



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 20, 2026 – 07:19 PM UTC

PDB ID : 6V80 / pdb_00006v80
Title : Crystal structure of human CD1d presenting alpha-Galactosylceramide in complex with NKT12 TCR and VHH nanobody 1D12
Authors : Shahine, A.; Rossjohn, J.
Deposited on : 2019-12-10
Resolution : 3.53 Å (reported)

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

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

A user guide is available at

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

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

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

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

MolProbity : 4-5-2 with Phenix2.0
Mogul : 2022.3.0, CSD as543be (2022)
Xtrriage (Phenix) : 2.0
EDS : 3.0
Buster-report : wwPDB partial adaption of 1.1.7 (2018)
Percentile statistics : 20250101.v01 (using entries in the PDB archive January 1st 2025)
CCP4 : 9.0.010 (Gargrove)
Density-Fitness : 1.0.12
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.49

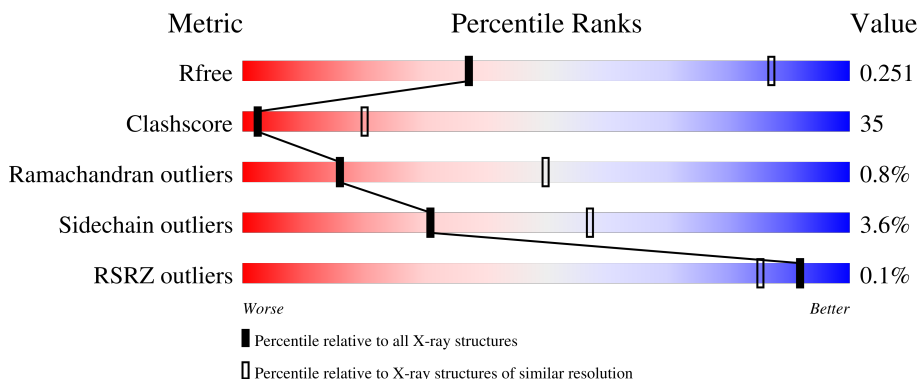
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.53 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.









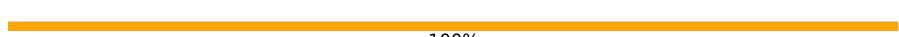
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1008 (3.58-3.50)
Clashscore	190562	1062 (3.58-3.50)
Ramachandran outliers	187476	1033 (3.58-3.50)
Sidechain outliers	187428	1034 (3.58-3.50)
RSRZ outliers	180081	1007 (3.58-3.50)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. 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	347	44% 30% 5% • 21%
1	F	347	34% 34% 7% • 22%
2	B	100	55% 36% 6% ••
2	G	100	51% 35% 8% 6%
3	C	210	64% 28% • 6%

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Mol	Chain	Length	Quality of chain
3	H	210	
4	D	241	
4	I	241	
5	E	119	
5	J	119	
6	K	2	
6	L	2	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
6	NAG	L	1	-	-	X	-

2 Entry composition i

There are 8 unique types of molecules in this entry. The entry contains 14208 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 Antigen-presenting glycoprotein CD1d.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	274	Total	C	N	O	S	0	0	0
			2130	1362	372	389	7			
1	F	270	Total	C	N	O	S	0	0	0
			2075	1327	366	376	6			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	4	MET	-	initiating methionine	UNP P15813
F	4	MET	-	initiating methionine	UNP P15813

- Molecule 2 is a protein called Beta-2-microglobulin.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
2	B	98	Total	C	N	O	S	0	0	0
			743	477	116	148	2			
2	G	94	Total	C	N	O	S	0	0	0
			745	473	126	144	2			

There are 2 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	0	MET	-	initiating methionine	UNP P61769
G	0	MET	-	initiating methionine	UNP P61769

- Molecule 3 is a protein called T cell receptor alpha variable 10, nkt tcr alpha chain fusion.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
3	C	198	Total	C	N	O	S	0	0	0
			1514	937	256	312	9			
3	H	181	Total	C	N	O	S	0	0	0
			1376	844	237	287	8			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
C	1	HIS	-	expression tag	UNP A0A0B4J240
C	2	MET	-	expression tag	UNP A0A0B4J240
H	1	HIS	-	expression tag	UNP A0A0B4J240
H	2	MET	-	expression tag	UNP A0A0B4J240

- Molecule 4 is a protein called nkt tcr beta chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
4	D	240	1848	1166	317	357	8	0	0	0
4	I	237	1888	1190	327	363	8	0	0	0

There are 16 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
D	92	THR	SER	linker	UNP K7N5M4
D	93	SER	GLU	linker	UNP K7N5M4
D	94	ARG	ASN	linker	UNP K7N5M4
D	95	ARG	SER	linker	UNP K7N5M4
D	97	SER	THR	linker	UNP K7N5M4
D	?	-	GLY	deletion	UNP K7N5M4
D	?	-	ARG	deletion	UNP K7N5M4
D	?	-	ILE	deletion	UNP K7N5M4
I	92	THR	SER	linker	UNP K7N5M4
I	93	SER	GLU	linker	UNP K7N5M4
I	94	ARG	ASN	linker	UNP K7N5M4
I	95	ARG	SER	linker	UNP K7N5M4
I	97	SER	THR	linker	UNP K7N5M4
I	?	-	GLY	deletion	UNP K7N5M4
I	?	-	ARG	deletion	UNP K7N5M4
I	?	-	ILE	deletion	UNP K7N5M4

- Molecule 5 is a protein called Nanobody VHH ID12.

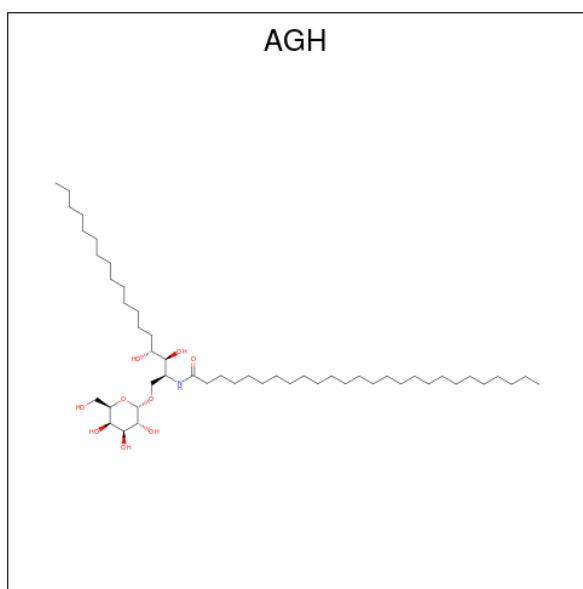
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
5	E	117	851	529	144	174	4	0	0	0
5	J	118	834	522	140	168	4	0	1	0

- Molecule 6 is an oligosaccharide called 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace
			Total	C	N	O			
6	K	2	28	16	2	10	0	0	0
6	L	2	28	16	2	10	0	0	0

- Molecule 7 is N-{(1S,2R,3S)-1-[(ALPHA-D-GALACTOPYRANOSYLOXY)METHYL]-2,3-DIHYDROXYHEPTADECYL}HEXACOSANAMIDE (CCD ID: AGH) (formula: C₅₀H₉₉NO₉).



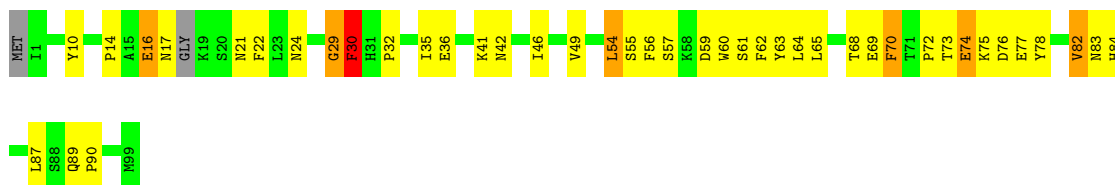
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
7	A	1	60	50	1	9	7	0
7	F	1	60	50	1	9	16	0

- Molecule 8 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: C₈H₁₅NO₆).



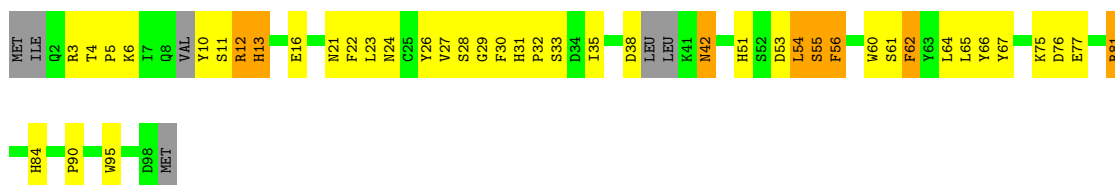
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	N	O		
8	F	1	14	8	1	5	0	0
8	F	1	14	8	1	5	0	0

Chain B:  55% 36% 6% ..



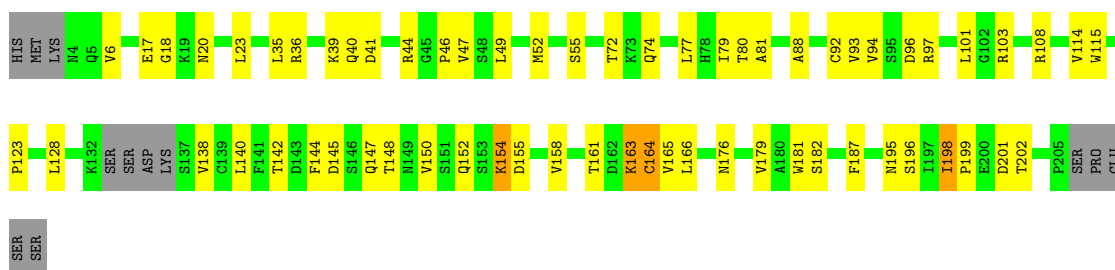
- Molecule 2: Beta-2-microglobulin

Chain G:  51% 35% 8% 6%



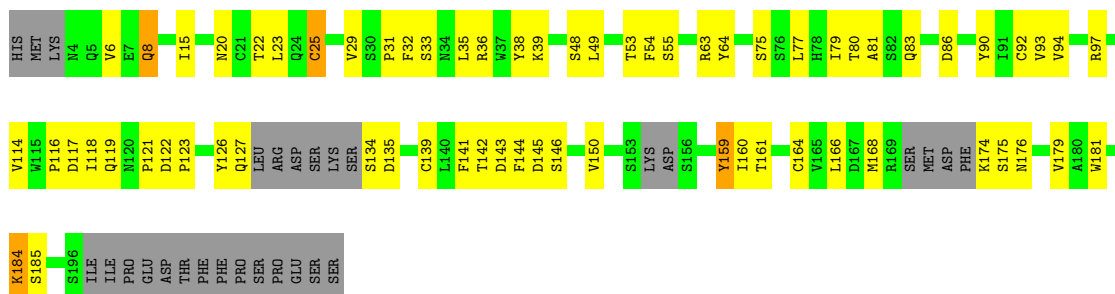
- Molecule 3: T cell receptor alpha variable 10, nkt tcr alpha chain fusion

Chain C:  64% 28% 6%



- Molecule 3: T cell receptor alpha variable 10, nkt tcr alpha chain fusion

Chain H:  54% 30% 14%



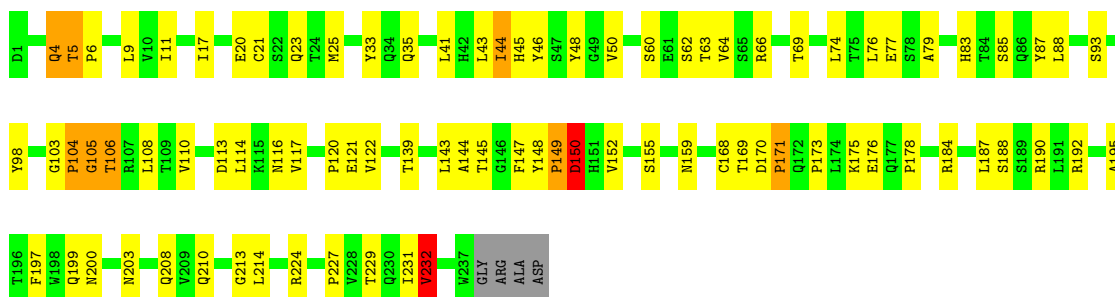
- Molecule 4: nkt tcr beta chain

Chain D:  61% 34%



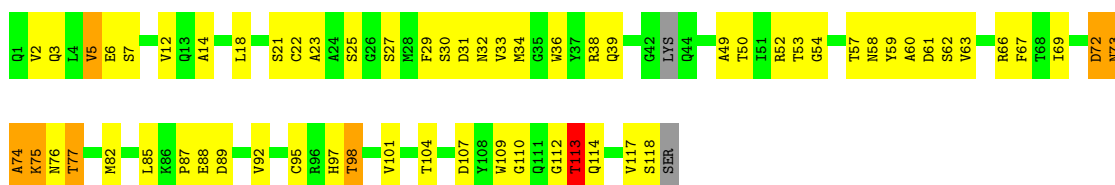
- Molecule 4: nkt tcr beta chain

Chain I: 63% 32%



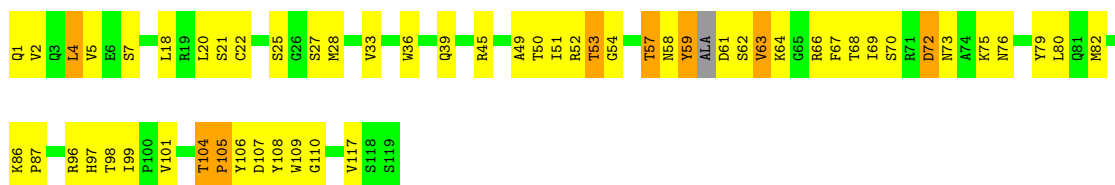
- Molecule 5: Nanobody VHH ID12

Chain E: 46% 45% 6%



- Molecule 5: Nanobody VHH ID12

Chain J: 52% 40% 7%



- Molecule 6: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain K: 50% 50%



- Molecule 6: 2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain L:  100%

MAG1
MAG2

4 Data and refinement statistics i

Property	Value	Source
Space group	C 1 2 1	Depositor
Cell constants a, b, c, α , β , γ	210.67Å 165.25Å 84.50Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	82.63 – 3.53 82.63 – 3.53	Depositor EDS
% Data completeness (in resolution range)	100.0 (82.63-3.53) 100.0 (82.63-3.53)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.76 (at 3.49Å)	Xtrriage
Refinement program	PHENIX 1.14_3260	Depositor
R, R_{free}	0.195 , 0.254 0.209 , 0.251	Depositor DCC
R_{free} test set	1873 reflections (5.27%)	wwPDB-VP
Wilson B-factor (Å ²)	104.5	Xtrriage
Anisotropy	0.327	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.30 , 172.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.36$, $\langle L^2 \rangle = 0.19$	Xtrriage
Estimated twinning fraction	0.297 for -h,-k,l	Xtrriage
Reported twinning fraction	0.390 for -h,-k,l	Depositor
Outliers	0 of 35558 reflections	Xtrriage
F_o, F_c correlation	0.95	EDS
Total number of atoms	14208	wwPDB-VP
Average B, all atoms (Å ²)	120.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.70% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality i

5.1 Standard geometry i

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

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z >5	RMSZ	# Z >5
1	A	0.64	3/2194 (0.1%)	1.05	23/2996 (0.8%)
1	F	0.90	6/2135 (0.3%)	1.37	43/2917 (1.5%)
2	B	0.44	0/763	1.03	6/1049 (0.6%)
2	G	0.64	2/765 (0.3%)	1.25	12/1038 (1.2%)
3	C	0.31	0/1542	0.59	4/2097 (0.2%)
3	H	0.42	0/1398	0.75	5/1901 (0.3%)
4	D	0.66	2/1901 (0.1%)	1.24	16/2598 (0.6%)
4	I	0.71	5/1942 (0.3%)	0.87	12/2648 (0.5%)
5	E	0.57	0/868	1.02	6/1185 (0.5%)
5	J	0.61	0/854	1.31	12/1168 (1.0%)
All	All	0.64	18/14362 (0.1%)	1.07	139/19597 (0.7%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	F	0	2
5	J	0	1
All	All	0	3

All (18) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	F	237	PRO	N-CD	-20.42	1.19	1.47
4	D	119	PRO	N-CA	16.21	1.69	1.46
1	F	138	PRO	N-CD	-15.66	1.25	1.47
4	I	149	PRO	N-CA	12.09	1.67	1.47
1	A	232	PRO	N-CD	-10.36	1.33	1.47
4	I	6	PRO	N-CD	-9.05	1.35	1.47

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	118	PHE	C-N	9.02	1.44	1.33
4	I	5	THR	C-N	8.19	1.49	1.34
2	G	32	PRO	N-CD	7.33	1.58	1.47
2	G	13	HIS	C-N	7.32	1.50	1.33
1	A	214	LYS	C-N	7.06	1.50	1.33
1	F	214	LYS	C-N	6.94	1.50	1.33
1	F	167	PRO	N-CD	-6.55	1.38	1.47
4	I	44	ILE	C-O	-5.62	1.17	1.24
1	A	237	PRO	C-O	-5.56	1.16	1.24
1	F	213	PRO	N-CD	-5.29	1.40	1.47
1	F	267	SER	CA-CB	-5.14	1.45	1.53
4	I	148	TYR	C-N	5.07	1.43	1.34

