



Full wwPDB X-ray Structure Validation Report ⓘ

Mar 9, 2026 – 04:51 AM UTC

PDB ID : 1LNU / pdb_00001lnu
Title : CRYSTAL STRUCTURE OF CLASS II MHC MOLECULE IA β BOUND TO EALPHA3K PEPTIDE
Authors : Liu, X.; Dai, S.; Crawford, F.; Fruge, R.; Marrack, P.; Kappler, J.
Deposited on : 2002-05-03
Resolution : 2.50 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

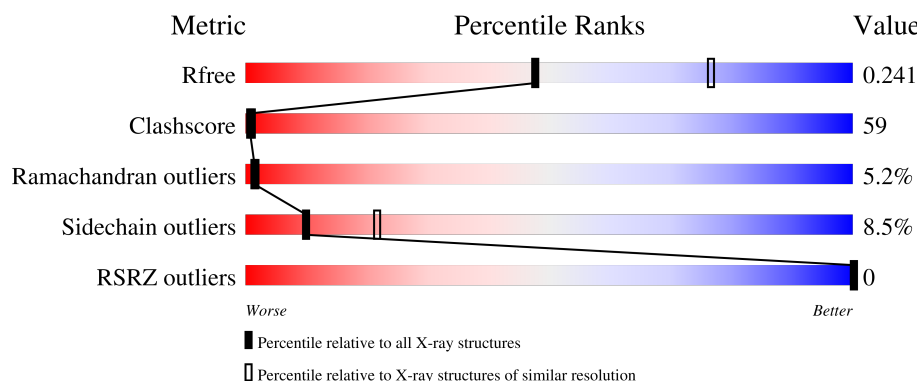
1 Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.50 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.



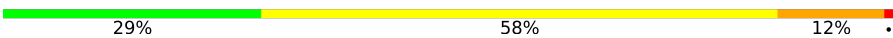
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	180053	5829 (2.50-2.50)
Clashscore	190562	6492 (2.50-2.50)
Ramachandran outliers	187476	6378 (2.50-2.50)
Sidechain outliers	187428	6380 (2.50-2.50)
RSRZ outliers	180081	5833 (2.50-2.50)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions $\leq 5\%$. The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	182	33% 58% 8% .
1	C	182	26% 64% 8% .
1	E	182	26% 64% 10% .
1	G	182	32% 56% 11% .
2	B	217	32% 56% 11% .

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Mol	Chain	Length	Quality of chain
2	D	217	
2	F	217	
2	H	217	

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
3	NAG	G	310	-	-	X	-
3	NAG	G	311	X	-	-	-

2 Entry composition

There are 4 unique types of molecules in this entry. The entry contains 13265 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 H-2 class II histocompatibility antigen, A-B alpha chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	182	Total	C	N	O	S	0	0	0
			1459	944	230	282	3			
1	C	182	Total	C	N	O	S	0	0	0
			1459	944	230	282	3			
1	E	182	Total	C	N	O	S	0	0	0
			1459	944	230	282	3			
1	G	182	Total	C	N	O	S	0	0	0
			1459	944	230	282	3			

- Molecule 2 is a protein called H-2 class II histocompatibility antigen, A beta chain.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
2	B	217	Total	C	N	O	S	0	0	0
			1756	1094	322	333	7			
2	D	217	Total	C	N	O	S	0	0	0
			1756	1094	322	333	7			
2	F	217	Total	C	N	O	S	0	0	0
			1756	1094	322	333	7			
2	H	217	Total	C	N	O	S	0	0	0
			1756	1094	322	333	7			

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
B	216	LYS	ARG	conflict	UNP P14483
D	216	LYS	ARG	conflict	UNP P14483
F	216	LYS	ARG	conflict	UNP P14483
H	216	LYS	ARG	conflict	UNP P14483

- Molecule 3 is 2-acetamido-2-deoxy-beta-D-glucopyranose (CCD ID: NAG) (formula: C₈H₁₅NO₆).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
3	A	1	Total	C	N	O	0	0
			14	8	1	5		
3	A	1	Total	C	N	O	0	0
			14	8	1	5		
3	B	1	Total	C	N	O	0	0
			14	8	1	5		
3	C	1	Total	C	N	O	0	0
			14	8	1	5		
3	C	1	Total	C	N	O	0	0
			14	8	1	5		
3	D	1	Total	C	N	O	0	0
			14	8	1	5		
3	E	1	Total	C	N	O	0	0
			14	8	1	5		
3	E	1	Total	C	N	O	0	0
			14	8	1	5		
3	F	1	Total	C	N	O	0	0
			14	8	1	5		
3	G	1	Total	C	N	O	0	0
			14	8	1	5		
3	G	1	Total	C	N	O	0	0
			14	8	1	5		
3	H	1	Total	C	N	O	0	0
			14	8	1	5		

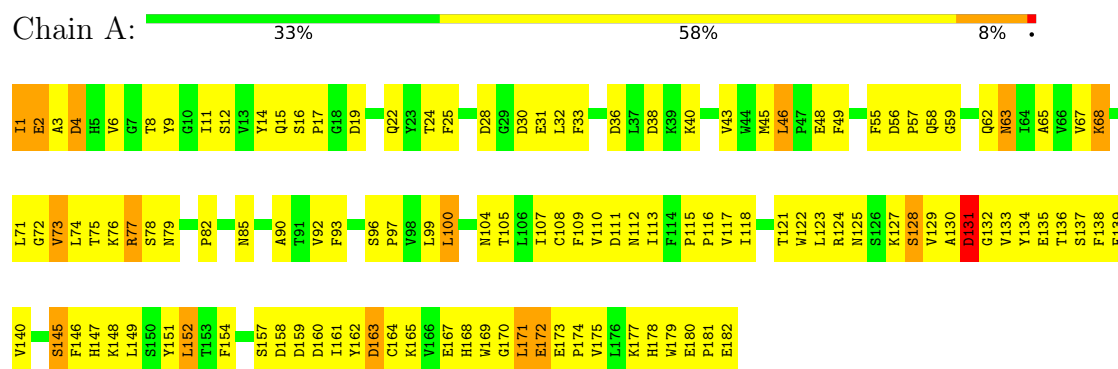
- Molecule 4 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
4	A	31	Total 31	O 31	0	0
4	B	35	Total 35	O 35	0	0
4	C	29	Total 29	O 29	0	0
4	D	26	Total 26	O 26	0	0
4	E	24	Total 24	O 24	0	0
4	F	42	Total 42	O 42	0	0
4	G	21	Total 21	O 21	0	0
4	H	29	Total 29	O 29	0	0

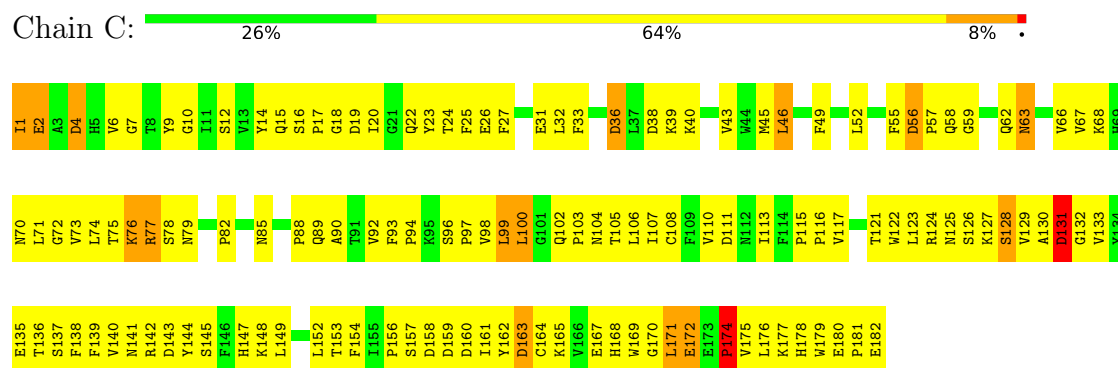
3 Residue-property plots

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.

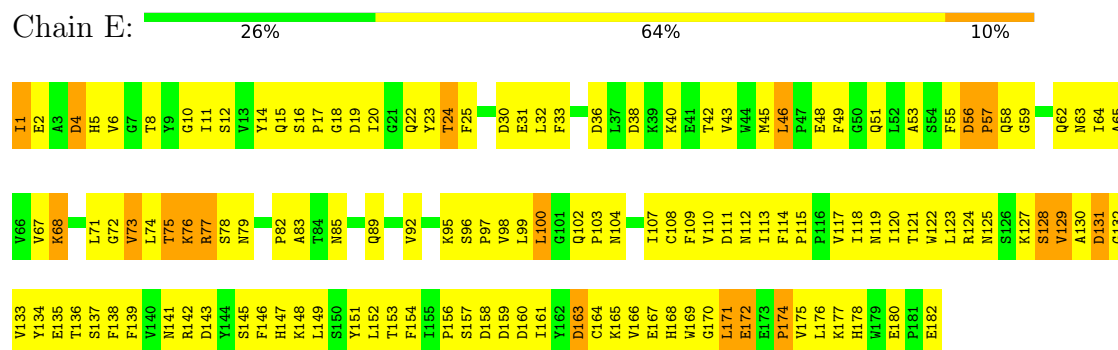
- Molecule 1: H-2 class II histocompatibility antigen, A-B alpha chain



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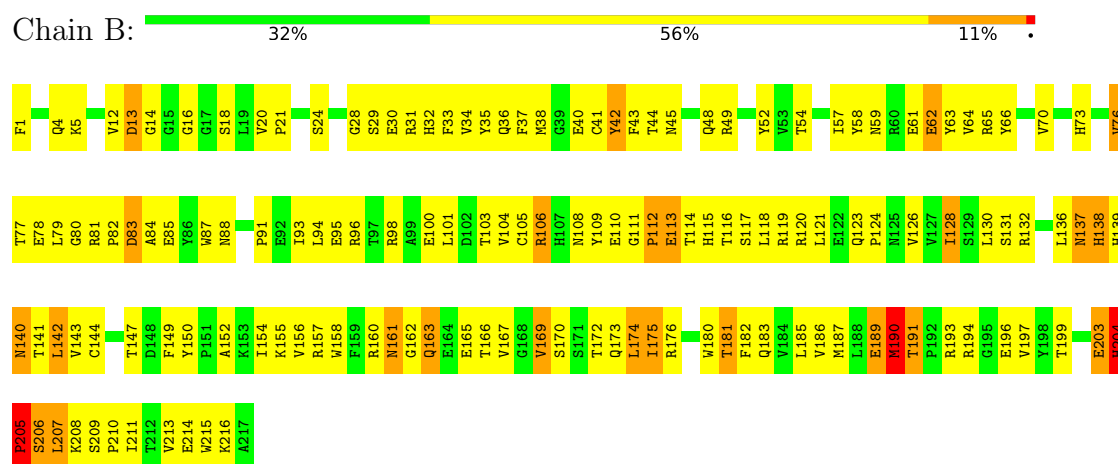
- Molecule 1: H-2 class II histocompatibility antigen, A-B alpha chain



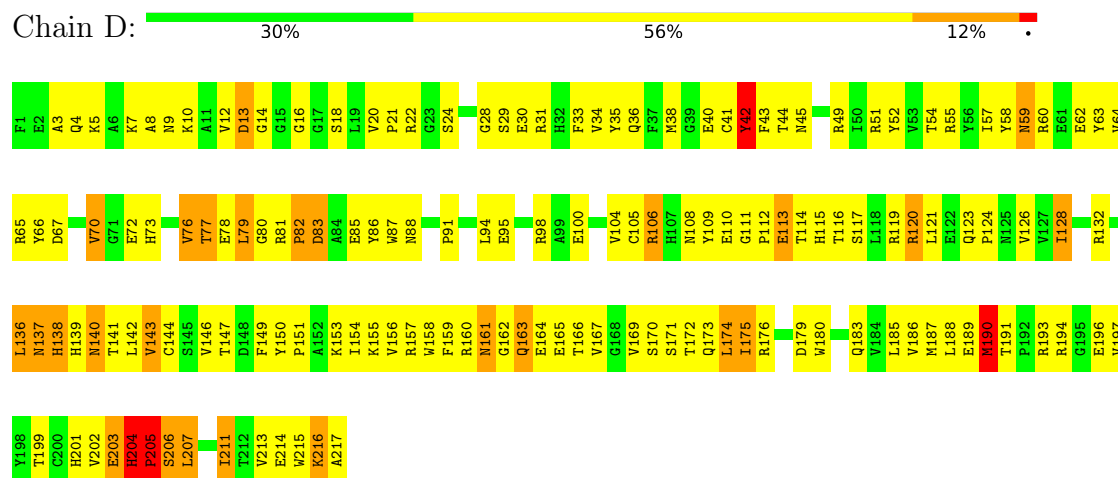
- Molecule 1: H-2 class II histocompatibility antigen, A-B alpha chain



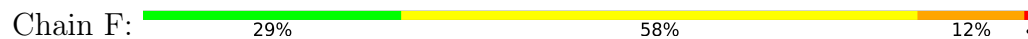
- Molecule 2: H-2 class II histocompatibility antigen, A beta chain

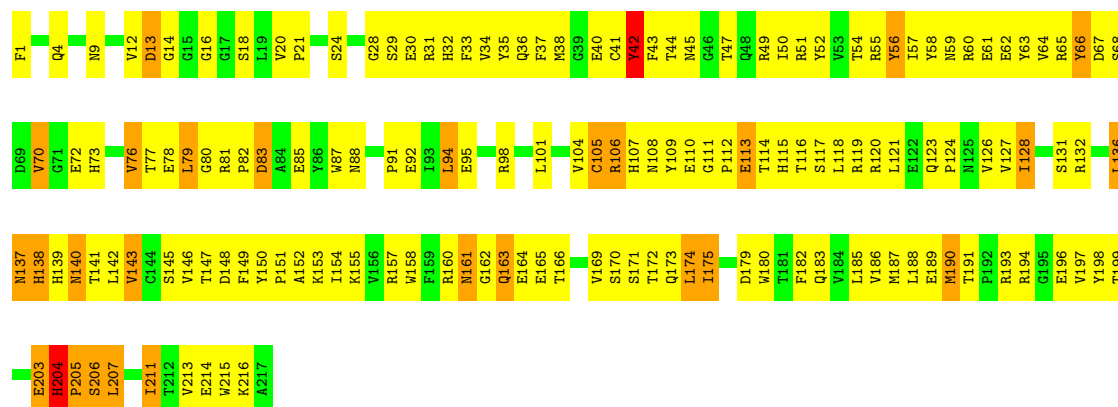


- Molecule 2: H-2 class II histocompatibility antigen, A beta chain



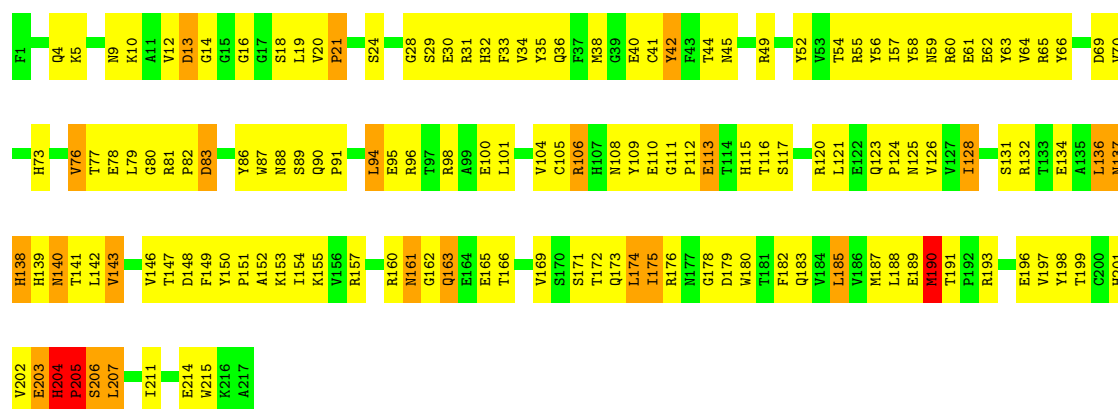
- Molecule 2: H-2 class II histocompatibility antigen, A beta chain





- Molecule 2: H-2 class II histocompatibility antigen, A beta chain

Chain H: 33% 56% 10% •



4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	65.04Å 274.18Å 65.12Å 90.00° 111.42° 90.00°	Depositor
Resolution (Å)	38.39 – 2.50 38.39 – 2.50	Depositor EDS
% Data completeness (in resolution range)	74.8 (38.39-2.50) 74.8 (38.39-2.50)	Depositor EDS
R_{merge}	0.09	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	3.28 (at 2.51Å)	Xtriage
Refinement program	CNS 1.0	Depositor
R, R_{free}	0.211 , 0.245 0.204 , 0.241	Depositor DCC
R_{free} test set	2621 reflections (4.81%)	wwPDB-VP
Wilson B-factor (Å ²)	21.0	Xtriage
Anisotropy	0.170	Xtriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.33 , 34.4	EDS
L-test for twinning ²	$\langle L \rangle = 0.26$, $\langle L^2 \rangle = 0.11$	Xtriage
Estimated twinning fraction	0.427 for l,-k,h	Xtriage
F_o, F_c correlation	0.87	EDS
Total number of atoms	13265	wwPDB-VP
Average B, all atoms (Å ²)	18.0	wwPDB-VP

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

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: 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	0.56	0/1504	1.02	4/2054 (0.2%)
1	C	0.55	0/1504	1.03	6/2054 (0.3%)
1	E	0.58	0/1504	1.01	7/2054 (0.3%)
1	G	0.56	0/1504	1.03	7/2054 (0.3%)
2	B	0.59	0/1798	1.06	10/2435 (0.4%)
2	D	0.62	0/1798	1.05	10/2435 (0.4%)
2	F	0.59	0/1798	1.06	10/2435 (0.4%)
2	H	0.58	0/1798	1.05	9/2435 (0.4%)
All	All	0.58	0/13208	1.04	63/17956 (0.4%)

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
2	F	0	1

There are no bond length outliers.

