



Full wwPDB X-ray Structure Validation Report ⓘ

Jun 11, 2024 – 07:15 PM EDT

PDB ID : 1T77
Title : Crystal structure of the PH-BEACH domains of human LRBA/BGL
Authors : Gebauer, D.; Li, J.; Jogl, G.; Shen, Y.; Myszka, D.G.; Tong, L.
Deposited on : 2004-05-08
Resolution : 2.40 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 : 4.02b-467
Xtrriage (Phenix) : **NOT EXECUTED**
EDS : **NOT EXECUTED**
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.36.2

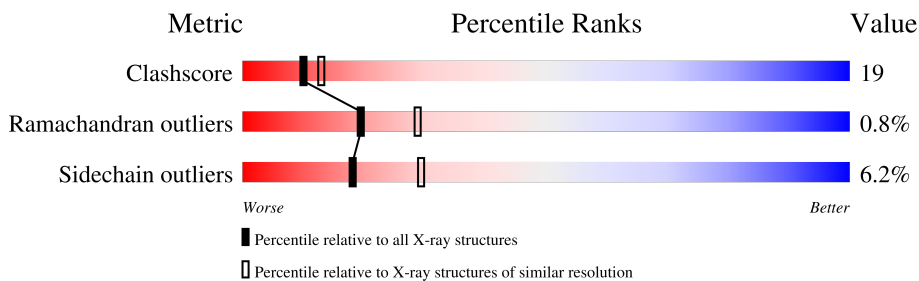
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 2.40 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))
Clashscore	141614	4398 (2.40-2.40)
Ramachandran outliers	138981	4318 (2.40-2.40)
Sidechain outliers	138945	4319 (2.40-2.40)

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 $\leq 5\%$

Note EDS was not executed.

Mol	Chain	Length	Quality of chain
1	A	414	
1	B	414	
1	C	414	
1	D	414	

2 Entry composition

There are 2 unique types of molecules in this entry. The entry contains 14010 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 Lipopolysaccharide-responsive and beige-like anchor protein.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	414	3379	2184	565	623	7	0	0	0
1	B	414	3379	2184	565	623	7	0	0	0
1	C	414	3379	2184	565	623	7	0	0	0
1	D	414	3379	2184	565	623	7	0	0	0

- Molecule 2 is water.

Mol	Chain	Residues	Atoms		ZeroOcc	AltConf
2	A	130	Total 130	O 130	0	0
2	B	113	Total 113	O 113	0	0
2	C	125	Total 125	O 125	0	0
2	D	126	Total 126	O 126	0	0

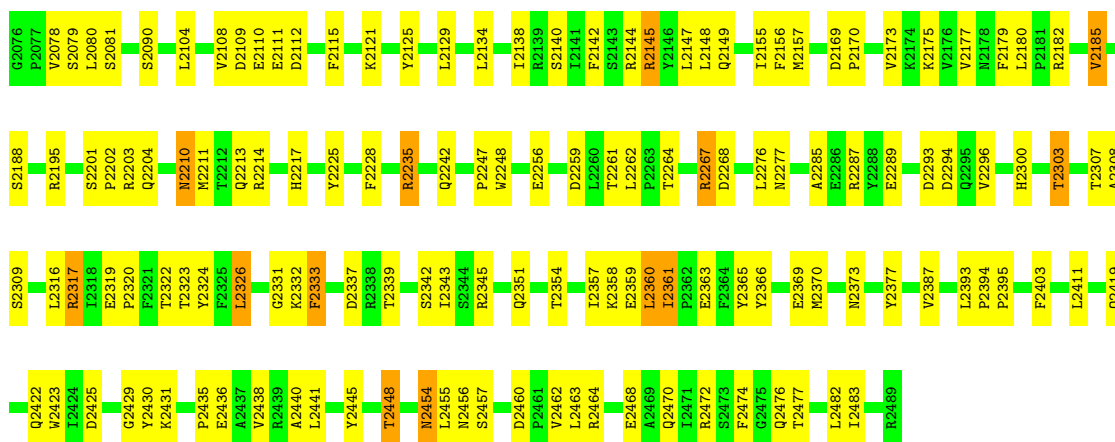
3 Residue-property plots

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. 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. 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.

Note EDS was not executed.

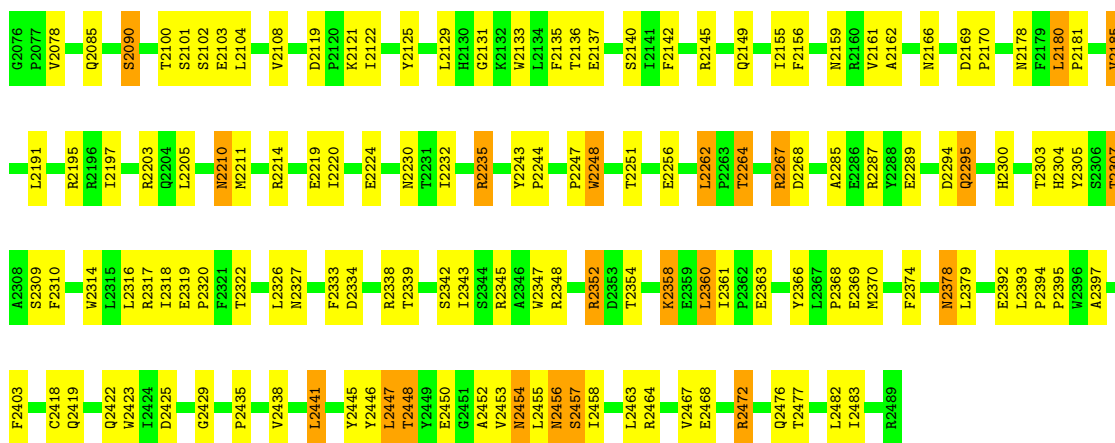
- Molecule 1: Lipopolysaccharide-responsive and beige-like anchor protein

Chain A: 



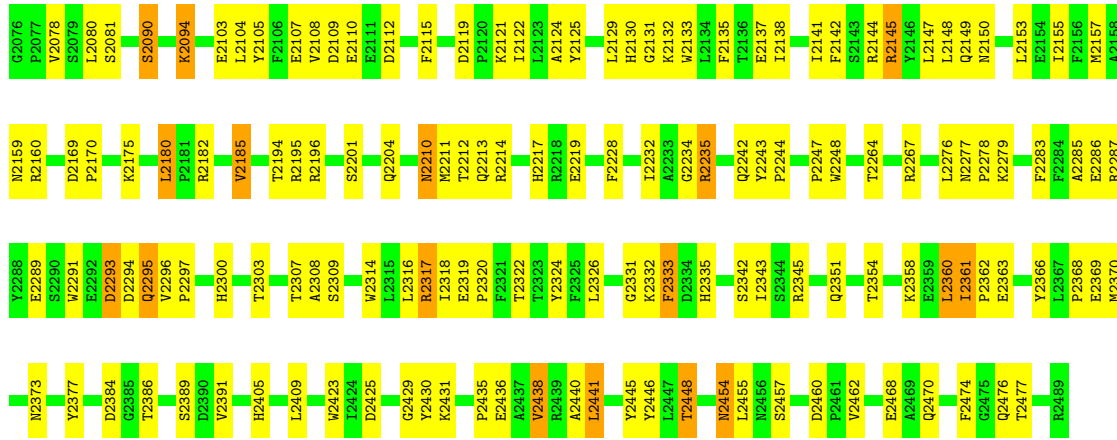
- Molecule 1: Lipopolysaccharide-responsive and beige-like anchor protein

Chain B: 

