



Full wwPDB X-ray Structure Validation Report ⓘ

May 25, 2020 – 07:26 am BST

PDB ID : 1EWV
Title : CRYSTAL STRUCTURE OF METABOTROPIC GLUTAMATE RECEPTOR SUBTYPE 1 LIGAND FREE FORM II
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Deposited on : 2000-04-27
Resolution : 4.00 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 following versions of software and data (see [references ⓘ](#)) were used in the production of this report:

MolProbity : 4.02b-467
Xtrriage (Phenix) : 1.13
EDS : 2.11
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac : 5.8.0158
CCP4 : 7.0.044 (Gargrove)
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.11

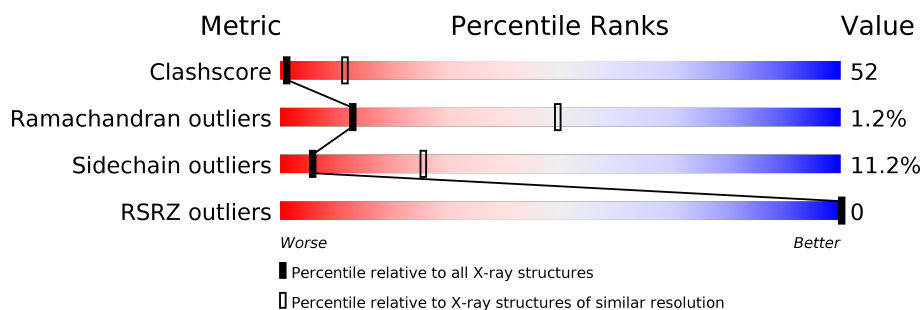
1 Overall quality at a glance

The following experimental techniques were used to determine the structure:

X-RAY DIFFRACTION

The reported resolution of this entry is 4.00 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	1148 (4.30-3.70)
Ramachandran outliers	138981	1108 (4.30-3.70)
Sidechain outliers	138945	1099 (4.30-3.70)
RSRZ outliers	127900	1028 (4.34-3.66)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments on the lower bar indicate the fraction of residues that contain outliers for ≥ 3 , 2, 1 and 0 types of geometric quality criteria 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	490	 30% 53% 8% 9%
1	B	490	 34% 50% 8% 9%

2 Entry composition

There is only 1 type of molecule in this entry. The entry contains 7120 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 METABOTROPIC GLUTAMATE RECEPTOR SUBTYPE 1.

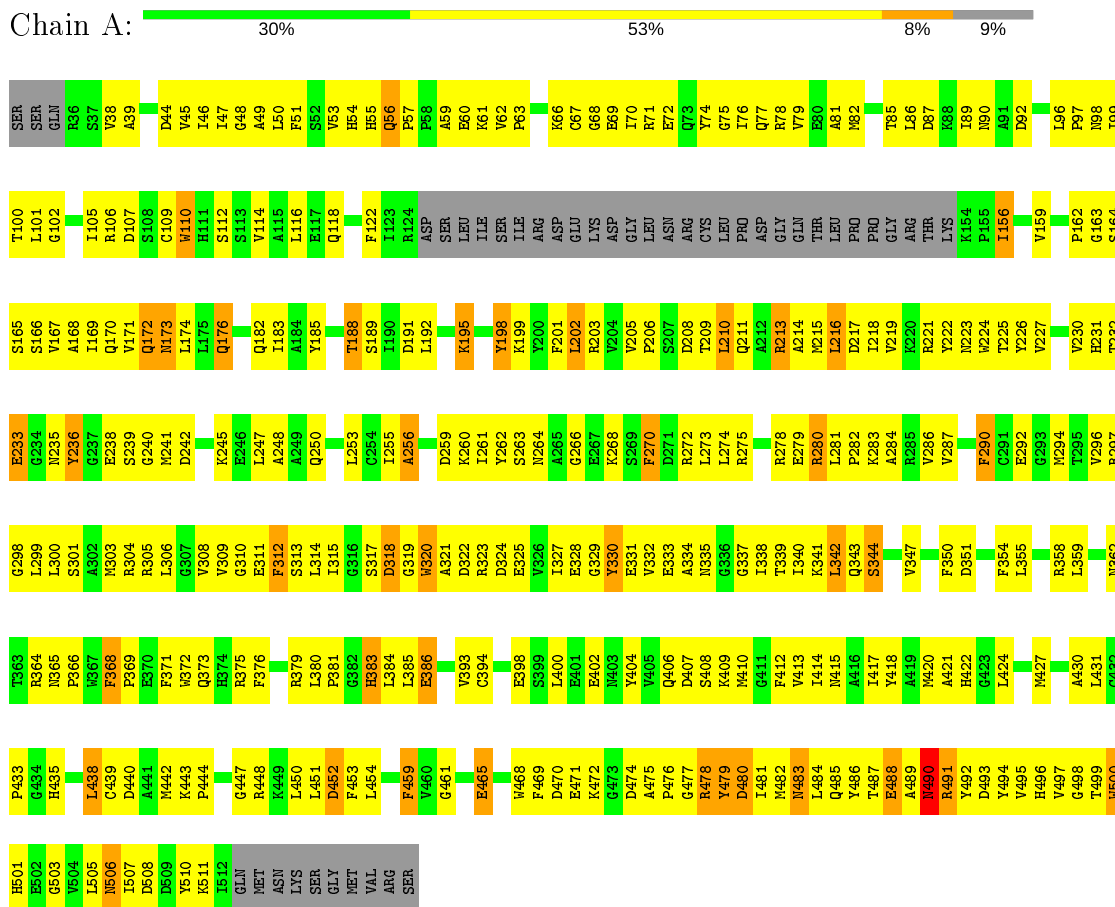
Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	448	Total 3560	C 2258	N 620	O 662	S 20	0	0	0
1	B	448	Total 3560	C 2258	N 620	O 662	S 20	0	0	0

3 Residue-property plots i

These plots are drawn for all protein, RNA and DNA 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.

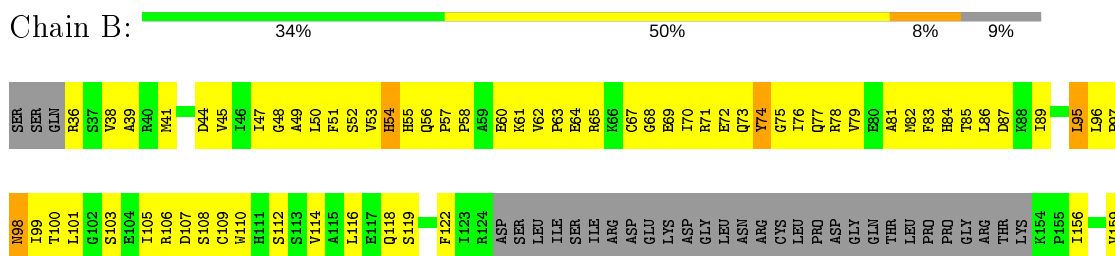
• Molecule 1: METABOTROPIC GLUTAMATE RECEPTOR SUBTYPE 1

Chain A:



• Molecule 1: METABOTROPIC GLUTAMATE RECEPTOR SUBTYPE 1

Chain B:



SER	K449	P369	S301	H231	F162
GLY	L450	E370	A302	T232	G163
MET	L451	F371	M303	E233	S164
VAL	D452	W372	R304	G234	S165
ARG	F453	Q373	R305	N235	S166
SER	L454	H374	L306	V167	V167
	S457	R375	W309	E238	A168
	S458	F376	G310	S239	I169
	F459	Q377	E311	G240	Q170
	V460	C378	E312	M241	V171
	G461	R379	F312	D242	Q172
	V462	L380	S313	A243	M173
	S463	P381	I314	F244	
	G464	G382	I315	K245	
	E465	R383	G316	E246	
	E466	L384	S317	L247	Q176
	V467	I385	D318	L248	F178
	W468	E386	G319	A248	D179
	F469	N387	K320	L253	I180
	D470	P388	A321	F181	Q182
	E471	N389	D322	I183	I183
	K472	F390	R323	K260	A184
	G473	K391	D324	I261	Y185
	D474	K392	E325	Y262	S186
	A475	V393	W326		
	P476	C394	I327		
		E398	E328	A285	I190
	I481	S399	G329	G286	D191
	M482	L400	Y330	E287	L192
	M483	E401	E331	S193	D194
	L484		W332	F270	K195
	Q485	Q406	E333	D271	I196
		D407	A334	L272	L197
			N335	L273	Y198
	E488	M410	I338	L274	K199
	M489	G411	T339	R275	Y200
	R491	F412	I340	K276	Y201
	Y492	V413	R341	L277	L202
	D493	I414	L342	R278	
	Y494	N415	P345	L281	V205
	V495	A416	E346	S207	D208
		I417	W347	T209	D208
	G498	M420	D351	L210	Q211
	F499			A212	R213
	W500	G423	L355	C289	L216
	V504	M427	K356	F290	D217
	L505	H428	L357	C291	I218
	M506	L438	D360	E292	V219
	I507	C439	T361	G293	K220
	D508	D440	N362	M294	
	D509	Y510	T363	T295	V296
	Y510	A441	R364	V296	R297
	K511	M442	N365	G298	S228
	I512	D446	P366	L299	A229
	GLN	G447	W367	L299	V230
	MET	R448	F368	L300	
	ASN				
	LYS				

4 Data and refinement statistics

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, α , β , γ	84.79Å 94.53Å 95.45Å 90.00° 113.20° 90.00°	Depositor
Resolution (Å)	20.00 – 4.00 19.92 – 3.99	Depositor EDS
% Data completeness (in resolution range)	89.1 (20.00-4.00) 89.0 (19.92-3.99)	Depositor EDS
R_{merge}	0.18	Depositor
R_{sym}	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ ¹	2.36 (at 3.94Å)	Xtrriage
Refinement program	CNS	Depositor
R, R_{free}	0.254 , 0.328 0.239 , (Not available)	Depositor DCC
R_{free} test set	No test flags present.	wwPDB-VP
Wilson B-factor (Å ²)	43.2	Xtrriage
Anisotropy	0.548	Xtrriage
Bulk solvent k_{sol} (e/Å ³), B_{sol} (Å ²)	0.31 , 24.5	EDS
L-test for twinning ²	$\langle L \rangle = 0.46$, $\langle L^2 \rangle = 0.29$	Xtrriage
Estimated twinning fraction	No twinning to report.	Xtrriage
F_o, F_c correlation	0.85	EDS
Total number of atoms	7120	wwPDB-VP
Average B, all atoms (Å ²)	36.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.75% of the height of the origin peak. No significant pseudotranslation is detected.*

¹Intensities estimated from amplitudes.