All (63) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	H	203	GLU	N-CA-C	7.68	120.06	108.46
2	B	190	MET	N-CA-C	7.53	118.54	108.38
2	H	42	TYR	N-CA-C	7.50	120.62	109.59
2	B	204	HIS	N-CA-C	7.39	126.14	109.81
2	B	203	GLU	N-CA-C	7.36	120.47	108.55
2	F	42	TYR	N-CA-C	7.34	120.38	109.59
2	D	42	TYR	N-CA-C	7.31	120.34	109.59
2	D	203	GLU	N-CA-C	7.31	120.39	108.55

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
2	F	204	HIS	N-CA-C	7.25	125.83	109.81
2	F	190	MET	N-CA-C	7.16	118.05	108.38
2	B	42	TYR	N-CA-C	7.14	120.09	109.59
2	D	190	MET	N-CA-C	7.07	118.50	108.74
2	H	70	VAL	N-CA-C	-7.06	105.48	111.56
2	H	147	THR	N-CA-C	6.91	120.29	110.14
2	D	204	HIS	N-CA-C	6.89	125.04	109.81
2	H	190	MET	N-CA-C	6.87	118.22	108.74
2	F	203	GLU	N-CA-C	6.76	119.50	108.55
2	H	204	HIS	N-CA-C	6.72	124.66	109.81
2	B	70	VAL	N-CA-C	-6.70	105.80	111.56
2	B	106	ARG	N-CA-C	-6.64	104.12	111.36
2	F	147	THR	N-CA-C	6.63	119.95	109.81
1	C	132	GLY	N-CA-C	-6.62	105.77	115.30
2	B	147	THR	N-CA-C	6.61	119.93	109.81
2	F	70	VAL	N-CA-C	-6.60	105.88	111.56
1	G	132	GLY	N-CA-C	-6.57	105.84	115.30
2	D	70	VAL	N-CA-C	-6.51	105.96	111.56
1	A	132	GLY	N-CA-C	-6.46	106.00	115.30
1	E	132	GLY	N-CA-C	-6.45	106.01	115.30
1	G	145	SER	N-CA-C	-6.37	99.93	109.94
1	A	145	SER	N-CA-C	-6.35	99.97	109.94
1	C	36	ASP	N-CA-C	-6.16	100.93	110.10
1	C	56	ASP	CA-C-N	6.09	126.53	119.47
1	C	56	ASP	C-N-CA	6.09	126.53	119.47
2	H	106	ARG	N-CA-C	-6.03	104.79	111.36
1	E	36	ASP	N-CA-C	-6.02	100.93	109.96
1	G	56	ASP	CA-C-N	5.93	125.81	119.28
1	G	56	ASP	C-N-CA	5.93	125.81	119.28
2	D	147	THR	N-CA-C	5.93	118.88	109.81
1	C	145	SER	N-CA-C	-5.90	100.68	109.94
2	B	36	GLN	N-CA-C	5.81	118.13	108.13
2	F	106	ARG	N-CA-C	-5.80	104.56	111.69
1	E	145	SER	N-CA-C	-5.74	100.92	109.94
1	G	36	ASP	N-CA-C	-5.73	101.37	109.96
1	C	24	THR	N-CA-C	5.73	117.89	109.24
1	G	24	THR	N-CA-C	5.72	117.87	109.24
1	A	24	THR	N-CA-C	5.69	117.83	109.24
2	D	36	GLN	N-CA-C	5.69	117.91	108.13
1	E	56	ASP	CA-C-N	5.59	125.96	119.47
1	E	56	ASP	C-N-CA	5.59	125.96	119.47
2	D	106	ARG	N-CA-C	-5.57	104.84	111.69

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Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	E	75	THR	N-CA-C	-5.49	104.33	111.02
1	A	36	ASP	N-CA-C	-5.48	101.74	109.96
2	B	216	LYS	N-CA-C	5.45	117.57	110.43
2	B	62	GLU	N-CA-C	-5.32	102.04	109.96
2	D	216	LYS	N-CA-C	5.32	117.39	110.43
2	H	36	GLN	N-CA-C	5.27	117.19	108.13
1	G	75	THR	N-CA-C	-5.19	104.69	111.02
2	D	143	VAL	N-CA-C	5.17	115.30	107.80
1	E	24	THR	N-CA-C	5.10	116.93	109.24
2	H	143	VAL	N-CA-C	5.09	115.18	107.80
2	F	216	LYS	N-CA-C	5.06	117.23	110.35
2	F	143	VAL	N-CA-C	5.06	115.14	107.80
2	F	36	GLN	N-CA-C	5.03	116.79	108.13

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
2	F	66	TYR	Sidechain

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	1459	0	1384	153	0
1	C	1459	0	1384	165	0
1	E	1459	0	1384	172	0
1	G	1459	0	1382	176	0
2	B	1756	0	1682	237	1
2	D	1756	0	1681	220	0
2	F	1756	0	1682	229	0
2	H	1756	0	1681	243	1
3	A	28	0	26	8	0
3	B	14	0	13	1	0
3	C	28	0	26	5	0
3	D	14	0	13	2	0
3	E	28	0	26	4	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	F	14	0	13	3	0
3	G	28	0	26	11	0
3	H	14	0	13	1	0
4	A	31	0	0	12	0
4	B	35	0	0	24	0
4	C	29	0	0	15	0
4	D	26	0	0	12	0
4	E	24	0	0	16	0
4	F	42	0	0	29	0
4	G	21	0	0	22	0
4	H	29	0	0	20	0
All	All	13265	0	12416	1494	1

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 59.

All (1494) 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:C:125:ASN:HD21	1:C:160:ASP:HB2	1.14	1.11
1:A:125:ASN:HD21	1:A:160:ASP:HB2	1.10	1.10
1:G:168:HIS:H	1:G:171:LEU:HD11	1.12	1.09
2:D:41:CYS:HB3	2:D:52:TYR:HD1	1.18	1.08
4:E:330:HOH:O	2:F:42:TYR:HA	1.51	1.08
1:E:125:ASN:HD21	1:E:160:ASP:HB2	1.14	1.06
2:D:116:THR:HG23	2:D:117:SER:H	1.19	1.04
1:C:180:GLU:OE2	1:C:182:GLU:HB2	1.59	1.02
2:H:88:ASN:HA	2:H:94:LEU:HD13	1.39	1.02
2:B:116:THR:HG23	2:B:117:SER:H	1.24	1.02
2:H:69:ASP:HB2	4:H:341:HOH:O	1.57	1.01
1:E:6:VAL:HA	4:E:330:HOH:O	1.60	1.01
2:B:20:VAL:HA	4:B:335:HOH:O	1.60	0.98
1:A:79:ASN:HB2	2:B:18:SER:HA	1.45	0.98
1:E:161:ILE:HG22	1:E:180:GLU:HG3	1.44	0.97
1:E:96:SER:HB2	1:E:97:PRO:HD2	1.46	0.97
3:G:310:NAG:O5	2:H:18:SER:HB2	1.64	0.97
1:E:168:HIS:H	1:E:171:LEU:HD11	1.27	0.96
2:F:88:ASN:HA	2:F:94:LEU:HD13	1.47	0.96
2:B:41:CYS:HB3	2:B:52:TYR:HD1	1.30	0.96
2:B:62:GLU:HG2	2:B:76:VAL:HG11	1.48	0.96
1:A:12:SER:HB3	1:A:67:VAL:HG21	1.46	0.95

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:55:ARG:HB3	4:F:319:HOH:O	1.67	0.95
1:C:125:ASN:ND2	1:C:160:ASP:HB2	1.80	0.94
2:D:62:GLU:HG2	2:D:76:VAL:HG11	1.50	0.94
2:B:21:PRO:HD3	4:B:335:HOH:O	1.68	0.93
1:G:167:GLU:HG2	1:G:174:PRO:HG3	1.50	0.93
2:F:136:LEU:HD11	2:F:191:THR:HG23	1.47	0.93
2:F:116:THR:HG23	2:F:117:SER:H	1.35	0.92
2:H:136:LEU:HD11	2:H:191:THR:HG23	1.52	0.92
1:E:67:VAL:HG13	2:F:35:TYR:HD2	1.33	0.92
2:F:62:GLU:HG2	2:F:76:VAL:HG11	1.53	0.91
2:B:100:GLU:HG2	2:B:104:VAL:HG21	1.53	0.91
2:F:123:GLN:HG2	2:F:206:SER:HB2	1.50	0.91
2:D:136:LEU:HD11	2:D:191:THR:HG23	1.53	0.90
1:A:125:ASN:ND2	1:A:160:ASP:HB2	1.86	0.89
2:B:136:LEU:HA	4:B:336:HOH:O	1.72	0.89
1:C:72:GLY:O	1:C:76:LYS:HG3	1.71	0.89
1:G:96:SER:HB2	1:G:97:PRO:HD2	1.56	0.89
1:G:15:GLN:HG2	2:H:34:VAL:HG22	1.55	0.88
2:B:94:LEU:HD21	2:B:98:ARG:HH21	1.36	0.88
1:G:79:ASN:HB2	2:H:18:SER:HA	1.52	0.88
2:F:41:CYS:HB3	2:F:52:TYR:HD1	1.34	0.88
1:E:161:ILE:HG21	1:E:180:GLU:OE1	1.73	0.87
1:C:99:LEU:HA	4:C:329:HOH:O	1.73	0.87
1:C:15:GLN:HG2	2:D:34:VAL:HG22	1.54	0.87
2:D:116:THR:CG2	2:D:117:SER:H	1.87	0.87
2:B:116:THR:HG23	2:B:117:SER:N	1.88	0.87
1:C:79:ASN:HB2	2:D:18:SER:HA	1.57	0.87
1:C:15:GLN:CG	2:D:34:VAL:HG22	2.05	0.86
2:H:116:THR:HG23	2:H:117:SER:H	1.40	0.86
2:B:116:THR:CG2	2:B:117:SER:H	1.87	0.86
1:A:93:PHE:CE2	1:A:107:ILE:HD12	2.10	0.86
1:A:180:GLU:OE2	1:A:182:GLU:HB2	1.75	0.86
2:F:120:ARG:HH12	2:F:180:TRP:HB3	1.41	0.86
2:H:161:ASN:HB3	2:H:197:VAL:H	1.41	0.86
2:D:41:CYS:HB3	2:D:52:TYR:CD1	2.10	0.86
2:H:63:TYR:CD2	2:H:64:VAL:HG23	2.11	0.86
1:E:125:ASN:ND2	1:E:160:ASP:HB2	1.91	0.85
1:E:148:LYS:C	1:E:149:LEU:HD22	2.01	0.85
2:D:116:THR:HG23	2:D:117:SER:N	1.86	0.85
2:H:155:LYS:HD2	2:H:157:ARG:HH21	1.42	0.85
2:H:134:GLU:HA	4:H:330:HOH:O	1.76	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:94:LEU:HD21	2:D:98:ARG:HH21	1.40	0.84
1:C:15:GLN:OE1	1:C:116:PRO:HG2	1.76	0.84
2:H:153:LYS:NZ	2:H:204:HIS:HD2	1.75	0.84
1:A:122:TRP:NE1	1:A:152:LEU:HB2	1.91	0.84
2:H:41:CYS:HB3	2:H:52:TYR:HD1	1.40	0.84
2:H:62:GLU:HG2	2:H:76:VAL:HG11	1.59	0.84
2:D:204:HIS:ND1	2:D:205:PRO:N	2.25	0.83
1:G:72:GLY:O	1:G:76:LYS:HG3	1.79	0.83
1:G:73:VAL:HG13	2:H:14:GLY:HA3	1.60	0.83
2:F:45:ASN:CG	3:F:309:NAG:H61	2.03	0.83
1:A:55:PHE:O	1:A:57:PRO:HD3	1.78	0.83
2:B:161:ASN:HB3	2:B:197:VAL:H	1.43	0.83
2:F:91:PRO:HD2	4:F:348:HOH:O	1.78	0.83
2:F:120:ARG:NH1	2:F:180:TRP:HB3	1.92	0.83
2:H:174:LEU:HD23	2:H:174:LEU:H	1.44	0.83
2:D:120:ARG:HG2	2:D:120:ARG:HH11	1.42	0.83
1:A:167:GLU:HB3	3:A:302:NAG:H81	1.61	0.83
2:D:63:TYR:CD2	2:D:64:VAL:HG23	2.13	0.83
1:A:168:HIS:H	1:A:171:LEU:HD11	1.42	0.82
1:G:168:HIS:N	1:G:171:LEU:HD11	1.94	0.82
2:D:63:TYR:C	2:D:76:VAL:HG13	2.04	0.82
1:A:73:VAL:HG13	2:B:14:GLY:HA3	1.61	0.82
1:E:72:GLY:O	1:E:76:LYS:HG3	1.79	0.82
2:D:161:ASN:HB3	2:D:197:VAL:H	1.44	0.82
1:E:55:PHE:O	1:E:57:PRO:HD3	1.79	0.82
1:G:182:GLU:HG3	4:G:325:HOH:O	1.78	0.82
1:A:67:VAL:HG13	2:B:35:TYR:HD2	1.44	0.82
2:F:63:TYR:CD2	2:F:64:VAL:HG23	2.15	0.82
2:F:197:VAL:HG12	4:F:314:HOH:O	1.79	0.82
2:H:136:LEU:H	2:H:136:LEU:HD22	1.44	0.82
2:B:174:LEU:H	2:B:174:LEU:HD23	1.43	0.81
2:D:94:LEU:HD21	2:D:98:ARG:NH2	1.95	0.81
1:A:45:MET:HA	4:A:303:HOH:O	1.78	0.81
1:A:122:TRP:CE2	1:A:152:LEU:HB2	2.16	0.81
2:F:166:THR:O	2:F:169:VAL:HG22	1.79	0.81
2:B:63:TYR:CD2	2:B:64:VAL:HG23	2.16	0.81
1:C:45:MET:HB2	4:C:310:HOH:O	1.80	0.81
1:E:73:VAL:HG13	2:F:14:GLY:HA3	1.62	0.81
2:B:143:VAL:HG22	2:B:187:MET:HG3	1.63	0.80
2:F:161:ASN:HB3	2:F:197:VAL:H	1.46	0.80
2:F:112:PRO:O	2:F:116:THR:HG22	1.82	0.80

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:63:ASN:O	1:A:67:VAL:HG23	1.80	0.80
2:D:136:LEU:H	2:D:136:LEU:HD22	1.46	0.80
2:H:153:LYS:HZ2	2:H:204:HIS:HD2	1.28	0.80
1:E:15:GLN:HG2	2:F:34:VAL:HG22	1.64	0.79
1:C:122:TRP:CE2	1:C:152:LEU:HB2	2.17	0.79
1:G:12:SER:HB3	1:G:67:VAL:HG21	1.64	0.79
1:G:125:ASN:HD21	1:G:160:ASP:HB2	1.46	0.79
1:G:136:THR:O	1:G:148:LYS:NZ	2.15	0.79
1:C:63:ASN:O	1:C:67:VAL:HG23	1.81	0.79
2:F:54:THR:HG21	4:F:344:HOH:O	1.82	0.79
2:F:113:GLU:HA	2:F:113:GLU:OE1	1.83	0.79
1:G:162:TYR:HB3	4:G:329:HOH:O	1.83	0.78
1:G:180:GLU:OE2	1:G:182:GLU:HB2	1.83	0.78
2:F:136:LEU:HD13	2:F:140:ASN:ND2	1.98	0.78
2:B:100:GLU:HG2	2:B:104:VAL:CG2	2.12	0.78
1:C:180:GLU:HG2	1:C:182:GLU:H	1.48	0.78
2:F:38:MET:HE2	2:F:40:GLU:OE2	1.84	0.78
1:G:14:TYR:CE2	1:G:68:LYS:HG3	2.19	0.78
2:B:40:GLU:OE1	2:B:42:TYR:OH	2.00	0.78
2:D:4:GLN:CG	2:D:104:VAL:HG22	2.14	0.78
1:G:148:LYS:HG2	1:G:149:LEU:N	1.99	0.77
1:C:96:SER:HB2	1:C:97:PRO:HD2	1.66	0.77
1:C:73:VAL:HG13	2:D:14:GLY:HA3	1.67	0.77
2:B:136:LEU:HD11	2:B:191:THR:HG23	1.66	0.77
2:F:155:LYS:HD2	2:F:157:ARG:HH21	1.49	0.77
2:B:123:GLN:HG2	2:B:206:SER:HB2	1.66	0.77
1:C:168:HIS:H	1:C:171:LEU:HD11	1.50	0.77
1:G:45:MET:CE	2:H:179:ASP:HA	2.15	0.77
2:H:160:ARG:O	4:H:328:HOH:O	2.03	0.77
2:B:155:LYS:HD2	2:B:157:ARG:HH21	1.50	0.77
1:C:67:VAL:HG13	2:D:35:TYR:HD2	1.48	0.77
3:C:304:NAG:N2	2:D:18:SER:OG	2.17	0.77
2:H:204:HIS:HB3	2:H:205:PRO:HD3	1.67	0.77
1:G:129:VAL:HG23	4:G:326:HOH:O	1.83	0.76
2:H:113:GLU:HA	2:H:113:GLU:OE1	1.83	0.76
1:E:109:PHE:HD1	1:E:149:LEU:HD11	1.49	0.76
1:A:56:ASP:CG	1:A:58:GLN:HG3	2.11	0.76
2:D:165:GLU:CD	2:D:167:VAL:HG22	2.11	0.76
1:A:56:ASP:OD2	1:A:58:GLN:HG3	1.85	0.76
4:C:324:HOH:O	2:D:176:ARG:HD2	1.86	0.76
1:A:15:GLN:HG2	2:B:34:VAL:HG22	1.67	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:142:ARG:HH12	2:F:136:LEU:HB3	1.50	0.76
2:F:111:GLY:O	2:F:115:HIS:HD2	1.69	0.76
2:H:41:CYS:HB3	2:H:52:TYR:CD1	2.21	0.76
1:E:67:VAL:HG13	2:F:35:TYR:CD2	2.20	0.75
1:A:96:SER:HB2	1:A:97:PRO:HD2	1.69	0.75
1:A:28:ASP:HB2	4:A:333:HOH:O	1.85	0.75
1:C:12:SER:HB3	1:C:67:VAL:HG21	1.67	0.75
1:C:32:LEU:HD23	2:D:180:TRP:CH2	2.21	0.75
2:H:73:HIS:CD2	2:H:94:LEU:HD12	2.22	0.75
2:H:153:LYS:HZ2	2:H:204:HIS:CD2	2.04	0.75
3:A:301:NAG:N2	2:B:18:SER:OG	2.20	0.75
2:F:123:GLN:CG	2:F:206:SER:HB2	2.15	0.75
1:A:8:THR:HG22	1:A:11:ILE:HD11	1.69	0.74
1:E:108:CYS:HB2	1:E:122:TRP:CH2	2.22	0.74
1:E:129:VAL:HG12	4:E:326:HOH:O	1.88	0.74
1:A:15:GLN:HE22	1:A:117:VAL:HG23	1.51	0.74
1:G:36:ASP:HA	4:G:324:HOH:O	1.88	0.74
2:D:44:THR:HG22	2:D:49:ARG:O	1.87	0.74
2:D:65:ARG:HG2	2:D:66:TYR:N	2.01	0.74
2:F:132:ARG:HG2	4:F:336:HOH:O	1.87	0.74
2:H:94:LEU:HD21	2:H:98:ARG:HH21	1.51	0.74
4:G:314:HOH:O	2:H:179:ASP:HB3	1.86	0.73
2:H:116:THR:HG23	2:H:117:SER:N	2.02	0.73
1:C:14:TYR:OH	1:C:19:ASP:HA	1.88	0.73
2:H:116:THR:CG2	2:H:117:SER:H	2.02	0.73
2:B:63:TYR:C	2:B:76:VAL:HG13	2.13	0.73
1:C:88:PRO:HB3	4:C:326:HOH:O	1.89	0.73
2:F:4:GLN:HG2	2:F:104:VAL:HG22	1.70	0.73
2:D:174:LEU:HD23	2:D:174:LEU:H	1.53	0.73
2:B:4:GLN:CG	2:B:104:VAL:HG22	2.18	0.73
2:D:136:LEU:HB3	1:E:142:ARG:HH12	1.53	0.73
1:A:108:CYS:HB2	1:A:122:TRP:CH2	2.24	0.73
1:G:56:ASP:OD1	1:G:58:GLN:HG3	1.88	0.73
2:B:65:ARG:HG2	2:B:66:TYR:N	2.03	0.72
2:D:204:HIS:HB3	2:D:205:PRO:HD3	1.71	0.72
1:E:136:THR:O	1:E:148:LYS:NZ	2.22	0.72
2:H:63:TYR:C	2:H:76:VAL:HG13	2.14	0.72
1:C:172:GLU:OE1	1:C:172:GLU:N	2.17	0.72
2:B:41:CYS:HB3	2:B:52:TYR:CD1	2.19	0.72
2:B:123:GLN:CG	2:B:206:SER:HB2	2.20	0.72
1:C:77:ARG:HH12	2:D:83:ASP:CG	1.97	0.72