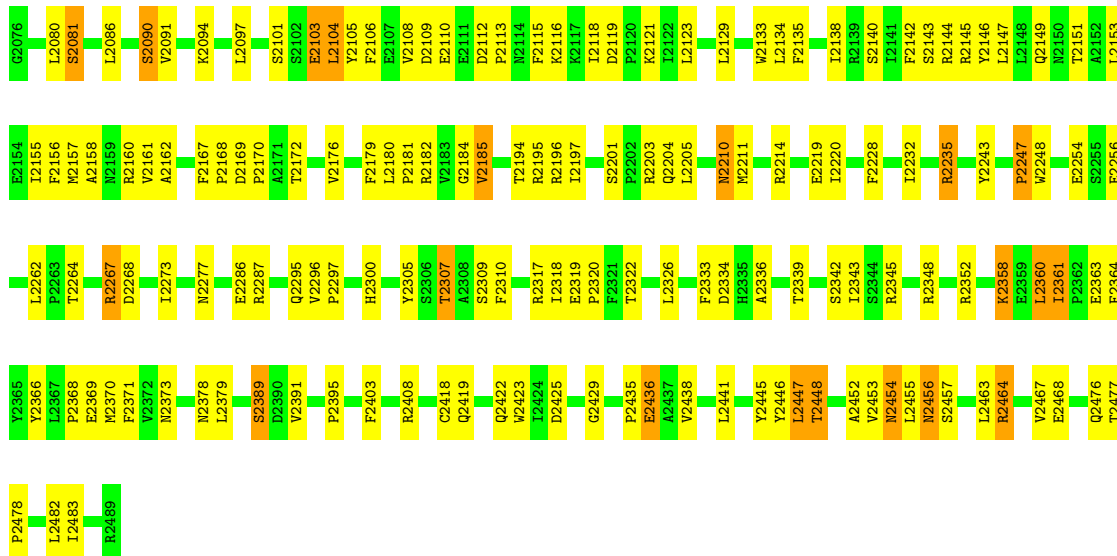


- Molecule 1: Lipopolysaccharide-responsive and beige-like anchor protein

Chain C: 



• Molecule 1: Lipopolysaccharide-responsive and beige-like anchor protein



4 Data and refinement statistics

Xtrriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	73.22Å 102.24Å 131.52Å 90.00° 90.47° 90.00°	Depositor
Resolution (Å)	20.00 – 2.40	Depositor
% Data completeness (in resolution range)	88.9 (20.00-2.40)	Depositor
R_{merge}	0.05	Depositor
R_{sym}	(Not available)	Depositor
Refinement program	CNS 1.1	Depositor
R, R_{free}	0.210 , 0.258	Depositor
Estimated twinning fraction	No twinning to report.	Xtrriage
Total number of atoms	14010	wwPDB-VP
Average B, all atoms (Å ²)	37.0	wwPDB-VP

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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	0.42	0/3477	0.63	0/4735
1	B	0.44	0/3477	0.64	1/4735 (0.0%)
1	C	0.43	0/3477	0.64	0/4735
1	D	0.43	0/3477	0.64	0/4735
All	All	0.43	0/13908	0.63	1/18940 (0.0%)

There are no bond length outliers.

All (1) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
1	B	2248	TRP	N-CA-C	-5.22	96.91	111.00

There are no chirality outliers.

There are no planarity outliers.

5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	A	3379	0	3292	123	0
1	B	3379	0	3292	121	0
1	C	3379	0	3292	134	0
1	D	3379	0	3292	132	0
2	A	130	0	0	1	0
2	B	113	0	0	4	0
2	C	125	0	0	4	0
2	D	126	0	0	5	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
All	All	14010	0	13168	508	0

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 19.

