



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 05:07 AM UTC

PDB ID : 4R2G / pdb_00004r2g
Title : Crystal Structure of PGT124 Fab bound to HIV-1 JRCSF gp120 core and to CD4
Authors : Garces, F.; Wilson, I.A.
Deposited on : 2014-08-11
Resolution : 3.28 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)
Xtriage (Phenix)	:	2.0
EDS	:	3.0
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

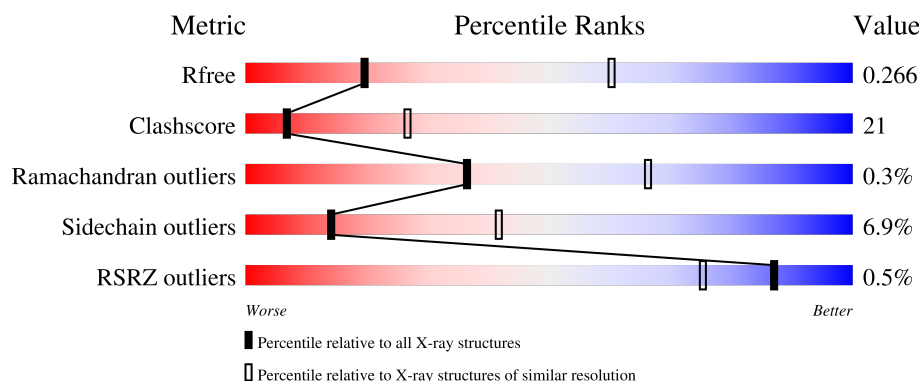
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 3.28 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.



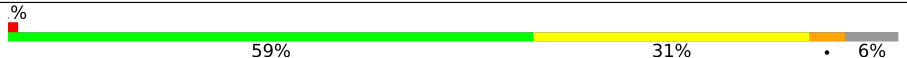
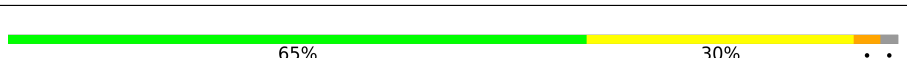
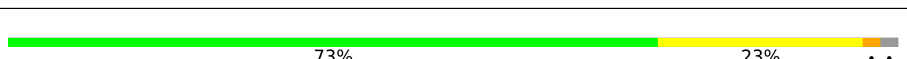
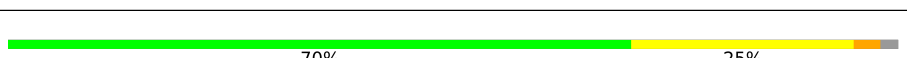
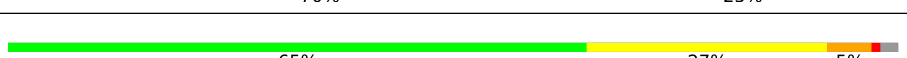
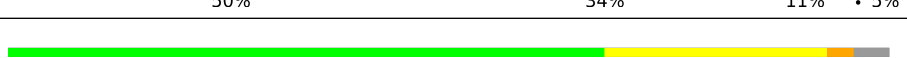
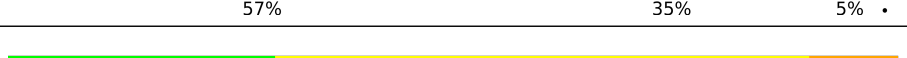
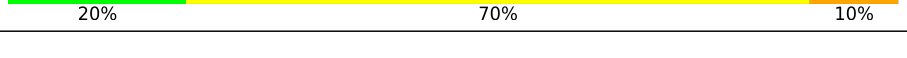
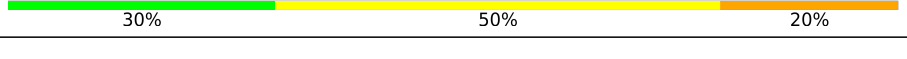
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	1303 (3.30-3.26)
Clashscore	190562	1354 (3.30-3.26)
Ramachandran outliers	187476	1334 (3.30-3.26)
Sidechain outliers	187428	1333 (3.30-3.26)
RSRZ outliers	180081	1303 (3.30-3.26)

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	309	% 58% 34% 5% .
1	E	309	63% 33% ..
1	K	309	% 55% 39% ..
1	O	309	% 60% 35% ..
2	B	184	3% 67% 27% 5%

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Mol	Chain	Length	Quality of chain
2	F	184	
2	H	184	
2	L	184	
3	C	214	
3	I	214	
3	M	214	
3	P	214	
4	D	236	
4	J	236	
4	N	236	
4	Q	236	
5	G	10	
5	R	10	
5	S	10	
5	V	10	
6	T	2	
6	U	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
5	MAN	S	10	-	-	X	-
5	NAG	V	1	-	-	X	-
5	MAN	V	10	-	-	X	-
5	MAN	V	7	-	-	X	-
9	GOL	D	301	-	-	X	-
9	GOL	J	301	-	-	X	-

2 Entry composition

There are 9 unique types of molecules in this entry. The entry contains 29158 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 Surface protein gp160.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	E	303	Total	C	N	O	S	0	0	0
			2383	1491	422	451	19			
1	O	303	Total	C	N	O	S	0	0	0
			2383	1491	422	451	19			
1	A	302	Total	C	N	O	S	0	0	0
			2375	1485	421	450	19			
1	K	303	Total	C	N	O	S	0	0	0
			2383	1491	422	451	19			

There are 148 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
E	92	ASP	-	expression tag	UNP P20871
E	93	PHE	-	expression tag	UNP P20871
E	94	ASN	-	expression tag	UNP P20871
E	95	MET	-	expression tag	UNP P20871
E	96	TRP	-	expression tag	UNP P20871
E	97	LYS	-	expression tag	UNP P20871
E	98	ASN	-	expression tag	UNP P20871
E	99	ASN	-	expression tag	UNP P20871
E	100	MET	-	expression tag	UNP P20871
E	101	VAL	-	expression tag	UNP P20871
E	102	GLU	-	expression tag	UNP P20871
E	103	GLN	-	expression tag	UNP P20871
E	104	MET	-	expression tag	UNP P20871
E	105	GLN	-	expression tag	UNP P20871
E	106	GLU	-	expression tag	UNP P20871
E	107	ASP	-	expression tag	UNP P20871
E	108	VAL	-	expression tag	UNP P20871
E	109	ILE	-	expression tag	UNP P20871
E	110	ASN	-	expression tag	UNP P20871
E	111	LEU	-	expression tag	UNP P20871
E	112	TRP	-	expression tag	UNP P20871

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Chain	Residue	Modelled	Actual	Comment	Reference
E	113	ASP	-	expression tag	UNP P20871
E	114	GLN	-	expression tag	UNP P20871
E	115	SER	-	expression tag	UNP P20871
E	116	LEU	-	expression tag	UNP P20871
E	117	LYS	-	expression tag	UNP P20871
E	118	PRO	-	expression tag	UNP P20871
E	119	CYS	-	expression tag	UNP P20871
E	120	VAL	-	expression tag	UNP P20871
E	121	LYS	-	expression tag	UNP P20871
E	122	LEU	-	expression tag	UNP P20871
E	123	THR	-	expression tag	UNP P20871
E	197	GLY	-	expression tag	UNP P20871
E	198	GLY	-	expression tag	UNP P20871
E	317	THR	-	linker	UNP P20871
E	318	ARG	-	linker	UNP P20871
E	319	PRO	-	linker	UNP P20871
O	92	ASP	-	expression tag	UNP P20871
O	93	PHE	-	expression tag	UNP P20871
O	94	ASN	-	expression tag	UNP P20871
O	95	MET	-	expression tag	UNP P20871
O	96	TRP	-	expression tag	UNP P20871
O	97	LYS	-	expression tag	UNP P20871
O	98	ASN	-	expression tag	UNP P20871
O	99	ASN	-	expression tag	UNP P20871
O	100	MET	-	expression tag	UNP P20871
O	101	VAL	-	expression tag	UNP P20871
O	102	GLU	-	expression tag	UNP P20871
O	103	GLN	-	expression tag	UNP P20871
O	104	MET	-	expression tag	UNP P20871
O	105	GLN	-	expression tag	UNP P20871
O	106	GLU	-	expression tag	UNP P20871
O	107	ASP	-	expression tag	UNP P20871
O	108	VAL	-	expression tag	UNP P20871
O	109	ILE	-	expression tag	UNP P20871
O	110	ASN	-	expression tag	UNP P20871
O	111	LEU	-	expression tag	UNP P20871
O	112	TRP	-	expression tag	UNP P20871
O	113	ASP	-	expression tag	UNP P20871
O	114	GLN	-	expression tag	UNP P20871
O	115	SER	-	expression tag	UNP P20871
O	116	LEU	-	expression tag	UNP P20871
O	117	LYS	-	expression tag	UNP P20871

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Chain	Residue	Modelled	Actual	Comment	Reference
O	118	PRO	-	expression tag	UNP P20871
O	119	CYS	-	expression tag	UNP P20871
O	120	VAL	-	expression tag	UNP P20871
O	121	LYS	-	expression tag	UNP P20871
O	122	LEU	-	expression tag	UNP P20871
O	123	THR	-	expression tag	UNP P20871
O	197	GLY	-	expression tag	UNP P20871
O	198	GLY	-	expression tag	UNP P20871
O	317	THR	-	linker	UNP P20871
O	318	ARG	-	linker	UNP P20871
O	319	PRO	-	linker	UNP P20871
A	92	ASP	-	expression tag	UNP P20871
A	93	PHE	-	expression tag	UNP P20871
A	94	ASN	-	expression tag	UNP P20871
A	95	MET	-	expression tag	UNP P20871
A	96	TRP	-	expression tag	UNP P20871
A	97	LYS	-	expression tag	UNP P20871
A	98	ASN	-	expression tag	UNP P20871
A	99	ASN	-	expression tag	UNP P20871
A	100	MET	-	expression tag	UNP P20871
A	101	VAL	-	expression tag	UNP P20871
A	102	GLU	-	expression tag	UNP P20871
A	103	GLN	-	expression tag	UNP P20871
A	104	MET	-	expression tag	UNP P20871
A	105	GLN	-	expression tag	UNP P20871
A	106	GLU	-	expression tag	UNP P20871
A	107	ASP	-	expression tag	UNP P20871
A	108	VAL	-	expression tag	UNP P20871
A	109	ILE	-	expression tag	UNP P20871
A	110	ASN	-	expression tag	UNP P20871
A	111	LEU	-	expression tag	UNP P20871
A	112	TRP	-	expression tag	UNP P20871
A	113	ASP	-	expression tag	UNP P20871
A	114	GLN	-	expression tag	UNP P20871
A	115	SER	-	expression tag	UNP P20871
A	116	LEU	-	expression tag	UNP P20871
A	117	LYS	-	expression tag	UNP P20871
A	118	PRO	-	expression tag	UNP P20871
A	119	CYS	-	expression tag	UNP P20871
A	120	VAL	-	expression tag	UNP P20871
A	121	LYS	-	expression tag	UNP P20871
A	122	LEU	-	expression tag	UNP P20871

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Chain	Residue	Modelled	Actual	Comment	Reference
A	123	THR	-	expression tag	UNP P20871
A	197	GLY	-	expression tag	UNP P20871
A	198	GLY	-	expression tag	UNP P20871
A	317	THR	-	linker	UNP P20871
A	318	ARG	-	linker	UNP P20871
A	319	PRO	-	linker	UNP P20871
K	92	ASP	-	expression tag	UNP P20871
K	93	PHE	-	expression tag	UNP P20871
K	94	ASN	-	expression tag	UNP P20871
K	95	MET	-	expression tag	UNP P20871
K	96	TRP	-	expression tag	UNP P20871
K	97	LYS	-	expression tag	UNP P20871
K	98	ASN	-	expression tag	UNP P20871
K	99	ASN	-	expression tag	UNP P20871
K	100	MET	-	expression tag	UNP P20871
K	101	VAL	-	expression tag	UNP P20871
K	102	GLU	-	expression tag	UNP P20871
K	103	GLN	-	expression tag	UNP P20871
K	104	MET	-	expression tag	UNP P20871
K	105	GLN	-	expression tag	UNP P20871
K	106	GLU	-	expression tag	UNP P20871
K	107	ASP	-	expression tag	UNP P20871
K	108	VAL	-	expression tag	UNP P20871
K	109	ILE	-	expression tag	UNP P20871
K	110	ASN	-	expression tag	UNP P20871
K	111	LEU	-	expression tag	UNP P20871
K	112	TRP	-	expression tag	UNP P20871
K	113	ASP	-	expression tag	UNP P20871
K	114	GLN	-	expression tag	UNP P20871
K	115	SER	-	expression tag	UNP P20871
K	116	LEU	-	expression tag	UNP P20871
K	117	LYS	-	expression tag	UNP P20871
K	118	PRO	-	expression tag	UNP P20871
K	119	CYS	-	expression tag	UNP P20871
K	120	VAL	-	expression tag	UNP P20871
K	121	LYS	-	expression tag	UNP P20871
K	122	LEU	-	expression tag	UNP P20871
K	123	THR	-	expression tag	UNP P20871
K	197	GLY	-	expression tag	UNP P20871
K	198	GLY	-	expression tag	UNP P20871
K	317	THR	-	linker	UNP P20871
K	318	ARG	-	linker	UNP P20871

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Chain	Residue	Modelled	Actual	Comment	Reference
K	319	PRO	-	linker	UNP P20871

- Molecule 2 is a protein called T-cell surface glycoprotein CD4.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	F	175	Total	C	N	O	S	0	0	0
			1363	851	239	269	4			
2	B	175	Total	C	N	O	S	0	0	0
			1363	851	239	269	4			
2	H	176	Total	C	N	O	S	0	0	0
			1368	854	240	270	4			
2	L	173	Total	C	N	O	S	0	0	0
			1345	839	235	267	4			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
F	0	MET	-	initiating methionine	UNP P01730
B	0	MET	-	initiating methionine	UNP P01730
H	0	MET	-	initiating methionine	UNP P01730
L	0	MET	-	initiating methionine	UNP P01730

- Molecule 3 is a protein called PGT124 Light Chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
3	P	210	Total	C	N	O	S	0	0	0
			1595	1005	270	315	5			
3	C	210	Total	C	N	O	S	0	0	0
			1595	1005	270	315	5			
3	I	210	Total	C	N	O	S	0	0	0
			1595	1005	270	315	5			
3	M	210	Total	C	N	O	S	0	0	0
			1595	1005	270	315	5			

- Molecule 4 is a protein called PGT124 Heavy Chain.

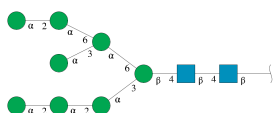
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	Q	228	Total	C	N	O	S	0	0	0
			1732	1099	289	339	5			
4	D	225	Total	C	N	O	S	0	0	0
			1716	1091	286	334	5			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
4	J	226	Total	C	N	O	S	0	0	0
			1720	1093	287	335	5			
4	N	228	Total	C	N	O	S	0	0	0
			1735	1101	290	339	5			

- Molecule 5 is an oligosaccharide called alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-6)-[alpha-D-mannopyranose-(1-3)]alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose.



Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
5	G	10	Total	C	N	O		0	0	0
			116	64	2	50				
5	R	10	Total	C	N	O		0	0	0
			116	64	2	50				
5	S	10	Total	C	N	O		0	0	0
			116	64	2	50				
5	V	10	Total	C	N	O		0	0	0
			116	64	2	50				

- 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
6	T	2	Total	C	N	O		0	0	0
			28	16	2	10				
6	U	2	Total	C	N	O		0	0	0
			28	16	2	10				

- Molecule 7 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: C₈H₁₅NO₆).



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

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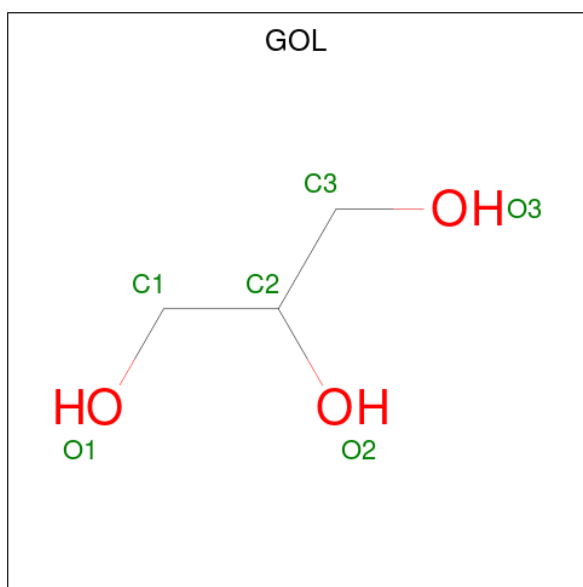
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Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
7	O	1	Total	C	N	O	0	0
			14	8	1	5		
7	A	1	Total	C	N	O	0	0
			14	8	1	5		
7	A	1	Total	C	N	O	0	0
			14	8	1	5		
7	A	1	Total	C	N	O	0	0
			14	8	1	5		
7	A	1	Total	C	N	O	0	0
			14	8	1	5		
7	A	1	Total	C	N	O	0	0
			14	8	1	5		
7	A	1	Total	C	N	O	0	0
			14	8	1	5		
7	K	1	Total	C	N	O	0	0
			14	8	1	5		
7	K	1	Total	C	N	O	0	0
			14	8	1	5		
7	K	1	Total	C	N	O	0	0
			14	8	1	5		
7	K	1	Total	C	N	O	0	0
			14	8	1	5		
7	K	1	Total	C	N	O	0	0
			14	8	1	5		

- Molecule 8 is CHLORIDE ION (CCD ID: CL) (formula: Cl).

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
8	E	1	Total	Cl	0	0
			1	1		
8	O	1	Total	Cl	0	0
			1	1		
8	A	1	Total	Cl	0	0
			1	1		
8	K	1	Total	Cl	0	0
			1	1		

- Molecule 9 is GLYCEROL (CCD ID: GOL) (formula: C₃H₈O₃).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
9	Q	1	Total	C	O	0	0
			6	3	3		
9	D	1	Total	C	O	0	0
			6	3	3		
9	J	1	Total	C	O	0	0
			6	3	3		
9	N	1	Total	C	O	0	0
			6	3	3		

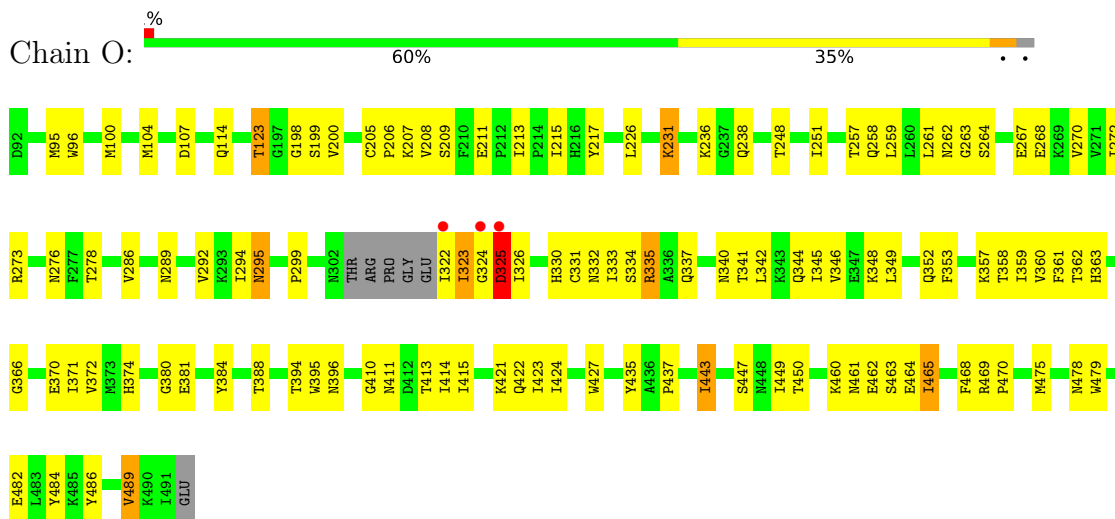
3 Residue-property plots

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.

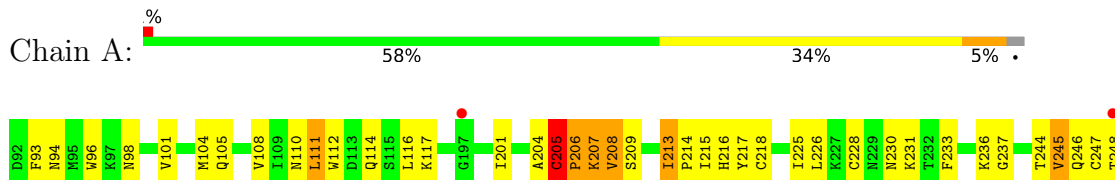
• Molecule 1: Surface protein gp160

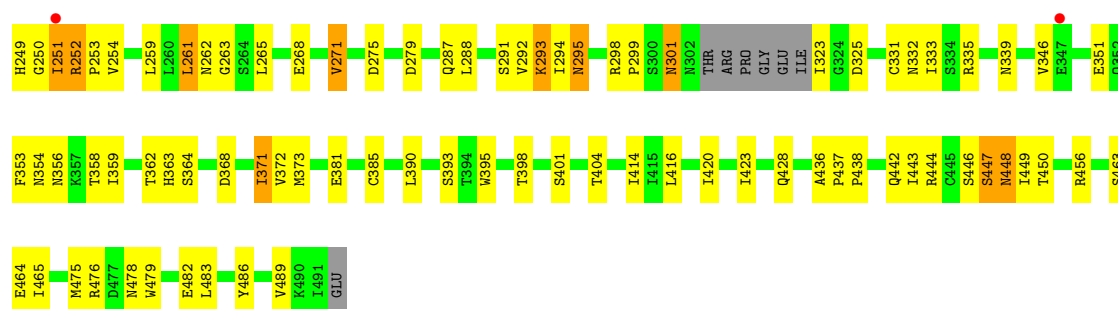


• Molecule 1: Surface protein gp160

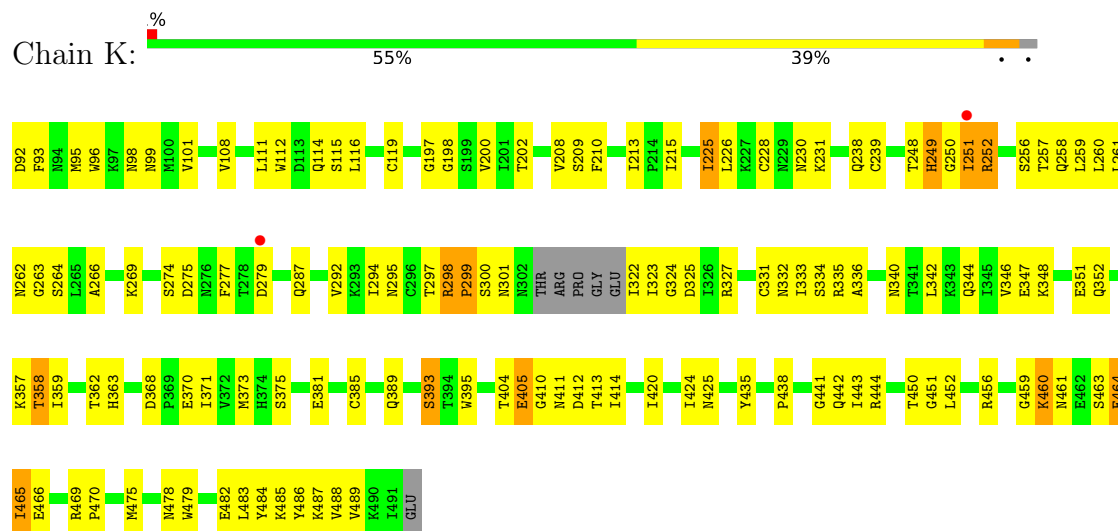


• Molecule 1: Surface protein gp160

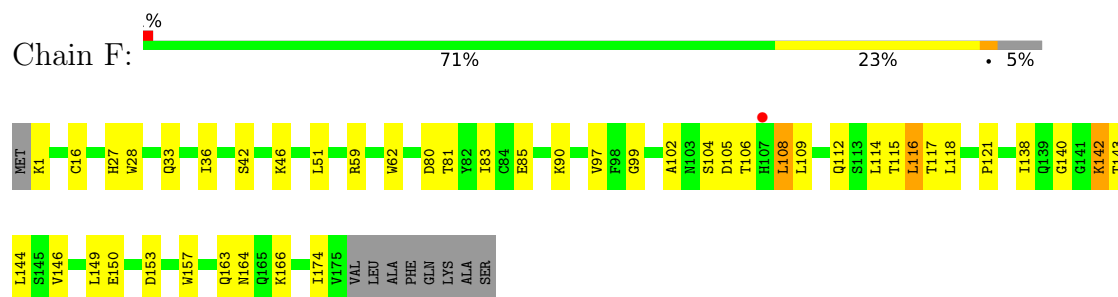




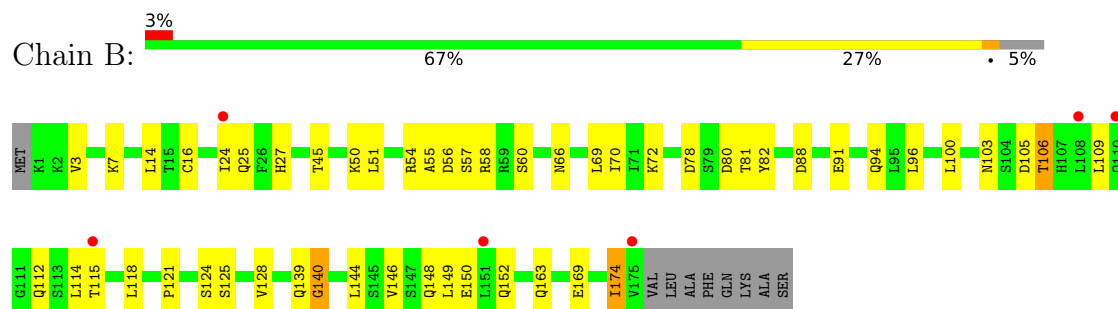
• Molecule 1: Surface protein gp160



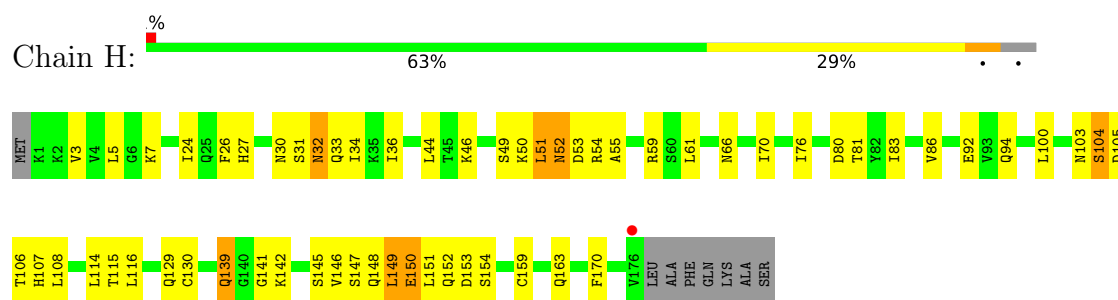
• Molecule 2: T-cell surface glycoprotein CD4



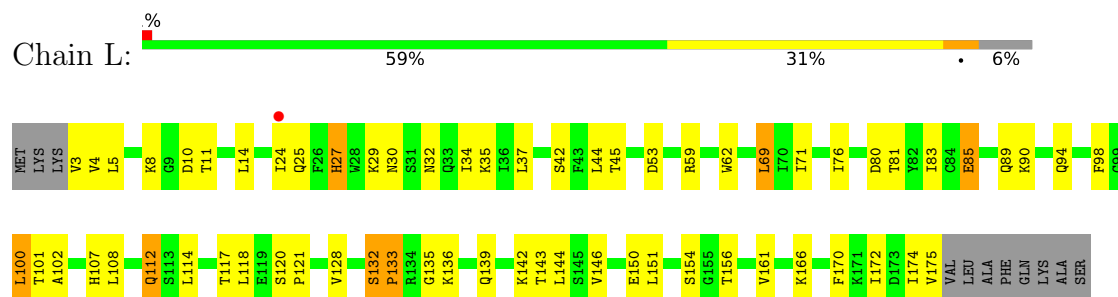
• Molecule 2: T-cell surface glycoprotein CD4



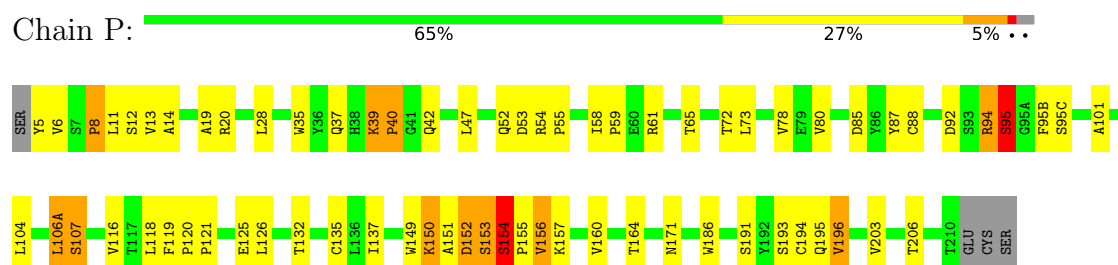
• Molecule 2: T-cell surface glycoprotein CD4