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:166:THR:O	2:H:169:VAL:HG22	1.89	0.72
2:B:20:VAL:HG13	2:B:21:PRO:HD2	1.70	0.72
2:B:94:LEU:HD21	2:B:98:ARG:NH2	2.02	0.72
1:C:113:ILE:HA	4:C:326:HOH:O	1.89	0.72
1:C:121:THR:OG1	1:C:165:LYS:HB3	1.90	0.72
1:G:45:MET:HE1	2:H:178:GLY:O	1.90	0.72
1:G:56:ASP:CG	1:G:58:GLN:HG3	2.15	0.72
2:D:4:GLN:HG3	2:D:104:VAL:HG22	1.70	0.72
2:D:63:TYR:HB2	2:D:79:LEU:HD12	1.71	0.71
2:F:4:GLN:CG	2:F:104:VAL:HG22	2.20	0.71
2:F:136:LEU:H	2:F:136:LEU:HD22	1.53	0.71
2:F:164:GLU:O	4:F:345:HOH:O	2.08	0.71
2:F:20:VAL:HG13	2:F:21:PRO:HD2	1.73	0.71
1:C:172:GLU:H	1:C:172:GLU:CD	1.96	0.71
2:D:44:THR:HG23	2:D:49:ARG:HB3	1.73	0.71
2:F:83:ASP:OD2	2:F:83:ASP:N	2.22	0.71
1:G:77:ARG:HH12	2:H:83:ASP:CG	1.99	0.71
2:D:204:HIS:ND1	2:D:204:HIS:C	2.48	0.71
2:B:150:TYR:HD2	4:B:333:HOH:O	1.74	0.70
2:B:160:ARG:O	2:B:162:GLY:N	2.24	0.70
1:G:124:ARG:HG2	1:G:125:ASN:HD22	1.56	0.70
1:G:152:LEU:HD22	1:G:154:PHE:HB3	1.72	0.70
2:H:187:MET:O	4:H:339:HOH:O	2.08	0.70
2:F:73:HIS:CD2	2:F:94:LEU:HD12	2.26	0.70
1:C:36:ASP:OD1	1:C:39:LYS:N	2.24	0.70
2:F:63:TYR:C	2:F:76:VAL:HG13	2.16	0.70
1:C:122:TRP:NE1	1:C:152:LEU:HB2	2.07	0.70
2:F:116:THR:HG23	2:F:117:SER:N	2.06	0.70
2:H:106:ARG:HG2	2:H:110:GLU:OE1	1.90	0.70
2:F:214:GLU:HB3	4:F:314:HOH:O	1.92	0.70
1:G:168:HIS:H	1:G:171:LEU:CD1	2.00	0.70
2:H:160:ARG:O	2:H:162:GLY:N	2.24	0.70
2:H:61:GLU:OE2	2:H:77:THR:HG21	1.91	0.70
2:H:153:LYS:NZ	2:H:204:HIS:CD2	2.59	0.70
1:G:67:VAL:HG13	2:H:35:TYR:HD2	1.57	0.70
1:A:123:LEU:HD11	1:A:165:LYS:HD2	1.73	0.69
2:B:48:GLN:HB3	4:B:310:HOH:O	1.92	0.69
1:A:30:ASP:HB3	2:B:180:TRP:CE2	2.27	0.69
2:H:120:ARG:NH1	2:H:180:TRP:HB3	2.06	0.69
1:C:12:SER:CB	1:C:67:VAL:HG21	2.22	0.69
1:G:45:MET:HE1	2:H:179:ASP:HA	1.72	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:207:LEU:H	2:B:207:LEU:HD22	1.57	0.69
2:D:160:ARG:O	2:D:162:GLY:N	2.25	0.69
2:H:136:LEU:HA	2:H:140:ASN:HD21	1.58	0.69
1:A:167:GLU:HB2	3:A:302:NAG:O7	1.92	0.69
2:F:41:CYS:HB3	2:F:52:TYR:CD1	2.24	0.69
1:G:122:TRP:CE2	1:G:152:LEU:HB2	2.27	0.69
2:H:136:LEU:HD13	2:H:140:ASN:ND2	2.08	0.69
2:B:4:GLN:HG3	2:B:104:VAL:HG22	1.73	0.69
1:C:72:GLY:O	1:C:75:THR:HB	1.93	0.69
3:G:310:NAG:C1	2:H:18:SER:HB2	2.22	0.69
1:A:8:THR:CG2	1:A:11:ILE:HD11	2.23	0.69
2:F:160:ARG:O	2:F:162:GLY:N	2.25	0.69
2:D:38:MET:HE2	2:D:40:GLU:OE2	1.93	0.69
2:H:207:LEU:HD22	2:H:207:LEU:H	1.57	0.68
1:A:121:THR:OG1	1:A:165:LYS:HB3	1.94	0.68
2:B:136:LEU:HD22	2:B:136:LEU:H	1.58	0.68
1:G:33:PHE:CD1	1:G:42:THR:HG23	2.29	0.68
2:D:136:LEU:HD13	2:D:140:ASN:ND2	2.09	0.68
2:B:120:ARG:NH1	2:B:180:TRP:HB3	2.09	0.68
2:D:63:TYR:HB2	2:D:79:LEU:CD1	2.24	0.68
1:A:109:PHE:HA	1:A:149:LEU:HD13	1.74	0.68
1:A:72:GLY:O	1:A:75:THR:HB	1.93	0.68
2:D:163:GLN:H	2:D:163:GLN:NE2	1.91	0.68
2:B:61:GLU:OE2	2:B:77:THR:HG21	1.95	0.67
1:G:110:VAL:HB	1:G:113:ILE:HD11	1.76	0.67
2:H:160:ARG:NH2	2:H:196:GLU:OE2	2.27	0.67
1:C:22:GLN:HE22	1:C:138:PHE:HB2	1.59	0.67
2:D:9:ASN:HA	4:D:332:HOH:O	1.93	0.67
2:H:91:PRO:O	2:H:95:GLU:HB2	1.95	0.67
1:G:99:LEU:HD22	4:G:322:HOH:O	1.93	0.67
2:H:44:THR:HG23	2:H:49:ARG:HB3	1.76	0.67
1:A:127:LYS:O	1:A:128:SER:C	2.38	0.67
1:G:165:LYS:HG2	4:G:331:HOH:O	1.95	0.67
1:A:117:VAL:HG11	1:A:169:TRP:CH2	2.30	0.67
1:G:100:LEU:HD22	1:G:157:SER:HA	1.76	0.67
2:H:4:GLN:HG2	2:H:104:VAL:HG22	1.77	0.67
2:H:20:VAL:HG13	2:H:21:PRO:HD2	1.77	0.67
2:H:132:ARG:HG3	2:H:139:HIS:HB3	1.75	0.67
2:F:63:TYR:HB2	2:F:79:LEU:CD1	2.25	0.67
1:G:38:ASP:O	1:G:40:LYS:HG3	1.94	0.67
2:F:204:HIS:ND1	2:F:204:HIS:C	2.52	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:168:HIS:H	1:A:171:LEU:CD1	2.08	0.67
1:C:124:ARG:HG2	1:C:125:ASN:HD22	1.60	0.67
1:G:78:SER:HB3	4:H:333:HOH:O	1.94	0.67
1:G:167:GLU:OE1	3:G:311:NAG:H2	1.95	0.67
2:D:20:VAL:HG13	2:D:21:PRO:HD2	1.74	0.67
2:D:45:ASN:HA	3:D:306:NAG:O5	1.94	0.67
2:F:163:GLN:NE2	2:F:163:GLN:H	1.92	0.67
2:H:88:ASN:OD1	2:H:94:LEU:CD1	2.43	0.67
2:B:204:HIS:O	4:B:313:HOH:O	2.12	0.66
1:E:180:GLU:OE2	1:E:182:GLU:HB2	1.95	0.66
2:B:204:HIS:ND1	2:B:205:PRO:N	2.44	0.66
2:B:204:HIS:HB3	2:B:205:PRO:HD3	1.76	0.66
1:E:109:PHE:HA	1:E:149:LEU:HD13	1.75	0.66
2:F:143:VAL:HG22	2:F:187:MET:HG3	1.78	0.66
2:D:76:VAL:HG22	2:D:77:THR:HG23	1.77	0.66
1:A:1:ILE:N	1:A:1:ILE:HD13	2.11	0.66
1:A:76:LYS:C	2:B:16:GLY:HA2	2.21	0.66
1:C:38:ASP:O	1:C:40:LYS:HG3	1.96	0.66
1:G:108:CYS:HB2	1:G:122:TRP:CH2	2.31	0.66
2:H:63:TYR:CE2	2:H:64:VAL:HG23	2.30	0.66
1:E:56:ASP:OD1	1:E:58:GLN:HG3	1.95	0.66
2:F:116:THR:CG2	2:F:117:SER:H	2.08	0.66
2:F:132:ARG:HG3	2:F:139:HIS:HB3	1.76	0.66
1:A:74:LEU:CD1	2:B:79:LEU:HD13	2.27	0.65
2:H:111:GLY:O	2:H:115:HIS:HD2	1.79	0.65
1:G:117:VAL:HG11	1:G:169:TRP:CH2	2.32	0.65
2:D:201:HIS:HB2	4:D:324:HOH:O	1.95	0.65
1:G:127:LYS:O	1:G:128:SER:C	2.40	0.65
2:H:163:GLN:NE2	4:H:328:HOH:O	2.30	0.65
2:F:140:ASN:O	2:F:190:MET:HE3	1.96	0.65
1:A:77:ARG:HH12	2:B:83:ASP:CG	2.05	0.65
1:E:74:LEU:HD11	2:F:63:TYR:CD2	2.31	0.65
2:F:175:ILE:HG23	4:F:346:HOH:O	1.95	0.65
1:A:65:ALA:HA	1:A:68:LYS:HZ3	1.62	0.65
2:D:166:THR:O	2:D:169:VAL:HG22	1.97	0.65
2:F:43:PHE:CZ	2:F:105:CYS:SG	2.89	0.65
1:A:100:LEU:HD22	1:A:157:SER:HA	1.79	0.65
2:F:44:THR:HG23	2:F:49:ARG:HB3	1.78	0.65
2:B:44:THR:HG22	2:B:49:ARG:O	1.97	0.65
2:B:136:LEU:HA	2:B:140:ASN:HD21	1.62	0.65
1:E:143:ASP:CG	2:F:60:ARG:HH21	2.04	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:124:PRO:HD2	2:F:207:LEU:HD21	1.77	0.65
1:G:163:ASP:OD2	1:G:178:HIS:HD2	1.80	0.65
1:C:78:SER:HB2	4:C:328:HOH:O	1.97	0.65
2:H:204:HIS:ND1	2:H:204:HIS:C	2.54	0.65
1:C:163:ASP:OD1	1:C:176:LEU:HG	1.96	0.65
1:G:152:LEU:CD2	1:G:154:PHE:HB3	2.27	0.65
1:A:56:ASP:OD2	1:A:58:GLN:CG	2.44	0.64
2:B:149:PHE:CE2	2:B:182:PHE:HB2	2.32	0.64
2:B:111:GLY:O	2:B:115:HIS:HD2	1.81	0.64
2:D:132:ARG:HG3	2:D:139:HIS:HB3	1.79	0.64
1:E:56:ASP:CG	1:E:58:GLN:HG3	2.22	0.64
1:E:114:PHE:CD1	4:E:324:HOH:O	2.49	0.64
2:F:54:THR:OG1	2:F:66:TYR:HB3	1.96	0.64
2:B:45:ASN:HA	3:B:303:NAG:C1	2.27	0.64
2:D:113:GLU:HA	2:D:113:GLU:OE1	1.97	0.64
1:E:168:HIS:N	1:E:171:LEU:HD11	2.08	0.64
2:F:88:ASN:OD1	2:F:94:LEU:CD1	2.46	0.64
1:G:122:TRP:HB2	4:G:313:HOH:O	1.95	0.64
1:G:125:ASN:ND2	1:G:160:ASP:HB2	2.11	0.64
2:B:126:VAL:HG11	2:B:211:ILE:HD11	1.78	0.64
1:C:117:VAL:HG11	1:C:169:TRP:CH2	2.31	0.64
2:H:40:GLU:OE1	2:H:55:ARG:NE	2.30	0.64
3:G:310:NAG:C7	2:H:18:SER:OG	2.46	0.64
2:B:156:VAL:HG11	2:B:186:VAL:HG21	1.78	0.64
1:C:127:LYS:O	1:C:128:SER:C	2.39	0.64
2:D:156:VAL:HG11	2:D:186:VAL:HG21	1.79	0.64
2:F:109:TYR:CZ	2:F:118:LEU:HD21	2.33	0.64
1:G:14:TYR:CZ	1:G:68:LYS:HD3	2.33	0.64
1:G:167:GLU:OE1	3:G:311:NAG:H83	1.96	0.64
1:A:179:TRP:CH2	1:A:181:PRO:HD3	2.33	0.64
2:B:63:TYR:HB2	2:B:79:LEU:HD12	1.80	0.64
1:A:152:LEU:HD22	1:A:154:PHE:HB3	1.80	0.64
1:C:135:GLU:OE2	1:C:148:LYS:HD3	1.98	0.64
2:B:128:ILE:HG21	4:B:304:HOH:O	1.98	0.64
2:F:108:ASN:HA	2:F:112:PRO:HD2	1.79	0.64
2:B:124:PRO:HD2	2:B:207:LEU:HD21	1.79	0.64
2:D:207:LEU:HG	2:D:211:ILE:CG2	2.27	0.64
2:F:45:ASN:OD1	3:F:309:NAG:H61	1.97	0.64
2:F:94:LEU:HD21	2:F:98:ARG:HH21	1.62	0.64
1:G:117:VAL:HG11	1:G:169:TRP:CZ2	2.33	0.64
2:F:127:VAL:HG22	4:F:318:HOH:O	1.96	0.63