All (508) 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:D:2307:THR:HG22	1:D:2310:PHE:H	1.26	1.01
1:A:2307:THR:HG22	1:A:2309:SER:H	1.27	0.99
1:B:2100:THR:HG23	1:B:2102:SER:H	1.30	0.97
1:C:2138:ILE:HG12	1:C:2157:MET:HE1	1.47	0.94
1:C:2307:THR:HG22	1:C:2309:SER:H	1.32	0.91
1:A:2307:THR:HG22	1:A:2309:SER:N	1.87	0.88
1:D:2348:ARG:HH11	1:D:2352:ARG:HH22	1.24	0.85
1:A:2285:ALA:O	1:A:2289:GLU:HG2	1.76	0.84
1:C:2138:ILE:HA	1:C:2157:MET:HE2	1.59	0.84
1:D:2317:ARG:HG2	1:D:2373:ASN:HA	1.61	0.83
1:A:2138:ILE:HG12	1:A:2157:MET:HE1	1.60	0.83
1:A:2470:GLN:HG3	1:A:2474:PHE:CE2	2.14	0.83
1:A:2247:PRO:HB3	1:A:2423:TRP:CE2	2.14	0.82
1:C:2317:ARG:HG2	1:C:2373:ASN:HA	1.60	0.82
1:D:2248:TRP:HA	1:D:2360:LEU:HD22	1.61	0.82
1:D:2080:LEU:HD23	1:D:2081:SER:N	1.96	0.81
1:B:2435:PRO:O	1:B:2438:VAL:HG22	1.82	0.80
1:B:2307:THR:HG22	1:B:2310:PHE:H	1.45	0.79
1:C:2247:PRO:HB3	1:C:2423:TRP:CE2	2.17	0.79
1:D:2348:ARG:NH1	1:D:2352:ARG:HH22	1.79	0.79
1:A:2460:ASP:OD2	1:A:2462:VAL:HG12	1.83	0.78
1:A:2317:ARG:HG2	1:A:2373:ASN:HA	1.67	0.77
1:C:2285:ALA:O	1:C:2289:GLU:HG2	1.82	0.77
1:A:2090:SER:HB3	1:A:2324:TYR:CZ	2.21	0.76
1:B:2100:THR:HG21	1:B:2103:GLU:OE1	1.86	0.76
1:B:2211:MET:HE2	1:B:2214:ARG:HE	1.51	0.76
1:C:2210:ASN:C	1:C:2210:ASN:HD22	1.89	0.76
1:B:2085:GLN:NE2	1:B:2166:ASN:HD22	1.84	0.76
1:C:2169:ASP:HB2	1:C:2170:PRO:HD2	1.67	0.75
1:C:2119:ASP:OD1	1:C:2121:LYS:HG2	1.85	0.75
1:A:2425:ASP:HA	1:A:2429:GLY:HA3	1.69	0.74
1:B:2285:ALA:O	1:B:2289:GLU:HG2	1.88	0.74
1:A:2431:LYS:HG2	1:A:2436:GLU:HG3	1.70	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2317:ARG:HG3	1:B:2317:ARG:HH11	1.53	0.73
1:C:2294:ASP:HB3	1:C:2295:GLN:NE2	2.03	0.73
1:D:2456:ASN:OD1	1:D:2456:ASN:N	2.16	0.73
1:C:2110:GLU:HA	1:C:2115:PHE:CD2	2.23	0.73
1:B:2205:LEU:HD13	1:B:2232:ILE:HD12	1.70	0.73
1:C:2194:THR:HG22	1:C:2196:ARG:H	1.53	0.72
1:C:2094:LYS:H	1:C:2094:LYS:HZ2	1.36	0.72
1:B:2169:ASP:HB2	1:B:2170:PRO:HD2	1.72	0.72
1:B:2100:THR:HG22	1:B:2103:GLU:O	1.90	0.71
1:A:2307:THR:CG2	1:A:2309:SER:H	2.01	0.70
1:C:2460:ASP:OD2	1:C:2462:VAL:HG12	1.91	0.70
1:D:2326:LEU:HD11	1:D:2333:PHE:CE1	2.27	0.70
1:B:2248:TRP:HA	1:B:2360:LEU:HD22	1.74	0.70
1:D:2348:ARG:HG3	1:D:2352:ARG:NH1	2.07	0.69
1:D:2348:ARG:HH11	1:D:2352:ARG:NH2	1.90	0.69
1:C:2248:TRP:HA	1:C:2360:LEU:HD22	1.74	0.69
1:A:2454:ASN:O	1:A:2457:SER:HB3	1.93	0.69
1:C:2454:ASN:O	1:C:2457:SER:HB3	1.93	0.69
1:D:2247:PRO:HB3	1:D:2423:TRP:CE2	2.28	0.69
1:A:2445:TYR:O	1:A:2448:THR:HB	1.93	0.69
1:D:2142:PHE:CE2	1:D:2185:VAL:HG22	2.28	0.69
1:B:2326:LEU:HD11	1:B:2333:PHE:CE1	2.28	0.68
1:B:2445:TYR:O	1:B:2448:THR:HB	1.93	0.68
1:D:2361:ILE:HG23	1:D:2363:GLU:OE1	1.92	0.68
1:D:2256:GLU:HA	1:D:2395:PRO:HB2	1.76	0.68
1:B:2210:ASN:C	1:B:2210:ASN:HD22	1.96	0.68
1:C:2180:LEU:O	1:C:2195:ARG:NH1	2.26	0.68
1:A:2276:LEU:HB2	1:A:2351:GLN:HE22	1.58	0.68
1:C:2470:GLN:HG3	1:C:2474:PHE:CE2	2.29	0.67
1:A:2361:ILE:HG23	1:A:2363:GLU:OE1	1.94	0.67
1:D:2142:PHE:O	1:D:2153:LEU:HD12	1.93	0.67
1:B:2361:ILE:HG23	1:B:2363:GLU:OE1	1.95	0.67
1:B:2363:GLU:C	1:B:2370:MET:HE1	2.15	0.67
1:C:2445:TYR:O	1:C:2448:THR:HB	1.95	0.67
1:D:2211:MET:HE2	1:D:2214:ARG:HE	1.59	0.66
1:D:2445:TYR:O	1:D:2448:THR:HB	1.96	0.66
1:D:2435:PRO:O	1:D:2438:VAL:HG22	1.96	0.66
1:A:2142:PHE:CE2	1:A:2185:VAL:HG22	2.30	0.66
1:A:2435:PRO:O	1:A:2438:VAL:HG22	1.96	0.66
1:C:2157:MET:HE2	1:C:2157:MET:HA	1.78	0.65
1:D:2342:SER:HB3	1:D:2345:ARG:HB2	1.77	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2247:PRO:HB3	1:B:2423:TRP:CE2	2.32	0.65
1:A:2180:LEU:O	1:A:2195:ARG:NH1	2.30	0.65
1:C:2182:ARG:HG3	1:C:2195:ARG:HG3	1.77	0.65
1:C:2307:THR:HG22	1:C:2309:SER:N	2.08	0.65
1:D:2455:LEU:HB3	1:D:2464:ARG:NH1	2.12	0.65
1:B:2256:GLU:HA	1:B:2395:PRO:HB2	1.79	0.64
1:A:2343:ILE:HD13	1:A:2403:PHE:CZ	2.33	0.64
1:C:2142:PHE:CE2	1:C:2185:VAL:HG22	2.32	0.64
1:B:2363:GLU:HB3	1:B:2370:MET:CE	2.28	0.64
1:C:2147:LEU:HD13	1:C:2468:GLU:HB2	1.79	0.64
1:A:2110:GLU:HA	1:A:2115:PHE:CD2	2.33	0.64
1:A:2316:LEU:HD21	1:A:2333:PHE:CE1	2.32	0.64
1:D:2097:LEU:HD11	1:D:2104:LEU:HD12	1.80	0.64
1:D:2210:ASN:C	1:D:2210:ASN:HD22	2.01	0.64
1:B:2319:GLU:OE2	1:B:2320:PRO:HA	1.99	0.63
1:A:2210:ASN:HD22	1:A:2210:ASN:C	2.01	0.63
1:B:2307:THR:CG2	1:B:2309:SER:HB2	2.27	0.63
1:C:2322:THR:HG21	1:C:2377:TYR:CE1	2.33	0.63
1:D:2454:ASN:O	1:D:2457:SER:HB3	1.99	0.63
1:A:2080:LEU:HD23	1:A:2081:SER:N	2.13	0.62
1:A:2213:GLN:HG2	1:A:2217:HIS:CD2	2.33	0.62
1:B:2348:ARG:O	1:B:2352:ARG:HD3	1.99	0.62
1:B:2342:SER:HB3	1:B:2345:ARG:HB2	1.82	0.62
1:C:2214:ARG:HD2	1:C:2219:GLU:OE1	1.98	0.62
1:D:2103:GLU:HB2	1:D:2133:TRP:O	1.98	0.62
1:B:2145:ARG:HD2	1:B:2450:GLU:OE2	1.99	0.62
1:A:2169:ASP:HB2	1:A:2170:PRO:HD2	1.80	0.62
