



Full wwPDB X-ray Structure Validation Report

Feb 26, 2014 – 05:10 PM GMT

PDB ID : 1MQL
Title : BHA of Ukr/63
Authors : ha, y.; stevens, d.j.; shekel, j.j.; wiley, d.c.
Deposited on : 2002-09-16
Resolution : 2.90 Å(reported)

This is a full wwPDB validation report for a publicly released PDB entry.
We welcome your comments at validation@mail.wwpdb.org
A user guide is available at <http://wwpdb.org/ValidationPDFNotes.html>

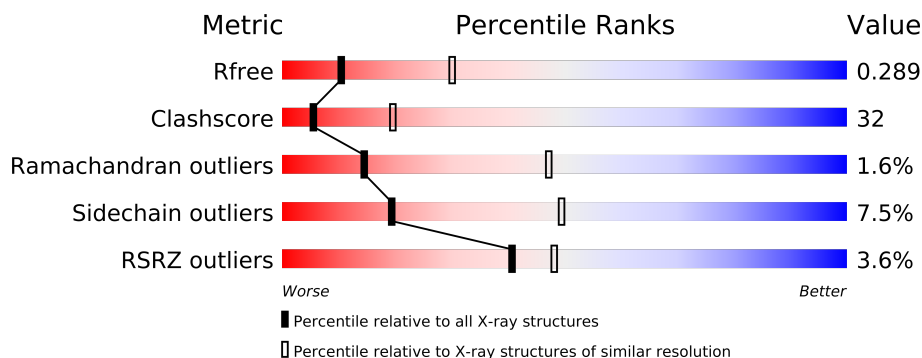
The following versions of software and data (see [references](#)) were used in the production of this report:

MolProbity : 4.02b-467
Mogul : 1.15 2013
Xtriage (Phenix) : dev-1323
EDS : stable22639
Percentile statistics : 21963
Refmac : 5.8.0049
CCP4 : 6.3.0 (Settle)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et. al. (1996)
Validation Pipeline (wwPDB-VP) : stable22683

1 Overall quality at a glance

The reported resolution of this entry is 2.90 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}	66092	1053 (2.90-2.90)
Clashscore	79885	1326 (2.90-2.90)
Ramachandran outliers	78287	1290 (2.90-2.90)
Sidechain outliers	78261	1292 (2.90-2.90)
RSRZ outliers	66119	1054 (2.90-2.90)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density.

Mol	Chain	Length	Quality of chain
1	A	329	
1	D	329	
1	G	329	
2	B	221	
2	E	221	
2	H	221	

The following table lists non-polymeric compounds that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Geometry	Electron density
3	NAG	A	330	-	X
3	NAG	H	341	-	X

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Mol	Type	Chain	Res	Geometry	Electron density
4	NDG	A	334	-	X
4	NDG	B	222	-	X
4	NDG	B	223	-	X
4	NDG	E	241	-	X
4	NDG	G	333	-	X
4	NDG	G	336	-	X

2 Entry composition

There are 6 unique types of molecules in this entry. The entry contains 11890 atoms, of which 0 are hydrogen and 0 are deuterium.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Hemagglutinin HA1 chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	318	Total	C	N	O	S	0	0	0
			2425	1522	424	466	13			
1	D	318	Total	C	N	O	S	0	0	0
			2432	1526	425	468	13			
1	G	318	Total	C	N	O	S	0	0	0
			2426	1523	424	466	13			

- Molecule 2 is a protein called Hemagglutinin HA2 chain.

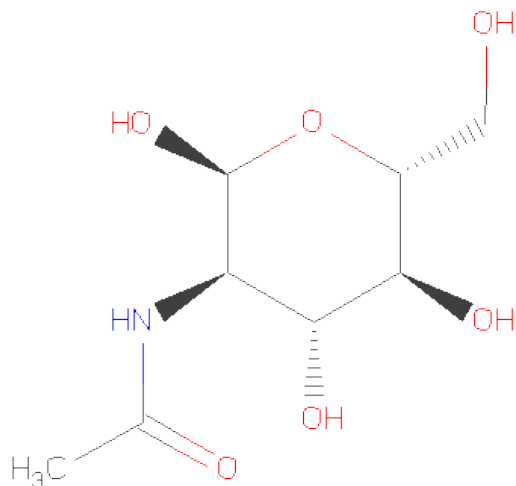
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	172	Total	C	N	O	S	0	0	0
			1398	867	247	278	6			
2	E	172	Total	C	N	O	S	0	0	0
			1401	869	248	278	6			
2	H	172	Total	C	N	O	S	0	0	0
			1404	871	249	278	6			

- Molecule 3 is SUGAR (2-(ACETYLAMINO)-2-DEOXY-A-D-GLUCOPYRANOSE) (three-letter code: NAG) (formula: C₈H₁₅NO₆).



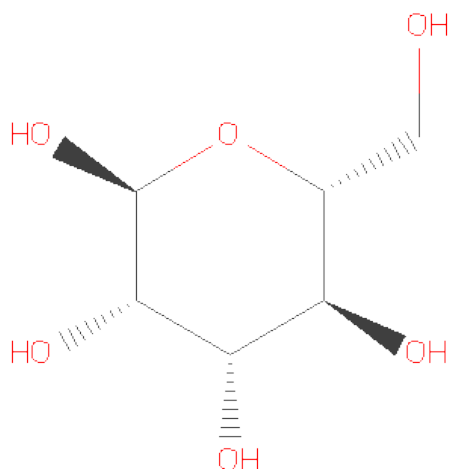
Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total	C	N	O	0	0
			15	8	1	6		
3	A	1	Total	C	N	O	0	0
			15	8	1	6		
3	A	1	Total	C	N	O	0	0
			15	8	1	6		
3	D	1	Total	C	N	O	0	0
			15	8	1	6		
3	A	1	Total	C	N	O	0	0
			15	8	1	6		
3	G	1	Total	C	N	O	0	0
			15	8	1	6		
3	H	1	Total	C	N	O	0	0
			15	8	1	6		

- Molecule 4 is SUGAR (N-ACETYL-D-GLUCOSAMINE) (three-letter code: NDG) (formula: $C_8H_{15}NO_6$).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
4	A	1	Total	C	N	O	0	0
			15	8	1	6		
4	G	1	Total	C	N	O	0	0
			15	8	1	6		
4	A	1	Total	C	N	O	0	0
			15	8	1	6		
4	B	1	Total	C	N	O	0	0
			15	8	1	6		
4	B	1	Total	C	N	O	0	0
			15	8	1	6		
4	D	1	Total	C	N	O	0	0
			15	8	1	6		
4	D	1	Total	C	N	O	0	0
			15	8	1	6		
4	E	1	Total	C	N	O	0	0
			15	8	1	6		
4	G	1	Total	C	N	O	0	0
			15	8	1	6		
4	G	1	Total	C	N	O	0	0
			15	8	1	6		
4	D	1	Total	C	N	O	0	0
			15	8	1	6		
4	G	1	Total	C	N	O	0	0
			15	8	1	6		

- Molecule 5 is SUGAR (ALPHA-D-MANNOSE) (three-letter code: MAN) (formula: C₆H₁₂O₆).



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
5	G	1	Total	C	O	0	0
			12	6	6		
5	G	1	Total	C	O	0	0
			12	6	6		
5	A	1	Total	C	O	0	0
			12	6	6		
5	A	1	Total	C	O	0	0
			12	6	6		
5	D	1	Total	C	O	0	0
			12	6	6		
5	D	1	Total	C	O	0	0
			12	6	6		

- Molecule 6 is water.

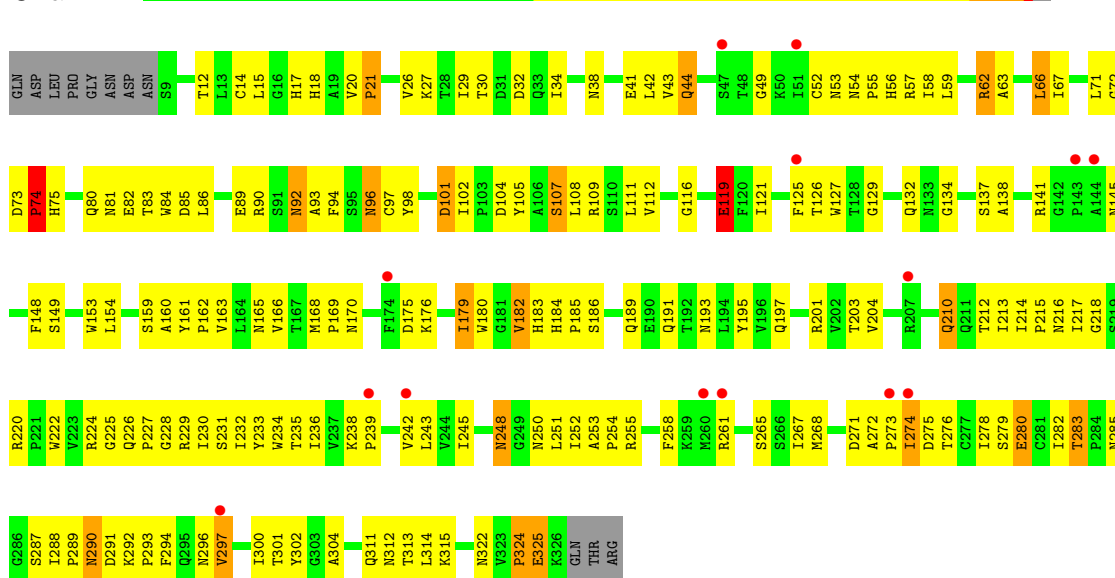
Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
6	A	10	Total	O	0	0
			10	10		
6	B	5	Total	O	0	0
			5	5		
6	D	11	Total	O	0	0
			11	11		
6	E	7	Total	O	0	0
			7	7		
6	G	9	Total	O	0	0
			9	9		
6	H	5	Total	O	0	0
			5	5		

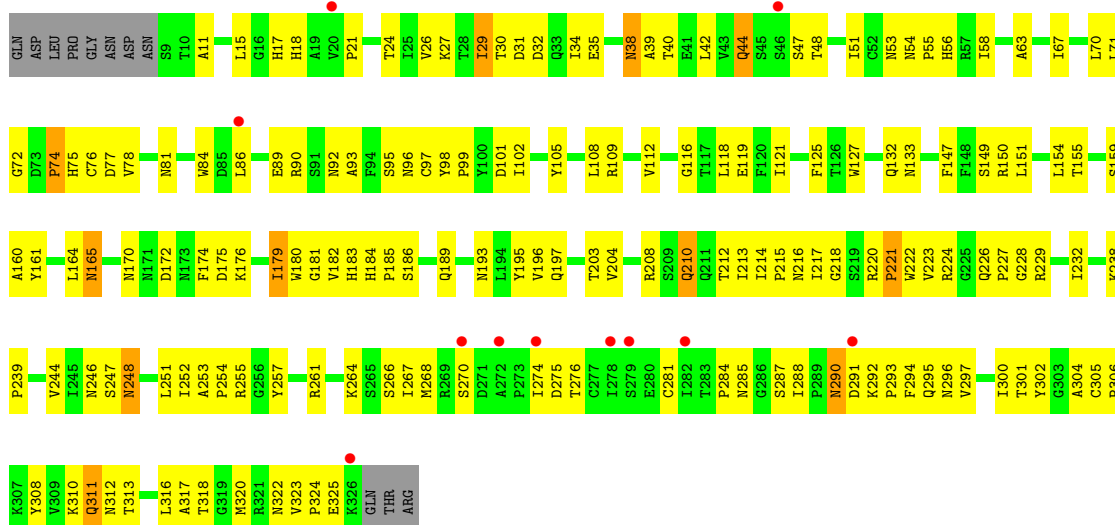
3 Residue-property plots

These plots are drawn for all protein, RNA and DNA chains in the entry. The first graphic for a chain summarises the proportions of errors displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density ($RSRZ > 2$). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

• Molecule 1: Hemagglutinin HA1 chain

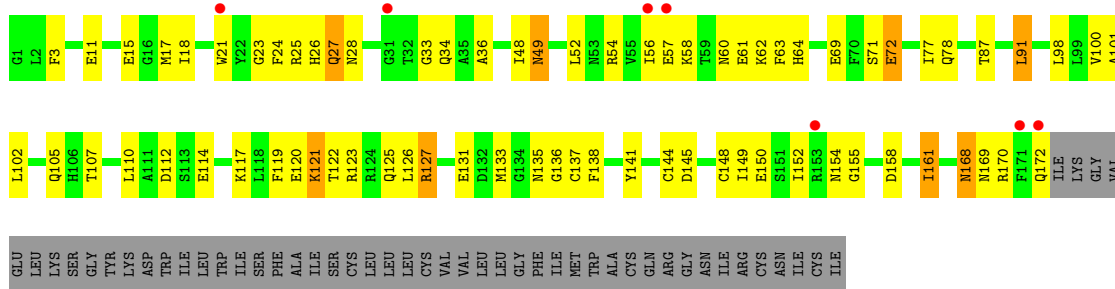
Chain A:





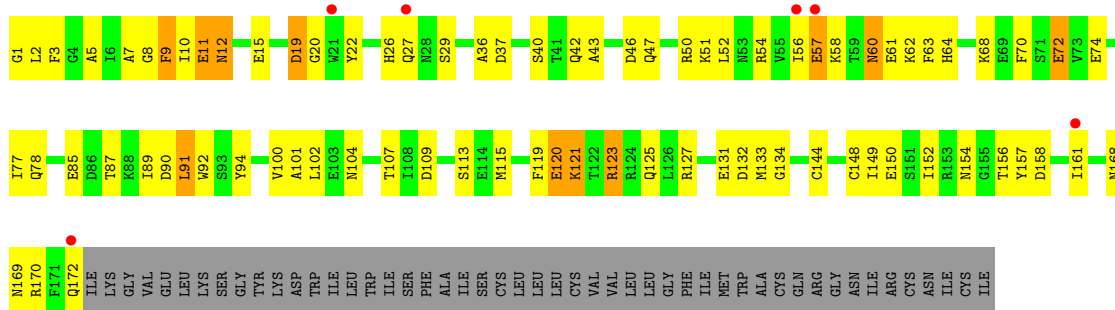
• Molecule 2: Hemagglutinin HA2 chain

Chain B:



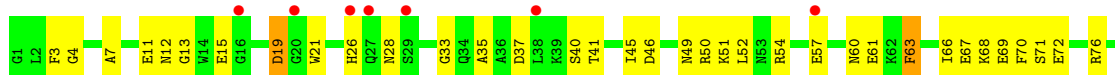
• Molecule 2: Hemagglutinin HA2 chain

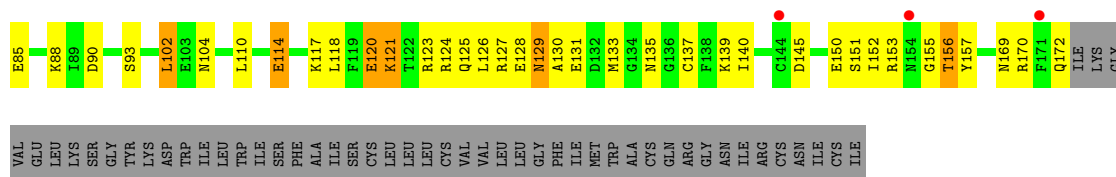
Chain E:



• Molecule 2: Hemagglutinin HA2 chain

Chain H:





4 Data and refinement statistics

Property	Value	Source
Space group	C 2 2 21	Depositor
Cell constants a, b, c, α , β , γ	147.68Å 147.10Å 251.99Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	40.00 – 2.90 40.15 – 2.91	Depositor EDS
% Data completeness (in resolution range)	(Not available) (40.00-2.90) 90.5 (40.15-2.91)	Depositor EDS
R_{merge}	0.10	Depositor
R_{sym}	0.10	Depositor
$\langle I/\sigma(I) \rangle$ ¹	1.49 (at 2.90Å)	Xtriage
Refinement program	CNS 1.0	Depositor
R, R_{free}	0.269 , 0.306 0.254 , 0.289	Depositor DCC
R_{free} test set	2762 reflections (5.35%)	DCC
Wilson B-factor (Å ²)	64.4	Xtriage
Anisotropy	0.632	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.32 , 37.7	EDS
Estimated twinning fraction	0.019 for -k,-h,-l	Xtriage
L-test for twinning	$\langle L \rangle = 0.49$, $\langle L^2 \rangle = 0.33$	Xtriage
Outliers	2 of 58926 reflections (0.003%)	Xtriage
F_o, F_c correlation	0.91	EDS
Total number of atoms	11890	wwPDB-VP
Average B, all atoms (Å ²)	66.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 2.43% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

5 Model quality ⓘ

5.1 Standard geometry ⓘ

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

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	0.45	1/2482 (0.0%)	0.68	0/3390
1	D	0.46	1/2489 (0.0%)	0.75	3/3398 (0.1%)
1	G	0.47	1/2483 (0.0%)	0.72	0/3391
2	B	0.45	0/1422	0.63	0/1912
2	E	0.42	0/1425	0.63	0/1915
2	H	0.40	0/1428	0.65	0/1918
All	All	0.45	3/11729 (0.0%)	0.69	3/15924 (0.0%)

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	G	119	GLU	CB-CG	-5.29	1.42	1.52
1	D	119	GLU	CB-CG	-5.07	1.42	1.52
1	A	119	GLU	CB-CG	-5.07	1.42	1.52

All (3) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	D	54	ASN	N-CA-C	7.32	130.76	111.00
1	D	54	ASN	C-N-CD	6.18	141.37	128.40
1	D	53	ASN	N-CA-C	5.04	124.61	111.00

There are no chirality outliers.

There are no planarity outliers.

5.2 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 hydrogens

added by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, and the number in parentheses is this value normalized per 1000 atoms of the molecule in the chain. The Symm-Clashes column gives symmetry related clashes, in the same way as for the Clashes column.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	2425	0	2339	185	0
1	D	2432	0	2352	160	0
1	G	2426	0	2341	191	0
2	B	1398	0	1309	90	0
2	E	1401	0	1318	89	0
2	H	1404	0	1327	80	0
3	A	60	0	60	24	0
3	D	15	0	15	1	0
3	G	15	0	15	4	0
3	H	15	0	15	2	0
4	A	30	0	30	15	0
4	B	30	0	30	9	0
4	D	45	0	44	15	0
4	E	15	0	15	5	0
4	G	60	0	60	28	0
5	A	24	0	24	8	0
5	D	24	0	24	6	0
5	G	24	0	24	6	0
6	A	10	0	0	6	0
6	B	5	0	0	0	0
6	D	11	0	0	0	0
6	E	7	0	0	2	0
6	G	9	0	0	6	0
6	H	5	0	0	1	0
All	All	11890	0	11342	743	0

Clashscore is defined as the number of clashes calculated for the entry per 1000 atoms (including hydrogens) of the entry. The overall clashscore for this entry is 32.

All (743) close contacts within the same asymmetric unit are listed below.

Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:A:334:NDG:O4	4:B:222:NDG:H1	1.36	1.25
1:A:165:ASN:OD1	3:A:333:NAG:H1	1.40	1.19
2:B:125:GLN:HE22	2:B:155:GLY:HA2	1.09	1.18
4:D:333:NDG:H1	3:G:335:NAG:C4	1.81	1.10
4:D:333:NDG:O4	5:D:334:MAN:H1	1.51	1.10
3:A:333:NAG:H4	4:G:330:NDG:H1	1.33	1.08
3:A:333:NAG:H4	4:G:330:NDG:C1	1.83	1.08

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
4:D:333:NDG:C1	3:G:335:NAG:H4	1.86	1.04
1:A:81:ASN:ND2	4:A:331:NDG:H1	1.73	1.04
3:A:333:NAG:H61	4:G:330:NDG:H1	1.37	1.03
3:A:335:NAG:H4	5:A:336:MAN:H1	1.42	1.01
4:D:333:NDG:H1	3:G:335:NAG:H4	1.00	0.99
2:B:125:GLN:NE2	2:B:155:GLY:HA2	1.77	0.98
1:G:81:ASN:ND2	4:G:334:NDG:H1	1.78	0.96
1:A:29:ILE:HD11	2:B:102:LEU:HD12	1.44	0.95
1:A:285:ASN:HD21	4:A:334:NDG:H1	1.29	0.95
1:A:201:ARG:HA	6:A:345:HOH:O	1.69	0.93
1:A:214:ILE:HG12	6:A:345:HOH:O	1.69	0.92
1:G:44:GLN:HG2	1:G:292:LYS:HD3	1.51	0.92
1:A:285:ASN:ND2	4:A:334:NDG:H1	1.86	0.90
2:E:169:ASN:HA	2:E:172:GLN:HE21	1.37	0.90
1:A:81:ASN:ND2	1:A:119:GLU:HA	1.87	0.90
1:G:275:ASP:CG	1:G:276:THR:H	1.75	0.90
3:A:333:NAG:C4	4:G:330:NDG:H1	2.00	0.89
2:B:154:ASN:ND2	4:B:223:NDG:H1	1.88	0.89
2:B:154:ASN:HD21	4:B:223:NDG:H1	1.39	0.88
1:A:165:ASN:OD1	3:A:333:NAG:C1	2.23	0.87
1:G:248:ASN:H	1:G:248:ASN:HD22	1.21	0.87
2:B:144:CYS:SG	2:B:149:ILE:HD12	2.15	0.86
2:H:150:GLU:HG3	3:H:341:NAG:O1	1.76	0.84
3:A:335:NAG:H4	5:A:336:MAN:C1	2.06	0.84
3:A:335:NAG:C4	5:A:336:MAN:H1	2.07	0.84
4:A:334:NDG:O4	4:B:222:NDG:C1	2.26	0.83
1:D:165:ASN:HD21	4:D:332:NDG:C1	1.91	0.83
1:A:111:LEU:HD12	1:A:112:VAL:N	1.92	0.83
2:B:57:GLU:HG3	2:B:57:GLU:O	1.77	0.83
1:G:161:TYR:HB3	1:G:197:GLN:HE22	1.43	0.83
3:A:335:NAG:H82	4:D:332:NDG:H6C1	1.61	0.82
1:D:165:ASN:ND2	4:D:332:NDG:H1	1.94	0.82
1:D:89:GLU:HG3	1:D:267:ILE:HD11	1.63	0.81
4:A:334:NDG:C4	4:B:222:NDG:H1	2.11	0.80
2:E:12:ASN:HD22	2:E:12:ASN:N	1.76	0.80
2:H:57:GLU:HG3	2:H:57:GLU:O	1.80	0.80
3:A:333:NAG:H4	4:G:330:NDG:O	1.80	0.80
1:A:27:LYS:HE2	2:E:54:ARG:HH12	1.45	0.80
1:G:189:GLN:O	1:G:193:ASN:HB2	1.82	0.80
2:H:41:THR:O	2:H:45:ILE:HG13	1.82	0.80
3:A:333:NAG:C6	4:G:330:NDG:H1	2.11	0.80
1:G:81:ASN:HD21	4:G:334:NDG:C7	1.94	0.80

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:D:165:ASN:ND2	4:D:332:NDG:C1	2.45	0.79
2:E:57:GLU:HG3	2:E:57:GLU:O	1.84	0.78
1:A:170:ASN:OD1	1:A:176:LYS:HE3	1.83	0.78
1:G:316:LEU:HD23	2:H:52:LEU:HD13	1.65	0.78
1:D:43:VAL:HA	1:D:294:PHE:O	1.84	0.78
1:A:81:ASN:CG	4:A:331:NDG:H1	2.04	0.78
2:E:154:ASN:ND2	4:E:241:NDG:H1	2.01	0.76
1:G:67:ILE:HG13	1:G:105:TYR:CZ	2.21	0.76
1:G:39:ALA:O	4:G:333:NDG:H2	1.86	0.75
2:B:54:ARG:HG3	6:G:339:HOH:O	1.85	0.75
1:G:24:THR:OG1	4:G:333:NDG:H6C2	1.86	0.75
2:E:125:GLN:HE21	2:E:157:TYR:HB3	1.50	0.75
2:E:134:GLY:HA2	2:H:124:ARG:HD3	1.67	0.75
1:G:102:ILE:HG12	1:G:232:ILE:HB	1.66	0.75
1:D:169:PRO:CA	1:D:242:VAL:HG23	2.17	0.75
2:H:133:MET:SD	2:H:139:LYS:HB2	2.26	0.75
5:G:331:MAN:H2	5:G:332:MAN:H1	1.69	0.75
1:G:275:ASP:CG	1:G:276:THR:N	2.38	0.75
1:D:98:TYR:CD2	1:D:230:ILE:HD13	2.22	0.74
1:A:185:PRO:HG2	1:A:191:GLN:OE1	1.87	0.74
1:A:285:ASN:HD21	4:A:334:NDG:C1	1.98	0.74
2:E:72:GLU:HG2	1:G:238:LYS:NZ	2.02	0.74
1:G:11:ALA:HB3	2:H:140:ILE:HB	1.69	0.73
5:A:336:MAN:HO2	5:A:337:MAN:HO1	1.06	0.73
1:G:38:ASN:HD22	1:G:39:ALA:N	1.85	0.73
1:D:148:PHE:HB2	1:D:151:LEU:HD12	1.71	0.73
1:G:38:ASN:ND2	1:G:39:ALA:N	2.36	0.73
1:D:109:ARG:NH1	1:D:267:ILE:HD13	2.04	0.72
1:G:71:LEU:HD23	1:G:179:ILE:HD11	1.72	0.72
5:D:334:MAN:O2	5:D:335:MAN:H5	1.90	0.72
1:D:248:ASN:HD22	1:D:248:ASN:H	1.36	0.72
2:E:144:CYS:SG	2:E:149:ILE:HD12	2.30	0.72
1:A:304:ALA:HB2	2:B:61:GLU:HG2	1.72	0.71
1:D:52:CYS:HB2	1:D:279:SER:HB3	1.72	0.71
1:G:109:ARG:NH1	1:G:267:ILE:HD13	2.06	0.71
3:A:335:NAG:O1	4:D:332:NDG:O4	2.08	0.70
2:H:151:SER:HA	2:H:156:THR:HG23	1.74	0.70
1:A:71:LEU:HD23	1:A:179:ILE:HD11	1.74	0.70
1:A:96:ASN:HA	1:A:224:ARG:HE	1.56	0.69
1:G:292:LYS:O	1:G:306:PRO:HB3	1.91	0.69
1:A:42:LEU:HD22	1:A:293:PRO:HG2	1.75	0.69
1:A:214:ILE:HA	6:A:345:HOH:O	1.92	0.69