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

5 Model quality [i](#)

5.1 Standard geometry [i](#)

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	0.73	6/3640 (0.2%)	0.95	0/4923
1	B	0.66	2/3640 (0.1%)	0.94	0/4923
All	All	0.70	8/7280 (0.1%)	0.95	0/9846

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

Mol	Chain	#Chirality outliers	#Planarity outliers
1	B	0	1

All (8) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
1	A	224	TRP	NE1-CE2	8.80	1.49	1.37
1	A	500	TRP	NE1-CE2	8.73	1.49	1.37
1	A	372	TRP	NE1-CE2	8.73	1.48	1.37
1	A	468	TRP	NE1-CE2	8.72	1.48	1.37
1	B	110	TRP	NE1-CE2	8.72	1.48	1.37
1	A	320	TRP	NE1-CE2	8.70	1.48	1.37
1	B	320	TRP	NE1-CE2	8.69	1.48	1.37
1	A	110	TRP	NE1-CE2	8.65	1.48	1.37

There are no bond angle outliers.

There are no chirality outliers.

All (1) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	B	74	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	3560	0	3485	372	0
1	B	3560	0	3485	356	0
All	All	7120	0	6970	726	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 52.

All (726) 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:A:206:PRO:CG	1:A:477:GLY:HA3	1.69	1.21
1:A:206:PRO:HG3	1:A:477:GLY:CA	1.74	1.17
1:B:190:ILE:HD12	1:B:190:ILE:H	1.04	1.14
1:A:162:PRO:HG3	1:A:171:VAL:HG21	1.29	1.10
1:B:475:ALA:HB1	1:B:476:PRO:HD2	1.30	1.07
1:A:475:ALA:HB1	1:A:476:PRO:HD2	1.23	1.07
1:A:195:LYS:HG3	1:A:199:LYS:HA	1.41	1.03
1:B:240:GLY:C	1:B:290:PHE:CE1	2.32	1.03
1:A:192:LEU:HD13	1:A:201:PHE:CZ	1.98	0.98
1:A:280:ARG:HH22	1:A:283:LYS:HB2	1.29	0.97
1:A:236:TYR:HD2	1:A:236:TYR:C	1.68	0.96
1:A:461:GLY:HA3	1:A:465:GLU:HG2	1.48	0.96
1:B:240:GLY:HA3	1:B:290:PHE:CZ	2.02	0.94
1:A:162:PRO:HG3	1:A:171:VAL:CG2	1.99	0.92
1:A:475:ALA:HB1	1:A:476:PRO:CD	1.99	0.92
1:B:475:ALA:HB1	1:B:476:PRO:CD	2.00	0.91
1:A:236:TYR:CD2	1:A:236:TYR:C	2.41	0.90
1:B:400:LEU:H	1:B:400:LEU:HD12	1.35	0.90
1:B:240:GLY:CA	1:B:290:PHE:CE1	2.55	0.90
1:B:109:CYS:SG	1:B:114:VAL:HG11	2.11	0.90
1:B:240:GLY:HA3	1:B:290:PHE:CE1	2.08	0.89
1:A:206:PRO:HG3	1:A:477:GLY:HA3	0.91	0.89
1:A:162:PRO:CG	1:A:171:VAL:HG21	2.02	0.88
1:A:381:PRO:HA	1:A:386:GLU:HG3	1.56	0.87
1:B:190:ILE:N	1:B:190:ILE:HD12	1.89	0.86

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:172:GLN:HA	1:B:172:GLN:HE21	1.39	0.86
1:B:185:TYR:N	1:B:185:TYR:CD2	2.42	0.86
1:B:185:TYR:HB2	1:B:412:PHE:HB3	1.58	0.86
1:B:287:VAL:HB	1:B:314:LEU:HD23	1.57	0.85
1:B:190:ILE:CD1	1:B:190:ILE:H	1.82	0.85
1:B:180:ILE:HD12	1:B:180:ILE:N	1.90	0.85
1:A:301:SER:HA	1:A:330:TYR:HE2	1.38	0.84
1:A:227:VAL:O	1:A:255:ILE:HG23	1.77	0.84
1:A:301:SER:HA	1:A:330:TYR:CE2	2.13	0.84
1:A:188:THR:HB	1:A:208:ASP:OD1	1.79	0.83
1:A:287:VAL:HB	1:A:314:LEU:HD23	1.60	0.83
1:B:205:VAL:HG23	1:B:206:PRO:HD2	1.60	0.83
1:A:236:TYR:O	1:A:236:TYR:HD2	1.60	0.82
1:B:379:ARG:NH2	1:B:381:PRO:HA	1.95	0.82
1:A:45:VAL:HB	1:A:101:LEU:HD23	1.59	0.81
1:B:192:LEU:HA	1:B:198:TYR:CE2	2.15	0.81
1:A:461:GLY:HA3	1:A:465:GLU:CG	2.09	0.81
1:A:116:LEU:HD23	1:B:177:LEU:HD11	1.62	0.81
1:B:192:LEU:HA	1:B:198:TYR:CD2	2.16	0.81
1:B:261:ILE:HG21	1:B:295:THR:HG23	1.63	0.81
1:B:415:ASN:HD22	1:B:467:VAL:HG21	1.45	0.80
1:B:285:ARG:HG2	1:B:312:PHE:HA	1.63	0.80
1:A:122:PHE:O	1:A:156:ILE:HD11	1.81	0.80
1:A:383:HIS:CD2	1:A:384:LEU:N	2.50	0.80
1:A:334:ALA:O	1:A:484:LEU:HD23	1.81	0.80
1:B:300:LEU:O	1:B:303:MET:HB2	1.82	0.80
1:A:375:ARG:O	1:A:375:ARG:HG3	1.82	0.79
1:A:188:THR:O	1:A:208:ASP:CG	2.20	0.79
1:B:119:SER:HA	1:B:122:PHE:HD2	1.48	0.79
1:B:227:VAL:HG12	1:B:286:VAL:HB	1.64	0.78
1:B:362:ASN:HD21	1:B:365:ASN:HB3	1.45	0.78
1:A:172:GLN:HB2	1:A:182:GLN:OE1	1.83	0.78
1:A:383:HIS:HD2	1:A:384:LEU:N	1.80	0.78
1:B:293:GLY:O	1:B:296:VAL:HB	1.84	0.78
1:B:508:ASP:HB3	1:B:511:LYS:HB3	1.64	0.77
1:A:309:VAL:HG12	1:A:310:GLY:H	1.48	0.77
1:A:236:TYR:CD2	1:A:236:TYR:O	2.36	0.77
1:B:178:PHE:HB2	1:B:180:ILE:HD11	1.65	0.77
1:A:195:LYS:HD2	1:A:472:LYS:O	1.85	0.77
1:A:195:LYS:HE3	1:A:195:LYS:HA	1.67	0.76
1:A:373:GLN:HE22	1:A:386:GLU:HA	1.50	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:109:CYS:SG	1:A:114:VAL:HG11	2.26	0.76
1:A:488:GLU:H	1:A:488:GLU:CD	1.89	0.76
1:B:185:TYR:H	1:B:185:TYR:HD2	1.31	0.75
1:B:270:PHE:CE1	1:B:298:GLY:HA3	2.20	0.75
1:B:185:TYR:CE1	1:B:413:VAL:HG22	2.23	0.74
1:B:185:TYR:N	1:B:185:TYR:HD2	1.80	0.74
1:B:190:ILE:HD11	1:B:239:SER:O	1.87	0.74
1:B:230:VAL:HG11	1:B:273:LEU:HD21	1.69	0.74
1:B:379:ARG:HB2	1:B:379:ARG:NH1	2.01	0.74
1:A:359:LEU:HD21	1:A:380:LEU:HD13	1.70	0.74
1:B:169:ILE:O	1:B:173:ASN:HB2	1.86	0.73
1:A:189:SER:HA	1:A:208:ASP:OD2	1.88	0.73
1:A:270:PHE:O	1:A:273:LEU:HB3	1.88	0.73
1:B:67:CYS:SG	1:B:114:VAL:HG21	2.29	0.73
1:A:156:ILE:H	1:A:156:ILE:HD13	1.53	0.73
1:B:285:ARG:CG	1:B:312:PHE:HA	2.19	0.72
1:A:210:LEU:N	1:A:210:LEU:HD23	2.03	0.72
1:B:357:LEU:HD13	1:B:368:PHE:HZ	1.54	0.72
1:A:500:TRP:HD1	1:A:505:LEU:HD13	1.53	0.72
1:B:172:GLN:HE21	1:B:172:GLN:CA	2.01	0.72
1:B:183:ILE:HA	1:B:202:LEU:O	1.89	0.72
1:A:55:HIS:CD2	1:A:71:ARG:HD2	2.24	0.72
1:B:373:GLN:O	1:B:377:GLN:N	2.22	0.71
1:A:192:LEU:HD23	1:A:198:TYR:CD2	2.26	0.71
1:B:231:HIS:CE1	1:B:260:LYS:HG2	2.25	0.71
1:B:95:LEU:HD11	1:B:96:LEU:HG	1.72	0.71
1:B:85:THR:HG21	1:B:417:ILE:HG21	1.72	0.71
1:A:248:ALA:HB1	1:A:253:LEU:HB3	1.72	0.70
1:B:85:THR:O	1:B:89:ILE:HG13	1.90	0.70
1:A:270:PHE:CE1	1:A:298:GLY:HA3	2.27	0.70
1:B:483:ASN:OD1	1:B:512:ILE:HG23	1.92	0.70
1:B:84:HIS:O	1:B:87:ASP:HB2	1.90	0.70
1:A:507:ILE:HG22	1:A:508:ASP:N	2.05	0.70
1:B:229:ALA:HB1	1:B:241:MET:CE	2.21	0.70
1:B:261:ILE:CG2	1:B:295:THR:HG23	2.21	0.70
1:A:451:LEU:O	1:A:454:LEU:N	2.20	0.70
1:B:375:ARG:HG3	1:B:375:ARG:HH11	1.55	0.69
1:B:274:LEU:HG	1:B:278:ARG:HD2	1.72	0.69
1:B:58:PRO:O	1:B:62:VAL:HG23	1.92	0.69
1:B:301:SER:HA	1:B:330:TYR:HE2	1.57	0.69
1:A:227:VAL:O	1:A:255:ILE:HD12	1.92	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:192:LEU:HD22	1:B:201:PHE:CZ	2.28	0.69
1:B:369:PRO:HB2	1:B:385:LEU:HD12	1.75	0.69
1:A:376:PHE:CE2	1:A:398:GLU:HB3	2.28	0.69
1:A:76:ILE:HG13	1:A:371:PHE:CG	2.28	0.69
1:B:112:SER:O	1:B:116:LEU:HB2	1.93	0.69
1:A:475:ALA:CB	1:A:476:PRO:HD2	2.13	0.69
1:A:461:GLY:N	1:A:465:GLU:O	2.26	0.69
1:B:210:LEU:HD11	1:B:500:TRP:HH2	1.58	0.68
1:A:375:ARG:HG2	1:A:376:PHE:CZ	2.29	0.68
1:B:240:GLY:O	1:B:290:PHE:HE1	1.76	0.68
1:A:230:VAL:HA	1:A:259:ASP:O	1.92	0.68
1:A:240:GLY:HA3	1:A:290:PHE:CE2	2.28	0.68
1:A:278:ARG:HB3	1:A:278:ARG:NH1	2.08	0.68
1:A:62:VAL:N	1:A:63:PRO:CD	2.57	0.68
1:A:183:ILE:HA	1:A:202:LEU:O	1.94	0.68
1:B:163:GLY:HA2	1:B:186:SER:OG	1.94	0.68
1:B:304:ARG:HG2	1:B:304:ARG:HH11	1.58	0.68
1:B:119:SER:HA	1:B:122:PHE:CD2	2.29	0.67
1:B:162:PRO:HG3	1:B:167:VAL:HG12	1.76	0.67
1:A:342:LEU:HA	1:A:479:TYR:HB3	1.77	0.67
1:B:275:ARG:O	1:B:279:GLU:HG3	1.95	0.67
1:A:47:ILE:HD13	1:A:420:MET:HG3	1.77	0.67
1:A:280:ARG:HH22	1:A:283:LYS:CB	2.07	0.67
1:B:73:GLN:H	1:B:73:GLN:NE2	1.92	0.67
1:A:110:TRP:CZ2	1:A:164:SER:HB2	2.30	0.67
1:B:172:GLN:HG2	1:B:198:TYR:HB3	1.77	0.67
1:A:164:SER:HB3	1:A:167:VAL:HG23	1.77	0.67
1:A:76:ILE:HG13	1:A:371:PHE:CD1	2.30	0.66
1:B:266:GLY:O	1:B:270:PHE:HB2	1.95	0.66
1:B:301:SER:HA	1:B:330:TYR:CE2	2.31	0.66
1:B:454:LEU:O	1:B:457:SER:HB2	1.95	0.66
1:A:459:PHE:CD2	1:A:459:PHE:N	2.61	0.66
1:B:82:MET:HG2	1:B:105:ILE:HD11	1.77	0.66
1:A:188:THR:O	1:A:208:ASP:OD1	2.14	0.66
1:A:202:LEU:HD23	1:A:202:LEU:N	2.11	0.66
1:A:206:PRO:CB	1:A:477:GLY:HA3	2.25	0.66
1:A:281:LEU:HB3	1:A:282:PRO:HA	1.77	0.66
1:B:342:LEU:HD21	1:B:412:PHE:HE2	1.60	0.66
1:A:290:PHE:CD1	1:A:317:SER:HB3	2.31	0.65
1:A:491:ARG:HD2	1:A:492:TYR:O	1.96	0.65
1:B:48:GLY:H	1:B:156:ILE:HG23	1.60	0.65