1:D:2205:LEU:HD13	1:D:2232:ILE:HD12	1.81	0.62
1:A:2448:THR:CG2	1:A:2477:THR:OG1	2.48	0.62
1:B:2343:ILE:HD13	1:B:2403:PHE:CZ	2.35	0.62
1:B:2180:LEU:O	1:B:2195:ARG:NH1	2.25	0.61
1:D:2133:TRP:CD1	1:D:2157:MET:HE3	2.35	0.61
1:A:2363:GLU:HB3	1:A:2370:MET:HE2	1.80	0.61
1:C:2211:MET:HE2	1:C:2214:ARG:HE	1.65	0.61
1:D:2454:ASN:HB3	1:D:2457:SER:CB	2.31	0.61
1:A:2108:VAL:HG11	1:A:2129:LEU:HD22	1.82	0.61
1:D:2113:PRO:HA	1:D:2116:LYS:HD2	1.83	0.61
1:B:2211:MET:CE	1:B:2214:ARG:HE	2.14	0.61
1:B:2446:TYR:CE1	1:B:2447:LEU:HD13	2.36	0.60
1:C:2331:GLY:C	1:C:2332:LYS:HD2	2.22	0.60
1:D:2425:ASP:HA	1:D:2429:GLY:HA3	1.83	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2277:ASN:HB3	2:A:10:HOH:O	2.02	0.60
1:B:2262:LEU:HD13	1:B:2264:THR:HG22	1.82	0.60
1:C:2138:ILE:HG12	1:C:2157:MET:CE	2.29	0.60
1:A:2322:THR:HG22	1:A:2326:LEU:CD2	2.31	0.60
1:B:2211:MET:HE1	1:B:2214:ARG:HH21	1.67	0.60
1:B:2121:LYS:HE3	1:B:2327:ASN:HB2	1.83	0.60
1:B:2142:PHE:CE2	1:B:2185:VAL:HG22	2.37	0.60
1:D:2334:ASP:HB3	1:D:2339:THR:HG22	1.82	0.60
1:A:2322:THR:HG21	1:A:2377:TYR:CE1	2.35	0.60
1:C:2094:LYS:H	1:C:2094:LYS:NZ	1.99	0.60
1:D:2343:ILE:HD13	1:D:2403:PHE:CZ	2.36	0.60
1:D:2454:ASN:HB3	1:D:2457:SER:HB2	1.84	0.60
1:C:2201:SER:OG	1:C:2204:GLN:HG3	2.02	0.59
1:B:2100:THR:CG2	1:B:2103:GLU:H	2.15	0.59
1:C:2448:THR:CG2	1:C:2477:THR:OG1	2.51	0.59
1:D:2194:THR:HG22	1:D:2196:ARG:H	1.66	0.59
1:D:2300:HIS:CE1	1:D:2441:LEU:HA	2.37	0.59
1:C:2108:VAL:HG11	1:C:2129:LEU:HD22	1.84	0.59
1:D:2103:GLU:HA	1:D:2135:PHE:CD1	2.38	0.59
1:D:2140:SER:OG	1:D:2156:PHE:HB2	2.03	0.59
1:C:2213:GLN:HG2	1:C:2217:HIS:CD2	2.38	0.59
1:B:2214:ARG:HD2	1:B:2219:GLU:OE1	2.02	0.59
1:A:2155:ILE:HG22	1:A:2157:MET:CE	2.33	0.58
1:B:2300:HIS:CD2	1:B:2441:LEU:HD22	2.38	0.58
1:A:2121:LYS:HD2	1:A:2323:THR:HG23	1.85	0.58
1:B:2307:THR:HG21	1:B:2309:SER:HB2	1.85	0.58
1:D:2203:ARG:HH11	1:D:2483:ILE:HG23	1.68	0.58
1:A:2248:TRP:HA	1:A:2360:LEU:HD22	1.85	0.58
1:D:2185:VAL:O	1:D:2185:VAL:HG13	2.03	0.58
1:C:2430:TYR:CE1	1:C:2436:GLU:HG2	2.38	0.58
1:D:2108:VAL:HG11	1:D:2129:LEU:CD2	2.34	0.58
1:D:2307:THR:CG2	1:D:2309:SER:HB2	2.34	0.58
1:B:2108:VAL:HG11	1:B:2129:LEU:HD22	1.86	0.58
1:C:2332:LYS:HD2	1:C:2332:LYS:N	2.19	0.58
1:D:2254:GLU:O	1:D:2395:PRO:HG2	2.02	0.58
1:C:2363:GLU:HB3	1:C:2370:MET:HE2	1.86	0.57
1:D:2180:LEU:O	1:D:2195:ARG:NH1	2.37	0.57
1:A:2342:SER:HB3	1:A:2345:ARG:HB2	1.85	0.57
1:B:2363:GLU:HB3	1:B:2370:MET:HE1	1.86	0.57
1:B:2418:CYS:SG	1:B:2419:GLN:HG2	2.44	0.57
1:C:2185:VAL:O	1:C:2185:VAL:HG13	2.04	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2419:GLN:OE1	1:D:2422:GLN:NE2	2.38	0.57
1:A:2343:ILE:HD11	1:A:2393:LEU:HD23	1.85	0.57
1:C:2291:TRP:NE1	1:C:2293:ASP:HB2	2.19	0.57
1:A:2440:ALA:O	1:A:2441:LEU:HB2	2.03	0.57
1:A:2210:ASN:C	1:A:2210:ASN:ND2	2.57	0.57
1:C:2138:ILE:HA	1:C:2157:MET:CE	2.33	0.57
1:B:2317:ARG:HG3	1:B:2317:ARG:NH1	2.18	0.57
1:A:2195:ARG:HG2	1:A:2195:ARG:HH11	1.69	0.56
1:D:2118:ILE:HG21	1:D:2123:LEU:HD21	1.87	0.56
1:A:2185:VAL:O	1:A:2185:VAL:HG13	2.05	0.56
1:B:2456:ASN:O	1:B:2458:ILE:N	2.37	0.56
1:C:2276:LEU:HB2	1:C:2351:GLN:HE22	1.71	0.56
1:A:2090:SER:HB3	1:A:2324:TYR:OH	2.06	0.56
1:A:2307:THR:CG2	1:A:2308:ALA:N	2.68	0.56
1:C:2094:LYS:H	1:C:2094:LYS:CE	2.18	0.56
1:D:2094:LYS:HZ3	1:D:2094:LYS:HB2	1.71	0.56
1:B:2140:SER:OG	1:B:2156:PHE:HB2	2.06	0.56
1:C:2307:THR:HG22	1:C:2308:ALA:N	2.21	0.56
1:A:2343:ILE:HD12	1:A:2393:LEU:HA	1.87	0.55
1:C:2228:PHE:CE1	1:C:2232:ILE:HG13	2.42	0.55
1:A:2138:ILE:HA	1:A:2157:MET:HE2	1.88	0.55
1:C:2080:LEU:HD23	1:C:2081:SER:N	2.22	0.55
1:C:2316:LEU:C	1:C:2316:LEU:HD23	2.26	0.55
1:B:2267:ARG:HD3	1:B:2268:ASP:C	2.26	0.55
1:A:2148:LEU:HD21	1:A:2476:GLN:HG2	1.88	0.55
1:A:2322:THR:HG22	1:A:2326:LEU:HD23	1.88	0.55
1:C:2343:ILE:HD12	1:C:2391:VAL:HG12	1.88	0.55
1:D:2307:THR:HG21	1:D:2309:SER:HB2	1.87	0.55
1:C:2431:LYS:HG2	1:C:2436:GLU:HG3	1.87	0.55
1:D:2452:ALA:HB3	2:D:53:HOH:O	2.04	0.55
1:B:2363:GLU:CB	1:B:2370:MET:HE1	2.37	0.55
1:C:2194:THR:HG22	1:C:2195:ARG:N	2.22	0.55
1:C:2210:ASN:C	1:C:2210:ASN:ND2	2.58	0.55
1:A:2235:ARG:HD3	1:A:2242:GLN:O	2.07	0.55
1:B:2394:PRO:HD2	1:B:2397:ALA:HB3	1.89	0.54
1:A:2157:MET:HE2	1:A:2157:MET:HA	1.88	0.54
1:B:2085:GLN:HE21	1:B:2166:ASN:HD22	1.56	0.54
1:D:2307:THR:HG22	1:D:2310:PHE:N	2.09	0.54
1:B:2090:SER:HB3	1:B:2122:ILE:HG23	1.90	0.54
1:C:2425:ASP:HA	1:C:2429:GLY:HA3	1.89	0.54
1:A:2331:GLY:C	1:A:2332:LYS:HD2	2.27	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2149:GLN:HE22	1:C:2455:LEU:H	1.54	0.54
1:D:2172:THR:O	1:D:2176:VAL:HG23	2.07	0.54
1:A:2080:LEU:HD23	1:A:2080:LEU:C	2.28	0.54
1:A:2247:PRO:HD3	1:A:2423:TRP:CH2	2.42	0.54