All (139) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	118	PHE	CA-C-N	27.21	139.25	119.66
4	D	118	PHE	C-N-CA	27.21	139.25	119.66
4	D	123	ALA	N-CA-C	13.77	127.02	110.91
2	G	13	HIS	CA-C-N	12.34	135.27	119.84
2	G	13	HIS	C-N-CA	12.34	135.27	119.84
1	A	214	LYS	CA-C-N	11.57	134.30	119.84
1	A	214	LYS	C-N-CA	11.57	134.30	119.84
1	F	237	PRO	CA-N-CD	11.09	127.53	112.00
1	F	214	LYS	CA-C-N	10.99	133.58	119.84
1	F	214	LYS	C-N-CA	10.99	133.58	119.84
4	D	119	PRO	N-CA-C	-10.44	99.41	110.58
4	D	225	ALA	N-CA-C	-10.07	95.56	110.46
1	F	161	LEU	N-CA-C	-9.69	100.67	111.14
1	F	213	PRO	N-CA-CB	-9.61	93.16	103.25
3	C	165	VAL	N-CA-CB	-9.02	101.79	112.07
1	F	212	TYR	N-CA-C	8.95	129.59	109.81
3	H	159	TYR	N-CA-C	8.54	120.92	110.41
2	G	55	SER	CA-C-N	-8.53	108.71	122.36
2	G	55	SER	C-N-CA	-8.53	108.71	122.36
5	J	59	TYR	CA-C-O	-8.45	111.17	120.38
1	F	237	PRO	N-CA-CB	-8.40	94.43	103.25
4	D	119	PRO	CA-N-CD	-8.31	100.36	112.00
4	I	5	THR	CB-CA-C	-8.23	97.25	108.68
2	G	32	PRO	CA-N-CD	-8.22	99.99	111.50
1	A	232	PRO	CA-N-CD	7.99	123.18	112.00
4	D	223	ASP	N-CA-C	-7.77	101.78	111.11

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	225	ALA	N-CA-CB	7.66	122.33	110.46
4	I	50	VAL	N-CA-CB	-7.64	102.30	110.62
4	D	222	GLN	N-CA-C	7.59	119.60	110.19
5	J	73	ASN	N-CA-CB	7.56	121.26	109.69
1	A	63	TRP	CA-C-O	-7.51	113.00	120.89
1	A	62	GLN	N-CA-C	-7.49	103.13	111.82
4	I	149	PRO	CA-N-CD	-7.28	101.30	111.50
5	E	75	LYS	N-CA-C	-7.28	104.49	113.15
1	F	24	THR	CA-CB-OG1	-7.19	98.81	109.60
5	J	105	PRO	N-CA-C	-7.15	103.99	113.65
5	J	53	THR	N-CA-C	7.09	119.25	109.54
5	E	73	ASN	CB-CA-C	7.05	122.32	111.39
4	D	145	THR	CB-CA-C	-7.05	96.48	113.19
1	F	85	ALA	N-CA-C	-7.02	103.56	111.07
1	F	138	PRO	CA-N-CD	6.99	121.78	112.00
5	E	54	GLY	CA-C-N	6.91	127.36	120.31
5	E	54	GLY	C-N-CA	6.91	127.36	120.31
2	B	74	GLU	N-CA-C	-6.74	104.54	112.89
1	F	167	PRO	CA-N-CD	6.66	121.32	112.00
1	F	237	PRO	CB-CA-C	-6.60	100.67	111.56
1	F	42	ASN	N-CA-C	-6.56	105.00	112.87
1	F	44	SER	N-CA-C	6.54	119.36	108.96
4	D	17	ILE	N-CA-C	6.50	117.48	107.99
4	D	121	GLU	CB-CA-C	6.50	120.25	109.53
1	F	84	PHE	CB-CA-C	-6.49	100.65	110.90
2	B	46	ILE	N-CA-C	6.39	116.83	107.37
1	F	24	THR	CB-CA-C	-6.37	98.77	110.62
4	I	104	PRO	N-CA-C	-6.33	104.73	113.53
1	A	232	PRO	N-CA-CB	-6.32	96.62	103.25
1	A	232	PRO	CB-CA-C	-6.28	101.19	111.56
1	F	20	ASN	N-CA-C	-6.28	103.11	111.96
3	H	184	LYS	CA-C-N	-6.24	111.27	120.38
3	H	184	LYS	C-N-CA	-6.24	111.27	120.38
1	A	237	PRO	CB-CA-C	-6.20	101.33	111.56
2	G	13	HIS	CB-CA-C	6.20	119.28	109.55
1	F	211	PHE	N-CA-C	6.11	119.15	109.50
1	F	126	PHE	CA-CB-CG	-6.10	107.70	113.80
4	I	5	THR	C-N-CD	-6.10	107.18	120.60
1	F	167	PRO	N-CA-CB	-6.08	97.07	103.52
1	F	33	GLY	CA-C-N	6.05	133.09	121.54
1	F	33	GLY	C-N-CA	6.05	133.09	121.54
1	F	238	ASN	N-CA-CB	6.04	120.78	110.57

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	A	161	LEU	CA-C-N	-5.99	112.65	120.44
1	A	161	LEU	C-N-CA	-5.99	112.65	120.44
1	A	230	THR	O-C-N	5.99	130.51	122.96
1	A	238	ASN	CB-CA-C	-5.96	99.50	111.17
1	A	61	GLN	N-CA-C	-5.93	106.58	113.88
1	F	159	GLN	O-C-N	5.93	129.16	122.22
4	I	105	GLY	CA-C-O	-5.93	117.83	122.52
3	C	164	CYS	CA-C-O	-5.89	113.47	120.43
3	H	160	ILE	N-CA-CB	5.89	120.94	111.23
5	J	57	THR	CB-CA-C	-5.88	101.08	110.14
1	A	239	ALA	N-CA-C	5.87	118.46	111.71
1	F	165	THR	CA-CB-OG1	-5.84	100.84	109.60
5	J	54	GLY	N-CA-C	-5.82	103.29	113.76
1	A	242	THR	CA-CB-OG1	-5.81	100.89	109.60
1	F	27	ASP	CA-C-N	-5.79	116.60	121.58
1	F	27	ASP	C-N-CA	-5.79	116.60	121.58
5	J	104	THR	CA-CB-OG1	-5.75	100.97	109.60
2	B	30	PHE	CA-CB-CG	5.73	119.53	113.80
1	F	169	PHE	N-CA-C	-5.66	107.02	114.04
2	G	32	PRO	N-CA-C	5.65	126.79	112.10
2	G	32	PRO	N-CA-CB	5.64	108.80	102.60
4	I	150	ASP	N-CA-CB	-5.61	103.69	110.53
3	H	25	CYS	CB-CA-C	-5.57	103.05	110.79
4	D	123	ALA	CA-C-O	-5.52	115.15	122.44
1	A	229	GLY	CA-C-N	-5.52	113.29	121.24
1	A	229	GLY	C-N-CA	-5.52	113.29	121.24
5	E	113	THR	CA-CB-OG1	-5.51	101.34	109.60
5	J	73	ASN	CA-C-N	5.50	132.04	121.54
5	J	73	ASN	C-N-CA	5.50	132.04	121.54
4	D	120	PRO	N-CD-CG	-5.48	94.98	103.20
4	I	232	VAL	N-CA-C	-5.45	100.57	108.36
1	A	138	PRO	CA-C-N	-5.43	112.58	120.29
1	A	138	PRO	C-N-CA	-5.43	112.58	120.29
1	A	87	MET	CA-C-N	-5.43	113.96	122.65
1	A	87	MET	C-N-CA	-5.43	113.96	122.65
4	I	106	THR	N-CA-C	5.38	118.00	109.50
4	I	148	TYR	CA-C-N	5.38	139.91	127.00
4	I	148	TYR	C-N-CA	5.38	139.91	127.00
2	G	61	SER	N-CA-C	-5.37	100.95	109.76
4	I	6	PRO	CA-N-CD	5.35	118.99	111.50
1	F	138	PRO	N-CA-CB	-5.35	97.64	103.25
4	D	64	VAL	N-CA-CB	-5.33	105.75	111.46

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	F	173	LEU	CB-CA-C	5.33	117.98	109.02
1	F	158	VAL	CB-CA-C	-5.33	104.87	112.22
2	G	54	LEU	CA-C-N	-5.33	113.64	122.11
2	G	54	LEU	C-N-CA	-5.33	113.64	122.11
1	F	141	VAL	CA-C-O	-5.31	115.54	121.17
5	J	72	ASP	CA-C-N	-5.29	113.36	120.82
5	J	72	ASP	C-N-CA	-5.29	113.36	120.82
1	F	164	GLY	CA-C-N	-5.26	114.82	122.86
1	F	164	GLY	C-N-CA	-5.26	114.82	122.86
1	F	242	THR	N-CA-C	5.25	116.26	108.86
1	F	84	PHE	CA-C-N	-5.24	113.63	120.44
1	F	84	PHE	C-N-CA	-5.24	113.63	120.44
2	G	56	PHE	CA-CB-CG	5.22	119.02	113.80
1	F	141	VAL	O-C-N	5.20	127.01	121.91
1	A	220	TRP	CA-C-O	-5.16	114.81	120.69
2	B	70	PHE	CA-C-N	5.14	127.91	122.26
2	B	70	PHE	C-N-CA	5.14	127.91	122.26
5	J	72	ASP	N-CA-C	5.12	117.54	109.39
1	F	158	VAL	N-CA-C	-5.11	105.56	110.72
3	C	163	LYS	CA-C-N	5.11	131.14	121.69
3	C	163	LYS	C-N-CA	5.11	131.14	121.69
1	F	34	GLU	CA-C-N	-5.10	115.42	122.30
1	F	34	GLU	C-N-CA	-5.10	115.42	122.30
1	A	213	PRO	N-CD-CG	-5.09	95.57	103.20
1	F	184	GLN	N-CA-CB	-5.08	102.12	111.37
5	E	72	ASP	CA-CB-CG	-5.05	107.55	112.60
1	F	212	TYR	N-CA-CB	-5.04	101.40	110.37
4	D	224	ARG	CA-C-O	-5.03	116.73	122.01
2	B	29	GLY	N-CA-C	5.01	121.67	114.10

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	F	212	TYR	Peptide
1	F	41	SER	Mainchain
5	J	58	ASN	Mainchain

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2130	0	2007	168	0
1	F	2075	0	1936	259	0
2	B	743	0	633	57	0
2	G	745	0	662	61	0
3	C	1514	0	1424	47	0
3	H	1376	0	1281	64	0
4	D	1848	0	1681	110	0
4	I	1888	0	1781	82	0
5	E	851	0	780	71	0
5	J	834	0	755	76	0
6	K	28	0	25	1	0
6	L	28	0	25	10	0
7	A	60	0	99	3	0
7	F	60	0	99	3	0
8	F	28	0	26	4	0
All	All	14208	0	13214	951	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 35.

All (951) 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:F:166:CYS:SG	1:F:167:PRO:HD3	1.11	1.61
1:F:213:PRO:CG	1:F:265:HIS:HE1	1.28	1.46
1:F:213:PRO:HG2	1:F:265:HIS:CE1	1.47	1.45
1:F:185:VAL:CG1	1:F:212:TYR:H	1.27	1.45
1:F:166:CYS:SG	1:F:167:PRO:CD	2.04	1.45
4:I:149:PRO:N	4:I:149:PRO:CA	1.67	1.44
4:D:119:PRO:N	4:D:119:PRO:CA	1.69	1.41
4:D:123:ALA:CB	4:D:143:LEU:O	1.69	1.41
4:D:32:TRP:CD1	4:D:72:PHE:HE2	1.41	1.35
3:H:164:CYS:SG	4:I:168:CYS:CB	2.13	1.35
1:A:212:TYR:HB3	1:A:213:PRO:CD	1.43	1.34
1:A:164:GLY:O	1:A:167:PRO:HD2	1.26	1.33

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:164:CYS:CB	4:I:168:CYS:SG	2.16	1.33
1:F:54:SER:O	1:F:173:LEU:HD21	1.29	1.30
1:A:212:TYR:CB	1:A:213:PRO:HD3	1.59	1.28
1:F:51:LYS:CB	1:F:53:TRP:NE1	1.99	1.25
1:F:185:VAL:CG1	1:F:212:TYR:N	1.99	1.24
2:B:42:ASN:ND2	2:B:77:GLU:O	1.70	1.24
4:D:123:ALA:HB3	4:D:143:LEU:O	1.08	1.24
3:H:8:GLN:OE1	3:H:92:CYS:HB2	1.35	1.22
3:H:25:CYS:SG	3:H:92:CYS:SG	1.24	1.22
1:F:213:PRO:CG	1:F:265:HIS:CE1	2.09	1.22
4:D:32:TRP:CD1	4:D:72:PHE:CE2	2.27	1.21
1:F:51:LYS:HB3	1:F:53:TRP:NE1	1.56	1.21
1:F:54:SER:O	1:F:173:LEU:CD2	1.88	1.20
4:D:45:HIS:CG	4:D:64:VAL:HG11	1.78	1.19
1:F:31:TRP:CZ3	1:F:34:GLU:O	1.95	1.18
1:F:54:SER:C	1:F:173:LEU:HD21	1.67	1.18
1:F:20:ASN:O	1:F:92:TYR:CE2	1.97	1.18
1:F:51:LYS:HB3	1:F:53:TRP:CD1	1.81	1.15
1:A:97:GLN:OE1	2:B:60:TRP:HB3	1.48	1.14
4:D:17:ILE:HD12	4:D:76:LEU:CB	1.76	1.14
2:B:30:PHE:CE2	2:B:62:PHE:HB2	1.82	1.13
4:D:17:ILE:CD1	4:D:76:LEU:HB3	1.79	1.11
5:E:72:ASP:HB3	5:E:77:THR:H	1.12	1.11
1:A:235:ILE:HG22	1:A:243:TRP:HE3	1.13	1.10
1:F:236:LEU:O	1:F:243:TRP:HE3	1.35	1.09
5:J:72:ASP:O	5:J:75:LYS:O	1.71	1.08
1:F:26:THR:N	1:F:42:ASN:OD1	1.84	1.08
1:F:25:ARG:HA	1:F:42:ASN:OD1	1.53	1.08
1:F:185:VAL:HG11	1:F:212:TYR:N	1.62	1.07
1:F:236:LEU:HB3	1:F:237:PRO:HD2	1.36	1.07
5:J:51:ILE:HA	5:J:57:THR:HG22	1.34	1.07
1:F:41:SER:OG	1:F:44:SER:HB3	1.53	1.06
2:B:73:THR:HG22	2:B:75:LYS:H	1.14	1.05
2:B:42:ASN:CG	2:B:77:GLU:O	1.98	1.05
5:E:72:ASP:HB2	5:E:77:THR:OG1	1.56	1.04
5:J:98:THR:HG23	5:J:106:TYR:O	1.57	1.04
4:D:63:THR:OG1	4:D:75:THR:O	1.75	1.04
1:A:235:ILE:HD12	1:A:235:ILE:H	1.18	1.04
1:F:213:PRO:HG3	1:F:265:HIS:HE1	1.21	1.03
5:J:70:SER:OG	5:J:79:TYR:HB2	1.59	1.03
3:H:159:TYR:HD2	3:H:181:TRP:CZ2	1.77	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:185:VAL:HG12	1:F:212:TYR:N	1.66	1.02
1:A:220:TRP:H	1:A:230:THR:HG21	1.22	1.01
4:D:45:HIS:CB	4:D:64:VAL:HG11	1.89	1.01
1:A:122:ASP:OD2	2:B:60:TRP:CH2	2.13	1.01
1:F:25:ARG:CA	1:F:42:ASN:OD1	2.07	1.01
4:D:17:ILE:HD12	4:D:76:LEU:HB3	1.02	1.01
4:D:63:THR:OG1	4:D:75:THR:C	2.03	1.01
1:F:51:LYS:CB	1:F:53:TRP:CD1	2.42	1.01
1:F:237:PRO:HA	1:F:243:TRP:CE3	1.96	1.00
2:G:56:PHE:HE1	2:G:60:TRP:CE3	1.81	0.99
2:B:30:PHE:HE2	2:B:62:PHE:C	1.69	0.99
1:F:185:VAL:HG12	1:F:212:TYR:H	0.83	0.99
4:D:63:THR:HG1	4:D:75:THR:C	1.69	0.99
1:F:137:ALA:HB1	1:F:138:PRO:HD2	1.45	0.98
2:B:30:PHE:CE2	2:B:62:PHE:CB	2.46	0.98
2:B:73:THR:HB	2:B:76:ASP:OD1	1.61	0.98
5:J:33:VAL:HG22	5:J:52:ARG:HA	1.44	0.98
5:E:7:SER:O	5:E:21:SER:OG	1.82	0.98
1:A:149:ASN:C	1:A:150:GLN:HE21	1.72	0.97
1:A:117:ALA:HA	1:A:122:ASP:HA	1.46	0.97
4:D:120:PRO:HD2	4:D:232:VAL:HG21	1.43	0.97
5:E:34:MET:HG3	5:E:97:HIS:CD2	2.00	0.97
1:F:51:LYS:CG	1:F:53:TRP:HE1	1.79	0.96
1:F:31:TRP:HZ3	1:F:34:GLU:O	1.36	0.96
3:H:159:TYR:CD2	3:H:181:TRP:CZ2	2.53	0.96
5:J:106:TYR:CD1	5:J:108:TYR:HE2	1.83	0.96
2:B:42:ASN:ND2	2:B:77:GLU:C	2.12	0.96
4:D:191:LEU:HD12	4:D:192:ARG:N	1.79	0.96
1:A:204:LEU:HG	1:A:277:TRP:CZ3	2.00	0.95
1:A:164:GLY:O	1:A:167:PRO:CD	2.13	0.95
1:F:25:ARG:HG3	1:F:42:ASN:CG	1.91	0.95
4:I:44:ILE:HD11	4:I:60:SER:HB3	1.49	0.95
5:E:6:GLU:OE2	5:E:110:GLY:HA3	1.66	0.95
1:F:51:LYS:CB	1:F:53:TRP:HE1	1.70	0.94
1:F:13:LEU:HD23	2:G:56:PHE:CD2	2.02	0.94
4:D:17:ILE:CD1	4:D:76:LEU:HD23	1.98	0.94
1:F:213:PRO:HG2	1:F:265:HIS:NE2	1.81	0.94
3:H:8:GLN:OE1	3:H:92:CYS:CB	2.15	0.94
1:F:54:SER:C	1:F:173:LEU:CD2	2.37	0.93
1:F:55:GLN:O	1:F:173:LEU:HD11	1.68	0.93
1:F:61:GLN:H	1:F:61:GLN:NE2	1.65	0.93