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:180:TRP:HB3	1:A:254:PRO:HG3	1.74	0.69
1:A:15:LEU:HD22	2:B:119:PHE:HA	1.73	0.69
1:A:17:HIS:HA	2:B:21:TRP:O	1.91	0.69
1:G:291:ASP:OD1	1:G:292:LYS:HG3	1.93	0.69
2:E:37:ASP:OD2	2:E:40:SER:HB2	1.92	0.69
1:D:66:LEU:HD21	1:D:112:VAL:HG12	1.75	0.69
3:A:333:NAG:H61	4:G:330:NDG:C1	2.18	0.69
5:G:331:MAN:C2	5:G:332:MAN:H1	2.23	0.69
1:A:185:PRO:HB2	1:A:217:ILE:HG13	1.75	0.69
2:H:169:ASN:HA	2:H:172:GLN:NE2	2.08	0.69
1:A:30:THR:O	2:E:50:ARG:HD2	1.94	0.68
1:G:151:LEU:HA	6:G:341:HOH:O	1.91	0.68
1:G:183:HIS:HB2	1:G:252:ILE:HD11	1.75	0.68
1:G:293:PRO:HB2	1:G:294:PHE:CE1	2.28	0.68
1:D:90:ARG:HD2	1:D:90:ARG:N	2.08	0.68
1:G:325:GLU:HG2	2:H:12:ASN:HD22	1.58	0.68
4:G:330:NDG:O4	5:G:331:MAN:H1	1.94	0.68
1:D:167:THR:OG1	4:D:332:NDG:H6C2	1.94	0.67
1:D:29:ILE:HD11	2:E:102:LEU:HD12	1.74	0.67
1:G:220:ARG:HB2	1:G:227:PRO:O	1.94	0.67
1:A:71:LEU:CD2	1:A:179:ILE:HD11	2.24	0.67
1:G:255:ARG:HG3	6:G:341:HOH:O	1.93	0.67
1:D:165:ASN:OD1	4:D:332:NDG:O1L	2.13	0.67
2:H:71:SER:C	2:H:72:GLU:HG3	2.15	0.67
1:A:175:ASP:OD1	1:A:239:PRO:HD3	1.95	0.67
1:A:184:HIS:HB3	1:A:220:ARG:HH21	1.60	0.67
2:B:158:ASP:HB3	2:B:161:ILE:HD12	1.76	0.66
1:A:12:THR:HG23	2:B:133:MET:HE3	1.78	0.66
2:B:28:ASN:HD22	2:B:145:ASP:HA	1.60	0.66
2:B:131:GLU:OE2	2:B:170:ARG:HD2	1.96	0.66
2:B:169:ASN:HA	2:B:172:GLN:HE21	1.61	0.66
4:A:331:NDG:O4	3:A:332:NAG:H1	1.96	0.65
1:A:183:HIS:HB2	1:A:252:ILE:HD11	1.77	0.65
1:D:169:PRO:N	1:D:242:VAL:HG23	2.11	0.65
2:B:77:ILE:HG23	2:B:78:GLN:N	2.10	0.65
2:B:54:ARG:HD3	1:G:32:ASP:HB3	1.78	0.65
1:A:96:ASN:HA	1:A:224:ARG:NE	2.11	0.65
1:G:290:ASN:C	1:G:290:ASN:HD22	1.99	0.65
2:B:11:GLU:OE1	2:B:11:GLU:HA	1.95	0.65
1:A:129:GLY:HA3	1:A:162:PRO:HG2	1.79	0.65
1:D:81:ASN:N	1:D:81:ASN:HD22	1.93	0.64
1:A:220:ARG:HD2	1:A:229:ARG:HG3	1.79	0.64

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:27:LYS:HE2	2:E:54:ARG:NH1	2.12	0.64
1:A:104:ASP:CG	1:A:107:SER:HB2	2.18	0.64
1:A:29:ILE:H	2:B:105:GLN:HE21	1.44	0.64
1:G:71:LEU:CD2	1:G:179:ILE:HD11	2.27	0.64
1:D:44:GLN:HG2	1:D:292:LYS:HD2	1.79	0.63
1:G:121:ILE:HD12	1:G:257:TYR:OH	1.98	0.63
1:D:54:ASN:O	1:D:55:PRO:C	2.29	0.63
2:E:51:LYS:HE3	2:E:107:THR:OG1	1.98	0.63
1:G:81:ASN:HD21	4:G:334:NDG:H1	1.64	0.63
1:D:97:CYS:O	1:D:224:ARG:NH1	2.31	0.63
1:D:180:TRP:HB3	1:D:254:PRO:HG3	1.79	0.63
1:A:166:VAL:HG22	1:A:245:ILE:HB	1.81	0.63
1:D:169:PRO:HA	1:D:242:VAL:HG23	1.80	0.62
1:G:220:ARG:CB	1:G:229:ARG:HH11	2.13	0.62
1:G:161:TYR:HB3	1:G:197:GLN:NE2	2.13	0.62
1:A:12:THR:HG23	2:B:133:MET:CE	2.30	0.62
1:A:170:ASN:HD22	1:A:238:LYS:C	2.02	0.62
2:H:21:TRP:H	2:H:41:THR:CG2	2.13	0.62
1:G:86:LEU:HD21	1:G:268:MET:HE3	1.82	0.62
1:G:161:TYR:CE1	1:G:195:TYR:HD2	2.18	0.62
2:H:35:ALA:HB2	2:H:153:ARG:NH1	2.14	0.62
1:A:84:TRP:CE2	1:A:116:GLY:HA2	2.33	0.62
2:H:151:SER:O	2:H:156:THR:HG23	1.99	0.62
1:D:97:CYS:H	1:D:224:ARG:NH1	1.98	0.62
1:A:125:PHE:O	1:A:126:THR:HG23	1.99	0.62
1:A:302:TYR:HE2	2:B:63:PHE:HB3	1.64	0.62
1:D:169:PRO:HA	1:D:242:VAL:HA	1.80	0.62
1:D:264:LYS:HB2	2:E:63:PHE:CG	2.35	0.62
2:E:154:ASN:CG	4:E:241:NDG:H1	2.20	0.61
1:D:279:SER:OG	1:D:287:SER:HB3	2.00	0.61
2:H:125:GLN:HE21	2:H:157:TYR:HB3	1.64	0.61
1:D:175:ASP:OD1	1:D:239:PRO:HD3	2.01	0.61
3:A:335:NAG:H1	4:D:332:NDG:H4	1.83	0.61
2:H:71:SER:O	2:H:72:GLU:HG3	2.00	0.61
2:B:26:HIS:CE1	2:B:33:GLY:HA3	2.36	0.61
2:E:43:ALA:O	2:E:47:GLN:HG3	2.00	0.61
2:E:12:ASN:ND2	2:E:12:ASN:N	2.49	0.61
1:G:15:LEU:HD23	2:H:118:LEU:HG	1.82	0.61
1:D:316:LEU:HD23	2:E:52:LEU:HD13	1.83	0.61
1:A:217:ILE:HD12	1:A:217:ILE:N	2.16	0.60
2:H:131:GLU:OE2	2:H:170:ARG:HD2	2.01	0.60
2:E:11:GLU:C	2:E:12:ASN:HD22	2.03	0.60

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:D:27:LYS:HB3	2:H:54:ARG:NH1	2.17	0.60
1:G:285:ASN:OD1	4:G:336:NDG:H1	2.01	0.60
1:A:248:ASN:HD22	1:A:248:ASN:H	1.48	0.60
2:H:19:ASP:N	2:H:19:ASP:OD1	2.35	0.60
1:D:326:LYS:N	2:E:12:ASN:OD1	2.31	0.60
1:G:220:ARG:HB3	1:G:229:ARG:NH1	2.17	0.60
2:B:102:LEU:HD21	2:E:102:LEU:HD23	1.83	0.60
1:G:53:ASN:HB3	1:G:275:ASP:O	2.02	0.60
1:G:220:ARG:CB	1:G:229:ARG:NH1	2.65	0.59
2:B:77:ILE:HG23	2:B:78:GLN:H	1.67	0.59
1:A:182:VAL:HG11	1:A:213:ILE:HG21	1.85	0.59
2:B:98:LEU:HD12	2:B:102:LEU:HD13	1.83	0.59
1:G:316:LEU:HD23	2:H:52:LEU:CD1	2.32	0.59
2:B:110:LEU:HD23	2:B:110:LEU:C	2.23	0.59
1:D:111:LEU:HD12	1:D:111:LEU:C	2.22	0.59
2:B:102:LEU:HD23	2:H:102:LEU:HD21	1.85	0.59
2:E:91:LEU:O	2:E:94:TYR:HB3	2.03	0.59
1:A:86:LEU:HD21	1:A:268:MET:HE3	1.83	0.59
2:B:149:ILE:HG22	2:B:150:GLU:N	2.17	0.58
1:G:38:ASN:HD22	1:G:38:ASN:C	2.06	0.58
1:A:300:ILE:HD11	2:B:69:GLU:HG3	1.85	0.58
2:E:3:PHE:CE1	2:E:113:SER:HB2	2.39	0.58
1:A:38:ASN:ND2	3:A:330:NAG:H1	2.18	0.58
1:G:311:GLN:NE2	2:H:93:SER:HB3	2.18	0.58
1:G:29:ILE:HG22	1:G:30:THR:HG23	1.85	0.58
1:G:56:HIS:O	1:G:58:ILE:HG13	2.03	0.58
1:G:220:ARG:HB2	1:G:229:ARG:HH11	1.67	0.58
1:G:42:LEU:O	1:G:292:LYS:HB3	2.03	0.58
1:D:220:ARG:HD2	1:D:229:ARG:HG2	1.84	0.58
1:D:30:THR:HG22	2:H:51:LYS:HB2	1.86	0.58
4:A:334:NDG:C3	4:B:222:NDG:H1	2.33	0.58
1:G:248:ASN:N	1:G:248:ASN:HD22	1.96	0.58
1:A:63:ALA:HA	1:A:93:ALA:HA	1.85	0.58
1:A:102:ILE:HG12	1:A:232:ILE:HB	1.86	0.58
1:G:183:HIS:O	1:G:185:PRO:HD3	2.04	0.57
1:A:184:HIS:HB3	1:A:220:ARG:NH2	2.19	0.57
1:D:120:PHE:CE2	1:D:150:ARG:HD2	2.39	0.57
1:A:312:ASN:OD1	1:A:313:THR:HG22	2.04	0.57
1:G:98:TYR:CD2	1:G:99:PRO:HD2	2.39	0.57
1:G:24:THR:CG2	4:G:333:NDG:H6C2	2.35	0.57
1:G:81:ASN:ND2	4:G:334:NDG:C7	2.66	0.57
1:A:111:LEU:HD12	1:A:111:LEU:C	2.25	0.57