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:45:VAL:HG11	1:A:424:LEU:HD11	1.78	0.65
1:B:109:CYS:HB2	1:B:114:VAL:HG11	1.79	0.65
1:B:312:PHE:N	1:B:312:PHE:CD2	2.60	0.65
1:A:309:VAL:HG12	1:A:310:GLY:N	2.10	0.65
1:A:339:THR:OG1	1:A:482:MET:HB2	1.96	0.65
1:A:491:ARG:NH1	1:A:492:TYR:O	2.28	0.65
1:A:62:VAL:N	1:A:63:PRO:HD3	2.12	0.65
1:A:347:VAL:HG12	1:A:350:PHE:H	1.61	0.65
1:B:109:CYS:CB	1:B:114:VAL:HG11	2.25	0.65
1:A:278:ARG:HB3	1:A:278:ARG:HH11	1.58	0.65
1:B:281:LEU:HB3	1:B:282:PRO:HA	1.77	0.65
1:A:483:ASN:HD22	1:A:484:LEU:H	1.45	0.65
1:B:240:GLY:C	1:B:290:PHE:CD1	2.70	0.64
1:A:195:LYS:HE2	1:A:198:TYR:O	1.96	0.64
1:A:270:PHE:CZ	1:A:298:GLY:HA3	2.33	0.64
1:A:54:HIS:HD2	1:A:70:ILE:HD12	1.62	0.64
1:B:202:LEU:HD23	1:B:202:LEU:N	2.11	0.64
1:B:95:LEU:CD1	1:B:96:LEU:HG	2.26	0.64
1:A:327:ILE:HD12	1:A:328:GLU:N	2.12	0.64
1:A:332:VAL:HB	1:A:333:GLU:OE2	1.97	0.64
1:B:216:LEU:O	1:B:216:LEU:HD23	1.98	0.64
1:B:240:GLY:O	1:B:290:PHE:CE1	2.50	0.64
1:A:211:GLN:HG3	1:A:340:ILE:HG21	1.80	0.64
1:A:218:ILE:HD11	1:A:481:ILE:HD12	1.79	0.64
1:A:51:PHE:CD1	1:A:78:ARG:HB3	2.34	0.63
1:B:306:LEU:O	1:B:306:LEU:HD12	1.97	0.63
1:A:210:LEU:HB2	1:A:479:TYR:OH	1.97	0.63
1:B:72:GLU:H	1:B:73:GLN:NE2	1.96	0.63
1:A:169:ILE:O	1:A:173:ASN:HB2	1.99	0.63
1:A:305:ARG:NH1	1:A:305:ARG:HG3	2.14	0.63
1:A:500:TRP:CZ2	1:A:503:GLY:HA2	2.33	0.63
1:B:300:LEU:HD13	1:B:334:ALA:HB2	1.79	0.63
1:A:195:LYS:HE3	1:A:195:LYS:CA	2.24	0.63
1:A:309:VAL:HG11	1:A:333:GLU:HA	1.81	0.63
1:B:362:ASN:ND2	1:B:365:ASN:HB3	2.12	0.63
1:B:382:GLY:N	1:B:386:GLU:OE1	2.32	0.63
1:A:300:LEU:O	1:A:303:MET:HB2	1.99	0.62
1:B:312:PHE:H	1:B:312:PHE:HD2	1.46	0.62
1:B:65:ARG:HG3	1:B:65:ARG:HH11	1.64	0.62
1:B:199:LYS:NZ	1:B:448:ARG:HH12	1.97	0.62
1:B:261:ILE:HD11	1:B:265:ALA:HB3	1.80	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:383:HIS:C	1:A:383:HIS:CD2	2.74	0.62
1:B:400:LEU:N	1:B:400:LEU:HD12	2.13	0.62
1:B:508:ASP:HB3	1:B:511:LYS:CB	2.30	0.62
1:B:82:MET:CG	1:B:105:ILE:HD11	2.30	0.62
1:B:85:THR:CG2	1:B:417:ILE:HG21	2.29	0.61
1:A:306:LEU:O	1:A:308:VAL:HG13	2.00	0.61
1:A:483:ASN:HD22	1:A:484:LEU:N	1.98	0.61
1:B:322:ASP:O	1:B:322:ASP:CG	2.38	0.61
1:B:508:ASP:CB	1:B:511:LYS:HB3	2.30	0.61
1:A:71:ARG:O	1:A:76:ILE:HG12	1.99	0.61
1:B:47:ILE:CG2	1:B:420:MET:HG2	2.31	0.61
1:B:195:LYS:HG3	1:B:472:LYS:O	1.99	0.61
1:A:89:ILE:HD11	1:A:418:TYR:CD2	2.35	0.61
1:A:470:ASP:OD2	1:A:470:ASP:C	2.38	0.61
1:A:342:LEU:HD12	1:A:342:LEU:H	1.66	0.61
1:B:50:LEU:HD21	1:B:122:PHE:HE2	1.64	0.61
1:A:275:ARG:HG2	1:A:279:GLU:OE1	2.00	0.61
1:A:232:THR:HG21	1:A:292:GLU:HB2	1.82	0.61
1:A:60:GLU:CD	1:A:60:GLU:H	2.04	0.61
1:A:414:ILE:O	1:A:417:ILE:HB	2.00	0.60
1:A:485:GLN:HE21	1:A:495:VAL:HG21	1.66	0.60
1:A:85:THR:O	1:A:89:ILE:HG13	2.00	0.60
1:B:65:ARG:NH1	1:B:65:ARG:HG3	2.16	0.60
1:B:216:LEU:C	1:B:216:LEU:HD23	2.22	0.60
1:A:82:MET:CG	1:A:105:ILE:HD11	2.31	0.60
1:A:156:ILE:H	1:A:156:ILE:CD1	2.11	0.60
1:A:459:PHE:HD2	1:A:459:PHE:N	1.98	0.60
1:A:497:VAL:O	1:A:507:ILE:HG23	2.01	0.60
1:A:213:ARG:HH11	1:A:213:ARG:CG	2.14	0.60
1:A:226:TYR:HE2	1:A:280:ARG:NH2	1.99	0.60
1:A:89:ILE:CG1	1:A:418:TYR:HE2	2.15	0.60
1:A:471:GLU:HG3	1:A:472:LYS:N	2.17	0.60
1:A:280:ARG:HH21	1:A:284:ALA:HB2	1.66	0.60
1:B:240:GLY:C	1:B:290:PHE:HE1	2.01	0.60
1:B:178:PHE:HB2	1:B:180:ILE:CD1	2.31	0.60
1:B:241:MET:N	1:B:290:PHE:CD1	2.69	0.60
1:B:379:ARG:CB	1:B:379:ARG:NH1	2.65	0.60
1:A:185:TYR:O	1:A:205:VAL:HG11	2.01	0.60
1:A:172:GLN:NE2	1:A:201:PHE:HB2	2.17	0.59
1:A:240:GLY:HA3	1:A:290:PHE:HE2	1.66	0.59
1:B:393:VAL:HG12	1:B:394:CYS:N	2.18	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:215:MET:O	1:A:219:VAL:HG23	2.03	0.59
1:B:240:GLY:CA	1:B:290:PHE:CZ	2.79	0.59
1:B:330:TYR:N	1:B:330:TYR:CD1	2.70	0.59
1:B:210:LEU:HD11	1:B:500:TRP:CH2	2.37	0.59
1:B:71:ARG:NH2	1:B:74:TYR:CD2	2.69	0.59
1:B:492:TYR:CD2	1:B:492:TYR:N	2.69	0.59
1:A:198:TYR:CD1	1:A:198:TYR:N	2.70	0.59
1:A:227:VAL:HG23	1:A:255:ILE:CD1	2.33	0.59
1:A:327:ILE:HD12	1:A:327:ILE:C	2.23	0.58
1:A:54:HIS:CD2	1:A:70:ILE:HD12	2.38	0.58
1:B:270:PHE:CZ	1:B:298:GLY:HA3	2.37	0.58
1:B:510:TYR:CD1	1:B:510:TYR:C	2.76	0.58
1:A:47:ILE:HD13	1:A:420:MET:CG	2.32	0.58
1:B:60:GLU:HG2	1:B:61:LYS:N	2.16	0.58
1:B:248:ALA:HB1	1:B:253:LEU:HB3	1.86	0.58
1:A:375:ARG:NH2	1:A:402:GLU:O	2.36	0.58
1:B:36:ARG:HD2	1:B:118:GLN:NE2	2.19	0.58
1:B:162:PRO:HG3	1:B:167:VAL:CG1	2.33	0.58
1:A:59:ALA:O	1:A:62:VAL:HG23	2.04	0.58
1:A:488:GLU:HG2	1:A:489:ALA:N	2.19	0.58
1:B:376:PHE:CE1	1:B:398:GLU:HB2	2.38	0.58
1:B:233:GLU:HB3	1:B:262:TYR:CD2	2.38	0.57
1:B:232:THR:HG21	1:B:292:GLU:HG3	1.87	0.57
1:B:379:ARG:HH22	1:B:381:PRO:HA	1.68	0.57
1:A:226:TYR:O	1:A:227:VAL:HG13	2.04	0.57
1:B:47:ILE:HD13	1:B:420:MET:CG	2.33	0.57
1:A:427:MET:O	1:A:430:ALA:N	2.35	0.57
1:A:55:HIS:N	1:A:69:GLU:O	2.35	0.57
1:B:351:ASP:O	1:B:355:LEU:HG	2.03	0.57
1:A:305:ARG:HH11	1:A:305:ARG:HG3	1.70	0.57
1:B:375:ARG:HG3	1:B:375:ARG:NH1	2.19	0.57
1:B:483:ASN:HD22	1:B:484:LEU:H	1.53	0.57
1:A:218:ILE:CD1	1:A:481:ILE:HD12	2.35	0.57
1:B:86:LEU:HA	1:B:89:ILE:HD12	1.86	0.57
1:B:178:PHE:CB	1:B:180:ILE:HD11	2.34	0.56
1:B:192:LEU:HA	1:B:198:TYR:HE2	1.68	0.56
1:A:110:TRP:CE2	1:A:164:SER:HB2	2.40	0.56
1:B:321:ALA:HB3	1:B:323:ARG:HG3	1.87	0.56
1:B:510:TYR:O	1:B:510:TYR:HD1	1.87	0.56
1:A:213:ARG:HG3	1:A:213:ARG:NH1	2.19	0.56
1:A:301:SER:CB	1:A:305:ARG:HH22	2.19	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:317:SER:O	1:A:319:GLY:N	2.37	0.56
1:B:172:GLN:CG	1:B:198:TYR:HB3	2.34	0.56
1:B:379:ARG:HH11	1:B:379:ARG:CB	2.18	0.56
1:A:507:ILE:CG2	1:A:508:ASP:N	2.68	0.56
1:A:211:GLN:N	1:A:479:TYR:OH	2.38	0.56
1:A:451:LEU:O	1:A:452:ASP:C	2.43	0.56
1:B:471:GLU:HG3	1:B:472:LYS:H	1.70	0.56
1:B:54:HIS:HD1	1:B:70:ILE:HA	1.69	0.56
1:A:192:LEU:HD13	1:A:201:PHE:CE2	2.41	0.56
1:A:499:THR:N	1:A:506:ASN:O	2.36	0.56
1:A:214:ALA:O	1:A:218:ILE:HG13	2.06	0.56
1:B:73:GLN:H	1:B:73:GLN:CD	2.09	0.56
1:B:85:THR:HG22	1:B:89:ILE:HD11	1.88	0.56
1:A:188:THR:O	1:A:208:ASP:OD2	2.24	0.56
1:A:54:HIS:HB3	1:A:68:GLY:O	2.05	0.56
1:A:82:MET:HG2	1:A:105:ILE:HD11	1.87	0.55
1:A:451:LEU:O	1:A:454:LEU:HB2	2.05	0.55
1:A:233:GLU:HG2	1:A:260:LYS:HD2	1.88	0.55
1:A:359:LEU:HD21	1:A:380:LEU:CD1	2.37	0.55
1:B:304:ARG:NH1	1:B:304:ARG:HG2	2.22	0.55
1:B:507:ILE:HG23	1:B:508:ASP:N	2.22	0.55
1:B:71:ARG:O	1:B:75:GLY:HA3	2.07	0.55