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:70:ASN:HB3	2:D:35:TYR:CZ	2.33	0.63
2:D:111:GLY:O	2:D:115:HIS:HD2	1.80	0.63
2:D:156:VAL:HG22	2:D:202:VAL:HG22	1.79	0.63
2:D:199:THR:HG22	2:D:214:GLU:HA	1.81	0.63
2:H:38:MET:HE2	2:H:40:GLU:OE2	1.97	0.63
1:A:93:PHE:HE2	1:A:107:ILE:HD12	1.61	0.63
3:A:301:NAG:C8	2:B:18:SER:OG	2.47	0.63
2:D:207:LEU:HG	2:D:211:ILE:HG23	1.80	0.63
1:G:139:PHE:HB2	1:G:147:HIS:CD2	2.34	0.63
2:B:165:GLU:HB3	4:B:334:HOH:O	1.97	0.63
2:D:140:ASN:HB2	2:D:190:MET:HE3	1.80	0.63
1:G:123:LEU:HD11	1:G:165:LYS:HD2	1.81	0.63
1:A:124:ARG:HG3	1:A:162:TYR:CE1	2.34	0.63
2:D:120:ARG:NH1	2:D:180:TRP:HB3	2.13	0.63
2:D:81:ARG:NH2	4:D:314:HOH:O	2.31	0.63
2:D:108:ASN:HA	2:D:112:PRO:HD2	1.79	0.63
2:H:132:ARG:HG3	2:H:139:HIS:CB	2.28	0.63
2:B:152:ALA:HB2	2:B:182:PHE:CE2	2.32	0.63
1:C:141:ASN:OD1	1:C:147:HIS:ND1	2.28	0.63
2:D:100:GLU:HG2	2:D:104:VAL:CG2	2.29	0.63
2:B:88:ASN:HA	2:B:94:LEU:HD13	1.80	0.63
2:F:204:HIS:ND1	2:F:205:PRO:N	2.46	0.63
2:B:54:THR:OG1	2:B:66:TYR:HB3	1.99	0.63
2:B:204:HIS:ND1	2:B:204:HIS:C	2.57	0.63
2:D:100:GLU:HG2	2:D:104:VAL:HG21	1.80	0.63
2:D:126:VAL:HG23	2:D:213:VAL:HG21	1.79	0.63
2:F:106:ARG:HG2	2:F:110:GLU:OE1	1.99	0.62
1:G:12:SER:CB	1:G:67:VAL:HG21	2.27	0.62
2:B:163:GLN:H	2:B:163:GLN:NE2	1.96	0.62
1:E:85:ASN:ND2	1:E:169:TRP:HB2	2.14	0.62
2:B:44:THR:HG23	2:B:49:ARG:HB3	1.81	0.62
2:F:63:TYR:HB2	2:F:79:LEU:HD12	1.81	0.62
1:G:167:GLU:HB3	3:G:311:NAG:O7	1.99	0.62
1:A:12:SER:CB	1:A:67:VAL:HG21	2.26	0.62
1:A:111:ASP:OD1	1:A:112:ASN:N	2.33	0.62
3:G:310:NAG:C1	2:H:18:SER:CB	2.78	0.62
1:A:115:PRO:O	1:A:168:HIS:HE1	1.83	0.62
2:D:161:ASN:HB2	4:D:327:HOH:O	2.00	0.62
2:D:163:GLN:NE2	2:D:163:GLN:N	2.48	0.62
1:E:14:TYR:OH	1:E:19:ASP:HA	2.00	0.62
1:E:74:LEU:HD11	2:F:63:TYR:CE2	2.34	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:E:100:LEU:HD22	1:E:157:SER:HA	1.81	0.62
1:E:127:LYS:O	1:E:128:SER:C	2.41	0.62
2:F:132:ARG:HG3	2:F:139:HIS:CB	2.30	0.62
1:A:148:LYS:C	1:A:149:LEU:HD22	2.24	0.62
2:D:44:THR:CB	4:D:316:HOH:O	2.48	0.62
1:E:5:HIS:O	4:E:330:HOH:O	2.16	0.62
1:G:67:VAL:HG13	2:H:35:TYR:CD2	2.34	0.62
2:H:57:ILE:HG13	2:H:62:GLU:HA	1.82	0.62
2:D:44:THR:CG2	2:D:49:ARG:HB3	2.29	0.62
1:E:76:LYS:O	1:E:78:SER:N	2.33	0.62
2:H:9:ASN:HB2	2:H:87:TRP:CE2	2.34	0.62
2:D:4:GLN:HG2	2:D:104:VAL:HG22	1.81	0.61
2:D:171:SER:OG	2:F:169:VAL:HG22	2.00	0.61
2:H:163:GLN:NE2	2:H:163:GLN:H	1.98	0.61
2:B:30:GLU:HB2	2:B:32:HIS:NE2	2.15	0.61
2:F:120:ARG:HH11	2:F:120:ARG:HG2	1.65	0.61
2:H:101:LEU:HD23	2:H:101:LEU:O	2.01	0.61
2:D:165:GLU:OE1	2:D:167:VAL:HG22	2.00	0.61
1:E:45:MET:HE1	4:E:322:HOH:O	2.00	0.61
2:B:43:PHE:CE2	2:B:109:TYR:HB2	2.34	0.61
1:C:148:LYS:HG2	1:C:149:LEU:N	2.15	0.61
1:G:26:GLU:OE2	1:G:140:VAL:HG23	2.00	0.61
1:G:9:TYR:HD1	1:G:25:PHE:CD2	2.19	0.61
1:G:64:ILE:HD13	4:G:330:HOH:O	1.98	0.61
1:G:122:TRP:NE1	1:G:152:LEU:HB2	2.16	0.61
4:G:323:HOH:O	2:H:40:GLU:HA	1.99	0.61
2:B:30:GLU:HB2	2:B:32:HIS:HE2	1.65	0.61
2:F:207:LEU:HG	2:F:211:ILE:CG2	2.29	0.61
2:H:63:TYR:HB2	2:H:79:LEU:CD1	2.31	0.61
1:E:115:PRO:HD3	4:E:324:HOH:O	2.00	0.61
2:F:45:ASN:ND2	3:F:309:NAG:H61	2.15	0.61
2:F:120:ARG:HH12	2:F:180:TRP:CB	2.12	0.61
2:B:114:THR:O	2:B:119:ARG:HG3	2.01	0.61
1:C:74:LEU:O	1:C:78:SER:HB2	2.01	0.61
1:C:152:LEU:HD22	1:C:154:PHE:HB3	1.82	0.61
2:D:132:ARG:HG3	2:D:139:HIS:CB	2.31	0.61
1:E:161:ILE:HG22	1:E:180:GLU:CG	2.24	0.61
2:H:140:ASN:HB2	2:H:190:MET:HE3	1.83	0.61
2:H:160:ARG:HG3	2:H:160:ARG:HH11	1.65	0.61
2:D:119:ARG:NH1	2:D:119:ARG:HB3	2.15	0.60
1:E:16:SER:HB3	1:E:17:PRO:HD3	1.82	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:65:ARG:HG2	2:H:66:TYR:N	2.15	0.60
2:B:108:ASN:HA	2:B:112:PRO:HD2	1.82	0.60
2:D:120:ARG:HG2	2:D:120:ARG:NH1	2.15	0.60
1:E:12:SER:CB	1:E:67:VAL:HG21	2.32	0.60
1:G:85:ASN:ND2	1:G:169:TRP:HB2	2.16	0.60
2:H:126:VAL:HG11	2:H:202:VAL:HG21	1.83	0.60
2:B:163:GLN:NE2	2:B:163:GLN:N	2.49	0.60
2:B:120:ARG:HG2	2:B:120:ARG:HH11	1.66	0.60
2:B:169:VAL:HB	4:B:328:HOH:O	2.00	0.60
2:B:207:LEU:HD22	2:B:207:LEU:N	2.16	0.60
1:E:110:VAL:HB	1:E:113:ILE:HD11	1.84	0.60
1:A:22:GLN:HE22	1:A:138:PHE:HB2	1.65	0.60
1:E:16:SER:HB3	1:E:17:PRO:CD	2.32	0.60
2:F:153:LYS:HG2	4:F:332:HOH:O	2.01	0.60
1:G:33:PHE:HB2	1:G:43:VAL:O	2.00	0.60
1:C:142:ARG:HH12	2:F:136:LEU:CB	2.12	0.60
2:D:91:PRO:O	2:D:95:GLU:HB2	2.01	0.60
4:E:322:HOH:O	2:F:179:ASP:HB3	2.01	0.60
1:G:58:GLN:O	1:G:62:GLN:HB2	2.02	0.60
2:B:165:GLU:CD	2:B:167:VAL:HG22	2.27	0.60
1:C:67:VAL:HG13	2:D:35:TYR:CD2	2.34	0.60
1:C:76:LYS:C	2:D:16:GLY:HA2	2.27	0.60
1:G:36:ASP:OD1	1:G:39:LYS:N	2.34	0.60
4:A:315:HOH:O	2:B:183:GLN:HB3	2.02	0.60
2:B:132:ARG:HG3	2:B:139:HIS:HB3	1.84	0.60
2:D:44:THR:HB	4:D:316:HOH:O	2.01	0.60
2:D:81:ARG:HB2	2:D:82:PRO:HD3	1.82	0.60
4:A:312:HOH:O	2:B:176:ARG:HG3	2.00	0.59
1:E:12:SER:HB3	1:E:67:VAL:HG21	1.84	0.59
2:F:57:ILE:HG13	2:F:62:GLU:HA	1.84	0.59
1:G:100:LEU:HA	1:G:156:PRO:HG2	1.82	0.59
2:H:207:LEU:HD22	2:H:207:LEU:N	2.16	0.59
2:H:160:ARG:HG3	2:H:160:ARG:NH1	2.16	0.59
1:C:148:LYS:C	1:C:149:LEU:HD22	2.26	0.59
2:D:112:PRO:O	2:D:116:THR:HG22	2.03	0.59
1:G:76:LYS:C	2:H:16:GLY:HA2	2.27	0.59
2:H:199:THR:HG22	2:H:214:GLU:HA	1.83	0.59
1:C:26:GLU:OE2	1:C:140:VAL:HG23	2.02	0.59
1:C:76:LYS:O	1:C:78:SER:N	2.36	0.59
2:H:121:LEU:HG	2:H:205:PRO:O	2.03	0.59
1:G:111:ASP:OD1	1:G:147:HIS:HB3	2.02	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:44:THR:HG22	2:H:49:ARG:O	2.02	0.59
2:H:108:ASN:HA	2:H:112:PRO:HD2	1.83	0.59
1:E:33:PHE:CD1	1:E:42:THR:HG23	2.37	0.59
1:A:59:GLY:O	2:B:5:LYS:NZ	2.28	0.59
2:B:63:TYR:C	2:B:76:VAL:CG1	2.75	0.59
2:B:119:ARG:NH1	2:B:119:ARG:HB3	2.18	0.59
2:B:166:THR:O	2:B:169:VAL:HG13	2.02	0.59
1:C:4:ASP:OD2	3:D:306:NAG:H62	2.03	0.59
2:D:51:ARG:NH2	2:D:67:ASP:OD2	2.32	0.59
1:C:9:TYR:HD1	1:C:25:PHE:CD2	2.21	0.59
1:E:125:ASN:HB2	1:E:127:LYS:NZ	2.17	0.59
2:F:101:LEU:O	2:F:101:LEU:HD23	2.03	0.59
2:B:165:GLU:N	4:B:334:HOH:O	2.25	0.59
1:G:64:ILE:CD1	4:G:330:HOH:O	2.51	0.59
2:B:98:ARG:HG2	2:B:98:ARG:HH11	1.68	0.59
1:G:72:GLY:O	1:G:75:THR:HB	2.03	0.59
1:A:31:GLU:OE1	1:A:137:SER:HB2	2.03	0.58
2:B:149:PHE:HE1	2:B:183:GLN:HA	1.67	0.58
1:C:45:MET:HE2	2:D:179:ASP:HA	1.84	0.58
3:G:310:NAG:O7	2:H:18:SER:OG	2.20	0.58
1:G:59:GLY:O	2:H:5:LYS:NZ	2.32	0.58
1:A:76:LYS:O	1:A:78:SER:N	2.36	0.58
1:E:152:LEU:HD22	1:E:154:PHE:HB3	1.84	0.58
2:D:163:GLN:H	2:D:163:GLN:HE21	1.51	0.58
1:E:163:ASP:OD1	1:E:176:LEU:HG	2.04	0.58
1:G:121:THR:OG1	1:G:165:LYS:HB3	2.04	0.58
1:E:117:VAL:HG12	4:E:313:HOH:O	2.03	0.58
1:E:95:LYS:HE3	2:F:148:ASP:OD1	2.03	0.58
2:F:65:ARG:HG2	2:F:66:TYR:N	2.19	0.58
2:F:140:ASN:HB2	2:F:190:MET:HE3	1.85	0.58
2:B:199:THR:HG22	2:B:214:GLU:HG2	1.85	0.58
2:F:52:TYR:CE2	2:F:54:THR:HG23	2.39	0.58
2:D:51:ARG:HH21	2:D:67:ASP:CG	2.12	0.58
2:F:119:ARG:HD2	4:F:321:HOH:O	2.02	0.58
2:F:175:ILE:O	2:F:175:ILE:HG22	2.04	0.58
1:E:168:HIS:H	1:E:171:LEU:CD1	2.09	0.58
2:F:163:GLN:NE2	2:F:163:GLN:N	2.51	0.58
1:G:139:PHE:HB2	1:G:147:HIS:NE2	2.18	0.58
2:H:137:ASN:O	2:H:138:HIS:HB2	2.04	0.58
2:B:149:PHE:CE1	2:B:183:GLN:HA	2.38	0.58
1:C:123:LEU:HD11	1:C:165:LYS:HD2	1.85	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:136:THR:CG2	1:C:149:LEU:HB2	2.34	0.58
2:D:199:THR:CG2	2:D:214:GLU:HG2	2.34	0.58
1:E:45:MET:CE	4:E:322:HOH:O	2.51	0.58
1:E:98:VAL:HG23	4:E:312:HOH:O	2.03	0.58
2:H:87:TRP:O	2:H:94:LEU:HB2	2.04	0.58
2:H:125:ASN:HD21	2:H:148:ASP:HB2	1.68	0.57
1:A:172:GLU:H	1:A:172:GLU:CD	2.12	0.57
1:C:9:TYR:CD1	1:C:25:PHE:CD2	2.92	0.57
1:C:55:PHE:O	1:C:57:PRO:HD3	2.04	0.57
1:C:156:PRO:HA	4:C:307:HOH:O	2.04	0.57
2:D:63:TYR:CE2	2:D:64:VAL:HG23	2.38	0.57
2:H:66:TYR:OH	2:H:98:ARG:HD3	2.04	0.57
2:H:96:ARG:HD3	4:H:338:HOH:O	2.04	0.57
2:D:94:LEU:O	2:D:94:LEU:HG	2.04	0.57
2:D:203:GLU:O	2:D:204:HIS:HB3	2.04	0.57
2:H:126:VAL:HG21	2:H:211:ILE:CD1	2.34	0.57
1:E:63:ASN:O	1:E:67:VAL:HG23	2.04	0.57
1:E:92:VAL:HG23	1:E:177:LYS:CG	2.34	0.57
1:E:167:GLU:HG2	1:E:174:PRO:HG3	1.84	0.57
2:F:155:LYS:HD2	2:F:157:ARG:NH2	2.18	0.57
1:C:167:GLU:HG2	1:C:174:PRO:HG3	1.87	0.57
1:E:10:GLY:HA2	1:E:23:TYR:CZ	2.40	0.57
1:E:46:LEU:O	1:E:49:PHE:HB2	2.04	0.57
2:F:91:PRO:O	2:F:95:GLU:HB2	2.04	0.57
1:G:77:ARG:NH2	2:H:83:ASP:OD2	2.35	0.57
2:H:54:THR:OG1	2:H:66:TYR:HB3	2.04	0.57
2:B:96:ARG:NH2	4:B:322:HOH:O	2.37	0.57
2:D:114:THR:O	2:D:119:ARG:HG3	2.03	0.57
2:D:199:THR:HG22	2:D:214:GLU:HG2	1.85	0.57
2:F:120:ARG:O	2:F:121:LEU:HD12	2.05	0.57
2:F:137:ASN:O	2:F:138:HIS:HB2	2.03	0.57
2:H:120:ARG:O	2:H:151:PRO:HD3	2.03	0.57
2:H:204:HIS:ND1	2:H:205:PRO:N	2.53	0.57
2:B:63:TYR:HB2	2:B:79:LEU:CD1	2.35	0.57
2:D:85:GLU:HA	2:D:85:GLU:OE2	2.04	0.57
1:E:161:ILE:HD12	1:E:178:HIS:NE2	2.19	0.57
2:F:166:THR:O	2:F:169:VAL:CG2	2.52	0.57
1:A:125:ASN:HA	4:A:326:HOH:O	2.04	0.57
2:D:12:VAL:O	2:D:14:GLY:N	2.38	0.57
2:D:155:LYS:HA	4:F:342:HOH:O	2.05	0.57
2:F:139:HIS:HA	4:F:336:HOH:O	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:196:GLU:HB2	4:F:331:HOH:O	2.04	0.57
1:G:23:TYR:HD2	4:G:330:HOH:O	1.86	0.57
2:B:132:ARG:HG3	2:B:139:HIS:CB	2.35	0.57
2:D:194:ARG:HG3	2:D:194:ARG:HH11	1.70	0.57
1:E:73:VAL:CG1	2:F:14:GLY:HA3	2.33	0.57
1:E:163:ASP:OD2	1:E:178:HIS:HD2	1.88	0.57
2:F:62:GLU:OE2	4:F:319:HOH:O	2.17	0.57
2:F:204:HIS:HB3	2:F:205:PRO:HD3	1.85	0.57
1:G:22:GLN:HE22	1:G:138:PHE:HB2	1.69	0.57
1:A:82:PRO:HA	2:B:33:PHE:CE1	2.38	0.57
2:B:104:VAL:O	2:B:104:VAL:HG12	2.05	0.57
1:G:115:PRO:O	1:G:168:HIS:HE1	1.86	0.57
2:H:45:ASN:ND2	3:H:312:NAG:H82	2.20	0.57
2:B:172:THR:CG2	2:B:185:LEU:HB2	2.35	0.56
2:F:12:VAL:O	2:F:13:ASP:C	2.48	0.56
2:F:104:VAL:HG12	2:F:104:VAL:O	2.04	0.56
2:H:120:ARG:O	2:H:121:LEU:HD12	2.05	0.56
1:A:85:ASN:ND2	2:B:29:SER:HA	2.20	0.56
1:C:32:LEU:HD23	2:D:180:TRP:CZ2	2.39	0.56
2:F:193:ARG:HB2	2:F:196:GLU:HG3	1.86	0.56
1:G:148:LYS:C	1:G:149:LEU:HD22	2.31	0.56
2:H:143:VAL:HG22	2:H:187:MET:HG3	1.87	0.56
1:A:159:ASP:CG	1:A:160:ASP:H	2.13	0.56
1:C:159:ASP:CG	1:C:160:ASP:H	2.14	0.56
2:H:116:THR:CG2	2:H:117:SER:N	2.65	0.56
2:H:157:ARG:NH1	4:H:326:HOH:O	2.27	0.56
2:H:160:ARG:CG	4:H:331:HOH:O	2.53	0.56
1:A:180:GLU:HG2	1:A:182:GLU:H	1.70	0.56
2:F:136:LEU:HD13	2:F:140:ASN:HD21	1.69	0.56
1:G:30:ASP:HB3	2:H:180:TRP:CE2	2.40	0.56
1:G:76:LYS:O	1:G:78:SER:N	2.38	0.56
1:G:82:PRO:HA	2:H:33:PHE:CE1	2.41	0.56
2:B:4:GLN:HG2	2:B:104:VAL:HG22	1.86	0.56
1:C:111:ASP:OD1	1:C:147:HIS:HB3	2.04	0.56
1:E:38:ASP:O	1:E:40:LYS:HG3	2.05	0.56
1:E:109:PHE:CD1	1:E:149:LEU:HD11	2.36	0.56
1:G:139:PHE:CB	1:G:147:HIS:NE2	2.68	0.56
1:A:90:ALA:O	1:A:177:LYS:HE3	2.04	0.56
2:B:12:VAL:O	2:B:14:GLY:N	2.38	0.56
1:C:16:SER:HB3	1:C:17:PRO:HD3	1.88	0.56
2:D:12:VAL:O	2:D:13:ASP:C	2.49	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:104:VAL:HG12	2:D:104:VAL:O	2.05	0.56
1:A:9:TYR:HD1	1:A:25:PHE:CD2	2.24	0.56
1:A:148:LYS:HG2	1:A:149:LEU:N	2.20	0.56
2:B:91:PRO:O	2:B:95:GLU:HB2	2.06	0.56
2:B:126:VAL:HG23	2:B:213:VAL:HG21	1.87	0.56
2:D:136:LEU:HA	2:D:140:ASN:HD21	1.69	0.56
2:H:12:VAL:O	2:H:14:GLY:N	2.38	0.56
1:A:1:ILE:HD13	1:A:1:ILE:H1	1.69	0.56
1:A:136:THR:O	1:A:148:LYS:NZ	2.33	0.56
2:B:166:THR:C	2:B:169:VAL:HG13	2.31	0.56
1:C:76:LYS:C	1:C:78:SER:H	2.14	0.56
1:G:16:SER:HB3	2:H:33:PHE:HB2	1.88	0.56
2:H:44:THR:CG2	2:H:49:ARG:HB3	2.36	0.56
2:B:44:THR:CG2	2:B:49:ARG:HB3	2.36	0.55
1:C:143:ASP:CG	2:D:60:ARG:HH21	2.13	0.55
2:D:124:PRO:HD2	2:D:207:LEU:HD21	1.88	0.55
3:E:307:NAG:C1	3:E:307:NAG:H82	2.36	0.55
2:H:157:ARG:NH2	4:H:313:HOH:O	2.39	0.55
2:B:142:LEU:HD13	2:B:190:MET:CE	2.35	0.55
2:B:207:LEU:HA	4:B:314:HOH:O	2.04	0.55
1:C:16:SER:HB3	1:C:17:PRO:CD	2.36	0.55
1:E:76:LYS:C	1:E:78:SER:H	2.13	0.55
1:G:15:GLN:OE1	1:G:116:PRO:HG2	2.06	0.55
2:B:41:CYS:CB	2:B:52:TYR:HD1	2.12	0.55
2:F:12:VAL:O	2:F:14:GLY:N	2.40	0.55
2:H:42:TYR:N	2:H:42:TYR:CD1	2.74	0.55
2:H:121:LEU:HB3	2:H:206:SER:HB3	1.89	0.55
1:A:67:VAL:HG13	2:B:35:TYR:CD2	2.32	0.55
2:B:119:ARG:HB3	2:B:119:ARG:CZ	2.37	0.55
1:G:148:LYS:HG2	1:G:149:LEU:H	1.70	0.55
2:H:12:VAL:O	2:H:13:ASP:C	2.49	0.55
2:H:199:THR:HG22	2:H:214:GLU:HG2	1.88	0.55
2:H:203:GLU:O	2:H:204:HIS:CB	2.53	0.55
3:A:301:NAG:H82	4:B:335:HOH:O	2.05	0.55
1:C:152:LEU:C	1:C:152:LEU:HD23	2.31	0.55
2:D:42:TYR:CD1	2:D:42:TYR:N	2.75	0.55
2:D:120:ARG:HH12	2:D:180:TRP:HB3	1.71	0.55
1:G:1:ILE:HD13	1:G:1:ILE:H1	1.71	0.55
1:G:46:LEU:O	1:G:49:PHE:HB2	2.07	0.55