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:150:GLN:HB3	4:D:98:TYR:OH	1.67	0.93
1:F:214:LYS:H	1:F:215:PRO:HD3	1.32	0.93
4:I:122:VAL:HB	4:I:232:VAL:HG11	1.50	0.93
5:J:63:VAL:HG13	5:J:66:ARG:HB2	1.51	0.93
2:G:31:HIS:HD2	2:G:62:PHE:CZ	1.88	0.92
1:A:116:VAL:HG22	1:A:124:LEU:O	1.70	0.92
4:I:4:GLN:HB3	4:I:21:CYS:HA	1.53	0.91
3:H:159:TYR:OH	4:I:176:GLU:OE1	1.88	0.91
1:A:184:GLN:OE1	1:A:213:PRO:HG2	1.69	0.91
1:F:20:ASN:O	1:F:92:TYR:CD2	2.23	0.91
1:F:177:GLY:O	1:F:181:LEU:HG	1.69	0.90
4:I:168:CYS:SG	4:I:168:CYS:O	2.29	0.90
5:E:72:ASP:HB3	5:E:77:THR:N	1.87	0.90
2:G:12:ARG:HG2	2:G:22:PHE:O	1.71	0.90
4:I:85:SER:OG	4:I:87:TYR:CZ	2.24	0.89
1:A:235:ILE:HG22	1:A:243:TRP:CE3	2.05	0.89
1:F:172:GLY:O	1:F:173:LEU:HD12	1.72	0.89
5:J:59:TYR:OH	5:J:68:THR:HG23	1.72	0.89
1:F:236:LEU:O	1:F:243:TRP:CE3	2.26	0.89
1:A:235:ILE:CG2	1:A:243:TRP:HE3	1.85	0.89
4:D:120:PRO:CD	4:D:232:VAL:HG21	2.03	0.89
4:I:85:SER:OG	4:I:87:TYR:OH	1.90	0.88
1:F:68:HIS:O	1:F:71:ARG:N	2.06	0.88
1:F:97:GLN:OE1	2:G:31:HIS:NE2	2.06	0.88
2:G:56:PHE:HA	2:G:62:PHE:HA	1.55	0.87
1:A:62:GLN:HE21	5:E:27:SER:HB3	1.40	0.87
2:B:30:PHE:CD2	2:B:62:PHE:HB2	2.09	0.87
5:E:72:ASP:N	5:E:77:THR:O	2.07	0.87
4:D:45:HIS:CG	4:D:64:VAL:CG1	2.58	0.86
1:F:51:LYS:CG	1:F:53:TRP:NE1	2.37	0.86
1:F:56:GLY:HA3	1:F:173:LEU:CD1	2.05	0.86
4:I:46:TYR:HE1	4:I:48:TYR:CE1	1.93	0.86
1:F:238:ASN:HB3	1:F:242:THR:HB	1.58	0.86
1:F:126:PHE:HE1	1:F:130:SER:C	1.84	0.86
1:F:25:ARG:HG3	1:F:42:ASN:CB	2.05	0.85
1:F:41:SER:OG	1:F:44:SER:CB	2.24	0.85
1:F:242:THR:HG22	1:F:243:TRP:N	1.90	0.85
4:D:191:LEU:HD12	4:D:192:ARG:H	1.40	0.84
1:F:244:TYR:HE2	2:G:10:TYR:CD2	1.95	0.83
5:E:34:MET:CG	5:E:97:HIS:CD2	2.61	0.83
1:F:126:PHE:CE1	1:F:130:SER:C	2.56	0.83

