



# Full wwPDB X-ray Structure Validation Report ⓘ

Aug 21, 2020 – 11:21 AM BST

PDB ID : 6NCF  
Title : The structure of Stable-5-Lipoxygenase bound to AKBA  
Authors : Newcomer, M.E.; Gilbert, N.C.; Neau, D.B.  
Deposited on : 2018-12-11  
Resolution : 2.87 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](mailto: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.

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

MolProbity : 4.02b-467  
Mogul : 1.8.5 (274361), CSD as541be (2020)  
Xtrriage (Phenix) : 1.13  
EDS : **FAILED**  
buster-report : 1.1.7 (2018)  
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) : 2.13.1



## 2 Entry composition i

There are 3 unique types of molecules in this entry. The entry contains 21918 atoms, of which 47 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 Arachidonate 5-lipoxygenase.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
			Total	C	N	O	S			
1	A	675	5484	3510	934	1014	26	0	0	0
1	B	676	5490	3513	935	1016	26	0	0	0
1	C	669	5428	3477	918	1007	26	0	0	0
1	D	669	5428	3477	918	1007	26	0	0	0

There are 136 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	-17	MET	-	initiating methionine	UNP P09917
A	-16	GLY	-	expression tag	UNP P09917
A	-15	SER	-	expression tag	UNP P09917
A	-14	SER	-	expression tag	UNP P09917
A	-13	HIS	-	expression tag	UNP P09917
A	-12	HIS	-	expression tag	UNP P09917
A	-11	HIS	-	expression tag	UNP P09917
A	-10	HIS	-	expression tag	UNP P09917
A	-9	HIS	-	expression tag	UNP P09917
A	-8	HIS	-	expression tag	UNP P09917
A	-7	SER	-	expression tag	UNP P09917
A	-6	SER	-	expression tag	UNP P09917
A	-5	GLY	-	expression tag	UNP P09917
A	-4	LEU	-	expression tag	UNP P09917
A	-3	VAL	-	expression tag	UNP P09917
A	-2	PRO	-	expression tag	UNP P09917
A	-1	ARG	-	expression tag	UNP P09917
A	0	GLY	-	expression tag	UNP P09917
A	1	SER	-	expression tag	UNP P09917
A	2	HIS	-	expression tag	UNP P09917
A	16	GLU	TRP	engineered mutation	UNP P09917

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Chain	Residue	Modelled	Actual	Comment	Reference
A	17	HIS	PHE	engineered mutation	UNP P09917
A	?	-	PRO	SEE REMARK 999	UNP P09917
A	?	-	PHE	SEE REMARK 999	UNP P09917
A	?	-	TYR	SEE REMARK 999	UNP P09917
A	43	GLY	ASN	SEE REMARK 999	UNP P09917
A	44	SER	ASP	SEE REMARK 999	UNP P09917
A	75	GLY	TRP	engineered mutation	UNP P09917
A	76	SER	LEU	engineered mutation	UNP P09917
A	240	ALA	CYS	engineered mutation	UNP P09917
A	561	ALA	CYS	engineered mutation	UNP P09917
A	653	GLU	LYS	engineered mutation	UNP P09917
A	654	ASN	LYS	engineered mutation	UNP P09917
A	655	LEU	LYS	engineered mutation	UNP P09917
B	-17	MET	-	initiating methionine	UNP P09917
B	-16	GLY	-	expression tag	UNP P09917
B	-15	SER	-	expression tag	UNP P09917
B	-14	SER	-	expression tag	UNP P09917
B	-13	HIS	-	expression tag	UNP P09917
B	-12	HIS	-	expression tag	UNP P09917
B	-11	HIS	-	expression tag	UNP P09917
B	-10	HIS	-	expression tag	UNP P09917
B	-9	HIS	-	expression tag	UNP P09917
B	-8	HIS	-	expression tag	UNP P09917
B	-7	SER	-	expression tag	UNP P09917
B	-6	SER	-	expression tag	UNP P09917
B	-5	GLY	-	expression tag	UNP P09917
B	-4	LEU	-	expression tag	UNP P09917
B	-3	VAL	-	expression tag	UNP P09917
B	-2	PRO	-	expression tag	UNP P09917
B	-1	ARG	-	expression tag	UNP P09917
B	0	GLY	-	expression tag	UNP P09917
B	1	SER	-	expression tag	UNP P09917
B	2	HIS	-	expression tag	UNP P09917
B	16	GLU	TRP	engineered mutation	UNP P09917
B	17	HIS	PHE	engineered mutation	UNP P09917
B	?	-	PRO	SEE REMARK 999	UNP P09917
B	?	-	PHE	SEE REMARK 999	UNP P09917
B	?	-	TYR	SEE REMARK 999	UNP P09917
B	43	GLY	ASN	SEE REMARK 999	UNP P09917
B	44	SER	ASP	SEE REMARK 999	UNP P09917
B	75	GLY	TRP	engineered mutation	UNP P09917
B	76	SER	LEU	engineered mutation	UNP P09917

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Chain	Residue	Modelled	Actual	Comment	Reference
B	240	ALA	CYS	engineered mutation	UNP P09917
B	561	ALA	CYS	engineered mutation	UNP P09917
B	653	GLU	LYS	engineered mutation	UNP P09917
B	654	ASN	LYS	engineered mutation	UNP P09917
B	655	LEU	LYS	engineered mutation	UNP P09917
C	-17	MET	-	initiating methionine	UNP P09917
C	-16	GLY	-	expression tag	UNP P09917
C	-15	SER	-	expression tag	UNP P09917
C	-14	SER	-	expression tag	UNP P09917
C	-13	HIS	-	expression tag	UNP P09917
C	-12	HIS	-	expression tag	UNP P09917
C	-11	HIS	-	expression tag	UNP P09917
C	-10	HIS	-	expression tag	UNP P09917
C	-9	HIS	-	expression tag	UNP P09917
C	-8	HIS	-	expression tag	UNP P09917
C	-7	SER	-	expression tag	UNP P09917
C	-6	SER	-	expression tag	UNP P09917
C	-5	GLY	-	expression tag	UNP P09917
C	-4	LEU	-	expression tag	UNP P09917
C	-3	VAL	-	expression tag	UNP P09917
C	-2	PRO	-	expression tag	UNP P09917
C	-1	ARG	-	expression tag	UNP P09917
C	0	GLY	-	expression tag	UNP P09917
C	1	SER	-	expression tag	UNP P09917
C	2	HIS	-	expression tag	UNP P09917
C	16	GLU	TRP	engineered mutation	UNP P09917
C	17	HIS	PHE	engineered mutation	UNP P09917
C	?	-	PRO	SEE REMARK 999	UNP P09917
C	?	-	PHE	SEE REMARK 999	UNP P09917
C	?	-	TYR	SEE REMARK 999	UNP P09917
C	43	GLY	ASN	SEE REMARK 999	UNP P09917
C	44	SER	ASP	SEE REMARK 999	UNP P09917
C	75	GLY	TRP	engineered mutation	UNP P09917
C	76	SER	LEU	engineered mutation	UNP P09917
C	240	ALA	CYS	engineered mutation	UNP P09917
C	561	ALA	CYS	engineered mutation	UNP P09917
C	653	GLU	LYS	engineered mutation	UNP P09917
C	654	ASN	LYS	engineered mutation	UNP P09917
C	655	LEU	LYS	engineered mutation	UNP P09917
D	-17	MET	-	initiating methionine	UNP P09917
D	-16	GLY	-	expression tag	UNP P09917
D	-15	SER	-	expression tag	UNP P09917

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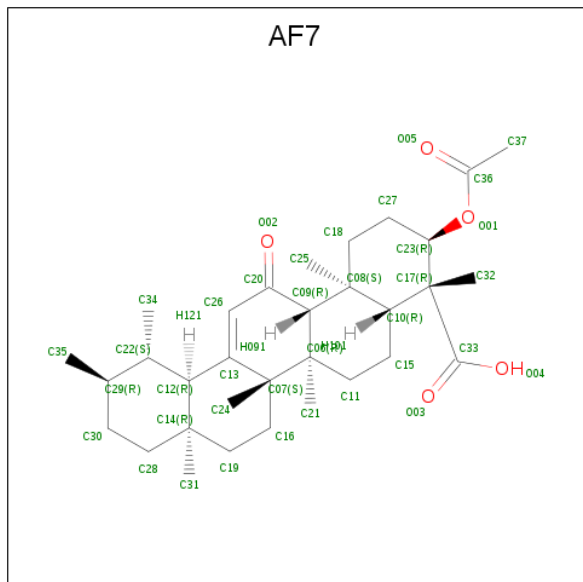
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Chain	Residue	Modelled	Actual	Comment	Reference
D	-14	SER	-	expression tag	UNP P09917
D	-13	HIS	-	expression tag	UNP P09917
D	-12	HIS	-	expression tag	UNP P09917
D	-11	HIS	-	expression tag	UNP P09917
D	-10	HIS	-	expression tag	UNP P09917
D	-9	HIS	-	expression tag	UNP P09917
D	-8	HIS	-	expression tag	UNP P09917
D	-7	SER	-	expression tag	UNP P09917
D	-6	SER	-	expression tag	UNP P09917
D	-5	GLY	-	expression tag	UNP P09917
D	-4	LEU	-	expression tag	UNP P09917
D	-3	VAL	-	expression tag	UNP P09917
D	-2	PRO	-	expression tag	UNP P09917
D	-1	ARG	-	expression tag	UNP P09917
D	0	GLY	-	expression tag	UNP P09917
D	1	SER	-	expression tag	UNP P09917
D	2	HIS	-	expression tag	UNP P09917
D	16	GLU	TRP	engineered mutation	UNP P09917
D	17	HIS	PHE	engineered mutation	UNP P09917
D	?	-	PRO	SEE REMARK 999	UNP P09917
D	?	-	PHE	SEE REMARK 999	UNP P09917
D	?	-	TYR	SEE REMARK 999	UNP P09917
D	43	GLY	ASN	SEE REMARK 999	UNP P09917
D	44	SER	ASP	SEE REMARK 999	UNP P09917
D	75	GLY	TRP	engineered mutation	UNP P09917
D	76	SER	LEU	engineered mutation	UNP P09917
D	240	ALA	CYS	engineered mutation	UNP P09917
D	561	ALA	CYS	engineered mutation	UNP P09917
D	653	GLU	LYS	engineered mutation	UNP P09917
D	654	ASN	LYS	engineered mutation	UNP P09917
D	655	LEU	LYS	engineered mutation	UNP P09917

- Molecule 2 is FE (II) ION (three-letter code: FE2) (formula: Fe).

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
2	B	1	Total Fe 1 1	0	0
2	A	1	Total Fe 1 1	0	0
2	D	1	Total Fe 1 1	0	0
2	C	1	Total Fe 1 1	0	0

- Molecule 3 is (3 $\alpha$ ,8 $\alpha$ ,17 $\alpha$ ,18 $\alpha$ )-3-(acetyloxy)-11-oxours-12-en-23-oic acid (three-letter code: AF7) (formula: C<sub>32</sub>H<sub>48</sub>O<sub>5</sub>).



Mol	Chain	Residues	Atoms				ZeroOcc	AltConf
			Total	C	H	O		
3	B	1	84	32	47	5	0	0



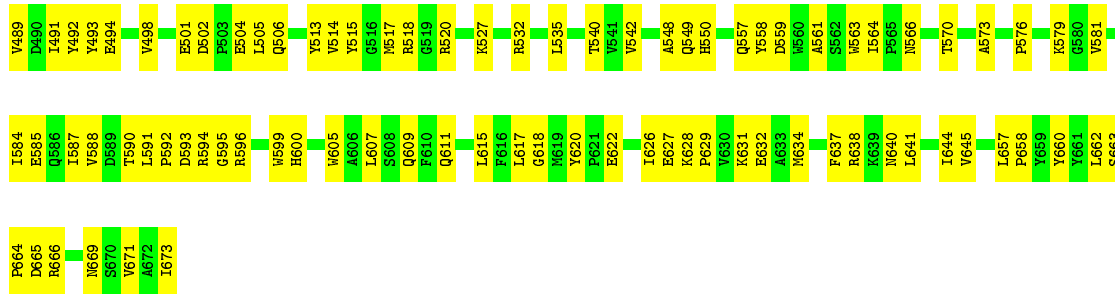


MET	GLY	S-15	S-14	R-13	H-9	HIS	SER	SER	GLY	GLY	ARG	ARG	GLY	SER	HIS	HIS	PRO	S5	Y6	T7	V8	T9	V10	A11	L12	G13	S14	Q15	E16	H17	A18	G19	T20	D21	D22	Y23	I24	Y25	L26	S27	L28	V29	G30	S31	S35	E36	K37	H38	L39	K42	G43	S44	F45	E46	R47
D51	V57	D58	E59	E60	L61	G62	E63	I64	Q65	L66	V67	R68	I69	R72	K73	Y74	G75	D78	D79	W80	Y81	L82	K83	T86	L87	K88	C99	Y100	R101	W102	E108	V109	V110	L111	L112	R113	G114	R115	A116	K117	I124	H125	L126	L127	K128	Q129	H130	R131	R132	K133	E134				
L135	E136	T137	R138	Q139	K140	Q141	Y142	R143	M144	E145	E146	K147	H148	P149	P152	L153	S154	L155	D156	H160	L163	P164	I167	Q168	F169	D170	S171	G174	V175	D176	W177	M185	E186	F189	I190	N191	M194	F197	Q198	S199	D203	F204	A205	K128	D206	F207	E208	I210	F211						
V212	K213	I214	S215	N216	T217	I218	S219	E220	R221	V222	W226	Q227	M231	F232	N241	P242	V243	L244	R247	E253	P256	V257	T258	T259	E260	M261	V262	L266	E267	R268	S271	L272	E273	Q274	E275	V276	Q277	Q278	G279	N280	L281	F282	L288	D206	F207	E208	A307	P308							
L311	L312	Y313	K314	N315	K319	I320	V321	Q322	L414	I323	Q326	E334	N335	P336	I337	Y345	L348	I352	R355	V361	R362	Q363	T366	H367	M368	L369	R370	T371	V374	S375	E376	V377	F378	C379	I380	Y383	R384	A388	V389	F393	D473	K394	Q474	L475	H399	V400	H478	E479	F402	T403					
L404	A405	L406	K409	A410	R411	Q412	Q413	L414	C416	L420	F421	D422	K423	A424	Q429	M440	K441	D442	L443	T444	Y445	A446	S447	C449	F450	P451	E452	K455	G458	M459	E460	S461	K462	E463	D464	L465	P466	Y467	Y468	F469	Y470	R471	D472	D473	Q474	L475	W478	E479	F483						
F484	T485	A486	E487	V488	D489	L491	Q497	E500	E501	D502	P503	E504	L505	Q506	D507	F508	V509	V512	Y513	G519	S523	K527	S528	V529	K530	R532	L535	Y538	V542	L543	F544	A548	Q549	H550	A551	A552	V553	M554	F555	Q556	Q557	R558	D559	W560	A561	S562	V563								
L564	P569	T570	M571	V489	D490	L491	Q497	E500	E501	D502	P503	E504	L505	Q506	D507	F508	V509	V512	Y513	G519	S523	K527	S528	V529	K530	R532	L535	Y538	V542	L543	F544	A548	Q549	H550	A551	A552	V553	M554	F555	Q556	Q557	R558	D559	W560	A561	S562	V563								
L644	V645	S646	V647	I648	A649	E650	R651	M652	E653	M654	L655	E656	L657	F658	V659	L662	GLY	S663	F664	D665	R666	I667	F668	M669	I673																														