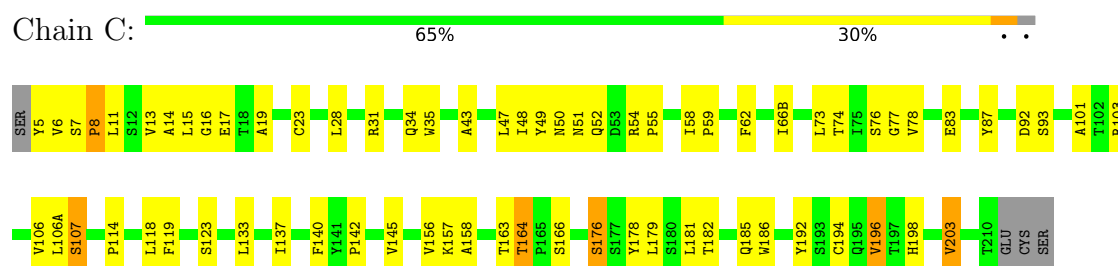
• Molecule 2: T-cell surface glycoprotein CD4



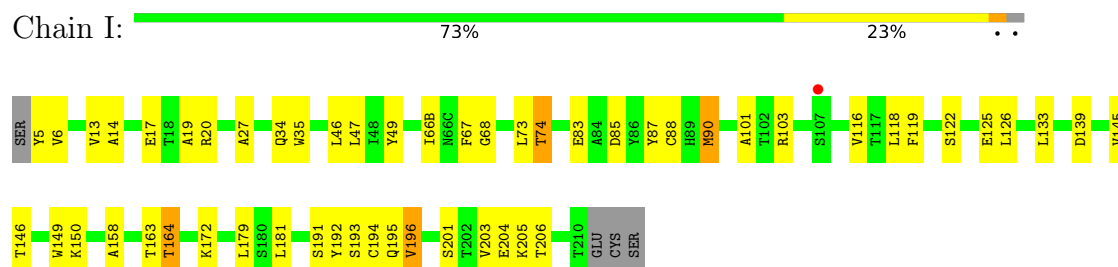
• Molecule 3: PGT124 Light Chain



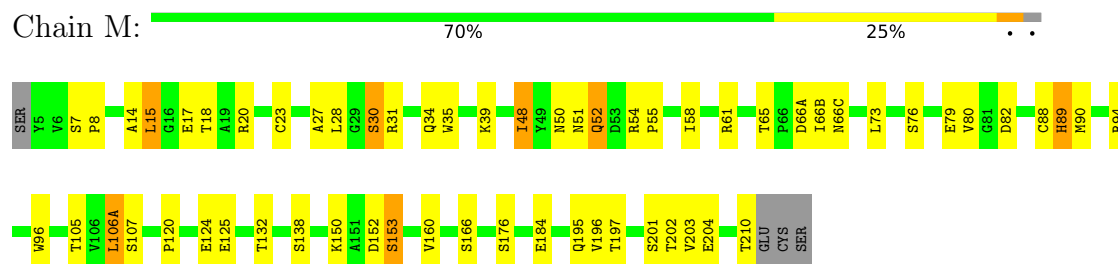
• Molecule 3: PGT124 Light Chain



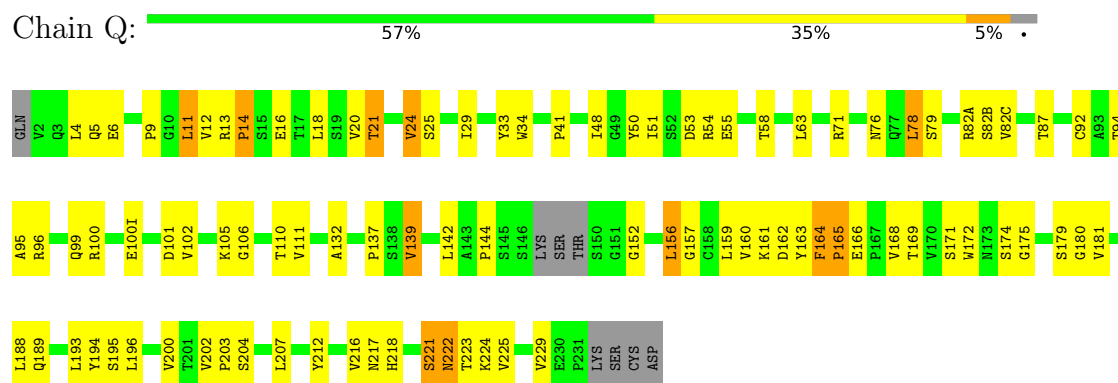
• Molecule 3: PGT124 Light Chain



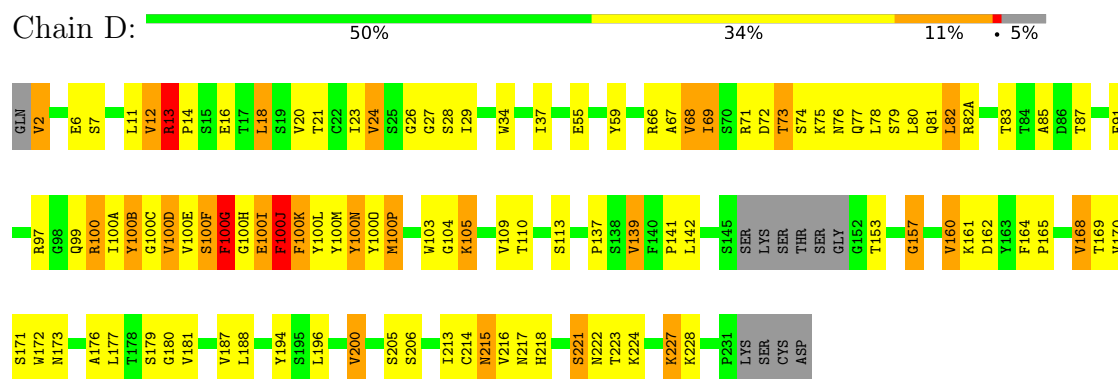
- Molecule 3: PGT124 Light Chain



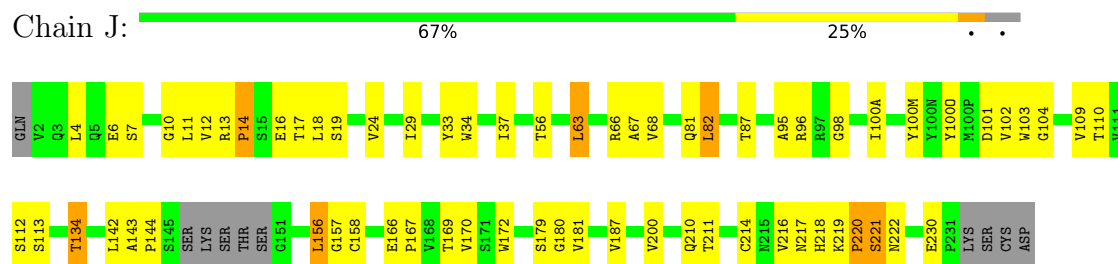
- Molecule 4: PGT124 Heavy Chain



- Molecule 4: PGT124 Heavy Chain

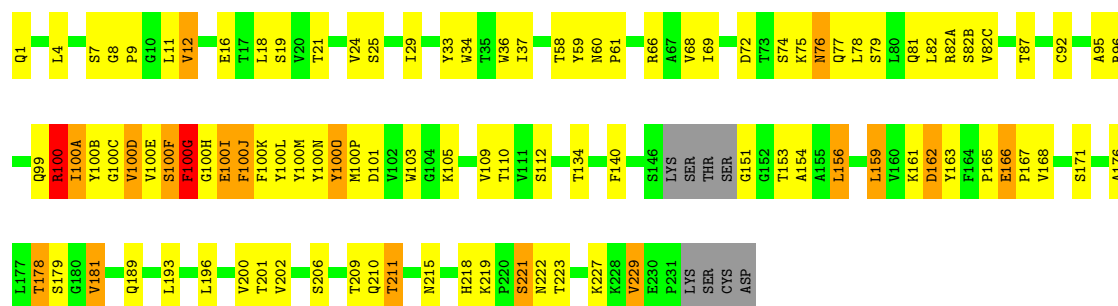


- Molecule 4: PGT124 Heavy Chain



- Molecule 4: PGT124 Heavy Chain

Chain N: 



- Molecule 5: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-6)-[alpha-D-mannopyranose-(1-3)]alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain G: 



- Molecule 5: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-6)-[alpha-D-mannopyranose-(1-3)]alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain R: 



- Molecule 5: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-6)-[alpha-D-mannopyranose-(1-3)]alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain S: 



- Molecule 5: alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-3)-[alpha-D-mannopyranose-(1-2)-alpha-D-mannopyranose-(1-6)-[alpha-D-mannopyranose-(1-3)]alpha-D-mannopyranose-(1-6)]beta-D-mannopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose-(1-4)-2-acetamido-2-deoxy-beta-D-glucopyranose

Chain V: 



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

Chain T: 50% 50%



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

Chain U: 100%



4 Data and refinement statistics

Property	Value	Source
Space group	P 21 21 21	Depositor
Cell constants a, b, c, α , β , γ	164.41Å 165.44Å 229.71Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	39.65 – 3.28 39.65 – 3.28	Depositor EDS
% Data completeness (in resolution range)	98.4 (39.65-3.28) 98.4 (39.65-3.28)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.97 (at 3.25Å)	Xtriage
Refinement program	PHENIX (phenix.refine: 1.8.1_1168)	Depositor
R, R_{free}	0.207 , 0.263 0.211 , 0.266	Depositor DCC
R_{free} test set	4722 reflections (4.91%)	wwPDB-VP
Wilson B-factor (Å ²)	94.1	Xtriage
Anisotropy	0.252	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.34 , 56.2	EDS
L-test for twinning ²	$\langle L \rangle = 0.47$, $\langle L^2 \rangle = 0.30$	Xtriage
Estimated twinning fraction	0.014 for k,h,-l	Xtriage
F_o, F_c correlation	0.92	EDS
Total number of atoms	29158	wwPDB-VP
Average B, all atoms (Å ²)	55.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 6.15% 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 ⓘ

5.1 Standard geometry ⓘ

Bond lengths and bond angles in the following residue types are not validated in this section: MAN, BMA, CL, GOL, NAG

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

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# $ Z > 5$	RMSZ	# $ Z > 5$
1	A	0.47	2/2419 (0.1%)	0.98	9/3268 (0.3%)
1	E	0.51	2/2427 (0.1%)	0.96	7/3279 (0.2%)
1	K	0.46	2/2427 (0.1%)	0.98	11/3279 (0.3%)
1	O	0.47	0/2427	0.94	7/3279 (0.2%)
2	B	0.39	0/1382	0.84	1/1863 (0.1%)
2	F	0.45	0/1382	0.90	1/1863 (0.1%)
2	H	0.49	2/1387 (0.1%)	0.95	7/1870 (0.4%)
2	L	0.40	2/1364 (0.1%)	0.87	3/1841 (0.2%)
3	C	0.47	1/1638 (0.1%)	0.92	5/2238 (0.2%)
3	I	0.48	0/1638	0.95	4/2238 (0.2%)
3	M	0.55	1/1638 (0.1%)	1.02	8/2238 (0.4%)
3	P	0.63	4/1638 (0.2%)	1.07	16/2238 (0.7%)
4	D	0.50	2/1759 (0.1%)	1.00	12/2402 (0.5%)
4	J	0.50	1/1763 (0.1%)	0.96	10/2407 (0.4%)
4	N	0.73	3/1778 (0.2%)	1.11	14/2427 (0.6%)
4	Q	0.54	1/1775 (0.1%)	1.05	8/2423 (0.3%)
All	All	0.51	23/28842 (0.1%)	0.97	123/39153 (0.3%)

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

Mol	Chain	#Chirality outliers	#Planarity outliers
3	M	0	1
3	P	0	2
All	All	0	3

All (23) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	N	100	ARG	CA-C	-18.43	1.29	1.52
3	P	40	PRO	N-CD	11.71	1.64	1.47
2	H	51	LEU	CA-C	9.66	1.66	1.52
3	P	164	THR	C-N	6.13	1.41	1.33
3	P	154	SER	C-N	5.72	1.41	1.33
3	C	8	PRO	N-CD	-5.72	1.39	1.47
1	A	206	PRO	N-CD	5.63	1.55	1.47
2	L	132	SER	C-N	5.49	1.41	1.34
1	E	368	ASP	C-N	5.45	1.40	1.33
1	K	299	PRO	N-CD	5.36	1.55	1.47
4	Q	165	PRO	N-CD	5.25	1.55	1.47
1	E	369	PRO	N-CD	5.25	1.55	1.47
4	N	8	GLY	C-N	5.19	1.41	1.34
4	N	9	PRO	N-CD	5.19	1.55	1.47
3	M	39	LYS	C-N	5.16	1.41	1.34
2	H	149	LEU	CA-C	5.14	1.59	1.52
4	D	13	ARG	C-N	5.14	1.41	1.34
2	L	133	PRO	N-CD	5.11	1.54	1.47
3	P	155	PRO	N-CD	5.09	1.54	1.47
4	D	14	PRO	N-CD	5.06	1.54	1.47
1	A	253	PRO	N-CD	5.05	1.54	1.47
1	K	298	ARG	C-N	5.03	1.40	1.34
4	J	82	LEU	C-N	5.01	1.45	1.34

All (123) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	K	463	SER	N-CA-C	11.35	126.83	109.23
1	A	251	ILE	N-CA-C	11.10	123.84	109.30
2	H	51	LEU	N-CA-C	11.02	126.23	113.01
1	K	464	GLU	N-CA-C	-10.79	99.60	111.36
4	N	179	SER	N-CA-C	10.62	125.67	108.99
4	Q	14	PRO	N-CA-C	10.00	133.06	112.47
4	N	221	SER	N-CA-C	9.78	125.87	113.55
2	H	51	LEU	CA-C-O	9.39	131.26	119.05
4	J	221	SER	N-CA-C	9.03	125.00	112.45
1	E	257	THR	N-CA-C	8.61	120.44	111.14
4	N	219	LYS	CA-C-N	-8.61	112.04	120.83
4	N	219	LYS	C-N-CA	-8.61	112.04	120.83
4	N	100(G)	PHE	N-CA-C	8.54	123.82	113.41
4	N	77	GLN	N-CA-C	8.49	122.24	108.41
4	Q	164	PHE	C-N-CD	8.46	139.21	120.60
1	K	460	LYS	N-CA-C	8.24	121.83	108.41

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	74	SER	N-CA-C	-8.13	102.36	111.14
2	H	103	ASN	N-CA-C	8.03	119.66	111.07
4	D	73	THR	N-CA-C	7.72	122.46	112.89
1	A	205	CYS	C-N-CD	7.49	137.08	120.60
1	O	366	GLY	N-CA-C	7.35	119.54	112.04
4	N	105	LYS	N-CA-C	-7.09	104.78	113.50
4	D	74	SER	N-CA-CB	7.00	120.22	110.07
1	O	107	ASP	N-CA-C	6.94	118.50	111.07
3	P	40	PRO	CA-N-CD	-6.80	102.47	112.00
3	P	154	SER	CA-C-N	-6.79	112.77	119.76
3	P	154	SER	C-N-CA	-6.79	112.77	119.76
3	P	164	THR	CA-C-N	-6.78	112.51	119.83
3	P	164	THR	C-N-CA	-6.78	112.51	119.83
3	P	94	ARG	N-CA-C	6.67	121.59	113.38
4	N	100	ARG	C-N-CA	-6.55	105.33	121.70
3	M	153	SER	N-CA-C	6.53	120.45	112.23
2	H	50	LYS	N-CA-C	-6.52	104.26	111.82
3	P	107	SER	N-CA-C	-6.50	92.79	111.00
4	N	178	THR	N-CA-C	-6.50	106.31	114.56
1	K	252	ARG	N-CA-C	-6.47	102.16	109.60
3	I	164	THR	CA-C-N	6.41	127.86	119.84
3	I	164	THR	C-N-CA	6.41	127.86	119.84
2	L	27	HIS	N-CA-C	6.34	118.40	107.93
4	J	13	ARG	CA-C-N	6.32	127.74	119.84
4	J	13	ARG	C-N-CA	6.32	127.74	119.84
4	D	100(G)	PHE	N-CA-C	6.31	121.22	112.45
2	F	108	LEU	N-CA-C	-6.29	98.92	108.67
1	K	393	SER	N-CA-C	6.26	118.82	108.99
1	O	380	GLY	N-CA-C	6.26	122.14	114.69
4	Q	132	ALA	N-CA-C	6.24	119.52	110.28
4	J	143	ALA	CA-C-N	6.23	126.68	120.52
4	J	143	ALA	C-N-CA	6.23	126.68	120.52
2	L	132	SER	CA-C-N	-6.18	112.54	118.97
2	L	132	SER	C-N-CA	-6.18	112.54	118.97
4	Q	221	SER	N-CA-C	6.04	121.17	113.55
3	P	39	LYS	CA-C-N	6.04	127.39	119.84
3	P	39	LYS	C-N-CA	6.04	127.39	119.84
3	I	90	MET	N-CA-C	5.98	118.27	108.52
3	M	120	PRO	CA-C-N	5.97	125.99	119.90
3	M	120	PRO	C-N-CA	5.97	125.99	119.90
3	C	164	THR	CA-C-N	5.95	127.28	119.84
3	C	164	THR	C-N-CA	5.95	127.28	119.84

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	P	11	LEU	N-CA-C	5.94	119.09	109.40
2	H	149	LEU	N-CA-C	5.87	120.17	112.89
3	P	116	VAL	N-CA-C	5.75	116.58	108.36
3	M	107	SER	N-CA-C	-5.67	95.11	111.00
2	B	140	GLY	N-CA-C	5.67	119.02	110.18
1	A	251	ILE	CB-CA-C	-5.66	102.77	111.71
1	A	105	GLN	N-CA-C	-5.59	104.88	110.97
1	A	252	ARG	CA-C-N	-5.59	112.86	119.84
1	A	252	ARG	C-N-CA	-5.59	112.86	119.84
4	D	13	ARG	CA-C-N	-5.56	112.88	119.05
4	D	13	ARG	C-N-CA	-5.56	112.88	119.05
4	N	8	GLY	CA-C-N	-5.54	112.90	119.05
4	N	8	GLY	C-N-CA	-5.54	112.90	119.05
3	P	120	PRO	O-C-N	5.53	123.75	121.15
4	D	73	THR	CB-CA-C	-5.53	98.44	109.99
1	E	113	ASP	N-CA-C	-5.53	102.71	110.50
1	K	298	ARG	CA-C-N	-5.50	112.94	119.05
1	K	298	ARG	C-N-CA	-5.50	112.94	119.05
3	P	40	PRO	N-CA-CB	5.47	108.99	103.25
4	Q	157	GLY	N-CA-C	5.46	119.10	111.19
1	E	368	ASP	CA-C-N	-5.45	113.29	119.28
1	E	368	ASP	C-N-CA	-5.45	113.29	119.28
4	J	210	GLN	N-CA-CB	-5.44	102.15	110.85
1	E	419	ARG	N-CA-C	-5.43	101.32	109.95
1	A	237	GLY	N-CA-C	5.42	117.57	112.04
4	N	100	ARG	CA-C-O	5.42	126.66	120.54
1	A	295	ASN	N-CA-C	5.41	117.22	108.41
2	H	149	LEU	CA-C-O	5.40	126.00	119.31
1	O	372	VAL	N-CA-C	-5.39	105.13	113.16
4	N	76	ASN	N-CA-C	-5.36	104.50	111.74
4	J	220	PRO	N-CA-C	5.35	120.88	113.98
4	J	221	SER	CB-CA-C	-5.34	100.02	110.11
1	A	206	PRO	CA-N-CD	-5.30	104.08	111.50
1	E	330	HIS	N-CA-C	5.27	116.85	108.79
3	P	8	PRO	CA-N-CD	-5.26	104.64	112.00
3	M	39	LYS	CA-C-N	-5.26	113.21	119.05
3	M	39	LYS	C-N-CA	-5.26	113.21	119.05
1	E	447	SER	N-CA-C	5.25	117.47	108.90
1	O	422	GLN	N-CA-C	-5.24	107.90	114.56
3	C	52	GLN	N-CA-C	5.20	116.95	111.28
4	D	79	SER	N-CA-C	5.20	117.37	108.90
1	O	330	HIS	N-CA-C	5.19	116.73	108.79

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	C	107	SER	N-CA-C	-5.19	96.47	111.00
4	D	82	LEU	O-C-N	5.19	131.00	122.70
4	D	157	GLY	N-CA-C	5.18	118.83	111.12
2	H	52	ASN	N-CA-C	5.18	119.91	111.37
4	D	221	SER	N-CA-C	5.17	119.49	112.04
1	K	469	ARG	CA-C-N	-5.17	115.25	120.21
1	K	469	ARG	C-N-CA	-5.17	115.25	120.21
4	Q	78	LEU	N-CA-C	-5.16	101.74	109.95
3	M	201	SER	N-CA-C	5.16	117.15	109.25
1	K	292	VAL	N-CA-C	5.16	115.53	107.99
4	D	100(J)	PHE	N-CA-C	5.16	121.78	110.80
4	Q	48	ILE	CB-CA-C	-5.11	105.35	112.04
4	J	12	VAL	CB-CA-C	-5.09	102.89	110.33
3	C	166	SER	N-CA-C	5.08	116.68	108.34
3	I	67	PHE	N-CA-C	5.08	119.36	112.04
4	J	66	ARG	N-CA-C	-5.08	108.11	114.56
3	P	58	ILE	CA-C-N	5.08	125.36	119.92
3	P	58	ILE	C-N-CA	5.08	125.36	119.92
3	M	138	SER	N-CA-C	5.07	115.74	108.74
1	K	252	ARG	N-CA-CB	5.07	117.20	109.75
4	N	176	ALA	N-CA-C	5.05	116.78	111.28
4	Q	14	PRO	N-CA-CB	-5.01	97.99	103.25
1	O	427	TRP	N-CA-C	-5.00	107.03	113.23

There are no chirality outliers.

All (3) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
3	M	106(A)	LEU	Peptide
3	P	106(A)	LEU	Peptide
3	P	95	SER	Mainchain

5.2 Too-close contacts ⓘ

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2375	0	2335	140	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	E	2383	0	2342	98	0
1	K	2383	0	2350	187	0
1	O	2383	0	2342	120	0
2	B	1363	0	1389	41	0
2	F	1363	0	1389	40	0
2	H	1368	0	1391	64	0
2	L	1345	0	1360	49	0
3	C	1595	0	1541	54	0
3	I	1595	0	1543	37	0
3	M	1595	0	1541	40	0
3	P	1595	0	1540	64	0
4	D	1716	0	1683	97	0
4	J	1720	0	1686	45	0
4	N	1735	0	1702	63	0
4	Q	1732	0	1696	81	0
5	G	116	0	96	11	0
5	R	116	0	96	16	0
5	S	116	0	96	13	0
5	V	116	0	96	28	0
6	T	28	0	25	1	0
6	U	28	0	25	5	0
7	A	84	0	78	7	0
7	E	112	0	104	3	0
7	K	70	0	65	6	0
7	O	98	0	91	6	0
8	A	1	0	0	0	0
8	E	1	0	0	1	0
8	K	1	0	0	1	0
8	O	1	0	0	0	0
9	D	6	0	8	4	0
9	J	6	0	8	14	0
9	N	6	0	8	3	0
9	Q	6	0	8	0	0
All	All	29158	0	28634	1233	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 21.

All (1233) 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:K:332:ASN:ND2	5:V:1:NAG:H82	1.26	1.44
3:P:150:LYS:CB	3:P:193:SER:OG	1.64	1.41
7:O:505:NAG:H62	7:O:506:NAG:C8	1.51	1.38
9:J:301:GOL:H32	5:V:7:MAN:C2	1.60	1.32
1:K:335:ARG:NE	1:K:410:GLY:HA3	1.48	1.29
3:P:150:LYS:CG	3:P:193:SER:OG	1.80	1.28
1:O:360:VAL:CG2	1:O:465:ILE:HD11	1.65	1.24
3:P:150:LYS:HB2	3:P:193:SER:OG	1.23	1.20
1:K:335:ARG:CZ	1:K:410:GLY:HA3	1.71	1.20
2:H:104:SER:HB3	2:H:108:LEU:CD1	1.72	1.19
4:D:18:LEU:CD1	4:D:109:VAL:HG11	1.72	1.18
4:D:12:VAL:HG21	4:D:18:LEU:HD12	1.28	1.15
1:K:460:LYS:HA	1:K:461:ASN:HB2	1.28	1.15
1:A:205:CYS:CB	1:A:206:PRO:HA	1.77	1.14
1:O:360:VAL:HG23	1:O:465:ILE:HD11	1.14	1.13
3:C:163:THR:CG2	3:C:164:THR:H	1.61	1.13
1:K:332:ASN:ND2	5:V:1:NAG:C8	2.11	1.12
2:L:101:THR:HG22	2:L:102:ALA:H	1.13	1.12
9:J:301:GOL:H32	5:V:7:MAN:C1	1.79	1.12
3:P:151:ALA:HB2	3:P:156:VAL:HG22	1.13	1.11
1:A:216:HIS:CD2	1:A:250:GLY:H	1.69	1.11
1:K:93:PHE:CE1	1:K:487:LYS:HB2	1.84	1.11
1:K:95:MET:HE3	1:K:484:TYR:CB	1.80	1.11
9:J:301:GOL:H32	5:V:7:MAN:H2	1.27	1.11
1:E:257:THR:CG2	1:E:375:SER:H	1.64	1.10
1:K:251:ILE:HG21	1:K:482:GLU:HG3	1.11	1.10
3:C:163:THR:HG22	3:C:164:THR:N	1.55	1.09
9:J:301:GOL:C3	5:V:7:MAN:H2	1.83	1.09
9:J:301:GOL:C3	5:V:7:MAN:C2	2.32	1.08
1:A:248:THR:HG22	1:A:250:GLY:HA3	1.30	1.08
1:E:257:THR:HG22	1:E:375:SER:H	1.10	1.08
1:A:207:LYS:HB2	1:A:437:PRO:O	1.52	1.08
3:C:17:GLU:O	3:C:78:VAL:HG23	1.54	1.07
7:O:505:NAG:H62	7:O:506:NAG:H81	1.27	1.06
1:K:332:ASN:CG	5:V:1:NAG:H82	1.79	1.06
3:C:163:THR:HG22	3:C:164:THR:H	0.89	1.05
1:K:258:GLN:CG	1:K:470:PRO:HB2	1.86	1.05
1:A:332:ASN:ND2	5:S:1:NAG:H82	1.71	1.05
1:A:216:HIS:CD2	1:A:250:GLY:N	2.24	1.04
1:K:405:GLU:OE1	1:K:405:GLU:N	1.90	1.04
7:O:505:NAG:C6	7:O:506:NAG:C8	2.36	1.03
9:J:301:GOL:H11	5:V:10:MAN:H62	1.41	1.03

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:104:SER:CB	2:H:108:LEU:HD21	1.88	1.03
2:H:104:SER:CB	2:H:108:LEU:HD11	1.87	1.02
1:O:335:ARG:HD2	1:O:411:ASN:O	1.58	1.02
2:H:104:SER:HB2	2:H:108:LEU:HD21	1.07	1.02
7:O:505:NAG:H62	7:O:506:NAG:H82	1.41	1.01
4:Q:29:ILE:HD11	4:Q:78:LEU:HD12	1.42	1.01
4:J:11:LEU:HD12	4:J:134:THR:HG22	1.41	1.01
1:A:249:HIS:CG	1:A:250:GLY:HA2	1.94	1.01
1:K:95:MET:HE3	1:K:484:TYR:HB2	1.36	1.01
3:P:150:LYS:N	3:P:193:SER:O	1.92	1.01
4:Q:34:TRP:HB3	4:Q:78:LEU:HD21	1.43	1.01
2:L:100:LEU:HD23	2:L:172:ILE:HD11	1.40	1.00
2:H:53:ASP:OD1	2:H:54:ARG:HG3	1.61	0.99
1:E:116:LEU:HD21	1:E:210:PHE:HB2	1.45	0.99
4:D:18:LEU:HD11	4:D:109:VAL:HG11	0.99	0.98
1:A:205:CYS:HB2	1:A:206:PRO:HA	1.42	0.98
4:N:100:ARG:O	4:N:100(J):PHE:HB2	1.63	0.98
3:P:150:LYS:HE2	3:P:150:LYS:HA	1.43	0.97
3:C:158:ALA:HA	1:K:114:GLN:NE2	1.79	0.97
2:H:30:ASN:HD21	2:H:34:ILE:HD12	1.26	0.97
2:L:101:THR:HG22	2:L:102:ALA:N	1.73	0.97
1:K:93:PHE:HE1	1:K:487:LYS:CD	1.76	0.97
2:B:112:GLN:HB2	2:B:149:LEU:HD22	1.47	0.97
2:B:54:ARG:NH2	2:B:78:ASP:OD2	1.96	0.96
4:D:18:LEU:HD11	4:D:109:VAL:CG1	1.95	0.96
1:E:335:ARG:HD2	1:E:411:ASN:O	1.63	0.96
3:P:87:TYR:CE1	3:P:101:ALA:HB2	2.01	0.95
1:A:218:CYS:HA	1:A:247:CYS:HB3	1.48	0.95
9:D:301:GOL:H11	5:R:2:NAG:HN2	1.30	0.95
2:L:101:THR:CG2	2:L:102:ALA:H	1.79	0.95
1:A:251:ILE:HG12	1:A:482:GLU:HG3	1.48	0.95
1:K:444:ARG:NH1	8:K:506:CL:CL	2.35	0.94
1:O:381:GLU:OE2	1:O:443:ILE:HD11	1.67	0.94
1:A:294:ILE:HG22	1:A:447:SER:O	1.67	0.94
1:K:93:PHE:CE1	1:K:487:LYS:HD2	2.03	0.94
1:E:462:GLU:HG3	1:E:463:SER:H	1.34	0.93
1:A:205:CYS:HB3	1:A:206:PRO:HA	1.49	0.93
1:A:295:ASN:OD1	1:A:446:SER:HB3	1.67	0.93
1:K:459:GLY:O	1:K:461:ASN:HB2	1.69	0.92
3:P:118:LEU:HD12	3:P:119:PHE:H	1.34	0.92
1:K:93:PHE:CE1	1:K:487:LYS:CB	2.52	0.92