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:185:VAL:HG11	1:F:211:PHE:C	2.04	0.83
4:D:32:TRP:HD1	4:D:72:PHE:HE2	0.93	0.83
1:A:212:TYR:CB	1:A:213:PRO:CD	2.30	0.82
1:F:112:ASN:CG	1:F:162:LEU:HD23	2.03	0.82
1:A:139:LEU:O	1:A:142:ASN:N	2.10	0.82
1:A:62:GLN:HE21	5:E:27:SER:CB	1.93	0.82
2:G:56:PHE:HE1	2:G:60:TRP:HE3	1.28	0.82
4:D:32:TRP:HD1	4:D:72:PHE:CE2	1.79	0.81
5:J:99:ILE:HG23	5:J:106:TYR:CD2	2.14	0.81
3:C:164:CYS:HB3	4:D:190:ARG:HH22	1.44	0.81
4:I:46:TYR:CE1	4:I:48:TYR:CE1	2.67	0.81
3:H:25:CYS:SG	3:H:92:CYS:CB	2.68	0.81
1:A:139:LEU:O	1:A:140:TRP:C	2.23	0.81
1:A:204:LEU:HG	1:A:277:TRP:HZ3	1.43	0.80
1:A:139:LEU:O	1:A:141:VAL:N	2.13	0.80
5:J:51:ILE:HD12	5:J:69:ILE:HG23	1.61	0.80
1:F:25:ARG:C	1:F:42:ASN:OD1	2.25	0.80
1:F:36:GLN:NE2	2:G:53:ASP:OD2	2.15	0.80
1:F:214:LYS:N	1:F:215:PRO:CD	2.44	0.80
1:A:62:GLN:NE2	5:E:27:SER:C	2.40	0.79
1:F:51:LYS:HB3	1:F:53:TRP:HE1	1.27	0.79
1:F:54:SER:HA	1:F:173:LEU:HD23	1.64	0.79
2:B:83:ASN:HA	2:B:87:LEU:HD11	1.65	0.79
1:F:13:LEU:HD23	2:G:56:PHE:CE2	2.17	0.79
1:F:31:TRP:CE3	1:F:34:GLU:O	2.36	0.79
1:A:235:ILE:O	1:A:236:LEU:HD23	1.82	0.79
1:F:51:LYS:HG3	1:F:53:TRP:NE1	1.96	0.79
1:F:19:ALA:HB2	1:F:23:TRP:HE3	1.47	0.78
1:A:269:GLU:O	1:A:269:GLU:HG2	1.83	0.78
4:D:17:ILE:HD12	4:D:76:LEU:CG	2.13	0.78
1:A:116:VAL:CG2	1:A:124:LEU:O	2.31	0.78
2:G:6:LYS:N	2:G:28:SER:O	2.16	0.78
1:A:220:TRP:N	1:A:230:THR:HG21	1.98	0.77
1:A:58:PHE:HB3	1:A:62:GLN:HB2	1.65	0.77
1:F:214:LYS:N	1:F:215:PRO:HD3	1.98	0.77
4:D:63:THR:OG1	4:D:75:THR:OG1	2.01	0.77
1:F:61:GLN:OE1	5:J:1:GLN:CB	2.33	0.77
1:F:167:PRO:HA	1:F:170:VAL:HB	1.65	0.77
4:I:170:ASP:HB2	4:I:188:SER:O	1.85	0.77
1:A:150:GLN:HE21	1:A:150:GLN:N	1.83	0.77
1:F:53:TRP:CD1	1:F:53:TRP:H	1.99	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:51:ILE:HB	5:J:69:ILE:HG12	1.66	0.76
1:A:237:PRO:O	2:B:10:TYR:OH	2.03	0.76
4:D:17:ILE:HD11	4:D:76:LEU:HD23	1.67	0.76
3:H:63:ARG:HD2	3:H:81:ALA:HB3	1.67	0.76
3:C:164:CYS:HB3	4:D:190:ARG:NH2	2.00	0.76
1:F:51:LYS:HB2	1:F:53:TRP:NE1	1.99	0.76
5:J:70:SER:OG	5:J:79:TYR:CB	2.33	0.76
1:F:25:ARG:CG	1:F:42:ASN:CB	2.63	0.75
1:F:62:GLN:NE2	5:J:28:MET:O	2.20	0.75
3:H:118:ILE:HD11	3:H:145:ASP:HA	1.67	0.75
1:F:185:VAL:CG1	1:F:211:PHE:HA	2.16	0.75
1:F:242:THR:HG22	1:F:243:TRP:H	1.52	0.75
1:A:60:ASP:OD1	1:A:60:ASP:O	2.04	0.75
1:F:236:LEU:CB	1:F:237:PRO:HD2	2.10	0.75
1:A:139:LEU:C	1:A:139:LEU:HD23	2.12	0.75
2:B:24:ASN:HB3	2:B:65:LEU:HD21	1.67	0.75
1:F:61:GLN:H	1:F:61:GLN:HE21	1.31	0.75
1:F:214:LYS:H	1:F:215:PRO:CD	1.99	0.75
2:G:81:ARG:HD3	2:G:90:PRO:HB2	1.67	0.75
2:B:30:PHE:CE2	2:B:62:PHE:C	2.60	0.75
1:F:51:LYS:HB2	1:F:53:TRP:CD1	2.21	0.75
2:G:56:PHE:CE1	2:G:60:TRP:CE3	2.73	0.74
5:J:62:SER:C	5:J:64:LYS:H	1.95	0.74
4:I:214:LEU:N	4:I:214:LEU:HD12	2.03	0.74
1:F:51:LYS:HG3	1:F:53:TRP:HE1	1.51	0.74
3:H:117:ASP:O	3:H:119:GLN:NE2	2.19	0.74
4:I:46:TYR:CE1	4:I:48:TYR:HE1	2.06	0.74
1:A:41:SER:O	1:A:74:ARG:NH1	2.21	0.74
1:A:134:THR:HG22	1:A:136:GLU:H	1.53	0.74
4:I:44:ILE:HD11	4:I:60:SER:CB	2.17	0.74
2:B:22:PHE:HB3	2:B:69:GLU:HA	1.70	0.74
4:D:31:TYR:HB2	4:D:90:ALA:HB3	1.70	0.73
1:A:160:TRP:CH2	5:E:29:PHE:HE2	2.07	0.73
1:A:184:GLN:CD	1:A:213:PRO:HG2	2.14	0.73
1:A:220:TRP:HB2	1:A:230:THR:HG23	1.70	0.73
5:J:33:VAL:CG2	5:J:52:ARG:HA	2.18	0.73
2:G:55:SER:O	2:G:62:PHE:CB	2.36	0.73
4:I:214:LEU:HD13	4:I:227:PRO:O	1.88	0.73
1:F:65:THR:OG1	5:J:105:PRO:HG2	1.87	0.73
1:F:232:PRO:HA	1:F:247:ALA:HA	1.70	0.73
1:F:64:GLU:O	1:F:68:HIS:N	2.14	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:H:6:VAL:HG12	3:H:6:VAL:O	1.88	0.73
5:J:33:VAL:HG22	5:J:52:ARG:CA	2.17	0.73
2:B:70:PHE:HE2	2:B:72:PRO:HB3	1.54	0.72
8:F:405:NAG:C3	8:F:405:NAG:H83	2.19	0.72
2:G:26:TYR:CE2	2:G:28:SER:OG	2.41	0.72
2:G:23:LEU:O	2:G:24:ASN:ND2	2.21	0.72
1:F:185:VAL:O	1:F:267:SER:OG	2.01	0.72
3:H:166:LEU:O	3:H:174:LYS:N	2.22	0.72
5:J:70:SER:CB	5:J:79:TYR:HB2	2.19	0.72
1:F:139:LEU:O	1:F:140:TRP:C	2.28	0.72
5:J:106:TYR:CD1	5:J:108:TYR:CE2	2.74	0.71
4:D:119:PRO:N	4:D:119:PRO:C	2.46	0.71
4:I:122:VAL:HB	4:I:232:VAL:CG1	2.19	0.71
1:F:236:LEU:C	1:F:243:TRP:HE3	1.98	0.71
3:H:20:ASN:HB3	3:H:80:THR:HA	1.72	0.71
1:A:25:ARG:HB2	6:K:1:NAG:H82	1.71	0.71
3:C:123:PRO:HB2	3:C:202:THR:HG22	1.71	0.71
4:D:53:THR:CG2	4:D:64:VAL:HG23	2.20	0.71
5:J:63:VAL:CG1	5:J:66:ARG:HB2	2.20	0.70
1:A:81:VAL:HA	1:A:84:PHE:HB2	1.73	0.70
2:B:30:PHE:H	2:B:30:PHE:HD2	1.39	0.70
3:H:121:PRO:O	3:H:123:PRO:HD3	1.90	0.70
4:I:213:GLY:H	4:I:229:THR:HG22	1.56	0.70
3:H:118:ILE:HD12	3:H:121:PRO:HB3	1.71	0.70
4:D:95:ARG:O	4:D:95:ARG:HG3	1.92	0.70
1:F:126:PHE:HE1	1:F:130:SER:CA	2.03	0.70
1:F:213:PRO:HG3	1:F:265:HIS:CE1	2.04	0.70
2:G:31:HIS:CD2	2:G:62:PHE:CZ	2.77	0.70
4:I:197:PHE:O	4:I:203:ASN:ND2	2.24	0.70
5:J:39:GLN:HB2	5:J:45:ARG:HD2	1.74	0.70
2:G:33:SER:HB3	2:G:62:PHE:CE2	2.26	0.70
3:C:20:ASN:HB3	3:C:80:THR:HA	1.74	0.69
2:B:42:ASN:OD1	2:B:76:ASP:HB2	1.92	0.69
5:E:33:VAL:HG23	5:E:52:ARG:H	1.57	0.69
2:B:16:GLU:O	2:B:17:ASN:ND2	2.25	0.69
1:F:61:GLN:HE21	1:F:61:GLN:N	1.90	0.69
6:L:2:NAG:C1	6:L:2:NAG:H82	2.22	0.69
1:F:185:VAL:HG11	1:F:211:PHE:HA	1.75	0.69
4:I:149:PRO:N	4:I:149:PRO:C	2.50	0.69
3:H:36:ARG:HB2	3:H:93:VAL:HB	1.72	0.69
1:A:79:ARG:NH2	3:C:101:LEU:O	2.26	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:187:PRO:HG3	1:A:211:PHE:HB3	1.74	0.68
5:J:87:PRO:HA	5:J:117:VAL:HG11	1.73	0.68
3:C:41:ASP:HB2	3:C:44:ARG:HB2	1.75	0.68
1:F:166:CYS:N	1:F:167:PRO:HD2	2.08	0.68
1:F:166:CYS:H	1:F:167:PRO:HD2	1.58	0.68
1:A:97:GLN:NE2	2:B:62:PHE:CZ	2.61	0.68
1:A:122:ASP:OD2	2:B:60:TRP:CZ3	2.46	0.68
1:A:220:TRP:HB2	1:A:230:THR:CG2	2.24	0.68
4:D:97:SER:O	4:D:99:GLU:N	2.22	0.68
1:F:25:ARG:CG	1:F:42:ASN:CG	2.66	0.68
4:D:157:TRP:HB2	4:D:206:ARG:HB3	1.76	0.67
1:F:237:PRO:CA	1:F:243:TRP:CE3	2.75	0.67
1:F:51:LYS:HG3	1:F:53:TRP:CE2	2.29	0.67
1:F:172:GLY:C	1:F:173:LEU:HD12	2.18	0.67
8:F:405:NAG:H83	8:F:405:NAG:H3	1.76	0.67
1:F:242:THR:CG2	1:F:243:TRP:N	2.57	0.67
3:H:36:ARG:NH2	4:I:98:TYR:O	2.26	0.67
5:J:20:LEU:HB2	5:J:80:LEU:HB3	1.75	0.67
5:J:28:MET:HE1	5:J:76:ASN:HD21	1.58	0.67
2:G:75:LYS:O	2:G:76:ASP:OD1	2.12	0.67
4:D:45:HIS:CD2	4:D:64:VAL:CG1	2.78	0.67
5:J:70:SER:OG	5:J:79:TYR:N	2.27	0.67
5:J:99:ILE:HG23	5:J:106:TYR:CE2	2.29	0.66
1:F:174:LEU:HD23	1:F:181:LEU:CD1	2.25	0.66
2:G:42:ASN:HA	2:G:77:GLU:HG2	1.76	0.66
1:A:149:ASN:C	1:A:150:GLN:NE2	2.50	0.66
4:D:63:THR:OG1	4:D:75:THR:CA	2.42	0.66
1:F:126:PHE:CD1	1:F:130:SER:O	2.49	0.66
2:G:75:LYS:C	2:G:76:ASP:OD1	2.38	0.66
6:L:1:NAG:H83	6:L:1:NAG:C1	2.24	0.66
4:D:53:THR:HG23	4:D:64:VAL:HG23	1.76	0.66
1:F:139:LEU:O	1:F:141:VAL:N	2.29	0.66
2:G:11:SER:HB3	2:G:95:TRP:CZ2	2.31	0.66
5:J:51:ILE:HD12	5:J:69:ILE:CG2	2.26	0.66
5:J:106:TYR:HD1	5:J:108:TYR:HE2	1.40	0.66
6:L:2:NAG:O6	6:L:2:NAG:O4	1.99	0.66
1:F:87:MET:HB2	4:I:48:TYR:CB	2.26	0.66
1:A:235:ILE:CG2	1:A:243:TRP:CE3	2.71	0.65
4:D:53:THR:HG21	4:D:64:VAL:O	1.96	0.65
1:F:35:LEU:HD12	1:F:35:LEU:N	2.10	0.65
2:G:56:PHE:CE1	2:G:60:TRP:HE3	2.10	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:38:ASP:OD1	2:G:81:ARG:NH2	2.28	0.65
3:H:15:ILE:HD11	3:H:114:VAL:HG22	1.78	0.65
4:D:3:TYR:O	4:D:22:SER:N	2.27	0.65
4:D:17:ILE:CD1	4:D:76:LEU:CD2	2.73	0.65
3:C:128:LEU:HD13	4:D:125:PHE:HB3	1.78	0.65
1:F:25:ARG:HG3	1:F:42:ASN:HB3	1.77	0.65
1:F:117:ALA:HA	1:F:122:ASP:HA	1.78	0.65
1:A:130:SER:OG	1:A:155:ARG:NH2	2.30	0.64
2:G:33:SER:HB3	2:G:62:PHE:HE2	1.60	0.64
1:A:213:PRO:HD2	1:A:265:HIS:CE1	2.33	0.64
5:J:99:ILE:HG23	5:J:106:TYR:HD2	1.58	0.64
1:A:192:SER:OG	1:A:207:HIS:NE2	2.29	0.64
1:A:212:TYR:CD2	1:A:213:PRO:HG3	2.33	0.64
1:F:51:LYS:HB2	1:F:54:SER:OG	1.98	0.64
1:A:127:GLN:HB2	1:A:132:GLU:HG3	1.79	0.64
1:A:256:ALA:HA	1:A:259:LEU:HD12	1.79	0.64
3:C:144:PHE:O	3:C:176:ASN:ND2	2.31	0.64
1:F:178:LYS:HG2	1:F:182:LYS:HD3	1.79	0.63
2:B:73:THR:HG22	2:B:75:LYS:N	1.99	0.63
5:J:98:THR:OG1	5:J:107:ASP:HA	1.98	0.63
1:A:150:GLN:HB3	4:D:98:TYR:HH	1.60	0.63
3:C:142:THR:OG1	4:D:192:ARG:NH1	2.30	0.63
4:I:175:LYS:HD3	4:I:178:PRO:HA	1.80	0.63
7:F:401:AGH:O5A	3:H:32:PHE:O	2.16	0.63
1:F:236:LEU:CB	1:F:237:PRO:CD	2.70	0.63
1:F:31:TRP:CE3	1:F:34:GLU:C	2.77	0.62
5:J:70:SER:HG	5:J:79:TYR:H	1.45	0.62
1:A:151:ASP:OD1	7:A:401:AGH:O2A	2.17	0.62
1:A:159:GLN:HG3	1:A:163:ASN:HB2	1.80	0.62
4:D:123:ALA:HB2	4:D:143:LEU:O	1.91	0.62
2:B:57:SER:OG	2:B:59:ASP:OD1	2.16	0.62
1:A:212:TYR:CD2	1:A:213:PRO:N	2.68	0.62
4:I:46:TYR:HE1	4:I:48:TYR:HE1	1.41	0.62
5:J:28:MET:CE	5:J:76:ASN:HD21	2.10	0.62
1:A:235:ILE:H	1:A:235:ILE:CD1	1.95	0.62
3:C:145:ASP:O	3:C:148:THR:OG1	2.18	0.62
3:C:181:TRP:HA	3:C:187:PHE:CZ	2.35	0.62
1:A:235:ILE:HD12	1:A:235:ILE:N	2.02	0.62
4:D:17:ILE:CD1	4:D:76:LEU:CB	2.57	0.62
4:D:45:HIS:HB3	4:D:64:VAL:HG11	1.80	0.62
4:D:64:VAL:HG23	4:D:64:VAL:O	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:168:CYS:O	4:D:168:CYS:SG	2.57	0.61
4:I:214:LEU:CD1	4:I:227:PRO:O	2.47	0.61
1:A:221:MET:O	1:A:260:SER:N	2.31	0.61
2:B:73:THR:HG22	2:B:74:GLU:N	2.15	0.61
1:F:242:THR:CG2	1:F:243:TRP:H	2.12	0.61
1:A:274:VAL:HG23	1:A:274:VAL:O	2.00	0.61
2:G:24:ASN:HB3	2:G:65:LEU:HD11	1.82	0.61
1:F:54:SER:CA	1:F:173:LEU:HD23	2.31	0.61
1:A:97:GLN:NE2	2:B:62:PHE:CE1	2.68	0.61
1:F:51:LYS:HG3	1:F:53:TRP:CZ2	2.35	0.61
2:G:27:VAL:HG23	2:G:27:VAL:O	1.99	0.61
1:A:98:VAL:HG22	1:A:116:VAL:HG12	1.82	0.61
5:E:107:ASP:OD2	5:E:109:TRP:NE1	2.33	0.61
4:D:32:TRP:NE1	4:D:72:PHE:CE2	2.69	0.61
5:E:22:CYS:HB2	5:E:36:TRP:CZ2	2.36	0.61
5:E:33:VAL:HG12	5:E:98:THR:O	2.01	0.61
5:E:34:MET:HG3	5:E:97:HIS:HD2	1.60	0.61
1:F:174:LEU:HD23	1:F:181:LEU:HD13	1.81	0.61
3:C:154:LYS:HZ1	3:C:158:VAL:HG21	1.66	0.61
3:H:8:GLN:OE1	3:H:92:CYS:N	2.34	0.61
4:D:92:THR:HG22	4:D:100:GLN:HA	1.83	0.60
4:I:176:GLU:HG3	4:I:184:ARG:HB2	1.82	0.60
1:F:137:ALA:HB1	1:F:138:PRO:CD	2.24	0.60
5:J:7:SER:HG	5:J:21[A]:SER:HG	1.49	0.60
3:C:150:VAL:HA	3:C:196:SER:HB3	1.83	0.60
1:F:139:LEU:O	1:F:142:ASN:N	2.33	0.60
1:F:24:THR:HG23	6:L:1:NAG:H82	1.82	0.60
5:J:63:VAL:HG12	5:J:63:VAL:O	2.00	0.60
2:B:42:ASN:OD1	2:B:76:ASP:CB	2.49	0.60
1:F:166:CYS:SG	1:F:167:PRO:N	2.66	0.60
7:F:401:AGH:O3	3:H:97:ARG:NE	2.31	0.60
4:I:93:SER:O	4:I:98:TYR:HD1	1.84	0.60
4:I:149:PRO:O	4:I:149:PRO:HG2	2.02	0.60
1:A:14:GLN:HB3	1:A:98:VAL:HB	1.83	0.60
1:A:220:TRP:H	1:A:230:THR:CG2	2.07	0.60
5:E:12:VAL:O	5:E:118:SER:N	2.34	0.60
1:F:41:SER:OG	1:F:44:SER:N	2.33	0.60
4:D:32:TRP:NE1	4:D:72:PHE:CD2	2.69	0.60
4:D:63:THR:OG1	4:D:75:THR:CB	2.49	0.60
1:F:126:PHE:CE1	1:F:130:SER:CA	2.85	0.60
5:J:4:LEU:HD13	5:J:110:GLY:HA2	1.84	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:62:GLN:HE21	5:E:27:SER:CA	2.15	0.60
2:G:35:ILE:HD13	2:G:84:HIS:HD2	1.66	0.60
4:I:224:ARG:HH21	4:I:227:PRO:HG3	1.65	0.60
5:J:72:ASP:HB3	5:J:75:LYS:HB3	1.84	0.60
1:A:146:GLN:O	1:A:150:GLN:HG2	2.02	0.60
1:A:160:TRP:HH2	5:E:29:PHE:HE2	1.47	0.60
1:F:54:SER:O	1:F:173:LEU:HD22	1.96	0.60
1:F:20:ASN:OD1	1:F:20:ASN:N	2.33	0.59
4:I:139:THR:HG23	4:I:192:ARG:HB2	1.84	0.59
1:A:18:PHE:HB2	1:A:94:LEU:HB2	1.83	0.59
1:F:56:GLY:HA3	1:F:173:LEU:HD11	1.83	0.59
2:B:29:GLY:HA2	2:B:61:SER:HB2	1.84	0.59
5:E:34:MET:HG2	5:E:97:HIS:CD2	2.37	0.59
5:J:62:SER:C	5:J:64:LYS:N	2.53	0.59
3:H:144:PHE:O	3:H:176:ASN:ND2	2.35	0.59
5:J:101:VAL:HG23	5:J:104:THR:HG21	1.83	0.59
1:F:16:SER:OG	1:F:26:THR:HG23	2.02	0.59
1:A:160:TRP:CH2	5:E:29:PHE:CE2	2.91	0.59
1:F:149:ASN:HA	1:F:155:ARG:HD2	1.85	0.59
5:J:106:TYR:CE1	5:J:108:TYR:HE2	2.19	0.59
4:D:83:HIS:O	4:D:87:TYR:OH	2.21	0.59
1:F:56:GLY:HA3	1:F:173:LEU:HG	1.83	0.59
1:F:141:VAL:O	1:F:145:ILE:N	2.32	0.59
3:C:35:LEU:HD23	3:C:94:VAL:HG22	1.85	0.59
1:F:238:ASN:CB	1:F:242:THR:HB	2.32	0.58
5:J:53:THR:HG23	5:J:53:THR:O	2.01	0.58
1:F:56:GLY:HA3	1:F:173:LEU:CG	2.33	0.58
1:A:129:THR:HG22	1:A:129:THR:O	2.03	0.58
3:C:17:GLU:N	3:C:115:TRP:O	2.35	0.58
1:A:79:ARG:O	1:A:80:ASP:C	2.45	0.58
5:E:3:GLN:HB3	5:E:25:SER:N	2.19	0.58
3:C:128:LEU:HB2	4:D:126:GLU:O	2.04	0.58
1:F:112:ASN:ND2	1:F:162:LEU:HD23	2.19	0.58
1:F:166:CYS:N	1:F:167:PRO:CD	2.67	0.58
4:I:83:HIS:O	4:I:87:TYR:OH	2.22	0.58
1:A:212:TYR:HD2	1:A:213:PRO:N	2.02	0.58
4:D:45:HIS:CD2	4:D:64:VAL:HG13	2.38	0.58
4:D:122:VAL:HG23	4:D:123:ALA:H	1.68	0.58
4:I:200:ASN:ND2	4:I:203:ASN:OD1	2.36	0.58
1:F:11:ARG:HB2	1:F:31:TRP:HB2	1.85	0.58
1:F:213:PRO:HB2	1:F:215:PRO:HD2	1.86	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:J:51:ILE:CD1	5:J:69:ILE:HG23	2.34	0.58
4:D:61:GLU:O	4:D:76:LEU:CD1	2.52	0.58
4:D:168:CYS:SG	4:D:190:ARG:NH2	2.71	0.58
4:D:23:GLN:NE2	4:D:25:MET:HB2	2.19	0.57
5:E:3:GLN:HB3	5:E:25:SER:H	1.67	0.57
1:F:53:TRP:H	1:F:53:TRP:HD1	1.48	0.57
3:C:154:LYS:HD2	3:C:155:ASP:N	2.19	0.57
1:F:55:GLN:C	1:F:173:LEU:HD11	2.29	0.57
3:C:36:ARG:NH1	4:D:98:TYR:O	2.38	0.57
5:J:59:TYR:HE1	5:J:67:PHE:O	1.86	0.57
1:A:139:LEU:C	1:A:141:VAL:N	2.62	0.57
1:A:62:GLN:NE2	5:E:27:SER:O	2.38	0.57
3:C:96:ASP:OD1	3:C:103:ARG:N	2.37	0.57
5:E:74:ALA:C	5:E:76:ASN:H	2.11	0.57
3:C:40:GLN:HB2	3:C:46:PRO:HB3	1.87	0.57
1:A:196:SER:OG	1:A:198:GLY:O	2.22	0.57
1:F:244:TYR:CE2	2:G:10:TYR:CD2	2.85	0.57
2:G:55:SER:O	2:G:62:PHE:CA	2.53	0.57
1:A:27:ASP:OD1	1:A:42:ASN:N	2.37	0.57
1:A:212:TYR:HB3	1:A:213:PRO:HD3	0.64	0.57
1:F:169:PHE:CE1	1:F:173:LEU:HD13	2.40	0.57
4:D:53:THR:CG2	4:D:64:VAL:O	2.51	0.57
1:F:41:SER:OG	1:F:41:SER:O	2.19	0.57
1:F:96:LEU:C	1:F:97:GLN:HG3	2.28	0.57
1:A:62:GLN:NE2	5:E:27:SER:CA	2.68	0.56
3:H:23:LEU:HB2	3:H:77:LEU:HB3	1.87	0.56
4:D:219:GLU:CD	4:D:219:GLU:H	2.13	0.56
1:A:124:LEU:C	1:A:124:LEU:HD12	2.30	0.56
3:C:138:VAL:HG23	3:C:181:TRP:HB3	1.87	0.56
1:F:25:ARG:HG2	1:F:42:ASN:HB2	1.86	0.56
3:H:116:PRO:O	3:H:146:SER:OG	2.16	0.56
1:F:84:PHE:HD1	1:F:88:LEU:HD11	1.70	0.56
1:F:235:ILE:HG22	1:F:235:ILE:O	2.04	0.56
1:F:84:PHE:HA	1:F:87:MET:HG2	1.87	0.56
1:F:55:GLN:NE2	1:F:59:SER:O	2.39	0.56
2:G:6:LYS:HB2	2:G:28:SER:O	2.06	0.56
4:D:122:VAL:HB	4:D:234:ALA:HB2	1.88	0.56
1:F:169:PHE:CZ	1:F:173:LEU:HD22	2.41	0.56
3:H:184:LYS:O	3:H:185:SER:C	2.44	0.56
1:A:160:TRP:HH2	5:E:29:PHE:CE2	2.23	0.56
1:A:275:LEU:HD21	1:A:279:SER:OG	2.05	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:56:PHE:CD1	2:B:60:TRP:HA	2.41	0.56
3:C:108:ARG:HH12	5:J:4:LEU:HD11	1.71	0.56
1:F:53:TRP:CD1	1:F:53:TRP:N	2.73	0.56
4:D:44:ILE:HG12	4:D:45:HIS:CD2	2.41	0.56
4:I:45:HIS:NE2	4:I:62:SER:OG	2.09	0.56
1:A:117:ALA:CA	1:A:122:ASP:HA	2.29	0.55
4:D:32:TRP:CD1	4:D:72:PHE:CD2	2.91	0.55
1:F:84:PHE:O	1:F:85:ALA:C	2.47	0.55
1:F:141:VAL:O	1:F:144:ALA:N	2.40	0.55
4:I:63:THR:HG22	4:I:63:THR:O	2.07	0.55
2:B:35:ILE:HG22	2:B:84:HIS:HD2	1.69	0.55
1:F:185:VAL:HG13	1:F:211:PHE:HA	1.86	0.55
3:H:23:LEU:HD12	3:H:77:LEU:HD23	1.88	0.55
3:C:40:GLN:HA	3:C:46:PRO:HA	1.87	0.55
4:D:199:GLN:HG3	4:D:240:ALA:HA	1.88	0.55
1:A:232:PRO:HA	1:A:247:ALA:HA	1.87	0.55
1:F:28:GLY:N	1:F:40:TRP:O	2.30	0.55
4:I:66:ARG:NH2	4:I:69:THR:O	2.30	0.55
3:C:154:LYS:NZ	3:C:158:VAL:HG21	2.20	0.55
4:I:46:TYR:HE1	4:I:48:TYR:CD1	2.25	0.55
1:A:227:GLN:HE21	1:A:227:GLN:HA	1.71	0.55
1:A:277:TRP:CD1	1:A:277:TRP:C	2.84	0.55
5:E:72:ASP:CB	5:E:77:THR:H	2.01	0.55
3:H:63:ARG:NH2	3:H:83:GLN:HB2	2.22	0.55
1:A:238:ASN:ND2	1:A:242:THR:O	2.39	0.55
5:E:63:VAL:HA	5:E:66:ARG:HD3	1.89	0.55
1:F:104:VAL:HG23	1:F:109:ALA:O	2.06	0.55
5:J:51:ILE:HD12	5:J:69:ILE:CG1	2.37	0.55
1:A:160:TRP:CE3	1:A:161:LEU:HD23	2.42	0.55
2:B:77:GLU:O	2:B:77:GLU:HG3	2.00	0.55
4:D:123:ALA:CB	4:D:143:LEU:C	2.68	0.55
2:G:56:PHE:HB3	2:G:62:PHE:HB3	1.89	0.55
4:D:147:PHE:CE2	4:D:185:TYR:HB2	2.42	0.55
2:G:4:THR:O	2:G:29:GLY:O	2.25	0.55
3:H:134:SER:OG	3:H:135:ASP:N	2.38	0.55
4:I:188:SER:OG	4:I:190:ARG:NH2	2.40	0.55
1:F:25:ARG:CG	1:F:42:ASN:OD1	2.55	0.55
1:F:213:PRO:CD	1:F:265:HIS:HE1	2.10	0.55
1:A:227:GLN:HA	1:A:227:GLN:NE2	2.22	0.54
5:E:75:LYS:O	5:E:76:ASN:C	2.50	0.54
1:A:212:TYR:HD2	1:A:213:PRO:HG3	1.71	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:147:PHE:C	4:D:147:PHE:CD2	2.85	0.54
4:D:159:ASN:OD1	4:D:204:HIS:N	2.35	0.54
2:G:51:HIS:HB3	2:G:66:TYR:CZ	2.42	0.54
4:I:155:SER:OG	4:I:208:GLN:HB3	2.08	0.54
1:A:212:TYR:CD2	1:A:212:TYR:C	2.85	0.54
5:J:59:TYR:C	5:J:61:ASP:N	2.66	0.54
3:H:39:LYS:HB2	3:H:49:LEU:HD11	1.89	0.54
1:A:70:PHE:HA	1:A:73:TYR:HB3	1.90	0.54
1:A:220:TRP:CD1	1:A:230:THR:HG23	2.42	0.54
5:J:39:GLN:OE1	5:J:45:ARG:HD3	2.08	0.54
2:B:54:LEU:HB3	2:B:64:LEU:HD22	1.89	0.54
1:F:84:PHE:O	1:F:87:MET:N	2.37	0.54
1:F:262:ARG:HA	1:F:274:VAL:HG22	1.90	0.54
3:H:168:MET:HB2	3:H:174:LYS:HG2	1.90	0.54
1:A:160:TRP:CE3	1:A:161:LEU:CD2	2.91	0.54
2:G:23:LEU:C	2:G:24:ASN:ND2	2.66	0.53
6:L:1:NAG:C1	6:L:1:NAG:C8	2.85	0.53
1:A:214:LYS:CB	1:A:215:PRO:HD3	2.38	0.53
1:F:194:GLY:HA3	1:F:203:LEU:HB3	1.89	0.53
1:F:51:LYS:CB	1:F:54:SER:OG	2.57	0.53
8:F:405:NAG:H83	8:F:405:NAG:O3	2.08	0.53
1:F:236:LEU:CD1	1:F:236:LEU:N	2.72	0.53
1:A:235:ILE:C	1:A:236:LEU:HD23	2.33	0.53
3:H:159:TYR:CD2	3:H:181:TRP:CH2	2.96	0.53
5:J:63:VAL:HG13	5:J:66:ARG:CB	2.34	0.53
5:E:72:ASP:OD2	5:E:75:LYS:N	2.40	0.53
1:F:134:THR:HG22	1:F:136:GLU:H	1.74	0.53
3:H:118:ILE:CD1	3:H:145:ASP:HA	2.38	0.53
1:F:41:SER:C	1:F:43:ASP:H	2.16	0.52
4:I:214:LEU:N	4:I:214:LEU:CD1	2.71	0.52
5:J:62:SER:O	5:J:64:LYS:N	2.35	0.52
1:A:212:TYR:HD2	1:A:213:PRO:CA	2.22	0.52
1:F:87:MET:HB2	4:I:48:TYR:HB3	1.91	0.52
1:F:118:PHE:HB2	1:F:123:ILE:HD13	1.90	0.52
4:I:45:HIS:CD2	4:I:64:VAL:HB	2.43	0.52
1:A:197:PRO:HD3	1:A:203:LEU:HB2	1.90	0.52
4:D:191:LEU:CD1	4:D:192:ARG:N	2.64	0.52
1:F:68:HIS:O	1:F:70:PHE:N	2.43	0.52