• Molecule 1: Arachidonate 5-lipoxygenase

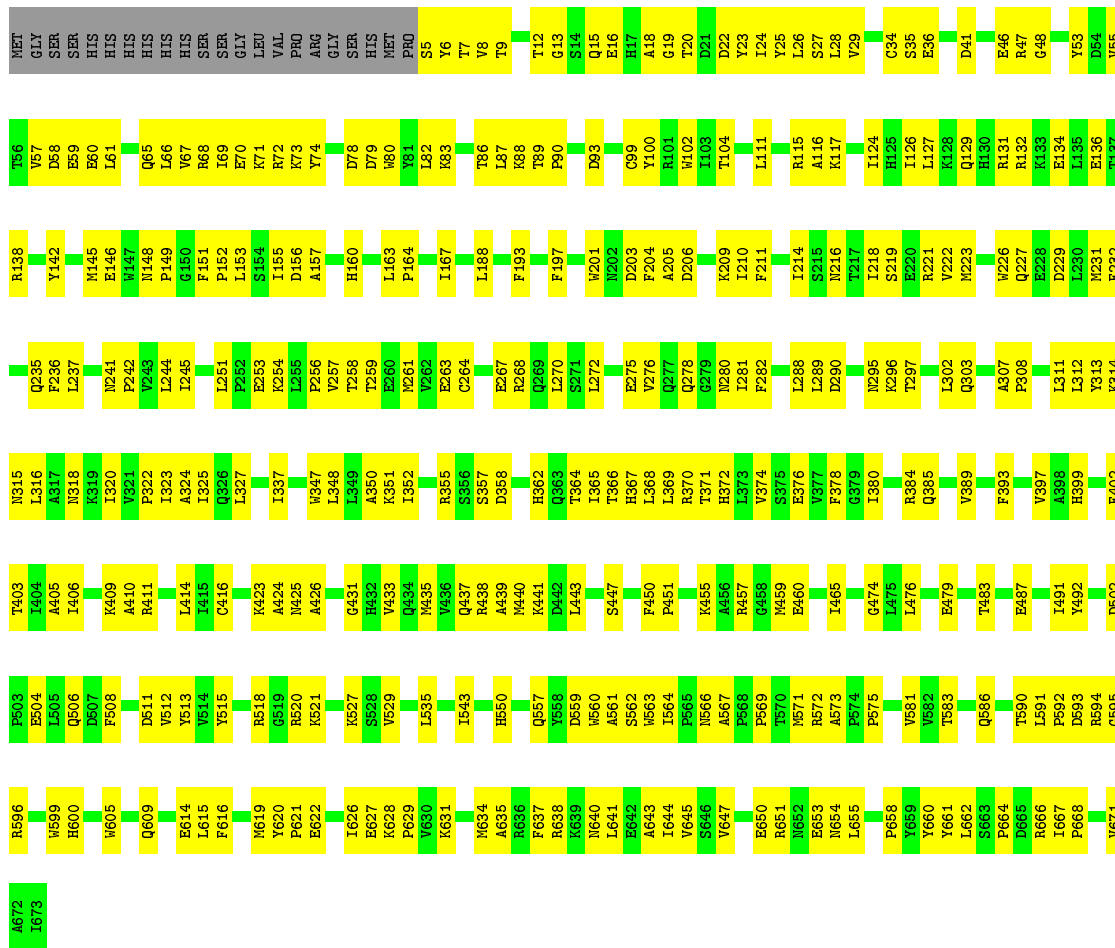


MET	GLY	SER	SER	HIS	HIS	HIS	SER	SER	GLY	LEU	VAL	ARG	GLY	HIS	HIS	PRO	PRO	S5	Y6	T7	V8	T9	V10	A11	T12	Q15	E16	H17	A18	G19	T20	Y23	I24	Y25	L26	S27	L28	V29	G30	S35	E36	K37	L40	D41	E42	Y53	E59	E60	L61	K140			
I64	Q65	L66	V67	R68	I69	E70	K71	R72	W80	Y81	L82	K83	Y84	T86	I85	K88	P90	I95	C99	Y100	R101	W102	I103	V109	V110	L111	R112	D113	G114	R115	A116	K117	L118	Q119	R120	N202	D203	F204	I126	L127	K128	S295	E366	L430	R131	L40	D41	E42	Y53	E59	E60	L61	K140
Q141	Y142	R143	W144	M145	E146	W147	M148	F151	D156	A157	K158	C159	H160	L163	F169	E172	K173	G174	V175	D176	F177	V178	N180	Y181	F193	M194	H195	M196	F197	Q198	S199	S200	W201	N202	D203	F204	E208	I210	I211	F211	V212	K213	L214	S215	N216	T217	I218	S219	E220	R221	V222		
W226	D229	M231	F232	G233	Y234	Q235	F236	L237	N238	N241	P242	R244	L245	R246	L251	L255	P256	V257	T258	T259	E267	R268	Q269	L270	S271	L272	E275	V276	I281	F282	L283	V284	D290	G291	A294	N295	K296	T297	L302	Q303	N216	L312	Y313	K314	N315	I320							
V321	P322	I323	A324	I325	Q326	L327	D342	W347	L348	L349	A350	K351	Q352	M355	Q357	D358	T364	I365	L368	L369	R370	T371	H372	L373	E376	V377	F378	R379	I380	A381	K382	L383	Q384	Q385	L386	P387	A388	I392	F393	H399	V400	R401	F402	T403	I404	A405	I406	F409	A410	R411			
E412	Q413	L414	I415	C416	L420	K423	A426	G431	H432	Q433	M435	V436	Q437	R438	K441	D442	L443	T444	S447	F450	R451	E452	K455	F457	E463	D464	I465	P466	Y467	Y468	F469	Y470	R471	D472	D473	G474	L475	L476	V477	I481	R482	L483	I484	A405	F483	F484	T485	A486	E487	V488			



- Molecule 1: Arachidonate 5-lipoxygenase

Chain D: 53% 44%



## 4 Data and refinement statistics i

EDS failed to run properly - this section is therefore incomplete.

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants a, b, c, $\alpha$ , $\beta$ , $\gamma$	76.87Å 203.72Å 110.44Å 90.00° 109.71° 90.00°	Depositor
Resolution (Å)	50.00 – 2.87	Depositor
% Data completeness (in resolution range)	95.2 (50.00-2.87)	Depositor
$R_{merge}$	0.25	Depositor
$R_{sym}$	(Not available)	Depositor
$\langle I/\sigma(I) \rangle$ <sup>1</sup>	2.15 (at 2.86Å)	Xtrriage
Refinement program	PHENIX 1.12rc2_2821	Depositor
R, $R_{free}$	0.275 , 0.297	Depositor
Wilson B-factor (Å <sup>2</sup> )	33.4	Xtrriage
Anisotropy	0.034	Xtrriage
L-test for twinning <sup>2</sup>	$\langle  L  \rangle = 0.38$ , $\langle L^2 \rangle = 0.22$	Xtrriage
Estimated twinning fraction	0.000 for h,-k,-h-l	Xtrriage
Reported twinning fraction	0.110 for h,-k,-h-l	Depositor
Outliers	3 of 69332 reflections (0.004%)	Xtrriage
Total number of atoms	21918	wwPDB-VP
Average B, all atoms (Å <sup>2</sup> )	33.0	wwPDB-VP

Xtrriage's analysis on translational NCS is as follows: *The analyses of the Patterson function reveals a significant off-origin peak that is 71.77 % of the origin peak, indicating pseudo-translational symmetry. The chance of finding a peak of this or larger height randomly in a structure without pseudo-translational symmetry is equal to 2.4806e-06. The detected translational NCS is most likely also responsible for the elevated intensity ratio.*

<sup>1</sup>Intensities estimated from amplitudes.

<sup>2</sup>Theoretical 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](#)

Bond lengths and bond angles in the following residue types are not validated in this section: AF7, FE2

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	0.31	0/5625	0.50	0/7631
1	B	0.30	0/5631	0.49	0/7639
1	C	0.31	0/5565	0.50	0/7551
1	D	0.30	0/5565	0.50	0/7551
All	All	0.30	0/22386	0.50	0/30372

There are no bond length outliers.

There are no bond angle outliers.

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	5484	0	5357	349	0
1	B	5490	0	5362	335	0
1	C	5428	0	5315	291	0
1	D	5428	0	5315	280	0
2	A	1	0	0	0	0
2	B	1	0	0	0	0
2	C	1	0	0	0	0
2	D	1	0	0	0	0
3	B	37	47	0	11	0
All	All	21871	47	21349	1236	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 29.

All (1236) 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:65:GLN:HE22	1:A:124:ILE:HD11	1.14	1.13
1:B:262:VAL:HG11	1:B:323:ILE:HD12	1.25	1.10
1:B:424:ALA:HA	1:B:596:ARG:HG3	1.35	1.09
1:A:615:LEU:HA	1:A:619:MET:HE2	1.37	1.06
1:A:262:VAL:HG11	1:A:323:ILE:HD12	1.38	1.04
1:D:16:GLU:HA	1:D:47:ARG:HH11	1.24	1.02
1:A:221:ARG:HD2	1:A:657:LEU:HD22	1.40	1.02
1:B:110:VAL:HB	3:B:702:AF7:C25	1.97	0.94
1:D:615:LEU:HA	1:D:619:MET:HE2	1.47	0.94
1:B:13:GLY:HA3	1:B:81:TYR:HD2	1.31	0.93
1:D:459:MET:HE3	1:D:465:ILE:HD13	1.51	0.93
1:D:205:ALA:O	1:D:209:LYS:HD3	1.67	0.93
1:D:23:TYR:HB2	1:D:72:ARG:HB3	1.47	0.93
1:B:14:SER:O	1:B:47:ARG:NH1	2.02	0.92
1:B:206:ASP:OD2	1:B:594:ARG:NH2	2.02	0.92
1:B:502:ASP:O	1:B:506:GLN:HG2	1.68	0.92
1:A:188:LEU:HD22	1:A:214:ILE:HD11	1.52	0.91
1:A:216:ASN:OD1	1:A:217:THR:N	2.03	0.91
1:A:20:THR:HG21	1:A:80:TRP:HB2	1.51	0.91
1:C:494:GLU:HG2	1:C:498:VAL:HG21	1.51	0.91
1:C:87:LEU:HD11	1:C:95:ILE:HD12	1.53	0.91
1:B:113:ASP:OD2	1:B:115:ARG:NE	2.04	0.90
1:A:198:GLN:HE22	1:B:451:PRO:HG2	1.34	0.90
1:C:645:VAL:HG22	1:C:664:PRO:HD2	1.54	0.90
1:D:502:ASP:O	1:D:506:GLN:HG2	1.70	0.90
1:D:314:LYS:NZ	1:D:318:ASN:OD1	2.05	0.89
1:A:209:LYS:HE2	1:A:209:LYS:HA	1.54	0.89
1:D:451:PRO:O	1:D:455:LYS:HD3	1.71	0.89
1:A:584:ILE:O	1:A:587:ILE:HG13	1.72	0.88
1:B:651:ARG:NH1	1:B:652:ASN:OD1	2.06	0.88
1:A:112:ARG:HD3	1:A:389:VAL:HG21	1.57	0.87
1:B:268:ARG:NH2	1:B:314:LYS:O	2.07	0.87
1:A:208:GLU:O	1:A:212:VAL:HG22	1.75	0.87
1:B:18:ALA:HB1	1:B:81:TYR:HB3	1.55	0.86
1:C:452:GLU:HA	1:C:455:LYS:HE2	1.56	0.86
1:C:364:THR:HB	1:C:365:ILE:HD12	1.56	0.86
1:B:66:LEU:HD23	1:B:110:VAL:HG11	1.56	0.85