1:C:2155:ILE:HG22	1:C:2157:MET:CE	2.38	0.54
1:A:2262:LEU:HB3	1:A:2264:THR:HG22	1.89	0.54
1:D:2194:THR:HG21	1:D:2196:ARG:NH1	2.23	0.54
1:D:2455:LEU:HB3	1:D:2464:ARG:CZ	2.38	0.54
1:B:2104:LEU:HD21	1:B:2133:TRP:HB2	1.90	0.53
1:A:2430:TYR:CE1	1:A:2436:GLU:HG2	2.43	0.53
1:B:2425:ASP:HA	1:B:2429:GLY:HA3	1.89	0.53
1:D:2110:GLU:HA	1:D:2115:PHE:CD2	2.43	0.53
1:A:2140:SER:OG	1:A:2156:PHE:HB2	2.09	0.53
1:D:2363:GLU:C	1:D:2370:MET:HE1	2.29	0.53
1:C:2141:ILE:CG2	1:C:2153:LEU:HD11	2.39	0.53
1:C:2247:PRO:HD3	1:C:2423:TRP:CH2	2.43	0.53
1:C:2080:LEU:HD23	1:C:2080:LEU:C	2.30	0.52
1:C:2211:MET:HE1	1:C:2214:ARG:HH21	1.74	0.52
1:C:2322:THR:HG22	1:C:2326:LEU:HD23	1.91	0.52
1:D:2348:ARG:HG3	1:D:2352:ARG:HH12	1.73	0.52
1:B:2104:LEU:H	1:B:2104:LEU:HD23	1.74	0.52
1:B:2119:ASP:OD1	1:B:2121:LYS:HG2	2.09	0.52
1:D:2108:VAL:HG11	1:D:2129:LEU:HD23	1.90	0.52
1:A:2203:ARG:NH1	1:A:2483:ILE:HG12	2.24	0.52
1:B:2452:ALA:O	1:B:2453:VAL:HG23	2.09	0.52
1:C:2103:GLU:HA	1:C:2135:PHE:CD1	2.45	0.52
1:C:2361:ILE:HG23	1:C:2363:GLU:OE1	2.10	0.52
1:B:2322:THR:O	1:B:2326:LEU:HD13	2.10	0.52
1:C:2342:SER:HB3	1:C:2345:ARG:HB2	1.91	0.52
1:B:2125:TYR:CD2	1:B:2320:PRO:HB3	2.45	0.52
1:B:2452:ALA:HB3	2:B:125:HOH:O	2.10	0.52
1:B:2104:LEU:CD2	1:B:2133:TRP:HB2	2.40	0.52
1:A:2256:GLU:HA	1:A:2395:PRO:HB2	1.92	0.52
1:C:2149:GLN:NE2	1:C:2455:LEU:H	2.07	0.51
1:B:2378:ASN:O	1:B:2379:LEU:HB2	2.10	0.51
1:C:2155:ILE:HG22	1:C:2157:MET:HE3	1.92	0.51
1:C:2384:ASP:OD2	1:C:2386:THR:OG1	2.29	0.51
1:D:2138:ILE:HG23	1:D:2155:ILE:HG23	1.91	0.51
1:D:2307:THR:HG23	1:D:2309:SER:H	1.74	0.51
1:A:2145:ARG:HE	1:A:2145:ARG:N	2.08	0.51
1:A:2211:MET:HE2	1:A:2214:ARG:HE	1.76	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2235:ARG:NH2	1:B:2476:GLN:O	2.43	0.51
1:C:2125:TYR:CG	1:C:2320:PRO:HB3	2.45	0.51
1:D:2363:GLU:OE1	1:D:2363:GLU:N	2.41	0.51
1:A:2287:ARG:HG3	1:A:2287:ARG:HH11	1.76	0.51
1:D:2334:ASP:HB3	1:D:2339:THR:CG2	2.41	0.51
1:C:2094:LYS:HZ2	1:C:2094:LYS:N	2.06	0.51
1:A:2078:VAL:HG23	1:A:2078:VAL:O	2.11	0.51
1:D:2205:LEU:HD13	1:D:2232:ILE:CD1	2.40	0.51
1:B:2307:THR:HG23	1:B:2309:SER:H	1.76	0.50
1:D:2235:ARG:NH2	1:D:2476:GLN:O	2.44	0.50
1:D:2286:GLU:HB3	2:D:472:HOH:O	2.11	0.50
1:B:2210:ASN:C	1:B:2210:ASN:ND2	2.64	0.50
1:C:2110:GLU:HA	1:C:2115:PHE:HD2	1.74	0.50
1:C:2235:ARG:HD3	1:C:2242:GLN:O	2.12	0.50
1:A:2316:LEU:C	1:A:2316:LEU:HD23	2.31	0.50
1:B:2294:ASP:HB2	1:B:2295:GLN:NE2	2.27	0.50
1:D:2318:ILE:HG22	1:D:2319:GLU:O	2.12	0.50
1:B:2108:VAL:HG11	1:B:2129:LEU:CD2	2.40	0.50
1:C:2440:ALA:O	1:C:2441:LEU:HB2	2.12	0.50
1:D:2182:ARG:HD2	2:D:368:HOH:O	2.12	0.50
1:A:2343:ILE:HD12	1:A:2394:PRO:HD3	1.92	0.50
1:A:2300:HIS:CD2	1:A:2441:LEU:HD22	2.47	0.50
1:D:2307:THR:HG23	1:D:2309:SER:N	2.27	0.50
1:C:2294:ASP:HB3	1:C:2295:GLN:HE22	1.77	0.50
1:C:2293:ASP:HB3	1:C:2296:VAL:O	2.12	0.49
1:B:2100:THR:HG23	1:B:2101:SER:N	2.27	0.49
1:C:2363:GLU:HB3	1:C:2370:MET:CE	2.42	0.49
1:C:2080:LEU:HD11	1:C:2175:LYS:HD2	1.94	0.49
1:D:2211:MET:HE1	1:D:2214:ARG:HH21	1.77	0.49
1:A:2147:LEU:HD13	1:A:2468:GLU:HB2	1.94	0.49
1:A:2319:GLU:OE2	1:A:2320:PRO:HA	2.13	0.49
1:A:2365:TYR:CE2	1:A:2411:LEU:HB2	2.48	0.49
1:C:2109:ASP:OD1	1:C:2112:ASP:N	2.45	0.49
1:D:2210:ASN:C	1:D:2210:ASN:ND2	2.66	0.49
1:C:2316:LEU:HD23	1:C:2316:LEU:O	2.13	0.49
1:D:2319:GLU:OE2	1:D:2320:PRO:HA	2.13	0.49
1:D:2454:ASN:HD22	1:D:2455:LEU:N	2.10	0.49
1:B:2316:LEU:HD23	1:B:2316:LEU:O	2.13	0.49
1:A:2155:ILE:HG22	1:A:2157:MET:HE1	1.95	0.49
1:B:2334:ASP:OD2	1:B:2338:ARG:HB2	2.13	0.49
1:D:2184:GLY:HA2	1:D:2194:THR:O	2.13	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2446:TYR:CE1	1:D:2447:LEU:HD13	2.48	0.49
1:B:2078:VAL:O	1:B:2078:VAL:HG23	2.13	0.49
1:B:2145:ARG:HD3	2:B:324:HOH:O	2.13	0.48
1:A:2121:LYS:CD	1:A:2323:THR:HG23	2.43	0.48
1:A:2144:ARG:HA	1:A:2145:ARG:HH21	1.79	0.48
1:B:2100:THR:HG22	1:B:2103:GLU:H	1.79	0.48
1:C:2108:VAL:HG11	1:C:2129:LEU:CD2	2.43	0.48
1:D:2211:MET:CE	1:D:2214:ARG:HE	2.26	0.48
1:A:2456:ASN:HA	1:A:2464:ARG:HH21	1.76	0.48
1:C:2141:ILE:HD13	1:C:2180:LEU:HD23	1.94	0.48
1:C:2185:VAL:O	1:C:2185:VAL:CG1	2.62	0.48
1:B:2463:LEU:O	1:B:2467:VAL:HG23	2.13	0.48
1:D:2097:LEU:HD11	1:D:2104:LEU:CD1	2.43	0.48
1:C:2435:PRO:O	1:C:2438:VAL:HG13	2.14	0.48
1:A:2203:ARG:HH12	1:A:2483:ILE:HG12	1.79	0.48
1:D:2194:THR:HG22	1:D:2195:ARG:N	2.29	0.48
1:B:2159:ASN:OD1	1:B:2161:VAL:HB	2.13	0.48
1:B:2318:ILE:HG22	1:B:2319:GLU:O	2.13	0.47
1:A:2182:ARG:HG3	1:A:2195:ARG:HG3	1.95	0.47
1:D:2322:THR:O	1:D:2326:LEU:HD13	2.14	0.47
1:D:2464:ARG:NH1	1:D:2468:GLU:OE2	2.47	0.47
1:A:2259:ASP:OD1	1:A:2261:THR:OG1	2.25	0.47
1:A:2369:GLU:OE1	1:A:2369:GLU:N	2.28	0.47
1:A:2419:GLN:OE1	1:A:2422:GLN:NE2	2.47	0.47
1:D:2080:LEU:HD12	1:D:2179:PHE:CD1	2.50	0.47