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:E:150:GLU:HA	2:E:150:GLU:OE2	2.04	0.57
1:A:302:TYR:CZ	2:B:63:PHE:HD2	2.23	0.57
2:E:100:VAL:HG23	2:E:101:ALA:N	2.20	0.57
2:E:131:GLU:OE2	2:E:170:ARG:HD2	2.04	0.57
1:G:99:PRO:HG3	1:G:223:VAL:HG12	1.87	0.57
1:D:167:THR:HG23	1:D:244:VAL:CG2	2.35	0.57
2:E:52:LEU:O	2:E:56:ILE:HG22	2.04	0.57
1:G:170:ASN:HA	1:G:176:LYS:NZ	2.19	0.56
1:A:125:PHE:HD1	1:A:127:TRP:H	1.53	0.56
1:A:280:GLU:OE1	1:A:280:GLU:HA	2.05	0.56
2:E:72:GLU:CG	1:G:238:LYS:NZ	2.68	0.56
5:G:331:MAN:O2	5:G:332:MAN:H1	2.03	0.56
1:G:281:CYS:HB2	1:G:304:ALA:O	2.04	0.56
2:H:68:LYS:HE2	2:H:85:GLU:OE1	2.05	0.56
1:G:288:ILE:HG21	1:G:297:VAL:HG21	1.88	0.56
1:A:81:ASN:CG	4:A:331:NDG:C1	2.74	0.56
1:A:54:ASN:HA	1:A:56:HIS:N	2.20	0.56
1:A:132:GLN:HG2	1:A:154:LEU:CD2	2.36	0.56
1:A:285:ASN:CG	4:A:334:NDG:H1	2.25	0.56
1:G:109:ARG:NH1	1:G:267:ILE:CD1	2.68	0.56
1:D:301:THR:HB	1:D:305:CYS:SG	2.46	0.56
2:E:169:ASN:HA	2:E:172:GLN:NE2	2.14	0.56
1:A:71:LEU:O	1:A:148:PHE:HB3	2.05	0.56
2:B:100:VAL:HG23	2:B:101:ALA:N	2.20	0.56
1:G:15:LEU:CD2	2:H:118:LEU:HG	2.37	0.55
2:B:121:LYS:HD2	2:B:121:LYS:O	2.06	0.55
1:A:159:SER:O	1:A:160:ALA:HB2	2.06	0.55
2:B:54:ARG:NH1	1:G:27:LYS:HE2	2.22	0.55
1:G:266:SER:OG	1:G:267:ILE:N	2.38	0.55
1:G:217:ILE:N	1:G:217:ILE:HD12	2.22	0.55
1:A:222:TRP:CZ3	5:A:336:MAN:O1	2.59	0.55
1:D:304:ALA:HB2	2:E:61:GLU:HG2	1.88	0.55
2:B:150:GLU:OE2	2:B:150:GLU:HA	2.07	0.55
1:A:275:ASP:CG	1:A:276:THR:N	2.60	0.55
1:A:42:LEU:HD22	1:A:293:PRO:CG	2.37	0.55
2:E:156:THR:HG1	4:E:241:NDG:H1L	1.53	0.55
1:A:304:ALA:HB2	2:B:61:GLU:CG	2.37	0.55
1:A:74:PRO:HA	1:A:141:ARG:HH21	1.72	0.55
2:B:98:LEU:CD1	2:B:102:LEU:HD13	2.36	0.55
2:E:40:SER:O	2:E:43:ALA:HB3	2.05	0.55
1:A:189:GLN:O	1:A:193:ASN:HB2	2.06	0.55
2:H:151:SER:CA	2:H:156:THR:HG23	2.37	0.55

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:302:TYR:CE2	2:B:63:PHE:HB3	2.42	0.55
2:H:125:GLN:NE2	2:H:155:GLY:HA2	2.21	0.54
1:G:285:ASN:ND2	4:G:336:NDG:H1	2.23	0.54
1:A:274:ILE:HG12	1:A:274:ILE:O	2.05	0.54
1:G:81:ASN:ND2	4:G:334:NDG:C1	2.62	0.54
1:A:134:GLY:HA3	1:A:153:TRP:HB3	1.89	0.54
2:B:54:ARG:HA	2:B:58:LYS:NZ	2.23	0.54
1:D:102:ILE:HG12	1:D:232:ILE:HB	1.89	0.54
1:G:221:PRO:HA	4:G:330:NDG:O7	2.07	0.54
1:A:238:LYS:NZ	2:H:72:GLU:HG2	2.23	0.54
1:G:17:HIS:HB2	1:G:320:MET:SD	2.48	0.54
1:D:148:PHE:CB	1:D:151:LEU:HD12	2.36	0.54
1:A:38:ASN:HD21	3:A:330:NAG:H1	1.73	0.54
1:D:15:LEU:HD22	2:E:119:PHE:HA	1.90	0.54
1:G:165:ASN:CG	3:G:335:NAG:O1	2.46	0.54
2:E:154:ASN:HD21	4:E:241:NDG:H1	1.69	0.54
1:A:222:TRP:NE1	1:A:227:PRO:HG3	2.23	0.54
1:D:119:GLU:HB2	1:D:259:LYS:HG2	1.90	0.54
1:G:325:GLU:HG2	2:H:12:ASN:ND2	2.23	0.54
2:E:125:GLN:NE2	2:E:157:TYR:HB3	2.21	0.53
2:E:74:GLU:HG3	2:E:78:GLN:NE2	2.23	0.53
1:G:71:LEU:HD23	1:G:179:ILE:CD1	2.38	0.53
1:A:216:ASN:CB	1:D:212:THR:HG21	2.38	0.53
1:G:39:ALA:HB2	1:G:317:ALA:HA	1.89	0.53
1:A:43:VAL:HA	1:A:294:PHE:O	2.08	0.53
4:D:333:NDG:O4	5:D:334:MAN:C1	2.42	0.53
1:D:291:ASP:O	2:E:56:ILE:HG13	2.09	0.53
1:A:44:GLN:NE2	1:A:289:PRO:HD2	2.24	0.53
1:D:12:THR:O	2:E:26:HIS:HA	2.08	0.53
1:A:72:GLY:HA3	1:A:149:SER:OG	2.09	0.53
1:D:38:ASN:ND2	1:D:39:ALA:N	2.57	0.53
2:B:127:ARG:NH1	2:H:131:GLU:OE1	2.40	0.53
1:G:285:ASN:HD21	4:G:336:NDG:H1	1.73	0.53
1:A:26:VAL:O	1:A:34:ILE:HG22	2.08	0.53
1:A:304:ALA:CB	2:B:61:GLU:HG2	2.39	0.53
2:H:169:ASN:HA	2:H:172:GLN:HE21	1.74	0.53
1:D:53:ASN:HD22	1:D:54:ASN:N	2.07	0.53
2:E:77:ILE:HG23	2:E:78:GLN:N	2.23	0.53
1:A:204:VAL:CG1	1:A:243:LEU:HD11	2.37	0.53
2:B:87:THR:O	2:B:91:LEU:HD22	2.08	0.53
1:A:82:GLU:HG3	1:A:83:THR:H	1.74	0.53
1:D:28:THR:N	1:D:31:ASP:O	2.31	0.53

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:57:GLU:C	2:B:58:LYS:HG3	2.29	0.53
1:G:165:ASN:HD22	1:G:165:ASN:C	2.12	0.52
1:G:150:ARG:C	1:G:255:ARG:HD2	2.29	0.52
1:A:228:GLY:O	1:A:229:ARG:HG2	2.08	0.52
2:B:158:ASP:HB3	2:B:161:ILE:CD1	2.39	0.52
1:D:117:THR:HG21	1:D:261:ARG:HD2	1.91	0.52
1:D:129:GLY:HA3	1:D:162:PRO:HG2	1.91	0.52
2:E:22:TYR:HE2	2:E:115:MET:HB2	1.74	0.52
2:B:154:ASN:HD21	4:B:223:NDG:C1	2.16	0.52
2:B:150:GLU:HG3	4:B:223:NDG:O	2.10	0.52
1:A:43:VAL:HG23	6:A:347:HOH:O	2.08	0.52
1:D:183:HIS:O	1:D:185:PRO:HD3	2.10	0.52
2:H:123:ARG:HB3	2:H:123:ARG:HH11	1.75	0.52
1:D:304:ALA:CA	2:E:61:GLU:HG2	2.39	0.52
2:B:114:GLU:OE2	2:B:117:LYS:HD2	2.10	0.52
2:B:131:GLU:CG	2:B:170:ARG:HH11	2.22	0.52
1:D:180:TRP:CD2	1:D:204:VAL:HG21	2.45	0.52
1:D:119:GLU:HB2	1:D:259:LYS:CG	2.40	0.52
2:H:28:ASN:ND2	2:H:145:ASP:HA	2.25	0.52
2:B:48:ILE:HG12	2:B:107:THR:HG23	1.90	0.52
1:D:295:GLN:NE2	1:D:308:TYR:HD1	2.08	0.52
2:E:132:ASP:OD2	2:H:124:ARG:NE	2.40	0.52
1:A:233:TYR:CD1	1:A:233:TYR:N	2.76	0.52
1:D:98:TYR:CD2	1:D:99:PRO:HD2	2.44	0.52
1:G:323:VAL:HG21	2:H:7:ALA:HB2	1.92	0.52
1:A:203:THR:HG23	1:A:212:THR:HB	1.92	0.52
1:G:293:PRO:HB2	1:G:294:PHE:CD1	2.45	0.52
1:G:264:LYS:HB2	2:H:63:PHE:CG	2.45	0.52
1:G:84:TRP:CE2	1:G:116:GLY:HA2	2.45	0.52
1:G:228:GLY:C	1:G:229:ARG:HD2	2.31	0.52
2:B:126:LEU:HD21	2:B:152:ILE:HD13	1.91	0.52
1:D:167:THR:HG22	1:D:242:VAL:CG2	2.40	0.51
2:H:126:LEU:HD21	2:H:152:ILE:HD13	1.91	0.51
1:A:67:ILE:HG13	1:A:105:TYR:CZ	2.45	0.51
1:G:325:GLU:OE2	2:H:15:GLU:HG3	2.09	0.51
1:D:36:VAL:HG23	1:D:38:ASN:H	1.75	0.51
1:G:42:LEU:HD11	1:G:316:LEU:HB2	1.92	0.51
1:A:170:ASN:ND2	1:A:239:PRO:HA	2.24	0.51
1:G:154:LEU:HD12	1:G:251:LEU:HD23	1.92	0.51
1:A:92:ASN:HD22	1:A:93:ALA:N	2.07	0.51
1:G:99:PRO:HG3	1:G:223:VAL:CG1	2.40	0.51
1:A:275:ASP:CG	1:A:276:THR:H	2.13	0.51

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:A:279:SER:OG	1:A:287:SER:HB3	2.11	0.51
2:E:85:GLU:O	2:E:89:ILE:HG13	2.11	0.51
1:D:55:PRO:HG3	1:D:278:ILE:HG23	1.91	0.51
1:D:295:GLN:HE21	1:D:308:TYR:HB2	1.74	0.51
1:D:310:LYS:NZ	2:E:90:ASP:OD1	2.42	0.51
1:A:203:THR:HG21	1:G:220:ARG:NH1	2.25	0.51
5:D:334:MAN:HO2	5:D:335:MAN:H5	1.74	0.51
1:G:31:ASP:N	6:G:339:HOH:O	2.42	0.51
1:D:221:PRO:O	1:D:229:ARG:NH2	2.40	0.51
1:D:99:PRO:CB	1:D:229:ARG:HE	2.24	0.51
1:A:29:ILE:O	1:A:29:ILE:HG22	2.10	0.51
1:D:99:PRO:HG3	1:D:223:VAL:CG1	2.41	0.51
2:H:11:GLU:OE2	2:H:11:GLU:HA	2.11	0.51
1:A:236:ILE:N	1:A:236:ILE:HD12	2.26	0.51
1:D:53:ASN:HB3	1:D:275:ASP:O	2.11	0.51
1:D:311:GLN:HG3	1:D:314:LEU:HD11	1.92	0.51
2:H:135:ASN:OD1	2:H:137:CYS:SG	2.69	0.51
2:H:21:TRP:H	2:H:41:THR:HG23	1.74	0.50
1:G:290:ASN:ND2	1:G:290:ASN:O	2.44	0.50
2:H:46:ASP:O	2:H:50:ARG:HG3	2.11	0.50
2:B:135:ASN:OD1	2:B:137:CYS:HB2	2.11	0.50
1:A:228:GLY:C	1:A:229:ARG:HG2	2.32	0.50
1:G:220:ARG:HD2	1:G:229:ARG:HD3	1.93	0.50
3:A:335:NAG:H4	5:A:336:MAN:O1	2.09	0.50
2:E:57:GLU:C	2:E:58:LYS:HG3	2.30	0.50
1:D:54:ASN:C	1:D:56:HIS:N	2.58	0.50
1:G:108:LEU:O	1:G:112:VAL:HG23	2.10	0.50
1:D:58:ILE:HD11	1:D:282:ILE:CD1	2.41	0.50
2:E:8:GLY:O	2:E:10:ILE:N	2.45	0.50
2:B:158:ASP:OD1	2:B:161:ILE:HG13	2.12	0.50
1:D:80:GLN:O	1:D:81:ASN:HB2	2.10	0.50
1:D:264:LYS:HB2	2:E:63:PHE:CD1	2.46	0.50
1:G:127:TRP:CZ2	1:G:253:ALA:HB1	2.46	0.50
2:B:121:LYS:HD2	2:B:121:LYS:C	2.32	0.50
1:A:235:THR:C	1:A:236:ILE:HD12	2.32	0.50
2:E:9:PHE:CD1	2:E:10:ILE:HG13	2.47	0.50
1:A:283:THR:C	1:A:285:ASN:H	2.15	0.50
1:G:90:ARG:HH22	1:G:274:ILE:HG13	1.77	0.50
2:B:125:GLN:HE22	2:B:155:GLY:CA	2.00	0.50
1:D:97:CYS:SG	1:D:98:TYR:N	2.84	0.50
1:G:180:TRP:HB3	1:G:254:PRO:HG3	1.94	0.50
1:D:42:LEU:O	1:D:293:PRO:HD2	2.11	0.50