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:Q:24:VAL:HG22	4:Q:76:ASN:HD21	1.34	0.91
3:M:48:ILE:HG23	3:M:51:ASN:O	1.69	0.91
1:O:360:VAL:CG2	1:O:465:ILE:CD1	2.48	0.91
2:H:104:SER:HB2	2:H:108:LEU:CD2	1.98	0.91
1:K:258:GLN:HG2	1:K:470:PRO:HB2	1.51	0.91
4:D:59:TYR:HE1	4:D:69:ILE:HD12	1.34	0.91
2:H:46:LYS:HB3	2:H:52:ASN:OD1	1.72	0.90
1:K:95:MET:CE	1:K:484:TYR:HB3	2.00	0.90
1:K:335:ARG:NE	1:K:410:GLY:CA	2.33	0.90
3:P:150:LYS:HG3	3:P:193:SER:OG	1.71	0.90
1:A:339:ASN:CG	6:U:1:NAG:H82	1.97	0.90
4:D:59:TYR:CE1	4:D:69:ILE:HD12	2.06	0.90
4:J:10:GLY:HA3	4:J:220:PRO:HB3	1.51	0.89
2:B:56:ASP:OD1	2:B:57:SER:N	2.05	0.89
1:K:95:MET:CE	1:K:484:TYR:CB	2.50	0.89
1:E:257:THR:HB	1:E:375:SER:OG	1.73	0.89
7:O:505:NAG:C6	7:O:506:NAG:H81	2.01	0.89
2:F:114:LEU:HA	2:F:115:THR:HB	1.55	0.89
2:H:104:SER:HB3	2:H:108:LEU:HD11	0.92	0.89
3:P:150:LYS:HA	3:P:150:LYS:CE	1.99	0.88
2:F:114:LEU:HA	2:F:115:THR:CB	2.03	0.88
1:K:335:ARG:CD	1:K:410:GLY:HA3	2.03	0.88
1:K:96:TRP:NE1	1:K:275:ASP:HA	1.88	0.88
1:K:258:GLN:HG3	1:K:470:PRO:HB2	1.53	0.88
1:E:257:THR:HG22	1:E:375:SER:N	1.88	0.88
2:H:30:ASN:HD21	2:H:34:ILE:CD1	1.87	0.88
3:P:160:VAL:HB	1:A:114:GLN:OE1	1.74	0.87
1:K:96:TRP:NE1	1:K:275:ASP:CA	2.38	0.87
1:K:323:ILE:HG13	1:K:324:GLY:CA	2.04	0.87
1:K:258:GLN:HG2	1:K:470:PRO:CB	2.04	0.87
1:A:207:LYS:HB3	1:A:436:ALA:HB1	1.56	0.87
1:A:381:GLU:HG3	1:A:443:ILE:HD13	1.57	0.87
1:A:335:ARG:O	1:A:339:ASN:HB2	1.73	0.86
1:O:370:GLU:HG3	1:O:384:TYR:OH	1.75	0.86
1:K:96:TRP:CD1	1:K:275:ASP:HB2	2.11	0.86
1:O:335:ARG:HE	1:O:411:ASN:H	1.23	0.85
4:D:13:ARG:HD2	4:D:16:GLU:OE2	1.75	0.85
2:H:30:ASN:ND2	2:H:34:ILE:HD12	1.90	0.85
4:N:221:SER:HB3	4:N:223:THR:H	1.39	0.85
4:J:181:VAL:HG12	4:J:200:VAL:HB	1.57	0.85
1:K:460:LYS:CA	1:K:461:ASN:HB2	2.06	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:360:VAL:HG23	1:O:465:ILE:CD1	2.03	0.84
1:K:389:GLN:HB3	1:K:414:ILE:HD11	1.59	0.84
1:O:360:VAL:HG21	1:O:465:ILE:HD11	1.59	0.84
1:E:444:ARG:NH1	8:E:509:CL:CL	2.47	0.84
1:K:96:TRP:CD1	1:K:275:ASP:CB	2.60	0.84
3:C:48:ILE:HG22	3:C:51:ASN:O	1.76	0.84
3:C:48:ILE:CG2	3:C:51:ASN:O	2.25	0.84
3:C:93:SER:OG	1:O:325:ASP:OD1	1.95	0.83
1:K:93:PHE:HE1	1:K:487:LYS:HD2	1.39	0.83
1:K:251:ILE:CG2	1:K:482:GLU:HG3	2.02	0.83
4:Q:29:ILE:HD11	4:Q:78:LEU:CD1	2.07	0.83
1:E:335:ARG:CD	1:E:411:ASN:O	2.26	0.83
1:O:292:VAL:O	1:O:449:ILE:HG13	1.79	0.83
2:L:132:SER:HB3	2:L:135:GLY:O	1.77	0.83
4:N:151:GLY:HA3	4:N:153:THR:H	1.43	0.83
3:P:151:ALA:HB3	3:P:154:SER:O	1.78	0.82
3:M:30:SER:OG	1:A:325:ASP:OD2	1.96	0.82
1:K:346:VAL:HG22	1:K:359:ILE:HD11	1.59	0.82
4:D:12:VAL:CG2	4:D:18:LEU:HD12	2.06	0.82
1:O:463:SER:HB3	1:O:465:ILE:HG22	1.62	0.82
2:B:112:GLN:HB2	2:B:149:LEU:CD2	2.09	0.82
1:K:215:ILE:O	1:K:250:GLY:HA2	1.79	0.81
1:K:251:ILE:HG21	1:K:482:GLU:CG	2.04	0.81
1:E:116:LEU:HD21	1:E:210:PHE:CB	2.11	0.81
9:J:301:GOL:H12	5:V:10:MAN:O6	1.79	0.81
2:B:24:ILE:HG13	2:B:25:GLN:H	1.46	0.81
1:A:205:CYS:CB	1:A:206:PRO:CA	2.58	0.81
1:K:260:LEU:CD1	1:K:451:GLY:C	2.53	0.81
1:K:260:LEU:HD12	1:K:451:GLY:C	2.05	0.81
3:P:150:LYS:HB2	3:P:193:SER:CB	2.11	0.81
1:K:332:ASN:HD22	5:V:1:NAG:H82	1.41	0.80
2:F:102:ALA:O	2:F:115:THR:HG22	1.81	0.79
1:K:357:LYS:CD	1:K:464:GLU:O	2.31	0.79
1:A:217:TYR:O	1:A:247:CYS:CB	2.31	0.79
1:O:270:VAL:HG12	1:O:289:ASN:HB2	1.65	0.79
4:Q:34:TRP:CB	4:Q:78:LEU:HD21	2.13	0.79
3:P:5:TYR:O	3:P:6:VAL:HG12	1.81	0.78
2:B:112:GLN:CB	2:B:149:LEU:HD22	2.13	0.78
1:K:323:ILE:HG13	1:K:324:GLY:HA2	1.63	0.78
1:K:333:ILE:O	1:K:414:ILE:HG22	1.83	0.78
4:D:24:VAL:HG22	4:D:76:ASN:HD21	1.49	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:335:ARG:CZ	1:O:410:GLY:HA3	2.14	0.78
3:P:157:LYS:HD3	1:A:110:ASN:OD1	1.83	0.77
1:K:460:LYS:HA	1:K:461:ASN:CB	1.99	0.77
4:Q:137:PRO:HB3	4:Q:163:TYR:HB3	1.67	0.77
4:D:18:LEU:CD1	4:D:109:VAL:CG1	2.57	0.77
1:K:96:TRP:CD1	1:K:275:ASP:HA	2.19	0.77
1:K:299:PRO:HA	1:K:442:GLN:HG2	1.67	0.77
9:D:301:GOL:H11	5:R:2:NAG:N2	1.99	0.77
1:E:257:THR:HG21	1:E:370:GLU:O	1.84	0.77
1:O:335:ARG:NE	1:O:411:ASN:H	1.81	0.77
1:K:251:ILE:HG12	1:K:482:GLU:OE1	1.85	0.77
1:K:266:ALA:HB2	1:K:287:GLN:HG2	1.66	0.77
1:K:357:LYS:HD3	1:K:464:GLU:O	1.85	0.77
3:P:150:LYS:HB2	3:P:193:SER:O	1.85	0.76
4:D:55:GLU:HG3	4:D:71:ARG:NH2	2.00	0.76
9:J:301:GOL:H11	5:V:10:MAN:C6	2.13	0.76
1:E:462:GLU:HG3	1:E:463:SER:N	2.00	0.76
1:O:360:VAL:HG21	1:O:465:ILE:CD1	2.13	0.76
1:K:96:TRP:CG	1:K:275:ASP:HB2	2.19	0.76
1:E:263:GLY:O	1:E:450:THR:HG21	1.86	0.76
1:A:295:ASN:OD1	1:A:446:SER:CB	2.34	0.76
1:K:93:PHE:HE1	1:K:487:LYS:CB	1.97	0.75
1:O:273:ARG:NH2	1:O:484:TYR:CE2	2.55	0.75
1:K:251:ILE:HG12	1:K:482:GLU:CD	2.11	0.75
4:D:169:THR:HB	4:D:217:ASN:HB3	1.69	0.75
2:H:105:ASP:OD1	2:H:106:THR:N	2.20	0.74
1:A:265:LEU:HD22	1:A:288:LEU:O	1.87	0.74
1:A:339:ASN:ND2	6:U:1:NAG:H82	2.01	0.74
2:L:133:PRO:HG3	2:L:156:THR:O	1.88	0.74
4:Q:202:VAL:CG2	4:Q:203:PRO:HD2	2.18	0.74
4:Q:221:SER:HB3	4:Q:223:THR:HG23	1.70	0.74
1:K:93:PHE:CE1	1:K:487:LYS:CD	2.62	0.74
1:K:298:ARG:NH1	1:K:300:SER:O	2.20	0.74
1:E:258:GLN:HG2	1:E:470:PRO:HB2	1.70	0.74
1:O:258:GLN:OE1	1:O:374:HIS:CA	2.36	0.74
1:O:263:GLY:O	1:O:450:THR:HG21	1.88	0.73
1:O:95:MET:SD	1:O:273:ARG:HD3	2.28	0.73
2:H:53:ASP:OD1	2:H:54:ARG:N	2.22	0.73
1:K:362:THR:HG22	1:K:363:HIS:N	2.03	0.73
2:H:104:SER:CB	2:H:108:LEU:CD2	2.63	0.73
3:P:151:ALA:HB2	3:P:156:VAL:CG2	2.06	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:125:SER:HB2	2:B:163:GLN:HE22	1.54	0.73
1:O:323:ILE:N	1:O:324:GLY:HA2	2.03	0.72
4:D:173:ASN:HB3	4:D:176:ALA:O	1.89	0.72
2:H:106:THR:HG23	2:H:107:HIS:N	2.04	0.72
1:O:460:LYS:O	1:O:462:GLU:HG2	1.89	0.72
1:E:293:LYS:HE2	1:E:448:ASN:OD1	1.89	0.72
1:O:270:VAL:CG1	1:O:289:ASN:HB2	2.19	0.72
1:K:335:ARG:CZ	1:K:410:GLY:CA	2.61	0.72
1:K:465:ILE:N	1:K:465:ILE:HD12	2.05	0.72
1:O:231:LYS:HE3	1:O:267:GLU:OE1	1.89	0.72
1:A:251:ILE:HD13	1:A:482:GLU:OE1	1.90	0.72
4:Q:94:THR:HG21	4:Q:96:ARG:HH21	1.53	0.72
4:D:12:VAL:HG21	4:D:18:LEU:CD1	2.15	0.72
3:P:160:VAL:CB	1:A:114:GLN:OE1	2.37	0.72
1:A:443:ILE:O	1:A:443:ILE:HG13	1.89	0.72
1:E:301:ASN:C	1:E:302:ASN:HD22	1.97	0.71
9:J:301:GOL:H31	5:V:7:MAN:H2	1.70	0.71
3:P:118:LEU:HD12	3:P:119:PHE:N	2.04	0.71
4:Q:202:VAL:HG22	4:Q:203:PRO:HD2	1.71	0.71
1:O:332:ASN:ND2	5:R:1:NAG:H82	2.05	0.71
1:K:404:THR:OG1	7:K:504:NAG:O7	2.03	0.71
4:D:2:VAL:HA	4:D:26:GLY:HA3	1.72	0.71
1:K:279:ASP:OD1	7:K:501:NAG:H82	1.91	0.71
1:K:332:ASN:ND2	5:V:1:NAG:C7	2.53	0.71
2:H:106:THR:HG23	2:H:107:HIS:H	1.54	0.71
7:A:501:NAG:H61	7:A:506:NAG:H82	1.73	0.71
1:K:298:ARG:NH2	1:K:441:GLY:O	2.24	0.71
1:K:323:ILE:CG1	1:K:324:GLY:HA2	2.20	0.70
1:K:362:THR:HG22	1:K:363:HIS:H	1.56	0.70
3:M:66(B):ILE:HD12	3:M:66(C):ASN:H	1.56	0.70
2:F:109:LEU:H	2:F:112:GLN:HE21	1.39	0.70
4:N:59:TYR:HE1	4:N:69:ILE:HG13	1.56	0.70
1:K:277:PHE:O	1:K:456:ARG:NH2	2.24	0.70
2:B:24:ILE:HG13	2:B:25:GLN:N	2.06	0.70
4:N:11:LEU:CD2	4:N:112:SER:HB3	2.22	0.70
2:B:109:LEU:O	2:B:149:LEU:HD23	1.92	0.70
1:A:333:ILE:HD12	1:A:390:LEU:HD21	1.74	0.70
3:I:133:LEU:HD22	3:I:179:LEU:HD23	1.74	0.69
1:K:96:TRP:CD1	1:K:275:ASP:CA	2.75	0.69
1:K:404:THR:N	1:K:405:GLU:OE1	2.25	0.69
2:L:30:ASN:HD21	2:L:34:ILE:HB	1.56	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:465:ILE:HD12	1:K:465:ILE:H	1.58	0.69
4:D:55:GLU:CD	4:D:71:ARG:HH21	1.99	0.69
1:A:204:ALA:O	1:A:205:CYS:SG	2.50	0.69
1:K:92:ASP:HB3	1:K:238:GLN:HA	1.73	0.69
4:D:139:VAL:HG12	4:D:160:VAL:HG13	1.75	0.69
1:K:335:ARG:CD	1:K:410:GLY:CA	2.69	0.69
4:Q:6:GLU:OE1	4:Q:106:GLY:N	2.26	0.69
4:Q:29:ILE:CD1	4:Q:78:LEU:HD12	2.20	0.69
2:H:104:SER:HB3	2:H:108:LEU:CG	2.23	0.68
2:L:128:VAL:HB	2:L:144:LEU:HD11	1.75	0.68
1:K:332:ASN:HD22	5:V:1:NAG:C8	2.02	0.68
2:B:105:ASP:O	2:B:106:THR:OG1	2.08	0.68
4:N:171:SER:HB3	4:N:215:ASN:HB2	1.74	0.68
1:A:205:CYS:HB3	1:A:206:PRO:CA	2.23	0.68
4:D:34:TRP:HB3	4:D:78:LEU:HD22	1.74	0.68
1:O:335:ARG:NE	1:O:410:GLY:HA3	2.08	0.68
1:K:279:ASP:CG	7:K:501:NAG:H82	2.18	0.68
9:D:301:GOL:C1	5:R:2:NAG:HN2	2.05	0.68
1:O:381:GLU:OE2	1:O:443:ILE:CD1	2.39	0.68
1:O:334:SER:HB3	1:O:337:GLN:HG3	1.76	0.68
1:E:335:ARG:NE	1:E:411:ASN:O	2.26	0.68
3:P:150:LYS:HE3	3:P:195:GLN:OE1	1.93	0.68
3:C:6:VAL:HG13	3:C:6:VAL:O	1.93	0.68
2:H:104:SER:CB	2:H:108:LEU:CG	2.72	0.67
3:I:27:ALA:HB2	3:I:90:MET:HE1	1.76	0.67
1:K:260:LEU:CD1	1:K:452:LEU:N	2.58	0.67
1:E:116:LEU:HD11	1:E:210:PHE:CD2	2.29	0.67
2:H:104:SER:CB	2:H:108:LEU:CD1	2.62	0.67
3:M:52:GLN:H	3:M:52:GLN:NE2	1.93	0.67
1:A:249:HIS:CD2	1:A:250:GLY:HA2	2.30	0.67
1:K:357:LYS:HB3	1:K:464:GLU:O	1.94	0.67
2:F:80:ASP:OD1	2:F:81:THR:N	2.25	0.66
3:C:163:THR:CG2	3:C:164:THR:N	2.28	0.66
4:J:4:LEU:HD23	4:J:24:VAL:HG12	1.76	0.66
4:J:10:GLY:CA	4:J:220:PRO:HB3	2.25	0.66
4:D:173:ASN:CB	4:D:176:ALA:O	2.42	0.66
9:J:301:GOL:C3	5:V:7:MAN:O2	2.43	0.66
2:L:5:LEU:H	2:L:166:LYS:HZ3	1.40	0.66
3:M:34:GLN:HB2	3:M:89:HIS:HB3	1.78	0.66
1:A:332:ASN:HD22	5:S:1:NAG:H82	1.60	0.66
1:A:248:THR:HG22	1:A:250:GLY:CA	2.17	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:463:SER:O	1:A:464:GLU:HB2	1.94	0.66
1:E:113:ASP:O	1:E:114:GLN:HG2	1.96	0.66
1:O:123:THR:HG22	1:O:198:GLY:H	1.61	0.66
1:A:298:ARG:HD3	1:A:420:ILE:HD12	1.76	0.66
2:H:80:ASP:OD1	2:H:81:THR:N	2.25	0.65
3:M:18:THR:HG23	3:M:76:SER:HA	1.78	0.65
4:Q:221:SER:HB2	4:Q:223:THR:H	1.62	0.65
4:N:11:LEU:CD1	4:N:165:PRO:HD3	2.27	0.65
2:H:149:LEU:O	2:H:153:ASP:HB2	1.96	0.65
3:I:164:THR:HG23	3:I:164:THR:O	1.96	0.65
3:M:184:GLU:N	3:M:184:GLU:OE1	2.26	0.65
1:K:266:ALA:HB2	1:K:287:GLN:CG	2.26	0.65
1:E:413:THR:HG23	1:E:413:THR:O	1.97	0.65
1:K:95:MET:CE	1:K:484:TYR:HB2	2.18	0.65
1:A:254:VAL:HG11	7:A:501:NAG:H82	1.78	0.65
3:P:150:LYS:HB2	3:P:193:SER:C	2.22	0.65
1:K:96:TRP:HE1	1:K:275:ASP:HA	1.60	0.65
4:Q:34:TRP:HB3	4:Q:78:LEU:CD2	2.25	0.65
2:H:53:ASP:OD1	2:H:54:ARG:CG	2.41	0.65
1:O:324:GLY:O	1:O:325:ASP:HB2	1.97	0.65
4:D:72:ASP:OD1	4:D:75:LYS:HB2	1.97	0.65
4:D:75:LYS:HB3	4:D:77:GLN:HG2	1.79	0.65
4:J:172:TRP:CD1	4:J:181:VAL:HG11	2.32	0.65
1:E:294:ILE:HG13	1:E:333:ILE:HG12	1.79	0.65
3:I:149:TRP:CZ3	3:I:194:CYS:HB2	2.31	0.65
1:E:386:ASN:O	1:E:416:LEU:HD22	1.97	0.64
1:E:257:THR:HG21	1:E:373:MET:O	1.97	0.64
2:B:125:SER:N	2:B:163:GLN:OE1	2.27	0.64
3:I:34:GLN:HG3	3:I:49:TYR:HA	1.78	0.64
3:M:31:ARG:NH1	3:M:66(A):ASP:OD1	2.30	0.64
1:E:354:ASN:O	1:E:356:ASN:HB2	1.97	0.64
4:J:4:LEU:HD21	4:J:34:TRP:HZ3	1.62	0.64
1:A:332:ASN:CG	5:S:1:NAG:H82	2.21	0.64
1:K:96:TRP:NE1	1:K:275:ASP:N	2.44	0.64
9:N:301:GOL:H32	5:S:10:MAN:H62	1.79	0.64
2:H:130:CYS:HA	2:H:159:CYS:HA	1.78	0.64
3:I:193:SER:HB3	3:I:206:THR:HG22	1.80	0.64
4:N:11:LEU:HD12	4:N:134:THR:CG2	2.28	0.64
2:B:54:ARG:HH12	2:B:78:ASP:CG	2.05	0.64
3:C:5:TYR:O	3:C:6:VAL:HG12	1.98	0.64
3:I:20:ARG:HG2	3:I:74:THR:HG23	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:238:GLN:H	1:O:238:GLN:CD	2.06	0.64
1:O:370:GLU:CG	1:O:384:TYR:OH	2.46	0.64
2:F:112:GLN:O	2:F:149:LEU:CB	2.45	0.63
9:J:301:GOL:C1	5:V:10:MAN:O6	2.47	0.63
1:A:339:ASN:ND2	6:U:1:NAG:C7	2.61	0.63
2:H:32:ASN:O	2:H:33:GLN:HB2	1.98	0.63
1:K:260:LEU:HD13	1:K:451:GLY:C	2.23	0.63
3:P:152:ASP:O	3:P:153:SER:HB2	1.98	0.63
2:L:133:PRO:HG3	2:L:156:THR:C	2.23	0.63
2:H:150:GLU:HG2	2:H:150:GLU:O	1.97	0.63
1:A:279:ASP:CG	7:A:502:NAG:H82	2.22	0.63
4:Q:163:TYR:OH	4:Q:196:LEU:HD23	1.99	0.63
1:O:332:ASN:OD1	1:O:415:ILE:HG12	1.98	0.63
5:S:1:NAG:O3	5:S:2:NAG:O5	2.17	0.63
3:P:37:GLN:HB2	3:P:47:LEU:HD11	1.80	0.62
3:P:87:TYR:CZ	3:P:101:ALA:HB2	2.34	0.62
4:J:170:VAL:HG22	4:J:216:VAL:HG22	1.81	0.62
1:O:335:ARG:CD	1:O:411:ASN:O	2.43	0.62
2:F:115:THR:HG22	2:F:115:THR:O	2.00	0.62
1:E:94:ASN:ND2	1:E:97:LYS:HB2	2.15	0.62
3:P:5:TYR:O	3:P:6:VAL:CG1	2.47	0.62
4:D:72:ASP:OD1	4:D:75:LYS:N	2.23	0.62
2:F:36:ILE:HD12	2:F:51:LEU:HD12	1.81	0.62
2:H:46:LYS:CB	2:H:52:ASN:OD1	2.46	0.62
4:Q:99:GLN:HE21	5:G:9:MAN:C6	2.12	0.62
1:E:266:ALA:HB2	1:E:287:GLN:CG	2.30	0.62
1:E:332:ASN:CG	5:G:1:NAG:H82	2.25	0.62
4:D:100(B):TYR:CE1	4:D:100(I):GLU:HB3	2.35	0.61
1:K:225:ILE:HG23	1:K:487:LYS:O	1.99	0.61
1:K:294:ILE:HG13	1:K:333:ILE:HG12	1.82	0.61
1:A:207:LYS:CB	1:A:437:PRO:O	2.41	0.61
1:A:358:THR:OG1	1:A:465:ILE:HG12	1.99	0.61
1:K:299:PRO:HG2	1:K:327:ARG:CB	2.30	0.61
1:E:294:ILE:HG22	1:E:447:SER:O	2.00	0.61
3:I:150:LYS:HB2	3:I:193:SER:OG	2.01	0.61
4:Q:99:GLN:HE21	5:G:9:MAN:H62	1.65	0.61
3:C:196:VAL:HG22	3:C:203:VAL:HG22	1.83	0.61
4:D:11:LEU:HG	4:D:165:PRO:HG3	1.82	0.61
3:P:13:VAL:HG21	3:P:19:ALA:HB2	1.82	0.61
2:H:30:ASN:HD21	2:H:34:ILE:CG1	2.12	0.61
2:L:118:LEU:HB3	2:L:142:LYS:O	2.00	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:381:GLU:HG2	1:A:438:PRO:HG3	1.83	0.61
2:L:98:PHE:HE1	2:L:120:SER:HB2	1.65	0.61
4:J:181:VAL:HG12	4:J:200:VAL:CB	2.28	0.61
1:K:93:PHE:CD1	1:K:487:LYS:HD2	2.35	0.61
3:M:61:ARG:NH2	3:M:82:ASP:OD2	2.29	0.61
4:N:11:LEU:HD12	4:N:134:THR:HG23	1.83	0.61
1:O:258:GLN:OE1	1:O:374:HIS:N	2.33	0.61
1:K:215:ILE:O	1:K:250:GLY:CA	2.48	0.61
5:G:1:NAG:O3	5:G:2:NAG:O5	2.17	0.60
4:Q:101:ASP:OD1	4:Q:102:VAL:HG23	2.00	0.60
1:K:322:ILE:HG23	1:K:322:ILE:O	2.02	0.60
1:K:92:ASP:CB	1:K:238:GLN:HG3	2.31	0.60
1:O:335:ARG:HG3	1:O:414:ILE:HD11	1.82	0.60
4:D:29:ILE:HG13	4:D:71:ARG:HD2	1.83	0.60
9:D:301:GOL:O3	5:R:7:MAN:H2	2.01	0.60
2:H:105:ASP:O	2:H:108:LEU:CD1	2.49	0.60
1:K:251:ILE:CG1	1:K:482:GLU:OE1	2.48	0.60
1:E:257:THR:HG21	1:E:375:SER:H	1.60	0.60
3:I:195:GLN:HB3	3:I:204:GLU:HG3	1.82	0.60
9:J:301:GOL:C1	5:V:10:MAN:C6	2.79	0.60
4:N:11:LEU:HD11	4:N:165:PRO:HD3	1.84	0.60
1:E:276:ASN:HD22	1:E:279:ASP:HB2	1.67	0.59
3:P:150:LYS:HG2	3:P:193:SER:OG	1.95	0.59
4:Q:139:VAL:HB	4:Q:160:VAL:HG12	1.84	0.59
2:L:114:LEU:HB3	2:L:146:VAL:HG13	1.84	0.59
1:K:251:ILE:HB	1:K:482:GLU:OE1	2.02	0.59
1:K:297:THR:HG23	1:K:299:PRO:HD3	1.84	0.59
1:K:298:ARG:O	1:K:298:ARG:HG2	2.01	0.59
5:R:1:NAG:O3	5:R:2:NAG:O5	2.17	0.59
1:E:301:ASN:O	1:E:302:ASN:ND2	2.28	0.59
3:P:6:VAL:HG22	3:P:6:VAL:O	2.01	0.59
3:P:125:GLU:OE2	3:P:132:THR:N	2.35	0.59
3:C:47:LEU:O	3:C:48:ILE:HD13	2.01	0.59
4:J:142:LEU:HB2	4:J:157:GLY:C	2.27	0.59
1:A:217:TYR:O	1:A:247:CYS:CA	2.50	0.59
3:P:157:LYS:CD	1:A:110:ASN:OD1	2.51	0.59
1:O:257:THR:O	1:O:258:GLN:HB2	2.02	0.59
1:A:215:ILE:O	1:A:250:GLY:O	2.19	0.59
1:K:459:GLY:C	1:K:461:ASN:HB2	2.27	0.59
1:E:200:VAL:HG12	1:E:200:VAL:O	2.01	0.59
1:E:266:ALA:HB2	1:E:287:GLN:HG2	1.84	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:105:ASP:O	2:F:106:THR:OG1	2.11	0.59
1:O:323:ILE:HG23	1:O:323:ILE:O	2.02	0.59
1:K:92:ASP:CG	1:K:238:GLN:HG3	2.27	0.59
1:O:258:GLN:OE1	1:O:374:HIS:HB2	2.01	0.59
1:A:104:MET:O	1:A:108:VAL:HG23	2.03	0.59
2:B:80:ASP:OD1	2:B:81:THR:N	2.36	0.59
3:C:6:VAL:HA	3:C:101:ALA:O	2.03	0.59
4:D:82(A):ARG:NH2	1:A:437:PRO:HD3	2.17	0.59
4:Q:172:TRP:HD1	4:Q:181:VAL:HG21	1.68	0.59
4:D:215:ASN:C	4:D:224:LYS:HZ1	2.11	0.59
2:L:37:LEU:HD11	2:L:44:LEU:HD11	1.85	0.59
4:N:221:SER:CB	4:N:223:THR:H	2.13	0.59
4:J:144:PRO:HD3	4:J:156:LEU:HD12	1.85	0.59
3:M:14:ALA:HB3	3:M:17:GLU:HG3	1.84	0.59
1:A:216:HIS:HD2	1:A:250:GLY:H	1.44	0.59
4:Q:101:ASP:OD1	4:Q:102:VAL:N	2.34	0.58
4:Q:156:LEU:HB2	4:Q:229:VAL:HG11	1.85	0.58
2:F:112:GLN:O	2:F:149:LEU:HB2	2.03	0.58
3:P:150:LYS:CB	3:P:193:SER:CB	2.75	0.58
4:Q:5:GLN:OE1	4:Q:105:LYS:HG3	2.03	0.58
4:N:189:GLN:HG2	4:N:193:LEU:O	2.03	0.58
1:K:208:VAL:HG12	1:K:209:SER:O	2.04	0.58
4:D:100(D):VAL:HG12	4:D:100(F):SER:HB3	1.86	0.58
1:E:366:GLY:HA3	2:F:46:LYS:HB2	1.85	0.58
1:E:389:GLN:HG2	7:E:506:NAG:H81	1.85	0.58
1:A:216:HIS:NE2	1:A:250:GLY:N	2.51	0.58
4:J:181:VAL:HG12	4:J:200:VAL:CG2	2.34	0.58
1:O:463:SER:O	1:O:464:GLU:HB2	2.03	0.58
1:A:298:ARG:NE	1:A:381:GLU:OE2	2.37	0.58
1:A:362:THR:HG22	1:A:363:HIS:N	2.19	0.58
3:P:152:ASP:HB3	3:P:191:SER:O	2.03	0.57
4:D:100(D):VAL:O	4:D:100(I):GLU:HG2	2.04	0.57
4:J:6:GLU:OE2	4:J:104:GLY:HA3	2.04	0.57
1:A:381:GLU:HG3	1:A:443:ILE:CD1	2.31	0.57
2:B:109:LEU:HB3	2:B:112:GLN:CD	2.30	0.57
4:D:6:GLU:OE2	4:D:104:GLY:HA3	2.04	0.57
2:H:44:LEU:HB3	2:H:59:ARG:HH11	1.68	0.57
1:A:112:TRP:O	1:A:116:LEU:O	2.22	0.57
1:E:257:THR:CB	1:E:375:SER:OG	2.51	0.57
4:D:24:VAL:HG22	4:D:76:ASN:ND2	2.20	0.57
2:L:101:THR:CG2	2:L:102:ALA:N	2.43	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:231:LYS:HG2	1:O:267:GLU:OE1	2.03	0.57
1:A:249:HIS:ND1	1:A:250:GLY:HA2	2.16	0.57
1:A:346:VAL:HG22	1:A:359:ILE:HD11	1.85	0.57
4:D:68:VAL:HG13	4:D:81:GLN:HB2	1.86	0.57
5:V:1:NAG:O3	5:V:2:NAG:O5	2.17	0.57
2:F:102:ALA:O	2:F:115:THR:O	2.23	0.57
1:K:465:ILE:H	1:K:465:ILE:CD1	2.18	0.57
1:E:104:MET:HG2	1:E:479:TRP:HB3	1.87	0.57
1:A:346:VAL:HG12	1:A:398:THR:HG22	1.85	0.57
4:Q:87:THR:HG23	4:Q:110:THR:HA	1.86	0.57
4:Q:204:SER:HA	4:Q:207:LEU:HG	1.85	0.57
1:K:299:PRO:HG2	1:K:327:ARG:HB2	1.86	0.57
4:Q:18:LEU:HD21	4:Q:20:VAL:HG13	1.86	0.57
1:O:332:ASN:CG	5:R:1:NAG:H82	2.30	0.57
4:Q:221:SER:H	4:Q:222:ASN:HA	1.69	0.57
3:C:182:THR:OG1	3:C:185:GLN:HG2	2.05	0.57
5:V:4:MAN:O3	5:V:5:MAN:C1	2.53	0.57
2:B:7:LYS:NZ	2:B:169:GLU:O	2.21	0.57
1:A:339:ASN:ND2	6:U:1:NAG:C8	2.68	0.57
1:A:216:HIS:NE2	1:A:249:HIS:O	2.38	0.56
1:A:217:TYR:H	1:A:248:THR:HB	1.70	0.56
4:D:173:ASN:O	4:D:176:ALA:O	2.22	0.56
4:D:176:ALA:HB1	4:D:177:LEU:HA	1.86	0.56
4:J:33:TYR:HB2	4:J:95:ALA:O	2.05	0.56
1:A:373:MET:HB3	1:A:385:CYS:O	2.05	0.56
4:D:66:ARG:NH1	4:D:82:LEU:HD22	2.20	0.56
3:P:160:VAL:CG2	1:A:114:GLN:OE1	2.54	0.56
4:N:59:TYR:CE1	4:N:69:ILE:HG13	2.40	0.56
1:K:336:ALA:N	7:K:504:NAG:O6	2.39	0.56
2:H:36:ILE:HD12	2:H:51:LEU:HD12	1.87	0.56
5:R:4:MAN:O3	5:R:5:MAN:C1	2.53	0.56
2:B:54:ARG:NH1	2:B:78:ASP:OD1	2.28	0.56
2:L:100:LEU:O	2:L:117:THR:O	2.23	0.56
1:O:270:VAL:HG23	1:O:348:LYS:HG3	1.86	0.56
1:O:322:ILE:O	1:O:323:ILE:HG22	2.05	0.56
1:K:101:VAL:HG23	1:K:479:TRP:HB2	1.87	0.56
6:T:1:NAG:O3	6:T:2:NAG:O5	2.22	0.56
3:P:59:PRO:HB2	3:P:61:ARG:HG2	1.88	0.56
4:Q:216:VAL:HB	4:Q:225:VAL:HG13	1.88	0.56
2:B:103:ASN:HD21	2:B:114:LEU:HA	1.71	0.56
3:P:5:TYR:C	3:P:6:VAL:HG12	2.31	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:216:HIS:CD2	1:A:249:HIS:C	2.84	0.56
2:F:109:LEU:H	2:F:112:GLN:NE2	2.03	0.56
4:Q:172:TRP:CD1	4:Q:181:VAL:CG2	2.89	0.56
2:B:150:GLU:HB3	2:B:152:GLN:OE1	2.06	0.56
4:D:29:ILE:HG13	4:D:71:ARG:CD	2.35	0.56
3:I:191:SER:OG	3:I:192:TYR:N	2.38	0.56
1:K:483:LEU:HA	1:K:486:TYR:HD2	1.71	0.56
4:N:19:SER:HB2	4:N:81:GLN:HG3	1.87	0.56
1:A:335:ARG:HG3	1:A:414:ILE:HD11	1.87	0.56
2:L:5:LEU:HG	2:L:166:LYS:HD3	1.88	0.55
1:O:370:GLU:HG3	1:O:384:TYR:CZ	2.42	0.55
1:A:217:TYR:O	1:A:247:CYS:HB2	2.06	0.55
3:C:55:PRO:HD2	3:C:58:ILE:HG13	1.88	0.55
1:K:459:GLY:O	1:K:461:ASN:CB	2.48	0.55
4:D:218:HIS:ND1	4:D:221:SER:OG	2.29	0.55
3:M:35:TRP:HB2	3:M:48:ILE:HB	1.89	0.55
1:A:251:ILE:HG23	1:A:251:ILE:O	2.06	0.55
1:A:263:GLY:O	1:A:450:THR:HG21	2.05	0.55
1:K:298:ARG:HH12	1:K:301:ASN:HA	1.70	0.55
1:E:257:THR:HB	1:E:375:SER:HG	1.72	0.55
1:E:430:VAL:HG13	2:F:59:ARG:HD3	1.87	0.55
1:O:258:GLN:C	1:O:259:LEU:HD12	2.31	0.55
2:F:104:SER:OG	2:F:108:LEU:HD21	2.05	0.55
3:P:150:LYS:HB2	3:P:193:SER:CA	2.37	0.55
2:L:98:PHE:CE1	2:L:121:PRO:HD2	2.42	0.55
2:L:100:LEU:O	2:L:101:THR:HB	2.06	0.55
1:A:475:MET:O	1:A:478:ASN:HB2	2.07	0.55
4:Q:29:ILE:HD13	4:Q:71:ARG:HG3	1.89	0.55
3:M:28:LEU:HB2	3:M:94:ARG:HB2	1.88	0.55
1:K:260:LEU:HD12	1:K:451:GLY:O	2.05	0.55
1:K:344:GLN:O	1:K:347:GLU:HG2	2.05	0.55
3:C:181:LEU:HB3	3:C:185:GLN:HB2	1.87	0.55
4:D:24:VAL:O	4:D:76:ASN:ND2	2.40	0.55
3:M:66(B):ILE:HD12	3:M:66(C):ASN:N	2.20	0.55
2:L:98:PHE:HE1	2:L:120:SER:CB	2.19	0.55
1:E:231:LYS:HD3	1:E:268:GLU:OE2	2.06	0.55
1:E:257:THR:CG2	1:E:375:SER:N	2.50	0.55
2:F:114:LEU:HA	2:F:115:THR:HG1	1.71	0.55
4:N:181:VAL:HB	4:N:200:VAL:HG22	1.89	0.55
1:O:200:VAL:O	1:O:200:VAL:HG23	2.07	0.55
4:Q:51:ILE:HD11	4:Q:55:GLU:HG3	1.89	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:Q:172:TRP:CD1	4:Q:181:VAL:HG21	2.42	0.54
3:C:31:ARG:HA	3:C:92:ASP:HA	1.89	0.54
1:O:413:THR:HG23	1:O:413:THR:O	2.04	0.54
1:A:248:THR:HG22	1:A:249:HIS:N	2.22	0.54
1:E:346:VAL:HA	1:E:359:ILE:HD11	1.89	0.54
2:L:29:LYS:HG2	2:L:35:LYS:HA	1.90	0.54
1:E:197:GLY:N	1:E:198:GLY:HA2	2.22	0.54
2:F:112:GLN:O	2:F:149:LEU:HB3	2.06	0.54
2:B:16:CYS:SG	2:B:91:GLU:OE1	2.65	0.54
2:H:36:ILE:CD1	2:H:51:LEU:HD12	2.38	0.54
4:N:11:LEU:HD22	4:N:112:SER:HB3	1.90	0.54
4:N:100:ARG:O	4:N:100(J):PHE:CB	2.47	0.54
1:K:98:ASN:OD1	1:K:99:ASN:N	2.41	0.54
1:A:259:LEU:HD13	1:A:449:ILE:HD13	1.89	0.54
1:K:258:GLN:CG	1:K:470:PRO:CB	2.66	0.54
4:Q:162:ASP:OD1	4:Q:189:GLN:NE2	2.41	0.54
2:H:106:THR:HG1	2:H:107:HIS:CE1	2.26	0.54
1:A:111:LEU:HD11	1:A:213:ILE:HD11	1.90	0.54
1:A:354:ASN:O	1:A:356:ASN:HB2	2.06	0.54
1:K:261:LEU:O	1:K:262:ASN:HB2	2.08	0.54
1:K:342:LEU:O	1:K:346:VAL:HG23	2.07	0.54
2:F:102:ALA:HA	2:F:116:LEU:HD23	1.90	0.54
4:Q:163:TYR:CE1	4:Q:168:VAL:HG23	2.41	0.54
4:D:83:THR:HG23	4:D:85:ALA:H	1.73	0.54
2:H:61:LEU:HB3	2:H:66:ASN:HB3	1.90	0.54
1:O:332:ASN:HB2	5:R:1:NAG:H82	1.89	0.54
1:E:272:ILE:HG13	1:E:277:PHE:HZ	1.72	0.54
4:D:87:THR:HG23	4:D:110:THR:HA	1.90	0.54
1:K:340:ASN:O	1:K:344:GLN:HG3	2.08	0.54
3:C:133:LEU:HD22	3:C:179:LEU:HD23	1.89	0.54
4:D:55:GLU:CG	4:D:71:ARG:NH2	2.69	0.54
3:I:13:VAL:HG21	3:I:19:ALA:HB2	1.90	0.54
4:J:67:ALA:HA	4:J:81:GLN:O	2.08	0.54
1:E:387:SER:O	1:E:390:LEU:N	2.41	0.54
9:J:301:GOL:H31	5:V:7:MAN:C2	2.29	0.54
1:O:261:LEU:O	1:O:262:ASN:HB2	2.07	0.54
1:O:461:ASN:C	1:O:462:GLU:HG2	2.33	0.54
2:B:118:LEU:HD13	2:B:128:VAL:HG22	1.90	0.53
2:H:3:VAL:HG22	2:H:94:GLN:HB3	1.91	0.53
1:O:342:LEU:HD22	1:O:361:PHE:CE2	2.43	0.53
4:D:100:ARG:O	4:D:100(J):PHE:HA	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:104:SER:O	2:H:105:ASP:HB3	2.08	0.53
3:I:87:TYR:CE1	3:I:101:ALA:HB2	2.43	0.53
1:A:93:PHE:CE2	1:A:228:CYS:HB2	2.42	0.53
1:A:245:VAL:HG12	1:A:246:GLN:H	1.73	0.53
1:A:294:ILE:CG2	1:A:447:SER:O	2.49	0.53
1:K:362:THR:CG2	1:K:363:HIS:H	2.20	0.53
1:K:393:SER:HB3	1:K:395:TRP:HE1	1.73	0.53
1:E:206:PRO:O	1:E:208:VAL:HG23	2.08	0.53
3:I:118:LEU:HD22	3:I:194:CYS:HB3	1.89	0.53
4:N:163:TYR:OH	4:N:196:LEU:HD23	2.08	0.53
1:A:208:VAL:HG23	1:A:209:SER:O	2.08	0.53
2:F:163:GLN:HG3	2:F:164:ASN:OD1	2.09	0.53
1:E:208:VAL:HG12	1:E:209:SER:N	2.23	0.53
1:O:248:THR:HG22	1:O:486:TYR:CE1	2.44	0.53
1:A:206:PRO:O	1:A:208:VAL:HG12	2.08	0.53
2:F:99:GLY:O	2:F:118:LEU:HD12	2.09	0.53
2:B:56:ASP:O	2:B:70:ILE:HB	2.09	0.53
1:K:96:TRP:CE2	1:K:275:ASP:N	2.76	0.53
4:N:34:TRP:HB3	4:N:78:LEU:HD22	1.91	0.53
2:H:26:PHE:O	2:H:27:HIS:ND1	2.42	0.53
1:A:214:PRO:HA	1:A:252:ARG:HB3	1.91	0.53
3:C:50:ASN:O	3:C:51:ASN:HB2	2.09	0.53
1:K:108:VAL:HG21	1:K:479:TRP:CZ2	2.43	0.53
2:H:44:LEU:HB3	2:H:59:ARG:NH1	2.23	0.53
3:I:196:VAL:HG22	3:I:203:VAL:HG22	1.90	0.53
4:N:99:GLN:CD	4:N:100(A):ILE:HD11	2.34	0.53
1:O:346:VAL:HG22	1:O:359:ILE:HD11	1.90	0.53
3:C:83:GLU:HG2	3:C:106:VAL:H	1.73	0.52
4:D:20:VAL:HG23	4:D:80:LEU:HB3	1.90	0.52
4:J:10:GLY:HA3	4:J:220:PRO:CB	2.33	0.52
1:A:251:ILE:HG13	1:A:252:ARG:O	2.10	0.52
1:K:92:ASP:HB2	1:K:238:GLN:HG3	1.90	0.52
3:I:122:SER:O	3:I:126:LEU:HG	2.08	0.52
1:A:208:VAL:HG23	1:A:209:SER:N	2.24	0.52
2:B:150:GLU:CB	2:B:152:GLN:OE1	2.57	0.52
4:D:13:ARG:NH2	4:D:16:GLU:OE2	2.24	0.52
4:Q:163:TYR:CD1	4:Q:168:VAL:HG23	2.45	0.52
2:L:24:ILE:HG13	2:L:25:GLN:H	1.74	0.52
3:C:13:VAL:HG11	3:C:19:ALA:HB2	1.92	0.52
2:H:129:GLN:HG3	2:H:139:GLN:HB3	1.91	0.52
4:N:100(C):GLY:HA3	4:N:100(I):GLU:HB2	1.90	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:Q:218:HIS:CE1	4:Q:221:SER:HG	2.20	0.52
3:I:163:THR:HG22	4:J:187:VAL:HB	1.91	0.52
4:J:100(A):ILE:HB	5:V:3:BMA:H5	1.92	0.52
1:O:270:VAL:HG12	1:O:289:ASN:H	1.74	0.52
1:A:476:ARG:HA	1:A:479:TRP:CD1	2.45	0.52
1:E:114:GLN:CG	1:E:115:SER:N	2.73	0.52
3:I:119:PHE:CD2	4:J:142:LEU:HB3	2.45	0.52
1:A:254:VAL:CG1	7:A:501:NAG:H82	2.40	0.52
1:A:259:LEU:HD13	1:A:449:ILE:CD1	2.40	0.52
1:A:261:LEU:HD13	7:A:501:NAG:H83	1.90	0.52
4:N:24:VAL:O	4:N:76:ASN:ND2	2.43	0.52
1:O:258:GLN:OE1	1:O:374:HIS:HA	2.08	0.52
1:A:206:PRO:O	1:A:208:VAL:CG1	2.57	0.52
1:E:266:ALA:HB2	1:E:287:GLN:CD	2.34	0.52
2:B:100:LEU:HD12	2:B:118:LEU:HD12	1.91	0.52
4:J:166:GLU:HG2	4:J:167:PRO:HA	1.92	0.52
2:L:100:LEU:HD12	2:L:118:LEU:HD12	1.92	0.52
4:N:221:SER:H	4:N:222:ASN:HA	1.75	0.52
1:O:205:CYS:N	1:O:206:PRO:HD3	2.25	0.52
1:A:292:VAL:O	1:A:449:ILE:N	2.36	0.52
1:E:387:SER:O	1:E:390:LEU:HB2	2.10	0.51
3:P:126:LEU:HD11	3:P:186:TRP:CZ3	2.45	0.51
1:A:217:TYR:O	1:A:247:CYS:HA	2.10	0.51
1:A:331:CYS:HB2	1:A:416:LEU:HB2	1.93	0.51
1:K:362:THR:CG2	1:K:363:HIS:N	2.71	0.51
1:K:370:GLU:O	1:K:375:SER:OG	2.23	0.51
1:E:116:LEU:CD2	1:E:210:PHE:HB2	2.30	0.51
1:E:423:ILE:HD11	4:J:68:VAL:HG22	1.91	0.51
1:E:459:GLY:HA2	2:F:33:GLN:HB2	1.92	0.51
4:J:142:LEU:HD12	4:J:158:CYS:N	2.24	0.51
4:N:33:TYR:HB2	4:N:95:ALA:O	2.11	0.51
1:O:333:ILE:HG22	1:O:334:SER:O	2.10	0.51
1:K:465:ILE:N	1:K:465:ILE:CD1	2.73	0.51
5:S:7:MAN:C3	5:S:10:MAN:H5	2.40	0.51
2:F:59:ARG:HA	2:F:62:TRP:CD1	2.45	0.51
4:D:221:SER:N	4:D:222:ASN:HA	2.25	0.51
2:H:148:GLN:CD	2:H:150:GLU:HB2	2.36	0.51
4:J:218:HIS:CE1	4:J:221:SER:HG	2.26	0.51
1:O:258:GLN:OE1	1:O:374:HIS:CB	2.58	0.51
2:F:138:ILE:HG22	2:F:144:LEU:HD22	1.92	0.51
3:C:114:PRO:HD3	3:C:198:HIS:HD2	1.75	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:O:276:ASN:OD1	1:O:278:THR:N	2.44	0.51