1:A:2090:SER:HB3	1:A:2324:TYR:CE2	2.50	0.47
1:A:2155:ILE:HG22	1:A:2157:MET:HE3	1.95	0.47
1:A:2125:TYR:CG	1:A:2320:PRO:HB3	2.49	0.47
1:A:2387:VAL:H	1:B:2178:ASN:HD22	1.62	0.47
1:A:2482:LEU:HD23	1:A:2482:LEU:N	2.30	0.47
1:B:2300:HIS:NE2	1:B:2441:LEU:HD22	2.29	0.47
1:B:2454:ASN:HB3	1:B:2457:SER:HB3	1.96	0.47
1:A:2080:LEU:CD1	1:A:2175:LYS:HG2	2.44	0.47
1:A:2303:THR:HG22	1:A:2357:ILE:HD11	1.97	0.47
1:D:2118:ILE:HG21	1:D:2123:LEU:CD2	2.45	0.47
1:D:2167:PHE:HB3	1:D:2168:PRO:CD	2.43	0.47
1:A:2079:SER:HB3	1:A:2179:PHE:HE2	1.80	0.46
1:A:2431:LYS:HG2	1:A:2436:GLU:CG	2.42	0.46
1:B:2363:GLU:HB3	1:B:2370:MET:HE2	1.94	0.46
1:D:2091:VAL:HG11	1:D:2118:ILE:HD12	1.97	0.46
1:D:2368:PRO:HG2	1:D:2369:GLU:OE1	2.14	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2185:VAL:O	1:A:2185:VAL:CG1	2.63	0.46
1:B:2230:ASN:OD1	1:B:2244:PRO:HA	2.15	0.46
1:D:2453:VAL:HG12	1:D:2454:ASN:N	2.29	0.46
1:C:2277:ASN:HB3	2:C:41:HOH:O	2.15	0.46
1:A:2316:LEU:HD23	1:A:2316:LEU:O	2.14	0.46
1:B:2316:LEU:HD21	1:B:2333:PHE:CE1	2.51	0.46
1:D:2267:ARG:HD3	1:D:2268:ASP:C	2.36	0.46
1:B:2142:PHE:CZ	1:B:2185:VAL:HG22	2.50	0.46
1:C:2307:THR:CG2	1:C:2308:ALA:N	2.79	0.46
1:C:2470:GLN:HG3	1:C:2474:PHE:CD2	2.51	0.46
1:B:2203:ARG:NH1	1:B:2483:ILE:HG23	2.31	0.46
1:A:2173:VAL:O	1:A:2177:VAL:HG23	2.15	0.46
1:A:2307:THR:HG22	1:A:2308:ALA:N	2.30	0.46
1:B:2104:LEU:HD23	1:B:2133:TRP:O	2.16	0.46
1:B:2464:ARG:HG2	1:B:2464:ARG:HH11	1.81	0.46
1:A:2121:LYS:CE	1:A:2323:THR:HG23	2.47	0.45
1:A:2373:ASN:OD1	1:A:2373:ASN:O	2.35	0.45
1:B:2210:ASN:HD22	1:B:2211:MET:N	2.13	0.45
1:C:2295:GLN:NE2	1:C:2295:GLN:N	2.64	0.45
1:A:2108:VAL:HG11	1:A:2129:LEU:CD2	2.46	0.45
1:B:2185:VAL:O	1:B:2185:VAL:HG13	2.16	0.45
1:D:2379:LEU:HD12	1:D:2389:SER:HA	1.99	0.45
1:D:2463:LEU:O	1:D:2467:VAL:HG23	2.16	0.45
1:A:2138:ILE:HG12	1:A:2157:MET:CE	2.37	0.45
1:B:2419:GLN:OE1	1:B:2422:GLN:NE2	2.49	0.45
1:C:2318:ILE:HG22	1:C:2319:GLU:O	2.17	0.45
1:A:2363:GLU:HB3	1:A:2370:MET:CE	2.47	0.45
1:B:2361:ILE:HG23	1:B:2363:GLU:H	1.82	0.45
1:D:2343:ILE:HD13	1:D:2403:PHE:CE1	2.52	0.45
1:A:2148:LEU:CD2	1:A:2476:GLN:HG2	2.46	0.45
1:B:2303:THR:CG2	1:B:2304:HIS:N	2.79	0.45
1:B:2393:LEU:HB3	1:B:2394:PRO:CD	2.46	0.45
1:B:2345:ARG:NH2	1:B:2392:GLU:OE2	2.43	0.44
1:D:2454:ASN:HB3	1:D:2457:SER:HB3	1.99	0.44
1:A:2293:ASP:HB2	1:A:2296:VAL:O	2.18	0.44
1:B:2448:THR:HG23	1:B:2477:THR:OG1	2.17	0.44
1:D:2228:PHE:CE1	1:D:2232:ILE:HG13	2.51	0.44
1:B:2211:MET:HE2	1:B:2214:ARG:NE	2.27	0.44
1:C:2122:ILE:C	1:C:2124:ALA:N	2.69	0.44
1:C:2291:TRP:HE1	1:C:2293:ASP:HB2	1.80	0.44
1:D:2086:LEU:HB2	1:D:2106:PHE:CE2	2.52	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2201:SER:OG	1:A:2204:GLN:HG3	2.18	0.44
1:A:2247:PRO:HB3	1:A:2423:TRP:NE1	2.32	0.44
1:B:2454:ASN:HD22	1:B:2455:LEU:N	2.16	0.44
1:D:2155:ILE:N	1:D:2155:ILE:HD12	2.33	0.44
1:A:2125:TYR:CD2	1:A:2320:PRO:HB3	2.52	0.44
1:A:2210:ASN:HD22	1:A:2211:MET:N	2.16	0.44
1:C:2145:ARG:HG3	1:C:2150:ASN:HA	1.98	0.44
1:D:2119:ASP:OD1	1:D:2121:LYS:HG2	2.18	0.44
1:D:2371:PHE:HA	1:D:2391:VAL:CG2	2.48	0.44
1:D:2436:GLU:HA	1:D:2436:GLU:OE1	2.17	0.44
1:B:2203:ARG:NH1	1:B:2483:ILE:CG2	2.81	0.44
1:C:2247:PRO:HD3	1:C:2423:TRP:CZ3	2.52	0.44
1:C:2322:THR:HG22	1:C:2326:LEU:CD2	2.48	0.44
1:A:2342:SER:CB	1:A:2345:ARG:HB2	2.48	0.44
1:A:2456:ASN:HA	1:A:2464:ARG:NH2	2.32	0.44
1:B:2307:THR:HG22	1:B:2310:PHE:N	2.23	0.44
1:B:2472:ARG:HG2	1:B:2472:ARG:HH11	1.83	0.44
1:C:2131:GLY:HA3	1:C:2133:TRP:CH2	2.53	0.44
1:D:2453:VAL:CG1	1:D:2454:ASN:N	2.81	0.44
1:C:2094:LYS:H	1:C:2094:LYS:HE3	1.83	0.44
1:D:2108:VAL:HG11	1:D:2129:LEU:HD22	1.99	0.44
1:D:2214:ARG:HD2	1:D:2219:GLU:OE1	2.18	0.44
1:D:2151:THR:HG22	1:D:2170:PRO:HD3	2.00	0.43
1:D:2408:ARG:HG2	1:D:2408:ARG:HH11	1.83	0.43
1:B:2145:ARG:HA	1:B:2149:GLN:O	2.17	0.43
1:B:2334:ASP:HB3	1:B:2339:THR:CG2	2.48	0.43
1:D:2305:TYR:HA	1:D:2358:LYS:HA	2.00	0.43
1:D:2446:TYR:CE2	1:D:2447:LEU:HD22	2.53	0.43
1:C:2210:ASN:O	1:C:2214:ARG:HG3	2.18	0.43
1:A:2387:VAL:H	1:B:2178:ASN:ND2	2.16	0.43
1:B:2482:LEU:N	1:B:2482:LEU:HD23	2.32	0.43
1:C:2080:LEU:CD1	1:C:2175:LYS:HD2	2.48	0.43
1:C:2144:ARG:NH1	1:C:2234:GLY:HA2	2.33	0.43
1:D:2161:VAL:HG12	1:D:2162:ALA:N	2.32	0.43
1:B:2104:LEU:HD23	1:B:2104:LEU:N	2.33	0.43
1:B:2243:TYR:HD2	1:B:2361:ILE:HD11	1.83	0.43
1:D:2235:ARG:HD3	1:D:2243:TYR:O	2.17	0.43
1:D:2273:ILE:HG23	2:D:249:HOH:O	2.17	0.43
1:B:2220:ILE:HG23	1:B:2224:GLU:HB3	2.01	0.43
1:D:2158:ALA:C	1:D:2160:ARG:H	2.22	0.43
1:D:2370:MET:HE3	1:D:2371:PHE:CE1	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:2232:ILE:HD13	1:B:2232:ILE:HA	1.71	0.43
1:C:2368:PRO:HG2	1:C:2369:GLU:OE1	2.18	0.43
1:B:2339:THR:HG22	2:B:258:HOH:O	2.18	0.43