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:G:89:GLU:HG3	1:G:267:ILE:HD11	1.93	0.49
1:G:325:GLU:HG2	2:H:13:GLY:O	2.12	0.49
1:G:63:ALA:HA	1:G:93:ALA:HA	1.93	0.49
1:G:81:ASN:HD21	4:G:334:NDG:C1	2.24	0.49
1:G:48:THR:HG23	1:G:287:SER:O	2.12	0.49
1:A:80:GLN:O	1:A:81:ASN:HB2	2.12	0.49
1:G:44:GLN:O	1:G:295:GLN:HA	2.12	0.49
1:A:195:TYR:CE2	1:A:250:ASN:HA	2.47	0.49
1:A:290:ASN:HD22	1:A:290:ASN:H	1.60	0.49
1:G:297:VAL:O	4:G:336:NDG:H8C1	2.12	0.49
1:G:304:ALA:HB2	2:H:61:GLU:HG2	1.95	0.49
2:H:110:LEU:HD23	2:H:110:LEU:C	2.32	0.49
1:G:222:TRP:CD1	1:G:227:PRO:HG3	2.48	0.49
1:A:96:ASN:ND2	1:A:96:ASN:C	2.64	0.49
1:D:60:ASP:HB3	1:D:62:ARG:NH1	2.27	0.49
1:A:220:ARG:NH1	1:D:203:THR:HG21	2.28	0.49
2:H:35:ALA:CB	2:H:153:ARG:NH1	2.75	0.49
1:A:134:GLY:CA	1:A:153:TRP:HB3	2.43	0.49
2:H:110:LEU:HD23	2:H:110:LEU:O	2.12	0.49
1:G:175:ASP:OD1	1:G:239:PRO:HD3	2.13	0.49
2:H:126:LEU:HD13	2:H:130:ALA:CB	2.43	0.49
1:D:71:LEU:HD11	1:D:232:ILE:CD1	2.43	0.49
1:A:163:VAL:O	1:A:163:VAL:HG12	2.13	0.49
3:A:335:NAG:C1	4:D:332:NDG:HC	2.23	0.49
1:G:295:GLN:NE2	1:G:308:TYR:HB2	2.28	0.49
2:E:54:ARG:HA	2:E:58:LYS:NZ	2.28	0.49
1:D:59:LEU:HD22	1:D:82:GLU:CG	2.43	0.48
1:G:222:TRP:CZ3	5:G:331:MAN:H3	2.48	0.48
1:D:26:VAL:CG1	1:D:27:LYS:N	2.76	0.48
1:A:279:SER:CB	1:A:287:SER:HB3	2.43	0.48
1:D:177:LEU:HD13	1:D:236:ILE:HD11	1.95	0.48
2:E:121:LYS:HD2	2:E:121:LYS:O	2.12	0.48
1:D:97:CYS:N	1:D:224:ARG:HH11	2.11	0.48
1:A:222:TRP:CD1	1:A:227:PRO:HG3	2.47	0.48
3:A:335:NAG:H1	4:D:332:NDG:C4	2.44	0.48
1:A:138:ALA:HB1	1:A:224:ARG:HB2	1.96	0.48
2:B:125:GLN:NE2	2:B:155:GLY:CA	2.64	0.48
1:G:305:CYS:HA	1:G:306:PRO:HD3	1.67	0.48
1:G:38:ASN:CG	4:G:333:NDG:H1	2.33	0.48
1:D:27:LYS:HB3	2:H:54:ARG:HH12	1.77	0.48
1:A:186:SER:HA	1:A:218:GLY:O	2.13	0.48
1:G:26:VAL:CG1	2:H:104:ASN:ND2	2.77	0.48

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:B:131:GLU:CD	2:B:170:ARG:HH11	2.16	0.48
1:G:290:ASN:C	1:G:290:ASN:ND2	2.66	0.48
1:G:97:CYS:SG	1:G:98:TYR:N	2.83	0.48
1:G:86:LEU:HD22	1:G:302:TYR:CD1	2.48	0.48
2:E:120:GLU:OE1	2:E:123:ARG:NH1	2.47	0.48
1:G:27:LYS:HG2	1:G:32:ASP:O	2.14	0.48
1:G:170:ASN:ND2	1:G:239:PRO:HA	2.28	0.48
1:G:251:LEU:HD21	1:G:253:ALA:HB2	1.96	0.48
1:A:73:ASP:OD1	1:A:74:PRO:HD2	2.14	0.48
1:D:55:PRO:HG3	1:D:278:ILE:CG2	2.44	0.48
1:D:213:ILE:HG12	1:D:233:TYR:CZ	2.49	0.48
2:E:154:ASN:OD1	4:E:241:NDG:H1	2.14	0.47
1:A:182:VAL:HG11	1:A:213:ILE:CG2	2.42	0.47
1:A:59:LEU:CD2	1:A:82:GLU:HG2	2.43	0.47
1:D:59:LEU:HD22	1:D:82:GLU:HG3	1.96	0.47
1:D:323:VAL:HG21	2:E:7:ALA:HB2	1.95	0.47
1:G:54:ASN:CG	1:G:55:PRO:HA	2.34	0.47
1:A:94:PHE:CD1	1:A:94:PHE:C	2.88	0.47
1:A:111:LEU:HD12	1:A:112:VAL:HG23	1.96	0.47
1:G:38:ASN:ND2	1:G:318:THR:OG1	2.47	0.47
1:D:294:PHE:HB3	1:D:309:VAL:HG22	1.95	0.47
1:G:95:SER:O	1:G:224:ARG:NH2	2.36	0.47
1:G:222:TRP:NE1	1:G:227:PRO:HG3	2.29	0.47
1:G:295:GLN:HE21	1:G:308:TYR:HB2	1.79	0.47
1:D:248:ASN:N	1:D:248:ASN:HD22	2.05	0.47
2:B:145:ASP:O	2:B:148:CYS:HB3	2.14	0.47
1:A:75:HIS:NE2	1:A:94:PHE:CE1	2.82	0.47
1:D:97:CYS:H	1:D:224:ARG:HH11	1.62	0.47
1:D:99:PRO:HB2	1:D:229:ARG:HE	1.79	0.47
1:A:104:ASP:OD1	1:A:107:SER:HB2	2.14	0.47
2:H:114:GLU:OE2	2:H:117:LYS:HD2	2.14	0.47
2:B:3:PHE:HB2	2:B:112:ASP:OD2	2.14	0.47
1:G:164:LEU:HB2	1:G:247:SER:O	2.15	0.47
1:G:179:ILE:O	1:G:179:ILE:HG12	2.13	0.47
1:A:216:ASN:HB2	1:D:212:THR:HG21	1.95	0.47
1:G:86:LEU:HD22	1:G:302:TYR:CG	2.49	0.47
1:A:55:PRO:HD3	1:A:278:ILE:HG23	1.96	0.47
2:E:9:PHE:CE1	2:E:10:ILE:HG13	2.49	0.47
6:A:340:HOH:O	1:G:216:ASN:HB3	2.14	0.47
1:G:222:TRP:CE2	4:G:330:NDG:H4	2.49	0.47
1:D:26:VAL:HG12	1:D:27:LYS:N	2.29	0.47
1:A:204:VAL:HG13	1:A:243:LEU:HD11	1.97	0.47

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:H:28:ASN:HD22	2:H:145:ASP:HA	1.80	0.47
1:G:220:ARG:HB2	1:G:229:ARG:NH1	2.27	0.47
1:G:81:ASN:CG	4:G:334:NDG:H1	2.31	0.47
2:B:141:TYR:CG	2:B:170:ARG:HG2	2.50	0.47
1:A:230:ILE:HD12	1:A:252:ILE:HG12	1.97	0.47
1:D:81:ASN:CG	3:D:331:NAG:HO1	2.10	0.47
2:B:17:MET:O	2:B:18:ILE:HD13	2.15	0.47
2:H:37:ASP:OD2	2:H:40:SER:HB2	2.15	0.47
1:G:67:ILE:HG13	1:G:105:TYR:OH	2.15	0.46
1:D:53:ASN:CG	1:D:276:THR:HA	2.35	0.46
2:H:129:ASN:OD1	2:H:129:ASN:N	2.47	0.46
1:A:251:LEU:HD12	1:A:252:ILE:N	2.30	0.46
1:D:165:ASN:ND2	1:D:165:ASN:C	2.68	0.46
1:A:285:ASN:OD1	4:A:334:NDG:H1	2.16	0.46
1:D:111:LEU:HD12	1:D:112:VAL:N	2.30	0.46
2:H:70:PHE:CD1	2:H:70:PHE:N	2.83	0.46
2:E:37:ASP:OD2	2:E:40:SER:CB	2.63	0.46
1:G:180:TRP:CE2	1:G:204:VAL:HG21	2.51	0.46
1:D:85:ASP:O	1:D:265:SER:HA	2.16	0.46
1:A:255:ARG:HG2	1:A:255:ARG:NH1	2.31	0.46
1:D:180:TRP:N	1:D:180:TRP:CD1	2.83	0.46
1:A:54:ASN:HA	1:A:56:HIS:H	1.79	0.46
1:G:34:ILE:HG12	1:G:35:GLU:N	2.31	0.46
1:D:27:LYS:HE2	2:H:54:ARG:CZ	2.46	0.46
1:A:255:ARG:HG2	1:A:255:ARG:HH11	1.80	0.46
1:A:90:ARG:HH11	1:A:271:ASP:HA	1.80	0.46
2:B:49:ASN:O	2:B:52:LEU:HB3	2.15	0.46
1:D:167:THR:HG22	1:D:242:VAL:HG21	1.98	0.46
1:G:285:ASN:CG	4:G:336:NDG:H1	2.36	0.46
1:G:311:GLN:HG2	1:G:311:GLN:H	1.50	0.46
1:D:220:ARG:HD2	1:D:229:ARG:CG	2.45	0.46
1:D:220:ARG:HH11	1:G:210:GLN:HG3	1.80	0.46
1:A:54:ASN:ND2	1:A:55:PRO:HA	2.30	0.46
1:G:90:ARG:HD3	1:G:270:SER:O	2.16	0.46
2:E:70:PHE:CD1	2:E:70:PHE:N	2.84	0.46
1:G:295:GLN:NE2	1:G:308:TYR:HD1	2.14	0.45
1:D:325:GLU:HA	2:E:12:ASN:HB3	1.97	0.45
2:E:8:GLY:C	2:E:10:ILE:N	2.69	0.45
1:A:288:ILE:HG21	1:A:297:VAL:HG21	1.98	0.45
2:E:60:ASN:HD22	2:E:60:ASN:C	2.17	0.45
1:G:228:GLY:O	1:G:229:ARG:HD2	2.16	0.45
3:A:333:NAG:C5	4:G:330:NDG:H1	2.45	0.45