1:K:323:ILE:CD1	1:K:324:GLY:HA2	2.40	0.51
1:E:114:GLN:NE2	3:M:160:VAL:HG21	2.26	0.51
4:D:100(G):PHE:N	4:D:100(H):GLY:HA2	2.25	0.51
1:O:353:PHE:O	1:O:357:LYS:HG3	2.10	0.51
1:O:358:THR:HG22	1:O:396:ASN:HA	1.92	0.51
1:K:93:PHE:HE1	1:K:487:LYS:CG	2.22	0.51
1:K:333:ILE:HB	1:K:414:ILE:CG2	2.41	0.51
4:Q:11:LEU:HD13	4:Q:165:PRO:HG3	1.93	0.51
4:J:172:TRP:CZ3	4:J:214:CYS:HB3	2.46	0.51
2:H:105:ASP:O	2:H:106:THR:HG22	2.10	0.51
3:M:35:TRP:CZ3	3:M:88:CYS:HB2	2.46	0.51
1:O:340:ASN:O	1:O:344:GLN:HG3	2.10	0.51
1:O:360:VAL:HG22	1:O:394:THR:HG23	1.92	0.51
1:A:101:VAL:HG12	1:A:483:LEU:HD12	1.91	0.51
1:A:214:PRO:HA	1:A:252:ARG:HA	1.92	0.51
1:K:335:ARG:NE	1:K:410:GLY:C	2.68	0.51
5:V:7:MAN:C3	5:V:10:MAN:H5	2.41	0.51
1:E:299:PRO:HG2	1:E:327:ARG:HB2	1.93	0.51
2:F:109:LEU:N	2:F:112:GLN:HE21	2.07	0.50
4:Q:188:LEU:HD13	4:Q:194:TYR:CE1	2.46	0.50
1:A:216:HIS:CE1	1:A:249:HIS:O	2.64	0.50
4:D:23:ILE:HD13	4:D:77:GLN:CB	2.41	0.50
4:D:24:VAL:HG13	4:D:76:ASN:O	2.12	0.50
4:D:100:ARG:HB3	4:D:100(K):PHE:CE1	2.46	0.50
4:D:187:VAL:O	4:D:194:TYR:HA	2.11	0.50
2:L:154:SER:OG	2:L:175:VAL:O	2.28	0.50
4:N:100(G):PHE:N	4:N:100(H):GLY:HA2	2.25	0.50
1:E:101:VAL:HG23	1:E:479:TRP:HB2	1.93	0.50
1:E:197:GLY:N	1:E:198:GLY:CA	2.75	0.50
3:P:13:VAL:HG23	3:P:104:LEU:HD11	1.93	0.50
3:P:160:VAL:HG23	1:A:114:GLN:OE1	2.11	0.50
2:B:51:LEU:HD11	2:B:82:TYR:OH	2.12	0.50
3:C:114:PRO:HD3	3:C:198:HIS:CD2	2.47	0.50
1:A:249:HIS:CG	1:A:250:GLY:CA	2.82	0.50
1:K:108:VAL:HG21	1:K:479:TRP:CH2	2.46	0.50
1:E:367:GLY:HA3	1:E:371:ILE:HD11	1.94	0.50
2:B:114:LEU:HB3	2:B:146:VAL:HG22	1.92	0.50
4:N:166:GLU:HG2	4:N:167:PRO:HA	1.93	0.50
1:K:92:ASP:OD2	1:K:238:GLN:HG3	2.10	0.50
1:K:251:ILE:CB	1:K:482:GLU:OE1	2.60	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:158:ALA:HA	1:K:114:GLN:HE22	1.68	0.50
2:F:153:ASP:HB3	2:F:157:TRP:HZ2	1.77	0.50
4:Q:189:GLN:HG3	4:Q:193:LEU:O	2.12	0.50
4:D:99:GLN:HE21	5:R:9:MAN:C6	2.24	0.50
1:O:341:THR:O	1:O:345:ILE:HG13	2.11	0.50
5:R:1:NAG:H82	5:R:1:NAG:C1	2.42	0.50
3:P:92:ASP:OD1	3:P:95:SER:OG	2.27	0.50
4:D:213:ILE:HG12	4:D:228:LYS:HA	1.94	0.50
5:G:7:MAN:C3	5:G:10:MAN:H5	2.40	0.50
1:A:293:LYS:HA	1:A:448:ASN:HA	1.94	0.50
5:G:1:NAG:H82	5:G:1:NAG:C1	2.42	0.50
3:P:13:VAL:HG12	3:P:14:ALA:N	2.27	0.49
2:L:8:LYS:HD2	2:L:76:ILE:HD11	1.94	0.49
3:M:48:ILE:CG2	3:M:51:ASN:O	2.53	0.49
4:N:218:HIS:ND1	4:N:221:SER:HB2	2.27	0.49
1:A:395:TRP:CE3	1:A:401:SER:HB3	2.46	0.49
3:P:35:TRP:CZ3	3:P:88:CYS:HB2	2.47	0.49
2:L:45:THR:HG22	1:A:371:ILE:HD13	1.93	0.49
1:A:204:ALA:O	1:A:205:CYS:CB	2.60	0.49
1:A:205:CYS:HB2	1:A:206:PRO:CA	2.26	0.49
1:K:260:LEU:HD13	1:K:451:GLY:HA3	1.94	0.49
1:E:346:VAL:HG13	1:E:359:ILE:HD11	1.93	0.49
4:Q:33:TYR:HB2	4:Q:95:ALA:O	2.12	0.49
2:H:146:VAL:HG13	2:H:146:VAL:O	2.11	0.49
1:O:463:SER:CB	1:O:465:ILE:HG22	2.40	0.49
2:B:56:ASP:OD1	2:B:57:SER:O	2.31	0.49
4:J:142:LEU:HD12	4:J:158:CYS:H	1.76	0.49
4:J:179:SER:HB2	4:J:180:GLY:HA2	1.95	0.49
1:O:270:VAL:HG12	1:O:289:ASN:N	2.27	0.49
1:K:333:ILE:HG22	1:K:334:SER:O	2.13	0.49
4:N:68:VAL:HG22	1:O:423:ILE:HD11	1.94	0.49
1:O:342:LEU:HD22	1:O:361:PHE:HE2	1.77	0.49
7:A:501:NAG:C6	7:A:506:NAG:H82	2.41	0.49
3:C:35:TRP:CD2	3:C:73:LEU:HB2	2.47	0.49
4:D:100(C):GLY:HA3	4:D:100(I):GLU:HG3	1.94	0.49
2:H:115:THR:HG22	2:H:145:SER:OG	2.12	0.49
1:K:298:ARG:NE	1:K:381:GLU:OE2	2.45	0.49
1:K:381:GLU:HG2	1:K:438:PRO:HG3	1.95	0.49
2:F:85:GLU:OE2	2:F:90:LYS:HE3	2.13	0.49
2:L:3:VAL:HG13	2:L:94:GLN:HB3	1.95	0.49
2:L:69:LEU:HD21	2:L:71:ILE:HD11	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:294:ILE:HG13	1:K:333:ILE:CG1	2.43	0.49
2:F:146:VAL:HG13	2:F:146:VAL:O	2.12	0.49
4:D:23:ILE:HD13	4:D:77:GLN:HB3	1.94	0.49
4:D:55:GLU:CD	4:D:71:ARG:NH2	2.68	0.49
2:L:30:ASN:ND2	2:L:34:ILE:HB	2.26	0.49
1:O:226:LEU:HG	1:O:489:VAL:HG21	1.94	0.49
3:M:150:LYS:HB3	3:M:152:ASP:O	2.13	0.49
4:N:206:SER:OG	4:N:210:GLN:HB3	2.13	0.49
1:K:257:THR:O	1:K:258:GLN:HB2	2.12	0.49
4:D:171:SER:HB3	4:D:215:ASN:OD1	2.13	0.49
2:L:80:ASP:OD1	2:L:81:THR:N	2.45	0.49
1:K:96:TRP:CD2	1:K:275:ASP:HB2	2.47	0.49
5:S:1:NAG:H82	5:S:1:NAG:C1	2.42	0.49
3:C:142:PRO:HD2	3:C:198:HIS:HE1	1.77	0.48
4:N:221:SER:N	4:N:222:ASN:HA	2.28	0.48
1:O:258:GLN:O	1:O:259:LEU:HD12	2.13	0.48
1:A:111:LEU:CD1	1:A:213:ILE:HD11	2.42	0.48
1:K:260:LEU:HD11	1:K:452:LEU:C	2.37	0.48
1:O:208:VAL:HG12	1:O:209:SER:O	2.12	0.48
1:A:261:LEU:O	1:A:262:ASN:HB2	2.14	0.48
1:K:357:LYS:HD2	1:K:464:GLU:O	2.11	0.48
3:C:11:LEU:HA	3:I:68:GLY:HA3	1.94	0.48
4:D:177:LEU:HD12	4:D:177:LEU:C	2.37	0.48
3:I:35:TRP:CZ3	3:I:88:CYS:HB2	2.48	0.48
1:O:295:ASN:O	1:O:331:CYS:HA	2.13	0.48
1:K:208:VAL:HG12	1:K:209:SER:N	2.28	0.48
3:P:28:LEU:O	3:P:94:ARG:HG2	2.13	0.48
4:D:11:LEU:HD23	4:D:110:THR:HB	1.95	0.48
2:F:105:ASP:C	2:F:106:THR:HG23	2.37	0.48
4:Q:11:LEU:HD12	4:Q:11:LEU:HA	1.77	0.48
4:Q:174:SER:OG	4:Q:175:GLY:N	2.47	0.48
4:D:24:VAL:HG11	4:D:29:ILE:HD13	1.95	0.48
4:D:172:TRP:CZ3	4:D:214:CYS:HB3	2.48	0.48
3:I:158:ALA:HA	1:O:114:GLN:OE1	2.14	0.48
4:N:154:ALA:O	4:N:201:THR:HA	2.13	0.48
2:F:114:LEU:CA	2:F:115:THR:CB	2.85	0.48
4:D:161:LYS:HG3	4:D:162:ASP:OD2	2.12	0.48
3:I:27:ALA:HB2	3:I:90:MET:CE	2.42	0.48
1:K:95:MET:HE1	1:K:484:TYR:HB3	1.91	0.48
1:K:251:ILE:O	1:K:252:ARG:C	2.57	0.48
1:K:335:ARG:C	7:K:504:NAG:O6	2.56	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:59:PRO:HD2	3:C:62:PHE:HD2	1.78	0.48
9:N:301:GOL:H11	5:S:2:NAG:H82	1.96	0.48
1:O:352:GLN:O	1:O:352:GLN:HG3	2.12	0.48
5:R:7:MAN:C3	5:R:10:MAN:H5	2.40	0.48
5:R:7:MAN:C2	5:R:10:MAN:H5	2.44	0.48
1:E:327:ARG:HD2	4:Q:100(I):GLU:HG2	1.95	0.48
2:B:148:GLN:O	2:B:150:GLU:HG2	2.14	0.48
4:D:55:GLU:HG3	4:D:71:ARG:CZ	2.44	0.48
3:M:27:ALA:HB2	3:M:90:MET:SD	2.54	0.48
1:A:393:SER:HB2	1:A:404:THR:HG23	1.95	0.48
1:K:249:HIS:ND1	1:K:249:HIS:N	2.60	0.48
5:V:7:MAN:H2	5:V:10:MAN:H5	1.96	0.48
4:Q:160:VAL:HG23	4:Q:160:VAL:O	2.14	0.48
3:M:195:GLN:HG2	3:M:204:GLU:HG3	1.95	0.48
1:O:207:LYS:HE2	1:O:437:PRO:HG2	1.95	0.48
1:O:346:VAL:HA	1:O:359:ILE:HD11	1.96	0.48
3:C:34:GLN:HG3	3:C:49:TYR:HA	1.95	0.48
3:P:151:ALA:CB	3:P:156:VAL:HG22	2.08	0.47
3:C:87:TYR:CE1	3:C:101:ALA:HB2	2.49	0.47
4:N:100(D):VAL:HG23	4:N:100(F):SER:HB3	1.95	0.47
1:A:226:LEU:HD11	1:A:489:VAL:HG21	1.96	0.47
5:G:7:MAN:C2	5:G:10:MAN:H5	2.44	0.47
5:V:7:MAN:C2	5:V:10:MAN:H5	2.44	0.47
4:D:11:LEU:CG	4:D:165:PRO:HG3	2.43	0.47
4:D:67:ALA:HA	4:D:81:GLN:O	2.14	0.47
1:O:334:SER:CB	1:O:337:GLN:HG3	2.44	0.47
1:A:251:ILE:CG1	1:A:482:GLU:HG3	2.32	0.47
1:K:335:ARG:C	7:K:504:NAG:HO6	2.23	0.47
1:E:96:TRP:CG	1:E:275:ASP:HB2	2.49	0.47
4:Q:171:SER:HB3	4:Q:174:SER:O	2.14	0.47
3:C:182:THR:H	3:C:185:GLN:HG3	1.78	0.47
4:D:179:SER:HA	4:D:180:GLY:HA2	1.64	0.47
2:H:151:LEU:O	2:H:154:SER:HB3	2.15	0.47
3:I:46:LEU:HD23	4:J:101:ASP:HB3	1.97	0.47
2:L:128:VAL:O	2:L:139:GLN:OE1	2.32	0.47
4:N:68:VAL:HG22	1:O:423:ILE:CD1	2.44	0.47
1:K:112:TRP:NE1	1:K:210:PHE:CZ	2.82	0.47
1:E:208:VAL:CG1	1:E:209:SER:N	2.77	0.47
2:L:98:PHE:CE1	2:L:120:SER:CB	2.96	0.47
1:A:301:ASN:OD1	1:A:301:ASN:N	2.39	0.47
1:K:251:ILE:O	1:K:251:ILE:HG23	2.13	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:S:7:MAN:C2	5:S:10:MAN:H5	2.44	0.47
1:E:245:VAL:HG12	1:E:246:GLN:H	1.78	0.47
4:Q:9:PRO:HB2	4:Q:11:LEU:O	2.14	0.47
4:Q:21:THR:HG22	4:Q:79:SER:HB3	1.95	0.47
4:Q:221:SER:N	4:Q:222:ASN:HA	2.29	0.47
3:C:83:GLU:HG3	3:C:106:VAL:HG23	1.97	0.47
3:C:118:LEU:HD22	3:C:194:CYS:HB3	1.95	0.47
4:N:12:VAL:HG21	4:N:18:LEU:HG	1.97	0.47
4:N:100:ARG:HD2	4:N:100:ARG:HA	1.62	0.47
4:N:100(G):PHE:H	4:N:100(H):GLY:HA2	1.80	0.47
1:A:293:LYS:HE3	1:A:293:LYS:HB2	1.57	0.47
1:K:112:TRP:CD1	1:K:210:PHE:CZ	3.02	0.47
2:F:114:LEU:HA	2:F:115:THR:OG1	2.13	0.47
3:C:13:VAL:HG11	3:C:78:VAL:HG21	1.97	0.47
2:H:44:LEU:HD23	2:H:59:ARG:NH1	2.30	0.47
1:O:326:ILE:O	1:O:326:ILE:HG13	2.15	0.47
1:A:216:HIS:HD2	1:A:250:GLY:N	1.99	0.47
5:G:7:MAN:H2	5:G:10:MAN:H5	1.96	0.47
5:R:7:MAN:H2	5:R:10:MAN:H5	1.96	0.47
5:S:7:MAN:H2	5:S:10:MAN:H5	1.96	0.47
4:Q:179:SER:HA	4:Q:180:GLY:HA2	1.54	0.47
3:M:48:ILE:CD1	3:M:54:ARG:HG3	2.45	0.47
1:O:258:GLN:HG2	1:O:470:PRO:HB2	1.97	0.47
1:A:207:LYS:HB3	1:A:436:ALA:CB	2.35	0.47
1:A:395:TRP:CD1	1:A:395:TRP:N	2.83	0.47
1:K:112:TRP:CD1	1:K:210:PHE:HZ	2.32	0.47
3:I:35:TRP:CE2	3:I:73:LEU:HB2	2.50	0.47
1:O:335:ARG:CG	1:O:335:ARG:HH11	2.28	0.47
1:K:332:ASN:HD22	5:V:1:NAG:C7	2.21	0.47
3:P:52:GLN:NE2	3:P:53:ASP:OD1	2.48	0.46
1:K:96:TRP:CD1	1:K:275:ASP:CG	2.93	0.46
3:I:14:ALA:O	3:I:17:GLU:HG2	2.15	0.46
3:I:139:ASP:HA	3:I:172:LYS:HB2	1.98	0.46
2:L:135:GLY:O	2:L:136:LYS:HB2	2.15	0.46
4:N:11:LEU:HD12	4:N:134:THR:HG22	1.97	0.46
4:N:16:GLU:O	4:N:82(C):VAL:HG22	2.15	0.46
1:O:278:THR:HG22	7:O:502:NAG:O6	2.16	0.46
1:K:263:GLY:O	1:K:450:THR:HG21	2.14	0.46
1:K:264:SER:O	1:K:287:GLN:NE2	2.45	0.46
2:H:105:ASP:CG	2:H:106:THR:H	2.23	0.46
4:N:151:GLY:HA3	4:N:153:THR:N	2.21	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:323:ILE:HG13	1:K:324:GLY:N	2.27	0.46
4:Q:160:VAL:CG2	4:Q:196:LEU:HG	2.46	0.46
4:D:215:ASN:O	4:D:224:LYS:NZ	2.47	0.46
2:H:83:ILE:HG13	2:H:92:GLU:HG2	1.98	0.46
1:K:274:SER:HB3	1:K:277:PHE:CD1	2.51	0.46
1:K:456:ARG:HD2	1:K:466:GLU:OE1	2.16	0.46
4:Q:5:GLN:OE1	4:Q:105:LYS:CG	2.63	0.46
4:D:205:SER:HA	4:D:206:SER:HA	1.58	0.46
2:H:105:ASP:CG	2:H:106:THR:N	2.73	0.46
4:Q:161:LYS:HD2	4:Q:195:SER:HB3	1.96	0.46
4:Q:202:VAL:HG23	4:Q:203:PRO:HD2	1.93	0.46
3:C:6:VAL:HG21	3:C:103:ARG:HH21	1.80	0.46
1:K:460:LYS:HA	1:K:461:ASN:C	2.41	0.46
3:C:119:PHE:CD2	4:D:142:LEU:HB3	2.51	0.46
4:D:29:ILE:HG21	4:D:73:THR:HA	1.97	0.46
4:D:100:ARG:HG3	4:D:100(K):PHE:CZ	2.51	0.46
2:H:5:LEU:HD21	2:H:163:GLN:HB3	1.97	0.46
4:J:11:LEU:HD22	4:J:112:SER:HB3	1.98	0.46
2:L:108:LEU:HD23	2:L:174:ILE:HD11	1.96	0.46
1:K:258:GLN:HG2	1:K:470:PRO:HB3	1.91	0.46
1:K:298:ARG:HH21	1:K:443:ILE:HD12	1.81	0.46
1:E:353:PHE:O	1:E:354:ASN:HB2	2.16	0.46
1:E:365:SER:OG	1:E:469:ARG:CZ	2.64	0.46
3:P:65:THR:HG23	3:P:72:THR:O	2.16	0.46
3:P:80:VAL:HG23	3:P:171:ASN:ND2	2.31	0.46
3:C:16:GLY:O	3:C:77:GLY:HA2	2.15	0.46
2:H:106:THR:OG1	2:H:107:HIS:ND1	2.48	0.46
4:J:96:ARG:HB2	4:J:100(O):TYR:CE1	2.51	0.46
2:L:59:ARG:HA	2:L:62:TRP:CD1	2.51	0.46
1:O:358:THR:OG1	1:O:465:ILE:HG13	2.15	0.46
1:A:217:TYR:O	1:A:247:CYS:HB3	2.12	0.46
3:I:85:ASP:OD1	3:I:103:ARG:NH1	2.49	0.45
1:O:332:ASN:CB	5:R:1:NAG:H82	2.47	0.45
4:Q:4:LEU:HD23	4:Q:92:CYS:SG	2.57	0.45
2:H:105:ASP:C	2:H:106:THR:HG22	2.41	0.45
4:J:218:HIS:CE1	4:J:220:PRO:HG2	2.52	0.45
4:N:140:PHE:CE1	4:N:161:LYS:HD3	2.51	0.45
1:O:272:ILE:HG22	1:O:286:VAL:HG22	1.98	0.45
1:E:413:THR:O	1:E:413:THR:CG2	2.64	0.45
4:Q:9:PRO:C	4:Q:11:LEU:H	2.24	0.45
2:B:51:LEU:CD2	2:B:54:ARG:NH1	2.79	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:15:LEU:N	3:C:106(A):LEU:O	2.50	0.45
3:C:137:ILE:HG12	3:C:196:VAL:HG11	1.98	0.45
2:H:100:LEU:HD21	2:H:116:LEU:HD13	1.97	0.45
2:L:128:VAL:HG13	2:L:161:VAL:HG22	1.98	0.45
1:O:475:MET:O	1:O:478:ASN:HB2	2.16	0.45
1:K:342:LEU:HB3	1:K:395:TRP:CZ2	2.50	0.45
1:E:261:LEU:O	1:E:262:ASN:HB2	2.16	0.45
2:F:142:LYS:HD2	2:F:142:LYS:N	2.30	0.45
4:D:170:VAL:HG22	4:D:216:VAL:HG22	1.97	0.45
4:J:63:LEU:HD13	4:J:63:LEU:HA	1.79	0.45
4:N:60:ASN:HA	4:N:61:PRO:HD2	1.87	0.45
1:A:248:THR:CG2	1:A:249:HIS:N	2.79	0.45
2:B:3:VAL:HG22	2:B:94:GLN:HB3	1.96	0.45
1:O:346:VAL:HG13	1:O:359:ILE:HD11	1.99	0.45
1:A:214:PRO:HG3	1:A:252:ARG:NH2	2.31	0.45
1:E:98:ASN:OD1	1:E:99:ASN:N	2.49	0.45
1:E:298:ARG:HD2	1:E:420:ILE:HD12	1.99	0.45
1:E:462:GLU:CG	1:E:463:SER:H	2.08	0.45
3:M:52:GLN:H	3:M:52:GLN:CD	2.24	0.45
4:N:72:ASP:OD2	4:N:75:LYS:HG3	2.16	0.45
1:K:112:TRP:O	1:K:116:LEU:N	2.30	0.45
1:K:373:MET:HB3	1:K:385:CYS:O	2.17	0.45
4:Q:6:GLU:OE1	4:Q:106:GLY:CA	2.64	0.45
2:B:103:ASN:ND2	2:B:115:THR:H	2.15	0.45
3:C:14:ALA:HB3	3:C:17:GLU:OE2	2.16	0.45
4:N:162:ASP:HB3	4:N:193:LEU:HD23	1.99	0.45
1:O:294:ILE:HG13	1:O:333:ILE:HG12	1.97	0.45
1:A:249:HIS:N	1:A:250:GLY:HA3	2.32	0.45
1:A:261:LEU:HD13	7:A:501:NAG:C8	2.47	0.45
1:E:384:TYR:HE1	1:E:421:LYS:HB2	1.81	0.45
1:E:386:ASN:ND2	7:E:505:NAG:C7	2.79	0.45
2:F:16:CYS:HB2	2:F:28:TRP:CZ2	2.52	0.45
4:D:34:TRP:HB3	4:D:78:LEU:CD2	2.45	0.45
4:D:97:ARG:HB2	4:D:100(N):TYR:CE1	2.51	0.45
4:J:18:LEU:HD12	4:J:19:SER:H	1.81	0.45
4:N:66:ARG:O	4:N:82:LEU:HA	2.17	0.45
1:O:270:VAL:CG2	1:O:348:LYS:HG3	2.47	0.45
1:O:100:MET:HE3	1:O:217:TYR:CD2	2.52	0.45
1:A:248:THR:CG2	1:A:249:HIS:ND1	2.79	0.45
1:K:202:THR:O	1:K:202:THR:OG1	2.34	0.45
3:P:106(A):LEU:HA	3:P:107:SER:HA	1.70	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:43:ALA:HA	4:D:91:PHE:CE2	2.52	0.45
3:I:5:TYR:HA	3:I:6:VAL:HA	1.49	0.45
4:J:37:ILE:HG13	4:J:103:TRP:CH2	2.52	0.45
3:M:15:LEU:N	3:M:106(A):LEU:O	2.50	0.45
3:P:137:ILE:HD12	3:P:137:ILE:H	1.81	0.44
4:Q:50:TYR:CE1	4:Q:58:THR:HB	2.51	0.44
4:D:66:ARG:HH12	4:D:82:LEU:HD22	1.81	0.44
2:H:59:ARG:NH1	1:K:368:ASP:OD1	2.50	0.44
3:I:116:VAL:HG12	3:I:205:LYS:HG3	1.98	0.44
3:M:35:TRP:CD2	3:M:73:LEU:HB2	2.52	0.44
1:O:231:LYS:CD	1:O:268:GLU:OE1	2.65	0.44
4:Q:202:VAL:CG2	4:Q:203:PRO:CD	2.92	0.44
2:B:14:LEU:HD12	2:B:69:LEU:HD23	1.98	0.44
2:H:30:ASN:OD1	2:H:34:ILE:N	2.50	0.44
3:M:94:ARG:HD2	3:M:94:ARG:HA	1.73	0.44
1:E:258:GLN:HB2	1:E:374:HIS:HA	1.98	0.44
4:Q:163:TYR:CD1	4:Q:163:TYR:O	2.70	0.44
4:D:59:TYR:CD1	4:D:69:ILE:HD12	2.48	0.44
2:H:31:SER:N	2:H:81:THR:O	2.50	0.44
2:H:44:LEU:O	1:K:371:ILE:HD11	2.18	0.44
2:H:51:LEU:O	2:H:55:ALA:N	2.50	0.44
3:I:146:THR:HG21	1:O:211:GLU:H	1.82	0.44
1:K:197:GLY:HA2	1:K:198:GLY:HA2	1.60	0.44
1:E:295:ASN:O	1:E:331:CYS:HA	2.18	0.44
4:Q:41:PRO:HD3	4:Q:87:THR:O	2.17	0.44
3:M:96:TRP:HZ2	4:N:58:THR:HG22	1.82	0.44
1:K:411:ASN:O	1:K:412:ASP:C	2.60	0.44
5:G:7:MAN:C3	5:G:10:MAN:C5	2.92	0.44
4:Q:82(A):ARG:HG3	1:K:119:CYS:SG	2.58	0.44
4:Q:82(A):ARG:HG2	4:Q:82(B):SER:N	2.33	0.44
4:N:11:LEU:HD12	4:N:165:PRO:HD3	1.99	0.44
1:O:208:VAL:HG12	1:O:209:SER:N	2.32	0.44
1:K:335:ARG:HD3	1:K:410:GLY:HA3	1.97	0.44
1:K:393:SER:HB3	1:K:395:TRP:NE1	2.32	0.44
1:E:197:GLY:H	1:E:199:SER:N	2.14	0.44
1:E:387:SER:O	1:E:388:THR:C	2.60	0.44
4:D:99:GLN:HG3	4:D:99:GLN:O	2.18	0.44
1:A:249:HIS:N	1:A:250:GLY:CA	2.81	0.44
4:N:206:SER:O	4:N:209:THR:HG22	2.17	0.44
5:S:7:MAN:C3	5:S:10:MAN:C5	2.92	0.44
4:Q:13:ARG:HB2	4:Q:16:GLU:CG	2.47	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:6:VAL:O	3:C:6:VAL:HG22	2.17	0.44
1:K:260:LEU:HD13	1:K:451:GLY:CA	2.48	0.44
1:K:475:MET:O	1:K:478:ASN:HB2	2.17	0.44
1:E:116:LEU:HD11	1:E:210:PHE:CG	2.53	0.44
3:P:85:ASP:HB3	3:P:101:ALA:HB1	2.00	0.44
2:L:30:ASN:OD1	2:L:32:ASN:N	2.47	0.44
3:M:96:TRP:CZ2	4:N:58:THR:HG22	2.53	0.44
1:A:335:ARG:O	1:A:339:ASN:CB	2.53	0.44
1:K:333:ILE:HB	1:K:414:ILE:HG23	1.99	0.44
1:E:257:THR:CG2	1:E:370:GLU:O	2.61	0.43
1:E:331:CYS:SG	1:E:385:CYS:SG	3.15	0.43
4:D:221:SER:H	4:D:222:ASN:HA	1.83	0.43
2:L:85:GLU:HB3	2:L:90:LYS:HE3	2.00	0.43
1:O:96:TRP:CD1	1:O:236:LYS:HD2	2.53	0.43
1:E:257:THR:HG23	1:E:258:GLN:N	2.33	0.43
1:E:394:THR:HB	1:E:402:SER:HB3	2.00	0.43
4:Q:217:ASN:HB2	4:Q:224:LYS:NZ	2.33	0.43
2:H:150:GLU:O	2:H:152:GLN:N	2.48	0.43
3:I:47:LEU:HA	3:I:47:LEU:HD23	1.72	0.43
1:O:96:TRP:HD1	1:O:236:LYS:HD2	1.82	0.43
1:A:291:SER:HB2	1:A:448:ASN:HB2	1.99	0.43
3:P:28:LEU:HB2	3:P:94:ARG:HB2	2.00	0.43
3:C:176:SER:HB2	3:C:178:TYR:HE1	1.84	0.43
9:J:301:GOL:C3	5:V:7:MAN:C1	2.72	0.43
3:M:50:ASN:O	3:M:51:ASN:HB2	2.18	0.43
1:A:249:HIS:ND1	1:A:249:HIS:N	2.60	0.43
1:K:348:LYS:O	1:K:351:GLU:HB3	2.17	0.43
1:K:488:VAL:O	1:K:488:VAL:HG13	2.18	0.43
6:U:1:NAG:O3	6:U:2:NAG:O5	2.31	0.43
5:V:7:MAN:C3	5:V:10:MAN:C5	2.92	0.43
2:F:108:LEU:HA	2:F:112:GLN:HE21	1.83	0.43
3:P:94:ARG:HA	3:P:94:ARG:HD2	1.82	0.43
2:B:121:PRO:O	2:B:124:SER:OG	2.35	0.43
3:C:5:TYR:CG	3:C:6:VAL:N	2.83	0.43
3:C:48:ILE:CD1	3:C:54:ARG:HG3	2.48	0.43
4:N:36:TRP:HD1	4:N:69:ILE:HD13	1.83	0.43
4:N:159:LEU:HD21	4:N:161:LYS:HD2	1.98	0.43
1:O:199:SER:OG	1:O:200:VAL:N	2.49	0.43
1:O:294:ILE:HG22	1:O:447:SER:HB2	2.00	0.43
1:O:360:VAL:HG21	1:O:465:ILE:HD13	1.96	0.43
1:A:94:ASN:HD22	1:A:236:LYS:HG2	1.83	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:164:THR:O	3:I:164:THR:CG2	2.63	0.43
1:K:96:TRP:HE1	1:K:275:ASP:CA	2.22	0.43
1:K:225:ILE:HA	1:K:487:LYS:O	2.19	0.43
1:K:342:LEU:HD23	1:K:342:LEU:HA	1.80	0.43
1:E:255:VAL:HG13	1:E:475:MET:SD	2.59	0.43
1:E:346:VAL:HG21	1:E:395:TRP:CG	2.54	0.43
3:I:35:TRP:CD2	3:I:73:LEU:HB2	2.54	0.43
3:M:7:SER:HA	3:M:8:PRO:HD3	1.79	0.43
4:N:87:THR:HG23	4:N:110:THR:HA	2.00	0.43
1:O:362:THR:HG23	1:O:469:ARG:HG2	2.00	0.43
1:O:381:GLU:OE2	1:O:443:ILE:CG1	2.66	0.43
1:E:462:GLU:CG	1:E:463:SER:N	2.71	0.43
4:D:27:GLY:HA2	4:D:28:SER:HA	1.47	0.43
3:I:122:SER:OG	3:I:125:GLU:HB2	2.19	0.43
4:J:87:THR:HG23	4:J:110:THR:HA	2.01	0.43
4:N:4:LEU:HD23	4:N:92:CYS:SG	2.59	0.43
3:P:121:PRO:HD2	3:P:186:TRP:CZ2	2.53	0.43
4:Q:188:LEU:HB2	4:Q:194:TYR:HE1	1.83	0.43
4:D:100(D):VAL:N	4:D:100(I):GLU:HG3	2.34	0.43
3:M:55:PRO:HG2	3:M:58:ILE:HG13	1.99	0.43
4:N:96:ARG:HB2	4:N:100(O):TYR:CE1	2.54	0.43
1:A:428:GLN:H	1:A:428:GLN:CD	2.27	0.43
4:Q:34:TRP:CG	4:Q:78:LEU:HD21	2.53	0.43
4:J:169:THR:OG1	4:J:217:ASN:HB3	2.19	0.43
2:L:108:LEU:HD12	2:L:112:GLN:HB3	1.99	0.43
1:A:94:ASN:ND2	1:A:236:LYS:HE3	2.34	0.43
1:A:96:TRP:CG	1:A:275:ASP:HB2	2.54	0.43
3:P:20:ARG:HH11	3:M:20:ARG:HH11	1.66	0.43
2:L:24:ILE:HG13	2:L:25:GLN:N	2.34	0.43
2:L:59:ARG:HH12	1:A:368:ASP:CG	2.26	0.43
2:L:128:VAL:HG22	2:L:161:VAL:HG13	2.00	0.43
4:Q:100:ARG:NH2	5:G:5:MAN:H3	2.34	0.42
3:C:106(A):LEU:HA	3:C:107:SER:HA	1.79	0.42
4:D:105:LYS:H	4:D:105:LYS:HG2	1.63	0.42
2:H:36:ILE:HA	2:H:49:SER:HB3	2.01	0.42
3:M:79:GLU:O	3:M:80:VAL:C	2.62	0.42
1:A:364:SER:HB3	1:A:372:VAL:HG13	2.02	0.42
1:E:335:ARG:NH1	1:E:335:ARG:HG3	2.34	0.42
1:E:352:GLN:O	1:E:352:GLN:HG3	2.19	0.42
3:P:54:ARG:HA	3:P:55:PRO:HD3	1.92	0.42
3:P:135:CYS:HB2	3:P:149:TRP:CZ2	2.54	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:35:TRP:CG	3:I:73:LEU:HD13	2.54	0.42
4:D:221:SER:HB2	4:D:223:THR:N	2.34	0.42
2:H:141:GLY:HA2	2:H:142:LYS:HA	1.55	0.42
4:J:4:LEU:HD21	4:J:34:TRP:CZ3	2.48	0.42
9:N:301:GOL:H32	5:S:10:MAN:C6	2.48	0.42
1:E:384:TYR:CE1	1:E:421:LYS:HD2	2.55	0.42
1:E:430:VAL:CG1	2:F:59:ARG:HD3	2.50	0.42
3:P:39:LYS:O	3:P:42:GLN:HB2	2.19	0.42
3:P:196:VAL:HG22	3:P:203:VAL:HG22	2.00	0.42
4:Q:13:ARG:HA	4:Q:14:PRO:HD3	1.85	0.42
2:B:58:ARG:HG2	2:B:60:SER:OG	2.19	0.42
2:H:44:LEU:HD23	2:H:59:ARG:HH12	1.84	0.42
3:I:66(B):ILE:H	3:I:66(B):ILE:HG12	1.64	0.42
1:O:251:ILE:HG23	1:O:482:GLU:HG3	2.02	0.42
1:O:413:THR:O	1:O:413:THR:CG2	2.67	0.42
1:A:98:ASN:ND2	1:A:486:TYR:O	2.52	0.42
1:A:231:LYS:HD2	1:A:268:GLU:OE1	2.19	0.42
2:F:97:VAL:O	2:F:121:PRO:HD3	2.20	0.42
3:P:6:VAL:O	3:P:6:VAL:HG13	2.19	0.42
4:D:141:PRO:HD3	4:D:227:LYS:HD3	2.01	0.42
4:D:142:LEU:HB2	4:D:157:GLY:C	2.45	0.42
4:D:221:SER:HB3	4:D:223:THR:HG23	2.01	0.42
2:L:89:GLN:C	2:L:90:LYS:HD2	2.44	0.42
3:M:48:ILE:HD13	3:M:48:ILE:HA	1.81	0.42
1:O:384:TYR:CE1	1:O:421:LYS:HD2	2.54	0.42
1:K:93:PHE:HE1	1:K:487:LYS:HD3	1.75	0.42
1:K:248:THR:HG22	1:K:486:TYR:CE1	2.55	0.42
2:B:139:GLN:HG3	2:B:140:GLY:N	2.35	0.42
4:D:37:ILE:HD11	4:D:100(P):MET:HE3	2.01	0.42
4:D:215:ASN:HB2	4:D:224:LYS:HZ1	1.84	0.42
3:I:119:PHE:CE2	4:J:142:LEU:HB3	2.55	0.42
2:L:98:PHE:O	2:L:170:PHE:HZ	2.03	0.42
2:L:107:HIS:O	2:L:107:HIS:ND1	2.53	0.42
4:N:18:LEU:HD21	4:N:109:VAL:HG21	2.02	0.42
4:N:210:GLN:HG3	4:N:211:THR:N	2.34	0.42
1:A:216:HIS:NE2	1:A:249:HIS:C	2.78	0.42
1:K:295:ASN:O	1:K:331:CYS:HA	2.19	0.42
1:K:323:ILE:HD12	1:K:324:GLY:HA2	2.00	0.42
2:F:1:LYS:HD2	2:F:1:LYS:HA	1.85	0.42
3:C:7:SER:HA	3:C:8:PRO:HD3	1.78	0.42
2:L:4:VAL:HG21	2:L:14:LEU:HD22	2.02	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:K:111:LEU:O	1:K:115:SER:OG	2.35	0.42
1:K:266:ALA:CB	1:K:287:GLN:HG2	2.41	0.42
1:K:277:PHE:CD2	1:K:352:GLN:HG2	2.54	0.42
2:F:166:LYS:HE2	2:F:166:LYS:HB3	1.82	0.42
3:C:83:GLU:CG	3:C:106:VAL:H	2.32	0.42
4:J:219:LYS:O	4:J:222:ASN:HB3	2.19	0.42
4:N:96:ARG:HE	4:N:101:ASP:CG	2.28	0.42
1:O:295:ASN:OD1	1:O:295:ASN:N	2.52	0.42
1:O:346:VAL:HG21	1:O:395:TRP:CG	2.54	0.42
1:O:424:ILE:HD11	1:O:435:TYR:CE1	2.54	0.42
3:P:150:LYS:CB	3:P:193:SER:O	2.61	0.42
4:Q:172:TRP:CD1	4:Q:181:VAL:HG23	2.55	0.42
3:C:140:PHE:CE2	3:C:145:VAL:HB	2.55	0.42
4:D:37:ILE:HD12	4:D:103:TRP:CH2	2.55	0.42
4:D:168:VAL:HG11	4:D:196:LEU:HD21	2.02	0.42
1:O:217:TYR:H	1:O:248:THR:HG1	1.62	0.42
1:A:248:THR:HG23	1:A:249:HIS:ND1	2.35	0.42
1:K:260:LEU:HD12	1:K:452:LEU:N	2.27	0.42
4:Q:164:PHE:HA	4:Q:165:PRO:HA	1.69	0.42
3:M:35:TRP:CH2	3:M:88:CYS:HB2	2.55	0.42
1:O:104:MET:HG2	1:O:479:TRP:HB3	2.01	0.42
1:K:228:CYS:HG	1:K:239:CYS:CB	2.23	0.42
2:B:45:THR:HG22	1:O:371:ILE:HD13	2.02	0.41
2:B:114:LEU:HB3	2:B:146:VAL:CG2	2.49	0.41
4:D:181:VAL:HG12	4:D:200:VAL:HB	2.01	0.41
4:J:4:LEU:HD12	4:J:102:VAL:HG12	2.02	0.41
1:O:349:LEU:HD13	1:O:468:PHE:CE1	2.55	0.41
1:K:370:GLU:CD	1:K:425:ASN:HB2	2.45	0.41
1:E:197:GLY:H	1:E:199:SER:H	1.67	0.41
1:E:272:ILE:HG13	1:E:277:PHE:CZ	2.53	0.41
3:P:87:TYR:CD1	3:P:101:ALA:HB2	2.49	0.41
3:P:119:PHE:CE1	4:Q:142:LEU:HB3	2.55	0.41
4:Q:202:VAL:HG22	4:Q:203:PRO:CD	2.46	0.41
4:D:137:PRO:HD2	4:D:223:THR:OG1	2.20	0.41
1:K:357:LYS:HD3	1:K:464:GLU:C	2.44	0.41
1:E:331:CYS:HB2	1:E:416:LEU:HB2	2.01	0.41
2:F:117:THR:HG22	2:F:118:LEU:N	2.34	0.41
4:Q:12:VAL:HG11	4:Q:82(C):VAL:HG21	2.03	0.41
4:Q:13:ARG:HB2	4:Q:16:GLU:HG2	2.02	0.41
4:Q:53:ASP:OD1	4:Q:54:ARG:N	2.52	0.41
3:C:58:ILE:HA	3:C:59:PRO:HD3	1.91	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:I:46:LEU:HD21	4:J:100(O):TYR:HD2	1.85	0.41
4:J:17:THR:HG23	4:J:82:LEU:O	2.20	0.41
4:N:37:ILE:HD12	4:N:103:TRP:CH2	2.55	0.41
4:N:156:LEU:HB3	4:N:229:VAL:HG11	2.03	0.41
1:O:346:VAL:HG21	1:O:395:TRP:CD2	2.55	0.41
1:E:295:ASN:HD22	7:E:503:NAG:H83	1.84	0.41
1:O:226:LEU:HG	1:O:489:VAL:CG2	2.50	0.41
3:P:119:PHE:CD1	4:Q:142:LEU:HB3	2.55	0.41
4:Q:160:VAL:CG1	4:Q:216:VAL:HG21	2.49	0.41
3:M:125:GLU:OE2	3:M:132:THR:HG23	2.21	0.41
1:E:487:LYS:HB2	1:E:487:LYS:HE3	1.76	0.41
1:A:207:LYS:C	1:A:208:VAL:HG12	2.46	0.41
1:A:353:PHE:CZ	1:A:456:ARG:CD	3.04	0.41
1:K:208:VAL:CG1	1:K:209:SER:N	2.83	0.41
4:Q:78:LEU:HD12	4:Q:78:LEU:N	2.36	0.41
4:Q:152:GLY:O	4:Q:204:SER:N	2.26	0.41
4:D:29:ILE:CG1	4:D:71:ARG:CG	2.98	0.41
4:D:100(B):TYR:CD1	4:D:100(I):GLU:HB3	2.55	0.41
4:N:159:LEU:HG	4:N:161:LYS:HG3	2.03	0.41
1:K:358:THR:HG23	1:K:464:GLU:HG2	2.02	0.41
1:K:381:GLU:HB3	1:K:420:ILE:HD13	2.02	0.41
1:E:332:ASN:ND2	5:G:1:NAG:H82	2.36	0.41
1:E:333:ILE:HD12	1:E:390:LEU:HD21	2.01	0.41
3:P:35:TRP:CD2	3:P:73:LEU:HB2	2.56	0.41
4:Q:144:PRO:HD3	4:Q:156:LEU:HB3	2.01	0.41
3:C:186:TRP:CZ3	3:C:192:TYR:HD2	2.38	0.41
4:D:68:VAL:HB	1:A:423:ILE:HD13	2.02	0.41
2:H:30:ASN:OD1	2:H:34:ILE:O	2.38	0.41
1:O:363:HIS:HB3	1:O:388:THR:HG23	2.02	0.41
1:A:448:ASN:OD1	1:A:448:ASN:N	2.53	0.41
1:E:114:GLN:HA	1:E:117:LYS:CE	2.51	0.41
2:B:149:LEU:HA	2:B:149:LEU:HD12	1.81	0.41
3:C:140:PHE:HE2	3:C:145:VAL:HB	1.85	0.41
4:D:29:ILE:HG13	4:D:71:ARG:CG	2.50	0.41
2:H:7:LYS:HE3	2:H:170:PHE:CE1	2.56	0.41
3:M:124:GLU:OE1	3:M:124:GLU:N	2.37	0.41
3:M:150:LYS:HD2	3:M:153:SER:O	2.21	0.41
4:N:29:ILE:HD12	4:N:34:TRP:CE2	2.56	0.41
1:O:238:GLN:CD	1:O:238:GLN:N	2.77	0.41
1:A:230:ASN:HB3	1:A:233:PHE:HB2	2.02	0.41
1:A:332:ASN:ND2	5:S:1:NAG:C8	2.63	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:R:7:MAN:C3	5:R:10:MAN:C5	2.92	0.41
2:F:140:GLY:N	2:F:144:LEU:HD21	2.36	0.41
2:H:76:ILE:HD12	2:H:76:ILE:H	1.85	0.41
2:L:27:HIS:HE1	2:L:35:LYS:HB3	1.86	0.41
4:N:11:LEU:HD23	4:N:112:SER:HB3	2.01	0.41
4:N:82(A):ARG:NH1	4:N:82(B):SER:OG	2.54	0.41
1:A:362:THR:CG2	1:A:363:HIS:N	2.82	0.41
1:A:442:GLN:HG2	1:A:444:ARG:NH1	2.36	0.41
2:B:54:ARG:HB3	2:B:72:LYS:O	2.20	0.40
2:H:150:GLU:O	2:H:150:GLU:CG	2.66	0.40
4:J:18:LEU:HD13	4:J:109:VAL:HG11	2.03	0.40
4:J:218:HIS:NE2	4:J:220:PRO:HG2	2.36	0.40
3:M:48:ILE:HD13	3:M:54:ARG:HG3	2.03	0.40
1:O:248:THR:HG22	1:O:486:TYR:CD1	2.56	0.40
1:A:225:ILE:O	1:A:244:THR:HA	2.21	0.40
2:F:143:THR:HG22	2:F:144:LEU:N	2.36	0.40
4:D:2:VAL:HA	4:D:26:GLY:CA	2.46	0.40
4:D:164:PHE:HA	4:D:165:PRO:HA	1.92	0.40
3:M:61:ARG:HB2	3:M:76:SER:HB2	2.02	0.40
4:N:99:GLN:HG3	4:N:100(A):ILE:HG13	2.04	0.40
1:O:322:ILE:C	1:O:323:ILE:HG22	2.46	0.40
1:O:349:LEU:HD23	1:O:349:LEU:HA	1.97	0.40
1:K:256:SER:OG	1:K:259:LEU:O	2.25	0.40
1:E:257:THR:CG2	1:E:375:SER:OG	2.70	0.40
1:O:207:LYS:HB2	1:O:437:PRO:O	2.21	0.40
1:O:294:ILE:CG2	1:O:447:SER:HB2	2.52	0.40
1:A:265:LEU:CD2	1:A:288:LEU:O	2.66	0.40
1:A:271:VAL:HG13	1:A:287:GLN:HB3	2.02	0.40
1:E:341:THR:O	1:E:345:ILE:HG13	2.22	0.40
4:Q:202:VAL:HG21	4:Q:212:TYR:OH	2.21	0.40
2:B:140:GLY:HA3	2:B:144:LEU:HD11	2.03	0.40
3:C:66(B):ILE:H	3:C:66(B):ILE:HG12	1.63	0.40
4:J:172:TRP:CD1	4:J:181:VAL:CG1	3.04	0.40
2:L:10:ASP:OD1	2:L:11:THR:N	2.46	0.40
1:K:424:ILE:HD11	1:K:435:TYR:HE1	1.86	0.40
2:B:51:LEU:O	2:B:55:ALA:N	2.55	0.40
2:B:174:ILE:HD12	2:B:174:ILE:HA	1.84	0.40
4:J:98:GLY:HA3	4:J:100(M):TYR:CZ	2.57	0.40
2:L:53:ASP:OD1	2:L:53:ASP:N	2.51	0.40
3:M:28:LEU:CB	3:M:94:ARG:HB2	2.51	0.40
3:M:35:TRP:HD1	3:M:48:ILE:CG2	2.35	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:114:GLN:O	1:A:117:LYS:HE3	2.22	0.40
1:K:260:LEU:CD1	1:K:452:LEU:CA	3.00	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [i](#)