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:247:ARG:NH1	1:B:458:GLY:O	2.09	0.85
1:A:349:LEU:HD23	1:A:576:PRO:HG3	1.58	0.85
1:B:20:THR:CG2	1:B:80:TRP:HB2	2.06	0.85
1:A:253:GLU:HG3	1:C:527:LYS:HD3	1.59	0.85
1:C:482:ARG:HD2	1:C:540:THR:OG1	1.77	0.84
1:A:193:PHE:HB2	1:A:598:CYS:SG	2.18	0.84
1:C:492:TYR:OH	1:C:627:GLU:OE1	1.96	0.84
1:A:290:ASP:O	1:A:438:ARG:NH2	2.09	0.84
1:C:611:GLN:OE1	1:C:611:GLN:N	2.11	0.83
1:D:146:GLU:OE2	1:D:518:ARG:NH2	2.11	0.83
1:B:593:ASP:OD1	1:B:596:ARG:HD3	1.76	0.83
1:C:369:LEU:HA	1:C:373:LEU:HD22	1.58	0.83
1:D:369:LEU:HD21	1:D:443:LEU:HD11	1.58	0.83
1:A:229:ASP:OD1	1:A:351:LYS:NZ	2.11	0.83
1:D:615:LEU:HA	1:D:619:MET:CE	2.07	0.83
1:C:201:TRP:HZ3	1:C:210:ILE:HD12	1.43	0.83
1:A:295:ASN:N	1:A:426:ALA:O	2.13	0.81
1:A:502:ASP:O	1:A:506:GLN:HG2	1.79	0.81
1:B:18:ALA:HB1	1:B:81:TYR:CB	2.09	0.81
1:B:585:GLU:O	1:B:588:VAL:HG22	1.80	0.81
1:A:258:THR:HB	1:A:261:MET:HG3	1.62	0.81
1:B:216:ASN:OD1	1:B:219:SER:OG	1.98	0.81
1:B:645:VAL:HG22	1:B:664:PRO:HD2	1.63	0.80
1:C:372:HIS:NE2	1:C:673:ILE:OXT	2.12	0.80
1:D:15:GLN:O	1:D:47:ARG:HD2	1.80	0.80
1:C:312:LEU:HD23	1:C:322:PRO:HA	1.64	0.80
1:C:237:LEU:HD11	1:C:320:ILE:HD12	1.62	0.80
1:C:550:HIS:NE2	1:C:673:ILE:O	2.14	0.80
1:D:660:TYR:O	1:D:666:ARG:HD3	1.82	0.80
1:B:257:VAL:HG13	1:B:272:LEU:HD21	1.62	0.79
1:B:550:HIS:NE2	1:B:673:ILE:O	2.15	0.79
1:B:379:GLY:HA3	1:B:400:VAL:HG21	1.65	0.79
1:D:314:LYS:HZ3	1:D:318:ASN:HA	1.47	0.79
1:B:126:ILE:HD12	1:B:126:ILE:H	1.48	0.78
1:C:112:ARG:NH1	1:C:122:ASP:OD2	2.16	0.78
1:B:133:LYS:O	1:B:137:THR:HG23	1.84	0.78
1:C:41:ASP:HB2	1:C:53:TYR:CE1	2.19	0.78
1:B:145:MET:HE2	1:B:155:ILE:O	1.83	0.78
1:A:188:LEU:HD22	1:A:214:ILE:CD1	2.13	0.78
1:D:364:THR:HB	1:D:365:ILE:HD12	1.65	0.78
1:B:20:THR:HG22	1:B:78:ASP:O	1.84	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:16:GLU:HA	1:D:47:ARG:NH1	1.99	0.78
1:D:479:GLU:O	1:D:483:THR:HG23	1.82	0.78
1:A:112:ARG:HH22	1:A:122:ASP:CG	1.87	0.77
1:A:607:LEU:HA	1:A:673:ILE:HD11	1.66	0.77
1:D:658:PRO:HB2	1:D:660:TYR:CE2	2.18	0.77
1:A:559:ASP:OD2	1:A:661:TYR:OH	2.03	0.77
1:A:615:LEU:HA	1:A:619:MET:CE	2.15	0.77
1:B:312:LEU:HD23	1:B:322:PRO:HA	1.67	0.77
1:A:533:GLU:OE1	1:A:533:GLU:N	2.18	0.76
1:B:20:THR:HG21	1:B:80:TRP:HB2	1.67	0.76
1:C:172:GLU:OE1	1:C:173:LYS:NZ	2.18	0.76
1:A:607:LEU:HD23	1:A:673:ILE:HD11	1.66	0.76
1:A:126:ILE:HD12	1:A:126:ILE:H	1.51	0.76
1:B:13:GLY:HA3	1:B:81:TYR:CD2	2.19	0.76
1:A:487:GLU:O	1:A:491:ILE:HG12	1.86	0.75
1:A:8:VAL:HG22	1:A:87:LEU:CD2	2.15	0.75
1:C:201:TRP:CZ3	1:C:210:ILE:HD12	2.20	0.75
1:C:216:ASN:N	1:C:219:SER:OG	2.17	0.75
1:D:13:GLY:O	1:D:48:GLY:N	2.18	0.75
1:D:367:HIS:O	1:D:371:THR:OG1	2.04	0.75
1:B:363:GLN:NE2	1:B:557:GLN:OE1	2.18	0.75
1:D:26:LEU:HD13	1:D:69:ILE:HD11	1.68	0.75
1:A:546:ALA:O	1:A:671:VAL:HG23	1.87	0.75
1:A:607:LEU:HA	1:A:673:ILE:CD1	2.17	0.75
1:D:35:SER:HB3	1:D:61:LEU:HD11	1.67	0.75
1:A:651:ARG:O	1:A:655:LEU:HD13	1.87	0.75
1:C:203:ASP:OD1	1:C:204:PHE:N	2.20	0.75
1:C:267:GLU:OE1	1:C:315:ASN:HB2	1.87	0.74
1:C:348:LEU:O	1:C:352:ILE:HG13	1.87	0.74
1:B:461:SER:OG	1:B:463:GLU:OE1	2.02	0.74
1:C:573:ALA:HB3	1:C:590:THR:HG23	1.70	0.74
1:A:203:ASP:OD2	1:A:204:PHE:N	2.19	0.74
1:B:422:ASP:OD1	1:B:429:GLY:N	2.21	0.74
1:D:237:LEU:HD11	1:D:320:ILE:HD12	1.70	0.74
1:C:126:ILE:H	1:C:126:ILE:HD12	1.53	0.74
1:B:124:ILE:HD11	1:B:127:LEU:HG	1.70	0.73
1:A:253:GLU:CG	1:C:527:LYS:HD3	2.17	0.73
1:A:487:GLU:OE1	1:A:636:ARG:NH2	2.19	0.73
1:A:65:GLN:NE2	1:A:124:ILE:HD11	1.98	0.73
1:B:583:THR:OG1	1:B:585:GLU:OE1	2.05	0.73
1:B:585:GLU:N	1:B:585:GLU:OE1	2.15	0.73

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:24:ILE:HG21	1:C:40:LEU:HD12	1.71	0.73
1:A:305:LEU:HD21	1:A:427:THR:CG2	2.19	0.73
1:A:550:HIS:CG	1:A:671:VAL:HG22	2.23	0.73
1:A:382:MET:HE1	1:A:397:VAL:HB	1.70	0.73
1:B:117:LYS:HB2	1:B:389:VAL:HG22	1.69	0.73
1:D:145:MET:HB2	1:D:156:ASP:HA	1.69	0.73
1:B:615:LEU:HA	1:B:619:MET:CE	2.18	0.73
1:B:641:LEU:O	1:B:645:VAL:HG23	1.89	0.73
1:C:482:ARG:HG2	1:C:540:THR:HG21	1.70	0.73
1:A:131:ARG:NH2	1:A:504:GLU:OE1	2.18	0.72
1:C:208:GLU:O	1:C:212:VAL:HG13	1.89	0.72
1:B:615:LEU:HA	1:B:619:MET:HE2	1.70	0.72
1:D:245:ILE:HG22	1:D:457:ARG:HH12	1.52	0.72
1:B:27:SER:HB2	1:B:68:ARG:HB2	1.72	0.72
1:C:268:ARG:HD2	1:C:275:GLU:OE2	1.90	0.72
1:A:79:ASP:OD1	1:A:104:THR:OG1	2.05	0.72
1:B:208:GLU:O	1:B:212:VAL:HG23	1.90	0.72
1:A:303:GLN:OE1	1:A:426:ALA:HA	1.90	0.71
1:B:25:TYR:CE2	1:B:72:ARG:HD2	2.24	0.71
1:D:218:ILE:O	1:D:222:VAL:HG23	1.91	0.71
1:A:561:ALA:HA	1:A:567:ALA:HB3	1.72	0.71
1:C:593:ASP:OD2	1:C:596:ARG:NH1	2.24	0.71
1:D:66:LEU:HD11	1:D:127:LEU:HD23	1.71	0.71
1:D:455:LYS:HA	1:D:460:GLU:OE1	1.90	0.71
1:D:219:SER:OG	1:D:562:SER:OG	2.04	0.71
1:B:152:PRO:HG3	1:B:440:MET:CE	2.20	0.71
1:C:157:ALA:HB2	1:C:163:LEU:HD23	1.71	0.71
1:C:465:ILE:O	1:C:471:ARG:NH2	2.24	0.70
1:A:517:MET:HE2	1:A:517:MET:HA	1.73	0.70
1:D:650:GLU:O	1:D:653:GLU:HG2	1.90	0.70
1:B:23:TYR:HB3	1:B:39:LEU:HD11	1.73	0.70
1:B:552:ALA:HB2	1:B:662:LEU:HD21	1.72	0.70
1:D:348:LEU:O	1:D:352:ILE:HG13	1.92	0.70
1:C:151:PHE:O	1:C:518:ARG:NH1	2.25	0.70
1:C:587:ILE:O	1:C:591:LEU:HD13	1.90	0.70
1:D:355:ARG:HG2	1:D:566:ASN:O	1.92	0.70
1:D:573:ALA:HB3	1:D:590:THR:HG23	1.73	0.70
1:B:348:LEU:O	1:B:352:ILE:HG13	1.92	0.70
1:B:31:SER:N	1:B:63:GLU:O	2.23	0.70
1:C:241:ASN:ND2	1:C:358:ASP:OD1	2.23	0.70
1:C:618:GLY:O	1:C:638:ARG:NE	2.23	0.70

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:8:VAL:HG22	1:A:87:LEU:HD21	1.72	0.69
1:A:20:THR:CG2	1:A:80:TRP:HB2	2.22	0.69
1:C:41:ASP:HB2	1:C:53:TYR:HE1	1.56	0.69
1:C:640:ASN:O	1:C:644:ILE:HG13	1.92	0.69
1:B:345:TYR:CE1	1:B:584:ILE:HB	2.28	0.69
1:B:186:GLU:HA	1:B:191:ASN:OD1	1.92	0.69
1:D:369:LEU:HD21	1:D:443:LEU:CD1	2.22	0.69
1:A:247:ARG:NH1	1:A:458:GLY:O	2.25	0.69
1:D:23:TYR:N	1:D:72:ARG:O	2.25	0.69
1:B:487:GLU:OE2	1:B:636:ARG:NH1	2.26	0.69
1:A:550:HIS:CD2	1:A:671:VAL:HG13	2.27	0.69
1:D:153:LEU:HD23	1:D:515:TYR:O	1.92	0.69
1:D:459:MET:CE	1:D:465:ILE:HD13	2.22	0.69
1:D:369:LEU:CD2	1:D:443:LEU:HD11	2.23	0.69
1:C:131:ARG:NH2	1:C:504:GLU:OE1	2.25	0.69
1:B:312:LEU:HD23	1:B:322:PRO:CA	2.24	0.68
1:B:487:GLU:O	1:B:491:ILE:HG12	1.93	0.68
1:C:35:SER:HB3	1:C:61:LEU:HD11	1.74	0.68
1:B:145:MET:HB2	1:B:156:ASP:HA	1.75	0.68
1:C:143:ARG:NH1	1:C:156:ASP:OD2	2.27	0.68
1:D:126:ILE:HD12	1:D:126:ILE:H	1.57	0.68
1:A:164:PRO:HD2	1:A:167:ILE:HD11	1.74	0.68
1:D:245:ILE:O	1:D:457:ARG:NH1	2.27	0.68
1:B:138:ARG:HD3	1:B:383:TYR:O	1.93	0.68
1:B:131:ARG:HD3	1:B:504:GLU:OE2	1.92	0.68
1:C:502:ASP:O	1:C:506:GLN:HG2	1.94	0.67
1:A:114:GLY:HA3	1:A:626:ILE:HD13	1.76	0.67
1:A:171:SER:OG	1:A:174:GLY:HA3	1.93	0.67
1:C:169:PHE:HE1	1:C:402:PHE:HB3	1.60	0.67
1:C:342:ASP:OD2	1:C:579:LYS:NZ	2.24	0.67
1:D:57:VAL:HG21	1:D:61:LEU:HG	1.76	0.67
1:A:257:VAL:HG13	1:A:272:LEU:HD21	1.76	0.67
1:A:151:PHE:O	1:A:518:ARG:NH1	2.28	0.67
1:B:241:ASN:OD1	1:B:366:THR:HG21	1.95	0.67
1:A:71:LYS:NZ	1:A:77:ASN:OD1	2.27	0.67
1:C:401:ARG:NH2	1:C:615:LEU:HD12	2.09	0.67
1:A:259:THR:HG23	1:A:272:LEU:H	1.59	0.67
1:A:177:PHE:CE1	1:A:414:LEU:HD22	2.30	0.67
1:C:441:LYS:HD2	1:C:520:ARG:HD2	1.75	0.67
1:C:473:ASP:HB2	1:C:662:LEU:CD1	2.25	0.67
1:B:450:PHE:HB3	1:B:451:PRO:HD3	1.76	0.67