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:G:34:ILE:CG1	1:G:35:GLU:N	2.79	0.45
1:A:291:ASP:OD1	1:A:292:LYS:HG3	2.17	0.45
1:A:324:PRO:O	1:A:325:GLU:CB	2.64	0.45
1:A:234:TRP:HD1	1:A:236:ILE:CD1	2.29	0.45
1:D:58:ILE:HD11	1:D:282:ILE:HD13	1.98	0.45
1:A:291:ASP:O	2:B:56:ILE:HG13	2.16	0.45
1:G:125:PHE:CE1	1:G:254:PRO:HB2	2.52	0.45
1:D:120:PHE:CD2	1:D:150:ARG:HD2	2.51	0.45
1:D:165:ASN:HD22	1:D:165:ASN:C	2.20	0.45
1:G:38:ASN:ND2	1:G:38:ASN:C	2.69	0.45
1:D:60:ASP:OD2	1:D:90:ARG:NH1	2.50	0.45
1:A:229:ARG:HG2	1:A:229:ARG:HH11	1.81	0.45
1:A:82:GLU:HG3	1:A:83:THR:N	2.32	0.45
1:G:220:ARG:O	1:G:227:PRO:HA	2.16	0.45
1:D:87:PHE:O	1:D:267:ILE:HG13	2.17	0.45
1:D:222:TRP:NE1	1:D:227:PRO:HG3	2.31	0.45
1:G:186:SER:HA	1:G:218:GLY:O	2.17	0.45
1:D:137:SER:HA	1:D:145:ASN:OD1	2.17	0.45
2:E:19:ASP:OD1	2:E:19:ASP:N	2.47	0.45
2:B:27:GLN:HB3	2:B:27:GLN:HE21	1.51	0.45
1:A:27:LYS:HG2	1:A:32:ASP:O	2.17	0.45
1:D:66:LEU:HD21	1:D:112:VAL:CG1	2.44	0.45
1:G:147:PHE:CE2	1:G:151:LEU:HB2	2.51	0.45
1:D:12:THR:HG23	2:E:133:MET:CE	2.47	0.45
1:G:161:TYR:HE1	1:G:195:TYR:HD2	1.62	0.45
1:A:217:ILE:CD1	1:A:217:ILE:N	2.80	0.45
1:G:181:GLY:O	1:G:252:ILE:HB	2.17	0.45
1:A:53:ASN:OD1	1:A:276:THR:HA	2.17	0.45
1:A:314:LEU:HB2	6:A:347:HOH:O	2.17	0.45
1:A:283:THR:C	1:A:285:ASN:N	2.70	0.44
2:H:156:THR:HG21	3:H:341:NAG:H1	1.99	0.44
2:E:121:LYS:HD2	2:E:121:LYS:C	2.37	0.44
1:D:67:ILE:O	1:D:70:LEU:HB3	2.17	0.44
5:D:334:MAN:O2	5:D:335:MAN:C5	2.62	0.44
1:A:108:LEU:O	1:A:109:ARG:C	2.55	0.44
1:D:109:ARG:NH1	1:D:267:ILE:CD1	2.78	0.44
1:D:324:PRO:O	1:D:325:GLU:CB	2.65	0.44
1:A:89:GLU:HG3	1:A:267:ILE:HD11	2.00	0.44
1:D:41:GLU:HG2	1:D:315:LYS:NZ	2.32	0.44
1:D:19:ALA:O	2:E:15:GLU:HA	2.17	0.44
1:D:167:THR:HG23	1:D:244:VAL:HG22	1.98	0.44
1:A:302:TYR:CE2	2:B:63:PHE:HD2	2.35	0.44

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:E:77:ILE:CG2	2:E:78:GLN:N	2.80	0.44
1:G:195:TYR:O	1:G:196:VAL:HB	2.18	0.44
1:D:304:ALA:CB	2:E:61:GLU:HG2	2.48	0.44
1:G:159:SER:O	1:G:160:ALA:HB2	2.18	0.44
1:D:29:ILE:HD11	2:E:102:LEU:CD1	2.44	0.44
1:G:67:ILE:O	1:G:70:LEU:N	2.50	0.44
1:D:186:SER:HB3	1:D:227:PRO:HB2	1.99	0.44
1:A:253:ALA:HA	1:A:254:PRO:HD3	1.77	0.44
1:G:252:ILE:HG22	1:G:252:ILE:O	2.18	0.44
1:D:203:THR:OG1	1:D:212:THR:HB	2.18	0.44
2:B:158:ASP:CG	2:B:161:ILE:HG13	2.37	0.44
2:B:169:ASN:HA	2:B:172:GLN:NE2	2.31	0.44
1:G:47:SER:HA	1:G:288:ILE:HG22	1.99	0.44
1:G:213:ILE:HG22	1:G:214:ILE:N	2.32	0.44
1:D:307:LYS:HE2	2:E:60:ASN:HD21	1.81	0.44
1:G:264:LYS:HB2	2:H:63:PHE:CD1	2.53	0.44
2:E:8:GLY:C	2:E:10:ILE:H	2.21	0.44
2:B:71:SER:C	2:B:72:GLU:HG3	2.37	0.44
1:G:291:ASP:OD1	1:G:292:LYS:HD2	2.17	0.44
1:G:253:ALA:HA	1:G:254:PRO:HD3	1.70	0.44
1:D:189:GLN:O	1:D:193:ASN:HB2	2.18	0.44
1:G:132:GLN:HG2	1:G:154:LEU:CD2	2.48	0.44
2:B:131:GLU:CG	2:B:170:ARG:NH1	2.81	0.44
1:D:167:THR:HG23	1:D:244:VAL:HG23	2.00	0.43
1:A:111:LEU:CD1	1:A:112:VAL:HG23	2.48	0.43
1:G:67:ILE:O	1:G:70:LEU:HB3	2.17	0.43
1:D:221:PRO:HG3	1:G:244:VAL:CG2	2.48	0.43
2:B:168:ASN:O	2:B:172:GLN:HB3	2.18	0.43
2:E:2:LEU:HB3	2:H:3:PHE:CZ	2.53	0.43
2:B:23:GLY:HA3	2:B:36:ALA:HA	2.00	0.43
1:G:300:ILE:HD11	2:H:69:GLU:HG3	2.00	0.43
1:G:248:ASN:H	1:G:248:ASN:ND2	2.02	0.43
2:B:168:ASN:ND2	2:B:168:ASN:O	2.50	0.43
1:A:125:PHE:HB2	1:A:127:TRP:CD1	2.54	0.43
1:A:92:ASN:C	1:A:92:ASN:HD22	2.19	0.43
1:G:76:CYS:C	1:G:78:VAL:H	2.20	0.43
1:A:212:THR:HG21	1:G:216:ASN:HB2	2.00	0.43
1:D:98:TYR:CE2	1:D:230:ILE:HD13	2.52	0.43
1:D:77:ASP:OD2	1:D:141:ARG:NH1	2.51	0.43
1:A:272:ALA:HA	1:A:273:PRO:HD3	1.90	0.43
1:A:165:ASN:HA	1:A:245:ILE:O	2.18	0.43
1:A:119:GLU:O	1:A:258:PHE:HA	2.19	0.43

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:D:166:VAL:HG12	1:D:167:THR:N	2.34	0.43
1:A:29:ILE:HD11	2:B:102:LEU:CD1	2.31	0.43
1:G:26:VAL:HG12	1:G:27:LYS:O	2.18	0.43
2:B:77:ILE:CG2	2:B:78:GLN:N	2.79	0.43
1:G:310:LYS:HE2	2:H:90:ASP:OD1	2.18	0.43
1:D:294:PHE:HA	1:D:307:LYS:O	2.18	0.43
2:H:21:TRP:CG	2:H:41:THR:HG23	2.54	0.43
1:G:172:ASP:HB3	1:G:174:PHE:CE2	2.54	0.43
1:A:96:ASN:HD22	1:A:96:ASN:C	2.22	0.43
1:G:323:VAL:CG2	2:H:7:ALA:HB2	2.48	0.43
1:G:84:TRP:HZ3	1:G:118:LEU:HG	1.84	0.43
1:A:121:ILE:HG22	1:A:121:ILE:O	2.19	0.43
1:G:322:ASN:O	1:G:324:PRO:HD3	2.19	0.43
1:A:73:ASP:OD1	1:A:96:ASN:ND2	2.52	0.43
1:A:116:GLY:HA3	1:A:265:SER:OG	2.19	0.43
2:B:15:GLU:O	2:B:18:ILE:HD11	2.18	0.43
1:D:84:TRP:CE2	1:D:116:GLY:HA2	2.53	0.43
2:E:87:THR:HG23	2:H:88:LYS:HG3	2.00	0.43
1:G:72:GLY:HA3	1:G:149:SER:OG	2.18	0.43
1:A:41:GLU:HG2	1:A:315:LYS:NZ	2.34	0.43
1:G:44:GLN:N	1:G:292:LYS:HZ2	2.17	0.43
1:D:53:ASN:OD1	1:D:276:THR:HA	2.19	0.43
2:H:125:GLN:HE22	2:H:152:ILE:HA	1.83	0.43
1:G:98:TYR:CE1	1:G:226:GLN:HG3	2.54	0.43
1:A:67:ILE:HG13	1:A:105:TYR:CE1	2.54	0.43
1:G:224:ARG:HG3	1:G:224:ARG:NH1	2.34	0.43
1:D:132:GLN:HG2	1:D:154:LEU:CD2	2.49	0.43
1:A:137:SER:HA	1:A:145:ASN:OD1	2.18	0.43
2:H:127:ARG:HB3	2:H:128:GLU:H	1.53	0.43
1:G:291:ASP:OD1	1:G:292:LYS:CG	2.65	0.43
1:G:325:GLU:OE2	2:H:15:GLU:CG	2.67	0.43
1:A:210:GLN:HE21	1:A:210:GLN:HB3	1.54	0.43
2:B:91:LEU:HD13	2:E:92:TRP:CE2	2.54	0.42
1:A:52:CYS:SG	1:A:279:SER:HB2	2.59	0.42
5:D:334:MAN:C2	5:D:335:MAN:H1	2.49	0.42
1:A:214:ILE:HA	1:A:215:PRO:HD3	1.94	0.42
2:B:168:ASN:ND2	2:B:168:ASN:C	2.72	0.42
2:E:5:ALA:O	2:E:10:ILE:HB	2.19	0.42
2:E:1:GLY:HA2	2:E:109:ASP:OD1	2.19	0.42
1:G:320:MET:CE	2:H:21:TRP:HB3	2.49	0.42
1:D:220:ARG:HB2	1:D:227:PRO:O	2.19	0.42
2:B:133:MET:HE2	2:B:138:PHE:C	2.39	0.42

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:D:311:GLN:HE21	1:D:314:LEU:HD11	1.84	0.42
1:G:214:ILE:HA	1:G:215:PRO:HD3	1.91	0.42
1:A:20:VAL:N	1:A:322:ASN:OD1	2.49	0.42
1:G:67:ILE:HG13	1:G:105:TYR:CE1	2.54	0.42
1:A:29:ILE:O	1:A:29:ILE:CG2	2.68	0.42
1:A:34:ILE:O	1:A:34:ILE:HG23	2.20	0.42
2:B:18:ILE:O	2:B:18:ILE:HG22	2.19	0.42
1:D:69:ALA:HA	1:D:76:CYS:HB3	2.02	0.42
1:G:312:ASN:OD1	1:G:313:THR:HG22	2.19	0.42
2:H:4:GLY:HA2	6:H:345:HOH:O	2.18	0.42
1:A:168:MET:C	1:A:242:VAL:HG23	2.40	0.42
3:A:335:NAG:C4	5:A:336:MAN:C1	2.82	0.42
1:D:53:ASN:ND2	1:D:54:ASN:N	2.68	0.42
1:D:149:SER:O	1:D:255:ARG:HD2	2.20	0.42
1:G:301:THR:HB	1:G:305:CYS:SG	2.60	0.42
2:B:25:ARG:NE	2:B:34:GLN:OE1	2.37	0.42
2:H:66:ILE:HG13	2:H:67:GLU:O	2.20	0.42
2:B:122:THR:O	2:B:123:ARG:C	2.58	0.42
1:G:311:GLN:HE21	2:H:93:SER:HB3	1.84	0.42
1:D:304:ALA:HA	2:E:61:GLU:HG2	2.02	0.42
1:D:29:ILE:O	1:D:29:ILE:HG22	2.18	0.42
1:A:138:ALA:HB2	1:A:226:GLN:HG2	2.02	0.42
2:B:100:VAL:CG2	2:B:101:ALA:N	2.82	0.42
1:D:67:ILE:HA	1:D:67:ILE:HD13	1.89	0.42
2:B:150:GLU:O	2:B:154:ASN:ND2	2.53	0.41
2:B:61:GLU:O	2:B:62:LYS:HD3	2.20	0.41
2:B:168:ASN:HD22	2:B:168:ASN:C	2.22	0.41
1:G:184:HIS:HB3	1:G:220:ARG:NH2	2.35	0.41
1:A:108:LEU:HD12	1:A:111:LEU:HD11	2.02	0.41
2:E:152:ILE:HA	2:E:157:TYR:HB2	2.01	0.41
2:E:149:ILE:HG22	2:E:150:GLU:N	2.35	0.41
1:D:55:PRO:HD3	1:D:278:ILE:HA	2.02	0.41
2:E:68:LYS:HA	6:E:242:HOH:O	2.20	0.41
2:E:20:GLY:HA3	2:E:36:ALA:HB1	2.00	0.41
1:D:219:SER:H	1:G:246:ASN:ND2	2.18	0.41
2:E:57:GLU:CG	2:E:57:GLU:O	2.61	0.41
1:D:99:PRO:HB3	1:D:229:ARG:NE	2.35	0.41
1:D:98:TYR:HA	1:D:99:PRO:HD3	1.92	0.41
2:H:126:LEU:HD13	2:H:130:ALA:HB3	2.02	0.41
1:A:300:ILE:O	1:A:301:THR:CG2	2.68	0.41
1:D:284:PRO:CG	1:D:300:ILE:HB	2.51	0.41
1:A:62:ARG:HH11	1:A:62:ARG:HG2	1.85	0.41