5.3.1 Protein backbone [i](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	298/309 (96%)	276 (93%)	20 (7%)	2 (1%)	18	48
1	E	299/309 (97%)	272 (91%)	27 (9%)	0	100	100
1	K	299/309 (97%)	275 (92%)	23 (8%)	1 (0%)	36	66
1	O	299/309 (97%)	279 (93%)	17 (6%)	3 (1%)	12	40
2	B	173/184 (94%)	164 (95%)	8 (5%)	1 (1%)	21	51
2	F	173/184 (94%)	164 (95%)	9 (5%)	0	100	100
2	H	174/184 (95%)	157 (90%)	16 (9%)	1 (1%)	21	51
2	L	171/184 (93%)	160 (94%)	11 (6%)	0	100	100
3	C	208/214 (97%)	191 (92%)	17 (8%)	0	100	100
3	I	208/214 (97%)	186 (89%)	22 (11%)	0	100	100
3	M	208/214 (97%)	198 (95%)	10 (5%)	0	100	100
3	P	208/214 (97%)	194 (93%)	12 (6%)	2 (1%)	12	40
4	D	221/236 (94%)	197 (89%)	23 (10%)	1 (0%)	24	55
4	J	222/236 (94%)	209 (94%)	12 (5%)	1 (0%)	24	55
4	N	224/236 (95%)	206 (92%)	18 (8%)	0	100	100
4	Q	224/236 (95%)	204 (91%)	20 (9%)	0	100	100
All	All	3609/3772 (96%)	3332 (92%)	265 (7%)	12 (0%)	36	66