1:C:2105:TYR:HB2	1:C:2131:GLY:O	2.18	0.43
1:C:2363:GLU:C	1:C:2370:MET:CE	2.87	0.43
1:C:2244:PRO:HB2	1:C:2362:PRO:HG2	2.00	0.43
1:D:2169:ASP:HB2	1:D:2170:PRO:HD2	2.00	0.43
1:D:2418:CYS:SG	1:D:2419:GLN:HG2	2.59	0.43
1:A:2468:GLU:O	1:A:2472:ARG:HB2	2.19	0.42
1:C:2300:HIS:CE1	1:C:2441:LEU:HA	2.54	0.42
1:A:2188:SER:O	1:A:2211:MET:HE1	2.20	0.42
1:B:2314:TRP:CZ2	1:B:2358:LYS:HD3	2.54	0.42
1:C:2300:HIS:CD2	1:C:2441:LEU:HD22	2.55	0.42
1:C:2322:THR:HG21	1:C:2377:TYR:HE1	1.80	0.42
1:C:2090:SER:HA	1:C:2324:TYR:CE1	2.54	0.42
1:C:2107:GLU:OE2	1:C:2130:HIS:HA	2.19	0.42
1:C:2157:MET:HA	1:C:2157:MET:CE	2.46	0.42
1:C:2283:PHE:HE2	1:C:2287:ARG:NH2	2.17	0.42
1:C:2326:LEU:HD21	1:C:2333:PHE:CZ	2.54	0.42
1:A:2149:GLN:NE2	1:A:2455:LEU:H	2.18	0.42
1:B:2464:ARG:O	1:B:2468:GLU:HG3	2.19	0.42
1:D:2248:TRP:CD2	1:D:2360:LEU:HD13	2.54	0.42
1:C:2212:THR:HB	2:C:449:HOH:O	2.19	0.42
1:D:2197:ILE:HD13	1:D:2197:ILE:HA	1.93	0.42
1:A:2267:ARG:HD3	1:A:2268:ASP:C	2.39	0.42
1:B:2197:ILE:HD13	1:B:2197:ILE:HA	1.85	0.42
1:C:2110:GLU:HA	1:C:2115:PHE:CE2	2.54	0.42
1:D:2201:SER:OG	1:D:2204:GLN:HG3	2.20	0.42
1:B:2185:VAL:HG11	1:B:2191:LEU:HD12	2.02	0.42
1:B:2251:THR:HG22	1:B:2347:TRP:CZ2	2.55	0.42
1:C:2103:GLU:OE1	1:C:2132:LYS:HE2	2.20	0.42
1:C:2430:TYR:CD1	1:C:2436:GLU:HG2	2.55	0.42
1:D:2319:GLU:OE2	1:D:2319:GLU:HA	2.20	0.42
1:D:2448:THR:HG23	1:D:2477:THR:OG1	2.19	0.42
1:A:2462:VAL:HG13	1:A:2463:LEU:N	2.35	0.42
1:B:2456:ASN:C	1:B:2458:ILE:H	2.23	0.42
1:B:2476:GLN:HG3	2:B:167:HOH:O	2.20	0.42
1:A:2287:ARG:HG3	1:A:2287:ARG:NH1	2.35	0.42
1:A:2357:ILE:C	1:A:2357:ILE:HD12	2.40	0.42
1:C:2210:ASN:HD22	1:C:2211:MET:N	2.18	0.42
1:C:2235:ARG:HD3	1:C:2243:TYR:O	2.19	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:2277:ASN:HB3	2:D:5:HOH:O	2.20	0.42
1:C:2104:LEU:HD23	1:C:2133:TRP:HB2	2.03	0.41
1:D:2094:LYS:H	1:D:2094:LYS:HZ2	1.67	0.41
1:D:2378:ASN:O	1:D:2379:LEU:HB2	2.20	0.41
1:A:2235:ARG:NH2	1:A:2476:GLN:O	2.50	0.41
1:B:2205:LEU:HD13	1:B:2232:ILE:CD1	2.45	0.41
1:C:2405:HIS:O	1:C:2409:LEU:HG	2.20	0.41
1:A:2213:GLN:HG2	1:A:2217:HIS:NE2	2.34	0.41
1:C:2295:GLN:N	1:C:2295:GLN:HE21	2.18	0.41
1:D:2135:PHE:CD2	1:D:2181:PRO:HG3	2.54	0.41
1:B:2464:ARG:HG2	1:B:2464:ARG:NH1	2.36	0.41
1:D:2477:THR:HA	1:D:2478:PRO:HD3	1.91	0.41
1:B:2363:GLU:OE1	1:B:2363:GLU:N	2.44	0.41
1:C:2137:GLU:HG3	2:C:130:HOH:O	2.20	0.41
1:D:2103:GLU:HB3	1:D:2134:LEU:HA	2.01	0.41
1:B:2368:PRO:HG2	1:B:2369:GLU:OE1	2.20	0.41
1:C:2090:SER:HA	1:C:2324:TYR:CZ	2.56	0.41
1:C:2248:TRP:CE2	1:C:2360:LEU:HD13	2.55	0.41
1:D:2232:ILE:HD13	1:D:2232:ILE:HA	1.80	0.41
1:D:2296:VAL:HA	1:D:2297:PRO:HD3	1.94	0.41
1:C:2277:ASN:HA	1:C:2278:PRO:HD2	1.87	0.41
1:D:2203:ARG:NH1	1:D:2483:ILE:HG23	2.33	0.41
1:D:2429:GLY:HA2	1:D:2482:LEU:CD2	2.51	0.41
1:A:2322:THR:HG21	1:A:2377:TYR:HE1	1.82	0.41
1:A:2343:ILE:HD13	1:A:2403:PHE:CE1	2.56	0.41
1:B:2464:ARG:NH1	1:B:2468:GLU:OE2	2.54	0.41
1:C:2316:LEU:HD21	1:C:2333:PHE:CE1	2.56	0.41
1:D:2248:TRP:CE2	1:D:2360:LEU:HD13	2.56	0.41
1:A:2080:LEU:HD11	1:A:2175:LYS:HG2	2.03	0.41
1:B:2305:TYR:HA	1:B:2358:LYS:HA	2.03	0.41
1:B:2307:THR:CG2	1:B:2309:SER:N	2.84	0.41
1:C:2135:PHE:HB2	2:C:202:HOH:O	2.21	0.41
1:C:2159:ASN:O	1:C:2160:ARG:HB2	2.21	0.41
1:D:2118:ILE:HG22	1:D:2123:LEU:HG	2.03	0.41
1:D:2210:ASN:HD22	1:D:2211:MET:N	2.18	0.41
1:D:2214:ARG:NH2	1:D:2220:ILE:HD11	2.35	0.41
1:C:2122:ILE:C	1:C:2124:ALA:H	2.25	0.41
1:D:2146:TYR:CE2	1:D:2147:LEU:HG	2.56	0.41
1:A:2109:ASP:OD1	1:A:2112:ASP:N	2.54	0.40
1:A:2358:LYS:HG2	1:A:2359:GLU:O	2.21	0.40
1:A:2454:ASN:C	1:A:2454:ASN:HD22	2.24	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:2326:LEU:HD12	1:C:2331:GLY:O	2.20	0.40
1:D:2109:ASP:OD1	1:D:2112:ASP:N	2.54	0.40
1:D:2364:PHE:N	1:D:2370:MET:HE1	2.36	0.40
1:A:2145:ARG:HA	1:A:2149:GLN:O	2.21	0.40
1:B:2135:PHE:CD2	1:B:2181:PRO:HG3	2.57	0.40
1:C:2078:VAL:O	1:C:2078:VAL:HG23	2.21	0.40
1:C:2448:THR:HG23	1:C:2477:THR:OG1	2.21	0.40
1:D:2113:PRO:HA	1:D:2116:LYS:CD	2.50	0.40
1:A:2225:TYR:O	1:A:2228:PHE:HB3	2.20	0.40
1:B:2155:ILE:O	1:B:2162:ALA:HA	2.22	0.40
1:C:2235:ARG:NH2	1:C:2476:GLN:O	2.54	0.40
1:C:2297:PRO:HD2	1:C:2446:TYR:CD2	2.56	0.40
1:D:2143:SER:O	1:D:2144:ARG:HG2	2.21	0.40
1:D:2145:ARG:HA	1:D:2149:GLN:O	2.21	0.40
1:A:2145:ARG:HH12	1:A:2202:PRO:HG2	1.87	0.40
1:A:2454:ASN:C	1:A:2454:ASN:ND2	2.73	0.40
1:B:2131:GLY:HA3	1:B:2133:TRP:CH2	2.57	0.40
1:C:2142:PHE:CZ	1:C:2185:VAL:HG22	2.55	0.40
1:C:2148:LEU:H	1:C:2476:GLN:NE2	2.19	0.40
1:C:2277:ASN:C	1:C:2277:ASN:OD1	2.59	0.40
1:C:2322:THR:HG21	1:C:2377:TYR:CD1	2.57	0.40
1:A:2365:TYR:CD2	1:A:2411:LEU:HD22	2.56	0.40
1:C:2104:LEU:CD2	1:C:2133:TRP:HB2	2.51	0.40
1:C:2194:THR:CG2	1:C:2195:ARG:N	2.84	0.40