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:12:THR:O	1:C:83:LYS:HE2	1.95	0.67
1:D:492:TYR:OH	1:D:627:GLU:OE1	2.11	0.67
1:A:138:ARG:HD2	1:A:383:TYR:O	1.95	0.66
1:A:376:GLU:OE2	1:A:411:ARG:NH2	2.25	0.66
1:A:73:LYS:HB3	1:A:77:ASN:HB2	1.75	0.66
1:A:611:GLN:HB2	1:A:614:GLU:HB2	1.76	0.66
1:D:628:LYS:HB3	1:D:629:PRO:HD3	1.76	0.66
1:C:24:ILE:CG2	1:C:40:LEU:HD12	2.25	0.66
1:C:5:SER:N	1:C:90:PRO:HG3	2.11	0.66
1:A:244:LEU:O	1:A:246:ARG:NH1	2.29	0.66
1:B:222:VAL:O	1:B:226:TRP:HB3	1.96	0.66
1:B:221:ARG:HD2	1:B:657:LEU:HD13	1.78	0.66
1:B:117:LYS:HB2	1:B:389:VAL:CG2	2.26	0.65
1:C:231:MET:O	1:C:235:GLN:HG3	1.96	0.65
1:B:399:HIS:NE2	1:B:620:TYR:OH	2.28	0.65
1:B:189:PHE:HE2	1:B:214:ILE:HD11	1.61	0.65
1:C:87:LEU:HD11	1:C:95:ILE:CD1	2.25	0.65
1:D:160:HIS:HB2	1:D:409:LYS:HD3	1.78	0.65
1:D:288:LEU:O	1:D:288:LEU:HD23	1.95	0.65
1:A:246:ARG:HG2	1:A:457:ARG:CG	2.26	0.65
1:B:15:GLN:O	1:B:47:ARG:HD2	1.95	0.65
1:C:487:GLU:O	1:C:491:ILE:HG13	1.95	0.65
1:D:281:ILE:CG2	1:D:311:LEU:HD11	2.26	0.65
1:A:148:ASN:O	1:A:151:PHE:HB2	1.97	0.65
1:C:473:ASP:HB2	1:C:662:LEU:HD12	1.77	0.65
1:B:163:LEU:O	1:B:168:GLN:NE2	2.29	0.65
1:B:362:HIS:HA	1:B:366:THR:OG1	1.97	0.65
1:C:204:PHE:CE2	1:C:584:ILE:HD11	2.31	0.65
1:D:450:PHE:HB3	1:D:451:PRO:HD3	1.76	0.65
1:C:312:LEU:HD23	1:C:322:PRO:CA	2.27	0.65
1:D:268:ARG:HD2	1:D:275:GLU:OE2	1.97	0.65
1:C:87:LEU:O	1:C:87:LEU:HD12	1.96	0.64
1:B:23:TYR:CE1	1:B:42:LYS:HB3	2.32	0.64
1:A:473:ASP:HB2	1:A:662:LEU:CD1	2.28	0.64
1:A:615:LEU:HD21	1:A:621:PRO:HG3	1.79	0.64
1:B:164:PRO:HD2	1:B:167:ILE:HD11	1.80	0.64
1:B:280:ASN:OD1	1:B:314:LYS:HE2	1.97	0.64
1:B:569:PRO:HD2	1:B:592:PRO:HG2	1.80	0.64
1:D:431:GLY:O	1:D:435:MET:HG3	1.96	0.64
1:D:385:GLN:NE2	1:D:511:ASP:OD2	2.29	0.64
1:B:412:GLU:HG3	1:B:413:GLN:HG3	1.80	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:177:PHE:CE1	1:B:414:LEU:HD22	2.32	0.64
1:B:645:VAL:HG22	1:B:664:PRO:CD	2.28	0.64
1:D:370:ARG:HH22	1:D:447:SER:CB	2.10	0.64
1:A:132:ARG:O	1:A:136:GLU:HG3	1.98	0.64
1:C:20:THR:CG2	1:C:80:TRP:HB2	2.28	0.64
1:C:160:HIS:HB2	1:C:409:LYS:HD3	1.78	0.64
1:C:146:GLU:OE2	1:C:518:ARG:NH2	2.31	0.64
1:C:176:ASP:OD1	1:C:413:GLN:NE2	2.19	0.64
1:D:132:ARG:O	1:D:136:GLU:HG3	1.97	0.64
1:A:544:PHE:CE2	1:A:549:GLN:HB2	2.33	0.64
1:B:23:TYR:C	1:B:24:ILE:HD12	2.18	0.64
1:D:376:GLU:O	1:D:380:ILE:HG13	1.98	0.64
1:D:20:THR:HA	1:D:78:ASP:OD2	1.97	0.64
1:A:367:HIS:O	1:A:371:THR:HB	1.98	0.64
1:A:473:ASP:HB2	1:A:662:LEU:HD12	1.78	0.64
1:A:57:VAL:HG21	1:A:61:LEU:CG	2.28	0.64
1:C:26:LEU:HD13	1:C:69:ILE:HD11	1.80	0.64
1:A:190:ILE:HB	1:A:598:CYS:SG	2.38	0.64
1:A:476:LEU:HD13	1:A:644:ILE:HG23	1.80	0.64
1:C:627:GLU:O	1:C:631:LYS:HG3	1.98	0.63
1:D:151:PHE:O	1:D:518:ARG:NH1	2.29	0.63
1:A:194:MET:O	1:A:599:TRP:NE1	2.28	0.63
1:B:171:SER:OG	1:B:174:GLY:HA3	1.98	0.63
1:C:607:LEU:HD23	1:C:673:ILE:HD11	1.79	0.63
1:D:27:SER:OG	1:D:68:ARG:HB2	1.98	0.63
1:A:143:ARG:NH2	1:A:156:ASP:OD2	2.31	0.63
1:A:221:ARG:HG2	1:A:231:MET:CE	2.28	0.63
1:D:605:TRP:O	1:D:609:GLN:HG2	1.96	0.63
1:D:116:ALA:HB3	1:D:492:TYR:CE1	2.33	0.63
1:A:13:GLY:O	1:A:48:GLY:N	2.24	0.63
1:A:492:TYR:OH	1:A:630:VAL:HG21	1.97	0.63
1:B:462:LYS:HB2	1:B:471:ARG:HH12	1.62	0.62
1:D:89:THR:OG1	1:D:93:ASP:HB2	1.99	0.62
1:B:11:ALA:O	1:B:82:LEU:HD12	1.99	0.62
1:B:420:LEU:HD12	1:B:599:TRP:CZ3	2.34	0.62
1:C:177:PHE:CE1	1:C:414:LEU:HD22	2.35	0.62
1:D:275:GLU:HG3	1:D:280:ASN:HB2	1.81	0.62
1:D:405:ALA:O	1:D:409:LYS:HG2	1.99	0.62
1:D:615:LEU:HD23	1:D:619:MET:CE	2.29	0.62
1:D:550:HIS:CG	1:D:671:VAL:HG22	2.34	0.62
1:C:581:VAL:O	1:C:581:VAL:HG12	1.99	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:57:VAL:HG21	1:A:61:LEU:HG	1.80	0.62
1:C:251:LEU:HD11	1:C:272:LEU:CD2	2.29	0.62
1:D:15:GLN:HB2	1:D:18:ALA:HB2	1.82	0.62
1:D:22:ASP:CG	1:D:73:LYS:HA	2.20	0.62
1:B:617:LEU:HA	1:B:669:ASN:OD1	1.99	0.62
1:D:65:GLN:C	1:D:66:LEU:HD12	2.20	0.62
1:C:160:HIS:CB	1:C:409:LYS:HD3	2.30	0.62
1:D:36:GLU:OE2	1:D:58:ASP:HB3	1.99	0.62
1:B:99:CYS:HB2	1:B:111:LEU:CD1	2.29	0.62
1:C:303:GLN:OE1	1:C:426:ALA:HA	1.99	0.62
1:C:628:LYS:HA	1:C:631:LYS:HE2	1.81	0.62
1:B:126:ILE:HD12	1:B:126:ILE:N	2.13	0.62
1:B:262:VAL:CG1	1:B:323:ILE:HD12	2.17	0.61
1:D:423:LYS:HE2	1:D:599:TRP:CZ2	2.34	0.61
1:B:18:ALA:HB2	1:B:102:TRP:CH2	2.35	0.61
1:C:641:LEU:O	1:C:645:VAL:HG23	1.99	0.61
1:B:369:LEU:HD21	1:B:443:LEU:HD11	1.81	0.61
1:B:580:GLY:C	1:B:581:VAL:HG23	2.20	0.61
1:A:136:GLU:O	1:A:140:LYS:HG3	2.00	0.61
1:A:652:ASN:HB3	1:A:658:PRO:HB3	1.82	0.61
1:B:226:TRP:HA	1:B:231:MET:CE	2.30	0.61
1:A:380:ILE:O	1:A:384:ARG:HG3	2.01	0.61
1:A:41:ASP:H	1:A:53:TYR:HE1	1.47	0.61
1:A:641:LEU:O	1:A:645:VAL:HG23	2.00	0.61
1:B:370:ARG:NH1	1:B:447:SER:OG	2.32	0.61
1:D:275:GLU:HG2	1:D:313:TYR:HE1	1.65	0.61
1:D:572:ARG:NH2	1:D:591:LEU:O	2.34	0.61
1:A:253:GLU:HB2	1:C:513:TYR:HE2	1.66	0.61
1:B:258:THR:HB	1:B:261:MET:HG3	1.82	0.61
1:C:20:THR:HB	1:C:80:TRP:HB2	1.82	0.61
1:C:195:HIS:HB2	1:D:268:ARG:HD3	1.81	0.60
1:D:581:VAL:O	1:D:581:VAL:HG12	2.01	0.60
1:D:620:TYR:HD2	1:D:634:MET:HE3	1.66	0.60
1:B:134:GLU:HG3	3:B:702:AF7:O01	2.02	0.60
1:C:399:HIS:NE2	1:C:620:TYR:OH	2.32	0.60
1:C:607:LEU:HD22	1:C:673:ILE:HG12	1.82	0.60
1:A:79:ASP:OD2	1:A:165:ARG:HD2	2.00	0.60
1:A:382:MET:HE3	1:A:397:VAL:N	2.16	0.60
1:B:203:ASP:OD2	1:B:205:ALA:HB3	2.02	0.60
1:B:257:VAL:CG1	1:B:272:LEU:HD21	2.30	0.60
1:B:380:ILE:O	1:B:384:ARG:HG3	2.01	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:8:VAL:HG22	1:D:87:LEU:CD2	2.30	0.60
1:A:188:LEU:HB3	1:A:214:ILE:HD12	1.83	0.60
1:A:660:TYR:O	1:A:663:SER:OG	2.19	0.60
1:C:376:GLU:O	1:C:380:ILE:HG13	2.01	0.60
1:A:10:VAL:HG21	1:A:45:PHE:HE1	1.67	0.60
1:D:626:ILE:HA	1:D:631:LYS:HE2	1.84	0.60
1:D:9:THR:HB	1:D:86:THR:OG1	2.01	0.60
1:A:262:VAL:O	1:A:266:LEU:HG	2.01	0.60
1:A:295:ASN:OD1	1:A:297:THR:HG23	2.02	0.60
1:A:616:PHE:HA	1:A:668:PRO:HA	1.83	0.60
1:D:26:LEU:HD13	1:D:69:ILE:CD1	2.30	0.60
1:A:348:LEU:O	1:A:352:ILE:HG13	2.01	0.60
1:A:305:LEU:HD21	1:A:427:THR:HG22	1.82	0.59
1:B:20:THR:HG23	1:B:80:TRP:HB2	1.82	0.59
1:B:509:VAL:HG21	1:B:529:VAL:HG23	1.83	0.59
1:D:216:ASN:ND2	1:D:559:ASP:OD1	2.31	0.59
1:C:204:PHE:O	1:C:208:GLU:HG3	2.02	0.59
1:A:370:ARG:HH22	1:A:447:SER:HB2	1.68	0.59
1:B:274:GLN:O	1:B:278:GLN:HG2	2.01	0.59
1:A:165:ARG:HA	1:A:168:GLN:HG3	1.84	0.59
1:C:433:VAL:O	1:C:437:GLN:HG2	2.01	0.59
1:B:424:ALA:HA	1:B:596:ARG:CG	2.23	0.59
1:A:21:ASP:HA	1:A:44:SER:CB	2.33	0.59
1:C:120:ARG:HH22	1:C:501:GLU:HB2	1.67	0.59
1:C:114:GLY:HA3	1:C:626:ILE:HD13	1.84	0.59
1:B:468:TYR:HB3	1:B:471:ARG:HE	1.68	0.59
1:C:15:GLN:HB2	1:C:18:ALA:HB2	1.83	0.59
1:C:470:TYR:OH	1:C:549:GLN:NE2	2.34	0.59
1:A:216:ASN:H	1:A:219:SER:HB3	1.68	0.59
1:A:268:ARG:NH2	1:A:314:LYS:O	2.32	0.59
1:A:550:HIS:NE2	1:A:671:VAL:HG13	2.16	0.59
1:B:15:GLN:HG2	1:B:170:ASP:OD1	2.03	0.59
1:B:281:ILE:CG2	1:B:311:LEU:HD11	2.32	0.59
1:D:23:TYR:O	1:D:72:ARG:N	2.34	0.59
1:B:232:PHE:HE1	1:B:355:ARG:HG2	1.67	0.59
1:C:245:ILE:O	1:C:457:ARG:NH1	2.32	0.59
1:A:138:ARG:HH12	1:A:388:ALA:HB2	1.68	0.59
1:B:573:ALA:HB3	1:B:590:THR:HG23	1.85	0.59
1:B:8:VAL:HG22	1:B:87:LEU:CD2	2.33	0.59
1:A:31:SER:HB3	1:A:65:GLN:OE1	2.03	0.58
1:D:100:TYR:CD1	1:D:622:GLU:HG2	2.37	0.58