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
2:E:148:CYS:O	2:E:152:ILE:HG13	2.21	0.41
1:D:26:VAL:CG1	2:E:104:ASN:ND2	2.83	0.41
1:A:58:ILE:HD11	1:A:282:ILE:CD1	2.51	0.41
1:A:97:CYS:SG	1:A:98:TYR:N	2.93	0.41
1:G:170:ASN:HD22	1:G:238:LYS:C	2.23	0.41
1:D:26:VAL:HG11	2:E:104:ASN:CG	2.41	0.41
1:G:203:THR:HG23	1:G:212:THR:HB	2.02	0.41
1:A:49:GLY:O	1:A:273:PRO:HD2	2.21	0.41
1:A:169:PRO:HA	1:A:242:VAL:HG23	2.02	0.41
1:A:101:ASP:O	1:A:231:SER:HA	2.21	0.41
1:G:248:ASN:N	1:G:248:ASN:ND2	2.67	0.41
1:D:284:PRO:HG2	1:D:300:ILE:HB	2.02	0.41
2:B:71:SER:OG	2:B:72:GLU:OE2	2.39	0.41
1:A:14:CYS:O	2:B:24:PHE:HA	2.20	0.41
4:A:334:NDG:H3	4:B:222:NDG:O1L	2.20	0.41
1:A:222:TRP:CE3	1:A:225:GLY:HA2	2.56	0.41
1:A:26:VAL:CG1	1:A:27:LYS:N	2.83	0.41
1:D:99:PRO:CB	1:D:229:ARG:NE	2.83	0.41
2:B:119:PHE:CE1	2:B:136:GLY:HA2	2.55	0.41
1:A:125:PHE:CD1	1:A:126:THR:N	2.89	0.41
1:D:172:ASP:O	1:D:239:PRO:HB3	2.20	0.41
1:D:27:LYS:HE2	2:H:54:ARG:NH2	2.36	0.41
1:A:300:ILE:C	1:A:301:THR:HG23	2.42	0.41
1:A:53:ASN:O	1:A:54:ASN:HB3	2.20	0.41
2:E:61:GLU:O	2:E:62:LYS:HD3	2.21	0.41
2:H:120:GLU:HG3	2:H:123:ARG:NH1	2.36	0.41
1:D:67:ILE:HG13	1:D:105:TYR:CZ	2.56	0.41
2:H:26:HIS:CE1	2:H:33:GLY:HA3	2.56	0.41
6:E:248:HOH:O	1:G:208:ARG:CG	2.68	0.41
2:E:158:ASP:HB3	2:E:161:ILE:HD12	2.02	0.41
3:A:335:NAG:O3	5:A:336:MAN:C1	2.69	0.41
1:G:295:GLN:HG3	1:G:306:PRO:O	2.21	0.41
1:D:226:GLN:HA	1:D:227:PRO:HD3	1.84	0.41
1:G:254:PRO:HA	6:G:341:HOH:O	2.21	0.41
1:G:304:ALA:HA	2:H:61:GLU:HA	2.03	0.41
1:G:212:THR:O	1:G:213:ILE:HD13	2.21	0.41
1:D:313:THR:O	1:D:313:THR:HG23	2.21	0.41
4:G:330:NDG:O4	5:G:331:MAN:C1	2.65	0.40
2:H:151:SER:HA	2:H:156:THR:CG2	2.48	0.40
1:G:101:ASP:O	1:G:232:ILE:N	2.52	0.40
1:D:44:GLN:HG2	1:D:292:LYS:CD	2.50	0.40
1:A:57:ARG:O	1:A:85:ASP:HB2	2.22	0.40

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Atom-1	Atom-2	Distance(Å)	Clash(Å)
1:G:77:ASP:HA	6:G:343:HOH:O	2.19	0.40
1:A:283:THR:O	1:A:285:ASN:N	2.54	0.40
1:A:285:ASN:HD21	4:A:334:NDG:C2	2.34	0.40
2:B:122:THR:O	2:B:125:GLN:N	2.54	0.40
2:B:102:LEU:HD21	2:E:102:LEU:CD2	2.48	0.40
1:G:292:LYS:HA	1:G:293:PRO:HD3	1.94	0.40
1:D:324:PRO:O	1:D:325:GLU:HB2	2.21	0.40
1:D:99:PRO:HG3	1:D:223:VAL:HG12	2.02	0.40
1:G:121:ILE:HD12	1:G:257:TYR:CZ	2.56	0.40
2:E:42:GLN:HG3	2:E:46:ASP:OD2	2.22	0.40
1:A:66:LEU:HG	1:A:66:LEU:O	2.22	0.40
1:D:288:ILE:HA	1:D:289:PRO:HD3	1.84	0.40
2:B:150:GLU:CA	2:B:150:GLU:OE2	2.69	0.40
1:G:170:ASN:ND2	1:G:238:LYS:C	2.75	0.40
2:E:74:GLU:HG3	2:E:78:GLN:HE21	1.86	0.40
2:H:117:LYS:O	2:H:121:LYS:HB2	2.22	0.40
1:A:20:VAL:HB	1:A:21:PRO:CD	2.52	0.40
1:A:220:ARG:HH12	1:D:203:THR:HG21	1.86	0.40
1:D:27:LYS:CB	2:H:54:ARG:HH12	2.35	0.40
1:G:51:ILE:HG22	1:G:58:ILE:CD1	2.51	0.40
2:E:100:VAL:CG2	2:E:101:ALA:N	2.85	0.40
1:D:121:ILE:HD12	1:D:257:TYR:CE1	2.57	0.40

There are no symmetry-related clashes.

5.3 Torsion angles

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution. The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	316/329 (96%)	268 (85%)	40 (13%)	8 (2%)	9	32
1	D	316/329 (96%)	283 (90%)	30 (10%)	3 (1%)	25	66
1	G	316/329 (96%)	276 (87%)	35 (11%)	5 (2%)	14	47
2	B	170/221 (77%)	145 (85%)	24 (14%)	1 (1%)	33	76
2	E	170/221 (77%)	153 (90%)	13 (8%)	4 (2%)	9	35

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
2	H	170/221 (77%)	150 (88%)	18 (11%)	2 (1%)	19	57
All	All	1458/1650 (88%)	1275 (87%)	160 (11%)	23 (2%)	14	47

All (23) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	324	PRO
1	A	325	GLU
1	D	324	PRO
1	D	325	GLU
1	G	133	ASN
2	H	63	PHE
1	A	21	PRO
1	A	119	GLU
2	E	11	GLU
1	G	74	PRO
1	G	75	HIS
2	H	76	ARG
1	D	54	ASN
2	E	29	SER
2	E	57	GLU
1	A	66	LEU
1	A	74	PRO
2	B	161	ILE
1	A	62	ARG
2	E	9	PHE
1	A	297	VAL
1	G	21	PRO
1	G	221	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	268/288 (93%)	248 (92%)	20 (8%)	19	49
1	D	270/288 (94%)	247 (92%)	23 (8%)	15	42

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	G	268/288 (93%)	249 (93%)	19 (7%)	21	52
2	B	145/190 (76%)	135 (93%)	10 (7%)	22	54
2	E	146/190 (77%)	134 (92%)	12 (8%)	17	44
2	H	147/190 (77%)	138 (94%)	9 (6%)	26	62
All	All	1244/1434 (87%)	1151 (92%)	93 (8%)	19	49

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

Mol	Chain	Res	Type
1	A	18	HIS
1	A	44	GLN
1	A	74	PRO
1	A	92	ASN
1	A	96	ASN
1	A	101	ASP
1	A	107	SER
1	A	161	TYR
1	A	179	ILE
1	A	182	VAL
1	A	197	GLN
1	A	210	GLN
1	A	248	ASN
1	A	261	ARG
1	A	274	ILE
1	A	280	GLU
1	A	283	THR
1	A	290	ASN
1	A	296	ASN
1	A	311	GLN
2	B	27	GLN
2	B	49	ASN
2	B	60	ASN
2	B	64	HIS
2	B	72	GLU
2	B	91	LEU
2	B	120	GLU
2	B	121	LYS
2	B	127	ARG
2	B	168	ASN
1	D	18	HIS
1	D	38	ASN

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Mol	Chain	Res	Type
1	D	44	GLN
1	D	45	SER
1	D	53	ASN
1	D	55	PRO
1	D	81	ASN
1	D	90	ARG
1	D	92	ASN
1	D	96	ASN
1	D	101	ASP
1	D	155	THR
1	D	165	ASN
1	D	167	THR
1	D	182	VAL
1	D	210	GLN
1	D	220	ARG
1	D	231	SER
1	D	248	ASN
1	D	261	ARG
1	D	277	CYS
1	D	318	THR
1	D	324	PRO
2	E	12	ASN
2	E	19	ASP
2	E	27	GLN
2	E	60	ASN
2	E	64	HIS
2	E	72	GLU
2	E	91	LEU
2	E	120	GLU
2	E	121	LYS
2	E	123	ARG
2	E	127	ARG
2	E	168	ASN
1	G	18	HIS
1	G	29	ILE
1	G	38	ASN
1	G	40	THR
1	G	44	GLN
1	G	74	PRO
1	G	92	ASN
1	G	96	ASN
1	G	155	THR

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Mol	Chain	Res	Type
1	G	165	ASN
1	G	179	ILE
1	G	182	VAL
1	G	210	GLN
1	G	248	ASN
1	G	261	ARG
1	G	284	PRO
1	G	290	ASN
1	G	296	ASN
1	G	311	GLN
2	H	19	ASP
2	H	49	ASN
2	H	60	ASN
2	H	102	LEU
2	H	114	GLU
2	H	120	GLU
2	H	121	LYS
2	H	129	ASN
2	H	156	THR

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (62) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	18	HIS
1	A	38	ASN
1	A	44	GLN
1	A	54	ASN
1	A	81	ASN
1	A	92	ASN
1	A	96	ASN
1	A	170	ASN
1	A	193	ASN
1	A	210	GLN
1	A	211	GLN
1	A	216	ASN
1	A	248	ASN
1	A	285	ASN
1	A	290	ASN
2	B	27	GLN
2	B	60	ASN
2	B	105	GLN
2	B	154	ASN

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Mol	Chain	Res	Type
2	B	168	ASN
2	B	169	ASN
2	B	172	GLN
1	D	44	GLN
1	D	53	ASN
1	D	54	ASN
1	D	92	ASN
1	D	96	ASN
1	D	165	ASN
1	D	171	ASN
1	D	210	GLN
1	D	248	ASN
1	D	296	ASN
2	E	12	ASN
2	E	27	GLN
2	E	60	ASN
2	E	105	GLN
2	E	125	GLN
2	E	146	ASN
2	E	168	ASN
2	E	172	GLN
1	G	18	HIS
1	G	38	ASN
1	G	44	GLN
1	G	81	ASN
1	G	92	ASN
1	G	96	ASN
1	G	170	ASN
1	G	171	ASN
1	G	197	GLN
1	G	210	GLN
1	G	211	GLN
1	G	248	ASN
1	G	290	ASN
1	G	296	ASN
2	H	12	ASN
2	H	26	HIS
2	H	27	GLN
2	H	60	ASN
2	H	105	GLN
2	H	125	GLN
2	H	168	ASN

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Mol	Chain	Res	Type
2	H	172	GLN

5.3.3 RNA ⓘ

There are no RNA chains 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 ⓘ

There are no carbohydrates in this entry.