1:A:167:VAL:O	1:A:171:VAL:HG23	2.06	0.55
1:A:172:GLN:O	1:A:172:GLN:HG3	2.07	0.55
1:A:203:ARG:NE	1:A:474:ASP:OD1	2.39	0.55
1:A:480:ASP:OD1	1:A:499:THR:HG22	2.06	0.55
1:B:48:GLY:O	1:B:159:VAL:HA	2.07	0.55
1:B:206:PRO:HB3	1:B:210:LEU:HD23	1.88	0.55
1:B:427:MET:HB2	1:B:453:PHE:CD2	2.42	0.55
1:A:45:VAL:O	1:A:102:GLY:N	2.36	0.55
1:A:256:ALA:HB1	1:A:280:ARG:HE	1.72	0.55
1:A:351:ASP:O	1:A:355:LEU:HG	2.07	0.55
1:A:498:GLY:HA3	1:A:507:ILE:HA	1.87	0.55
1:B:50:LEU:HD21	1:B:122:PHE:CE2	2.42	0.55
1:A:379:ARG:NH1	1:A:381:PRO:HG3	2.22	0.55
1:A:482:MET:SD	1:A:496:HIS:HA	2.47	0.55
1:B:192:LEU:HA	1:B:198:TYR:HD2	1.70	0.54
1:B:379:ARG:O	1:B:393:VAL:HG13	2.07	0.54
1:B:71:ARG:NH2	1:B:74:TYR:HD2	2.05	0.54
1:B:78:ARG:O	1:B:82:MET:N	2.38	0.54
1:A:210:LEU:CD2	1:A:210:LEU:N	2.70	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:192:LEU:O	1:B:195:LYS:HE3	2.08	0.54
1:A:375:ARG:NH2	1:A:400:LEU:O	2.40	0.54
1:B:179:ASP:C	1:B:180:ILE:HD12	2.27	0.54
1:B:97:PRO:HB2	1:B:98:ASN:OD1	2.07	0.54
1:B:47:ILE:HG21	1:B:420:MET:HG2	1.90	0.54
1:A:67:CYS:SG	1:A:114:VAL:HG11	2.48	0.54
1:A:422:HIS:NE2	1:A:459:PHE:CD1	2.76	0.53
1:A:480:ASP:HB3	1:A:496:HIS:NE2	2.23	0.53
1:B:216:LEU:HD21	1:B:220:LYS:HD2	1.89	0.53
1:B:234:GLY:O	1:B:238:GLU:CB	2.56	0.53
1:B:194:ASP:C	1:B:194:ASP:OD2	2.45	0.53
1:B:261:ILE:CG2	1:B:295:THR:CG2	2.87	0.53
1:B:481:ILE:HG12	1:B:498:GLY:O	2.08	0.53
1:A:48:GLY:O	1:A:159:VAL:HA	2.08	0.53
1:B:232:THR:H	1:B:291:CYS:HA	1.73	0.53
1:A:169:ILE:HD12	1:A:192:LEU:HD21	1.89	0.53
1:A:315:ILE:HA	1:A:338:ILE:O	2.08	0.53
1:B:301:SER:O	1:B:305:ARG:HB2	2.07	0.53
1:B:235:ASN:O	1:B:239:SER:HB2	2.08	0.53
1:B:475:ALA:CB	1:B:476:PRO:HD2	2.20	0.53
1:B:467:VAL:HG12	1:B:468:TRP:N	2.24	0.53
1:A:259:ASP:OD1	1:A:260:LYS:N	2.42	0.52
1:B:207:SER:HB2	1:B:474:ASP:OD2	2.09	0.52
1:A:383:HIS:HD2	1:A:384:LEU:H	1.56	0.52
1:A:75:GLY:O	1:A:79:VAL:HG23	2.10	0.52
1:B:412:PHE:O	1:B:413:VAL:C	2.46	0.52
1:B:491:ARG:HG2	1:B:492:TYR:N	2.22	0.52
1:A:461:GLY:CA	1:A:465:GLU:HG2	2.31	0.52
1:B:276:LYS:O	1:B:279:GLU:HB2	2.10	0.52
1:B:320:TRP:CD1	1:B:320:TRP:C	2.80	0.52
1:B:483:ASN:HD22	1:B:484:LEU:N	2.06	0.52
1:A:87:ASP:OD2	1:A:364:ARG:NH1	2.36	0.52
1:B:79:VAL:HG13	1:B:105:ILE:HG21	1.92	0.52
1:A:213:ARG:CG	1:A:213:ARG:NH1	2.67	0.52
1:A:214:ALA:HB2	1:A:500:TRP:CE2	2.45	0.52
1:B:320:TRP:CD1	1:B:321:ALA:O	2.63	0.52
1:A:309:VAL:CG1	1:A:333:GLU:HA	2.39	0.52
1:A:480:ASP:HA	1:A:499:THR:HA	1.92	0.52
1:B:54:HIS:ND1	1:B:70:ILE:HA	2.24	0.52
1:A:164:SER:OG	1:A:165:SER:N	2.41	0.52
1:A:45:VAL:O	1:A:46:ILE:HD13	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:109:CYS:HB2	1:B:114:VAL:CG1	2.39	0.52
1:A:79:VAL:HG13	1:A:105:ILE:HG21	1.90	0.52
1:A:281:LEU:CB	1:A:282:PRO:HA	2.37	0.52
1:A:317:SER:C	1:A:319:GLY:N	2.63	0.52
1:A:480:ASP:HB3	1:A:499:THR:HG22	1.92	0.52
1:A:221:ARG:HG3	1:A:222:TYR:CE2	2.45	0.51
1:A:318:ASP:HA	1:A:340:ILE:O	2.09	0.51
1:B:55:HIS:CE1	1:B:71:ARG:NE	2.78	0.51
1:B:345:PRO:HG2	1:B:463:SER:HB3	1.91	0.51
1:B:231:HIS:O	1:B:231:HIS:ND1	2.43	0.51
1:A:383:HIS:CD2	1:A:385:LEU:H	2.28	0.51
1:A:475:ALA:CB	1:A:476:PRO:CD	2.74	0.51
1:B:475:ALA:CB	1:B:476:PRO:CD	2.79	0.51
1:B:52:SER:O	1:B:75:GLY:HA2	2.10	0.51
1:A:301:SER:OG	1:A:305:ARG:NH2	2.40	0.51
1:B:407:ASP:HB3	1:B:410:MET:HE2	1.93	0.51
1:B:197:LEU:C	1:B:198:TYR:CD1	2.84	0.51
1:A:162:PRO:HG3	1:A:167:VAL:HG12	1.92	0.51
1:A:164:SER:HB3	1:A:167:VAL:CG2	2.40	0.51
1:A:270:PHE:CE2	1:A:299:LEU:N	2.78	0.51
1:A:438:LEU:HD11	1:A:442:MET:HG2	1.92	0.51
1:B:261:ILE:HG23	1:B:261:ILE:O	2.11	0.51
1:B:315:ILE:HA	1:B:338:ILE:O	2.11	0.51
1:A:319:GLY:O	1:A:323:ARG:NH1	2.44	0.51
1:B:300:LEU:CD1	1:B:334:ALA:HB2	2.40	0.51
1:B:119:SER:O	1:B:122:PHE:HB2	2.11	0.50
1:A:320:TRP:HZ2	1:A:327:ILE:CG2	2.24	0.50
1:B:399:SER:OG	1:B:401:GLU:HG3	2.10	0.50
1:B:462:VAL:O	1:B:462:VAL:HG22	2.12	0.50
1:A:45:VAL:HG11	1:A:424:LEU:CD1	2.42	0.50
1:A:489:ALA:O	1:A:491:ARG:N	2.44	0.50
1:B:393:VAL:HG12	1:B:394:CYS:H	1.77	0.50
1:A:172:GLN:O	1:A:176:GLN:HG2	2.12	0.50
1:A:227:VAL:HG12	1:A:286:VAL:HB	1.93	0.50
1:B:216:LEU:HD13	1:B:247:LEU:HB3	1.93	0.50
1:A:162:PRO:HG2	1:A:167:VAL:HB	1.94	0.50
1:A:331:GLU:HB3	1:A:492:TYR:CD2	2.46	0.50
1:A:343:GLN:O	1:A:343:GLN:HG2	2.12	0.50
1:B:428:HIS:HB2	1:B:442:MET:SD	2.52	0.50
1:A:44:ASP:OD2	1:A:100:THR:HG23	2.11	0.50
1:A:317:SER:C	1:A:319:GLY:H	2.15	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:347:VAL:HG21	1:A:414:ILE:CD1	2.42	0.50
1:B:400:LEU:H	1:B:400:LEU:CD1	2.11	0.50
1:A:347:VAL:HG21	1:A:414:ILE:HD11	1.94	0.50
1:B:36:ARG:CD	1:B:118:GLN:NE2	2.75	0.50
1:B:347:VAL:H	1:B:406:GLN:HE22	1.60	0.50
1:A:393:VAL:HG12	1:A:394:CYS:H	1.77	0.49
1:B:165:SER:O	1:B:166:SER:C	2.50	0.49
1:B:86:LEU:HD23	1:B:89:ILE:HD12	1.94	0.49
1:A:241:MET:O	1:A:245:LYS:HG3	2.13	0.49
1:A:85:THR:OG1	1:A:414:ILE:HG23	2.12	0.49
1:B:229:ALA:HB1	1:B:241:MET:HE1	1.91	0.49
1:A:324:ASP:HA	1:A:327:ILE:HD11	1.94	0.49
1:A:447:GLY:O	1:A:450:LEU:N	2.46	0.49
1:B:270:PHE:HZ	1:B:295:THR:HA	1.77	0.49
1:B:47:ILE:HG13	1:B:101:LEU:HD22	1.95	0.49
1:B:78:ARG:HA	1:B:81:ALA:HB3	1.94	0.49
1:A:106:ARG:HD3	1:A:118:GLN:OE1	2.13	0.49
1:B:369:PRO:HB2	1:B:385:LEU:CD1	2.42	0.49
1:A:407:ASP:HB3	1:A:410:MET:HB2	1.95	0.49
1:A:486:TYR:OH	1:A:490:ASN:ND2	2.45	0.49
1:A:216:LEU:HD13	1:A:247:LEU:HB3	1.93	0.49
1:A:226:TYR:CD2	1:A:283:LYS:HB3	2.47	0.49
1:A:438:LEU:HG	1:A:442:MET:HB3	1.94	0.49
1:A:510:TYR:CE1	1:A:511:LYS:HG3	2.47	0.49
1:B:413:VAL:O	1:B:416:ALA:HB3	2.13	0.49
1:A:280:ARG:HH21	1:A:284:ALA:CB	2.26	0.49
1:A:450:LEU:HD12	1:A:450:LEU:O	2.12	0.49
1:A:322:ASP:HA	1:A:494:TYR:CE2	2.48	0.49
1:B:208:ASP:HB3	1:B:240:GLY:HA2	1.95	0.48
1:B:484:LEU:HD12	1:B:493:ASP:O	2.13	0.48
1:B:95:LEU:HD12	1:B:96:LEU:N	2.27	0.48
1:A:156:ILE:HD13	1:A:156:ILE:N	2.26	0.48
1:A:266:GLY:C	1:A:268:LYS:N	2.66	0.48
1:A:480:ASP:CB	1:A:499:THR:HG22	2.44	0.48
1:A:221:ARG:HH12	1:A:507:ILE:HB	1.78	0.48
1:A:56:GLN:HG3	1:A:57:PRO:O	2.14	0.48
1:A:74:TYR:O	1:A:78:ARG:HD2	2.13	0.48
1:B:453:PHE:O	1:B:457:SER:OG	2.22	0.48
1:A:341:LYS:C	1:A:479:TYR:HB3	2.34	0.48
1:A:491:ARG:HD2	1:A:492:TYR:C	2.33	0.48
1:B:38:VAL:HG21	1:B:106:ARG:NH1	2.27	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:398:GLU:OE1	1:A:398:GLU:N	2.46	0.48
1:A:256:ALA:HB1	1:A:280:ARG:NE	2.29	0.48
1:B:53:VAL:HG23	1:B:107:ASP:OD2	2.13	0.48