1:F:236:LEU:N	1:F:244:TYR:O	2.42	0.52
3:H:118:ILE:HD13	3:H:144:PHE:O	2.10	0.52
1:A:44:SER:O	1:A:74:ARG:NH2	2.35	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:D:180:LEU:HB3	4:D:183:SER:HB2	1.91	0.52
1:F:19:ALA:HB3	1:F:23:TRP:HB3	1.91	0.52
5:J:104:THR:HB	5:J:105:PRO:HD2	1.91	0.52
2:B:87:LEU:HD13	2:B:90:PRO:HA	1.90	0.52
1:F:19:ALA:CB	1:F:23:TRP:HB3	2.39	0.52
4:I:4:GLN:HB2	4:I:20:GLU:O	2.10	0.52
2:B:56:PHE:HA	2:B:62:PHE:HA	1.91	0.52
1:F:24:THR:O	6:L:1:NAG:H82	2.10	0.52
2:G:12:ARG:HG2	2:G:22:PHE:C	2.35	0.52
4:I:232:VAL:O	4:I:232:VAL:HG12	2.09	0.52
2:B:64:LEU:HD12	2:B:65:LEU:H	1.74	0.52
5:E:34:MET:CG	5:E:97:HIS:HD2	2.16	0.52
5:E:63:VAL:HB	5:E:67:PHE:CD1	2.45	0.52
1:F:174:LEU:HD23	1:F:181:LEU:HD11	1.92	0.52
1:F:185:VAL:HG11	1:F:211:PHE:CA	2.38	0.52
1:F:236:LEU:N	1:F:236:LEU:HD12	2.25	0.52
1:A:63:TRP:HA	1:A:63:TRP:CE3	2.43	0.52
1:A:63:TRP:HA	1:A:63:TRP:HE3	1.76	0.52
6:L:2:NAG:C1	6:L:2:NAG:C8	2.85	0.51
1:A:150:GLN:NE2	1:A:150:GLN:CA	2.72	0.51
2:B:73:THR:CG2	2:B:74:GLU:N	2.74	0.51
1:F:25:ARG:NE	1:F:42:ASN:HB3	2.26	0.51
2:G:56:PHE:HE1	2:G:60:TRP:CZ3	2.28	0.51
3:H:36:ARG:N	3:H:93:VAL:O	2.40	0.51
1:A:153:TRP:CH2	3:C:55:SER:HB3	2.45	0.51
1:A:161:LEU:HA	1:A:165:THR:OG1	2.10	0.51
4:D:198:TRP:CZ2	4:D:239:ARG:HB3	2.46	0.51
2:G:62:PHE:HD1	2:G:62:PHE:O	1.93	0.51
1:A:85:ALA:O	1:A:89:ARG:N	2.44	0.51
2:B:49:VAL:HG23	2:B:68:THR:OG1	2.11	0.51
3:H:39:LYS:HG3	3:H:90:TYR:HE1	1.74	0.51
5:E:6:GLU:OE1	5:E:112:GLY:N	2.33	0.51
4:I:35:GLN:HB2	4:I:41:LEU:HD23	1.91	0.51
4:I:45:HIS:HD2	4:I:74:LEU:CD1	2.24	0.51
4:D:155:SER:OG	4:D:157:TRP:NE1	2.40	0.51
5:J:39:GLN:O	5:J:39:GLN:HG2	2.10	0.51
5:E:52:ARG:O	5:E:53:THR:C	2.53	0.51
1:F:126:PHE:CE1	1:F:130:SER:N	2.79	0.51
3:H:159:TYR:HD2	3:H:181:TRP:CE2	2.26	0.51
1:F:40:TRP:HE3	1:F:47:VAL:CA	2.23	0.51
1:F:41:SER:O	1:F:43:ASP:N	2.44	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:122:ASP:OD2	2:B:60:TRP:HH2	1.87	0.51
1:A:161:LEU:HB3	7:A:401:AGH:HAY1	1.91	0.51
2:B:30:PHE:CE2	2:B:62:PHE:HB3	2.44	0.51
2:B:30:PHE:CD2	2:B:30:PHE:N	2.72	0.51
1:F:126:PHE:CE1	1:F:130:SER:O	2.64	0.51
2:G:55:SER:O	2:G:62:PHE:HB3	2.11	0.51
1:A:58:PHE:HB3	1:A:62:GLN:CB	2.38	0.51
5:E:72:ASP:CB	5:E:77:THR:O	2.59	0.51
8:F:405:NAG:C3	8:F:405:NAG:C8	2.85	0.51
1:A:59:SER:C	1:A:61:GLN:H	2.18	0.50
4:D:150:ASP:HB2	4:D:173:PRO:HG2	1.93	0.50
5:E:66:ARG:NH2	5:E:89:ASP:OD2	2.42	0.50
5:J:5:VAL:O	5:J:22:CYS:HA	2.10	0.50
5:J:97:HIS:CE1	5:J:106:TYR:OH	2.65	0.50
5:J:106:TYR:HD1	5:J:108:TYR:CE2	2.23	0.50
1:F:54:SER:CA	1:F:173:LEU:CD2	2.88	0.50
4:D:152:VAL:HG23	4:D:209:VAL:HG13	1.93	0.50
5:J:70:SER:OG	5:J:79:TYR:CA	2.59	0.50
1:A:184:GLN:NE2	1:A:213:PRO:HG2	2.27	0.50
4:D:8:TYR:HB3	4:D:151:HIS:CD2	2.47	0.50
4:D:62:SER:HA	4:D:76:LEU:HD13	1.93	0.50
1:A:187:PRO:HG3	1:A:211:PHE:CB	2.40	0.50
3:C:161:THR:HG22	3:C:179:VAL:O	2.12	0.50
5:E:33:VAL:CG1	5:E:98:THR:O	2.60	0.50
1:F:30:ALA:O	1:F:36:GLN:HA	2.11	0.50
1:F:35:LEU:N	1:F:35:LEU:CD1	2.73	0.50
1:F:126:PHE:CD2	1:F:158:VAL:HG11	2.47	0.50
4:I:120:PRO:HB2	4:I:144:ALA:HB1	1.94	0.50
5:E:6:GLU:CD	5:E:110:GLY:HA3	2.36	0.50
1:F:78:THR:O	1:F:82:LYS:HG3	2.11	0.50
4:I:195:ALA:O	4:I:199:GLN:HG2	2.10	0.50
5:J:99:ILE:HG13	5:J:101:VAL:HG22	1.92	0.50
1:A:211:PHE:O	1:A:242:THR:HB	2.12	0.50
4:I:5:THR:HB	4:I:20:GLU:HB2	1.93	0.50
4:D:125:PHE:HB2	4:D:141:VAL:HG13	1.93	0.49
5:E:59:TYR:HE1	5:E:69:ILE:HG23	1.77	0.49
1:A:59:SER:H	1:A:62:GLN:HG3	1.77	0.49
4:D:45:HIS:ND1	4:D:55:LYS:HA	2.28	0.49
1:F:28:GLY:CA	1:F:40:TRP:HB3	2.42	0.49
1:F:218:VAL:HG22	1:F:263:VAL:HG13	1.93	0.49
1:A:213:PRO:HD2	1:A:265:HIS:HE1	1.76	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:55:GLN:NE2	1:F:59:SER:C	2.70	0.49
1:F:230:THR:HG22	1:F:232:PRO:HD3	1.94	0.49
2:G:62:PHE:CD1	2:G:62:PHE:N	2.72	0.49
4:I:214:LEU:HD13	4:I:227:PRO:C	2.37	0.49
5:E:60:ALA:HB3	5:E:63:VAL:HG22	1.94	0.49
3:H:159:TYR:OH	4:I:176:GLU:CD	2.54	0.49
4:I:150:ASP:CG	4:I:173:PRO:HG2	2.37	0.49
1:F:87:MET:HE3	4:I:48:TYR:HB3	1.94	0.49
4:I:11:ILE:HG22	4:I:110:VAL:HG22	1.94	0.49
5:J:70:SER:OG	5:J:79:TYR:O	2.30	0.49
1:A:76:SER:O	3:C:97:ARG:NH2	2.46	0.49
1:A:212:TYR:HD2	1:A:213:PRO:CG	2.25	0.49
4:D:137:LYS:HG2	4:D:194:SER:HA	1.95	0.49
3:H:127:GLN:NE2	3:H:139:CYS:SG	2.86	0.49
1:F:38:HIS:CD2	1:F:49:SER:HA	2.47	0.49
1:F:245:LEU:HD12	1:F:246:ARG:H	1.77	0.49
4:I:88:LEU:HD23	4:I:105:GLY:HA3	1.94	0.49
1:F:217:TRP:O	1:F:264:LYS:N	2.41	0.49
4:I:33:TYR:CZ	4:I:43:LEU:HD13	2.48	0.48
4:I:113:ASP:O	4:I:116:ASN:ND2	2.37	0.48
1:A:160:TRP:CZ3	1:A:161:LEU:HD21	2.47	0.48
5:E:6:GLU:OE2	5:E:95:CYS:HB3	2.12	0.48
3:H:175:SER:OG	3:H:176:ASN:N	2.46	0.48
4:D:123:ALA:HB1	4:D:143:LEU:O	1.98	0.48
1:F:212:TYR:CG	1:F:212:TYR:O	2.65	0.48
3:H:32:PHE:HE2	3:H:54:PHE:HB3	1.78	0.48
5:J:97:HIS:HE1	5:J:106:TYR:OH	1.96	0.48
1:A:139:LEU:C	1:A:139:LEU:CD2	2.84	0.48
3:C:145:ASP:HB3	3:C:147:GLN:CD	2.38	0.48
5:E:18:LEU:N	5:E:82:MET:O	2.45	0.48
1:F:168:GLN:O	1:F:168:GLN:HG2	2.13	0.48
1:A:18:PHE:CZ	1:A:81:VAL:HG21	2.48	0.48
4:D:53:THR:HG23	4:D:64:VAL:CG2	2.42	0.48
4:D:195:ALA:O	4:D:198:TRP:N	2.47	0.48
1:F:112:ASN:ND2	1:F:162:LEU:HB3	2.28	0.48
2:B:54:LEU:HA	2:B:64:LEU:HD13	1.94	0.48
4:D:17:ILE:HD12	4:D:76:LEU:CD2	2.41	0.48
4:D:72:PHE:CD2	4:D:72:PHE:O	2.67	0.48
5:E:39:GLN:N	5:E:92:VAL:O	2.46	0.48
1:F:41:SER:C	1:F:43:ASP:N	2.70	0.48
3:H:36:ARG:O	3:H:93:VAL:N	2.37	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:I:155:SER:HG	4:I:208:GLN:HB3	1.79	0.48
4:I:155:SER:N	4:I:208:GLN:O	2.47	0.48
4:D:197:PHE:O	4:D:203:ASN:ND2	2.47	0.48
1:A:220:TRP:HD1	1:A:230:THR:HG23	1.77	0.47
3:C:40:GLN:O	3:C:88:ALA:HB1	2.14	0.47
4:D:140:LEU:N	4:D:191:LEU:O	2.43	0.47
1:F:32:LEU:O	1:F:34:GLU:N	2.47	0.47
3:H:161:THR:HG22	3:H:179:VAL:O	2.14	0.47
1:F:165:THR:O	1:F:165:THR:HG22	2.14	0.47
4:I:224:ARG:NH2	4:I:227:PRO:HG3	2.30	0.47
2:B:41:LYS:HG3	2:B:78:TYR:HE1	1.79	0.47
3:H:25:CYS:HB3	3:H:75:SER:HB3	1.95	0.47
1:A:62:GLN:HE22	5:E:27:SER:C	2.18	0.47
1:F:211:PHE:N	1:F:242:THR:HG23	2.29	0.47
6:L:1:NAG:C4	6:L:1:NAG:C7	2.91	0.47
3:C:39:LYS:HB2	3:C:49:LEU:HD11	1.96	0.47
5:E:82:MET:HB3	5:E:85:LEU:HD21	1.95	0.47
5:E:98:THR:HB	5:E:107:ASP:HA	1.96	0.47
1:F:177:GLY:O	1:F:181:LEU:CG	2.53	0.47
1:F:178:LYS:HA	1:F:181:LEU:HD12	1.96	0.47
1:A:59:SER:C	1:A:61:GLN:N	2.71	0.47
1:F:25:ARG:CG	1:F:42:ASN:HB3	2.40	0.47
1:A:159:GLN:O	1:A:163:ASN:N	2.47	0.47
1:A:217:TRP:O	1:A:217:TRP:HE3	1.97	0.47
3:C:23:LEU:O	3:C:77:LEU:N	2.47	0.47
4:D:23:GLN:HE22	4:D:25:MET:HB2	1.78	0.47
4:D:118:PHE:HB2	4:D:147:PHE:HA	1.97	0.47
4:D:157:TRP:N	4:D:206:ARG:O	2.47	0.47
1:F:16:SER:OG	1:F:26:THR:CG2	2.63	0.47
1:F:68:HIS:O	1:F:69:ILE:C	2.58	0.47
3:H:20:ASN:OD1	3:H:20:ASN:N	2.46	0.47
1:A:153:TRP:CZ2	3:C:55:SER:HB3	2.50	0.47
3:C:36:ARG:HB2	3:C:93:VAL:HB	1.96	0.47
1:F:79:ARG:HA	1:F:82:LYS:HD2	1.96	0.47
4:I:122:VAL:HA	4:I:143:LEU:O	2.15	0.47
4:D:47:SER:OG	4:D:49:GLY:O	2.33	0.47
1:F:126:PHE:CD1	1:F:130:SER:C	2.93	0.47
5:J:70:SER:HG	5:J:79:TYR:N	2.10	0.47
5:J:98:THR:CG2	5:J:106:TYR:O	2.47	0.47
2:B:36:GLU:O	2:B:82:VAL:HA	2.15	0.47
2:B:84:HIS:H	2:B:87:LEU:HD11	1.80	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:53:TRP:O	1:F:173:LEU:HG	2.15	0.47
1:F:213:PRO:CD	1:F:265:HIS:CE1	2.90	0.47
1:A:213:PRO:O	1:A:214:LYS:C	2.58	0.46
1:F:277:TRP:O	1:F:277:TRP:CD1	2.68	0.46
1:A:277:TRP:CD1	1:A:277:TRP:O	2.68	0.46
3:C:152:GLN:O	3:C:195:ASN:ND2	2.43	0.46
4:D:119:PRO:HD3	4:D:227:PRO:HB3	1.97	0.46
1:F:105:HIS:O	1:F:106:PRO:C	2.56	0.46
1:F:117:ALA:HB2	2:G:60:TRP:CE2	2.50	0.46
1:F:213:PRO:HG2	1:F:265:HIS:HE2	1.76	0.46
3:H:164:CYS:HG	4:I:168:CYS:CB	2.00	0.46
1:F:160:TRP:O	1:F:160:TRP:CG	2.68	0.46
1:A:118:PHE:CD1	1:A:119:GLN:HG2	2.50	0.46
4:D:9:LEU:HD23	4:D:10:VAL:N	2.29	0.46
4:D:213:GLY:N	4:D:229:THR:OG1	2.48	0.46
2:G:11:SER:HB3	2:G:95:TRP:HZ2	1.76	0.46
1:A:150:GLN:N	1:A:150:GLN:NE2	2.58	0.46
3:C:35:LEU:HD22	3:C:36:ARG:H	1.81	0.46
5:E:5:VAL:HG13	5:E:23:ALA:H	1.79	0.46
5:E:50:THR:OG1	5:E:57:THR:OG1	2.23	0.46
2:G:31:HIS:HA	2:G:62:PHE:CE1	2.51	0.46
1:F:178:LYS:O	1:F:179:SER:C	2.58	0.46
3:C:199:PRO:HB2	3:C:201:ASP:OD1	2.16	0.46
4:D:63:THR:N	4:D:75:THR:O	2.47	0.46
2:B:30:PHE:HE2	2:B:62:PHE:CA	2.26	0.46
1:F:56:GLY:CA	1:F:173:LEU:HG	2.46	0.46
1:F:105:HIS:CB	1:F:109:ALA:HB3	2.46	0.46
4:I:23:GLN:HG2	4:I:25:MET:H	1.80	0.46
2:G:55:SER:OG	2:G:56:PHE:N	2.49	0.46
4:I:152:VAL:HA	4:I:210:GLN:O	2.15	0.46
5:E:57:THR:OG1	5:E:58:ASN:N	2.49	0.45
3:H:141:PHE:CB	3:H:144:PHE:HZ	2.28	0.45
4:I:170:ASP:OD1	4:I:171:PRO:HD2	2.17	0.45
1:A:62:GLN:O	1:A:66:LEU:CD2	2.64	0.45
4:D:144:ALA:HB3	4:D:187:LEU:CD2	2.46	0.45
5:E:30:SER:HB3	5:E:31:ASP:H	1.58	0.45
1:F:222:ARG:HG3	1:F:259:LEU:HD23	1.98	0.45
5:E:75:LYS:CB	5:E:77:THR:HG23	2.45	0.45
4:I:210:GLN:HE22	4:I:231:ILE:HD11	1.82	0.45
1:A:191:LEU:HG	1:A:275:LEU:HD13	1.98	0.45
1:A:221:MET:O	1:A:260:SER:O	2.35	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:18:LEU:O	5:E:82:MET:N	2.48	0.45
1:F:206:CYS:HB2	1:F:220:TRP:CZ2	2.51	0.45
2:G:24:ASN:ND2	2:G:67:TYR:CB	2.79	0.45
4:I:17:ILE:HD11	4:I:79:ALA:HB2	1.98	0.45
5:J:36:TRP:CZ3	5:J:80:LEU:HB2	2.52	0.45
1:A:190:TRP:CE2	2:B:14:PRO:HB3	2.52	0.45
2:B:87:LEU:HD12	2:B:87:LEU:O	2.16	0.45
1:F:61:GLN:NE2	1:F:61:GLN:N	2.43	0.45
1:F:234:ASP:O	1:F:236:LEU:HD13	2.16	0.45
3:H:122:ASP:O	3:H:143:ASP:HB2	2.17	0.45
1:A:211:PHE:O	1:A:242:THR:HA	2.17	0.45
4:I:45:HIS:HD2	4:I:74:LEU:HD12	1.81	0.45
1:A:150:GLN:NE2	1:A:150:GLN:HA	2.30	0.45
2:B:70:PHE:CE2	2:B:72:PRO:HB3	2.42	0.45
2:G:55:SER:O	2:G:62:PHE:HA	2.17	0.45
4:D:97:SER:C	4:D:99:GLU:N	2.75	0.45
1:F:240:ASP:OD2	1:F:240:ASP:N	2.49	0.45
2:G:38:ASP:OD2	2:G:81:ARG:NH1	2.38	0.45
5:E:101:VAL:O	5:E:101:VAL:HG23	2.17	0.45
1:F:84:PHE:O	1:F:88:LEU:N	2.43	0.45
3:C:108:ARG:NH1	5:J:4:LEU:HD11	2.32	0.45
1:F:38:HIS:CE1	1:F:54:SER:HB3	2.52	0.45
1:A:222:ARG:HA	1:A:259:LEU:HA	1.98	0.44
2:G:21:ASN:OD1	2:G:22:PHE:N	2.50	0.44
3:H:164:CYS:SG	4:I:168:CYS:O	2.61	0.44
3:C:72:THR:HG23	3:C:74:GLN:HB3	2.00	0.44
1:F:259:LEU:N	1:F:277:TRP:HB3	2.32	0.44
2:G:56:PHE:CA	2:G:62:PHE:HA	2.38	0.44
1:A:58:PHE:CB	1:A:62:GLN:HB2	2.43	0.44
5:E:2:VAL:HG22	5:E:3:GLN:H	1.82	0.44
2:B:30:PHE:HE2	2:B:63:TYR:N	2.09	0.44
1:F:87:MET:HB2	4:I:48:TYR:HB2	1.98	0.44
3:H:64:TYR:CD1	3:H:79:ILE:HD13	2.52	0.44
4:I:159:ASN:HD21	4:I:203:ASN:HA	1.82	0.44
2:G:3:ARG:HE	2:G:3:ARG:HB2	1.57	0.44
2:G:38:ASP:OD2	2:G:38:ASP:N	2.50	0.44
3:H:35:LEU:HD23	3:H:94:VAL:HG22	1.99	0.44
1:A:160:TRP:CZ3	1:A:161:LEU:CD2	3.00	0.44
1:A:193:ARG:HG3	1:A:202:LEU:HD21	1.99	0.44
1:F:233:GLY:N	1:F:246:ARG:O	2.40	0.44
1:F:236:LEU:C	1:F:243:TRP:CE3	2.86	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:I:150:ASP:CG	4:I:150:ASP:O	2.59	0.44
1:A:238:ASN:HB2	1:A:242:THR:O	2.18	0.44
1:F:31:TRP:HE3	1:F:34:GLU:C	2.22	0.44
1:F:185:VAL:CG1	1:F:211:PHE:CA	2.90	0.44
1:F:241:GLU:HG3	1:F:241:GLU:O	2.18	0.44
1:A:217:TRP:O	1:A:217:TRP:CE3	2.70	0.44
5:E:6:GLU:OE2	5:E:110:GLY:CA	2.54	0.44
5:E:6:GLU:HG2	5:E:95:CYS:HB3	1.99	0.44
1:A:212:TYR:O	1:A:213:PRO:C	2.56	0.44
5:E:49:ALA:HB1	5:E:69:ILE:HG21	2.00	0.44
1:F:167:PRO:C	1:F:169:PHE:N	2.75	0.44
1:F:174:LEU:HA	1:F:181:LEU:HD11	2.00	0.44
2:G:54:LEU:HG	2:G:64:LEU:HD13	2.00	0.44
2:G:62:PHE:O	2:G:62:PHE:CD1	2.70	0.44
3:H:33:SER:HB2	3:H:97:ARG:N	2.33	0.44
1:F:25:ARG:HG2	1:F:42:ASN:CB	2.40	0.43
5:J:96:ARG:NH2	5:J:107:ASP:OD2	2.51	0.43
2:B:55:SER:OG	2:B:56:PHE:N	2.49	0.43
4:D:191:LEU:CD1	4:D:191:LEU:C	2.85	0.43
4:D:195:ALA:O	4:D:196:THR:C	2.61	0.43
1:F:41:SER:HG	1:F:44:SER:H	1.63	0.43
3:H:38:TYR:CE1	3:H:48:SER:HA	2.52	0.43
1:F:51:LYS:N	1:F:54:SER:OG	2.49	0.43
1:F:56:GLY:CA	1:F:173:LEU:HD11	2.48	0.43
1:F:214:LYS:N	1:F:215:PRO:HD2	2.30	0.43
5:J:106:TYR:CE1	5:J:108:TYR:CE2	3.03	0.43
5:J:101:VAL:HG23	5:J:104:THR:CG2	2.48	0.43
1:A:110:SER:OG	1:A:111:ASN:N	2.52	0.43
1:A:201:ARG:HA	1:A:252:VAL:HA	2.01	0.43
4:D:180:LEU:HG	4:D:182:ASP:N	2.34	0.43
3:H:86:ASP:HB2	3:H:114:VAL:HG21	2.01	0.43
5:E:7:SER:C	5:E:21:SER:OG	2.51	0.43
1:F:40:TRP:HE3	1:F:47:VAL:HA	1.83	0.43
1:A:38:HIS:HA	1:A:48:ARG:O	2.19	0.43
1:A:116:VAL:HG21	1:A:124:LEU:HG	2.00	0.43
3:C:35:LEU:HD21	3:C:92:CYS:SG	2.58	0.43
4:D:157:TRP:O	4:D:206:ARG:N	2.50	0.43
1:F:178:LYS:HA	1:F:181:LEU:HB2	1.99	0.43
2:G:12:ARG:NE	2:G:13:HIS:HD2	2.16	0.43
4:D:212:TYR:HA	4:D:229:THR:HG23	2.01	0.43
1:F:56:GLY:HA3	1:F:173:LEU:HD12	1.94	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:126:PHE:HD1	1:F:130:SER:O	1.99	0.43
3:H:126:TYR:O	3:H:139:CYS:HA	2.19	0.43
4:D:44:ILE:O	4:D:56:GLY:N	2.52	0.43
1:F:212:TYR:O	1:F:212:TYR:CD2	2.72	0.43
3:H:29:VAL:HG12	3:H:31:PRO:O	2.19	0.43
3:C:115:TRP:CZ2	3:C:163:LYS:HD2	2.54	0.43
1:F:211:PHE:H	1:F:242:THR:HG23	1.83	0.43
3:H:38:TYR:CD1	3:H:48:SER:HA	2.54	0.43
3:H:54:PHE:O	3:H:55:SER:OG	2.30	0.43
3:C:158:VAL:HA	3:C:182:SER:HB2	2.01	0.42
4:D:118:PHE:CE1	4:D:224:ARG:CZ	3.02	0.42
5:E:33:VAL:O	5:E:97:HIS:CD2	2.72	0.42
1:F:41:SER:O	1:F:44:SER:N	2.51	0.42
1:F:97:GLN:HE21	1:F:97:GLN:HB2	1.48	0.42
4:I:214:LEU:HD12	4:I:214:LEU:H	1.81	0.42
1:A:31:TRP:CZ3	1:A:36:GLN:HB2	2.54	0.42
1:A:73:TYR:HB2	7:A:401:AGH:HAC1	2.01	0.42
2:B:30:PHE:HD2	2:B:30:PHE:N	2.11	0.42
1:F:10:LEU:HD12	1:F:31:TRP:O	2.19	0.42
4:I:120:PRO:HA	4:I:147:PHE:HB3	2.01	0.42
1:F:53:TRP:HB2	1:F:176:SER:CB	2.49	0.42
1:A:127:GLN:CB	1:A:132:GLU:HG3	2.48	0.42
2:B:32:PRO:HD2	2:B:84:HIS:HE2	1.84	0.42
3:H:142:THR:OG1	3:H:176:ASN:O	2.36	0.42
1:A:25:ARG:HG3	1:A:42:ASN:HB2	2.01	0.42
1:A:216:VAL:HG23	1:A:265:HIS:HB2	2.00	0.42
1:A:245:LEU:HD12	1:A:246:ARG:H	1.85	0.42
2:G:5:PRO:HB3	2:G:30:PHE:HB3	2.01	0.42
2:B:76:ASP:OD1	2:B:76:ASP:N	2.50	0.42
3:C:23:LEU:HB2	3:C:77:LEU:HB3	2.00	0.42
1:F:218:VAL:HG13	1:F:263:VAL:HG22	2.01	0.42
2:B:30:PHE:CE2	2:B:62:PHE:CA	3.00	0.42
1:F:160:TRP:CE3	1:F:161:LEU:HD23	2.55	0.42
1:A:154:THR:O	1:A:158:VAL:HG23	2.19	0.42
1:A:235:ILE:CD1	1:A:235:ILE:N	2.72	0.42
2:B:21:ASN:OD1	2:B:22:PHE:N	2.53	0.42
3:C:140:LEU:HD21	3:C:142:THR:HB	2.02	0.42
1:F:236:LEU:HA	1:F:237:PRO:HD3	1.78	0.42
2:G:12:ARG:HG3	2:G:21:ASN:OD1	2.20	0.42
5:E:61:ASP:OD1	5:E:62:SER:N	2.53	0.42
1:F:18:PHE:CE2	1:F:81:VAL:HG11	2.55	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:166:CYS:H	1:F:167:PRO:CD	2.26	0.42
1:F:9:PRO:O	1:F:33:GLY:N	2.40	0.42
1:F:28:GLY:O	1:F:40:TRP:N	2.30	0.42
1:F:76:SER:HB2	7:F:401:AGH:O3	2.19	0.42
1:F:142:ASN:O	1:F:146:GLN:HG3	2.20	0.42
1:F:187:PRO:HA	1:F:210:GLY:O	2.19	0.42
3:H:35:LEU:HD22	3:H:36:ARG:H	1.84	0.42
5:J:39:GLN:O	5:J:39:GLN:CG	2.68	0.42
1:F:135:GLN:H	1:F:135:GLN:CD	2.28	0.41
3:H:63:ARG:NH2	3:H:86:ASP:OD1	2.53	0.41
4:I:114:LEU:O	4:I:117:VAL:HG22	2.19	0.41
4:I:122:VAL:CB	4:I:232:VAL:CG1	2.94	0.41
5:J:18:LEU:N	5:J:82:MET:O	2.38	0.41
1:A:215:PRO:O	1:A:265:HIS:HD2	2.03	0.41
1:F:62:GLN:OE1	5:J:27:SER:HB2	2.20	0.41
4:I:103:GLY:O	4:I:104:PRO:C	2.62	0.41
1:A:18:PHE:HE1	1:A:78:THR:HG23	1.86	0.41
3:C:198:ILE:HD12	3:C:199:PRO:O	2.21	0.41
5:E:58:ASN:N	5:E:58:ASN:OD1	2.53	0.41
4:I:76:LEU:HD12	4:I:77:GLU:H	1.84	0.41
4:I:170:ASP:HB3	4:I:187:LEU:HD12	2.03	0.41
5:J:67:PHE:CD1	5:J:82:MET:HA	2.55	0.41
3:H:20:ASN:CB	3:H:80:THR:HA	2.46	0.41
5:J:2:VAL:HA	5:J:25:SER:O	2.19	0.41
5:J:49:ALA:HB1	5:J:69:ILE:HD13	2.01	0.41
6:L:1:NAG:H83	6:L:1:NAG:C5	2.50	0.41
2:G:55:SER:O	2:G:62:PHE:HB2	2.16	0.41
1:F:70:PHE:HA	1:F:73:TYR:HB3	2.03	0.41
5:J:28:MET:SD	5:J:76:ASN:ND2	2.94	0.41
1:A:25:ARG:HH22	1:A:41:SER:HB2	1.86	0.41
3:C:79:ILE:HG12	3:C:80:THR:N	2.35	0.41
4:D:4:GLN:HG2	4:D:104:PRO:HD2	2.02	0.41
4:D:117:VAL:HG13	4:D:148:TYR:O	2.21	0.41
5:E:14:ALA:HB2	5:E:87:PRO:HG3	2.03	0.41
1:F:90:LEU:HD23	1:F:90:LEU:HA	1.90	0.41
5:J:66:ARG:CG	5:J:86:LYS:NZ	2.84	0.41
1:A:25:ARG:HG3	1:A:42:ASN:CB	2.50	0.41
1:A:161:LEU:HA	1:A:165:THR:HG1	1.86	0.41
1:A:166:CYS:HB3	1:A:167:PRO:HD3	2.03	0.41
5:E:101:VAL:O	5:E:101:VAL:CG2	2.69	0.41
2:G:27:VAL:O	2:G:27:VAL:CG2	2.65	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:G:56:PHE:CE1	2:G:60:TRP:CZ3	3.06	0.41
1:A:65:THR:HG23	5:E:104:THR:HB	2.02	0.41
1:A:66:LEU:HA	1:A:69:ILE:HD12	2.03	0.41
1:A:212:TYR:CD2	1:A:213:PRO:CG	3.00	0.41
4:D:120:PRO:HD3	4:D:232:VAL:HG21	1.97	0.41
1:F:40:TRP:CE3	1:F:47:VAL:HB	2.56	0.41
1:F:174:LEU:CD2	1:F:181:LEU:HD13	2.50	0.41
1:F:184:GLN:OE1	1:F:213:PRO:HD3	2.20	0.41
2:G:12:ARG:NE	2:G:13:HIS:CD2	2.89	0.41
4:I:9:LEU:O	4:I:108:LEU:HD12	2.21	0.41
3:C:18:GLY:O	3:C:81:ALA:HA	2.21	0.41
3:H:22:THR:HA	3:H:77:LEU:O	2.20	0.41
4:I:87:TYR:O	4:I:106:THR:N	2.42	0.41
5:J:50:THR:O	5:J:50:THR:OG1	2.38	0.41
2:B:73:THR:HB	2:B:76:ASP:CG	2.39	0.40
5:E:72:ASP:CB	5:E:77:THR:OG1	2.47	0.40
5:E:87:PRO:HA	5:E:117:VAL:HB	2.03	0.40
1:F:208:VAL:O	1:F:244:TYR:CD1	2.74	0.40
1:A:185:VAL:HB	1:A:212:TYR:HB2	2.02	0.40
4:D:159:ASN:HD21	4:D:203:ASN:HA	1.85	0.40
5:E:113:THR:HG22	5:E:114:GLN:N	2.35	0.40
1:A:269:GLU:O	1:A:269:GLU:CG	2.60	0.40
2:B:84:HIS:H	2:B:87:LEU:CD1	2.33	0.40
4:D:206:ARG:HA	4:D:235:GLU:HA	2.04	0.40
1:F:225:GLN:HG3	1:F:227:GLN:OE1	2.22	0.40
2:G:31:HIS:HD2	2:G:62:PHE:CE1	2.34	0.40
5:J:20:LEU:HD12	5:J:80:LEU:HD23	2.03	0.40
6:L:1:NAG:C7	6:L:1:NAG:O4	2.69	0.40
1:A:32:LEU:O	1:A:34:GLU:N	2.55	0.40
1:A:43:ASP:OD1	1:A:43:ASP:N	2.53	0.40
3:C:52:MET:HE3	3:C:52:MET:HB2	1.98	0.40
4:D:17:ILE:HB	4:D:76:LEU:HB3	2.03	0.40
5:E:34:MET:HE1	5:E:76:ASN:O	2.22	0.40
5:E:31:ASP:OD1	5:E:32:ASN:N	2.54	0.40
1:F:222:ARG:N	1:F:225:GLN:O	2.48	0.40
4:I:121:GLU:N	4:I:145:THR:O	2.55	0.40
5:J:96:ARG:HD2	5:J:109:TRP:CH2	2.57	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone

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	272/347 (78%)	249 (92%)	19 (7%)	4 (2%)	8	37
1	F	266/347 (77%)	234 (88%)	24 (9%)	8 (3%)	3	25
2	B	94/100 (94%)	87 (93%)	7 (7%)	0	100	100
2	G	88/100 (88%)	83 (94%)	5 (6%)	0	100	100
3	C	194/210 (92%)	178 (92%)	16 (8%)	0	100	100
3	H	173/210 (82%)	159 (92%)	14 (8%)	0	100	100
4	D	236/241 (98%)	209 (89%)	27 (11%)	0	100	100
4	I	235/241 (98%)	222 (94%)	12 (5%)	1 (0%)	30	61
5	E	113/119 (95%)	98 (87%)	14 (12%)	1 (1%)	14	47
5	J	115/119 (97%)	101 (88%)	13 (11%)	1 (1%)	14	47
All	All	1786/2034 (88%)	1620 (91%)	151 (8%)	15 (1%)	16	50

All (15) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	212	TYR
1	A	232	PRO
1	F	19	ALA
5	E	74	ALA
1	F	21	SER
1	F	33	GLY
1	F	34	GLU
1	F	277	TRP
1	F	237	PRO
1	A	278	GLY
1	F	138	PRO
4	I	171	PRO
5	J	63	VAL
1	A	214	LYS

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Mol	Chain	Res	Type
1	F	214	LYS

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	222/302 (74%)	215 (97%)	7 (3%)	34 59
1	F	212/302 (70%)	201 (95%)	11 (5%)	21 48
2	B	76/95 (80%)	71 (93%)	5 (7%)	15 42
2	G	79/95 (83%)	74 (94%)	5 (6%)	16 43
3	C	173/192 (90%)	167 (96%)	6 (4%)	32 57
3	H	157/192 (82%)	154 (98%)	3 (2%)	50 67
4	D	193/214 (90%)	189 (98%)	4 (2%)	47 66
4	I	207/214 (97%)	203 (98%)	4 (2%)	50 67
5	E	88/98 (90%)	81 (92%)	7 (8%)	11 36
5	J	83/98 (85%)	82 (99%)	1 (1%)	63 73
All	All	1490/1802 (83%)	1437 (96%)	53 (4%)	31 57

All (53) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	43	ASP
1	A	89	ARG
1	A	132	GLU
1	A	150	GLN
1	A	235	ILE
1	A	246	ARG
1	A	279	SER
2	B	16	GLU
2	B	30	PHE
2	B	54	LEU
2	B	82	VAL
2	B	89	GLN

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Mol	Chain	Res	Type
3	C	6	VAL
3	C	47	VAL
3	C	114	VAL
3	C	154	LYS
3	C	166	LEU
3	C	198	ILE
4	D	110	VAL
4	D	143	LEU
4	D	191	LEU
4	D	232	VAL
5	E	5	VAL
5	E	38	ARG
5	E	73	ASN
5	E	77	THR
5	E	88	GLU
5	E	98	THR
5	E	113	THR
1	F	20	ASN
1	F	32	LEU
1	F	42	ASN
1	F	47	VAL
1	F	61	GLN
1	F	170	VAL
1	F	186	LYS
1	F	213	PRO
1	F	268	LEU
1	F	273	ILE
1	F	279	SER
2	G	12	ARG
2	G	16	GLU
2	G	42	ASN
2	G	62	PHE
2	G	81	ARG
3	H	8	GLN
3	H	53	THR
3	H	150	VAL
4	I	4	GLN
4	I	150	ASP
4	I	169	THR
4	I	232	VAL
5	J	4	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (22)

such sidechains are listed below:

Mol	Chain	Res	Type
1	A	62	GLN
1	A	150	GLN
1	A	227	GLN
2	B	8	GLN
2	B	24	ASN
3	C	120	ASN
4	D	34	GLN
4	D	203	ASN
4	D	210	GLN
5	E	111	GLN
1	F	38	HIS
1	F	55	GLN
1	F	115	HIS
2	G	8	GLN
2	G	13	HIS
2	G	24	ASN
3	H	24	GLN
4	I	100	GLN
4	I	217	ASN
5	J	32	ASN
5	J	76	ASN
5	J	97	HIS

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

4 monosaccharides are modelled in this entry.