5.6 Ligand geometry ⓘ

25 ligands are modelled in this entry.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	$\# Z > 2$	Counts	RMSZ	$\# Z > 2$
3	NAG	A	330	-	15,15,15	0.85	1 (6%)	21,21,21	2.36	4 (19%)
4	NDG	A	331	-	15,15,15	1.08	2 (13%)	21,21,21	0.96	1 (4%)
3	NAG	A	332	-	15,15,15	1.31	1 (6%)	21,21,21	2.33	2 (9%)
3	NAG	A	333	-	15,15,15	0.53	0	21,21,21	1.48	3 (14%)
4	NDG	A	334	-	15,15,15	0.76	0	21,21,21	1.04	2 (9%)
3	NAG	A	335	-	15,15,15	0.68	0	21,21,21	1.92	5 (23%)
5	MAN	A	336	5	12,12,12	1.13	1 (8%)	17,17,17	0.72	0
5	MAN	A	337	5	12,12,12	0.65	0	17,17,17	1.03	1 (5%)
4	NDG	B	222	-	15,15,15	0.58	0	21,21,21	0.79	0
4	NDG	B	223	-	15,15,15	0.58	0	21,21,21	0.67	0
4	NDG	D	330	-	15,15,15	0.77	0	21,21,21	0.82	0

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
3	NAG	D	331	-	15,15,15	0.56	0	21,21,21	1.63	3 (14%)
4	NDG	D	332	-	15,15,15	1.58	1 (6%)	21,21,21	1.76	4 (19%)
4	NDG	D	333	-	15,15,15	1.03	2 (13%)	21,21,21	1.16	2 (9%)
5	MAN	D	334	-	12,12,12	0.73	0	17,17,17	2.07	3 (17%)
5	MAN	D	335	-	12,12,12	0.51	0	17,17,17	0.50	0
4	NDG	E	241	-	15,15,15	0.48	0	21,21,21	0.55	0
4	NDG	G	330	-	15,15,15	0.80	1 (6%)	21,21,21	0.91	0
5	MAN	G	331	-	12,12,12	0.54	0	17,17,17	0.96	0
5	MAN	G	332	-	12,12,12	0.44	0	17,17,17	0.43	0
4	NDG	G	333	-	15,15,15	0.66	0	21,21,21	0.89	1 (4%)
4	NDG	G	334	-	15,15,15	0.66	0	21,21,21	0.82	1 (4%)
3	NAG	G	335	-	15,15,15	0.65	0	21,21,21	1.81	6 (28%)
4	NDG	G	336	-	15,15,15	0.68	0	21,21,21	0.73	0
3	NAG	H	341	-	15,15,15	0.48	0	21,21,21	1.22	1 (4%)

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
3	NAG	A	330	-	-	0/6/26/26	0/1/1/1
4	NDG	A	331	-	-	0/6/26/26	0/1/1/1
3	NAG	A	332	-	-	0/6/26/26	0/1/1/1
3	NAG	A	333	-	-	0/6/26/26	0/1/1/1
4	NDG	A	334	-	-	0/6/26/26	0/1/1/1
3	NAG	A	335	-	-	0/6/26/26	0/1/1/1
5	MAN	A	336	5	-	0/2/22/22	0/1/1/1
5	MAN	A	337	5	-	0/2/22/22	0/1/1/1
4	NDG	B	222	-	-	0/6/26/26	0/1/1/1
4	NDG	B	223	-	-	0/6/26/26	0/1/1/1
4	NDG	D	330	-	-	0/6/26/26	0/1/1/1
3	NAG	D	331	-	-	0/6/26/26	0/1/1/1
4	NDG	D	332	-	-	0/6/26/26	0/1/1/1
4	NDG	D	333	-	-	0/6/26/26	0/1/1/1
5	MAN	D	334	-	1/1/5/5	0/2/22/22	0/1/1/1
5	MAN	D	335	-	1/1/5/5	0/2/22/22	0/1/1/1
4	NDG	E	241	-	-	0/6/26/26	0/1/1/1
4	NDG	G	330	-	-	0/6/26/26	0/1/1/1
5	MAN	G	331	-	1/1/5/5	0/2/22/22	0/1/1/1
5	MAN	G	332	-	1/1/5/5	0/2/22/22	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
4	NDG	G	333	-	-	0/6/26/26	0/1/1/1
4	NDG	G	334	-	-	0/6/26/26	0/1/1/1
3	NAG	G	335	-	-	0/6/26/26	0/1/1/1
4	NDG	G	336	-	-	0/6/26/26	0/1/1/1
3	NAG	H	341	-	-	0/6/26/26	0/1/1/1

All (9) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
4	D	332	NDG	C1-C2	-5.45	1.46	1.53
3	A	332	NAG	C1-C2	4.61	1.58	1.53
4	A	331	NDG	C4-C5	2.96	1.59	1.53
5	A	336	MAN	C1-C2	-2.96	1.47	1.52
4	D	333	NDG	C1-C2	-2.71	1.49	1.53
4	A	331	NDG	C1-C2	-2.19	1.50	1.53
3	A	330	NAG	C1-C2	2.17	1.55	1.53
4	D	333	NDG	C4-C5	2.05	1.57	1.53
4	G	330	NDG	C4-C5	2.04	1.57	1.53

All (39) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	A	330	NAG	O5-C1-C2	8.46	118.18	109.61
3	A	332	NAG	O5-C1-C2	8.31	118.03	109.61
5	D	334	MAN	O5-C1-C2	5.95	119.08	109.86
3	A	335	NAG	C4-C3-C2	5.81	118.70	110.44
3	A	332	NAG	C1-C2-C3	5.37	118.28	110.59
4	D	332	NDG	C4-C3-C2	5.23	117.88	110.44
3	G	335	NAG	C4-C3-C2	5.00	117.55	110.44
3	D	331	NAG	O5-C1-C2	4.73	114.41	109.61
5	D	334	MAN	C1-C2-C3	4.54	117.73	110.53
3	H	341	NAG	C1-C2-C3	-4.45	104.22	110.59
3	A	330	NAG	C1-C2-C3	3.96	116.27	110.59
3	A	333	NAG	C4-C3-C2	3.68	115.66	110.44
3	D	331	NAG	C1-C2-N2	-3.48	106.80	110.85
4	D	332	NDG	C1-C2-N2	-3.30	107.01	110.85
3	A	330	NAG	C1-O5-C5	3.30	119.30	113.40
3	G	335	NAG	C3-C4-C5	3.22	115.96	110.20
3	A	333	NAG	C3-C4-C5	3.19	115.90	110.20
3	A	335	NAG	C1-C2-N2	-3.02	107.34	110.85
3	A	335	NAG	O5-C1-C2	3.00	112.65	109.61
3	A	333	NAG	C1-C2-N2	-2.67	107.75	110.85

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
4	D	332	NDG	O-C1-C2	2.65	112.29	109.61
4	A	334	NDG	C4-C3-C2	-2.63	106.71	110.44
3	D	331	NAG	C1-C2-C3	2.58	114.29	110.59
5	D	334	MAN	C1-O5-C5	2.56	117.99	113.40
4	G	333	NDG	C4-C3-C2	-2.49	106.91	110.44
4	G	334	NDG	O-C1-C2	2.47	112.12	109.61
3	G	335	NAG	C1-C2-C3	2.47	114.14	110.59
4	D	333	NDG	C8-C7-N2	2.41	120.82	116.11
5	A	337	MAN	O5-C1-C2	2.39	113.57	109.86
4	D	332	NDG	C3-C4-C5	2.31	114.33	110.20
3	A	330	NAG	C3-C4-C5	-2.28	106.13	110.20
3	A	335	NAG	C1-C2-C3	2.27	113.84	110.59
4	A	334	NDG	C1-C2-C3	-2.20	107.45	110.59
4	A	331	NDG	O-C5-C4	2.19	113.82	109.76
3	A	335	NAG	C3-C4-C5	2.11	113.98	110.20
3	G	335	NAG	C8-C7-N2	2.11	120.23	116.11
3	G	335	NAG	C1-C2-N2	-2.10	108.40	110.85
4	D	333	NDG	C6-C5-C4	-2.06	108.01	113.00
3	G	335	NAG	C2-N2-C7	-2.04	117.56	123.02

All (4) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
5	G	331	MAN	C1
5	D	335	MAN	C1
5	G	332	MAN	C1
5	D	334	MAN	C1

There are no torsion outliers.

There are no ring outliers.

5.7 Other polymers ⓘ

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

6 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled ‘#RSRZ> 2’ contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 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	318/329 (96%)	0.19	14 (4%) 33 40	46, 71, 87, 98	0
1	D	318/329 (96%)	-0.04	5 (1%) 68 78	41, 59, 75, 95	0
1	G	318/329 (96%)	0.26	11 (3%) 42 50	47, 65, 82, 101	0
2	B	172/221 (77%)	0.13	7 (4%) 35 43	40, 64, 82, 100	0
2	E	172/221 (77%)	0.18	6 (3%) 42 50	41, 67, 85, 100	0
2	H	172/221 (77%)	0.35	10 (5%) 22 26	40, 66, 87, 101	0
All	All	1470/1650 (89%)	0.16	53 (3%) 41 48	40, 65, 84, 101	0

All (53) RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
2	E	57	GLU	5.0
1	G	46	SER	4.6
2	B	57	GLU	4.4
2	H	29	SER	4.3
2	H	27	GLN	4.3
1	A	125	PHE	4.1
1	A	143	PRO	4.1
1	G	326	LYS	4.0
1	G	278	ILE	3.7
2	B	172	GLN	3.7
2	B	56	ILE	3.5
2	H	26	HIS	3.4
2	H	171	PHE	3.3
1	A	274	ILE	3.2
1	G	270	SER	3.1
1	D	278	ILE	3.1
2	E	161	ILE	3.1
1	A	47	SER	2.9
1	G	272	ALA	2.9

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Mol	Chain	Res	Type	RSRZ
1	A	144	ALA	2.9
1	D	324	PRO	2.8
2	B	31	GLY	2.8
1	G	20	VAL	2.7
1	A	260	MET	2.7
2	H	57	GLU	2.6
1	A	242	VAL	2.6
2	B	21	TRP	2.5
1	A	174	PHE	2.4
1	D	171	ASN	2.4
2	H	16	GLY	2.4
1	A	297	VAL	2.3
2	E	27	GLN	2.3
2	H	20	GLY	2.3
1	A	261	ARG	2.3
2	E	56	ILE	2.3
1	A	207	ARG	2.3
1	G	279	SER	2.2
1	D	13	LEU	2.2
2	B	171	PHE	2.2
1	A	239	PRO	2.2
2	E	172	GLN	2.2
1	A	51	ILE	2.2
1	G	86	LEU	2.2
2	H	144	CYS	2.2
1	A	273	PRO	2.1
2	E	21	TRP	2.1
2	H	38	LEU	2.1
1	G	274	ILE	2.1
1	D	32	ASP	2.1
2	B	153	ARG	2.0
1	G	291	ASP	2.0
2	H	154	ASN	2.0
1	G	282	ILE	2.0

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

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

6.3 Carbohydrates ⓘ

There are no carbohydrates in this entry.

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. LLDF column lists the quality of electron density of the group with respect to its neighbouring residues in protein, DNA or RNA chains. 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	RSR	LLDF	B-factors(Å ²)	Q<0.9
4	NDG	B	223	15/15	0.42	8.25	98,100,100,100	0
4	NDG	E	241	15/15	0.49	5.52	98,100,100,100	0
4	NDG	B	222	15/15	0.37	4.03	99,100,100,100	0
4	NDG	G	336	15/15	0.42	3.72	99,100,100,100	0
4	NDG	G	333	15/15	0.43	3.53	99,100,100,100	0
3	NAG	A	330	15/15	0.46	3.21	97,100,100,100	0
3	NAG	H	341	15/15	0.42	2.74	99,100,100,100	0
4	NDG	A	334	15/15	0.39	2.36	98,100,100,100	0
3	NAG	A	335	15/15	0.28	1.89	86,95,99,100	0
4	NDG	A	331	15/15	0.28	1.82	100,100,100,100	0
3	NAG	D	331	15/15	0.26	1.80	99,100,100,100	0
3	NAG	G	335	15/15	0.25	1.65	51,58,63,65	0
4	NDG	D	330	15/15	0.30	1.20	99,100,100,100	0
3	NAG	A	333	15/15	0.28	0.91	84,88,93,93	0
4	NDG	D	332	15/15	0.22	0.69	75,76,82,82	0
4	NDG	G	334	15/15	0.22	0.29	82,84,85,89	0
4	NDG	G	330	15/15	0.33	0.19	92,93,96,96	0
4	NDG	D	333	15/15	0.21	-0.01	54,57,66,66	0
5	MAN	G	332	12/12	0.41	-	100,100,100,100	0
3	NAG	A	332	15/15	0.57	-	100,100,100,100	0
5	MAN	D	334	12/12	0.31	-	83,89,91,93	0
5	MAN	G	331	12/12	0.38	-	100,100,100,100	0
5	MAN	D	335	12/12	0.36	-	96,100,100,100	0
5	MAN	A	336	12/12	0.35	-	92,99,100,100	0
5	MAN	A	337	12/12	0.34	-	99,100,100,100	0

6.5 Other polymers ⓘ

There are no such residues in this entry.