1:A:225:THR:HA	1:A:253:LEU:CD1	2.44	0.48
1:A:57:PRO:HB3	1:A:66:LYS:O	2.12	0.48
1:B:190:ILE:CD1	1:B:239:SER:O	2.58	0.48
1:A:500:TRP:CH2	1:A:503:GLY:N	2.74	0.48
1:B:180:ILE:CD1	1:B:180:ILE:N	2.61	0.48
1:B:383:HIS:CD2	1:B:384:LEU:N	2.82	0.48
1:A:192:LEU:HD23	1:A:198:TYR:HD2	1.73	0.48
1:B:172:GLN:OE1	1:B:201:PHE:HB2	2.13	0.48
1:B:169:ILE:HG13	1:B:198:TYR:CZ	2.49	0.48
1:A:213:ARG:HA	1:A:247:LEU:CD1	2.44	0.47
1:B:233:GLU:HG2	1:B:262:TYR:CE2	2.49	0.47
1:B:47:ILE:HG23	1:B:420:MET:HG2	1.95	0.47
1:B:461:GLY:N	1:B:465:GLU:O	2.46	0.47
1:B:78:ARG:O	1:B:81:ALA:N	2.46	0.47
1:A:362:ASN:HD21	1:A:365:ASN:HB3	1.79	0.47
1:A:393:VAL:HG12	1:A:394:CYS:N	2.28	0.47
1:B:178:PHE:C	1:B:180:ILE:HD12	2.35	0.47
1:A:329:GLY:C	1:A:331:GLU:H	2.17	0.47
1:A:38:VAL:HG12	1:A:39:ALA:N	2.29	0.47
1:A:320:TRP:NE1	1:A:494:TYR:OH	2.47	0.47
1:B:207:SER:O	1:B:210:LEU:HB3	2.14	0.47
1:B:199:LYS:HZ1	1:B:448:ARG:HH12	1.63	0.47
1:B:490:ASN:C	1:B:490:ASN:HD22	2.16	0.47
1:B:55:HIS:ND1	1:B:71:ARG:HD2	2.29	0.47
1:B:82:MET:HG2	1:B:105:ILE:CD1	2.43	0.47
1:A:209:THR:O	1:A:213:ARG:HB2	2.14	0.47
1:A:490:ASN:C	1:A:490:ASN:HD22	2.17	0.47
1:B:281:LEU:HB3	1:B:282:PRO:CA	2.44	0.47
1:A:305:ARG:HH11	1:A:305:ARG:CG	2.26	0.47
1:A:327:ILE:C	1:A:327:ILE:CD1	2.83	0.47
1:A:329:GLY:O	1:A:331:GLU:N	2.46	0.47
1:A:369:PRO:CB	1:A:383:HIS:HE1	2.27	0.47
1:A:379:ARG:O	1:A:381:PRO:HD3	2.15	0.47
1:B:339:THR:OG1	1:B:482:MET:HB2	2.14	0.47
1:B:74:TYR:O	1:B:78:ARG:HD2	2.14	0.47
1:A:216:LEU:HD23	1:A:217:ASP:OD1	2.14	0.47
1:B:112:SER:O	1:B:116:LEU:CB	2.63	0.47
1:B:197:LEU:HB3	1:B:198:TYR:CE1	2.50	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:297:ARG:HG3	1:B:326:VAL:O	2.15	0.47
1:B:330:TYR:N	1:B:330:TYR:HD1	2.10	0.47
1:B:72:GLU:HB2	1:B:371:PHE:CE1	2.49	0.47
1:B:38:VAL:HG12	1:B:39:ALA:N	2.29	0.47
1:B:459:PHE:CE1	1:B:467:VAL:HB	2.50	0.47
1:A:89:ILE:HG12	1:A:418:TYR:HE2	1.80	0.47
1:A:507:ILE:CG2	1:A:508:ASP:H	2.28	0.47
1:B:234:GLY:O	1:B:238:GLU:HB3	2.15	0.47
1:B:345:PRO:HG2	1:B:463:SER:CB	2.45	0.47
1:A:500:TRP:CZ2	1:A:503:GLY:CA	2.98	0.46
1:B:212:ALA:HB2	1:B:290:PHE:CE1	2.50	0.46
1:B:364:ARG:O	1:B:366:PRO:HD3	2.15	0.46
1:B:379:ARG:HB2	1:B:379:ARG:CZ	2.44	0.46
1:B:446:ASP:OD1	1:B:446:ASP:C	2.52	0.46
1:B:415:ASN:ND2	1:B:467:VAL:HG21	2.23	0.46
1:B:54:HIS:HA	1:B:69:GLU:O	2.15	0.46
1:A:364:ARG:O	1:A:366:PRO:HD3	2.16	0.46
1:A:280:ARG:NH2	1:A:284:ALA:H	2.13	0.46
1:B:294:MET:SD	1:B:294:MET:N	2.89	0.46
1:B:196:THR:OG1	1:B:197:LEU:N	2.48	0.46
1:B:383:HIS:O	1:B:386:GLU:HB2	2.15	0.46
1:B:469:PHE:CD1	1:B:469:PHE:N	2.82	0.46
1:A:47:ILE:CD1	1:A:420:MET:HG3	2.44	0.46
1:B:47:ILE:HD13	1:B:420:MET:HG3	1.97	0.46
1:A:61:LYS:C	1:A:63:PRO:HD2	2.35	0.46
1:B:70:ILE:HD13	1:B:371:PHE:HA	1.98	0.46
1:B:468:TRP:N	1:B:468:TRP:CD1	2.84	0.46
1:B:62:VAL:HB	1:B:63:PRO:HD3	1.97	0.46
1:B:65:ARG:CG	1:B:65:ARG:HH11	2.28	0.46
1:A:264:ASN:N	1:A:264:ASN:OD1	2.48	0.46
1:A:304:ARG:HG2	1:A:304:ARG:HH11	1.80	0.46
1:A:278:ARG:NH2	1:A:311:GLU:OE1	2.34	0.46
1:B:99:ILE:HD13	1:B:438:LEU:CD2	2.46	0.46
1:B:55:HIS:CE1	1:B:71:ARG:HD2	2.50	0.46
1:A:53:VAL:HG23	1:A:107:ASP:OD2	2.16	0.46
1:A:318:ASP:N	1:A:318:ASP:OD1	2.49	0.46
1:A:400:LEU:O	1:A:404:TYR:HB2	2.16	0.46
1:A:415:ASN:O	1:A:418:TYR:HB2	2.16	0.46
1:A:433:PRO:O	1:A:435:HIS:HD2	1.99	0.46
1:B:387:ASN:OD1	1:B:389:ASN:N	2.49	0.46
1:A:272:ARG:HG3	1:A:275:ARG:NH2	2.31	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:469:PHE:CD1	1:A:469:PHE:N	2.82	0.45
1:B:45:VAL:HB	1:B:101:LEU:HD23	1.97	0.45
1:B:510:TYR:O	1:B:510:TYR:CD1	2.68	0.45
1:A:210:LEU:O	1:A:213:ARG:HB3	2.16	0.45
1:A:221:ARG:HG3	1:A:222:TYR:CD2	2.51	0.45
1:A:450:LEU:O	1:A:454:LEU:HG	2.15	0.45
1:A:507:ILE:HG22	1:A:508:ASP:H	1.76	0.45
1:B:276:LYS:HD3	1:B:279:GLU:OE2	2.16	0.45
1:B:428:HIS:O	1:B:428:HIS:CG	2.68	0.45
1:A:162:PRO:HD2	1:A:168:ALA:HB2	1.98	0.45
1:A:162:PRO:CD	1:A:171:VAL:HG21	2.46	0.45
1:A:172:GLN:C	1:A:174:LEU:N	2.68	0.45
1:B:201:PHE:C	1:B:202:LEU:HD23	2.37	0.45
1:B:199:LYS:HZ3	1:B:448:ARG:HH12	1.64	0.45
1:B:195:LYS:HD3	1:B:198:TYR:O	2.16	0.45
1:B:387:ASN:HD21	1:B:389:ASN:HB2	1.79	0.45
1:B:500:TRP:HA	1:B:504:VAL:O	2.16	0.45
1:A:488:GLU:CG	1:A:489:ALA:N	2.79	0.45
1:B:206:PRO:HB3	1:B:476:PRO:O	2.16	0.45
1:A:278:ARG:HH11	1:A:278:ARG:CB	2.28	0.45
1:A:347:VAL:O	1:A:347:VAL:HG12	2.16	0.45
1:B:471:GLU:HG3	1:B:472:LYS:N	2.31	0.45
1:A:438:LEU:CD1	1:A:442:MET:HG2	2.46	0.45
1:A:72:GLU:HG3	1:A:371:PHE:CZ	2.52	0.45
1:B:234:GLY:O	1:B:238:GLU:HB2	2.17	0.45
1:A:341:LYS:O	1:A:479:TYR:HB3	2.16	0.45
1:A:350:PHE:CE2	1:A:354:PHE:HB2	2.52	0.45
1:B:505:LEU:HD21	1:B:507:ILE:HD13	1.99	0.45
1:A:167:VAL:O	1:A:170:GLN:HB3	2.17	0.45
1:B:285:ARG:HG3	1:B:312:PHE:HA	1.99	0.45
1:B:96:LEU:N	1:B:97:PRO:HD3	2.32	0.45
1:B:481:ILE:HG12	1:B:498:GLY:C	2.37	0.44
1:A:344:SER:HB2	1:A:412:PHE:CE2	2.52	0.44
1:B:301:SER:HB3	1:B:305:ARG:NH2	2.32	0.44
1:A:300:LEU:HD13	1:A:334:ALA:HB2	1.98	0.44
1:A:61:LYS:C	1:A:63:PRO:CD	2.85	0.44
1:A:471:GLU:CG	1:A:472:LYS:N	2.80	0.44
1:B:39:ALA:HB3	1:B:105:ILE:HB	2.00	0.44
1:B:316:GLY:O	1:B:339:THR:HA	2.16	0.44
1:A:300:LEU:CD1	1:A:334:ALA:HB2	2.48	0.44
1:B:168:ALA:O	1:B:172:GLN:HB3	2.17	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:272:ARG:HG2	1:B:272:ARG:O	2.17	0.44
1:B:61:LYS:O	1:B:64:GLU:HG2	2.17	0.44
1:A:201:PHE:C	1:A:202:LEU:HD23	2.37	0.44
1:A:263:SER:HB2	1:A:292:GLU:OE2	2.17	0.44
1:A:447:GLY:O	1:A:448:ARG:C	2.55	0.44
1:B:241:MET:C	1:B:243:ALA:N	2.70	0.44
1:A:110:TRP:O	1:A:110:TRP:CD1	2.71	0.44
1:A:232:THR:OG1	1:A:292:GLU:N	2.44	0.44
1:A:376:PHE:CD2	1:A:398:GLU:HG2	2.52	0.44
1:A:342:LEU:CA	1:A:479:TYR:HB3	2.44	0.44
1:A:78:ARG:NE	1:A:407:ASP:OD1	2.50	0.44
1:B:230:VAL:O	1:B:291:CYS:SG	2.76	0.44
1:B:51:PHE:C	1:B:108:SER:OG	2.56	0.44
1:B:206:PRO:CB	1:B:210:LEU:HD23	2.48	0.44
1:B:414:ILE:O	1:B:417:ILE:HB	2.18	0.44
1:A:306:LEU:HG	1:A:306:LEU:O	2.18	0.44
1:A:327:ILE:HG22	1:A:334:ALA:CB	2.48	0.44
1:A:89:ILE:HD11	1:A:418:TYR:HD2	1.80	0.44
1:B:281:LEU:CB	1:B:282:PRO:HA	2.43	0.44
1:B:49:ALA:O	1:B:50:LEU:HD23	2.17	0.44
1:A:478:ARG:HE	1:A:501:HIS:CE1	2.36	0.43
1:B:70:ILE:HD13	1:B:371:PHE:CA	2.47	0.43
1:A:226:TYR:CE2	1:A:280:ARG:NH2	2.84	0.43
1:B:300:LEU:HA	1:B:303:MET:HG3	2.00	0.43
1:A:39:ALA:HB3	1:A:105:ILE:HB	2.00	0.43
1:A:206:PRO:HB3	1:A:477:GLY:HA3	2.00	0.43
1:B:230:VAL:CG1	1:B:273:LEU:HD21	2.44	0.43