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:487:GLU:O	1:D:491:ILE:HG13	2.02	0.58
1:A:18:ALA:O	1:A:80:TRP:HD1	1.85	0.58
1:A:371:THR:CG2	1:A:550:HIS:HB2	2.33	0.58
1:D:152:PRO:HG3	1:D:440:MET:CE	2.34	0.58
1:A:615:LEU:HD22	1:A:621:PRO:HD3	1.84	0.58
1:B:450:PHE:CZ	1:B:474:GLY:HA3	2.38	0.58
1:A:362:HIS:NE2	1:A:553:VAL:O	2.33	0.58
1:A:241:ASN:OD1	1:A:366:THR:HG21	2.02	0.58
1:A:382:MET:HE2	1:A:393:PHE:HA	1.85	0.58
1:A:26:LEU:HD13	1:A:69:ILE:HD11	1.85	0.58
1:B:376:GLU:CD	1:B:411:ARG:HH22	2.05	0.58
1:C:585:GLU:OE1	1:C:585:GLU:N	2.23	0.58
1:D:267:GLU:OE1	1:D:315:ASN:HB2	2.04	0.58
1:A:452:GLU:HA	1:A:455:LYS:HG2	1.85	0.58
1:B:374:VAL:HG12	1:B:378:PHE:CE2	2.39	0.58
1:C:371:THR:CG2	1:C:550:HIS:HB2	2.34	0.58
1:C:406:ILE:HG12	1:C:673:ILE:HA	1.84	0.58
1:A:246:ARG:HG2	1:A:457:ARG:HB3	1.84	0.58
1:B:288:LEU:HD23	1:B:288:LEU:O	2.04	0.58
1:B:68:ARG:C	1:B:69:ILE:HD12	2.23	0.58
1:C:365:ILE:N	1:C:365:ILE:HD12	2.19	0.58
1:A:24:ILE:CG2	1:A:40:LEU:HD12	2.34	0.58
1:B:256:PRO:HD2	1:B:337:ILE:HD11	1.85	0.58
1:A:452:GLU:HA	1:A:455:LYS:HE2	1.86	0.58
1:C:101:ARG:NH1	1:C:109:VAL:HG13	2.18	0.58
1:C:23:TYR:HD2	1:C:72:ARG:O	1.86	0.58
1:A:129:GLN:OE1	1:A:133:LYS:NZ	2.27	0.57
1:A:218:ILE:HG21	1:A:559:ASP:HB3	1.86	0.57
1:B:620:TYR:HD2	1:B:634:MET:HE2	1.69	0.57
1:C:364:THR:O	1:C:368:LEU:HB3	2.04	0.57
1:D:117:LYS:HB2	1:D:389:VAL:HG13	1.85	0.57
1:B:412:GLU:HG3	1:B:413:GLN:CG	2.34	0.57
1:B:207:PHE:HE1	1:B:601:LEU:HD11	1.69	0.57
1:A:28:LEU:H	1:A:35:SER:HB3	1.69	0.57
1:A:169:PHE:HD2	1:A:409:LYS:HE3	1.68	0.57
1:C:372:HIS:HE2	1:C:673:ILE:C	2.07	0.57
1:D:142:TYR:CE1	1:D:164:PRO:HG2	2.40	0.57
1:A:232:PHE:HZ	1:A:354:VAL:HG11	1.69	0.57
1:A:371:THR:HG23	1:A:550:HIS:HB2	1.86	0.57
1:A:550:HIS:NE2	1:A:673:ILE:O	2.37	0.57
1:D:188:LEU:HB3	1:D:214:ILE:HG21	1.85	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:28:LEU:HD22	1:A:87:LEU:HD11	1.85	0.57
1:B:67:VAL:HG12	1:B:69:ILE:CD1	2.34	0.57
1:C:100:TYR:CE1	1:C:622:GLU:HG2	2.40	0.57
1:C:450:PHE:HB3	1:C:451:PRO:HD3	1.86	0.57
1:D:164:PRO:HD2	1:D:167:ILE:HD11	1.87	0.57
1:A:246:ARG:HG2	1:A:457:ARG:CB	2.34	0.57
1:A:218:ILE:CG2	1:A:559:ASP:HB3	2.35	0.57
1:A:363:GLN:HE22	1:A:557:GLN:NE2	2.02	0.57
1:B:411:ARG:O	1:B:416:CYS:HB3	2.04	0.57
1:B:66:LEU:HD23	1:B:110:VAL:CG1	2.30	0.57
1:C:199:SER:HB3	1:C:594:ARG:HH11	1.69	0.57
1:A:288:LEU:CD2	1:A:365:ILE:HG13	2.35	0.56
1:A:-11:HIS:NE2	1:A:41:ASP:OD2	2.38	0.56
1:B:99:CYS:HB2	1:B:111:LEU:HD13	1.87	0.56
1:B:205:ALA:O	1:B:209:LYS:HG2	2.05	0.56
1:D:362:HIS:HA	1:D:366:THR:HB	1.87	0.56
1:A:389:VAL:O	1:A:389:VAL:HG12	2.03	0.56
1:B:276:VAL:CG2	1:B:281:ILE:HG13	2.36	0.56
1:B:466:PRO:HG2	1:B:467:TYR:CE2	2.40	0.56
1:C:281:ILE:C	1:C:282:PHE:HD1	2.08	0.56
1:C:411:ARG:O	1:C:416:CYS:HB3	2.05	0.56
1:C:557:GLN:HE22	1:C:607:LEU:HD12	1.69	0.56
1:D:203:ASP:OD1	1:D:204:PHE:N	2.35	0.56
1:D:258:THR:HB	1:D:261:MET:HG3	1.87	0.56
1:A:371:THR:HG21	1:A:550:HIS:CD2	2.41	0.56
1:C:221:ARG:CD	1:C:657:LEU:HG	2.36	0.56
1:A:41:ASP:HB2	1:A:53:TYR:HE1	1.71	0.56
1:B:68:ARG:HA	1:B:110:VAL:HG22	1.88	0.56
1:A:645:VAL:HG22	1:A:664:PRO:HD2	1.88	0.56
1:A:26:LEU:HD11	1:A:67:VAL:CG1	2.36	0.56
1:B:640:ASN:O	1:B:644:ILE:HG13	2.06	0.56
1:C:584:ILE:O	1:C:588:VAL:HG23	2.05	0.56
1:B:459:MET:HA	1:B:465:ILE:HD12	1.87	0.56
1:C:41:ASP:HB2	1:C:53:TYR:OH	2.05	0.56
1:D:8:VAL:HG11	1:D:26:LEU:CD2	2.35	0.56
1:A:114:GLY:HA3	1:A:626:ILE:CD1	2.36	0.56
1:B:611:GLN:OE1	1:B:611:GLN:HA	2.05	0.56
1:C:494:GLU:HG2	1:C:498:VAL:CG2	2.29	0.56
1:D:314:LYS:NZ	1:D:318:ASN:HA	2.18	0.56
1:C:197:PHE:HA	1:C:593:ASP:OD2	2.06	0.56
1:C:221:ARG:HD2	1:C:657:LEU:CG	2.36	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:151:PHE:CE2	1:D:433:VAL:HG13	2.40	0.56
1:A:533:GLU:H	1:A:533:GLU:CD	2.09	0.56
1:C:222:VAL:O	1:C:226:TRP:HB3	2.05	0.56
1:D:635:ALA:HA	1:D:638:ARG:HH11	1.70	0.56
1:A:82:LEU:HB3	1:A:99:CYS:SG	2.46	0.55
1:B:20:THR:HG22	1:B:78:ASP:C	2.26	0.55
1:C:135:LEU:HD21	1:C:387:PRO:HD3	1.88	0.55
1:C:474:GLY:N	1:C:662:LEU:HD13	2.21	0.55
1:D:450:PHE:CZ	1:D:474:GLY:HA3	2.41	0.55
1:D:627:GLU:O	1:D:631:LYS:HG3	2.06	0.55
1:A:365:ILE:HD12	1:A:439:ALA:CB	2.36	0.55
1:B:221:ARG:CD	1:B:657:LEU:HD13	2.36	0.55
1:B:662:LEU:HA	1:B:667:ILE:HD11	1.88	0.55
1:C:617:LEU:HA	1:C:669:ASN:OD1	2.06	0.55
1:D:270:LEU:HB2	1:D:275:GLU:OE1	2.07	0.55
1:A:232:PHE:CD2	1:A:322:PRO:HG3	2.41	0.55
1:C:221:ARG:HD2	1:C:657:LEU:HG	1.88	0.55
1:D:13:GLY:HA2	1:D:83:LYS:HD2	1.89	0.55
1:A:607:LEU:CD2	1:A:673:ILE:HD11	2.36	0.55
1:B:376:GLU:OE1	1:B:411:ARG:NH2	2.39	0.55
1:B:513:TYR:HE2	1:D:253:GLU:HB2	1.71	0.55
1:B:554:ASN:ND2	1:B:607:LEU:O	2.34	0.55
1:D:365:ILE:HD12	1:D:365:ILE:N	2.21	0.55
1:B:363:GLN:O	1:B:367:HIS:HB3	2.07	0.55
1:B:500:GLU:HG3	1:B:530:LYS:HD2	1.87	0.55
1:B:65:GLN:C	1:B:66:LEU:HD12	2.27	0.55
1:C:463:GLU:HG2	1:C:464:ASP:OD1	2.06	0.55
1:D:370:ARG:HH22	1:D:447:SER:HB2	1.70	0.55
1:D:160:HIS:CB	1:D:409:LYS:HD3	2.37	0.55
1:A:635:ALA:HA	1:A:638:ARG:HH11	1.70	0.55
1:A:671:VAL:HG12	1:A:671:VAL:O	2.05	0.55
1:C:392:ILE:HD12	1:C:505:LEU:HD13	1.89	0.55
1:C:628:LYS:O	1:C:632:GLU:HG3	2.06	0.55
1:D:411:ARG:O	1:D:416:CYS:HB3	2.06	0.55
1:A:374:VAL:HG12	1:A:378:PHE:CE2	2.41	0.55
1:A:604:VAL:O	1:A:608:SER:OG	2.10	0.55
1:A:7:THR:OG1	1:A:88:LYS:HB3	2.06	0.55
1:B:571:MET:CE	1:B:590:THR:HG22	2.37	0.55
1:C:371:THR:HG21	1:C:550:HIS:HB2	1.89	0.55
1:C:660:TYR:O	1:C:666:ARG:HD3	2.07	0.55
1:D:296:LYS:HA	1:D:296:LYS:HE2	1.89	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:569:PRO:HG3	1:D:600:HIS:HB2	1.88	0.55
1:A:221:ARG:HG2	1:A:231:MET:HE2	1.89	0.55
1:C:482:ARG:HD2	1:C:540:THR:CB	2.37	0.55
1:A:281:ILE:CG2	1:A:311:LEU:HD11	2.36	0.55
1:B:116:ALA:HA	1:B:394:LYS:HE3	1.88	0.55
1:A:100:TYR:CD1	1:A:622:GLU:HG2	2.42	0.55
1:C:6:TYR:CE1	1:C:89:THR:HG22	2.41	0.55
1:A:246:ARG:CG	1:A:457:ARG:HD2	2.37	0.54
1:D:115:ARG:O	1:D:117:LYS:HG2	2.07	0.54
1:D:145:MET:HE2	1:D:155:ILE:O	2.07	0.54
1:B:379:GLY:CA	1:B:400:VAL:HG21	2.35	0.54
1:B:402:PHE:O	1:B:406:ILE:HG22	2.07	0.54
1:C:194:MET:HG3	1:C:195:HIS:ND1	2.22	0.54
1:A:640:ASN:O	1:A:644:ILE:HG13	2.07	0.54
1:C:209:LYS:O	1:C:212:VAL:HG22	2.08	0.54
1:D:620:TYR:HD2	1:D:634:MET:CE	2.20	0.54
1:A:113:ASP:OD1	1:A:114:GLY:N	2.40	0.54
1:A:214:ILE:HG12	1:A:558:TYR:OH	2.07	0.54
1:B:207:PHE:CE1	1:B:601:LEU:HD11	2.43	0.54
1:C:6:TYR:HE1	1:C:89:THR:HG22	1.73	0.54