All (12) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
4	D	100(J)	PHE
1	A	205	CYS
1	O	231	LYS
2	B	106	THR
2	H	150	GLU
1	O	325	ASP
3	P	40	PRO
1	K	200	VAL
4	J	14	PRO
1	O	299	PRO
1	A	299	PRO
3	P	8	PRO

5.3.2 Protein sidechains ⓘ

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	270/276 (98%)	255 (94%)	15 (6%)	19	47
1	E	271/276 (98%)	257 (95%)	14 (5%)	21	49
1	K	271/276 (98%)	256 (94%)	15 (6%)	19	47
1	O	271/276 (98%)	260 (96%)	11 (4%)	27	55
2	B	159/166 (96%)	153 (96%)	6 (4%)	29	56
2	F	159/166 (96%)	152 (96%)	7 (4%)	25	54
2	H	159/166 (96%)	151 (95%)	8 (5%)	22	50
2	L	157/166 (95%)	148 (94%)	9 (6%)	18	47
3	C	176/180 (98%)	166 (94%)	10 (6%)	18	47
3	I	176/180 (98%)	170 (97%)	6 (3%)	32	59
3	M	176/180 (98%)	161 (92%)	15 (8%)	10	33
3	P	176/180 (98%)	163 (93%)	13 (7%)	13	39
4	D	194/204 (95%)	160 (82%)	34 (18%)	2	9
4	J	194/204 (95%)	183 (94%)	11 (6%)	18	47

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
4	N	196/204 (96%)	163 (83%)	33 (17%)	2	11
4	Q	196/204 (96%)	183 (93%)	13 (7%)	15	43
All	All	3201/3304 (97%)	2981 (93%)	220 (7%)	14	42

All (220) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	E	213	ILE
1	E	225	ILE
1	E	247	CYS
1	E	251	ILE
1	E	259	LEU
1	E	294	ILE
1	E	347	GLU
1	E	358	THR
1	E	360	VAL
1	E	420	ILE
1	E	434	MET
1	E	463	SER
1	E	464	GLU
1	E	489	VAL
2	F	27	HIS
2	F	42	SER
2	F	83	ILE
2	F	116	LEU
2	F	142	LYS
2	F	150	GLU
2	F	174	ILE
3	P	12	SER
3	P	78	VAL
3	P	95	SER
3	P	95(B)	PHE
3	P	95(C)	SER
3	P	150	LYS
3	P	152	ASP
3	P	153	SER
3	P	154	SER
3	P	156	VAL
3	P	194	CYS
3	P	196	VAL
3	P	206	THR

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Mol	Chain	Res	Type
4	Q	11	LEU
4	Q	21	THR
4	Q	24	VAL
4	Q	25	SER
4	Q	63	LEU
4	Q	111	VAL
4	Q	139	VAL
4	Q	156	LEU
4	Q	159	LEU
4	Q	166	GLU
4	Q	169	THR
4	Q	200	VAL
4	Q	222	ASN
2	B	27	HIS
2	B	50	LYS
2	B	66	ASN
2	B	88	ASP
2	B	96	LEU
2	B	174	ILE
3	C	23	CYS
3	C	28	LEU
3	C	74	THR
3	C	76	SER
3	C	123	SER
3	C	156	VAL
3	C	157	LYS
3	C	176	SER
3	C	196	VAL
3	C	203	VAL
4	D	2	VAL
4	D	7	SER
4	D	12	VAL
4	D	13	ARG
4	D	18	LEU
4	D	21	THR
4	D	24	VAL
4	D	68	VAL
4	D	69	ILE
4	D	100	ARG
4	D	100(A)	ILE
4	D	100(B)	TYR
4	D	100(D)	VAL

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Mol	Chain	Res	Type
4	D	100(E)	VAL
4	D	100(F)	SER
4	D	100(G)	PHE
4	D	100(I)	GLU
4	D	100(J)	PHE
4	D	100(K)	PHE
4	D	100(L)	TYR
4	D	100(M)	TYR
4	D	100(N)	TYR
4	D	100(O)	TYR
4	D	100(P)	MET
4	D	105	LYS
4	D	113	SER
4	D	139	VAL
4	D	153	THR
4	D	160	VAL
4	D	168	VAL
4	D	188	LEU
4	D	200	VAL
4	D	215	ASN
4	D	227	LYS
2	H	24	ILE
2	H	32	ASN
2	H	70	ILE
2	H	86	VAL
2	H	104	SER
2	H	114	LEU
2	H	139	GLN
2	H	147	SER
3	I	74	THR
3	I	83	GLU
3	I	145	VAL
3	I	181	LEU
3	I	196	VAL
3	I	201	SER
4	J	7	SER
4	J	14	PRO
4	J	16	GLU
4	J	29	ILE
4	J	56	THR
4	J	63	LEU
4	J	113	SER

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Mol	Chain	Res	Type
4	J	134	THR
4	J	156	LEU
4	J	211	THR
4	J	230	GLU
2	L	42	SER
2	L	69	LEU
2	L	83	ILE
2	L	85	GLU
2	L	100	LEU
2	L	112	GLN
2	L	143	THR
2	L	150	GLU
2	L	151	LEU
3	M	15	LEU
3	M	23	CYS
3	M	30	SER
3	M	48	ILE
3	M	52	GLN
3	M	65	THR
3	M	89	HIS
3	M	105	THR
3	M	166	SER
3	M	176	SER
3	M	196	VAL
3	M	197	THR
3	M	202	THR
3	M	203	VAL
3	M	210	THR
4	N	1	GLN
4	N	7	SER
4	N	12	VAL
4	N	21	THR
4	N	25	SER
4	N	74	SER
4	N	79	SER
4	N	100	ARG
4	N	100(A)	ILE
4	N	100(B)	TYR
4	N	100(D)	VAL
4	N	100(E)	VAL
4	N	100(F)	SER
4	N	100(G)	PHE

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Mol	Chain	Res	Type
4	N	100(I)	GLU
4	N	100(J)	PHE
4	N	100(K)	PHE
4	N	100(L)	TYR
4	N	100(M)	TYR
4	N	100(N)	TYR
4	N	100(O)	TYR
4	N	100(P)	MET
4	N	156	LEU
4	N	159	LEU
4	N	162	ASP
4	N	166	GLU
4	N	168	VAL
4	N	178	THR
4	N	181	VAL
4	N	202	VAL
4	N	211	THR
4	N	227	LYS
4	N	229	VAL
1	O	123	THR
1	O	213	ILE
1	O	215	ILE
1	O	264	SER
1	O	295	ASN
1	O	323	ILE
1	O	325	ASP
1	O	335	ARG
1	O	443	ILE
1	O	465	ILE
1	O	489	VAL
1	A	111	LEU
1	A	201	ILE
1	A	207	LYS
1	A	208	VAL
1	A	213	ILE
1	A	245	VAL
1	A	261	LEU
1	A	271	VAL
1	A	293	LYS
1	A	301	ASN
1	A	323	ILE
1	A	351	GLU

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Mol	Chain	Res	Type
1	A	371	ILE
1	A	447	SER
1	A	448	ASN
1	K	213	ILE
1	K	225	ILE
1	K	226	LEU
1	K	230	ASN
1	K	231	LYS
1	K	249	HIS
1	K	251	ILE
1	K	269	LYS
1	K	325	ASP
1	K	358	THR
1	K	405	GLU
1	K	413	THR
1	K	465	ILE
1	K	485	LYS
1	K	489	VAL

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (40) such sidechains are listed below:

Mol	Chain	Res	Type
1	E	94	ASN
1	E	99	ASN
1	E	114	GLN
1	E	302	ASN
1	E	461	ASN
2	F	112	GLN
2	F	137	ASN
3	P	52	GLN
3	P	168	GLN
3	P	171	ASN
4	Q	76	ASN
4	Q	81	GLN
4	Q	99	GLN
2	B	64	GLN
2	B	103	ASN
3	C	198	HIS
4	D	76	ASN
4	D	99	GLN
2	H	25	GLN
2	H	103	ASN

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Mol	Chain	Res	Type
4	J	5	GLN
4	J	99	GLN
2	L	27	HIS
3	M	50	ASN
3	M	51	ASN
3	M	52	GLN
3	M	89	HIS
3	M	168	GLN
3	M	170	ASN
4	N	31	ASN
4	N	99	GLN
1	O	229	ASN
1	O	461	ASN
1	A	94	ASN
1	A	216	HIS
1	A	374	HIS
1	A	389	GLN
1	K	229	ASN
1	K	328	GLN
1	K	478	ASN

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

44 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
5	NAG	G	1	5,1	14,14,15	0.31	0	17,19,21	0.88	1 (5%)
5	MAN	G	10	5	11,11,12	0.23	0	15,15,17	0.57	0
5	NAG	G	2	5	14,14,15	0.36	0	17,19,21	0.92	0
5	BMA	G	3	5	11,11,12	1.48	3 (27%)	15,15,17	4.10	4 (26%)
5	MAN	G	4	5	11,11,12	0.24	0	15,15,17	0.62	0
5	MAN	G	5	5	11,11,12	0.31	0	15,15,17	0.64	0
5	MAN	G	6	5	11,11,12	0.27	0	15,15,17	0.59	0
5	MAN	G	7	5	11,11,12	0.22	0	15,15,17	0.74	0
5	MAN	G	8	5	11,11,12	0.26	0	15,15,17	0.67	0
5	MAN	G	9	5	11,11,12	0.24	0	15,15,17	0.56	0
5	NAG	R	1	5,1	14,14,15	0.32	0	17,19,21	0.89	1 (5%)
5	MAN	R	10	5	11,11,12	0.23	0	15,15,17	0.57	0
5	NAG	R	2	5	14,14,15	0.37	0	17,19,21	0.91	0
5	BMA	R	3	5	11,11,12	1.48	3 (27%)	15,15,17	4.09	4 (26%)
5	MAN	R	4	5	11,11,12	0.27	0	15,15,17	0.50	0
5	MAN	R	5	5	11,11,12	0.28	0	15,15,17	0.62	0
5	MAN	R	6	5	11,11,12	0.30	0	15,15,17	0.58	0
5	MAN	R	7	5	11,11,12	0.22	0	15,15,17	0.73	0
5	MAN	R	8	5	11,11,12	0.27	0	15,15,17	0.67	0
5	MAN	R	9	5	11,11,12	0.24	0	15,15,17	0.56	0
5	NAG	S	1	5,1	14,14,15	0.32	0	17,19,21	0.89	1 (5%)
5	MAN	S	10	5	11,11,12	0.23	0	15,15,17	0.57	0
5	NAG	S	2	5	14,14,15	0.37	0	17,19,21	0.91	0
5	BMA	S	3	5	11,11,12	1.48	3 (27%)	15,15,17	4.09	4 (26%)
5	MAN	S	4	5	11,11,12	0.23	0	15,15,17	0.65	0
5	MAN	S	5	5	11,11,12	0.27	0	15,15,17	0.62	0
5	MAN	S	6	5	11,11,12	0.30	0	15,15,17	0.58	0
5	MAN	S	7	5	11,11,12	0.23	0	15,15,17	0.73	0
5	MAN	S	8	5	11,11,12	0.28	0	15,15,17	0.67	0
5	MAN	S	9	5	11,11,12	0.23	0	15,15,17	0.57	0
6	NAG	T	1	6,1	14,14,15	0.35	0	17,19,21	0.62	0
6	NAG	T	2	6	14,14,15	0.33	0	17,19,21	0.82	1 (5%)
6	NAG	U	1	6,1	14,14,15	0.30	0	17,19,21	0.55	0
6	NAG	U	2	6	14,14,15	0.29	0	17,19,21	0.56	0
5	NAG	V	1	5,1	14,14,15	0.32	0	17,19,21	0.89	1 (5%)
5	MAN	V	10	5	11,11,12	0.21	0	15,15,17	0.57	0
5	NAG	V	2	5	14,14,15	0.36	0	17,19,21	0.91	0
5	BMA	V	3	5	11,11,12	1.49	3 (27%)	15,15,17	4.09	4 (26%)
5	MAN	V	4	5	11,11,12	0.27	0	15,15,17	0.51	0
5	MAN	V	5	5	11,11,12	0.27	0	15,15,17	0.62	0
5	MAN	V	6	5	11,11,12	0.30	0	15,15,17	0.59	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	MAN	V	7	5	11,11,12	0.23	0	15,15,17	0.73	0
5	MAN	V	8	5	11,11,12	0.26	0	15,15,17	0.68	0
5	MAN	V	9	5	11,11,12	0.24	0	15,15,17	0.56	0

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
5	NAG	G	1	5,1	-	4/6/23/26	0/1/1/1
5	MAN	G	10	5	-	0/2/19/22	0/1/1/1
5	NAG	G	2	5	-	1/6/23/26	0/1/1/1
5	BMA	G	3	5	-	0/2/19/22	0/1/1/1
5	MAN	G	4	5	-	2/2/19/22	0/1/1/1
5	MAN	G	5	5	-	2/2/19/22	0/1/1/1
5	MAN	G	6	5	-	2/2/19/22	0/1/1/1
5	MAN	G	7	5	-	0/2/19/22	0/1/1/1
5	MAN	G	8	5	-	2/2/19/22	0/1/1/1
5	MAN	G	9	5	-	2/2/19/22	0/1/1/1
5	NAG	R	1	5,1	-	4/6/23/26	0/1/1/1
5	MAN	R	10	5	-	0/2/19/22	0/1/1/1
5	NAG	R	2	5	-	1/6/23/26	0/1/1/1
5	BMA	R	3	5	-	0/2/19/22	0/1/1/1
5	MAN	R	4	5	-	0/2/19/22	0/1/1/1
5	MAN	R	5	5	-	2/2/19/22	0/1/1/1
5	MAN	R	6	5	-	2/2/19/22	0/1/1/1
5	MAN	R	7	5	-	0/2/19/22	0/1/1/1
5	MAN	R	8	5	-	2/2/19/22	0/1/1/1
5	MAN	R	9	5	-	2/2/19/22	0/1/1/1
5	NAG	S	1	5,1	-	4/6/23/26	0/1/1/1
5	MAN	S	10	5	-	0/2/19/22	0/1/1/1
5	NAG	S	2	5	-	1/6/23/26	0/1/1/1
5	BMA	S	3	5	-	0/2/19/22	0/1/1/1
5	MAN	S	4	5	-	2/2/19/22	0/1/1/1
5	MAN	S	5	5	-	2/2/19/22	0/1/1/1
5	MAN	S	6	5	-	2/2/19/22	0/1/1/1
5	MAN	S	7	5	-	0/2/19/22	0/1/1/1
5	MAN	S	8	5	-	2/2/19/22	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
5	MAN	S	9	5	-	2/2/19/22	0/1/1/1
6	NAG	T	1	6,1	-	4/6/23/26	0/1/1/1
6	NAG	T	2	6	-	4/6/23/26	0/1/1/1
6	NAG	U	1	6,1	-	2/6/23/26	0/1/1/1
6	NAG	U	2	6	-	4/6/23/26	0/1/1/1
5	NAG	V	1	5,1	-	4/6/23/26	0/1/1/1
5	MAN	V	10	5	-	0/2/19/22	0/1/1/1
5	NAG	V	2	5	-	1/6/23/26	0/1/1/1
5	BMA	V	3	5	-	0/2/19/22	0/1/1/1
5	MAN	V	4	5	-	0/2/19/22	0/1/1/1
5	MAN	V	5	5	-	2/2/19/22	0/1/1/1
5	MAN	V	6	5	-	2/2/19/22	0/1/1/1
5	MAN	V	7	5	-	0/2/19/22	0/1/1/1
5	MAN	V	8	5	-	2/2/19/22	0/1/1/1
5	MAN	V	9	5	-	2/2/19/22	0/1/1/1

All (12) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	S	3	BMA	O5-C1	2.55	1.48	1.43
5	R	3	BMA	O5-C1	2.54	1.48	1.43
5	V	3	BMA	O5-C1	2.53	1.47	1.43
5	G	3	BMA	O5-C1	2.50	1.47	1.43
5	G	3	BMA	O5-C5	2.21	1.47	1.43
5	V	3	BMA	O5-C5	2.17	1.47	1.43
5	R	3	BMA	O5-C5	2.17	1.47	1.43
5	S	3	BMA	O5-C5	2.17	1.47	1.43
5	V	3	BMA	O2-C2	-2.15	1.38	1.43
5	S	3	BMA	O2-C2	-2.14	1.38	1.43
5	R	3	BMA	O2-C2	-2.13	1.38	1.43
5	G	3	BMA	O2-C2	-2.13	1.38	1.43

All (21) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	G	3	BMA	O3-C3-C2	-11.84	85.88	110.05
5	R	3	BMA	O3-C3-C2	-11.82	85.94	110.05
5	V	3	BMA	O3-C3-C2	-11.81	85.95	110.05
5	S	3	BMA	O3-C3-C2	-11.81	85.96	110.05
5	G	3	BMA	O3-C3-C4	9.31	132.32	110.38

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	S	3	BMA	O3-C3-C4	9.30	132.30	110.38
5	R	3	BMA	O3-C3-C4	9.30	132.29	110.38
5	V	3	BMA	O3-C3-C4	9.29	132.29	110.38
5	R	3	BMA	C1-O5-C5	2.99	116.19	112.19
5	S	3	BMA	C1-O5-C5	2.99	116.19	112.19
5	G	3	BMA	C1-O5-C5	2.98	116.18	112.19
5	V	3	BMA	C1-O5-C5	2.96	116.15	112.19
5	S	3	BMA	O2-C2-C3	-2.63	104.71	110.15
5	G	3	BMA	O2-C2-C3	-2.63	104.71	110.15
5	R	3	BMA	O2-C2-C3	-2.62	104.71	110.15
5	V	3	BMA	O2-C2-C3	-2.62	104.72	110.15
6	T	2	NAG	O5-C1-C2	-2.33	107.68	111.29
5	R	1	NAG	O5-C1-C2	-2.22	107.86	111.29
5	G	1	NAG	O5-C1-C2	-2.21	107.87	111.29
5	S	1	NAG	O5-C1-C2	-2.20	107.89	111.29
5	V	1	NAG	O5-C1-C2	-2.19	107.90	111.29

There are no chirality outliers.