1:A:373:GLN:NE2	1:A:386:GLU:HA	2.23	0.43
1:A:116:LEU:HD23	1:B:177:LEU:CD1	2.40	0.43
1:A:379:ARG:HB2	1:A:386:GLU:OE2	2.18	0.43
1:B:176:GLN:HB2	1:B:176:GLN:HE21	1.35	0.43
1:B:76:ILE:HG21	1:B:371:PHE:CE2	2.54	0.43
1:B:55:HIS:CG	1:B:71:ARG:HD2	2.53	0.43
1:A:304:ARG:NH1	1:A:304:ARG:HG2	2.33	0.43
1:A:488:GLU:CD	1:A:488:GLU:N	2.62	0.43
1:A:51:PHE:CE1	1:A:78:ARG:HB3	2.54	0.43
1:B:164:SER:HB3	1:B:167:VAL:HG23	2.01	0.43
1:B:232:THR:HG21	1:B:292:GLU:CG	2.48	0.43
1:B:357:LEU:HD13	1:B:368:PHE:CZ	2.41	0.43
1:B:459:PHE:CD1	1:B:459:PHE:C	2.91	0.43
1:B:57:PRO:HG3	1:B:67:CYS:N	2.34	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:83:PHE:HA	1:B:83:PHE:HD2	1.70	0.43
1:B:229:ALA:O	1:B:258:SER:HA	2.19	0.43
1:B:387:ASN:ND2	1:B:390:PHE:CZ	2.87	0.43
1:B:423:GLY:HA3	1:B:454:LEU:HD23	2.01	0.43
1:A:484:LEU:HD12	1:A:493:ASP:O	2.18	0.43
1:A:90:ASN:OD1	1:A:101:LEU:N	2.41	0.43
1:B:172:GLN:NE2	1:B:172:GLN:CA	2.74	0.43
1:B:365:ASN:OD1	1:B:365:ASN:O	2.36	0.43
1:B:41:MET:HB3	1:B:103:SER:H	1.84	0.43
1:A:82:MET:HG2	1:A:105:ILE:CD1	2.49	0.43
1:B:56:GLN:HB3	1:B:109:CYS:O	2.19	0.43
1:A:281:LEU:HD21	1:A:284:ALA:O	2.19	0.43
1:A:438:LEU:CG	1:A:442:MET:HG2	2.49	0.43
1:A:211:GLN:CG	1:A:340:ILE:HG21	2.45	0.42
1:B:483:ASN:O	1:B:495:VAL:N	2.51	0.42
1:B:52:SER:O	1:B:75:GLY:CA	2.66	0.42
1:A:488:GLU:HG2	1:A:489:ALA:H	1.84	0.42
1:B:335:ASN:OD1	1:B:485:GLN:HA	2.18	0.42
1:A:195:LYS:HA	1:A:195:LYS:CE	2.43	0.42
1:A:74:TYR:N	1:A:74:TYR:CD1	2.88	0.42
1:B:285:ARG:HG3	1:B:311:GLU:O	2.18	0.42
1:B:195:LYS:NZ	1:B:473:GLY:HA3	2.34	0.42
1:B:507:ILE:CG2	1:B:508:ASP:N	2.82	0.42
1:A:272:ARG:HH11	1:A:272:ARG:HD3	1.60	0.42
1:A:342:LEU:H	1:A:342:LEU:CD1	2.26	0.42
1:A:406:GLN:O	1:A:407:ASP:C	2.58	0.42
1:A:49:ALA:O	1:A:50:LEU:HD23	2.19	0.42
1:B:205:VAL:HG23	1:B:206:PRO:CD	2.41	0.42
1:B:342:LEU:HD21	1:B:412:PHE:CE2	2.46	0.42
1:B:387:ASN:C	1:B:387:ASN:OD1	2.58	0.42
1:A:77:GLN:O	1:A:81:ALA:HB2	2.19	0.42
1:B:261:ILE:HG12	1:B:270:PHE:CE2	2.55	0.42
1:B:427:MET:HG3	1:B:453:PHE:CE2	2.54	0.42
1:A:235:ASN:OD1	1:A:235:ASN:O	2.38	0.42
1:A:368:PHE:HB3	1:A:369:PRO:HD3	2.01	0.42
1:A:510:TYR:CD1	1:A:511:LYS:HG3	2.55	0.42
1:B:253:LEU:HD12	1:B:253:LEU:HA	1.89	0.42
1:A:270:PHE:CE2	1:A:298:GLY:C	2.93	0.42
1:A:394:CYS:HB3	1:A:398:GLU:OE2	2.19	0.42
1:B:44:ASP:N	1:B:100:THR:OG1	2.53	0.42
1:B:202:LEU:CD2	1:B:202:LEU:N	2.79	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:38:VAL:HG21	1:A:106:ARG:NH1	2.34	0.42
1:A:454:LEU:HD23	1:A:454:LEU:HA	1.77	0.42
1:B:243:ALA:C	1:B:245:LYS:N	2.73	0.42
1:A:191:ASP:OD2	1:A:235:ASN:OD1	2.38	0.42
1:A:226:TYR:CE2	1:A:283:LYS:HB3	2.54	0.42
1:A:443:LYS:HA	1:A:444:PRO:HA	1.78	0.42
1:B:379:ARG:NH2	1:B:381:PRO:CA	2.77	0.42
1:B:53:VAL:O	1:B:70:ILE:HA	2.20	0.42
1:B:77:GLN:O	1:B:81:ALA:HB2	2.19	0.42
1:A:172:GLN:HE21	1:A:172:GLN:HB2	1.49	0.42
1:A:176:GLN:HE21	1:A:176:GLN:HB2	1.49	0.42
1:A:231:HIS:CE1	1:A:260:LYS:HB3	2.55	0.42
1:A:296:VAL:O	1:A:300:LEU:HG	2.20	0.42
1:A:452:ASP:C	1:A:454:LEU:H	2.23	0.42
1:A:221:ARG:NH1	1:A:507:ILE:HB	2.34	0.42
1:A:96:LEU:HB3	1:A:99:ILE:HB	2.02	0.42
1:B:278:ARG:NH1	1:B:278:ARG:HB3	2.35	0.42
1:A:172:GLN:HE22	1:A:201:PHE:CA	2.33	0.41
1:A:431:LEU:C	1:A:433:PRO:HD3	2.39	0.41
1:B:267:GLU:O	1:B:271:ASP:HB2	2.20	0.41
1:B:58:PRO:HB2	1:B:60:GLU:OE1	2.20	0.41
1:A:202:LEU:N	1:A:202:LEU:CD2	2.79	0.41
1:A:222:TYR:O	1:A:223:ASN:HB2	2.19	0.41
1:A:77:GLN:O	1:A:81:ALA:CB	2.68	0.41
1:B:101:LEU:HA	1:B:101:LEU:HD23	1.91	0.41
1:B:106:ARG:HD3	1:B:118:GLN:OE1	2.20	0.41
1:B:387:ASN:CG	1:B:390:PHE:CE1	2.93	0.41
1:B:393:VAL:CG1	1:B:394:CYS:N	2.81	0.41
1:B:169:ILE:HG22	1:B:170:GLN:N	2.35	0.41
1:B:241:MET:O	1:B:243:ALA:N	2.53	0.41
1:B:317:SER:HA	1:B:340:ILE:HB	2.02	0.41
1:B:378:CYS:HB2	1:B:392:LYS:O	2.21	0.41
1:A:342:LEU:HD11	1:A:409:LYS:HE3	2.03	0.41
1:B:320:TRP:O	1:B:321:ALA:HB3	2.20	0.41
1:B:368:PHE:HA	1:B:371:PHE:HB3	2.02	0.41
1:B:375:ARG:CG	1:B:375:ARG:NH1	2.81	0.41
1:B:459:PHE:HD1	1:B:460:VAL:O	2.03	0.41
1:B:98:ASN:OD1	1:B:98:ASN:N	2.52	0.41
1:A:350:PHE:HD2	1:A:351:ASP:OD2	2.04	0.41
1:B:163:GLY:O	1:B:186:SER:HB2	2.21	0.41
1:B:192:LEU:HD22	1:B:201:PHE:CE2	2.55	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:209:THR:O	1:B:213:ARG:HB2	2.20	0.41
1:B:328:GLU:HA	1:B:331:GLU:OE2	2.21	0.41
1:A:384:LEU:HD23	1:A:384:LEU:C	2.41	0.41
1:B:70:ILE:CD1	1:B:371:PHE:HB2	2.50	0.41
1:B:70:ILE:HD13	1:B:371:PHE:HB2	2.03	0.41
1:A:185:TYR:CD1	1:A:413:VAL:HG22	2.56	0.41
1:A:189:SER:CA	1:A:208:ASP:OD2	2.65	0.41
1:A:358:ARG:HG2	1:A:359:LEU:N	2.35	0.41
1:A:89:ILE:CG1	1:A:418:TYR:CE2	3.01	0.41
1:A:335:ASN:C	1:A:337:GLY:H	2.24	0.41
1:A:56:GLN:HG3	1:A:57:PRO:N	2.35	0.41
1:B:411:GLY:O	1:B:412:PHE:C	2.57	0.41
1:A:294:MET:O	1:A:297:ARG:N	2.54	0.41
1:B:198:TYR:N	1:B:198:TYR:CD1	2.87	0.41
1:B:355:LEU:C	1:B:357:LEU:H	2.24	0.41
1:A:232:THR:HG21	1:A:292:GLU:CB	2.51	0.41
1:A:232:THR:HG21	1:A:292:GLU:CG	2.51	0.41
1:A:342:LEU:HD12	1:A:342:LEU:N	2.32	0.41
1:A:365:ASN:HA	1:A:366:PRO:HD2	1.90	0.41
1:A:435:HIS:N	1:A:435:HIS:CD2	2.89	0.41
1:B:205:VAL:CG2	1:B:206:PRO:HD2	2.39	0.41
1:B:373:GLN:OE1	1:B:387:ASN:HB3	2.21	0.41
1:A:261:ILE:HG12	1:A:262:TYR:N	2.36	0.41
1:A:274:LEU:HD11	1:A:312:PHE:CE2	2.56	0.41
1:A:347:VAL:O	1:A:406:GLN:NE2	2.54	0.41
1:A:96:LEU:N	1:A:97:PRO:HD3	2.36	0.41
1:B:172:GLN:HB2	1:B:182:GLN:OE1	2.21	0.41
1:B:209:THR:HG22	1:B:243:ALA:CB	2.50	0.40
1:A:421:ALA:O	1:A:424:LEU:HB2	2.22	0.40
1:B:309:VAL:HG22	1:B:333:GLU:HB3	2.01	0.40
1:B:449:LYS:C	1:B:451:LEU:N	2.75	0.40
1:A:122:PHE:HB3	1:A:156:ILE:HG13	2.04	0.40
1:A:320:TRP:O	1:A:321:ALA:HB3	2.21	0.40
1:A:112:SER:HB3	1:A:170:GLN:HE21	1.85	0.40
1:A:166:SER:O	1:A:169:ILE:HB	2.22	0.40
1:A:172:GLN:O	1:A:173:ASN:C	2.59	0.40
1:A:483:ASN:ND2	1:A:484:LEU:N	2.67	0.40
1:A:490:ASN:C	1:A:490:ASN:ND2	2.75	0.40
1:B:320:TRP:HD1	1:B:320:TRP:C	2.24	0.40
1:B:72:GLU:OE2	1:B:375:ARG:HD2	2.22	0.40
1:B:383:HIS:HD2	1:B:384:LEU:H	1.69	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:280:ARG:O	1:A:281:LEU:HG	2.22	0.40
1:B:218:ILE:HD13	1:B:338:ILE:HG21	2.04	0.40
1:B:318:ASP:O	1:B:321:ALA:HB2	2.22	0.40
1:B:323:ARG:HH21	1:B:325:GLU:CD	2.25	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	444/490 (91%)	379 (85%)	58 (13%)	7 (2%)	9	44
1	B	444/490 (91%)	390 (88%)	50 (11%)	4 (1%)	17	55
All	All	888/980 (91%)	769 (87%)	108 (12%)	11 (1%)	13	49