1:D:441:LYS:HD2	1:D:520:ARG:HD2	1.90	0.54
1:A:412:GLU:HG3	1:A:413:GLN:CG	2.37	0.54
1:B:257:VAL:HG13	1:B:272:LEU:CD2	2.35	0.54
1:B:634:MET:O	1:B:638:ARG:HG3	2.08	0.54
1:B:644:ILE:HA	1:B:647:VAL:HG22	1.90	0.54
1:C:452:GLU:HA	1:C:455:LYS:HG2	1.90	0.54
1:B:605:TRP:CZ3	1:B:609:GLN:HG3	2.42	0.54
1:C:268:ARG:HG3	1:C:313:TYR:OH	2.08	0.54
1:D:281:ILE:C	1:D:282:PHE:HD1	2.10	0.54
1:A:652:ASN:OD1	1:A:659:TYR:N	2.36	0.54
1:B:227:GLN:HG2	1:B:348:LEU:HD11	1.89	0.54
1:C:364:THR:HB	1:C:365:ILE:CD1	2.34	0.54
1:C:20:THR:CB	1:C:80:TRP:HB2	2.38	0.54
1:D:24:ILE:HD13	1:D:80:TRP:CZ3	2.43	0.54
1:A:444:THR:O	1:A:447:SER:OG	2.21	0.54
1:B:57:VAL:HG21	1:B:61:LEU:HD11	1.90	0.54
1:B:470:TYR:HD1	1:B:659:TYR:HH	1.53	0.54
1:C:160:HIS:CG	1:C:409:LYS:HD3	2.43	0.54
1:D:157:ALA:HB2	1:D:163:LEU:HD23	1.89	0.54
1:C:246:ARG:HE	1:C:283:ILE:HG23	1.72	0.53
1:C:295:ASN:OD1	1:C:297:THR:HG23	2.07	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:455:LYS:N	1:D:455:LYS:CD	2.71	0.53
1:A:377:VAL:HG11	1:A:516:GLY:HA3	1.90	0.53
1:B:147:TRP:CD1	1:B:411:ARG:HD3	2.44	0.53
1:A:21:ASP:HB3	1:A:44:SER:HB3	1.90	0.53
1:B:459:MET:CE	1:B:465:ILE:HD13	2.38	0.53
1:C:142:TYR:O	1:C:384:ARG:HG2	2.09	0.53
1:C:195:HIS:CB	1:D:268:ARG:HD3	2.38	0.53
1:A:349:LEU:HD13	1:A:587:ILE:HG22	1.91	0.53
1:B:163:LEU:HB2	1:B:168:GLN:HG2	1.89	0.53
1:B:326:GLN:HE21	1:B:335:ASN:ND2	2.06	0.53
1:C:218:ILE:O	1:C:222:VAL:HG23	2.07	0.53
1:A:222:VAL:HA	1:A:231:MET:HE3	1.90	0.53
1:A:376:GLU:O	1:A:380:ILE:HG13	2.09	0.53
1:B:226:TRP:HA	1:B:231:MET:HE2	1.90	0.53
1:B:259:THR:O	1:B:263:GLU:N	2.42	0.53
1:C:23:TYR:O	1:C:71:LYS:HB2	2.09	0.53
1:B:376:GLU:O	1:B:380:ILE:HG13	2.09	0.53
1:C:484:PHE:O	1:C:488:VAL:HG12	2.08	0.53
1:C:216:ASN:ND2	1:C:559:ASP:OD1	2.41	0.53
1:D:232:PHE:CD2	1:D:322:PRO:HG3	2.44	0.53
1:D:193:PHE:CE1	1:D:594:ARG:HD3	2.44	0.53
1:A:376:GLU:CD	1:A:411:ARG:HH22	2.11	0.53
1:A:82:LEU:HG	1:A:99:CYS:HB3	1.91	0.53
1:C:482:ARG:CG	1:C:540:THR:HG21	2.39	0.53
1:C:20:THR:HG21	1:C:80:TRP:HB2	1.91	0.53
1:D:640:ASN:O	1:D:644:ILE:HG13	2.09	0.53
1:A:289:LEU:CD1	1:A:357:SER:HB3	2.39	0.53
1:A:295:ASN:HB3	1:A:303:GLN:CD	2.28	0.53
1:B:615:LEU:HA	1:B:619:MET:HE1	1.91	0.53
1:D:216:ASN:H	1:D:219:SER:HB3	1.73	0.53
1:D:559:ASP:OD2	1:D:661:TYR:OH	2.13	0.53
1:C:382:MET:HG3	1:C:386:LEU:HD12	1.90	0.53
1:C:144:TRP:CD1	1:C:515:TYR:HD2	2.27	0.53
1:A:210:ILE:HD12	1:A:210:ILE:N	2.23	0.52
1:A:138:ARG:HB3	1:A:383:TYR:O	2.09	0.52
1:A:414:LEU:HG	1:A:415:ILE:HG23	1.91	0.52
1:A:10:VAL:HG21	1:A:45:PHE:CE1	2.45	0.52
1:B:12:THR:HG1	1:B:80:TRP:HE1	1.54	0.52
1:C:66:LEU:HD21	1:C:130:HIS:HB2	1.91	0.52
1:D:209:LYS:N	1:D:209:LYS:HD2	2.24	0.52
1:D:595:GLY:O	1:D:599:TRP:HD1	1.93	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:346:ASP:OD1	1:A:582:VAL:HG22	2.10	0.52
1:B:18:ALA:HA	1:B:102:TRP:CZ3	2.44	0.52
1:B:207:PHE:O	1:B:211:PHE:N	2.41	0.52
1:B:218:ILE:O	1:B:222:VAL:HG23	2.10	0.52
1:B:644:ILE:O	1:B:647:VAL:HG22	2.08	0.52
1:C:195:HIS:CD2	1:D:278:GLN:HB3	2.45	0.52
1:C:476:LEU:HD13	1:C:644:ILE:HG23	1.92	0.52
1:D:188:LEU:HD22	1:D:214:ILE:CG2	2.39	0.52
1:C:229:ASP:HB3	1:C:322:PRO:HD2	1.91	0.52
1:A:138:ARG:NH1	1:A:388:ALA:HB2	2.24	0.52
1:B:214:ILE:O	1:B:214:ILE:HG22	2.10	0.52
1:D:145:MET:CB	1:D:156:ASP:HA	2.37	0.52
1:D:221:ARG:CZ	1:D:221:ARG:HB2	2.40	0.52
1:D:29:VAL:HG22	1:D:34:CYS:SG	2.49	0.52
1:C:208:GLU:HG2	1:C:563:TRP:HH2	1.74	0.52
1:C:405:ALA:O	1:C:409:LYS:HG2	2.10	0.52
1:D:529:VAL:HG11	1:D:535:LEU:HB2	1.90	0.52
1:A:218:ILE:O	1:A:222:VAL:HG23	2.09	0.52
1:A:474:GLY:N	1:A:662:LEU:HD13	2.24	0.52
1:B:241:ASN:ND2	1:B:362:HIS:HB2	2.25	0.52
1:B:527:LYS:HD3	1:D:253:GLU:HG3	1.91	0.52
1:C:276:VAL:HG22	1:C:281:ILE:HB	1.92	0.52
1:D:564:ILE:HD13	1:D:600:HIS:CD2	2.44	0.52
1:B:501:GLU:O	1:B:503:PRO:HD3	2.09	0.52
1:A:229:ASP:HB3	1:A:322:PRO:HD2	1.92	0.52
1:A:21:ASP:CB	1:A:44:SER:HB3	2.40	0.52
1:A:70:GLU:OE2	1:A:72:ARG:NH2	2.43	0.52
1:B:164:PRO:O	1:B:168:GLN:HG3	2.10	0.52
1:B:452:GLU:O	1:B:455:LYS:HG2	2.09	0.52
1:B:651:ARG:HH11	1:B:655:LEU:HD11	1.74	0.52
1:B:23:TYR:CD1	1:B:42:LYS:HA	2.44	0.52
1:B:362:HIS:CE1	1:B:363:GLN:HE21	2.27	0.52
1:B:410:ALA:O	1:B:414:LEU:N	2.32	0.52
1:D:374:VAL:HG12	1:D:378:PHE:HE2	1.75	0.52
1:C:233:GLY:HA3	1:C:320:ILE:O	2.10	0.51
1:A:583:THR:OG1	1:A:586:GLN:HG3	2.09	0.51
1:A:593:ASP:OD1	1:A:596:ARG:NH1	2.40	0.51
1:B:197:PHE:CD1	1:B:596:ARG:HD2	2.45	0.51
1:B:262:VAL:HG12	1:B:262:VAL:O	2.10	0.51
1:B:466:PRO:HG2	1:B:467:TYR:CD2	2.44	0.51
1:B:500:GLU:HG3	1:B:530:LYS:CD	2.40	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:558:TYR:O	1:B:562:SER:OG	2.15	0.51
1:D:347:TRP:O	1:D:351:LYS:HG3	2.10	0.51
1:B:445:TYR:OH	1:B:538:TYR:HA	2.10	0.51
1:B:109:VAL:HA	3:B:702:AF7:O03	2.10	0.51
1:C:452:GLU:HA	1:C:455:LYS:CE	2.35	0.51
1:A:558:TYR:HD1	1:A:604:VAL:HG23	1.76	0.51
1:B:129:GLN:NE2	1:B:133:LYS:HE2	2.25	0.51
1:B:163:LEU:HD22	1:B:167:ILE:CD1	2.41	0.51
1:B:378:PHE:CD1	1:B:542:VAL:HG22	2.46	0.51
1:B:374:VAL:HG12	1:B:378:PHE:HE2	1.74	0.51
1:C:431:GLY:O	1:C:435:MET:HG3	2.10	0.51
1:D:221:ARG:NH1	1:D:221:ARG:HB2	2.25	0.51
1:B:409:LYS:HA	1:B:412:GLU:HG2	1.91	0.51
1:C:573:ALA:HB3	1:C:590:THR:CG2	2.40	0.51
1:D:433:VAL:O	1:D:437:GLN:HG3	2.10	0.51
1:D:355:ARG:CG	1:D:566:ASN:O	2.58	0.51
1:A:197:PHE:O	1:A:199:SER:N	2.43	0.51
1:A:634:MET:O	1:A:638:ARG:HG3	2.11	0.51
1:B:371:THR:HG21	1:B:550:HIS:HB2	1.93	0.51
1:B:68:ARG:HG2	1:B:110:VAL:HG22	1.93	0.51
1:C:160:HIS:CE1	1:C:169:PHE:H	2.29	0.51
1:A:378:PHE:CD1	1:A:542:VAL:HG22	2.46	0.51
1:B:164:PRO:HD2	1:B:167:ILE:CD1	2.41	0.51
1:B:20:THR:O	1:B:45:PHE:HB2	2.10	0.51
1:B:412:GLU:CG	1:B:413:GLN:HG3	2.40	0.51
1:B:7:THR:HB	1:B:88:LYS:HB3	1.92	0.51
1:C:216:ASN:H	1:C:219:SER:HG	1.55	0.51
1:C:380:ILE:O	1:C:384:ARG:HG3	2.10	0.51
1:C:392:ILE:HD11	1:C:535:LEU:HD21	1.92	0.51
1:C:370:ARG:HH22	1:C:447:SER:HB2	1.76	0.51
1:C:66:LEU:HD23	1:C:110:VAL:HG11	1.92	0.51
1:A:222:VAL:HA	1:A:231:MET:CE	2.41	0.51
1:A:561:ALA:HA	1:A:567:ALA:CB	2.39	0.51
1:B:16:GLU:HG3	1:B:17:HIS:N	2.26	0.51
1:C:403:THR:HA	1:C:406:ILE:HG22	1.93	0.51
1:D:303:GLN:OE1	1:D:426:ALA:HA	2.11	0.51
1:D:6:TYR:HE2	1:D:57:VAL:HB	1.76	0.51
1:B:189:PHE:CE2	1:B:214:ILE:HD11	2.45	0.51
1:B:635:ALA:HA	1:B:638:ARG:HH11	1.75	0.51
1:C:126:ILE:N	1:C:126:ILE:HD12	2.23	0.51
1:C:160:HIS:HB2	1:C:409:LYS:CD	2.41	0.51