All (70) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
5	G	1	NAG	C8-C7-N2-C2
5	G	1	NAG	O7-C7-N2-C2
5	R	1	NAG	C8-C7-N2-C2
5	R	1	NAG	O7-C7-N2-C2
5	S	1	NAG	C8-C7-N2-C2
5	S	1	NAG	O7-C7-N2-C2
5	V	1	NAG	C8-C7-N2-C2
5	V	1	NAG	O7-C7-N2-C2
6	T	1	NAG	C8-C7-N2-C2
6	T	1	NAG	O7-C7-N2-C2
6	T	2	NAG	C8-C7-N2-C2
6	T	2	NAG	O7-C7-N2-C2
6	U	1	NAG	C8-C7-N2-C2
6	U	1	NAG	O7-C7-N2-C2
5	G	4	MAN	O5-C5-C6-O6
5	S	4	MAN	O5-C5-C6-O6
5	G	6	MAN	O5-C5-C6-O6
5	R	5	MAN	O5-C5-C6-O6
5	V	5	MAN	O5-C5-C6-O6
5	S	5	MAN	O5-C5-C6-O6
5	R	6	MAN	O5-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
5	S	6	MAN	O5-C5-C6-O6
5	V	6	MAN	O5-C5-C6-O6
5	G	4	MAN	C4-C5-C6-O6
5	S	4	MAN	C4-C5-C6-O6
5	R	5	MAN	C4-C5-C6-O6
5	S	5	MAN	C4-C5-C6-O6
5	V	5	MAN	C4-C5-C6-O6
5	G	6	MAN	C4-C5-C6-O6
5	G	9	MAN	C4-C5-C6-O6
5	R	9	MAN	C4-C5-C6-O6
5	S	9	MAN	C4-C5-C6-O6
5	V	9	MAN	C4-C5-C6-O6
5	R	6	MAN	C4-C5-C6-O6
5	S	6	MAN	C4-C5-C6-O6
5	V	6	MAN	C4-C5-C6-O6
5	G	9	MAN	O5-C5-C6-O6
5	R	9	MAN	O5-C5-C6-O6
5	S	9	MAN	O5-C5-C6-O6
5	V	9	MAN	O5-C5-C6-O6
6	U	2	NAG	O5-C5-C6-O6
5	G	2	NAG	O5-C5-C6-O6
5	R	2	NAG	O5-C5-C6-O6
5	S	2	NAG	O5-C5-C6-O6
5	V	2	NAG	O5-C5-C6-O6
5	G	8	MAN	C4-C5-C6-O6
5	R	8	MAN	C4-C5-C6-O6
5	S	8	MAN	C4-C5-C6-O6
5	V	8	MAN	C4-C5-C6-O6
5	G	1	NAG	C3-C2-N2-C7
5	R	1	NAG	C3-C2-N2-C7
5	S	1	NAG	C3-C2-N2-C7
5	V	1	NAG	C3-C2-N2-C7
5	G	1	NAG	C1-C2-N2-C7
5	R	1	NAG	C1-C2-N2-C7
5	S	1	NAG	C1-C2-N2-C7
5	V	1	NAG	C1-C2-N2-C7
5	G	8	MAN	O5-C5-C6-O6
5	S	8	MAN	O5-C5-C6-O6
5	R	8	MAN	O5-C5-C6-O6
5	V	8	MAN	O5-C5-C6-O6
6	T	2	NAG	C3-C2-N2-C7
6	T	1	NAG	C4-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
6	U	2	NAG	C4-C5-C6-O6
5	G	5	MAN	O5-C5-C6-O6
5	G	5	MAN	C4-C5-C6-O6
6	T	1	NAG	O5-C5-C6-O6
6	U	2	NAG	C8-C7-N2-C2
6	U	2	NAG	O7-C7-N2-C2
6	T	2	NAG	C4-C5-C6-O6

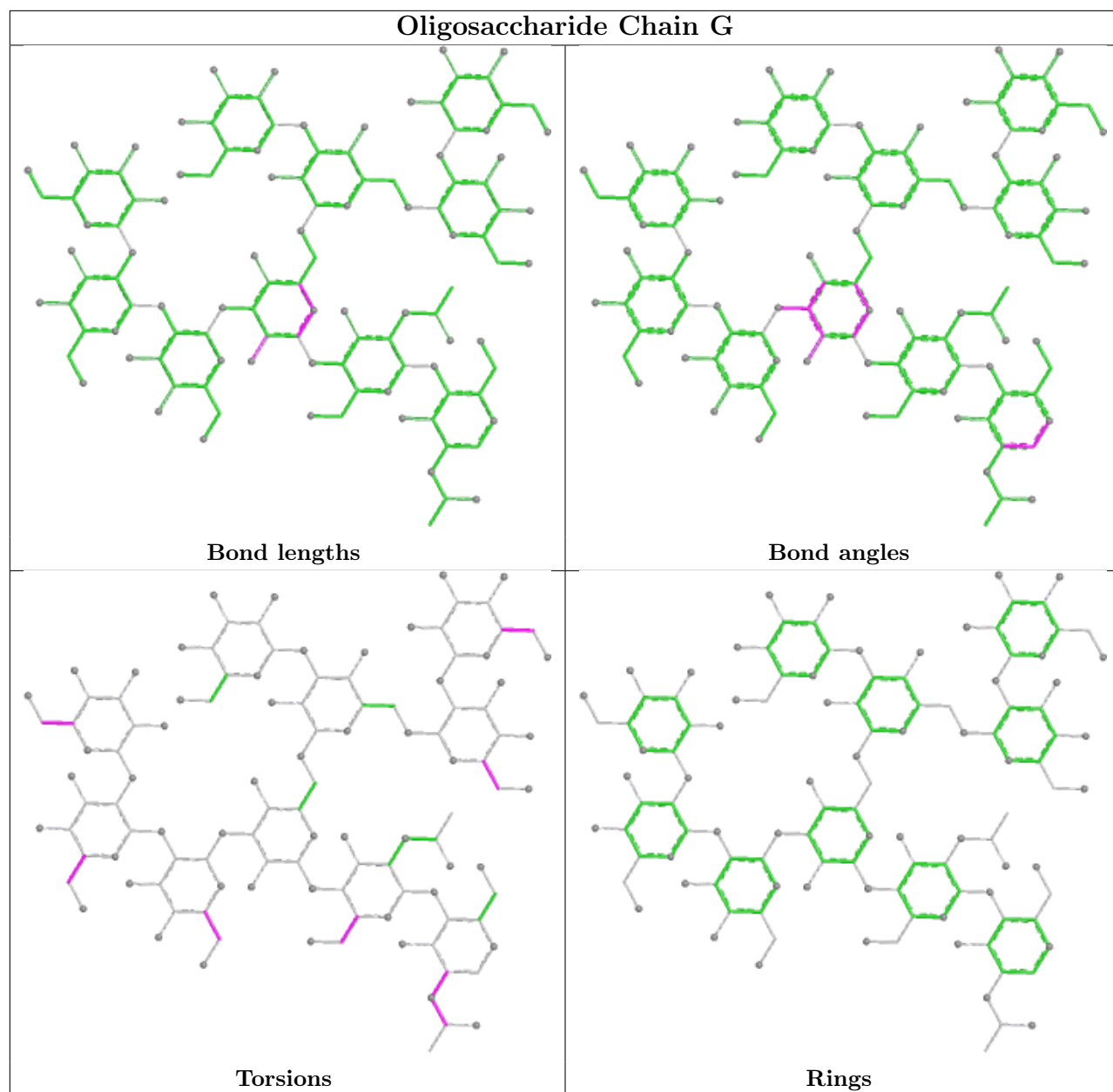
There are no ring outliers.

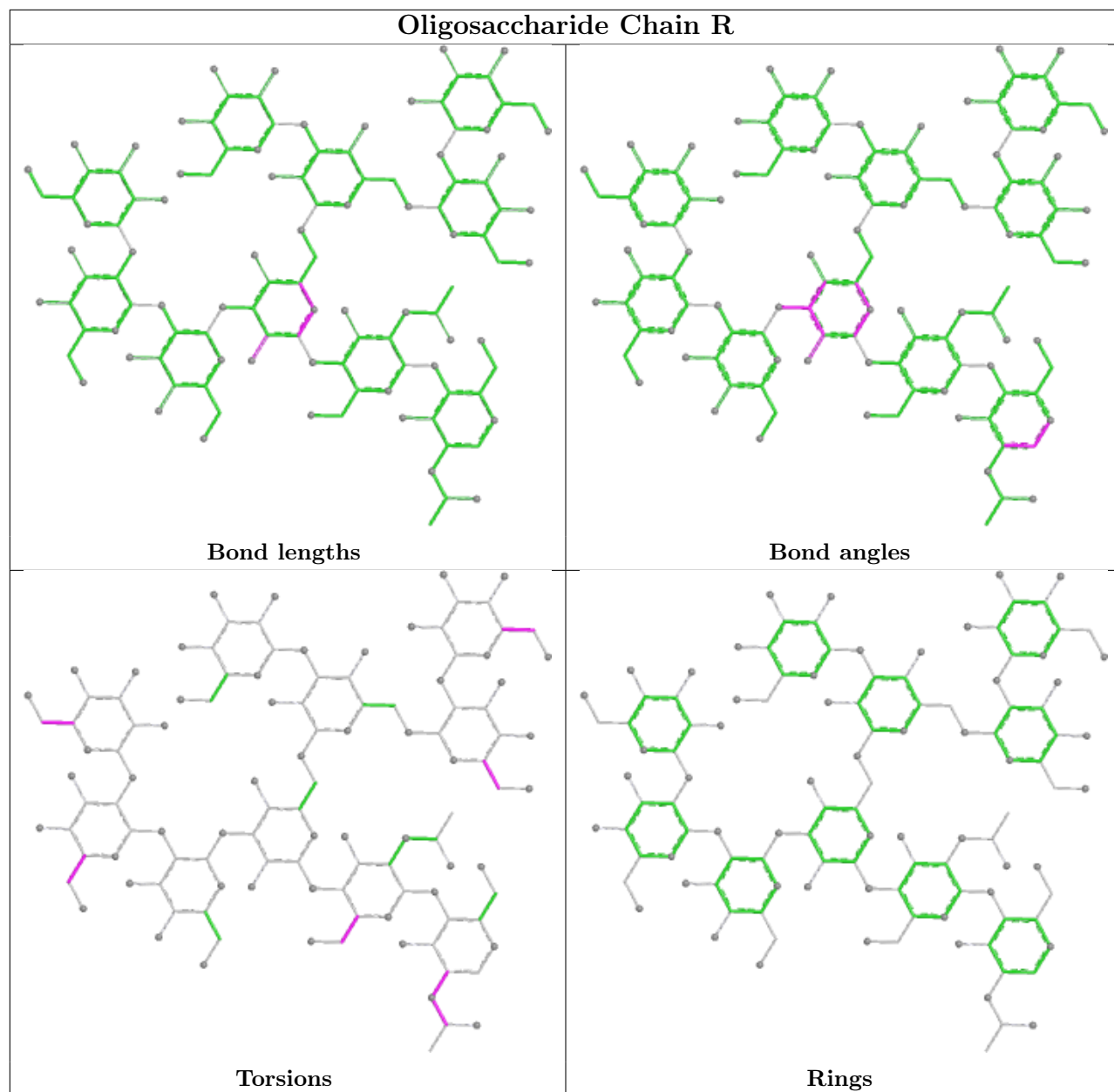
28 monomers are involved in 74 short contacts:

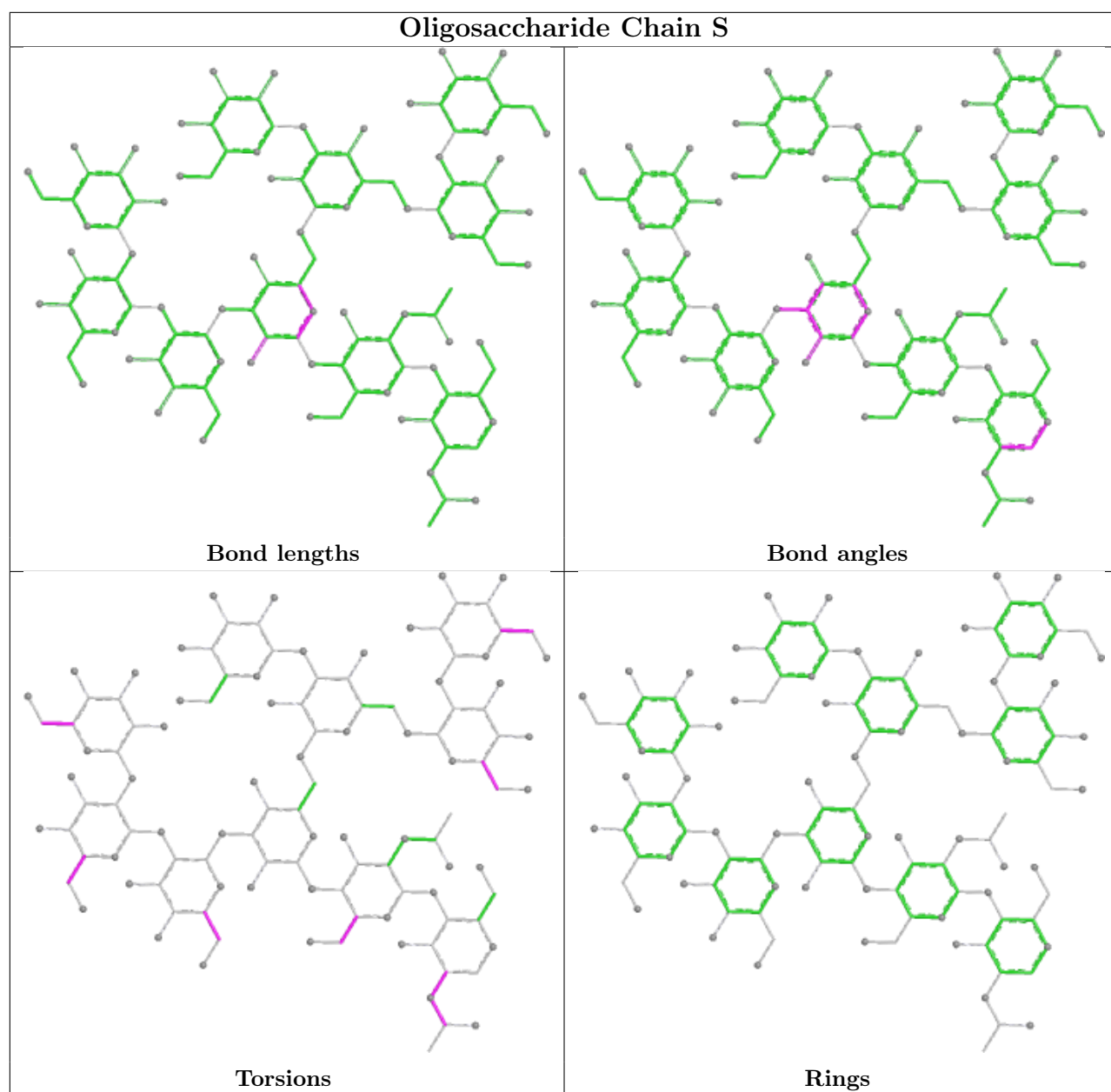
Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	R	9	MAN	1	0
5	G	5	MAN	1	0
5	R	7	MAN	5	0
5	V	4	MAN	1	0
5	V	2	NAG	1	0
5	R	5	MAN	1	0
6	U	2	NAG	1	0
5	G	2	NAG	1	0
5	V	5	MAN	1	0
5	V	3	BMA	1	0
5	G	10	MAN	4	0
5	R	4	MAN	1	0
5	G	1	NAG	4	0
5	R	10	MAN	4	0
5	R	2	NAG	4	0
5	G	7	MAN	4	0
6	U	1	NAG	5	0
5	V	10	MAN	9	0
6	T	2	NAG	1	0
5	V	7	MAN	13	0
5	S	2	NAG	2	0
5	R	1	NAG	6	0
5	S	10	MAN	6	0
5	S	1	NAG	6	0
5	S	7	MAN	4	0
5	V	1	NAG	8	0
5	G	9	MAN	2	0
6	T	1	NAG	1	0

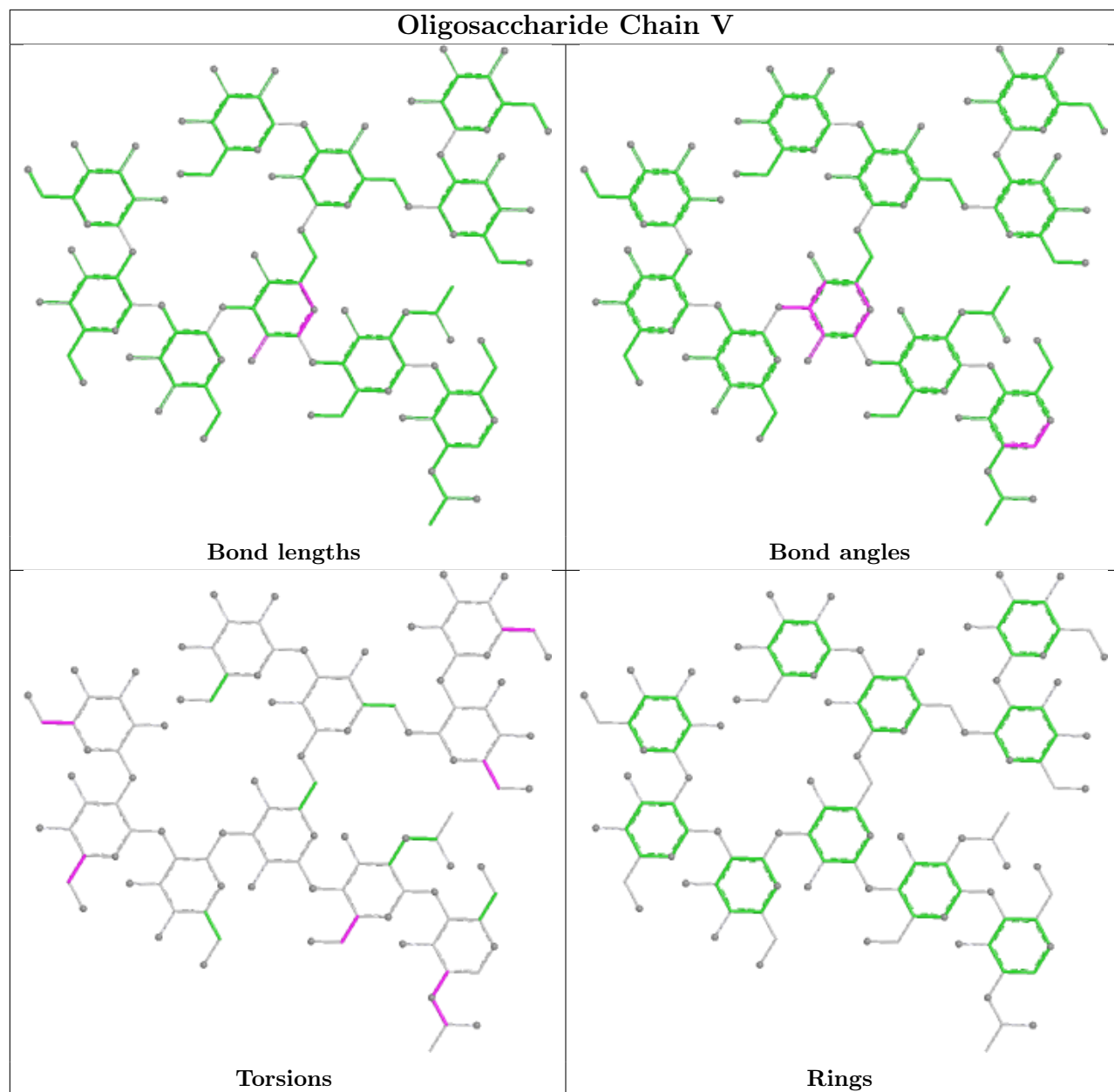
The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths,

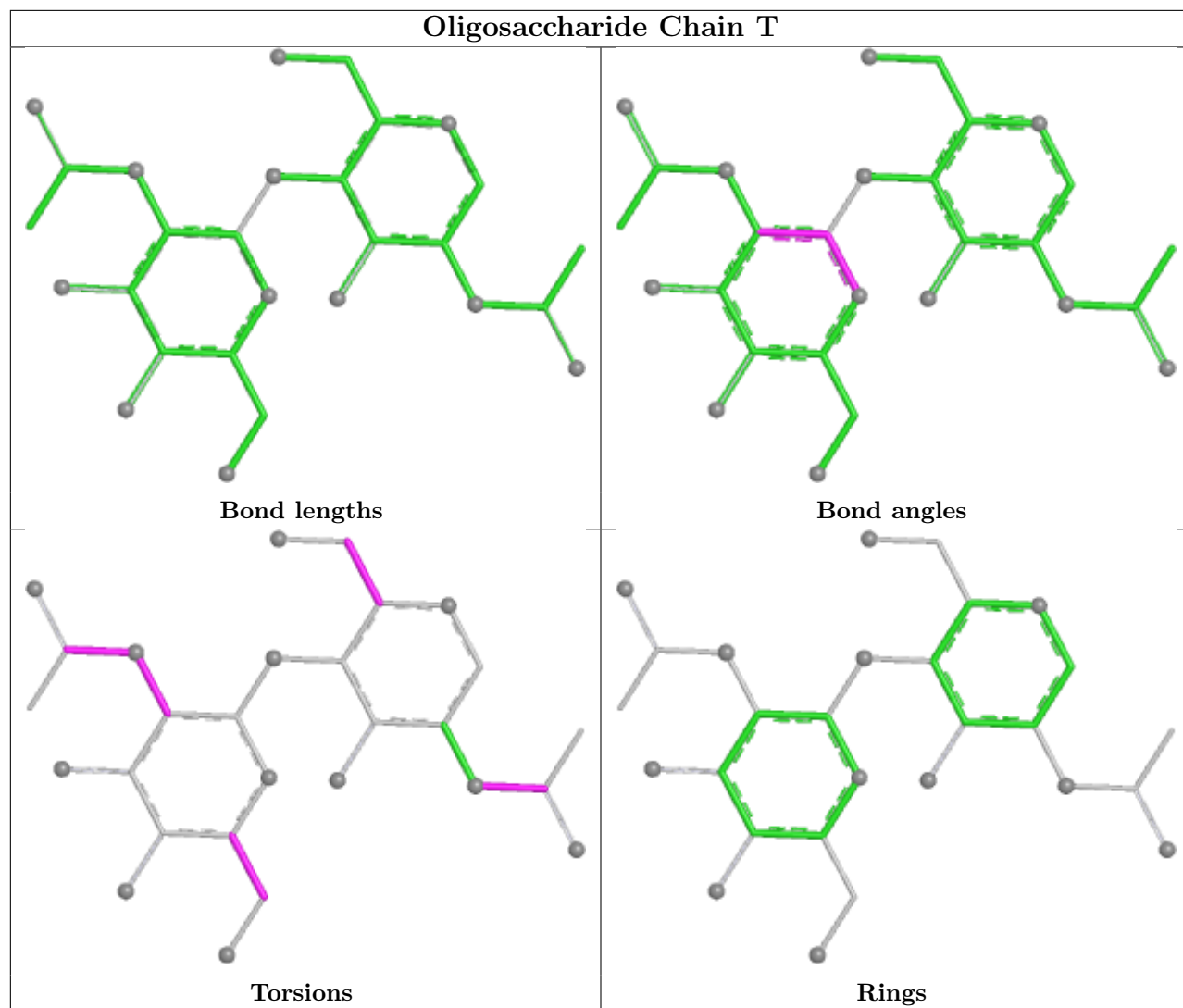
bond angles, torsion angles, and ring geometry for oligosaccharide.

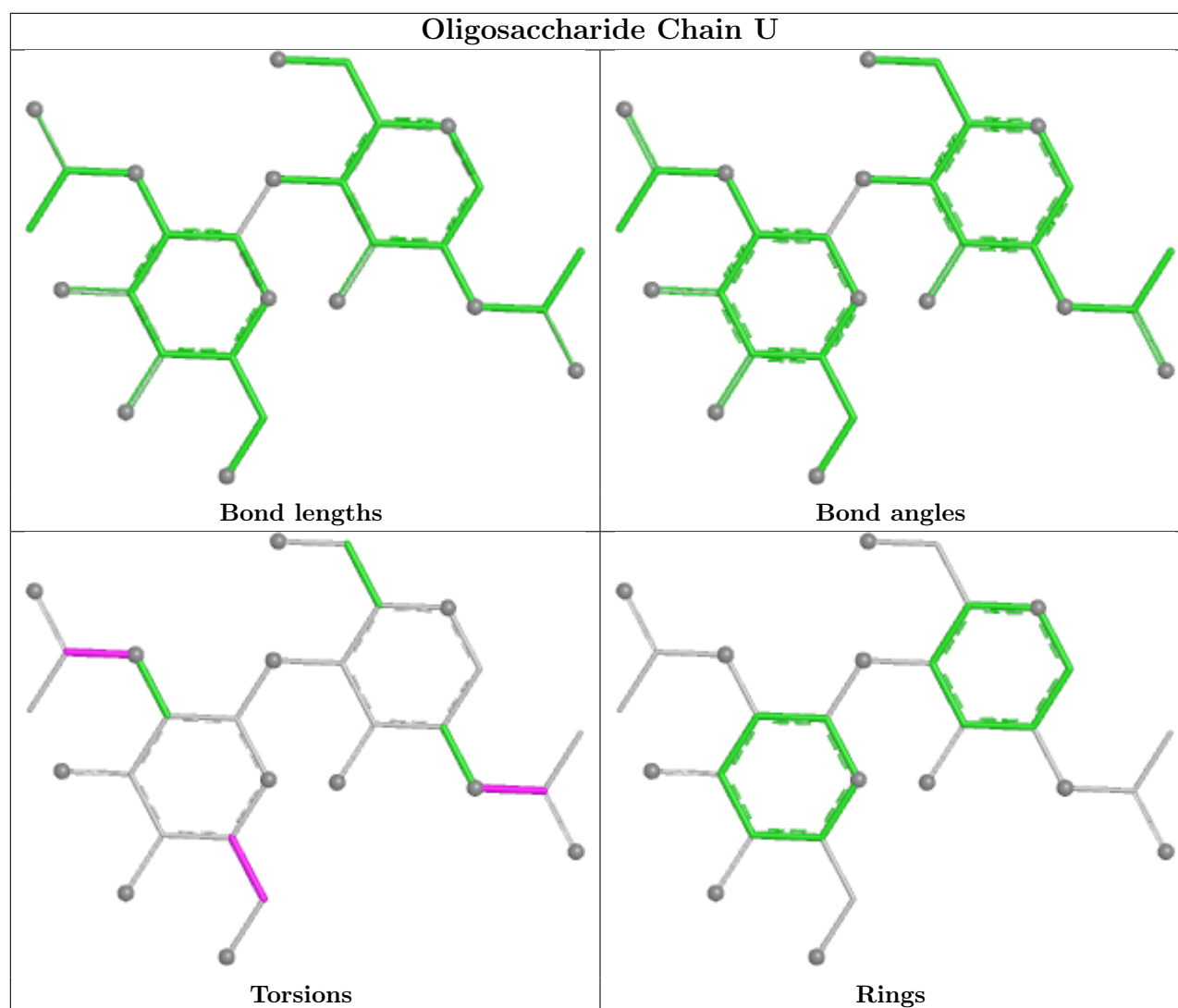












5.6 Ligand geometry [i](#)

Of 34 ligands modelled in this entry, 4 are monoatomic - leaving 30 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	$\# Z > 2$
7	NAG	A	505	1	14,14,15	0.45	0	17,19,21	0.64	0
7	NAG	E	507	1	14,14,15	0.36	0	17,19,21	0.48	0
7	NAG	O	505	1	14,14,15	1.02	1 (7%)	17,19,21	0.63	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
7	NAG	A	501	1	14,14,15	0.62	0	17,19,21	0.54	0
9	GOL	J	301	-	5,5,5	0.23	0	5,5,5	0.32	0
7	NAG	O	502	1	14,14,15	0.67	1 (7%)	17,19,21	0.74	1 (5%)
7	NAG	E	506	1	14,14,15	0.64	0	17,19,21	0.75	0
7	NAG	A	503	1	14,14,15	0.61	0	17,19,21	0.80	1 (5%)
7	NAG	O	503	1	14,14,15	1.09	2 (14%)	17,19,21	0.91	1 (5%)
7	NAG	O	507	1	14,14,15	0.39	0	17,19,21	0.35	0
7	NAG	E	502	1	14,14,15	0.29	0	17,19,21	0.88	1 (5%)
7	NAG	O	501	1	14,14,15	0.19	0	17,19,21	0.83	1 (5%)
9	GOL	Q	301	-	5,5,5	0.24	0	5,5,5	0.32	0
7	NAG	O	506	1	14,14,15	0.30	0	17,19,21	0.59	0
7	NAG	E	508	1	14,14,15	0.29	0	17,19,21	0.43	0
9	GOL	D	301	-	5,5,5	0.24	0	5,5,5	0.33	0
7	NAG	E	503	1	14,14,15	0.61	1 (7%)	17,19,21	0.68	0
7	NAG	A	504	1	14,14,15	0.84	1 (7%)	17,19,21	0.44	0
7	NAG	A	502	1	14,14,15	0.56	0	17,19,21	0.59	0
7	NAG	O	504	1	14,14,15	0.45	0	17,19,21	1.07	1 (5%)
7	NAG	K	504	1	14,14,15	0.94	1 (7%)	17,19,21	0.72	0
9	GOL	N	301	-	5,5,5	0.25	0	5,5,5	0.33	0
7	NAG	K	503	1	14,14,15	0.69	1 (7%)	17,19,21	0.97	1 (5%)
7	NAG	A	506	1	14,14,15	0.51	0	17,19,21	0.83	1 (5%)
7	NAG	K	505	1	14,14,15	0.73	1 (7%)	17,19,21	0.77	0
7	NAG	K	502	1	14,14,15	0.70	1 (7%)	17,19,21	0.68	0
7	NAG	E	505	1	14,14,15	0.87	2 (14%)	17,19,21	0.74	0
7	NAG	K	501	1	14,14,15	0.54	0	17,19,21	0.48	0
7	NAG	E	504	1	14,14,15	0.66	1 (7%)	17,19,21	1.05	1 (5%)
7	NAG	E	501	1	14,14,15	1.15	1 (7%)	17,19,21	0.91	1 (5%)