1:A:76:LYS:C	1:A:78:SER:H	2.15	0.55
2:B:113:GLU:HA	2:B:116:THR:HG22	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:15:GLN:HE22	1:C:117:VAL:HG23	1.72	0.55
1:G:103:PRO:HD2	4:G:317:HOH:O	2.06	0.55
2:H:199:THR:CG2	2:H:214:GLU:HG2	2.37	0.55
1:A:17:PRO:HG3	2:B:32:HIS:HA	1.88	0.55
1:A:163:ASP:OD2	1:A:178:HIS:HD2	1.90	0.55
2:F:63:TYR:CE2	2:F:64:VAL:HG23	2.42	0.55
2:D:175:ILE:HB	2:D:183:GLN:O	2.07	0.54
1:E:92:VAL:HG23	1:E:177:LYS:HG3	1.89	0.54
1:E:149:LEU:HD22	1:E:149:LEU:N	2.21	0.54
2:F:114:THR:O	2:F:119:ARG:HG3	2.06	0.54
1:C:33:PHE:CD1	1:C:33:PHE:C	2.84	0.54
1:C:90:ALA:O	1:C:177:LYS:HE3	2.07	0.54
3:C:305:NAG:H82	4:C:332:HOH:O	2.05	0.54
1:E:172:GLU:H	1:E:172:GLU:CD	2.15	0.54
2:H:83:ASP:OD2	2:H:83:ASP:N	2.40	0.54
2:F:81:ARG:HB2	2:F:82:PRO:HD3	1.88	0.54
2:B:121:LEU:HG	2:B:205:PRO:O	2.07	0.54
1:C:56:ASP:CG	1:C:58:GLN:HG3	2.32	0.54
2:D:76:VAL:HG22	2:D:77:THR:CG2	2.37	0.54
2:F:87:TRP:O	2:F:94:LEU:HB2	2.07	0.54
2:B:166:THR:O	2:B:169:VAL:HG22	2.07	0.54
1:C:117:VAL:HG11	1:C:169:TRP:CZ2	2.41	0.54
1:E:73:VAL:HG11	1:E:77:ARG:HH21	1.71	0.54
2:F:94:LEU:HD21	2:F:98:ARG:NH2	2.22	0.54
2:H:112:PRO:O	2:H:116:THR:HG22	2.07	0.54
2:B:160:ARG:HB2	4:B:325:HOH:O	2.06	0.54
2:D:140:ASN:HB2	2:D:190:MET:O	2.08	0.54
2:F:82:PRO:HB2	2:F:83:ASP:OD2	2.07	0.54
1:G:161:ILE:HD12	1:G:178:HIS:NE2	2.23	0.54
2:F:85:GLU:HA	2:F:85:GLU:OE2	2.08	0.54
1:A:33:PHE:CD1	1:A:33:PHE:C	2.84	0.54
1:A:74:LEU:HD11	2:B:79:LEU:HD13	1.88	0.54
2:B:193:ARG:HB2	2:B:196:GLU:HG3	1.89	0.54
2:D:88:ASN:OD1	2:D:94:LEU:HD13	2.07	0.54
2:D:146:VAL:HG21	2:D:156:VAL:HG21	1.90	0.54
1:E:58:GLN:NE2	1:E:59:GLY:N	2.56	0.54
1:E:58:GLN:O	1:E:62:GLN:HB2	2.08	0.54
2:H:4:GLN:CG	2:H:104:VAL:HG22	2.38	0.54
1:A:77:ARG:NH1	2:B:83:ASP:OD2	2.41	0.54
1:C:161:ILE:HD12	1:C:178:HIS:NE2	2.23	0.54
1:C:169:TRP:NE1	3:C:305:NAG:H81	2.22	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:66:TYR:C	2:D:66:TYR:CD2	2.86	0.54
1:G:7:GLY:O	4:G:323:HOH:O	2.17	0.54
2:B:110:GLU:HB3	4:B:316:HOH:O	2.07	0.54
1:E:161:ILE:CG2	1:E:180:GLU:OE1	2.50	0.54
2:F:43:PHE:CE2	2:F:105:CYS:SG	3.01	0.54
1:G:172:GLU:H	1:G:172:GLU:CD	2.13	0.54
1:C:46:LEU:O	1:C:49:PHE:HB2	2.08	0.53
2:F:207:LEU:HG	2:F:211:ILE:HG23	1.90	0.53
1:E:100:LEU:HA	1:E:156:PRO:HG2	1.90	0.53
1:E:148:LYS:HG2	1:E:149:LEU:N	2.23	0.53
2:F:126:VAL:HG21	2:F:211:ILE:HD11	1.90	0.53
1:A:16:SER:HB3	2:B:33:PHE:HB2	1.89	0.53
2:B:94:LEU:O	2:B:94:LEU:HG	2.08	0.53
2:B:116:THR:CG2	2:B:117:SER:N	2.53	0.53
2:F:29:SER:O	2:F:30:GLU:HG3	2.08	0.53
2:F:196:GLU:HA	4:F:340:HOH:O	2.09	0.53
2:H:120:ARG:NH1	2:H:180:TRP:CB	2.70	0.53
2:B:42:TYR:CD1	2:B:42:TYR:N	2.76	0.53
2:B:119:ARG:NH1	2:B:119:ARG:CB	2.71	0.53
2:D:193:ARG:HB2	2:D:196:GLU:HG3	1.91	0.53
2:F:4:GLN:HG3	2:F:104:VAL:HG22	1.90	0.53
2:F:214:GLU:CB	4:F:314:HOH:O	2.52	0.53
2:H:146:VAL:HG11	2:H:154:ILE:HD11	1.90	0.53
1:C:89:GLN:O	1:C:110:VAL:HG13	2.09	0.53
2:F:172:THR:CG2	2:F:185:LEU:HB2	2.39	0.53
2:B:132:ARG:HB2	2:B:141:THR:OG1	2.08	0.53
2:H:163:GLN:NE2	2:H:163:GLN:N	2.56	0.53
2:B:81:ARG:HB2	2:B:82:PRO:HD3	1.91	0.53
2:F:108:ASN:O	2:F:112:PRO:HD2	2.07	0.53
3:G:310:NAG:C1	2:H:18:SER:OG	2.57	0.53
2:H:175:ILE:HB	2:H:183:GLN:O	2.09	0.53
2:H:207:LEU:HG	2:H:211:ILE:HG23	1.91	0.53
1:A:168:HIS:N	1:A:171:LEU:HD11	2.18	0.53
1:C:125:ASN:HD21	1:C:160:ASP:CB	2.04	0.53
2:D:3:ALA:HA	2:D:108:ASN:OD1	2.09	0.53
1:G:163:ASP:N	4:G:329:HOH:O	2.33	0.53
2:H:152:ALA:HB3	4:H:324:HOH:O	2.09	0.53
1:A:73:VAL:CG1	2:B:14:GLY:HA3	2.37	0.53
2:B:73:HIS:CD2	2:B:94:LEU:HD12	2.44	0.53
1:C:168:HIS:H	1:C:171:LEU:CD1	2.20	0.53
1:E:72:GLY:O	1:E:75:THR:HB	2.08	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:144:CYS:HB2	2:D:158:TRP:CZ2	2.44	0.53
2:B:83:ASP:OD2	2:B:83:ASP:N	2.41	0.52
1:C:160:ASP:OD2	1:C:160:ASP:C	2.53	0.52
2:D:108:ASN:O	2:D:113:GLU:HB2	2.08	0.52
1:A:33:PHE:HB2	1:A:43:VAL:O	2.09	0.52
2:D:65:ARG:CG	2:D:66:TYR:N	2.73	0.52
2:D:137:ASN:O	2:D:138:HIS:HB2	2.09	0.52
2:D:132:ARG:O	2:D:139:HIS:HB3	2.10	0.52
3:G:310:NAG:O4	3:G:310:NAG:N2	2.40	0.52
2:H:201:HIS:HD2	4:H:313:HOH:O	1.91	0.52
2:B:139:HIS:C	2:B:140:ASN:CG	2.77	0.52
1:C:15:GLN:NE2	1:C:115:PRO:HB2	2.24	0.52
1:C:56:ASP:OD2	1:C:58:GLN:HG3	2.09	0.52
1:C:152:LEU:HD23	1:C:153:THR:N	2.24	0.52
2:D:166:THR:O	2:D:169:VAL:HG13	2.10	0.52
1:E:30:ASP:HB3	2:F:180:TRP:CE2	2.45	0.52
2:H:63:TYR:HB2	2:H:79:LEU:HD12	1.90	0.52
2:H:106:ARG:CG	2:H:110:GLU:OE1	2.56	0.52
1:C:77:ARG:NH1	2:D:83:ASP:OD2	2.40	0.52
1:E:125:ASN:HB2	1:E:127:LYS:HZ3	1.75	0.52
1:E:152:LEU:C	1:E:152:LEU:HD23	2.34	0.52
1:A:9:TYR:CD1	1:A:25:PHE:CD2	2.98	0.52
2:B:12:VAL:O	2:B:13:ASP:C	2.52	0.52
2:F:63:TYR:C	2:F:76:VAL:CG1	2.82	0.52
2:B:84:ALA:O	2:B:88:ASN:ND2	2.42	0.52
2:B:124:PRO:HB3	2:B:149:PHE:HB3	1.92	0.52
2:B:137:ASN:O	2:B:138:HIS:HB2	2.08	0.52
1:G:32:LEU:O	1:G:33:PHE:HB3	2.10	0.52
2:H:204:HIS:HB3	2:H:205:PRO:CD	2.38	0.52
2:B:98:ARG:HG2	2:B:98:ARG:NH1	2.25	0.52
1:E:111:ASP:OD1	1:E:112:ASN:N	2.38	0.52
2:F:175:ILE:HB	2:F:183:GLN:O	2.10	0.52
1:G:60:GLY:O	1:G:64:ILE:HG12	2.10	0.52
2:H:57:ILE:HG23	2:H:61:GLU:C	2.34	0.52
2:H:120:ARG:NH1	2:H:180:TRP:O	2.40	0.52
2:B:113:GLU:HA	2:B:113:GLU:OE1	2.09	0.52
2:B:163:GLN:H	2:B:163:GLN:HE21	1.57	0.52
2:D:72:GLU:HB2	2:D:88:ASN:OD1	2.09	0.52
1:A:122:TRP:CZ3	1:A:164:CYS:HB2	2.45	0.52
2:D:203:GLU:O	2:D:204:HIS:CB	2.57	0.52
2:B:181:THR:N	4:B:333:HOH:O	2.42	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:78:GLU:C	2:H:80:GLY:H	2.17	0.51
1:A:92:VAL:HA	1:A:107:ILE:O	2.10	0.51
1:E:33:PHE:HB2	1:E:43:VAL:O	2.10	0.51
1:E:96:SER:HB2	1:E:97:PRO:CD	2.30	0.51
2:B:20:VAL:CG1	2:B:21:PRO:HD2	2.38	0.51
1:C:15:GLN:CD	1:C:116:PRO:HG2	2.36	0.51
1:G:76:LYS:C	1:G:78:SER:H	2.17	0.51
1:A:46:LEU:O	1:A:49:PHE:HB2	2.10	0.51
1:C:104:ASN:OD1	1:C:105:THR:N	2.43	0.51
2:H:126:VAL:HG21	2:H:211:ILE:HD12	1.92	0.51
1:G:161:ILE:HG22	1:G:180:GLU:HG3	1.91	0.51
1:E:1:ILE:HD13	1:E:1:ILE:N	2.26	0.51
2:F:67:ASP:HB3	2:F:70:VAL:HG23	1.92	0.51
1:G:123:LEU:HD11	1:G:165:LYS:HB2	1.92	0.51
2:H:35:TYR:OH	2:H:56:TYR:HB3	2.11	0.51
1:A:14:TYR:CZ	1:A:68:LYS:HD3	2.46	0.51
1:C:130:ALA:C	1:C:131:ASP:CG	2.78	0.51
2:D:9:ASN:HB2	2:D:87:TRP:CE2	2.46	0.51
1:E:171:LEU:O	1:E:171:LEU:HD12	2.10	0.51
1:G:63:ASN:O	1:G:67:VAL:HG23	2.11	0.51
1:G:92:VAL:HA	1:G:107:ILE:O	2.11	0.51
2:H:160:ARG:HG2	4:H:331:HOH:O	2.10	0.51
2:B:140:ASN:HB2	2:B:190:MET:O	2.11	0.51
2:D:119:ARG:HB3	2:D:119:ARG:CZ	2.41	0.51
2:F:56:TYR:CD1	2:F:56:TYR:N	2.79	0.51
1:C:168:HIS:O	1:C:171:LEU:HD12	2.10	0.51
2:D:43:PHE:CE2	2:D:109:TYR:HB2	2.45	0.51
2:F:44:THR:HG22	2:F:49:ARG:O	2.11	0.51
2:F:120:ARG:O	2:F:151:PRO:HD3	2.10	0.51
1:G:63:ASN:HB3	4:G:330:HOH:O	2.10	0.51
2:H:60:ARG:N	4:H:323:HOH:O	2.21	0.51
2:H:165:GLU:OE1	2:H:166:THR:N	2.42	0.51
3:A:301:NAG:H83	2:B:18:SER:OG	2.10	0.51
1:C:92:VAL:HA	1:C:107:ILE:O	2.11	0.51
1:E:79:ASN:HB2	2:F:18:SER:HA	1.93	0.51
2:F:145:SER:HB2	4:F:334:HOH:O	2.10	0.51
2:H:140:ASN:HB2	2:H:190:MET:O	2.11	0.51
2:H:153:LYS:N	4:H:324:HOH:O	2.44	0.51
2:H:153:LYS:HZ3	2:H:204:HIS:HD2	1.58	0.51
1:A:96:SER:CB	1:A:97:PRO:HD2	2.41	0.50
2:B:136:LEU:HD13	2:B:140:ASN:ND2	2.26	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:143:ASP:CG	2:D:60:ARG:NH2	2.69	0.50
2:F:61:GLU:OE2	2:F:77:THR:HG21	2.11	0.50
2:F:165:GLU:HA	4:F:345:HOH:O	2.11	0.50
1:G:19:ASP:O	1:G:19:ASP:OD2	2.29	0.50
2:H:63:TYR:C	2:H:76:VAL:CG1	2.83	0.50
2:H:128:ILE:HG13	2:H:215:TRP:HB2	1.93	0.50
2:H:172:THR:HG21	2:H:185:LEU:HB2	1.92	0.50
2:B:126:VAL:HG21	2:B:211:ILE:CD1	2.42	0.50
1:E:10:GLY:HA2	1:E:23:TYR:OH	2.11	0.50
2:F:132:ARG:O	2:F:139:HIS:HB3	2.11	0.50
2:H:104:VAL:HG12	2:H:104:VAL:O	2.12	0.50
1:A:46:LEU:HB2	4:A:304:HOH:O	2.10	0.50
1:A:71:LEU:HD13	2:B:35:TYR:HB2	1.93	0.50
2:B:65:ARG:CG	2:B:66:TYR:N	2.73	0.50
2:F:131:SER:OG	2:F:132:ARG:N	2.42	0.50
1:G:180:GLU:HG2	1:G:182:GLU:H	1.76	0.50
1:E:143:ASP:CG	2:F:60:ARG:NH2	2.68	0.50
1:E:159:ASP:CG	1:E:160:ASP:H	2.19	0.50
2:F:112:PRO:C	2:F:116:THR:HG22	2.36	0.50
1:G:71:LEU:O	1:G:72:GLY:C	2.55	0.50
2:H:132:ARG:O	2:H:139:HIS:HB3	2.12	0.50
1:A:74:LEU:O	1:A:78:SER:HB2	2.12	0.50
2:D:139:HIS:C	2:D:140:ASN:CG	2.80	0.50
1:E:1:ILE:HD13	1:E:1:ILE:H1	1.75	0.50
2:H:94:LEU:HD21	2:H:98:ARG:NH2	2.23	0.50
2:H:100:GLU:HG2	2:H:104:VAL:HG21	1.94	0.50
2:H:131:SER:HA	4:H:336:HOH:O	2.11	0.50
1:A:16:SER:HB3	1:A:17:PRO:CD	2.41	0.50
1:A:110:VAL:O	1:A:147:HIS:HB2	2.12	0.50
1:C:74:LEU:HD21	2:D:63:TYR:CE2	2.46	0.50
1:C:98:VAL:HG23	4:C:331:HOH:O	2.12	0.50
1:C:110:VAL:O	1:C:147:HIS:HB2	2.11	0.50
2:D:29:SER:O	2:D:30:GLU:HG3	2.12	0.50
1:E:19:ASP:O	1:E:19:ASP:OD2	2.30	0.50
1:E:89:GLN:O	1:E:110:VAL:HG13	2.12	0.50
2:F:57:ILE:HD11	4:F:319:HOH:O	2.12	0.50
2:H:172:THR:CG2	2:H:185:LEU:HB2	2.42	0.50
2:D:166:THR:C	2:D:169:VAL:HG13	2.37	0.50
2:F:120:ARG:NH1	2:F:180:TRP:CB	2.72	0.50
1:G:158:ASP:HA	4:G:325:HOH:O	2.11	0.50
1:G:159:ASP:CG	1:G:160:ASP:H	2.19	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:38:ASP:O	1:A:40:LYS:HG3	2.12	0.50
1:A:117:VAL:HG11	1:A:169:TRP:CZ2	2.47	0.50
1:C:6:VAL:HG13	1:C:6:VAL:O	2.11	0.50
2:D:113:GLU:OE1	2:D:117:SER:OG	2.16	0.50
2:F:78:GLU:C	2:F:80:GLY:H	2.19	0.50
2:B:174:LEU:H	2:B:174:LEU:CD2	2.20	0.50
2:F:111:GLY:O	2:F:115:HIS:CD2	2.58	0.50
2:H:155:LYS:HD2	2:H:157:ARG:NH2	2.19	0.50
1:C:136:THR:HG21	1:C:149:LEU:HB2	1.93	0.49
1:E:152:LEU:HD23	1:E:153:THR:N	2.27	0.49
2:F:20:VAL:CG1	2:F:21:PRO:HD2	2.40	0.49
2:H:124:PRO:HD2	2:H:207:LEU:HD21	1.93	0.49
1:A:121:THR:HG23	4:A:332:HOH:O	2.11	0.49
2:B:78:GLU:C	2:B:80:GLY:H	2.20	0.49
1:C:100:LEU:HD22	1:C:157:SER:HA	1.94	0.49
1:G:16:SER:HB3	1:G:17:PRO:CD	2.43	0.49
2:H:160:ARG:NH1	2:H:198:TYR:CE2	2.80	0.49
1:A:159:ASP:CG	1:A:160:ASP:N	2.70	0.49
2:B:66:TYR:OH	2:B:98:ARG:HD3	2.11	0.49
2:B:94:LEU:CD2	2:B:98:ARG:NH2	2.74	0.49
1:C:85:ASN:ND2	2:D:29:SER:HA	2.28	0.49
1:C:130:ALA:N	4:C:320:HOH:O	2.44	0.49
2:D:38:MET:O	2:D:38:MET:HG2	2.12	0.49
1:G:15:GLN:HE22	1:G:117:VAL:HG23	1.75	0.49
1:G:162:TYR:CD2	1:G:179:TRP:HZ3	2.31	0.49
2:H:94:LEU:CD2	2:H:98:ARG:HH21	2.22	0.49
1:A:161:ILE:HD12	1:A:178:HIS:NE2	2.27	0.49
2:F:163:GLN:H	2:F:163:GLN:HE21	1.60	0.49
1:G:79:ASN:HA	4:G:312:HOH:O	2.12	0.49
2:H:124:PRO:CD	2:H:207:LEU:HD21	2.43	0.49
1:A:124:ARG:HG2	1:A:125:ASN:HD22	1.78	0.49
2:B:66:TYR:C	2:B:66:TYR:CD2	2.89	0.49
2:B:108:ASN:O	2:B:113:GLU:HB2	2.13	0.49
2:H:101:LEU:HD23	2:H:101:LEU:C	2.37	0.49
2:H:166:THR:O	2:H:169:VAL:CG2	2.60	0.49
1:C:82:PRO:HA	2:D:33:PHE:CE1	2.48	0.49
1:C:159:ASP:CG	1:C:160:ASP:N	2.70	0.49
2:D:123:GLN:HE21	2:D:207:LEU:CD1	2.25	0.49
2:F:92:GLU:HG2	4:F:348:HOH:O	2.12	0.49
2:H:63:TYR:CE2	2:H:64:VAL:CG2	2.96	0.49
2:B:120:ARG:HH12	2:B:180:TRP:HB3	1.77	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:171:LEU:HD12	1:C:171:LEU:O	2.13	0.49
2:D:42:TYR:HD1	2:D:42:TYR:H	1.59	0.49
2:D:100:GLU:HB3	2:D:104:VAL:HB	1.95	0.49
1:E:17:PRO:HG3	2:F:32:HIS:HA	1.95	0.49
1:E:18:GLY:C	1:E:20:ILE:HG13	2.37	0.49
2:F:124:PRO:CD	2:F:207:LEU:HD21	2.43	0.49
1:G:1:ILE:HD13	1:G:1:ILE:N	2.27	0.49
1:G:77:ARG:O	2:H:19:LEU:HD23	2.12	0.49
2:H:136:LEU:H	2:H:136:LEU:CD2	2.20	0.49
1:A:16:SER:O	4:A:309:HOH:O	2.19	0.49
2:D:123:GLN:HG2	2:D:207:LEU:HD13	1.94	0.49
2:D:159:PHE:HD1	2:D:163:GLN:C	2.20	0.49
2:F:199:THR:HG22	2:F:214:GLU:HG2	1.93	0.49
2:H:175:ILE:HG22	2:H:175:ILE:O	2.13	0.49
1:A:45:MET:HB2	4:A:308:HOH:O	2.12	0.49
1:A:167:GLU:HA	1:A:171:LEU:HD11	1.94	0.49
1:A:173:GLU:HG2	4:A:311:HOH:O	2.12	0.49
2:D:132:ARG:HB2	2:D:141:THR:HB	1.95	0.49
1:E:15:GLN:NE2	1:E:115:PRO:HB2	2.28	0.49
2:F:38:MET:CE	2:F:40:GLU:OE2	2.57	0.49
2:F:203:GLU:O	2:F:204:HIS:CB	2.61	0.49
2:H:109:TYR:HA	2:H:113:GLU:HB2	1.93	0.49
1:A:139:PHE:HB2	1:A:147:HIS:CD2	2.48	0.49
2:B:113:GLU:OE1	2:B:117:SER:OG	2.25	0.49
2:B:152:ALA:O	4:B:306:HOH:O	2.20	0.49
2:H:88:ASN:OD1	2:H:94:LEU:HD11	2.12	0.49
2:B:43:PHE:CD2	2:B:109:TYR:CD2	3.02	0.48
2:B:140:ASN:O	2:B:190:MET:HE3	2.13	0.48
1:C:32:LEU:CD2	2:D:180:TRP:CH2	2.94	0.48
2:D:204:HIS:CB	2:D:205:PRO:HD3	2.42	0.48
1:E:118:ILE:HD11	1:E:166:VAL:HG13	1.95	0.48
1:E:120:ILE:HD11	1:E:148:LYS:HD2	1.95	0.48
1:G:85:ASN:HD21	1:G:169:TRP:HB2	1.78	0.48
2:H:66:TYR:CD2	2:H:66:TYR:C	2.91	0.48
2:B:88:ASN:OD1	2:B:94:LEU:HD13	2.14	0.48
2:B:194:ARG:HG3	2:B:194:ARG:HH11	1.77	0.48
2:D:132:ARG:HB2	2:D:141:THR:CB	2.43	0.48
2:D:136:LEU:H	2:D:136:LEU:CD2	2.22	0.48