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:444:THR:O	1:C:447:SER:OG	2.23	0.51
1:D:79:ASP:HB3	1:D:102:TRP:HE3	1.76	0.51
1:D:641:LEU:O	1:D:645:VAL:HG23	2.12	0.51
1:A:97:PHE:CD1	1:A:113:ASP:HA	2.46	0.50
1:A:452:GLU:HG2	1:A:455:LYS:HE2	1.92	0.50
1:A:149:PRO:HB3	1:C:291:GLY:HA2	1.92	0.50
1:C:87:LEU:HD11	1:C:95:ILE:CG1	2.41	0.50
1:A:271:SER:OG	1:A:274:GLN:HB2	2.11	0.50
1:D:236:PHE:CD2	1:D:312:LEU:HD21	2.45	0.50
1:D:658:PRO:HB2	1:D:660:TYR:CZ	2.46	0.50
1:A:197:PHE:C	1:A:199:SER:H	2.14	0.50
1:A:246:ARG:HG2	1:A:457:ARG:HD2	1.93	0.50
1:B:648:ILE:HG23	1:B:651:ARG:NH2	2.26	0.50
1:D:263:GLU:HG3	1:D:264:CYS:N	2.26	0.50
1:B:16:GLU:HG3	1:B:17:HIS:ND1	2.26	0.50
1:C:485:THR:HA	1:C:488:VAL:CG1	2.41	0.50
1:D:12:THR:HG21	1:D:46:GLU:O	2.12	0.50
1:A:188:LEU:CD2	1:A:214:ILE:HD11	2.34	0.50
1:B:125:HIS:O	1:B:129:GLN:HB2	2.12	0.50
1:B:175:VAL:O	1:B:409:LYS:HD2	2.12	0.50
1:C:222:VAL:HA	1:C:231:MET:SD	2.52	0.50
1:C:370:ARG:HH22	1:C:447:SER:CB	2.24	0.50
1:C:41:ASP:HB2	1:C:53:TYR:CZ	2.45	0.50
1:C:481:ILE:HD11	1:C:617:LEU:HD21	1.94	0.50
1:D:645:VAL:HG22	1:D:664:PRO:HD2	1.93	0.50
1:A:195:HIS:HB2	1:B:483:THR:HG23	1.93	0.50
1:A:198:GLN:O	1:A:198:GLN:HG2	2.12	0.50
1:A:305:LEU:HD21	1:A:427:THR:HG23	1.93	0.50
1:B:232:PHE:CE1	1:B:355:ARG:HG2	2.47	0.50
1:B:345:TYR:CZ	1:B:584:ILE:HB	2.47	0.50
1:A:347:TRP:CE2	1:A:351:LYS:HE3	2.46	0.50
1:B:15:GLN:HB2	1:B:18:ALA:CB	2.42	0.50
1:B:10:VAL:HG13	1:B:82:LEU:HD11	1.93	0.50
1:D:41:ASP:HB2	1:D:53:TYR:CE1	2.47	0.50
1:A:320:ILE:HD12	1:A:320:ILE:N	2.27	0.50
1:A:374:VAL:HG12	1:A:378:PHE:HE2	1.74	0.50
1:A:392:ILE:CD1	1:A:505:LEU:HD13	2.41	0.50
1:A:614:GLU:O	1:A:619:MET:HE1	2.12	0.50
1:B:132:ARG:O	1:B:136:GLU:HG3	2.12	0.50
1:B:450:PHE:HD2	1:B:475:LEU:HD23	1.76	0.50
1:B:449:CYS:HA	1:B:478:TRP:CH2	2.46	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:662:LEU:HA	1:D:667:ILE:HD11	1.93	0.50
1:A:298:ASP:OD2	1:A:596:ARG:NH2	2.35	0.50
1:A:412:GLU:HG3	1:A:413:GLN:HG3	1.93	0.50
1:D:126:ILE:N	1:D:126:ILE:HD12	2.25	0.50
1:D:615:LEU:CA	1:D:619:MET:HE2	2.32	0.50
1:C:232:PHE:CD2	1:C:322:PRO:HG3	2.47	0.49
1:D:23:TYR:O	1:D:71:LYS:HA	2.12	0.49
1:A:231:MET:O	1:A:235:GLN:HG3	2.12	0.49
1:A:409:LYS:HA	1:A:412:GLU:HG2	1.92	0.49
1:A:473:ASP:OD2	1:A:651:ARG:NH2	2.45	0.49
1:A:612:GLU:OE1	1:A:612:GLU:HA	2.12	0.49
1:A:663:SER:HB2	1:A:665:ASP:OD1	2.12	0.49
1:B:25:TYR:CZ	1:B:39:LEU:HD13	2.47	0.49
1:C:137:THR:HA	1:C:140:LYS:HE2	1.93	0.49
1:C:82:LEU:HD21	1:C:85:ILE:CD1	2.42	0.49
1:D:369:LEU:O	1:D:374:VAL:HG23	2.12	0.49
1:A:146:GLU:OE2	1:A:518:ARG:NH2	2.44	0.49
1:A:378:PHE:CE1	1:A:542:VAL:HG22	2.48	0.49
1:A:388:ALA:HA	1:A:393:PHE:CD2	2.48	0.49
1:B:18:ALA:HB1	1:B:81:TYR:HB2	1.92	0.49
1:B:226:TRP:HA	1:B:231:MET:HE1	1.93	0.49
1:B:253:GLU:HG3	1:D:513:TYR:CE2	2.47	0.49
1:A:355:ARG:NE	1:A:566:ASN:O	2.40	0.49
1:B:580:GLY:O	1:B:581:VAL:HG23	2.12	0.49
1:C:158:LYS:HD2	1:C:158:LYS:N	2.27	0.49
1:D:19:GLY:O	1:D:78:ASP:OD2	2.29	0.49
1:A:396:LEU:HD11	1:A:539:LEU:CD2	2.43	0.49
1:D:593:ASP:OD2	1:D:596:ARG:NH1	2.43	0.49
1:D:634:MET:O	1:D:637:PHE:HB3	2.13	0.49
1:A:347:TRP:NE1	1:A:351:LYS:HE3	2.27	0.49
1:A:605:TRP:O	1:A:609:GLN:HG2	2.13	0.49
1:B:649:ALA:O	1:B:653:GLU:HG3	2.13	0.49
1:C:100:TYR:CD1	1:C:622:GLU:HG2	2.47	0.49
1:C:434:GLN:HA	1:C:437:GLN:HE21	1.78	0.49
1:C:59:GLU:HG3	1:C:60:GLU:N	2.28	0.49
1:B:564:ILE:HD11	1:B:597:SER:HA	1.95	0.49
1:B:23:TYR:CE2	1:B:74:TYR:HB2	2.48	0.49
1:C:66:LEU:HD23	1:C:110:VAL:CG1	2.41	0.49
1:C:211:PHE:CE2	1:C:215:SER:HB3	2.48	0.49
1:C:514:VAL:O	1:C:518:ARG:HA	2.12	0.49
1:D:7:THR:HB	1:D:88:LYS:HB3	1.95	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:232:PHE:CZ	1:A:354:VAL:HG11	2.47	0.49
1:A:307:ALA:N	1:A:308:PRO:HD3	2.28	0.49
1:B:620:TYR:HD2	1:B:634:MET:CE	2.26	0.49
1:A:443:LEU:HD23	1:A:443:LEU:C	2.33	0.49
1:B:409:LYS:O	1:B:413:GLN:HG3	2.12	0.49
1:C:10:VAL:HG21	1:C:40:LEU:HD13	1.94	0.49
1:D:276:VAL:CG2	1:D:281:ILE:HG13	2.43	0.49
1:A:270:LEU:HD22	1:A:274:GLN:CD	2.33	0.48
1:B:152:PRO:HG3	1:B:440:MET:HE2	1.95	0.48
1:B:253:GLU:CG	1:D:527:LYS:HD3	2.42	0.48
1:D:368:LEU:O	1:D:372:HIS:HB2	2.13	0.48
1:B:99:CYS:HB2	1:B:111:LEU:HD11	1.95	0.48
1:B:12:THR:HG23	1:B:81:TYR:O	2.12	0.48
1:A:59:GLU:HG3	1:A:60:GLU:N	2.27	0.48
1:B:15:GLN:HB2	1:B:18:ALA:HB2	1.94	0.48
1:B:552:ALA:HB2	1:B:662:LEU:CD2	2.39	0.48
1:B:651:ARG:HH11	1:B:655:LEU:CD1	2.26	0.48
1:D:296:LYS:HZ3	1:D:302:LEU:HD23	1.77	0.48
1:A:485:THR:O	1:A:489:VAL:HG23	2.13	0.48
1:A:57:VAL:HG21	1:A:61:LEU:CD1	2.43	0.48
1:B:276:VAL:HG23	1:B:281:ILE:HG13	1.95	0.48
1:C:257:VAL:HG13	1:C:272:LEU:HD21	1.94	0.48
1:C:181:TYR:CD2	1:C:420:LEU:HD13	2.48	0.48
1:C:573:ALA:CB	1:C:590:THR:HG23	2.41	0.48
1:D:157:ALA:CB	1:D:163:LEU:HD23	2.43	0.48
1:A:103:ILE:HG12	1:A:109:VAL:HG21	1.96	0.48
1:A:514:VAL:O	1:A:518:ARG:HA	2.14	0.48
1:B:28:LEU:HB3	1:B:64:ILE:HD13	1.96	0.48
1:D:231:MET:O	1:D:235:GLN:HG3	2.13	0.48
1:D:244:LEU:HD12	1:D:358:ASP:OD1	2.13	0.48
1:D:583:THR:OG1	1:D:586:GLN:HG3	2.12	0.48
1:A:450:PHE:HB3	1:A:451:PRO:HD3	1.94	0.48
1:B:25:TYR:CE1	1:B:39:LEU:HD13	2.48	0.48
1:C:8:VAL:HG11	1:C:26:LEU:HD22	1.96	0.48
1:D:327:LEU:HD21	1:D:350:ALA:HA	1.95	0.48
1:D:41:ASP:HB2	1:D:53:TYR:OH	2.13	0.48
1:D:423:LYS:HE2	1:D:599:TRP:CH2	2.49	0.48
1:A:81:TYR:HD1	1:A:102:TRP:CE2	2.31	0.48
1:A:68:ARG:HB3	1:A:108:GLU:OE2	2.13	0.48
1:B:160:HIS:CD2	1:B:163:LEU:HD12	2.49	0.48
1:B:43:GLY:O	1:B:44:SER:HB2	2.12	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:452:GLU:HA	1:B:455:LYS:HE2	1.94	0.48
1:B:557:GLN:O	1:B:561:ALA:HB3	2.14	0.48
1:C:349:LEU:HD23	1:C:576:PRO:CG	2.43	0.48
1:D:325:ILE:HG13	1:D:347:TRP:CH2	2.49	0.48
1:D:425:ASN:HA	1:D:569:PRO:O	2.13	0.48
1:A:113:ASP:OD2	1:A:115:ARG:NE	2.46	0.48
1:A:193:PHE:O	1:A:595:GLY:HA2	2.13	0.48
1:A:68:ARG:HD2	1:A:108:GLU:OE2	2.13	0.48
1:C:663:SER:OG	1:C:665:ASP:OD1	2.18	0.48
1:C:18:ALA:HB1	1:C:81:TYR:HB3	1.95	0.48
1:B:253:GLU:HG2	1:D:527:LYS:HD3	1.95	0.48
1:D:671:VAL:HG12	1:D:671:VAL:O	2.13	0.48
1:A:550:HIS:O	1:A:553:VAL:HG22	2.14	0.48
1:B:126:ILE:CD1	1:B:126:ILE:H	2.21	0.48
1:C:251:LEU:HD11	1:C:272:LEU:HD21	1.95	0.48
1:B:176:ASP:OD2	1:B:409:LYS:NZ	2.27	0.48
1:B:389:VAL:HG22	1:B:389:VAL:O	2.12	0.48
1:C:65:GLN:C	1:C:66:LEU:HD12	2.34	0.48
1:D:79:ASP:HB3	1:D:102:TRP:CE3	2.49	0.48
1:A:126:ILE:N	1:A:126:ILE:HD12	2.25	0.47
1:A:144:TRP:HB3	1:A:153:LEU:HD23	1.96	0.47
1:A:26:LEU:HD11	1:A:67:VAL:HG13	1.96	0.47
1:A:538:TYR:O	1:A:542:VAL:HG23	2.14	0.47
1:D:348:LEU:HA	1:D:351:LYS:HE2	1.95	0.47
1:A:396:LEU:O	1:A:400:VAL:HG22	2.13	0.47
1:B:128:LYS:O	1:B:132:ARG:HG3	2.14	0.47
1:B:463:GLU:H	1:B:463:GLU:CD	2.18	0.47
1:C:193:PHE:O	1:C:595:GLY:HA2	2.13	0.47
1:B:527:LYS:HD3	1:D:253:GLU:CG	2.43	0.47
1:D:276:VAL:HG22	1:D:281:ILE:HG13	1.95	0.47
1:D:374:VAL:HG12	1:D:378:PHE:CE2	2.49	0.47
1:A:313:TYR:HB2	1:A:323:ILE:HD13	1.96	0.47
1:A:57:VAL:HG21	1:A:61:LEU:HD11	1.95	0.47
1:B:134:GLU:HG3	3:B:702:AF7:C36	2.44	0.47
1:C:658:PRO:HB2	1:C:660:TYR:CE2	2.49	0.47
1:B:308:PRO:HA	1:B:326:GLN:O	2.15	0.47
1:B:244:LEU:HD11	1:B:361:VAL:HG11	1.97	0.47
1:C:482:ARG:CD	1:C:540:THR:HG21	2.45	0.47
1:C:628:LYS:HB3	1:C:629:PRO:HD3	1.96	0.47
1:D:455:LYS:H	1:D:455:LYS:HD3	1.78	0.47
1:D:653:GLU:HG3	1:D:654:ASN:OD1	2.15	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:626:ILE:CA	1:D:631:LYS:HE2	2.45	0.47
1:B:241:ASN:CG	1:B:362:HIS:HB2	2.35	0.47
1:A:221:ARG:HG2	1:A:231:MET:HE1	1.96	0.47
1:B:140:LYS:O	1:B:143:ARG:NH1	2.48	0.47
1:B:18:ALA:CB	1:B:81:TYR:CB	2.89	0.47
1:C:80:TRP:CE3	1:C:103:ILE:HD12	2.50	0.47
1:D:5:SER:HB2	1:D:55:VAL:O	2.15	0.47
1:D:476:LEU:HD13	1:D:644:ILE:HG23	1.97	0.47
1:A:36:GLU:CD	1:A:36:GLU:H	2.18	0.47
1:B:9:THR:HB	1:B:86:THR:OG1	2.14	0.47
1:C:66:LEU:HD11	1:C:127:LEU:HD23	1.95	0.47
1:D:313:TYR:CB	1:D:323:ILE:HG21	2.45	0.47
1:A:557:GLN:O	1:A:561:ALA:HB3	2.15	0.47
1:A:558:TYR:O	1:A:562:SER:CB	2.63	0.47
1:B:24:ILE:HD13	1:B:45:PHE:CE2	2.49	0.47
1:D:557:GLN:O	1:D:561:ALA:HB3	2.14	0.47
1:D:581:VAL:O	1:D:581:VAL:CG1	2.61	0.47
1:D:59:GLU:HG3	1:D:60:GLU:N	2.29	0.47
1:B:163:LEU:HD22	1:B:167:ILE:HD11	1.96	0.47
1:B:473:ASP:N	1:B:473:ASP:OD1	2.47	0.47
1:C:364:THR:CB	1:C:365:ILE:HD12	2.37	0.47
1:D:222:VAL:O	1:D:226:TRP:HB3	2.14	0.47
1:D:643:ALA:O	1:D:647:VAL:HG23	2.15	0.47
1:A:459:MET:HE3	1:A:465:ILE:HD13	1.97	0.47
1:A:627:GLU:O	1:A:631:LYS:HG3	2.15	0.47
1:B:23:TYR:CE2	1:B:74:TYR:HD1	2.33	0.47
1:C:257:VAL:HG13	1:C:272:LEU:CD2	2.45	0.47
1:C:24:ILE:HD13	1:C:71:LYS:HB2	1.96	0.47
1:C:8:VAL:HG11	1:C:26:LEU:CD2	2.45	0.47
1:D:272:LEU:O	1:D:276:VAL:HG23	2.15	0.47
1:A:617:LEU:HA	1:A:669:ASN:OD1	2.15	0.46
1:A:372:HIS:CE1	1:A:673:ILE:OXT	2.68	0.46
1:B:564:ILE:CD1	1:B:597:SER:HA	2.45	0.46
1:B:133:LYS:HD3	3:B:702:AF7:C24	2.46	0.46
1:C:169:PHE:CD2	1:C:175:VAL:HB	2.50	0.46
1:C:37:LYS:HG3	1:C:37:LYS:O	2.14	0.46
1:C:24:ILE:HD13	1:C:71:LYS:CB	2.45	0.46
1:A:459:MET:CE	1:A:465:ILE:HD13	2.45	0.46
1:B:145:MET:O	1:B:153:LEU:HD22	2.15	0.46
1:B:258:THR:HG22	1:B:260:GLU:H	1.80	0.46
1:B:57:VAL:HG21	1:B:61:LEU:HD21	1.97	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:144:TRP:CH2	1:C:380:ILE:HB	2.49	0.46
1:D:142:TYR:CD1	1:D:164:PRO:HG2	2.50	0.46
1:D:117:LYS:HB2	1:D:389:VAL:CG1	2.45	0.46
1:A:246:ARG:O	1:A:283:ILE:HG22	2.15	0.46
1:B:600:HIS:CE1	1:B:604:VAL:HG11	2.49	0.46
1:C:30:GLY:HA3	1:C:61:LEU:O	2.15	0.46
1:C:378:PHE:CE1	1:C:542:VAL:HG22	2.50	0.46
1:D:8:VAL:HG11	1:D:26:LEU:HD21	1.96	0.46
1:D:571:MET:CE	1:D:590:THR:HG22	2.46	0.46
1:D:197:PHE:HA	1:D:593:ASP:OD1	2.14	0.46
1:D:626:ILE:HA	1:D:631:LYS:CE	2.46	0.46
1:A:6:TYR:HE1	1:A:89:THR:HG22	1.80	0.46
1:C:270:LEU:HB2	1:C:275:GLU:OE1	2.15	0.46
1:C:255:LEU:HD12	1:C:326:GLN:HE21	1.80	0.46
1:C:443:LEU:CD2	1:C:517:MET:HE1	2.46	0.46
1:A:151:PHE:CE2	1:A:433:VAL:HG13	2.51	0.46
1:A:637:PHE:CE2	1:A:641:LEU:HD11	2.51	0.46
1:B:315:ASN:N	1:B:315:ASN:OD1	2.47	0.46
1:B:19:GLY:O	1:B:79:ASP:O	2.33	0.46