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
7	NAG	A	505	1	-	2/6/23/26	0/1/1/1
7	NAG	E	507	1	-	1/6/23/26	0/1/1/1
7	NAG	O	505	1	-	2/6/23/26	0/1/1/1
7	NAG	A	501	1	-	1/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
9	GOL	J	301	-	-	0/4/4/4	-
7	NAG	O	502	1	-	2/6/23/26	0/1/1/1
7	NAG	E	506	1	-	0/6/23/26	0/1/1/1
7	NAG	A	503	1	-	0/6/23/26	0/1/1/1
7	NAG	O	503	1	-	2/6/23/26	0/1/1/1
7	NAG	O	507	1	-	1/6/23/26	0/1/1/1
7	NAG	E	502	1	-	3/6/23/26	0/1/1/1
7	NAG	O	501	1	-	0/6/23/26	0/1/1/1
9	GOL	Q	301	-	-	3/4/4/4	-
7	NAG	O	506	1	-	0/6/23/26	0/1/1/1
7	NAG	E	508	1	-	0/6/23/26	0/1/1/1
9	GOL	D	301	-	-	4/4/4/4	-
7	NAG	E	503	1	-	2/6/23/26	0/1/1/1
7	NAG	A	504	1	-	0/6/23/26	0/1/1/1
7	NAG	A	502	1	-	2/6/23/26	0/1/1/1
7	NAG	O	504	1	-	0/6/23/26	0/1/1/1
7	NAG	K	504	1	-	2/6/23/26	0/1/1/1
9	GOL	N	301	-	-	4/4/4/4	-
7	NAG	K	503	1	-	2/6/23/26	0/1/1/1
7	NAG	A	506	1	-	5/6/23/26	0/1/1/1
7	NAG	K	505	1	-	2/6/23/26	0/1/1/1
7	NAG	K	502	1	-	2/6/23/26	0/1/1/1
7	NAG	E	505	1	-	0/6/23/26	0/1/1/1
7	NAG	K	501	1	-	0/6/23/26	0/1/1/1
7	NAG	E	504	1	-	2/6/23/26	0/1/1/1
7	NAG	E	501	1	-	4/6/23/26	0/1/1/1

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	E	501	NAG	O5-C1	-3.77	1.37	1.43
7	O	505	NAG	O5-C1	-3.48	1.37	1.43
7	O	503	NAG	O5-C1	3.15	1.49	1.43
7	K	504	NAG	C1-C2	3.13	1.56	1.52
7	A	504	NAG	O5-C1	-2.71	1.39	1.43
7	O	503	NAG	C1-C2	2.50	1.55	1.52
7	K	505	NAG	C1-C2	2.44	1.55	1.52
7	E	505	NAG	C1-C2	2.30	1.55	1.52
7	K	503	NAG	O5-C1	2.28	1.47	1.43

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Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
7	K	502	NAG	C1-C2	2.18	1.55	1.52
7	E	503	NAG	O5-C1	-2.18	1.40	1.43
7	E	504	NAG	C1-C2	2.16	1.55	1.52
7	O	502	NAG	C1-C2	2.07	1.55	1.52
7	E	505	NAG	O5-C1	-2.07	1.40	1.43

All (10) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
7	K	503	NAG	C1-O5-C5	3.22	116.50	112.19
7	O	501	NAG	C1-O5-C5	2.78	115.91	112.19
7	O	504	NAG	C1-O5-C5	2.77	115.90	112.19
7	E	502	NAG	C1-O5-C5	2.53	115.58	112.19
7	O	503	NAG	C1-O5-C5	2.47	115.50	112.19
7	A	503	NAG	C1-O5-C5	2.46	115.49	112.19
7	A	506	NAG	C2-N2-C7	-2.40	119.69	122.90
7	E	504	NAG	C2-N2-C7	2.28	125.95	122.90
7	O	502	NAG	C1-O5-C5	2.20	115.14	112.19
7	E	501	NAG	C1-O5-C5	-2.10	109.37	112.19

There are no chirality outliers.

All (48) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
9	Q	301	GOL	C1-C2-C3-O3
9	D	301	GOL	O1-C1-C2-C3
9	D	301	GOL	C1-C2-C3-O3
9	N	301	GOL	O1-C1-C2-C3
9	N	301	GOL	C1-C2-C3-O3
7	O	505	NAG	O5-C5-C6-O6
7	A	506	NAG	O5-C5-C6-O6
7	K	504	NAG	O5-C5-C6-O6
7	A	502	NAG	O5-C5-C6-O6
7	K	502	NAG	O5-C5-C6-O6
7	K	503	NAG	O5-C5-C6-O6
7	K	505	NAG	O5-C5-C6-O6
7	K	503	NAG	C4-C5-C6-O6
7	K	504	NAG	C4-C5-C6-O6
7	K	505	NAG	C4-C5-C6-O6
7	A	502	NAG	C4-C5-C6-O6
7	K	502	NAG	C4-C5-C6-O6
7	A	506	NAG	C4-C5-C6-O6

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Mol	Chain	Res	Type	Atoms
7	A	506	NAG	C8-C7-N2-C2
7	O	503	NAG	O5-C5-C6-O6
7	O	505	NAG	C4-C5-C6-O6
7	O	503	NAG	C4-C5-C6-O6
7	O	502	NAG	O5-C5-C6-O6
7	E	501	NAG	C8-C7-N2-C2
7	E	501	NAG	O7-C7-N2-C2
7	E	502	NAG	C8-C7-N2-C2
7	E	502	NAG	O7-C7-N2-C2
7	E	503	NAG	C8-C7-N2-C2
7	E	503	NAG	O7-C7-N2-C2
7	E	504	NAG	C8-C7-N2-C2
7	E	504	NAG	O7-C7-N2-C2
7	A	506	NAG	O7-C7-N2-C2
7	A	501	NAG	O5-C5-C6-O6
7	O	502	NAG	C4-C5-C6-O6
7	A	505	NAG	C4-C5-C6-O6
9	D	301	GOL	O1-C1-C2-O2
9	N	301	GOL	O1-C1-C2-O2
9	N	301	GOL	O2-C2-C3-O3
7	E	502	NAG	O5-C5-C6-O6
9	D	301	GOL	O2-C2-C3-O3
7	E	507	NAG	O5-C5-C6-O6
7	A	505	NAG	O5-C5-C6-O6
7	O	507	NAG	O5-C5-C6-O6
9	Q	301	GOL	O1-C1-C2-O2
9	Q	301	GOL	O2-C2-C3-O3
7	E	501	NAG	O5-C5-C6-O6
7	E	501	NAG	C4-C5-C6-O6
7	A	506	NAG	C3-C2-N2-C7

There are no ring outliers.

14 monomers are involved in 43 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	O	505	NAG	5	0
7	A	501	NAG	6	0
9	J	301	GOL	14	0
7	O	502	NAG	1	0
7	E	506	NAG	1	0
7	O	506	NAG	5	0
9	D	301	GOL	4	0

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Mol	Chain	Res	Type	Clashes	Symm-Clashes
7	E	503	NAG	1	0
7	A	502	NAG	1	0
7	K	504	NAG	4	0
9	N	301	GOL	3	0
7	A	506	NAG	2	0
7	E	505	NAG	1	0
7	K	501	NAG	2	0

5.7 Other polymers [i](#)

There are no such residues in this entry.

5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

6 Fit of model and data

6.1 Protein, DNA and RNA chains

In the following table, the column labelled ‘#RSRZ > 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 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	302/309 (97%)	-0.14	4 (1%) 75 56	34, 62, 99, 136	0
1	E	303/309 (98%)	-0.29	1 (0%) 90 82	19, 44, 96, 113	0
1	K	303/309 (98%)	-0.09	2 (0%) 84 70	25, 64, 97, 121	0
1	O	303/309 (98%)	-0.31	3 (0%) 79 63	23, 46, 82, 111	0
2	B	175/184 (95%)	-0.09	6 (3%) 48 32	31, 71, 111, 124	0
2	F	175/184 (95%)	-0.32	1 (0%) 85 72	25, 53, 120, 138	0
2	H	176/184 (95%)	0.01	1 (0%) 85 72	36, 83, 124, 133	0
2	L	173/184 (94%)	0.07	1 (0%) 85 72	50, 94, 121, 131	0
3	C	210/214 (98%)	-0.42	0 100 100	31, 54, 81, 97	0
3	I	210/214 (98%)	-0.62	1 (0%) 87 75	25, 42, 63, 78	0
3	M	210/214 (98%)	-0.69	0 100 100	18, 30, 47, 55	0
3	P	210/214 (98%)	-0.48	0 100 100	18, 42, 76, 90	0
4	D	225/236 (95%)	-0.29	0 100 100	28, 54, 101, 115	0
4	J	226/236 (95%)	-0.57	0 100 100	19, 38, 71, 93	0
4	N	228/236 (96%)	-0.59	0 100 100	18, 32, 66, 89	0
4	Q	228/236 (96%)	-0.52	0 100 100	21, 47, 92, 104	0
All	All	3657/3772 (96%)	-0.33	20 (0%) 87 75	18, 51, 103, 138	0

All (20) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	K	251	ILE	3.7
2	L	24	ILE	3.0
1	A	197	GLY	2.9
1	A	347	GLU	2.9
2	B	151	LEU	2.8

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Mol	Chain	Res	Type	RSRZ
2	B	108	LEU	2.8
2	B	115	THR	2.7
2	B	175	VAL	2.7
3	I	107	SER	2.6
1	O	325	ASP	2.6
1	O	324	GLY	2.6
2	B	110	GLN	2.6
1	A	251	ILE	2.5
2	F	107	HIS	2.4
2	H	176	VAL	2.4
1	A	248	THR	2.3
1	E	221	ALA	2.3
1	O	322	ILE	2.3
1	K	279	ASP	2.2
2	B	24	ILE	2.1

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(Å ²)	Q<0.9
5	NAG	G	1	14/15	-	-	24,27,34,38	0
5	NAG	G	2	14/15	-	-	25,30,35,37	0
5	BMA	G	3	11/12	-	-	21,28,44,45	0
5	MAN	G	4	11/12	-	-	20,24,30,33	0
5	MAN	G	5	11/12	-	-	20,24,30,31	0
5	MAN	G	6	11/12	-	-	26,32,37,43	0
5	MAN	G	7	11/12	-	-	56,60,67,70	0
5	MAN	G	8	11/12	-	-	57,63,70,71	0
5	MAN	G	9	11/12	-	-	52,64,75,77	0
5	MAN	G	10	11/12	-	-	76,79,85,86	0
5	MAN	V	10	11/12	0.55	0.14	68,72,83,83	0
6	NAG	T	2	14/15	0.60	0.12	65,95,105,112	0
5	MAN	R	10	11/12	0.73	0.10	66,71,76,77	0

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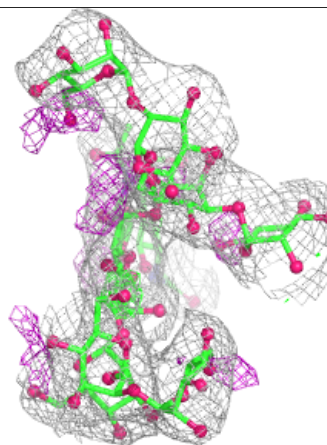
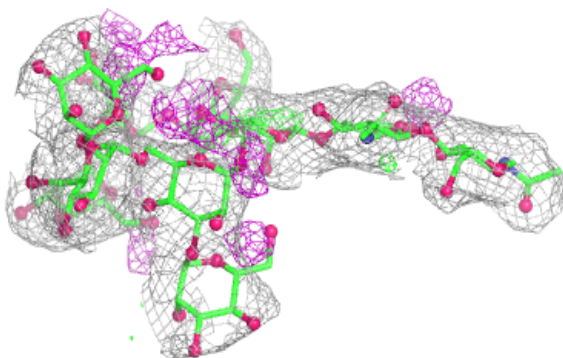
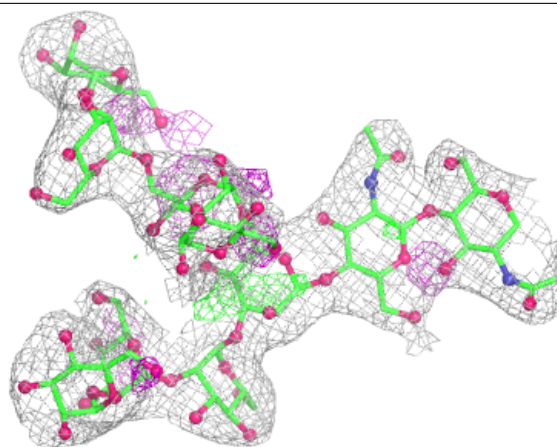
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Mol	Type	Chain	Res	Atoms	RSCC	RSR	B-factors($\text{\AA}^2$)	Q<0.9
5	MAN	S	10	11/12	0.76	0.11	61,73,82,83	0
6	NAG	U	2	14/15	0.76	0.13	106,116,124,125	0
5	MAN	V	8	11/12	0.80	0.09	63,66,75,79	0
5	MAN	R	8	11/12	0.83	0.09	67,74,78,81	0
5	MAN	V	9	11/12	0.87	0.09	64,77,80,81	0
5	MAN	R	9	11/12	0.87	0.09	61,77,86,93	0
6	NAG	U	1	14/15	0.88	0.09	79,89,102,102	0
5	MAN	S	8	11/12	0.88	0.09	58,70,79,79	0
5	MAN	S	7	11/12	0.89	0.09	53,57,68,69	0
5	NAG	V	1	14/15	0.89	0.09	33,44,51,56	0
5	MAN	V	4	11/12	0.89	0.11	35,40,51,55	0
5	MAN	V	7	11/12	0.89	0.10	53,62,69,70	0
5	MAN	S	9	11/12	0.89	0.09	60,75,83,88	0
6	NAG	T	1	14/15	0.90	0.09	56,69,74,79	0
5	MAN	R	4	11/12	0.90	0.10	38,48,57,62	0
5	MAN	V	6	11/12	0.91	0.07	38,42,52,55	0
5	BMA	R	3	11/12	0.91	0.10	35,43,53,56	0
5	NAG	S	1	14/15	0.91	0.08	32,40,51,53	0
5	NAG	V	2	14/15	0.92	0.09	33,40,46,50	0
5	MAN	R	7	11/12	0.92	0.07	51,56,62,63	0
5	MAN	V	5	11/12	0.92	0.08	33,39,46,46	0
5	MAN	R	5	11/12	0.92	0.09	42,46,51,53	0
5	BMA	S	3	11/12	0.92	0.10	33,38,50,54	0
5	MAN	R	6	11/12	0.92	0.08	39,42,48,52	0
5	BMA	V	3	11/12	0.94	0.09	38,46,53,59	0
5	MAN	S	6	11/12	0.94	0.07	26,30,36,37	0
5	NAG	R	2	14/15	0.95	0.07	33,38,40,41	0
5	MAN	S	4	11/12	0.95	0.07	24,29,34,41	0
5	NAG	S	2	14/15	0.95	0.07	30,37,45,47	0
5	NAG	R	1	14/15	0.96	0.06	30,38,44,44	0
5	MAN	S	5	11/12	0.98	0.06	25,31,40,49	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.

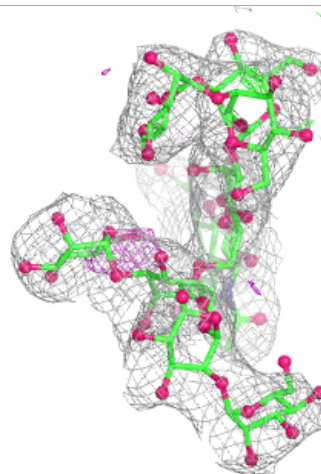
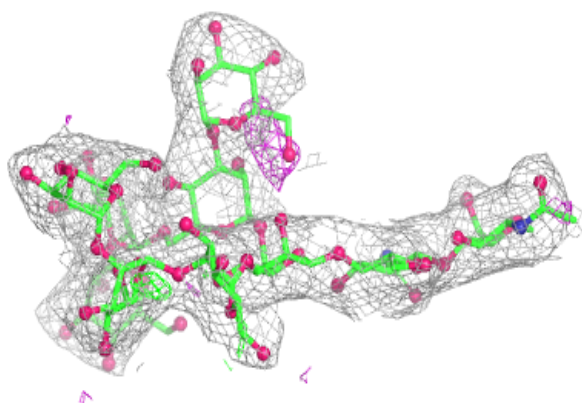
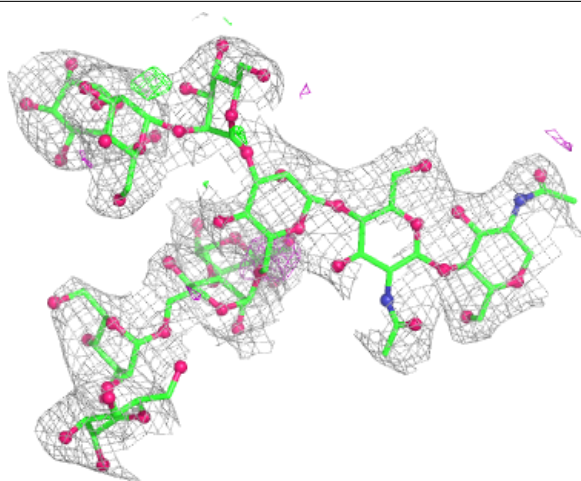
Electron density around Chain G:

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



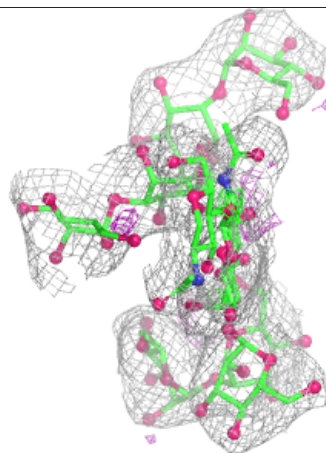
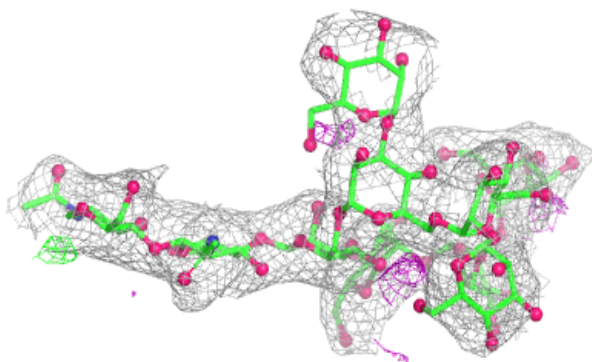
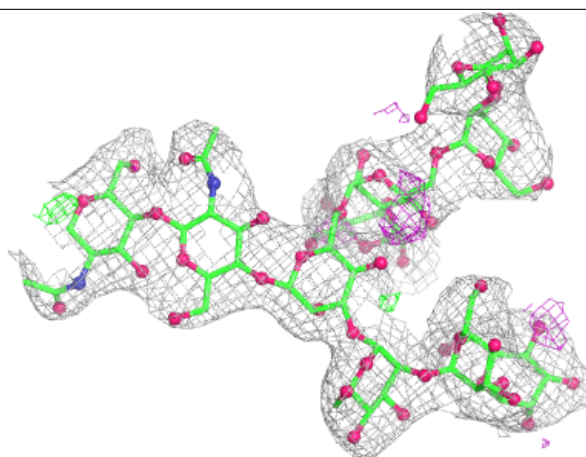
Electron density around Chain R:

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



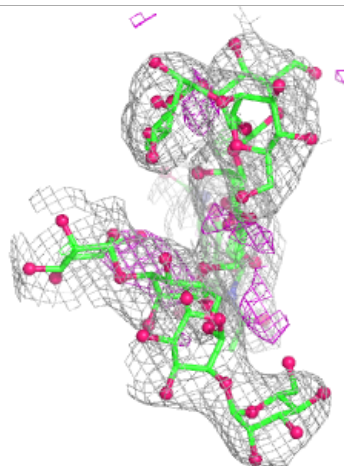
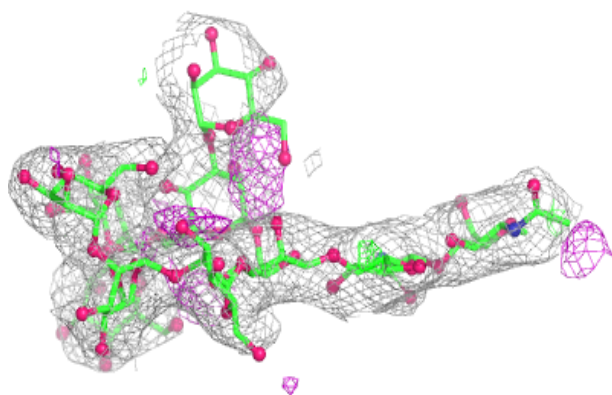
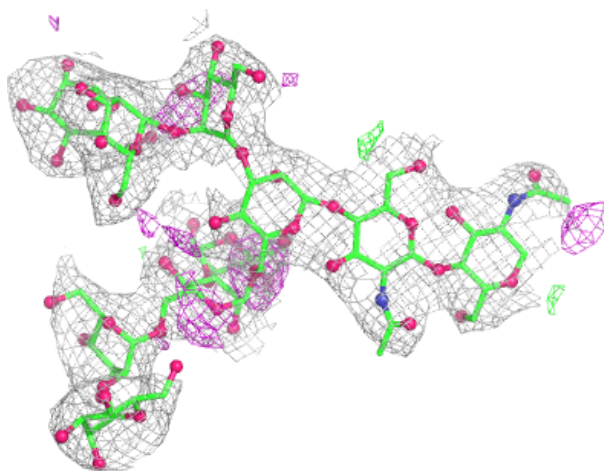
Electron density around Chain S:

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



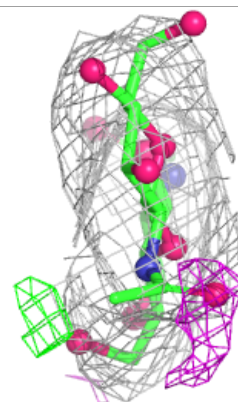
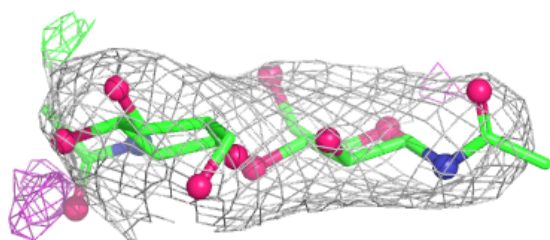
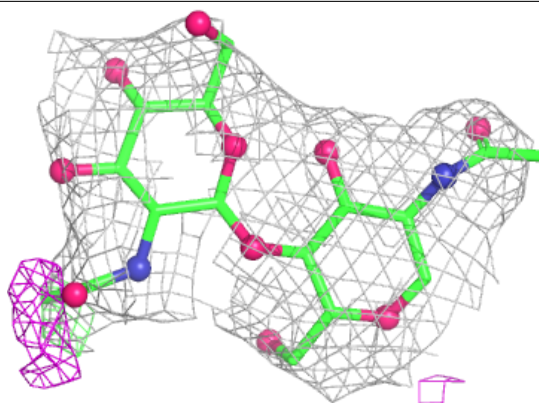
Electron density around Chain V:

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

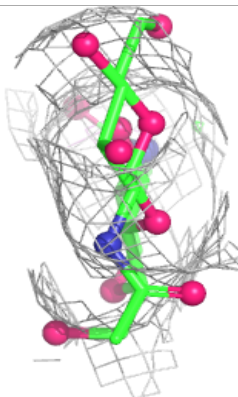
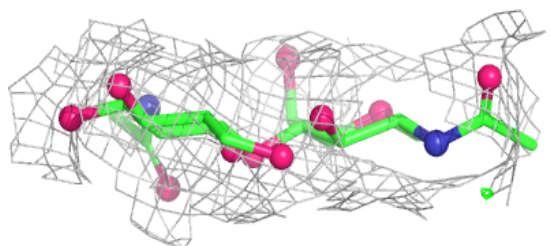
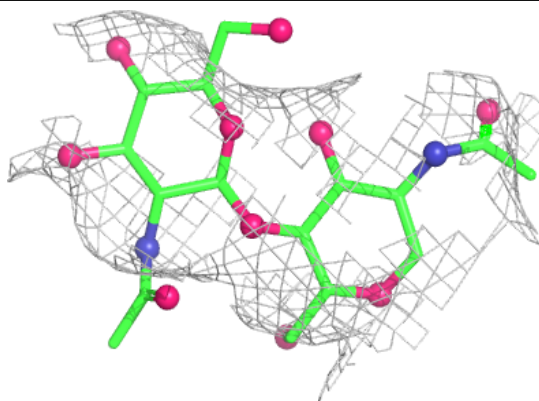


Electron density around Chain T:

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

**Electron density around Chain U:**

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



6.4 Ligands ⓘ

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
7	NAG	A	502	14/15	0.64	0.13	79,96,104,107	0
7	NAG	A	503	14/15	0.64	0.13	89,104,113,114	0
9	GOL	D	301	6/6	0.68	0.12	52,55,56,66	0
7	NAG	O	506	14/15	0.73	0.13	71,79,83,84	0
7	NAG	E	508	14/15	0.73	0.13	73,82,86,88	0
9	GOL	J	301	6/6	0.73	0.10	58,62,66,70	0
7	NAG	K	501	14/15	0.74	0.10	78,90,99,100	0
7	NAG	E	505	14/15	0.75	0.17	44,56,63,63	0
9	GOL	N	301	6/6	0.75	0.12	44,47,53,55	0
7	NAG	A	505	14/15	0.76	0.12	76,85,90,92	0
8	CL	K	506	1/1	0.77	0.12	70,70,70,70	0
7	NAG	O	507	14/15	0.77	0.11	69,81,97,99	0
7	NAG	K	504	14/15	0.78	0.12	74,87,92,98	0
7	NAG	E	504	14/15	0.78	0.13	51,56,59,60	0
9	GOL	Q	301	6/6	0.78	0.13	48,52,56,59	0
7	NAG	E	506	14/15	0.80	0.12	42,56,65,70	0
7	NAG	E	502	14/15	0.81	0.09	65,77,88,100	0
8	CL	E	509	1/1	0.82	0.11	53,53,53,53	0
7	NAG	K	503	14/15	0.83	0.12	65,74,80,91	0
7	NAG	O	503	14/15	0.83	0.11	48,62,70,78	0
7	NAG	A	506	14/15	0.83	0.09	63,72,78,83	0
7	NAG	O	504	14/15	0.83	0.11	51,58,67,74	0
7	NAG	K	505	14/15	0.84	0.11	47,64,76,78	0
7	NAG	O	505	14/15	0.85	0.12	49,61,87,87	0
7	NAG	A	501	14/15	0.85	0.13	46,56,64,78	0
8	CL	O	508	1/1	0.86	0.08	54,54,54,54	0
7	NAG	E	503	14/15	0.86	0.11	48,55,60,65	0
7	NAG	E	501	14/15	0.86	0.14	32,40,50,52	0
7	NAG	A	504	14/15	0.87	0.10	58,62,80,82	0
7	NAG	O	501	14/15	0.88	0.09	39,43,52,64	0
7	NAG	K	502	14/15	0.88	0.13	53,56,63,74	0
8	CL	A	507	1/1	0.90	0.08	55,55,55,55	0
7	NAG	E	507	14/15	0.90	0.08	52,61,69,70	0
7	NAG	O	502	14/15	0.91	0.07	55,63,72,75	0

6.5 Other polymers

There are no such residues in this entry.