2:D:160:ARG:O	2:D:161:ASN:C	2.55	0.48
1:E:95:LYS:NZ	2:F:179:ASP:OD2	2.43	0.48
1:G:56:ASP:CG	1:G:58:GLN:HE21	2.21	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:56:TYR:CD1	2:H:56:TYR:N	2.81	0.48
1:A:122:TRP:CD1	1:A:152:LEU:HB2	2.48	0.48
2:B:132:ARG:HB2	2:B:141:THR:CB	2.43	0.48
1:C:59:GLY:O	2:D:5:LYS:NZ	2.39	0.48
1:C:71:LEU:HD13	2:D:35:TYR:HB2	1.94	0.48
1:C:108:CYS:HB2	1:C:122:TRP:CH2	2.47	0.48
2:D:143:VAL:HG22	2:D:187:MET:HG3	1.96	0.48
2:D:204:HIS:HB3	2:D:205:PRO:CD	2.41	0.48
1:E:110:VAL:O	1:E:147:HIS:HB2	2.13	0.48
2:F:160:ARG:O	2:F:161:ASN:C	2.55	0.48
1:G:68:LYS:HZ3	1:G:68:LYS:HB2	1.78	0.48
1:G:152:LEU:HD23	1:G:152:LEU:C	2.38	0.48
2:B:158:TRP:C	4:B:334:HOH:O	2.56	0.48
1:G:103:PRO:HB2	4:G:317:HOH:O	2.12	0.48
1:G:168:HIS:C	1:G:170:GLY:H	2.21	0.48
2:H:125:ASN:ND2	2:H:148:ASP:HB2	2.28	0.48
2:B:63:TYR:CE2	2:B:64:VAL:HG23	2.48	0.48
2:B:203:GLU:O	2:B:204:HIS:CB	2.61	0.48
1:C:77:ARG:N	2:D:16:GLY:HA2	2.29	0.48
1:C:122:TRP:CZ3	1:C:164:CYS:HB2	2.49	0.48
2:D:87:TRP:O	2:D:94:LEU:HB2	2.13	0.48
1:E:92:VAL:HA	1:E:107:ILE:O	2.13	0.48
1:E:122:TRP:CE2	1:E:152:LEU:HB2	2.48	0.48
1:E:139:PHE:HB2	1:E:147:HIS:CD2	2.49	0.48
1:E:168:HIS:C	1:E:170:GLY:H	2.21	0.48
1:E:168:HIS:C	1:E:170:GLY:N	2.71	0.48
2:F:42:TYR:CD1	2:F:42:TYR:N	2.80	0.48
2:F:44:THR:CG2	2:F:49:ARG:HB3	2.43	0.48
1:G:56:ASP:OD2	1:G:58:GLN:NE2	2.45	0.48
2:B:144:CYS:HB2	2:B:158:TRP:CZ2	2.48	0.48
2:B:199:THR:CG2	2:B:214:GLU:HG2	2.43	0.48
1:C:58:GLN:O	1:C:62:GLN:HB2	2.14	0.48
2:D:187:MET:SD	2:D:187:MET:N	2.87	0.48
2:F:136:LEU:HA	2:F:140:ASN:HD21	1.79	0.48
1:G:161:ILE:HG21	1:G:180:GLU:OE1	2.13	0.48
1:A:56:ASP:OD1	1:A:58:GLN:HG3	2.13	0.48
1:A:58:GLN:O	1:A:62:GLN:HB2	2.14	0.48
1:A:104:ASN:OD1	1:A:105:THR:N	2.47	0.48
1:C:180:GLU:HG3	1:C:181:PRO:HD2	1.96	0.48
1:E:121:THR:OG1	1:E:165:LYS:HB3	2.14	0.48
2:F:140:ASN:HB2	2:F:190:MET:O	2.14	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:136:THR:OG1	1:G:139:PHE:HE1	1.96	0.48
1:A:77:ARG:N	2:B:16:GLY:HA2	2.27	0.48
2:F:172:THR:HG21	2:F:185:LEU:HB2	1.96	0.48
2:B:112:PRO:O	2:B:116:THR:HG22	2.14	0.48
2:F:193:ARG:N	4:F:331:HOH:O	2.42	0.48
1:C:76:LYS:C	1:C:78:SER:N	2.71	0.48
2:B:87:TRP:O	2:B:94:LEU:HB2	2.13	0.47
2:F:179:ASP:O	2:F:180:TRP:HB2	2.14	0.47
2:H:149:PHE:HE1	2:H:183:GLN:HA	1.79	0.47
2:H:161:ASN:HA	2:H:197:VAL:O	2.14	0.47
1:A:19:ASP:HB3	1:C:52:LEU:HD21	1.95	0.47
1:A:72:GLY:O	1:A:76:LYS:HG3	2.14	0.47
2:B:132:ARG:O	2:B:139:HIS:HB3	2.13	0.47
2:B:136:LEU:HA	2:B:140:ASN:ND2	2.28	0.47
1:C:66:VAL:HG11	2:D:8:ALA:O	2.14	0.47
2:D:121:LEU:HB3	2:D:206:SER:HB3	1.96	0.47
2:B:73:HIS:HD2	2:B:94:LEU:HD12	1.79	0.47
2:B:118:LEU:HB3	4:B:315:HOH:O	2.13	0.47
1:C:32:LEU:CD2	2:D:180:TRP:HH2	2.26	0.47
1:G:103:PRO:CD	4:G:317:HOH:O	2.62	0.47
1:G:107:ILE:HG12	1:G:151:TYR:CD2	2.48	0.47
2:B:161:ASN:HA	2:B:197:VAL:O	2.15	0.47
1:C:102:GLN:NE2	1:C:103:PRO:HD2	2.28	0.47
1:C:125:ASN:HB2	1:C:127:LYS:NZ	2.30	0.47
1:E:83:ALA:HA	4:E:314:HOH:O	2.13	0.47
1:E:120:ILE:CD1	1:E:148:LYS:HD2	2.44	0.47
1:G:45:MET:HE2	2:H:179:ASP:HA	1.93	0.47
1:G:68:LYS:HZ3	1:G:68:LYS:CB	2.28	0.47
2:H:81:ARG:HB2	2:H:82:PRO:HD3	1.96	0.47
2:H:100:GLU:HG2	2:H:104:VAL:CG2	2.45	0.47
2:B:123:GLN:HG3	2:B:206:SER:HB2	1.95	0.47
2:D:58:TYR:CE2	2:D:59:ASN:ND2	2.82	0.47
2:D:83:ASP:OD2	2:D:83:ASP:N	2.45	0.47
1:E:45:MET:HE2	2:F:179:ASP:HA	1.97	0.47
2:F:146:VAL:HG11	2:F:154:ILE:HD11	1.97	0.47
2:F:154:ILE:HG12	2:F:155:LYS:N	2.29	0.47
2:H:120:ARG:HH12	2:H:180:TRP:CB	2.27	0.47
2:H:123:GLN:CG	2:H:206:SER:OG	2.62	0.47
2:H:206:SER:H	2:H:207:LEU:HD22	1.80	0.47
2:D:128:ILE:HD11	2:D:215:TRP:HD1	1.80	0.47
1:E:123:LEU:HD11	1:E:165:LYS:HD2	1.96	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:152:ALA:HB2	2:F:182:PHE:CE2	2.50	0.47
1:A:6:VAL:HG13	1:A:6:VAL:O	2.14	0.47
2:B:131:SER:OG	2:B:132:ARG:N	2.47	0.47
2:B:160:ARG:O	2:B:161:ASN:C	2.58	0.47
1:C:98:VAL:CG2	4:C:331:HOH:O	2.63	0.47
2:D:78:GLU:C	2:D:80:GLY:H	2.23	0.47
2:D:121:LEU:HG	2:D:205:PRO:O	2.15	0.47
2:D:173:GLN:HB3	2:D:174:LEU:HD23	1.97	0.47
1:E:73:VAL:CG1	1:E:77:ARG:HH21	2.27	0.47
1:E:122:TRP:CZ3	1:E:164:CYS:HB2	2.49	0.47
2:F:128:ILE:H	2:F:128:ILE:HD13	1.79	0.47
1:G:124:ARG:C	1:G:125:ASN:HD22	2.23	0.47
1:G:163:ASP:OD1	1:G:176:LEU:HG	2.15	0.47
4:G:323:HOH:O	2:H:40:GLU:HB2	2.14	0.47
2:H:41:CYS:CB	2:H:52:TYR:HD1	2.21	0.47
2:H:153:LYS:HG2	2:H:204:HIS:CD2	2.49	0.47
2:H:165:GLU:OE1	2:H:165:GLU:HA	2.14	0.47
1:A:130:ALA:C	1:A:131:ASP:CG	2.82	0.47
2:B:172:THR:HG21	2:B:185:LEU:HB2	1.95	0.47
1:C:74:LEU:HD21	2:D:63:TYR:CZ	2.50	0.47
1:E:15:GLN:CG	2:F:34:VAL:HG22	2.40	0.47
2:B:203:GLU:O	2:B:204:HIS:HB3	2.15	0.47
1:C:168:HIS:C	1:C:170:GLY:H	2.22	0.47
2:F:161:ASN:HA	2:F:197:VAL:O	2.15	0.47
2:F:174:LEU:HB2	4:F:329:HOH:O	2.15	0.47
1:A:125:ASN:HB2	1:A:127:LYS:NZ	2.30	0.47
2:B:88:ASN:OD1	2:B:94:LEU:CD1	2.63	0.47
2:B:109:TYR:CZ	2:B:118:LEU:HD21	2.50	0.47
1:E:45:MET:CE	2:F:179:ASP:HA	2.44	0.47
2:F:194:ARG:HG3	2:F:194:ARG:HH11	1.80	0.47
1:G:76:LYS:C	1:G:78:SER:N	2.73	0.47
1:G:148:LYS:CG	1:G:149:LEU:N	2.76	0.47
2:H:106:ARG:HG2	2:H:110:GLU:CD	2.39	0.47
2:H:163:GLN:H	2:H:163:GLN:HE21	1.61	0.47
1:C:152:LEU:C	1:C:152:LEU:CD2	2.88	0.46
1:E:22:GLN:HE22	1:E:138:PHE:HB2	1.80	0.46
1:E:65:ALA:HA	1:E:68:LYS:HZ3	1.80	0.46
1:E:148:LYS:CG	1:E:149:LEU:N	2.77	0.46
2:F:1:PHE:CE1	2:F:115:HIS:CG	3.03	0.46
1:G:141:ASN:ND2	1:G:146:PHE:C	2.74	0.46
2:H:108:ASN:O	2:H:113:GLU:HB2	2.15	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:76:LYS:C	1:A:78:SER:N	2.72	0.46
2:B:142:LEU:HD13	2:B:190:MET:SD	2.54	0.46
2:D:136:LEU:HA	2:D:140:ASN:ND2	2.30	0.46
2:D:204:HIS:CB	2:D:205:PRO:CD	2.93	0.46
2:F:62:GLU:CD	4:F:319:HOH:O	2.58	0.46
2:H:80:GLY:C	2:H:82:PRO:HD2	2.39	0.46
2:H:160:ARG:O	2:H:161:ASN:C	2.57	0.46
2:F:171:SER:HB2	2:F:186:VAL:HG22	1.97	0.46
1:G:9:TYR:CD1	1:G:25:PHE:CD2	3.02	0.46
2:H:29:SER:O	2:H:30:GLU:HG3	2.14	0.46
2:H:203:GLU:O	2:H:204:HIS:HB3	2.15	0.46
1:A:30:ASP:HB3	2:B:180:TRP:CD2	2.50	0.46
2:B:154:ILE:HG12	2:B:155:LYS:N	2.31	0.46
1:C:135:GLU:CG	1:C:148:LYS:HD3	2.45	0.46
1:E:31:GLU:OE1	1:E:137:SER:HB2	2.16	0.46
1:E:109:PHE:HA	1:E:149:LEU:CD1	2.43	0.46
1:E:114:PHE:CE1	4:E:324:HOH:O	2.67	0.46
1:E:134:TYR:HA	4:E:309:HOH:O	2.16	0.46
2:F:174:LEU:O	2:F:175:ILE:HB	2.15	0.46
2:H:132:ARG:HB2	2:H:141:THR:CB	2.45	0.46
1:A:167:GLU:CB	3:A:302:NAG:H81	2.40	0.46
2:B:101:LEU:O	2:B:101:LEU:HD23	2.15	0.46
2:D:174:LEU:HG	2:D:175:ILE:H	1.80	0.46
2:F:116:THR:CG2	2:F:117:SER:N	2.73	0.46
1:G:11:ILE:HD13	1:G:140:VAL:HG21	1.97	0.46
1:G:31:GLU:OE1	1:G:137:SER:HB2	2.15	0.46
2:H:166:THR:O	2:H:169:VAL:HG13	2.16	0.46
1:A:92:VAL:HG12	1:A:93:PHE:N	2.29	0.46
1:A:135:GLU:CD	1:A:148:LYS:HD3	2.41	0.46
2:B:4:GLN:HG2	2:B:103:THR:O	2.15	0.46
2:F:50:ILE:HG22	2:F:51:ARG:N	2.29	0.46
2:F:169:VAL:O	2:F:169:VAL:HG23	2.14	0.46
1:G:92:VAL:HG12	1:G:93:PHE:N	2.31	0.46
1:A:135:GLU:OE2	1:A:148:LYS:CE	2.63	0.46
2:B:64:VAL:HG12	2:B:65:ARG:N	2.31	0.46
2:D:67:ASP:HB3	2:D:70:VAL:HG23	1.97	0.46
2:D:158:TRP:CG	2:D:188:LEU:HD22	2.51	0.46
1:E:76:LYS:C	1:E:78:SER:N	2.71	0.46
1:E:115:PRO:O	1:E:168:HIS:HE1	1.98	0.46
1:E:159:ASP:CG	1:E:160:ASP:N	2.74	0.46
1:A:109:PHE:HE1	1:A:147:HIS:CD2	2.34	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:207:LEU:HG	2:B:211:ILE:HG23	1.98	0.46
1:C:136:THR:O	1:C:148:LYS:NZ	2.44	0.46
2:D:136:LEU:HB2	4:D:326:HOH:O	2.15	0.46
2:D:136:LEU:CB	1:E:142:ARG:HH12	2.25	0.46
1:E:77:ARG:O	1:E:77:ARG:HG2	2.15	0.46
2:F:119:ARG:HB3	2:F:119:ARG:CZ	2.46	0.46
1:C:71:LEU:O	1:C:72:GLY:C	2.59	0.46
1:C:115:PRO:HB2	1:C:116:PRO:HD2	1.97	0.46
1:E:12:SER:HB2	1:E:67:VAL:HG21	1.97	0.46
2:F:106:ARG:HG2	2:F:110:GLU:CD	2.40	0.46
1:G:10:GLY:HA2	1:G:23:TYR:OH	2.16	0.46
2:H:169:VAL:O	2:H:169:VAL:HG23	2.16	0.46
2:B:126:VAL:HG21	2:B:211:ILE:HD11	1.98	0.46
1:C:94:PRO:CB	4:C:331:HOH:O	2.63	0.46
2:D:106:ARG:O	2:D:110:GLU:HG3	2.16	0.46
1:E:152:LEU:C	1:E:152:LEU:CD2	2.88	0.46
2:F:149:PHE:CE1	2:F:183:GLN:HA	2.50	0.46
1:A:140:VAL:HG11	2:B:38:MET:HE1	1.97	0.45
1:C:168:HIS:C	1:C:170:GLY:N	2.73	0.45
1:G:11:ILE:HG13	1:G:24:THR:O	2.15	0.45
1:G:17:PRO:HG3	2:H:32:HIS:HA	1.96	0.45
1:G:122:TRP:O	1:G:123:LEU:HD23	2.15	0.45
2:H:152:ALA:HB2	2:H:182:PHE:CE2	2.51	0.45
1:A:71:LEU:O	1:A:72:GLY:C	2.59	0.45
2:B:126:VAL:CG1	2:B:211:ILE:HD11	2.46	0.45
2:B:180:TRP:C	4:B:333:HOH:O	2.59	0.45
2:B:204:HIS:O	2:B:205:PRO:C	2.59	0.45
2:D:153:LYS:HD3	2:D:204:HIS:CD2	2.50	0.45
2:H:88:ASN:OD1	2:H:94:LEU:HD13	2.16	0.45
2:H:132:ARG:HB2	2:H:141:THR:OG1	2.16	0.45
2:B:63:TYR:CA	2:B:76:VAL:HG13	2.46	0.45
2:B:119:ARG:CB	2:B:119:ARG:HH11	2.29	0.45
1:C:4:ASP:HB2	4:D:323:HOH:O	2.15	0.45
1:C:139:PHE:HB2	1:C:147:HIS:CD2	2.52	0.45
1:E:1:ILE:H3	2:F:42:TYR:HE2	1.63	0.45
1:E:71:LEU:O	1:E:72:GLY:C	2.60	0.45
1:E:136:THR:HG23	1:E:151:TYR:HE1	1.80	0.45
2:D:124:PRO:HB3	2:D:149:PHE:HB3	1.98	0.45
2:D:155:LYS:HD2	2:D:157:ARG:HH21	1.80	0.45
1:E:48:GLU:HG2	1:E:49:PHE:H	1.81	0.45
2:F:113:GLU:OE1	2:F:113:GLU:CA	2.61	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:173:GLN:HB3	2:H:174:LEU:HD23	1.98	0.45
2:H:193:ARG:HB2	2:H:196:GLU:HG3	1.97	0.45
2:B:85:GLU:OE2	2:B:85:GLU:HA	2.17	0.45
2:B:204:HIS:O	2:B:206:SER:N	2.50	0.45
2:D:119:ARG:NH1	2:D:119:ARG:CB	2.77	0.45
2:D:120:ARG:NH1	2:D:120:ARG:CG	2.78	0.45
2:F:107:HIS:HD2	2:F:108:ASN:OD1	2.00	0.45
1:G:51:GLN:OE1	1:G:51:GLN:HA	2.16	0.45
2:H:94:LEU:CD2	2:H:98:ARG:NH2	2.79	0.45
1:C:19:ASP:OD2	1:C:19:ASP:O	2.35	0.45
1:C:33:PHE:HB2	1:C:43:VAL:O	2.16	0.45
1:C:115:PRO:O	1:C:168:HIS:HE1	2.00	0.45
2:D:63:TYR:C	2:D:76:VAL:CG1	2.84	0.45
2:D:161:ASN:HA	2:D:197:VAL:O	2.17	0.45
2:F:88:ASN:OD1	2:F:94:LEU:HD13	2.17	0.45
1:G:6:VAL:O	1:G:6:VAL:HG13	2.17	0.45
1:G:160:ASP:OD2	1:G:160:ASP:C	2.57	0.45
2:B:165:GLU:OE2	2:B:167:VAL:HG22	2.16	0.45
1:C:148:LYS:CG	1:C:149:LEU:N	2.79	0.45
2:D:194:ARG:HG3	2:D:194:ARG:NH1	2.31	0.45
1:E:130:ALA:C	1:E:131:ASP:CG	2.85	0.45
2:F:108:ASN:O	2:F:113:GLU:HB2	2.17	0.45
1:A:168:HIS:C	1:A:170:GLY:H	2.24	0.45
1:E:119:ASN:ND2	3:E:308:NAG:C7	2.80	0.45
1:G:56:ASP:OD2	1:G:58:GLN:HG3	2.16	0.45
2:H:9:ASN:HB2	2:H:87:TRP:CZ2	2.52	0.45
2:B:120:ARG:NH1	2:B:120:ARG:HG2	2.31	0.45
2:B:160:ARG:C	2:B:162:GLY:N	2.75	0.45
1:C:104:ASN:HB3	1:C:154:PHE:CE1	2.51	0.45
1:C:130:ALA:O	1:C:131:ASP:CG	2.60	0.45
1:E:12:SER:OG	1:E:63:ASN:ND2	2.40	0.45
1:G:48:GLU:HG2	1:G:49:PHE:H	1.82	0.45
2:H:4:GLN:HG3	2:H:5:LYS:N	2.31	0.45
2:B:173:GLN:HB3	2:B:174:LEU:HD23	1.98	0.45
2:D:123:GLN:HE21	2:D:207:LEU:HD13	1.81	0.45
2:H:9:ASN:CB	2:H:87:TRP:CE2	3.00	0.45
2:H:111:GLY:O	2:H:115:HIS:CD2	2.66	0.45
1:A:85:ASN:ND2	2:B:29:SER:CB	2.80	0.44
1:C:139:PHE:HB2	1:C:147:HIS:NE2	2.33	0.44
1:E:104:ASN:O	1:E:154:PHE:CD1	2.70	0.44
1:A:56:ASP:OD2	1:A:58:GLN:NE2	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:135:GLU:OE2	1:A:148:LYS:HD3	2.17	0.44
2:B:156:VAL:CG1	2:B:186:VAL:HG21	2.44	0.44
2:B:208:LYS:HG2	4:B:314:HOH:O	2.16	0.44
3:C:305:NAG:C8	4:C:332:HOH:O	2.64	0.44
2:D:94:LEU:CD2	2:D:98:ARG:NH2	2.74	0.44
1:E:77:ARG:N	2:F:16:GLY:HA2	2.32	0.44
1:E:168:HIS:O	1:E:171:LEU:HD12	2.17	0.44
2:F:120:ARG:NH1	2:F:120:ARG:HG2	2.29	0.44
2:F:126:VAL:HG23	2:F:213:VAL:HG21	1.99	0.44
1:G:96:SER:HB2	1:G:97:PRO:CD	2.38	0.44
1:A:115:PRO:O	1:A:168:HIS:CE1	2.67	0.44
2:B:1:PHE:CD1	2:B:1:PHE:N	2.84	0.44
1:C:12:SER:HB2	1:C:67:VAL:HG21	1.99	0.44
1:C:157:SER:HB2	1:C:159:ASP:OD1	2.16	0.44
1:E:11:ILE:HA	2:F:37:PHE:O	2.17	0.44
2:H:139:HIS:C	2:H:140:ASN:CG	2.85	0.44
1:A:134:TYR:HD2	1:A:151:TYR:CD1	2.35	0.44
1:C:73:VAL:CG1	2:D:14:GLY:HA3	2.43	0.44
2:D:113:GLU:HA	2:D:116:THR:HG22	1.99	0.44
1:E:143:ASP:O	2:F:60:ARG:NE	2.48	0.44
2:F:128:ILE:HG13	2:F:215:TRP:HB2	1.99	0.44
2:F:203:GLU:O	2:F:204:HIS:HB3	2.17	0.44
2:B:106:ARG:HG2	2:B:110:GLU:OE1	2.17	0.44
1:C:144:TYR:CD2	2:D:57:ILE:HG12	2.52	0.44
1:G:16:SER:HB3	1:G:17:PRO:HD3	2.00	0.44
4:G:323:HOH:O	2:H:40:GLU:CA	2.60	0.44
1:A:148:LYS:O	1:A:149:LEU:HD22	2.17	0.44
2:D:78:GLU:OE1	2:D:78:GLU:HA	2.17	0.44
1:E:96:SER:CB	1:E:97:PRO:HD2	2.31	0.44
1:G:159:ASP:CG	1:G:160:ASP:N	2.76	0.44
2:H:126:VAL:HG21	2:H:211:ILE:HD11	1.99	0.44
2:B:106:ARG:HD2	4:B:330:HOH:O	2.17	0.44
1:C:124:ARG:HE	1:C:162:TYR:HE1	1.65	0.44
1:C:180:GLU:HG2	1:C:181:PRO:N	2.33	0.44
2:D:166:THR:O	2:D:169:VAL:CG2	2.65	0.44
1:E:85:ASN:HD22	1:E:169:TRP:HB2	1.82	0.44