There are no symmetry-related clashes.

5.3 Torsion angles [\(i\)](#)

5.3.1 Protein backbone [\(i\)](#)

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

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

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles
1	A	412/414 (100%)	392 (95%)	18 (4%)	2 (0%)	29 41

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	B	412/414 (100%)	389 (94%)	19 (5%)	4 (1%)	15	23
1	C	412/414 (100%)	390 (95%)	19 (5%)	3 (1%)	22	32
1	D	412/414 (100%)	386 (94%)	22 (5%)	4 (1%)	15	23
All	All	1648/1656 (100%)	1557 (94%)	78 (5%)	13 (1%)	19	29

All (13) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	2366	TYR
1	B	2457	SER
1	C	2333	PHE
1	B	2366	TYR
1	C	2366	TYR
1	D	2090	SER
1	B	2378	ASN
1	D	2336	ALA
1	B	2136	THR
1	D	2389	SER
1	A	2333	PHE
1	C	2389	SER
1	D	2366	TYR

5.3.2 Protein sidechains [i](#)

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

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

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	371/371 (100%)	352 (95%)	19 (5%)	24	39
1	B	371/371 (100%)	348 (94%)	23 (6%)	18	29
1	C	371/371 (100%)	346 (93%)	25 (7%)	16	26
1	D	371/371 (100%)	346 (93%)	25 (7%)	16	26
All	All	1484/1484 (100%)	1392 (94%)	92 (6%)	18	29

All (92) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	2104	LEU
1	A	2111	GLU
1	A	2134	LEU
1	A	2145	ARG
1	A	2185	VAL
1	A	2210	ASN
1	A	2235	ARG
1	A	2267	ARG
1	A	2294	ASP
1	A	2303	THR
1	A	2317	ARG
1	A	2326	LEU
1	A	2337	ASP
1	A	2339	THR
1	A	2354	THR
1	A	2360	LEU
1	A	2361	ILE
1	A	2448	THR
1	A	2454	ASN
1	B	2090	SER
1	B	2137	GLU
1	B	2180	LEU
1	B	2185	VAL
1	B	2210	ASN
1	B	2235	ARG
1	B	2262	LEU
1	B	2264	THR
1	B	2267	ARG
1	B	2287	ARG
1	B	2295	GLN
1	B	2307	THR
1	B	2352	ARG
1	B	2354	THR
1	B	2358	LYS
1	B	2360	LEU
1	B	2374	PHE
1	B	2441	LEU
1	B	2447	LEU
1	B	2448	THR
1	B	2454	ASN
1	B	2456	ASN
1	B	2472	ARG
1	C	2090	SER

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Mol	Chain	Res	Type
1	C	2094	LYS
1	C	2145	ARG
1	C	2180	LEU
1	C	2185	VAL
1	C	2210	ASN
1	C	2235	ARG
1	C	2264	THR
1	C	2267	ARG
1	C	2279	LYS
1	C	2286	GLU
1	C	2293	ASP
1	C	2295	GLN
1	C	2303	THR
1	C	2314	TRP
1	C	2317	ARG
1	C	2335	HIS
1	C	2354	THR
1	C	2358	LYS
1	C	2360	LEU
1	C	2361	ILE
1	C	2438	VAL
1	C	2441	LEU
1	C	2448	THR
1	C	2454	ASN
1	D	2081	SER
1	D	2090	SER
1	D	2101	SER
1	D	2103	GLU
1	D	2104	LEU
1	D	2105	TYR
1	D	2185	VAL
1	D	2210	ASN
1	D	2235	ARG
1	D	2247	PRO
1	D	2262	LEU
1	D	2264	THR
1	D	2267	ARG
1	D	2287	ARG
1	D	2295	GLN
1	D	2307	THR
1	D	2358	LYS
1	D	2360	LEU

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Mol	Chain	Res	Type
1	D	2361	ILE
1	D	2436	GLU
1	D	2447	LEU
1	D	2448	THR
1	D	2454	ASN
1	D	2456	ASN
1	D	2464	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (35) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	2085	GLN
1	A	2149	GLN
1	A	2193	GLN
1	A	2210	ASN
1	A	2213	GLN
1	A	2295	GLN
1	A	2351	GLN
1	A	2422	GLN
1	A	2454	ASN
1	A	2476	GLN
1	B	2085	GLN
1	B	2178	ASN
1	B	2210	ASN
1	B	2295	GLN
1	B	2327	ASN
1	B	2329	GLN
1	B	2375	ASN
1	B	2454	ASN
1	B	2470	GLN
1	B	2476	GLN
1	C	2085	GLN
1	C	2149	GLN
1	C	2210	ASN
1	C	2295	GLN
1	C	2351	GLN
1	C	2454	ASN
1	C	2476	GLN
1	D	2085	GLN
1	D	2114	ASN
1	D	2210	ASN
1	D	2295	GLN

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Mol	Chain	Res	Type
1	D	2329	GLN
1	D	2454	ASN
1	D	2470	GLN
1	D	2476	GLN

5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry [i](#)

There are no ligands in this entry.

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](#)

EDS was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates [i](#)

EDS was not executed - this section is therefore empty.

6.4 Ligands [i](#)

EDS was not executed - this section is therefore empty.

6.5 Other polymers [i](#)

EDS was not executed - this section is therefore empty.