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$
6	NAG	K	1	1,6	14,14,15	0.45	0	17,19,21	0.70	0
6	NAG	K	2	6	14,14,15	0.26	0	17,19,21	0.30	0
6	NAG	L	1	1,6	14,14,15	1.50	4 (28%)	17,19,21	3.96	8 (47%)
6	NAG	L	2	6	14,14,15	0.67	0	17,19,21	1.85	4 (23%)

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
6	NAG	K	1	1,6	–	2/6/23/26	0/1/1/1
6	NAG	K	2	6	–	1/6/23/26	0/1/1/1
6	NAG	L	1	1,6	–	3/6/23/26	0/1/1/1
6	NAG	L	2	6	–	4/6/23/26	0/1/1/1

All (4) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
6	L	1	NAG	O5-C1	-2.50	1.39	1.43
6	L	1	NAG	C2-N2	-2.38	1.42	1.46
6	L	1	NAG	C1-C2	-2.22	1.49	1.52
6	L	1	NAG	C4-C5	-2.01	1.48	1.53

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	L	1	NAG	C2-N2-C7	-11.82	107.06	122.90
6	L	1	NAG	C6-C5-C4	-6.14	97.95	113.02
6	L	1	NAG	O3-C3-C4	-5.01	98.56	110.38
6	L	1	NAG	O4-C4-C3	4.10	120.05	110.38
6	L	1	NAG	O3-C3-C2	-3.90	101.30	109.40
6	L	2	NAG	O5-C5-C6	3.68	114.83	107.66
6	L	2	NAG	C2-N2-C7	3.63	127.77	122.90
6	L	2	NAG	C3-C4-C5	-3.39	104.09	110.23
6	L	1	NAG	C1-C2-N2	-2.91	105.85	110.43
6	L	1	NAG	O5-C5-C6	-2.62	102.56	107.66
6	L	1	NAG	C4-C3-C2	2.50	114.69	111.02

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
6	L	2	NAG	O5-C5-C4	-2.41	104.95	110.83

There are no chirality outliers.

All (10) torsion outliers are listed below:

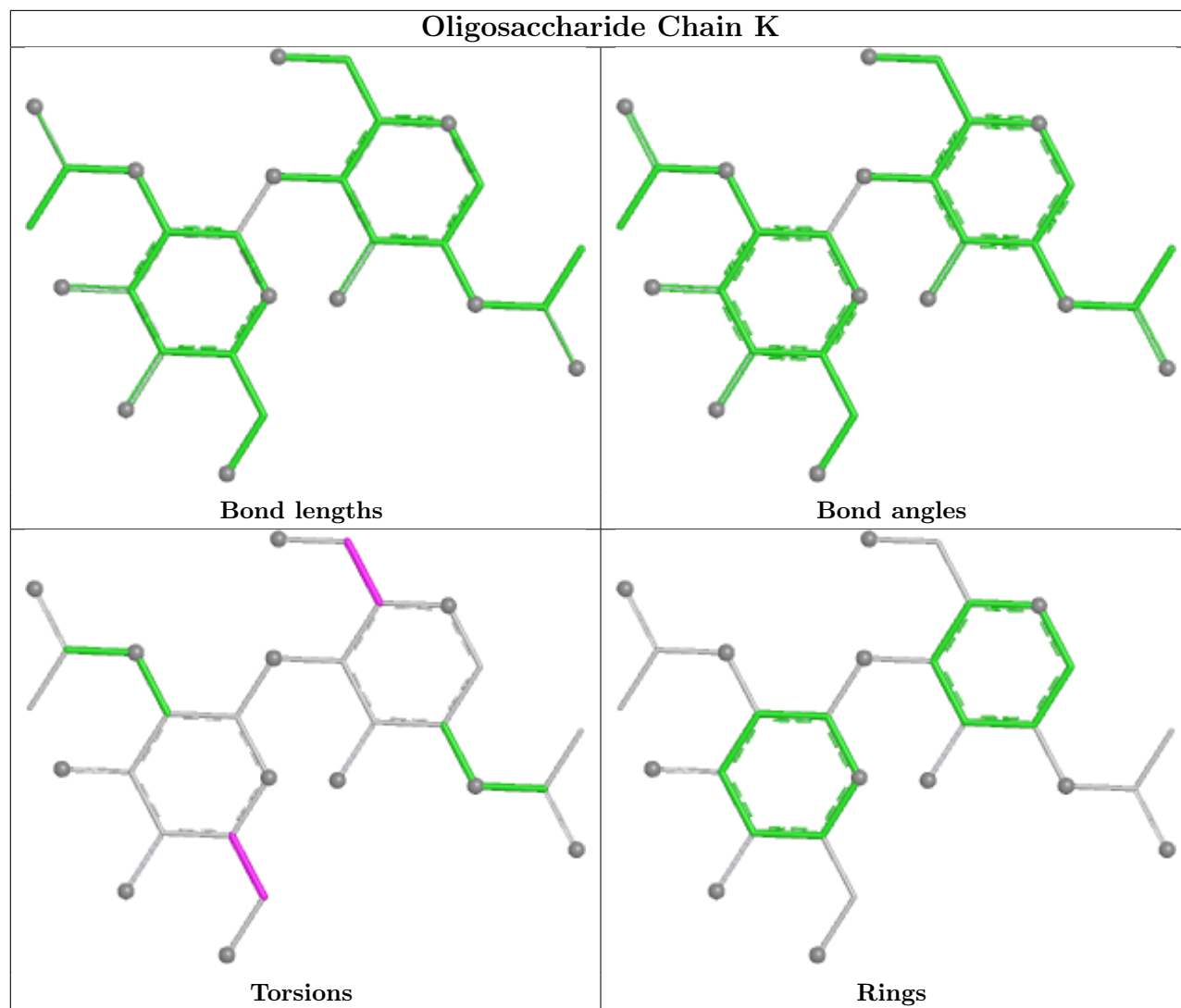
Mol	Chain	Res	Type	Atoms
6	L	1	NAG	C3-C2-N2-C7
6	L	1	NAG	C8-C7-N2-C2
6	L	1	NAG	O7-C7-N2-C2
6	L	2	NAG	C1-C2-N2-C7
6	K	1	NAG	O5-C5-C6-O6
6	L	2	NAG	C8-C7-N2-C2
6	L	2	NAG	O5-C5-C6-O6
6	K	1	NAG	C4-C5-C6-O6
6	L	2	NAG	O7-C7-N2-C2
6	K	2	NAG	O5-C5-C6-O6

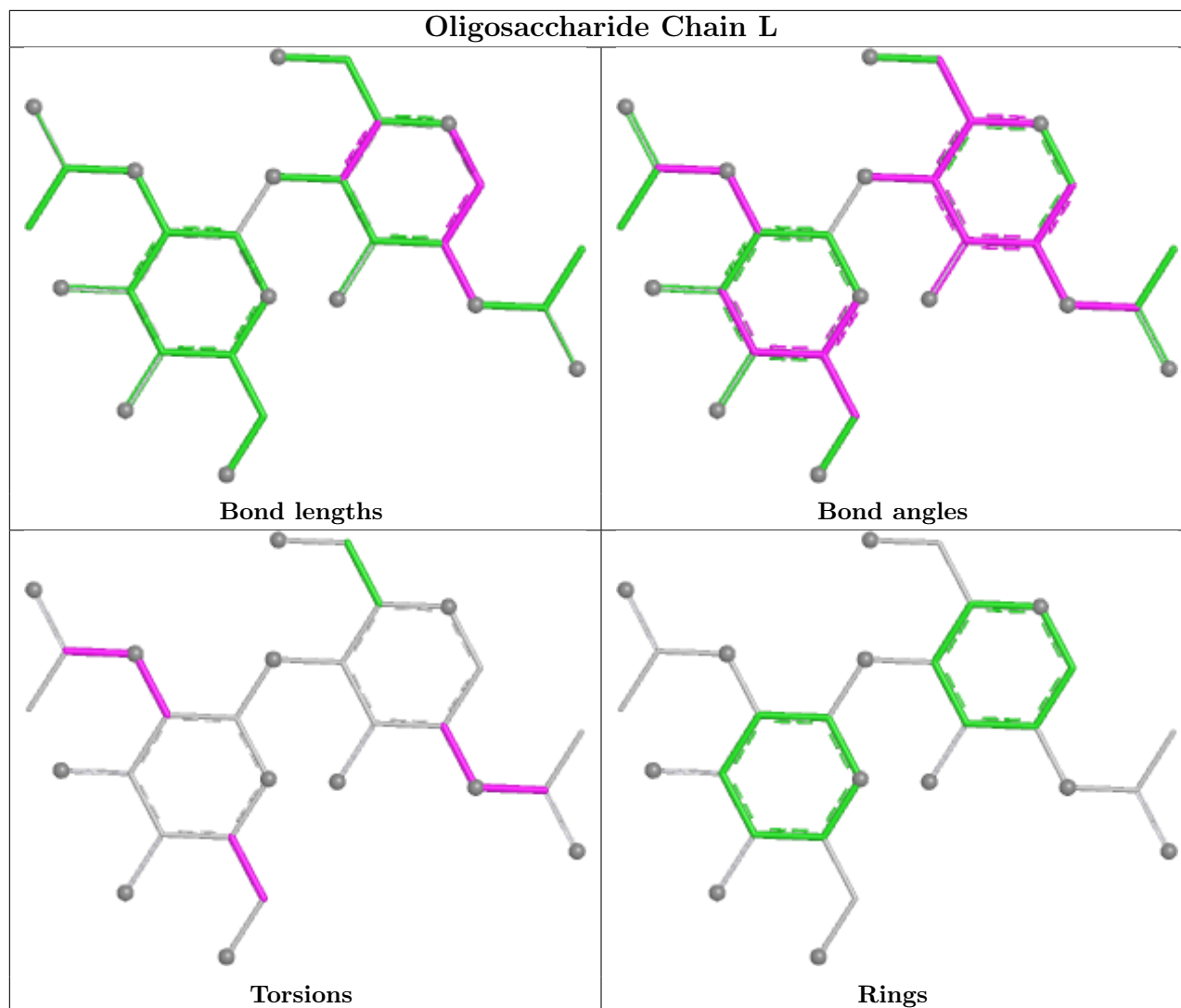
There are no ring outliers.

3 monomers are involved in 11 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
6	L	2	NAG	3	0
6	K	1	NAG	1	0
6	L	1	NAG	7	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for oligosaccharide.





5.6 Ligand geometry [i](#)

4 ligands are modelled in this entry.

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$
8	NAG	F	405	1	14,14,15	1.13	2 (14%)	17,19,21	3.09	6 (35%)
7	AGH	F	401	-	60,60,60	1.40	5 (8%)	66,69,69	1.18	5 (7%)
8	NAG	F	404	1	14,14,15	0.76	0	17,19,21	1.57	4 (23%)

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
7	AGH	A	401	-	60,60,60	1.43	5 (8%)	66,69,69	1.08	5 (7%)

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
8	NAG	F	405	1	-	4/6/23/26	0/1/1/1
7	AGH	F	401	-	-	22/58/78/78	0/1/1/1
8	NAG	F	404	1	-	4/6/23/26	0/1/1/1
7	AGH	A	401	-	-	14/58/78/78	0/1/1/1

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	A	401	AGH	CAA-N2	7.07	1.49	1.34
7	F	401	AGH	CAA-N2	7.00	1.48	1.34
7	F	401	AGH	O1A-C1	-3.25	1.38	1.43
7	A	401	AGH	O1A-C1	-3.14	1.38	1.43
7	A	401	AGH	CAB-CAA	2.65	1.56	1.51
7	A	401	AGH	O6A-C1A	2.52	1.48	1.41
7	F	401	AGH	CAB-CAA	2.49	1.56	1.51
7	F	401	AGH	O6A-C1A	2.38	1.48	1.41
8	F	405	NAG	C2-N2	-2.23	1.42	1.46
8	F	405	NAG	C4-C5	-2.23	1.48	1.53
7	A	401	AGH	OAA-CAA	-2.18	1.18	1.23
7	F	401	AGH	OAA-CAA	-2.17	1.19	1.23

All (20) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	F	405	NAG	C1-O5-C5	7.69	122.50	112.19
8	F	405	NAG	O5-C1-C2	-6.22	101.66	111.29
8	F	405	NAG	C1-C2-N2	-4.59	103.20	110.43
8	F	405	NAG	C2-N2-C7	-4.23	117.23	122.90
8	F	404	NAG	C4-C3-C2	3.66	116.39	111.02
7	F	401	AGH	C6-C5-C4	-3.64	108.15	114.11
8	F	405	NAG	C6-C5-C4	-3.19	105.18	113.02
7	A	401	AGH	C5-C4-C3	-3.19	108.92	113.97
8	F	404	NAG	O5-C5-C4	-2.65	104.37	110.83

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
8	F	405	NAG	O3-C3-C4	-2.64	104.15	110.38
7	F	401	AGH	C5-C4-C3	-2.63	109.80	113.97
7	A	401	AGH	O6A-C5M-C4A	2.56	114.31	109.70
7	F	401	AGH	CAB-CAA-N2	2.54	120.34	115.86
7	A	401	AGH	C1-C2-C3	-2.41	107.97	112.71
8	F	404	NAG	O3-C3-C4	-2.31	104.93	110.38
7	F	401	AGH	C2-N2-CAA	-2.29	119.58	123.40
8	F	404	NAG	C2-N2-C7	2.17	125.80	122.90
7	A	401	AGH	C6-C5-C4	-2.15	110.59	114.11
7	F	401	AGH	C1-C2-C3	-2.13	108.52	112.71
7	A	401	AGH	CAB-CAA-N2	2.02	119.42	115.86

There are no chirality outliers.