2:F:47:THR:O	2:F:47:THR:HG23	2.17	0.44
2:B:170:SER:N	4:B:328:HOH:O	2.51	0.44
1:C:111:ASP:OD1	1:C:141:ASN:ND2	2.36	0.44
1:C:111:ASP:HA	1:C:147:HIS:CB	2.47	0.44
1:G:104:ASN:OD1	1:G:105:THR:N	2.50	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:167:GLU:HB3	3:G:311:NAG:C7	2.47	0.44
2:H:150:TYR:HA	2:H:151:PRO:C	2.42	0.44
2:B:175:ILE:HB	2:B:183:GLN:O	2.18	0.44
2:D:189:GLU:HG2	2:F:173:GLN:NE2	2.33	0.44
1:E:97:PRO:HG3	4:F:334:HOH:O	2.17	0.44
1:E:111:ASP:HA	1:E:147:HIS:CB	2.47	0.44
1:G:135:GLU:HG2	1:G:148:LYS:HD3	1.99	0.44
2:H:65:ARG:O	2:H:73:HIS:HA	2.18	0.44
2:H:183:GLN:O	2:H:183:GLN:HG3	2.17	0.44
1:A:125:ASN:CA	4:A:326:HOH:O	2.62	0.43
1:A:168:HIS:C	1:A:170:GLY:N	2.74	0.43
1:A:172:GLU:OE1	1:A:172:GLU:N	2.37	0.43
1:C:180:GLU:CG	1:C:181:PRO:HD2	2.48	0.43
2:D:123:GLN:NE2	2:D:207:LEU:CD1	2.81	0.43
2:D:154:ILE:HG12	2:D:155:LYS:N	2.33	0.43
2:D:216:LYS:O	2:D:217:ALA:C	2.61	0.43
2:F:132:ARG:HG2	2:F:139:HIS:HA	2.00	0.43
1:C:96:SER:CB	1:C:97:PRO:HD2	2.42	0.43
1:E:14:TYR:CE2	1:E:68:LYS:HG3	2.53	0.43
2:F:171:SER:CB	2:F:186:VAL:HG22	2.48	0.43
1:G:168:HIS:C	1:G:170:GLY:N	2.72	0.43
2:H:4:GLN:OE1	4:H:314:HOH:O	2.21	0.43
2:H:42:TYR:H	2:H:42:TYR:HD1	1.65	0.43
2:H:160:ARG:NH1	2:H:198:TYR:HE2	2.16	0.43
2:H:174:LEU:H	2:H:174:LEU:CD2	2.21	0.43
2:B:128:ILE:HG13	2:B:215:TRP:HB2	2.00	0.43
1:E:14:TYR:CZ	1:E:19:ASP:HA	2.54	0.43
1:E:32:LEU:O	1:E:33:PHE:HB3	2.17	0.43
2:H:124:PRO:HB3	2:H:149:PHE:HB3	1.99	0.43
2:H:132:ARG:HG2	2:H:139:HIS:HA	2.00	0.43
2:H:136:LEU:HA	2:H:140:ASN:ND2	2.29	0.43
2:H:188:LEU:HD12	2:H:189:GLU:N	2.33	0.43
2:B:130:LEU:HD12	2:B:141:THR:O	2.19	0.43
2:B:174:LEU:HD23	2:B:174:LEU:N	2.22	0.43
1:E:46:LEU:HD23	1:E:49:PHE:CE1	2.53	0.43
2:H:166:THR:C	2:H:169:VAL:HG13	2.44	0.43
1:A:48:GLU:HG2	1:A:49:PHE:H	1.83	0.43
1:C:14:TYR:CZ	1:C:19:ASP:HA	2.53	0.43
2:D:55:ARG:HG2	2:D:62:GLU:OE2	2.18	0.43
2:F:126:VAL:CG2	2:F:211:ILE:HD11	2.49	0.43
1:G:119:ASN:HB2	1:G:167:GLU:HB2	1.99	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:G:152:LEU:CD2	1:G:152:LEU:C	2.91	0.43
2:H:65:ARG:HG2	2:H:66:TYR:H	1.82	0.43
2:B:29:SER:O	2:B:30:GLU:HG3	2.18	0.43
2:B:120:ARG:HG2	2:B:150:TYR:CD1	2.53	0.43
2:B:206:SER:H	2:B:207:LEU:HD22	1.84	0.43
1:C:32:LEU:HD23	2:D:180:TRP:HH2	1.75	0.43
2:D:7:LYS:HD3	4:D:307:HOH:O	2.19	0.43
2:D:58:TYR:O	2:D:59:ASN:HB2	2.17	0.43
2:H:160:ARG:C	2:H:162:GLY:N	2.76	0.43
1:A:1:ILE:O	1:A:2:GLU:C	2.62	0.43
1:C:78:SER:CB	4:C:328:HOH:O	2.62	0.43
2:D:10:LYS:O	2:D:87:TRP:NE1	2.50	0.43
2:F:132:ARG:HB2	2:F:141:THR:CB	2.48	0.43
1:G:110:VAL:O	1:G:147:HIS:HB2	2.18	0.43
2:B:166:THR:O	2:B:169:VAL:CG1	2.67	0.43
1:C:162:TYR:HD2	1:C:179:TRP:CZ3	2.37	0.43
2:D:58:TYR:O	2:D:60:ARG:N	2.51	0.43
2:D:159:PHE:HD1	2:D:163:GLN:O	2.01	0.43
1:E:79:ASN:HD22	1:E:79:ASN:HA	1.51	0.43
1:E:118:ILE:HD11	1:E:166:VAL:CG1	2.49	0.43
2:F:121:LEU:HG	2:F:205:PRO:O	2.19	0.43
1:G:79:ASN:CG	1:G:79:ASN:O	2.62	0.43
2:H:120:ARG:HH12	2:H:180:TRP:HB3	1.80	0.43
1:A:130:ALA:O	1:A:131:ASP:CB	2.66	0.43
2:B:128:ILE:HD11	2:B:215:TRP:HD1	1.84	0.43
2:F:65:ARG:O	2:F:73:HIS:HA	2.19	0.43
2:F:150:TYR:HA	2:F:151:PRO:C	2.44	0.43
2:F:160:ARG:C	2:F:162:GLY:N	2.76	0.43
1:G:48:GLU:HG2	1:G:49:PHE:N	2.34	0.43
2:H:57:ILE:HG13	2:H:62:GLU:CA	2.47	0.43
2:H:174:LEU:HD23	2:H:174:LEU:N	2.22	0.43
2:B:57:ILE:HG13	2:B:62:GLU:HA	2.01	0.43
1:C:15:GLN:NE2	1:C:116:PRO:HD2	2.34	0.43
1:C:58:GLN:NE2	1:C:59:GLY:N	2.66	0.43
2:D:157:ARG:HD3	2:D:164:GLU:OE1	2.19	0.43
2:D:160:ARG:C	2:D:162:GLY:N	2.76	0.43
1:E:134:TYR:CG	1:E:135:GLU:N	2.86	0.43
1:E:141:ASN:ND2	1:E:146:PHE:C	2.76	0.43
2:F:58:TYR:O	2:F:60:ARG:N	2.52	0.43
2:F:149:PHE:HE1	2:F:183:GLN:HA	1.84	0.43
1:G:14:TYR:OH	1:G:68:LYS:HD3	2.19	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:11:ILE:HA	2:B:37:PHE:O	2.19	0.42
1:C:135:GLU:CD	1:C:148:LYS:HD3	2.44	0.42
1:C:136:THR:HG23	1:C:149:LEU:HB2	2.01	0.42
2:F:42:TYR:H	2:F:42:TYR:HD1	1.65	0.42
3:A:301:NAG:C7	3:A:301:NAG:HO3	2.32	0.42
1:C:18:GLY:C	1:C:20:ILE:HG13	2.44	0.42
2:D:43:PHE:CD2	2:D:109:TYR:CD2	3.07	0.42
2:D:54:THR:OG1	2:D:66:TYR:HB3	2.19	0.42
2:D:169:VAL:HG23	2:D:169:VAL:O	2.17	0.42
2:F:62:GLU:CG	4:F:319:HOH:O	2.66	0.42
2:F:64:VAL:HG12	2:F:65:ARG:N	2.34	0.42
2:F:183:GLN:O	2:F:183:GLN:HG3	2.19	0.42
2:H:123:GLN:CA	2:H:206:SER:OG	2.68	0.42
2:D:150:TYR:HA	2:D:151:PRO:C	2.45	0.42
1:E:124:ARG:HG2	1:E:125:ASN:HD22	1.84	0.42
2:F:57:ILE:HG13	2:F:62:GLU:CA	2.49	0.42
1:G:15:GLN:CD	1:G:116:PRO:HG2	2.43	0.42
1:G:74:LEU:HD21	2:H:63:TYR:CZ	2.54	0.42
1:G:77:ARG:NH1	2:H:83:ASP:OD2	2.52	0.42
1:G:124:ARG:HG2	1:G:125:ASN:ND2	2.28	0.42
1:G:171:LEU:O	1:G:171:LEU:HD12	2.19	0.42
2:H:150:TYR:CD1	2:H:151:PRO:HA	2.54	0.42
2:H:179:ASP:O	2:H:180:TRP:HB2	2.19	0.42
1:A:14:TYR:HH	1:A:19:ASP:CG	2.27	0.42
2:B:42:TYR:H	2:B:42:TYR:HD1	1.63	0.42
2:B:81:ARG:O	2:B:82:PRO:C	2.63	0.42
1:E:130:ALA:O	1:E:131:ASP:CB	2.68	0.42
1:G:79:ASN:HB2	2:H:18:SER:CA	2.37	0.42
2:H:58:TYR:O	2:H:60:ARG:N	2.52	0.42
2:H:123:GLN:N	2:H:206:SER:OG	2.51	0.42
1:A:131:ASP:C	1:A:133:VAL:N	2.75	0.42
1:C:7:GLY:HA2	1:C:27:PHE:HD1	1.84	0.42
2:D:140:ASN:O	2:D:190:MET:HE3	2.19	0.42
1:E:82:PRO:HA	2:F:33:PHE:CE1	2.54	0.42
2:F:58:TYR:O	2:F:59:ASN:HB2	2.20	0.42
2:F:120:ARG:C	2:F:121:LEU:HD12	2.44	0.42
2:F:154:ILE:CG1	2:F:155:LYS:N	2.82	0.42
1:A:77:ARG:O	1:A:77:ARG:HG2	2.20	0.42
1:A:168:HIS:O	1:A:171:LEU:HD12	2.18	0.42
1:C:31:GLU:OE1	1:C:137:SER:HB2	2.18	0.42
2:D:204:HIS:O	2:D:206:SER:N	2.53	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:F:81:ARG:O	2:F:82:PRO:C	2.62	0.42
1:G:131:ASP:C	1:G:133:VAL:N	2.75	0.42
2:H:150:TYR:CD2	2:H:180:TRP:O	2.73	0.42
1:A:32:LEU:O	1:A:33:PHE:HB3	2.20	0.42
2:B:149:PHE:CE1	2:B:183:GLN:CA	3.02	0.42
2:D:204:HIS:O	2:D:205:PRO:C	2.62	0.42
1:E:4:ASP:HB3	4:E:310:HOH:O	2.18	0.42
1:G:139:PHE:CB	1:G:147:HIS:CE1	3.02	0.42
1:G:162:TYR:O	1:G:178:HIS:CD2	2.73	0.42
2:H:78:GLU:C	2:H:80:GLY:N	2.78	0.42
2:D:104:VAL:HG21	4:D:312:HOH:O	2.20	0.42
1:E:71:LEU:HD13	2:F:35:TYR:HB2	2.00	0.42
1:E:131:ASP:C	1:E:133:VAL:N	2.76	0.42
2:F:119:ARG:HB3	2:F:119:ARG:NH1	2.34	0.42
2:F:124:PRO:HB3	2:F:149:PHE:HB3	2.02	0.42
2:H:58:TYR:CE2	2:H:59:ASN:ND2	2.88	0.42
2:H:126:VAL:CG1	2:H:202:VAL:HG21	2.50	0.42
2:H:149:PHE:CE1	2:H:183:GLN:HA	2.54	0.42
1:E:25:PHE:CD1	1:E:33:PHE:CZ	3.08	0.42
1:E:53:ALA:HA	2:F:1:PHE:O	2.18	0.42
1:E:109:PHE:HD1	1:E:149:LEU:CD1	2.27	0.42
2:F:72:GLU:HB2	2:F:88:ASN:OD1	2.20	0.42
2:F:132:ARG:HB2	2:F:141:THR:HB	2.02	0.42
1:G:85:ASN:ND2	1:G:169:TRP:CB	2.82	0.42
2:H:132:ARG:HB2	2:H:141:THR:HB	2.02	0.42
2:H:188:LEU:HD12	2:H:188:LEU:C	2.44	0.42
1:A:74:LEU:HD21	2:B:63:TYR:CE2	2.54	0.42
1:G:110:VAL:CB	1:G:113:ILE:HD11	2.48	0.42
1:A:15:GLN:OE1	1:A:116:PRO:HG2	2.20	0.41
2:B:119:ARG:HH11	2:B:119:ARG:HB2	1.85	0.41
1:C:106:LEU:HD23	1:C:122:TRP:CZ3	2.55	0.41
2:D:12:VAL:HG11	2:D:86:TYR:HB2	2.02	0.41
4:A:312:HOH:O	2:B:176:ARG:CG	2.63	0.41
2:B:165:GLU:CB	4:B:334:HOH:O	2.63	0.41
2:F:126:VAL:HG11	2:F:211:ILE:HD11	2.00	0.41
2:F:158:TRP:CD1	2:F:188:LEU:HB2	2.55	0.41
2:B:20:VAL:HG13	2:B:21:PRO:CD	2.46	0.41
2:B:58:TYR:O	2:B:59:ASN:HB2	2.20	0.41
2:B:120:ARG:NH1	2:B:180:TRP:O	2.36	0.41
1:C:130:ALA:O	1:C:131:ASP:CB	2.68	0.41
1:C:131:ASP:C	1:C:133:VAL:N	2.77	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:D:81:ARG:O	2:D:82:PRO:C	2.63	0.41
2:D:138:HIS:HE1	4:D:328:HOH:O	2.03	0.41
2:F:160:ARG:NH1	2:F:198:TYR:OH	2.53	0.41
2:F:204:HIS:O	2:F:205:PRO:C	2.64	0.41
1:A:145:SER:C	1:A:146:PHE:CD1	2.98	0.41
2:B:65:ARG:O	2:B:73:HIS:HA	2.21	0.41
2:B:174:LEU:HG	2:B:175:ILE:H	1.86	0.41
1:C:56:ASP:OD2	1:C:58:GLN:CG	2.68	0.41
2:D:109:TYR:HA	2:D:113:GLU:CB	2.51	0.41
2:D:124:PRO:HB2	2:D:146:VAL:HG12	2.02	0.41
1:E:79:ASN:OD1	3:E:307:NAG:H61	2.20	0.41
1:E:113:ILE:HG23	1:E:168:HIS:CE1	2.56	0.41
2:F:55:ARG:HD3	2:F:62:GLU:OE2	2.21	0.41
2:F:66:TYR:CD2	2:F:66:TYR:C	2.97	0.41
2:F:153:LYS:CG	4:F:332:HOH:O	2.66	0.41
2:F:160:ARG:NH2	2:F:196:GLU:OE2	2.53	0.41
1:A:19:ASP:O	1:A:19:ASP:OD2	2.39	0.41
2:B:76:VAL:HG22	2:B:77:THR:HG23	2.01	0.41
2:B:172:THR:HG23	2:B:185:LEU:HB2	2.02	0.41
1:C:162:TYR:HD2	1:C:179:TRP:HZ3	1.67	0.41
2:D:111:GLY:O	2:D:115:HIS:CD2	2.68	0.41
2:D:119:ARG:CB	2:D:119:ARG:HH11	2.33	0.41
2:D:216:LYS:O	2:D:217:ALA:OXT	2.39	0.41
1:E:51:GLN:OE1	1:E:51:GLN:HA	2.20	0.41
1:E:143:ASP:HB2	2:F:60:ARG:NH2	2.36	0.41
1:E:149:LEU:N	1:E:149:LEU:CD2	2.83	0.41
1:G:135:GLU:CG	1:G:148:LYS:HD3	2.50	0.41
2:H:10:LYS:O	2:H:87:TRP:NE1	2.49	0.41
1:A:3:ALA:O	1:A:4:ASP:O	2.39	0.41
1:A:74:LEU:HD21	2:B:63:TYR:CZ	2.56	0.41
1:A:123:LEU:O	1:A:162:TYR:HA	2.20	0.41
1:A:124:ARG:HG2	1:A:125:ASN:ND2	2.35	0.41
2:B:87:TRP:HA	2:B:93:ILE:HG21	2.03	0.41
2:B:199:THR:HG22	2:B:214:GLU:HA	2.03	0.41
1:C:1:ILE:O	1:C:2:GLU:C	2.64	0.41
2:B:142:LEU:HD13	2:B:190:MET:HE2	2.02	0.41
2:D:65:ARG:O	2:D:73:HIS:HA	2.20	0.41
2:D:172:THR:CG2	2:D:185:LEU:HB2	2.50	0.41
2:F:136:LEU:O	2:F:137:ASN:CG	2.64	0.41
1:G:22:GLN:HG2	1:G:24:THR:HG23	2.03	0.41
2:H:128:ILE:HD13	2:H:128:ILE:H	1.86	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:189:GLU:OE2	2:B:189:GLU:HA	2.20	0.41
2:D:204:HIS:ND1	2:D:205:PRO:CA	2.83	0.41
1:G:8:THR:HB	1:G:26:GLU:HB2	2.02	0.41
1:G:33:PHE:CD1	1:G:33:PHE:C	2.98	0.41
1:A:8:THR:HG22	1:A:11:ILE:CD1	2.43	0.41
1:A:96:SER:HB2	1:A:97:PRO:CD	2.44	0.41
1:A:113:ILE:HG12	1:A:118:ILE:HD12	2.03	0.41
1:A:124:ARG:HE	1:A:162:TYR:HE1	1.69	0.41
1:C:10:GLY:HA2	1:C:23:TYR:OH	2.20	0.41
2:D:38:MET:O	2:D:38:MET:CG	2.68	0.41
4:D:321:HOH:O	1:E:1:ILE:CG2	2.69	0.41
3:E:308:NAG:H83	4:E:313:HOH:O	2.21	0.41
2:F:65:ARG:HG2	2:F:66:TYR:H	1.86	0.41
2:F:106:ARG:CG	2:F:110:GLU:OE1	2.66	0.41
2:F:197:VAL:CG1	4:F:314:HOH:O	2.55	0.41
1:G:56:ASP:HA	1:G:57:PRO:HD3	1.86	0.41
2:H:96:ARG:NH2	4:H:340:HOH:O	2.42	0.41
2:H:174:LEU:O	2:H:175:ILE:HB	2.21	0.41
2:H:176:ARG:NH1	2:H:182:PHE:CZ	2.89	0.41
1:A:48:GLU:HG2	1:A:49:PHE:N	2.35	0.41
1:C:169:TRP:CD1	3:C:305:NAG:C8	3.04	0.41
1:E:64:ILE:HD13	1:E:64:ILE:HA	1.87	0.41
1:E:122:TRP:O	1:E:123:LEU:HD23	2.21	0.41
2:F:78:GLU:C	2:F:80:GLY:N	2.79	0.41
1:G:56:ASP:OD2	1:G:58:GLN:CG	2.70	0.41
1:G:139:PHE:HB2	1:G:147:HIS:CE1	2.56	0.41
1:G:142:ARG:C	1:G:144:TYR:H	2.29	0.41
2:H:204:HIS:CB	2:H:205:PRO:CD	2.97	0.41
2:H:204:HIS:O	2:H:205:PRO:C	2.63	0.41
1:A:79:ASN:HB2	2:B:18:SER:CA	2.31	0.40
1:A:110:VAL:CG1	1:A:113:ILE:HD11	2.50	0.40
2:B:189:GLU:OE2	2:B:189:GLU:CA	2.69	0.40
1:C:169:TRP:N	4:C:332:HOH:O	2.53	0.40
2:F:9:ASN:HA	4:F:350:HOH:O	2.21	0.40
2:F:204:HIS:O	2:F:206:SER:N	2.55	0.40
2:H:89:SER:C	4:H:315:HOH:O	2.64	0.40
2:H:204:HIS:O	2:H:206:SER:N	2.54	0.40
1:E:65:ALA:HA	1:E:68:LYS:NZ	2.36	0.40
1:E:102:GLN:NE2	1:E:103:PRO:HD2	2.36	0.40
1:E:124:ARG:O	1:E:125:ASN:HB2	2.22	0.40
1:G:123:LEU:O	1:G:162:TYR:HA	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:H:98:ARG:HG2	2:H:98:ARG:HH11	1.86	0.40
2:H:160:ARG:CZ	2:H:196:GLU:OE2	2.69	0.40
1:A:122:TRP:O	1:A:123:LEU:HD23	2.21	0.40
1:A:168:HIS:HD2	1:A:170:GLY:H	1.68	0.40
1:C:14:TYR:HA	1:C:20:ILE:O	2.22	0.40
1:C:92:VAL:HG12	1:C:93:PHE:N	2.37	0.40
2:D:63:TYR:CE2	2:D:64:VAL:CG2	3.03	0.40
1:E:18:GLY:O	1:E:19:ASP:C	2.64	0.40
1:E:22:GLN:HG2	1:E:24:THR:HG23	2.04	0.40
2:H:58:TYR:O	2:H:59:ASN:HB2	2.19	0.40
2:H:123:GLN:HA	2:H:206:SER:OG	2.21	0.40
2:H:165:GLU:OE1	2:H:165:GLU:CA	2.70	0.40
1:A:46:LEU:HD12	1:A:46:LEU:HA	1.89	0.40
1:A:139:PHE:HB2	1:A:147:HIS:NE2	2.37	0.40
2:B:52:TYR:CE2	2:B:100:GLU:HB2	2.55	0.40
2:B:57:ILE:N	2:B:57:ILE:HD12	2.37	0.40
2:B:106:ARG:O	2:B:110:GLU:HG3	2.21	0.40
2:B:209:SER:HA	2:B:210:PRO:HD3	1.93	0.40
2:D:126:VAL:HG23	2:D:213:VAL:CG2	2.47	0.40
2:D:170:SER:OG	2:F:170:SER:HB3	2.21	0.40
1:E:6:VAL:O	1:E:6:VAL:HG13	2.21	0.40
1:E:56:ASP:CG	1:E:58:GLN:HE21	2.30	0.40
2:F:52:TYR:CZ	2:F:54:THR:HG23	2.56	0.40
1:G:40:LYS:HB3	1:G:40:LYS:HE2	1.93	0.40
1:G:46:LEU:HD12	1:G:46:LEU:HA	1.70	0.40
1:G:106:LEU:HD12	1:G:106:LEU:HA	1.94	0.40
1:G:131:ASP:H	1:G:133:VAL:HG23	1.86	0.40
2:H:12:VAL:HG11	2:H:86:TYR:HB2	2.04	0.40
2:H:90:GLN:C	4:H:315:HOH:O	2.65	0.40
2:B:109:TYR:OH	2:B:118:LEU:HD21	2.21	0.40
2:D:20:VAL:CG1	2:D:21:PRO:HD2	2.48	0.40
2:D:158:TRP:CD2	2:D:188:LEU:HD22	2.56	0.40
2:D:174:LEU:H	2:D:174:LEU:CD2	2.28	0.40
2:D:193:ARG:O	2:D:196:GLU:HG3	2.21	0.40
1:E:180:GLU:HG2	1:E:182:GLU:H	1.87	0.40
1:G:131:ASP:C	1:G:133:VAL:H	2.30	0.40
1:G:145:SER:C	1:G:146:PHE:CD1	2.99	0.40