All (11) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	A	256	ALA
1	B	68	GLY
1	A	330	TYR
1	A	490	ASN
1	B	385	LEU
1	A	318	ASP
1	A	453	PHE
1	A	487	THR
1	A	163	GLY
1	B	473	GLY
1	B	475	ALA

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	384/422 (91%)	337 (88%)	47 (12%)	5	23
1	B	384/422 (91%)	345 (90%)	39 (10%)	7	28
All	All	768/844 (91%)	682 (89%)	86 (11%)	6	25

All (86) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	56	GLN
1	A	86	LEU
1	A	92	ASP
1	A	98	ASN
1	A	156	ILE
1	A	172	GLN
1	A	173	ASN
1	A	176	GLN
1	A	188	THR
1	A	195	LYS
1	A	198	TYR
1	A	202	LEU
1	A	210	LEU
1	A	213	ARG
1	A	216	LEU
1	A	233	GLU
1	A	236	TYR
1	A	238	GLU
1	A	239	SER
1	A	242	ASP
1	A	250	GLN
1	A	270	PHE
1	A	280	ARG
1	A	290	PHE
1	A	312	PHE
1	A	313	SER
1	A	325	GLU

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Mol	Chain	Res	Type
1	A	342	LEU
1	A	344	SER
1	A	368	PHE
1	A	383	HIS
1	A	386	GLU
1	A	408	SER
1	A	438	LEU
1	A	439	CYS
1	A	440	ASP
1	A	452	ASP
1	A	459	PHE
1	A	465	GLU
1	A	478	ARG
1	A	479	TYR
1	A	480	ASP
1	A	483	ASN
1	A	488	GLU
1	A	490	ASN
1	A	491	ARG
1	A	506	ASN
1	B	54	HIS
1	B	95	LEU
1	B	98	ASN
1	B	172	GLN
1	B	173	ASN
1	B	176	GLN
1	B	185	TYR
1	B	186	SER
1	B	190	ILE
1	B	198	TYR
1	B	202	LEU
1	B	205	VAL
1	B	227	VAL
1	B	242	ASP
1	B	259	ASP
1	B	262	TYR
1	B	270	PHE
1	B	289	CYS
1	B	290	PHE
1	B	312	PHE
1	B	318	ASP
1	B	322	ASP