All (44) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
7	A	401	AGH	O1A-C1-C2-C3
7	F	401	AGH	N2-C2-C3-O3
8	F	404	NAG	C8-C7-N2-C2
8	F	404	NAG	O7-C7-N2-C2
8	F	405	NAG	C3-C2-N2-C7
8	F	405	NAG	C8-C7-N2-C2
8	F	405	NAG	O7-C7-N2-C2
7	A	401	AGH	C4-C5-C6-C7
7	A	401	AGH	CAA-CAB-CAC-CAD
7	F	401	AGH	C3-C4-C5-C6
7	F	401	AGH	CAQ-CAR-CAS-CAT
7	F	401	AGH	CAK-CAL-CAM-CAN
7	A	401	AGH	C11-C12-C13-C14
7	A	401	AGH	CAE-CAF-CAG-CAH
7	F	401	AGH	O4-C4-C5-C6
7	A	401	AGH	C6-C7-C8-C9
8	F	405	NAG	O5-C5-C6-O6
7	F	401	AGH	C7-C8-C9-C10
7	F	401	AGH	C3-C2-N2-CAA
7	A	401	AGH	CAR-CAS-CAT-CAU
7	F	401	AGH	CAI-CAJ-CAK-CAL
7	F	401	AGH	CAN-CAO-CAP-CAQ
7	F	401	AGH	CAS-CAT-CAU-CAV
7	F	401	AGH	CAA-CAB-CAC-CAD
7	F	401	AGH	CAL-CAM-CAN-CAO
7	F	401	AGH	C10-C11-C12-C13

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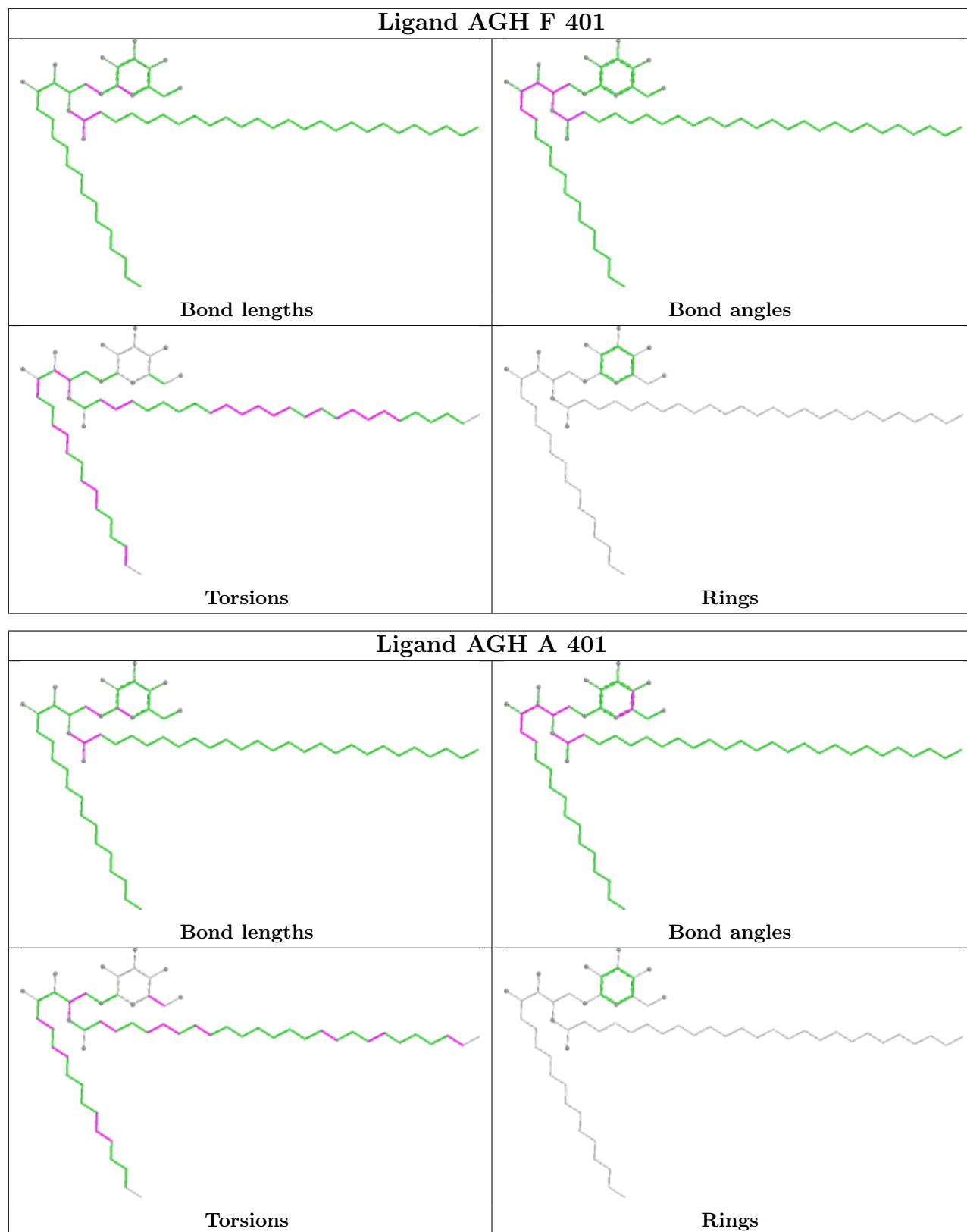
Mol	Chain	Res	Type	Atoms
7	A	401	AGH	CAW-CAX-CAY-CAZ
7	A	401	AGH	CAO-CAP-CAQ-CAR
7	A	401	AGH	O6A-C5M-C6A-O5A
7	F	401	AGH	C6-C7-C8-C9
8	F	404	NAG	O5-C5-C6-O6
7	F	401	AGH	CAP-CAQ-CAR-CAS
7	F	401	AGH	CAR-CAS-CAT-CAU
8	F	404	NAG	C4-C5-C6-O6
7	F	401	AGH	CAH-CAI-CAJ-CAK
7	F	401	AGH	C11-C12-C13-C14
7	F	401	AGH	C15-C16-C17-C18
7	A	401	AGH	C12-C13-C14-C15
7	A	401	AGH	CAG-CAH-CAI-CAJ
7	A	401	AGH	C3-C2-N2-CAA
7	F	401	AGH	C1-C2-N2-CAA
7	F	401	AGH	CAB-CAC-CAD-CAE
7	A	401	AGH	CAD-CAE-CAF-CAG
7	F	401	AGH	CAJ-CAK-CAL-CAM

There are no ring outliers.

3 monomers are involved in 10 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
8	F	405	NAG	4	0
7	F	401	AGH	3	0
7	A	401	AGH	3	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 than 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.



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

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data [i](#)

6.1 Protein, DNA and RNA chains [i](#)

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, 95th 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	274/347 (78%)	-1.19	0 100 100	30, 100, 147, 217	0
1	F	270/347 (77%)	-1.04	1 (0%) 88 69	30, 121, 230, 352	0
2	B	98/100 (98%)	-1.16	0 100 100	63, 114, 174, 229	0
2	G	94/100 (94%)	-0.92	0 100 100	62, 159, 247, 309	0
3	C	198/210 (94%)	-1.14	0 100 100	59, 113, 164, 211	0
3	H	181/210 (86%)	-1.02	0 100 100	64, 114, 190, 235	0
4	D	240/241 (99%)	-1.10	0 100 100	64, 117, 197, 300	0
4	I	237/241 (98%)	-1.13	0 100 100	51, 112, 170, 248	0
5	E	117/119 (98%)	-1.07	0 100 100	72, 126, 178, 236	0
5	J	118/119 (99%)	-1.08	0 100 100	72, 126, 189, 233	1 (0%)
All	All	1827/2034 (89%)	-1.10	1 (0%) 92 85	30, 116, 197, 352	1 (0%)

All (1) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	F	189	ALA	2.2

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

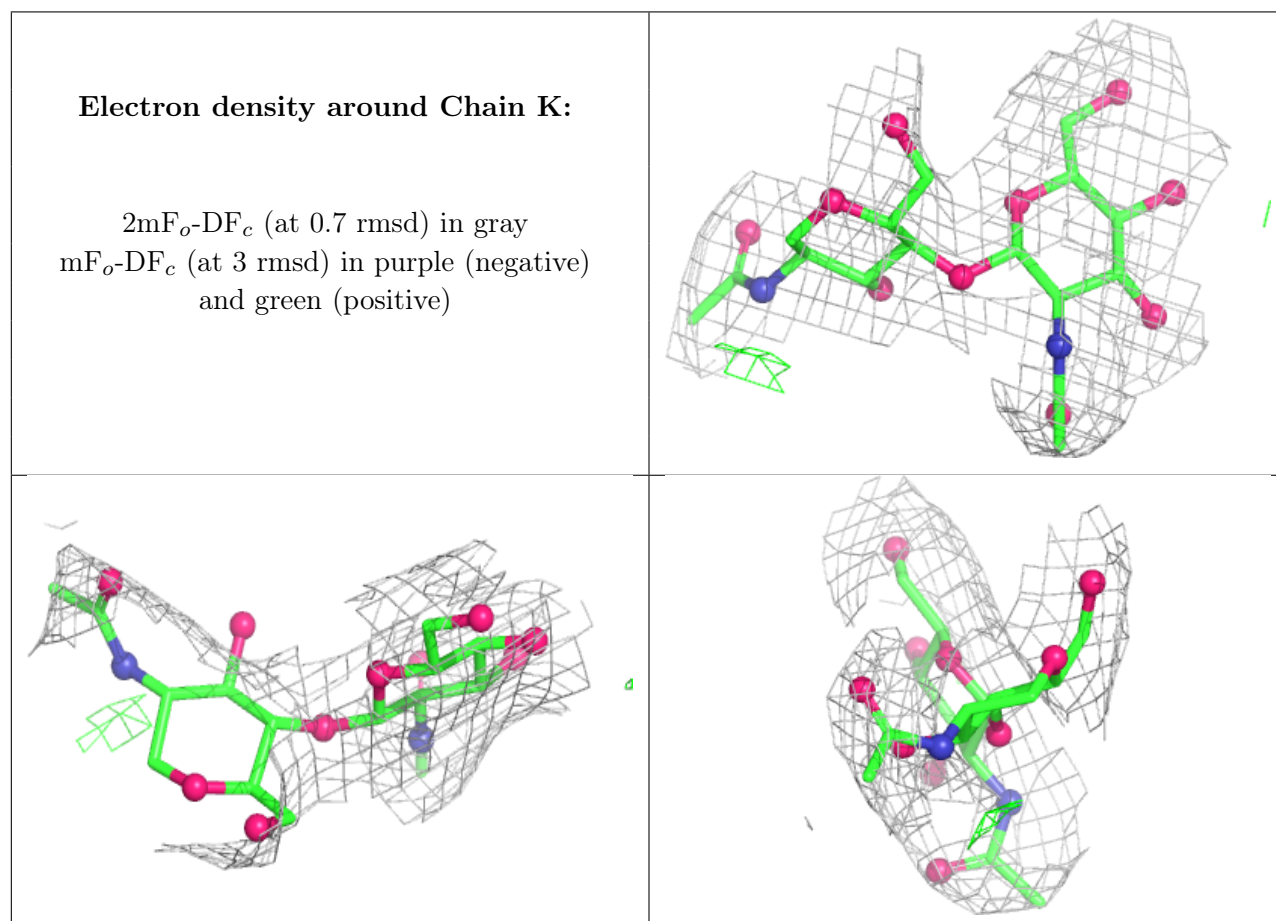
There are no non-standard protein/DNA/RNA residues in this entry.

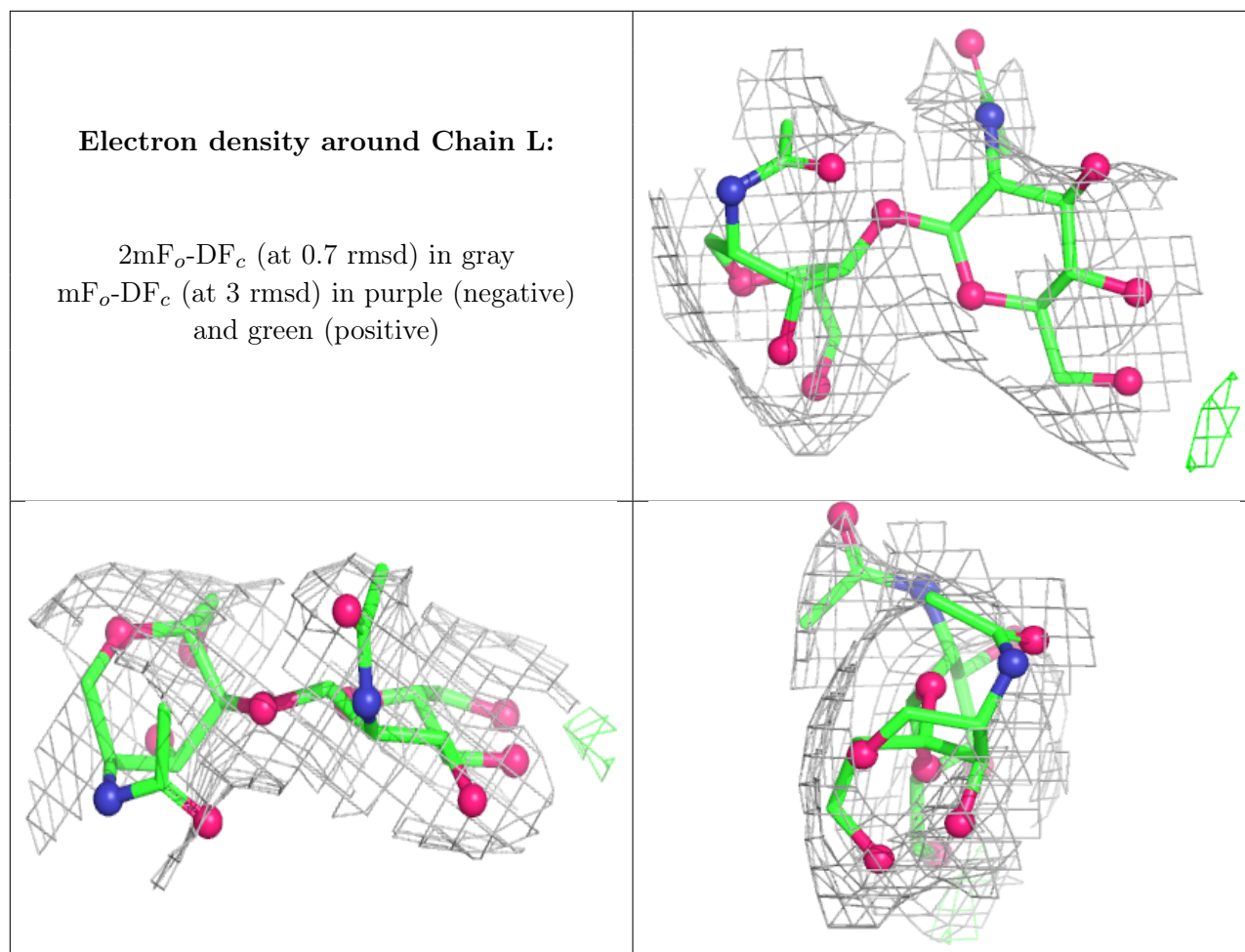
6.3 Carbohydrates [i](#)

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, 95th 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(\AA^2)	Q<0.9
6	NAG	L	2	14/15	0.97	0.07	136,142,154,156	0
6	NAG	K	2	14/15	0.98	0.04	93,102,109,111	0
6	NAG	K	1	14/15	0.98	0.05	85,94,100,102	0
6	NAG	L	1	14/15	0.99	0.04	87,107,117,129	0

The following is a graphical depiction of the model fit to experimental electron density for oligosaccharide. Each fit is shown from different orientation to approximate a three-dimensional view.





6.4 Ligands [i](#)

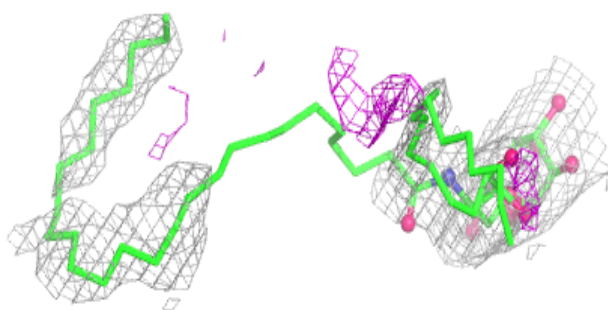
In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 95th percentile and maximum values of B factors of atoms in the group. The column labelled 'Q< 0.9' lists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

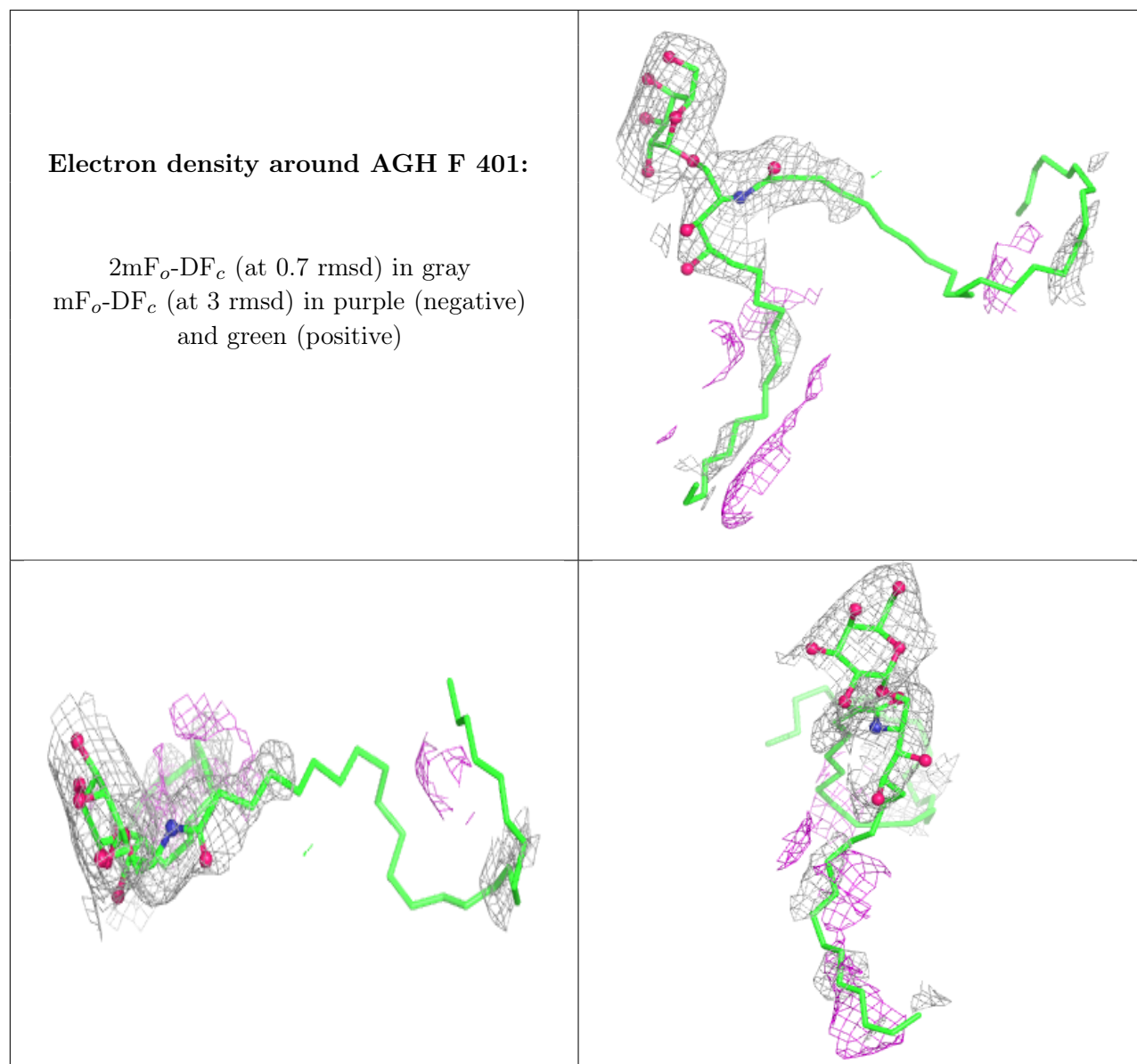
Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors(Å ²)	Q<0.9
8	NAG	F	405	14/15	0.97	0.06	30,30,30,30	0
8	NAG	F	404	14/15	0.98	0.06	138,156,179,180	0
7	AGH	A	401	60/60	0.99	0.06	71,115,135,141	7
7	AGH	F	401	60/60	0.99	0.06	52,95,146,155	16

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 AGH A 401:

$2mF_o-DF_c$ (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.