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:166:THR:O	2:H:171:SER:OG[2_645]	2.17	0.03

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	180/182 (99%)	149 (83%)	22 (12%)	9 (5%)	1	2
1	C	180/182 (99%)	148 (82%)	23 (13%)	9 (5%)	1	2
1	E	180/182 (99%)	148 (82%)	22 (12%)	10 (6%)	1	1
1	G	180/182 (99%)	147 (82%)	24 (13%)	9 (5%)	1	2
2	B	215/217 (99%)	173 (80%)	31 (14%)	11 (5%)	1	2
2	D	215/217 (99%)	172 (80%)	31 (14%)	12 (6%)	1	1
2	F	215/217 (99%)	174 (81%)	30 (14%)	11 (5%)	1	2
2	H	215/217 (99%)	171 (80%)	33 (15%)	11 (5%)	1	2
All	All	1580/1596 (99%)	1282 (81%)	216 (14%)	82 (5%)	1	1

All (82) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	4	ASP
1	A	131	ASP
2	B	13	ASP
2	B	138	HIS
2	B	161	ASN
2	B	204	HIS
1	C	4	ASP
1	C	77	ARG
1	C	131	ASP
2	D	13	ASP
2	D	138	HIS
2	D	161	ASN

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Mol	Chain	Res	Type
2	D	204	HIS
2	D	205	PRO
1	E	4	ASP
1	E	77	ARG
1	E	131	ASP
2	F	13	ASP
2	F	138	HIS
2	F	161	ASN
2	F	204	HIS
1	G	4	ASP
1	G	131	ASP
2	H	13	ASP
2	H	138	HIS
2	H	161	ASN
2	H	204	HIS
2	H	205	PRO
1	A	2	GLU
1	A	77	ARG
1	A	128	SER
2	B	137	ASN
2	B	205	PRO
1	C	2	GLU
1	C	128	SER
1	C	158	ASP
2	D	137	ASN
1	E	2	GLU
1	E	128	SER
1	E	158	ASP
2	F	137	ASN
2	F	205	PRO
1	G	2	GLU
1	G	77	ARG
1	G	128	SER
1	G	158	ASP
2	H	137	ASN
1	A	158	ASP
1	A	100	LEU
2	B	24	SER
2	B	105	CYS
1	C	100	LEU
2	D	24	SER
2	D	105	CYS

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Mol	Chain	Res	Type
2	F	24	SER
2	F	105	CYS
1	G	100	LEU
2	H	24	SER
2	H	105	CYS
1	C	76	LYS
1	E	100	LEU
2	F	136	LEU
2	H	136	LEU
1	C	174	PRO
2	D	59	ASN
2	D	136	LEU
1	E	76	LYS
2	F	28	GLY
1	G	174	PRO
1	A	174	PRO
2	B	28	GLY
2	B	175	ILE
2	D	28	GLY
2	D	175	ILE
1	E	174	PRO
2	F	175	ILE
1	G	73	VAL
2	H	28	GLY
2	H	175	ILE
1	A	73	VAL
2	B	112	PRO
1	E	73	VAL

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	163/163 (100%)	151 (93%)	12 (7%)	13	27
1	C	163/163 (100%)	150 (92%)	13 (8%)	11	24
1	E	163/163 (100%)	152 (93%)	11 (7%)	15	31

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	G	163/163 (100%)	151 (93%)	12 (7%)	13	27
2	B	189/189 (100%)	172 (91%)	17 (9%)	9	19
2	D	189/189 (100%)	169 (89%)	20 (11%)	6	14
2	F	189/189 (100%)	171 (90%)	18 (10%)	8	17
2	H	189/189 (100%)	173 (92%)	16 (8%)	10	22
All	All	1408/1408 (100%)	1289 (92%)	119 (8%)	10	22

All (119) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	1	ILE
1	A	46	LEU
1	A	63	ASN
1	A	68	LYS
1	A	99	LEU
1	A	129	VAL
1	A	131	ASP
1	A	152	LEU
1	A	163	ASP
1	A	171	LEU
1	A	172	GLU
1	A	175	VAL
2	B	31	ARG
2	B	76	VAL
2	B	83	ASP
2	B	113	GLU
2	B	128	ILE
2	B	140	ASN
2	B	142	LEU
2	B	163	GLN
2	B	169	VAL
2	B	174	LEU
2	B	181	THR
2	B	189	GLU
2	B	190	MET
2	B	191	THR
2	B	205	PRO
2	B	206	SER
2	B	207	LEU
1	C	1	ILE

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Mol	Chain	Res	Type
1	C	46	LEU
1	C	63	ASN
1	C	68	LYS
1	C	99	LEU
1	C	126	SER
1	C	129	VAL
1	C	131	ASP
1	C	163	ASP
1	C	171	LEU
1	C	172	GLU
1	C	174	PRO
1	C	175	VAL
2	D	22	ARG
2	D	31	ARG
2	D	42	TYR
2	D	76	VAL
2	D	77	THR
2	D	79	LEU
2	D	82	PRO
2	D	83	ASP
2	D	113	GLU
2	D	120	ARG
2	D	128	ILE
2	D	140	ASN
2	D	142	LEU
2	D	163	GLN
2	D	174	LEU
2	D	190	MET
2	D	205	PRO
2	D	206	SER
2	D	207	LEU
2	D	211	ILE
1	E	1	ILE
1	E	8	THR
1	E	46	LEU
1	E	57	PRO
1	E	68	LYS
1	E	99	LEU
1	E	129	VAL
1	E	163	ASP
1	E	171	LEU
1	E	172	GLU

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Mol	Chain	Res	Type
1	E	175	VAL
2	F	31	ARG
2	F	42	TYR
2	F	56	TYR
2	F	68	SER
2	F	76	VAL
2	F	79	LEU
2	F	83	ASP
2	F	94	LEU
2	F	113	GLU
2	F	128	ILE
2	F	140	ASN
2	F	142	LEU
2	F	163	GLN
2	F	174	LEU
2	F	189	GLU
2	F	206	SER
2	F	207	LEU
2	F	211	ILE
1	G	1	ILE
1	G	46	LEU
1	G	68	LYS
1	G	99	LEU
1	G	129	VAL
1	G	131	ASP
1	G	149	LEU
1	G	152	LEU
1	G	163	ASP
1	G	171	LEU
1	G	172	GLU
1	G	174	PRO
2	H	21	PRO
2	H	31	ARG
2	H	76	VAL
2	H	83	ASP
2	H	94	LEU
2	H	113	GLU
2	H	128	ILE
2	H	140	ASN
2	H	142	LEU
2	H	163	GLN
2	H	174	LEU

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Mol	Chain	Res	Type
2	H	185	LEU
2	H	190	MET
2	H	205	PRO
2	H	206	SER
2	H	207	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (57) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	15	GLN
1	A	58	GLN
1	A	62	GLN
1	A	85	ASN
1	A	89	GLN
1	A	168	HIS
1	A	178	HIS
2	B	36	GLN
2	B	73	HIS
2	B	115	HIS
2	B	138	HIS
2	B	140	ASN
2	B	163	GLN
1	C	15	GLN
1	C	22	GLN
1	C	58	GLN
1	C	102	GLN
1	C	168	HIS
2	D	36	GLN
2	D	115	HIS
2	D	123	GLN
2	D	125	ASN
2	D	138	HIS
2	D	140	ASN
2	D	163	GLN
2	D	173	GLN
2	D	183	GLN
1	E	5	HIS
1	E	15	GLN
1	E	58	GLN
1	E	62	GLN
1	E	63	ASN
1	E	89	GLN

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Mol	Chain	Res	Type
1	E	102	GLN
1	E	168	HIS
1	E	178	HIS
2	F	36	GLN
2	F	73	HIS
2	F	107	HIS
2	F	115	HIS
2	F	140	ASN
2	F	163	GLN
2	F	173	GLN
1	G	15	GLN
1	G	58	GLN
1	G	62	GLN
1	G	85	ASN
1	G	102	GLN
1	G	168	HIS
1	G	178	HIS
2	H	36	GLN
2	H	115	HIS
2	H	125	ASN
2	H	140	ASN
2	H	163	GLN
2	H	201	HIS
2	H	204	HIS

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 ⓘ

There are no oligosaccharides in this entry.

5.6 Ligand geometry ⓘ

12 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	F	309	2	14,14,15	0.74	0	17,19,21	1.16	2 (11%)
3	NAG	A	301	1	14,14,15	0.85	0	17,19,21	1.13	1 (5%)
3	NAG	C	305	1	14,14,15	0.70	1 (7%)	17,19,21	0.79	0
3	NAG	D	306	2	14,14,15	0.69	0	17,19,21	0.75	1 (5%)
3	NAG	B	303	2	14,14,15	0.62	0	17,19,21	0.56	0
3	NAG	E	308	1	14,14,15	0.97	1 (7%)	17,19,21	1.21	2 (11%)
3	NAG	H	312	2	14,14,15	0.79	0	17,19,21	0.68	0
3	NAG	A	302	1	14,14,15	0.53	0	17,19,21	0.70	0
3	NAG	C	304	1	14,14,15	0.93	0	17,19,21	0.85	1 (5%)
3	NAG	G	311	1	14,14,15	0.75	0	17,19,21	0.60	0
3	NAG	G	310	1	14,14,15	1.04	1 (7%)	17,19,21	1.68	3 (17%)
3	NAG	E	307	1	14,14,15	0.64	0	17,19,21	1.46	2 (11%)

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	F	309	2	-	3/6/23/26	0/1/1/1
3	NAG	A	301	1	-	4/6/23/26	0/1/1/1
3	NAG	C	305	1	-	3/6/23/26	0/1/1/1
3	NAG	D	306	2	-	5/6/23/26	0/1/1/1
3	NAG	B	303	2	-	5/6/23/26	0/1/1/1
3	NAG	E	308	1	-	5/6/23/26	0/1/1/1
3	NAG	H	312	2	-	4/6/23/26	0/1/1/1
3	NAG	A	302	1	-	4/6/23/26	0/1/1/1
3	NAG	C	304	1	-	5/6/23/26	0/1/1/1
3	NAG	G	311	1	1/1/5/7	4/6/23/26	0/1/1/1
3	NAG	G	310	1	-	3/6/23/26	0/1/1/1

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Mol	Type	Chain	Res	Link	Chirals	Torsions	Rings
3	NAG	E	307	1	-	5/6/23/26	0/1/1/1

All (3) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	G	310	NAG	O5-C5	2.35	1.48	1.43
3	E	308	NAG	C1-C2	2.33	1.55	1.52
3	C	305	NAG	C1-C2	2.21	1.55	1.52

All (12) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	G	310	NAG	C1-O5-C5	4.88	118.73	112.19
3	E	307	NAG	O5-C1-C2	3.76	117.11	111.29
3	A	301	NAG	C2-N2-C7	-3.43	118.31	122.90
3	E	307	NAG	C1-O5-C5	3.37	116.70	112.19
3	F	309	NAG	C2-N2-C7	-3.03	118.84	122.90
3	E	308	NAG	C4-C3-C2	-2.88	106.80	111.02
3	G	310	NAG	O5-C5-C4	2.55	117.03	110.83
3	F	309	NAG	C1-O5-C5	2.52	115.56	112.19
3	G	310	NAG	O5-C1-C2	2.49	115.14	111.29
3	D	306	NAG	C2-N2-C7	-2.14	120.04	122.90
3	E	308	NAG	C1-O5-C5	2.08	114.97	112.19
3	C	304	NAG	C2-N2-C7	-2.06	120.14	122.90

All (1) chirality outliers are listed below:

Mol	Chain	Res	Type	Atom
3	G	311	NAG	C1

All (50) torsion outliers are listed below:

Mol	Chain	Res	Type	Atoms
3	A	301	NAG	C8-C7-N2-C2
3	A	301	NAG	O7-C7-N2-C2
3	A	302	NAG	C8-C7-N2-C2
3	A	302	NAG	O7-C7-N2-C2
3	B	303	NAG	C3-C2-N2-C7
3	B	303	NAG	C8-C7-N2-C2
3	B	303	NAG	O7-C7-N2-C2
3	C	304	NAG	C3-C2-N2-C7

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Mol	Chain	Res	Type	Atoms
3	C	304	NAG	C8-C7-N2-C2
3	C	304	NAG	O7-C7-N2-C2
3	D	306	NAG	C1-C2-N2-C7
3	D	306	NAG	C8-C7-N2-C2
3	D	306	NAG	O7-C7-N2-C2
3	E	307	NAG	C8-C7-N2-C2
3	E	307	NAG	O7-C7-N2-C2
3	F	309	NAG	C8-C7-N2-C2
3	F	309	NAG	O7-C7-N2-C2
3	G	310	NAG	C8-C7-N2-C2
3	G	310	NAG	O7-C7-N2-C2
3	G	311	NAG	C8-C7-N2-C2
3	G	311	NAG	O7-C7-N2-C2
3	H	312	NAG	C8-C7-N2-C2
3	H	312	NAG	O7-C7-N2-C2
3	A	302	NAG	C4-C5-C6-O6
3	H	312	NAG	O5-C5-C6-O6
3	E	308	NAG	C8-C7-N2-C2
3	E	308	NAG	O7-C7-N2-C2
3	H	312	NAG	C4-C5-C6-O6
3	E	308	NAG	C4-C5-C6-O6
3	B	303	NAG	O5-C5-C6-O6
3	G	311	NAG	O5-C5-C6-O6
3	C	304	NAG	O5-C5-C6-O6
3	E	308	NAG	O5-C5-C6-O6
3	A	302	NAG	O5-C5-C6-O6
3	C	304	NAG	C4-C5-C6-O6
3	B	303	NAG	C4-C5-C6-O6
3	G	311	NAG	C4-C5-C6-O6
3	E	307	NAG	C3-C2-N2-C7
3	A	301	NAG	C1-C2-N2-C7
3	C	305	NAG	C1-C2-N2-C7
3	E	307	NAG	C1-C2-N2-C7
3	G	310	NAG	O5-C5-C6-O6
3	F	309	NAG	C4-C5-C6-O6
3	A	301	NAG	C3-C2-N2-C7
3	C	305	NAG	C3-C2-N2-C7
3	E	308	NAG	C1-C2-N2-C7
3	D	306	NAG	C4-C5-C6-O6
3	D	306	NAG	O5-C5-C6-O6
3	E	307	NAG	O5-C5-C6-O6
3	C	305	NAG	C4-C5-C6-O6

There are no ring outliers.

12 monomers are involved in 35 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	F	309	NAG	3	0
3	A	301	NAG	5	0
3	C	305	NAG	4	0
3	D	306	NAG	2	0
3	B	303	NAG	1	0
3	E	308	NAG	2	0
3	H	312	NAG	1	0
3	A	302	NAG	3	0
3	C	304	NAG	1	0
3	G	311	NAG	4	0
3	G	310	NAG	7	0
3	E	307	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 [i](#)

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

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

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2	OWAB(Å ²)	Q<0.9
1	A	182/182 (100%)	-1.42	0 100 100	3, 10, 32, 39	0
1	C	182/182 (100%)	-1.40	0 100 100	3, 10, 31, 41	0
1	E	182/182 (100%)	-1.30	0 100 100	3, 16, 32, 38	0
1	G	182/182 (100%)	-1.34	0 100 100	5, 15, 32, 41	0
2	B	217/217 (100%)	-1.24	0 100 100	4, 12, 71, 92	0
2	D	217/217 (100%)	-1.22	0 100 100	4, 12, 71, 93	0
2	F	217/217 (100%)	-1.23	0 100 100	5, 16, 72, 93	0
2	H	217/217 (100%)	-1.19	0 100 100	6, 17, 71, 93	0
All	All	1596/1596 (100%)	-1.28	0 100 100	3, 14, 50, 93	0

There are no RSRZ outliers to report.

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

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

6.3 Carbohydrates [i](#)

There are no oligosaccharides in this entry.

6.4 Ligands [i](#)

In the following table, the Atoms column lists the number of modelled atoms in the group and the number defined in the chemical component dictionary. The B-factors column lists the minimum, median, 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($\text{\AA}^2$)	Q<0.9
3	NAG	E	307	14/15	0.95	0.06	54,59,62,62	0
3	NAG	F	309	14/15	0.96	0.06	38,43,49,50	0
3	NAG	G	310	14/15	0.96	0.09	56,63,65,65	0
3	NAG	H	312	14/15	0.96	0.07	41,46,50,51	0
3	NAG	B	303	14/15	0.97	0.06	41,48,50,50	0
3	NAG	C	304	14/15	0.97	0.06	50,55,62,62	0
3	NAG	A	301	14/15	0.98	0.06	53,59,61,62	0
3	NAG	E	308	14/15	0.98	0.07	43,55,58,60	0
3	NAG	A	302	14/15	0.98	0.06	41,49,55,60	0
3	NAG	C	305	14/15	0.98	0.06	39,49,55,56	0
3	NAG	G	311	14/15	0.98	0.05	40,54,59,60	0
3	NAG	D	306	14/15	0.98	0.06	42,50,53,55	0

6.5 Other polymers [i](#)

There are no such residues in this entry.