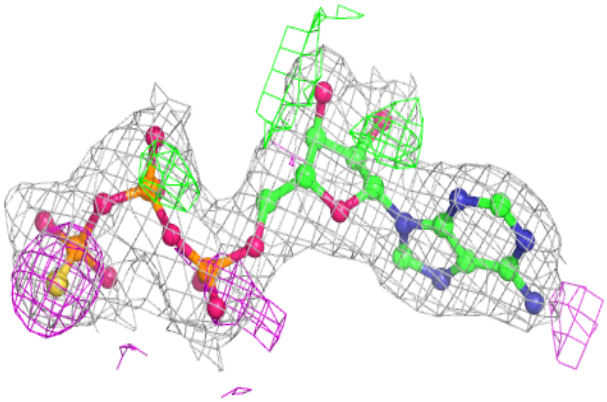


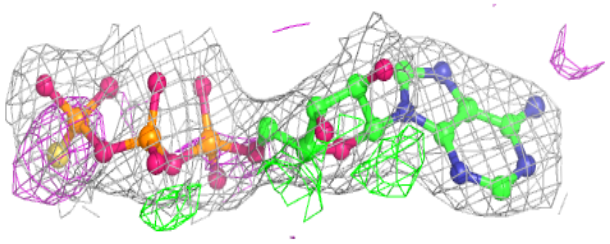


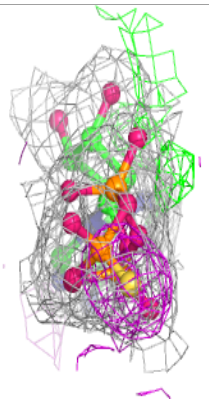


Electron density around AGS N 1:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

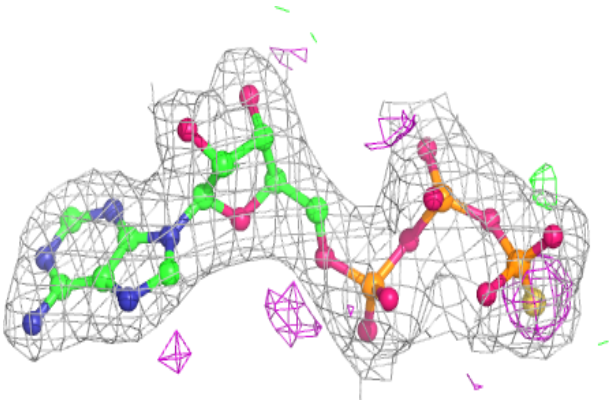


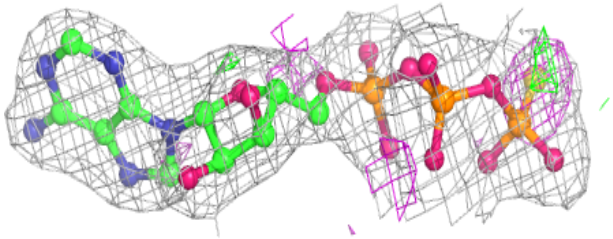


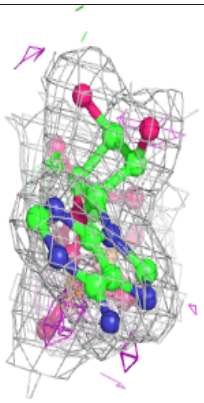


Electron density around AGS A 1:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)

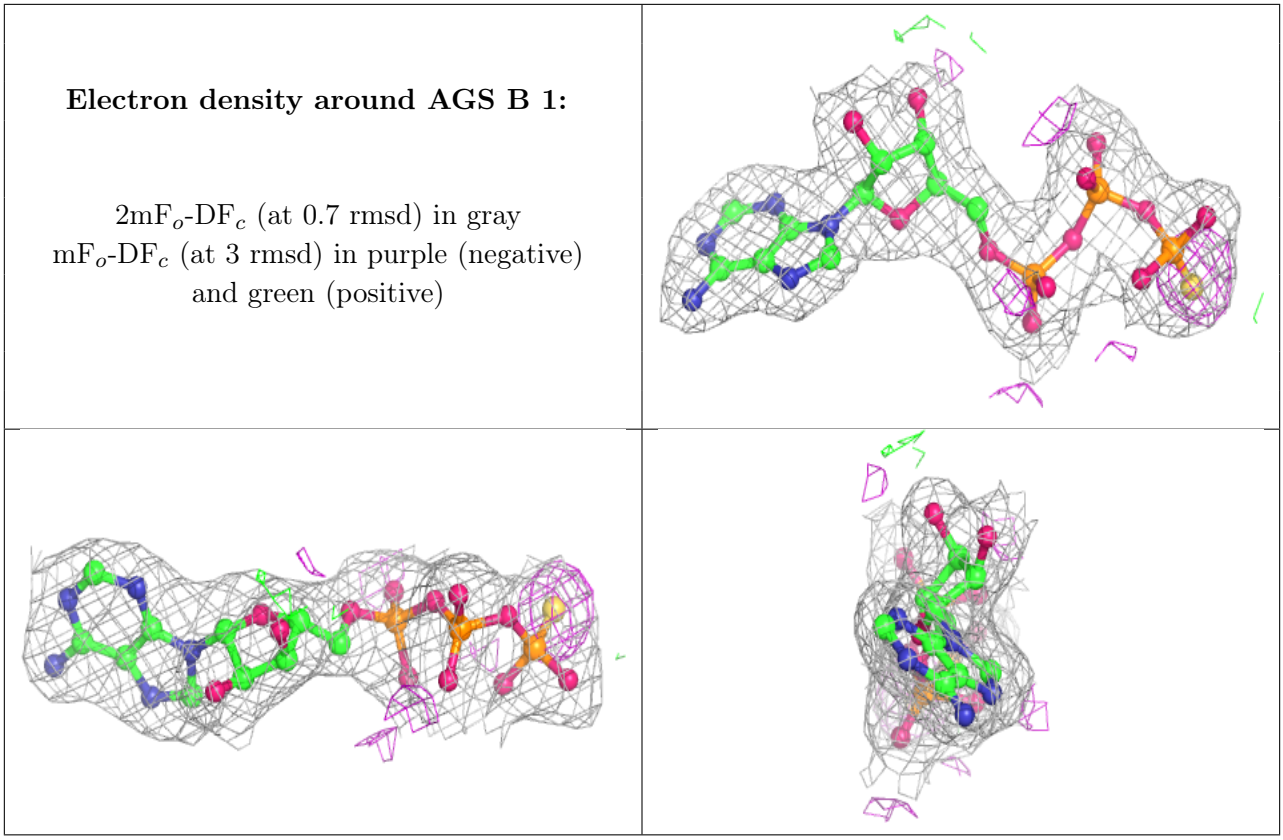






Electron density around AGS B 1:

$2mF_o$-DF_c (at 0.7 rmsd) in gray
mF_o-DF_c (at 3 rmsd) in purple (negative) and green (positive)



6.5 Other polymers (i)

There are no such residues in this entry.