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Mol	Chain	Res	Type
1	B	324	ASP
1	B	326	VAL
1	B	328	GLU
1	B	333	GLU
1	B	360	ASP
1	B	368	PHE
1	B	379	ARG
1	B	390	PHE
1	B	399	SER
1	B	440	ASP
1	B	465	GLU
1	B	474	ASP
1	B	483	ASN
1	B	488	GLU
1	B	490	ASN
1	B	507	ILE
1	B	508	ASP

Some sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (25) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	54	HIS
1	A	173	ASN
1	A	176	GLN
1	A	211	GLN
1	A	231	HIS
1	A	383	HIS
1	A	406	GLN
1	A	426	ASN
1	A	435	HIS
1	A	483	ASN
1	A	485	GLN
1	A	490	ASN
1	B	55	HIS
1	B	73	GLN
1	B	170	GLN
1	B	173	ASN
1	B	176	GLN
1	B	250	GLN
1	B	264	ASN
1	B	362	ASN
1	B	383	HIS

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Mol	Chain	Res	Type
1	B	406	GLN
1	B	415	ASN
1	B	483	ASN
1	B	490	ASN

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 carbohydrates 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](#)

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	448/490 (91%)	-0.52	0 100 100	21, 37, 69, 88	0
1	B	448/490 (91%)	-0.56	0 100 100	17, 30, 51, 67	0
All	All	896/980 (91%)	-0.54	0 100 100	17, 33, 59, 88	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 carbohydrates in this entry.

6.4 Ligands [i](#)

There are no ligands in this entry.

6.5 Other polymers [i](#)

There are no such residues in this entry.