1:B:130:HIS:CE1	3:B:702:AF7:C25	2.98	0.46
1:B:630:VAL:O	1:B:634:MET:HG3	2.15	0.46
1:C:349:LEU:HD12	1:C:352:ILE:HB	1.98	0.46
1:D:257:VAL:HG13	1:D:272:LEU:HD21	1.96	0.46
1:D:295:ASN:OD1	1:D:297:THR:HG23	2.15	0.46
1:A:334:GLU:C	1:A:336:PRO:HD3	2.36	0.46
3:B:702:AF7:C25	3:B:702:AF7:C21	2.93	0.46
1:D:236:PHE:HD2	1:D:312:LEU:HD21	1.79	0.46
1:A:651:ARG:HD3	1:A:655:LEU:HD21	1.97	0.46
1:B:10:VAL:HG13	1:B:82:LEU:CD1	2.46	0.46
1:B:11:ALA:O	1:B:83:LYS:N	2.39	0.46
1:B:26:LEU:HD11	1:B:67:VAL:CG1	2.46	0.46
1:B:167:ILE:HD12	1:B:404:ILE:HG21	1.97	0.46
1:B:8:VAL:HG22	1:B:87:LEU:HD21	1.96	0.46
1:D:637:PHE:CZ	1:D:641:LEU:HD11	2.51	0.46
1:A:142:TYR:HE1	1:A:167:ILE:HD13	1.81	0.46
1:A:295:ASN:HB3	1:A:303:GLN:OE1	2.16	0.46
1:C:452:GLU:CA	1:C:455:LYS:HE2	2.36	0.46
1:C:28:LEU:HB3	1:C:64:ILE:HD12	1.98	0.46
1:C:657:LEU:HD23	1:C:657:LEU:HA	1.72	0.46
1:D:259:THR:HG23	1:D:272:LEU:H	1.80	0.46
1:D:281:ILE:HG21	1:D:311:LEU:HD11	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:455:LYS:HD2	1:D:460:GLU:HB3	1.97	0.46
1:A:135:LEU:HD21	1:A:387:PRO:HD3	1.98	0.46
1:A:144:TRP:HE3	1:A:153:LEU:HB3	1.81	0.46
1:A:267:GLU:OE1	1:A:315:ASN:HB2	2.16	0.46
1:C:295:ASN:HB3	1:C:303:GLN:CD	2.36	0.46
1:C:671:VAL:HG12	1:C:671:VAL:O	2.15	0.46
1:D:290:ASP:O	1:D:438:ARG:NH2	2.47	0.46
1:A:295:ASN:HB2	1:A:426:ALA:O	2.16	0.45
1:A:21:ASP:HA	1:A:44:SER:HB3	1.98	0.45
1:A:345:TYR:CE1	1:A:584:ILE:HB	2.51	0.45
1:B:26:LEU:HD11	1:B:67:VAL:HG13	1.98	0.45
1:B:275:GLU:CD	1:B:313:TYR:HE1	2.19	0.45
1:A:198:GLN:NE2	1:B:451:PRO:HG2	2.17	0.45
1:B:73:LYS:HE3	1:B:75:GLY:O	2.15	0.45
1:C:585:GLU:CD	1:C:585:GLU:H	2.13	0.45
1:D:370:ARG:NH2	1:D:447:SER:HB2	2.31	0.45
1:D:508:PHE:O	1:D:512:VAL:HG23	2.16	0.45
1:D:8:VAL:HG22	1:D:87:LEU:HD23	1.98	0.45
1:A:100:TYR:CE1	1:A:622:GLU:HG2	2.52	0.45
1:A:369:LEU:HD13	1:A:436:VAL:HG13	1.98	0.45
1:B:100:TYR:OH	1:B:623:GLU:N	2.49	0.45
1:B:36:GLU:OE1	1:B:38:HIS:NE2	2.49	0.45
1:B:67:VAL:HG12	1:B:69:ILE:HD11	1.98	0.45
1:C:645:VAL:HG22	1:C:664:PRO:CD	2.35	0.45
1:C:195:HIS:HD2	1:D:278:GLN:HB3	1.81	0.45
1:A:28:LEU:HB3	1:A:64:ILE:HD12	1.97	0.45
1:A:292:ILE:CD1	1:A:435:MET:HG2	2.45	0.45
1:A:345:TYR:HA	1:A:348:LEU:HB2	1.99	0.45
1:A:79:ASP:OD1	1:A:104:THR:CB	2.63	0.45
1:B:125:HIS:O	1:B:129:GLN:CB	2.64	0.45
1:B:152:PRO:HG3	1:B:440:MET:HE1	1.98	0.45
1:D:256:PRO:HD2	1:D:337:ILE:HD11	1.98	0.45
1:D:615:LEU:O	1:D:668:PRO:HA	2.16	0.45
1:B:420:LEU:H	1:B:420:LEU:HD22	1.81	0.45
1:C:349:LEU:HD23	1:C:576:PRO:HG3	1.98	0.45
1:B:519:GLY:O	1:D:254:LYS:HD3	2.16	0.45
1:D:615:LEU:HA	1:D:619:MET:HE1	1.95	0.45
1:A:473:ASP:CG	1:A:651:ARG:HH22	2.20	0.45
1:B:459:MET:O	1:B:471:ARG:HD3	2.17	0.45
1:C:245:ILE:HD11	1:C:312:LEU:HD12	1.97	0.45
1:C:245:ILE:HD12	1:C:284:VAL:CG2	2.46	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:100:TYR:CE1	1:D:622:GLU:HG2	2.51	0.45
1:A:195:HIS:HA	1:A:197:PHE:CE2	2.52	0.45
1:A:371:THR:HG21	1:A:550:HIS:HD2	1.79	0.45
1:D:209:LYS:N	1:D:209:LYS:CD	2.80	0.45
1:A:245:ILE:O	1:A:457:ARG:HD2	2.17	0.45
1:A:373:LEU:HD23	1:A:407:ASN:ND2	2.32	0.45
1:B:219:SER:HA	1:B:559:ASP:O	2.17	0.45
1:B:595:GLY:O	1:B:599:TRP:HD1	2.00	0.45
1:C:290:ASP:O	1:C:438:ARG:NH2	2.26	0.45
1:C:557:GLN:O	1:C:561:ALA:HB3	2.17	0.45
1:D:289:LEU:CD1	1:D:357:SER:HB3	2.47	0.45
1:A:597:SER:O	1:A:601:LEU:HG	2.16	0.45
1:B:197:PHE:HD1	1:B:596:ARG:NE	2.14	0.45
1:C:246:ARG:HG3	1:C:283:ILE:CG2	2.47	0.45
1:D:307:ALA:N	1:D:308:PRO:HD3	2.32	0.45
1:D:626:ILE:C	1:D:631:LYS:HE2	2.37	0.45
1:A:365:ILE:HD12	1:A:439:ALA:HB2	1.98	0.45
1:A:420:LEU:HD22	1:A:599:TRP:CZ3	2.52	0.45
1:C:11:ALA:O	1:C:82:LEU:HD12	2.16	0.45
1:C:16:GLU:O	1:C:17:HIS:HB2	2.17	0.45
1:C:116:ALA:HB3	1:C:492:TYR:CE1	2.52	0.45
1:C:564:ILE:HD13	1:C:600:HIS:CD2	2.52	0.45
1:D:614:GLU:O	1:D:619:MET:HE1	2.17	0.45
1:A:101:ARG:NH1	1:A:109:VAL:HG13	2.32	0.45
1:B:614:GLU:HG3	1:B:615:LEU:N	2.31	0.45
1:D:241:ASN:N	1:D:242:PRO:HD3	2.32	0.45
1:D:380:ILE:O	1:D:384:ARG:HG3	2.17	0.45
1:D:410:ALA:O	1:D:414:LEU:N	2.43	0.45
1:A:259:THR:CG2	1:A:272:LEU:H	2.28	0.44
1:A:651:ARG:CD	1:A:655:LEU:HD21	2.47	0.44
1:B:409:LYS:O	1:B:412:GLU:HG2	2.17	0.44
1:C:372:HIS:CE1	1:C:673:ILE:OXT	2.68	0.44
1:B:291:GLY:HA2	1:D:149:PRO:HB3	1.98	0.44
1:D:651:ARG:CD	1:D:655:LEU:HD11	2.47	0.44
1:D:6:TYR:CD1	1:D:90:PRO:HD3	2.52	0.44
1:D:80:TRP:CH2	1:D:82:LEU:HD13	2.52	0.44
1:A:155:ILE:HG12	1:A:163:LEU:CD2	2.47	0.44
1:A:233:GLY:HA2	1:A:236:PHE:HD2	1.82	0.44
1:C:232:PHE:CE2	1:C:322:PRO:HB3	2.51	0.44
1:D:313:TYR:HB3	1:D:323:ILE:CG2	2.47	0.44
1:D:327:LEU:CD1	1:D:575:PRO:HB3	2.46	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:246:ARG:HG2	1:A:457:ARG:CD	2.47	0.44
1:A:325:ILE:HG22	1:A:327:LEU:HD23	2.00	0.44
1:A:412:GLU:HG3	1:A:413:GLN:HG2	1.98	0.44
1:A:473:ASP:CB	1:A:662:LEU:HB2	2.47	0.44
1:A:558:TYR:O	1:A:562:SER:HB3	2.18	0.44
1:B:189:PHE:HE2	1:B:214:ILE:CD1	2.28	0.44
1:D:455:LYS:N	1:D:455:LYS:HD3	2.32	0.44
1:D:521:LYS:O	1:D:521:LYS:HD3	2.17	0.44
1:A:362:HIS:CD2	1:A:367:HIS:HB2	2.52	0.44
1:A:246:ARG:HG3	1:A:457:ARG:HD2	1.98	0.44
1:B:185:MET:SD	1:B:194:MET:HG3	2.57	0.44
1:B:211:PHE:O	1:B:215:SER:HB2	2.17	0.44
1:B:315:ASN:OD1	1:B:319:LYS:O	2.36	0.44
1:B:444:THR:HA	1:B:523:SER:O	2.17	0.44
1:D:26:LEU:HD12	1:D:68:ARG:O	2.17	0.44
1:A:283:ILE:HG13	1:A:284:VAL:N	2.32	0.44
1:B:484:PHE:O	1:B:488:VAL:HG23	2.18	0.44
1:C:169:PHE:CE1	1:C:402:PHE:HB3	2.46	0.44
1:B:142:TYR:HE1	1:B:167:ILE:HG21	1.82	0.44
1:C:426:ALA:HB2	1:C:570:THR:OG1	2.18	0.44
1:D:22:ASP:HB3	1:D:72:ARG:O	2.17	0.44
1:D:229:ASP:HB3	1:D:322:PRO:HD2	1.98	0.44
1:A:188:LEU:HB3	1:A:214:ILE:CD1	2.46	0.44
1:A:209:LYS:CE	1:A:209:LYS:HA	2.36	0.44
1:A:6:TYR:CE1	1:A:89:THR:HG22	2.53	0.44
1:B:273:GLU:CD	1:B:273:GLU:H	2.21	0.44
1:B:600:HIS:O	1:B:604:VAL:HG22	2.18	0.44
3:B:702:AF7:C33	3:B:702:AF7:C25	2.96	0.44
1:C:71:LYS:HG3	1:C:71:LYS:O	2.17	0.44
1:A:97:PHE:HD1	1:A:112:ARG:C	2.21	0.44
1:A:313:TYR:CB	1:A:323:ILE:HG21	2.48	0.44
1:A:348:LEU:HD23	1:A:348:LEU:HA	1.70	0.44
1:B:571:MET:HE3	1:B:590:THR:HG22	2.00	0.44
1:B:190:ILE:HG13	1:B:598:CYS:SG	2.58	0.44
1:B:218:ILE:HG12	1:B:657:LEU:HD11	1.99	0.44
1:C:489:VAL:HG13	1:C:535:LEU:HD23	2.00	0.44
1:D:393:PHE:O	1:D:397:VAL:HG12	2.17	0.44
1:A:652:ASN:CB	1:A:658:PRO:HB3	2.47	0.43
1:B:271:SER:OG	1:B:274:GLN:HG3	2.18	0.43
1:B:452:GLU:HA	1:B:455:LYS:HG2	2.00	0.43
1:B:544:PHE:CD1	1:B:548:ALA:HB3	2.53	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:129:GLN:HA	1:D:129:GLN:OE1	2.18	0.43
1:D:295:ASN:HB3	1:D:303:GLN:CD	2.39	0.43
1:D:569:PRO:HD2	1:D:592:PRO:HG2	1.99	0.43
1:A:637:PHE:CZ	1:A:641:LEU:HD11	2.53	0.43
1:B:67:VAL:HG12	1:B:69:ILE:HD12	2.00	0.43
1:C:634:MET:O	1:C:638:ARG:HG3	2.18	0.43
1:D:257:VAL:HG13	1:D:272:LEU:CD2	2.48	0.43
1:D:561:ALA:HB1	1:D:600:HIS:CE1	2.52	0.43
1:A:82:LEU:O	1:A:100:TYR:N	2.51	0.43
1:C:134:GLU:O	1:C:138:ARG:HG2	2.17	0.43
1:C:325:ILE:HG22	1:C:327:LEU:HD23	2.00	0.43
1:C:550:HIS:CG	1:C:671:VAL:HG22	2.53	0.43
1:D:222:VAL:HG22	1:D:560:TRP:CZ3	2.52	0.43
1:D:615:LEU:HD21	1:D:621:PRO:HG3	1.99	0.43
1:D:67:VAL:HG22	1:D:67:VAL:O	2.18	0.43
1:A:424:ALA:HA	1:A:596:ARG:HD3	2.00	0.43
1:B:307:ALA:N	1:B:308:PRO:HD3	2.34	0.43
1:C:477:VAL:HG11	1:C:548:ALA:HB2	2.00	0.43
1:D:561:ALA:HA	1:D:567:ALA:HB3	2.01	0.43
1:A:22:ASP:OD2	1:A:77:ASN:OD1	2.37	0.43
1:B:67:VAL:O	1:B:110:VAL:HA	2.18	0.43
1:C:221:ARG:HD2	1:C:657:LEU:HD11	2.00	0.43
1:D:276:VAL:HG22	1:D:281:ILE:HB	1.99	0.43
1:D:311:LEU:HB3	1:D:324:ALA:HB3	1.99	0.43
1:D:365:ILE:CD1	1:D:435:MET:HE1	2.49	0.43
1:A:206:ASP:O	1:A:210:ILE:HD13	2.19	0.43
1:B:110:VAL:HG21	3:B:702:AF7:C21	2.49	0.43
1:C:99:CYS:SG	1:C:111:LEU:HD21	2.59	0.43
1:C:251:LEU:HD11	1:C:272:LEU:HD23	1.99	0.43
1:C:466:PRO:HG2	1:C:467:TYR:CE2	2.54	0.43
1:C:378:PHE:CD1	1:C:542:VAL:HG22	2.53	0.43
1:C:204:PHE:HE2	1:C:584:ILE:HD11	1.82	0.43
1:C:605:TRP:O	1:C:609:GLN:HG2	2.18	0.43
1:D:22:ASP:CB	1:D:73:LYS:HA	2.49	0.43
1:A:517:MET:CE	1:A:517:MET:HA	2.45	0.43
1:A:617:LEU:N	1:A:667:ILE:O	2.47	0.43
1:B:221:ARG:HD2	1:B:657:LEU:CD1	2.47	0.43
1:B:388:ALA:HA	1:B:393:PHE:CD2	2.53	0.43
1:C:267:GLU:CD	1:C:315:ASN:HB2	2.40	0.43
1:D:223:MET:HG3	1:D:563:TRP:CZ3	2.54	0.43
1:D:23:TYR:CE2	1:D:74:TYR:HB2	2.54	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:30:GLY:HA2	1:B:64:ILE:HA	2.01	0.43
1:C:294:ALA:HB1	1:C:303:GLN:O	2.18	0.43
1:C:36:GLU:HG2	1:C:37:LYS:N	2.33	0.43
1:C:120:ARG:NH2	1:C:501:GLU:HB2	2.32	0.43
1:D:79:ASP:OD1	1:D:104:THR:HB	2.19	0.43
1:A:246:ARG:HG2	1:A:457:ARG:HG2	1.98	0.42
1:A:508:PHE:O	1:A:512:VAL:HG23	2.19	0.42
1:B:262:VAL:O	1:B:266:LEU:HG	2.19	0.42
1:B:163:LEU:HB3	1:B:167:ILE:HG13	2.01	0.42
1:B:35:SER:HB3	1:B:61:LEU:HD11	2.01	0.42
1:B:420:LEU:N	1:B:420:LEU:HD22	2.34	0.42
1:C:355:ARG:HD2	1:C:566:ASN:O	2.19	0.42
1:C:443:LEU:HD23	1:C:443:LEU:C	2.40	0.42
1:C:452:GLU:HG2	1:C:455:LYS:HE2	2.01	0.42
1:A:193:PHE:HA	1:A:196:MET:CG	2.49	0.42
1:A:25:TYR:CE1	1:A:39:LEU:HD13	2.54	0.42
1:A:362:HIS:HA	1:A:366:THR:HB	2.01	0.42
1:A:377:VAL:CG1	1:A:516:GLY:HA3	2.49	0.42
1:B:313:TYR:O	1:B:320:ILE:HA	2.19	0.42
1:B:59:GLU:HG3	1:B:60:GLU:N	2.35	0.42
1:B:484:PHE:HB2	1:B:637:PHE:CD1	2.55	0.42
1:B:645:VAL:CG2	1:B:664:PRO:HB2	2.49	0.42
1:D:267:GLU:O	1:D:316:LEU:HD11	2.19	0.42
1:A:214:ILE:HG12	1:A:214:ILE:O	2.19	0.42
1:A:628:LYS:HB3	1:A:629:PRO:HD3	2.00	0.42
1:B:115:ARG:O	1:B:117:LYS:HG2	2.19	0.42
1:B:334:GLU:C	1:B:336:PRO:HD3	2.40	0.42
1:B:529:VAL:HG11	1:B:535:LEU:HB2	2.01	0.42
1:A:418:CYS:HB3	1:B:532:ARG:NH2	2.35	0.42
1:C:242:PRO:O	1:C:468:TYR:OH	2.32	0.42
1:D:288:LEU:HD11	1:D:439:ALA:HB2	2.02	0.42
1:B:18:ALA:CB	1:B:81:TYR:HB2	2.49	0.42
1:B:441:LYS:N	1:B:441:LYS:HD3	2.34	0.42
1:B:485:THR:O	1:B:489:VAL:HG23	2.19	0.42
1:D:124:ILE:HD11	1:D:127:LEU:HG	2.01	0.42
1:D:634:MET:O	1:D:638:ARG:HG3	2.20	0.42
1:A:151:PHE:CZ	1:A:433:VAL:HG13	2.54	0.42
1:A:399:HIS:ND1	1:A:543:ILE:HG23	2.35	0.42
1:C:434:GLN:HA	1:C:437:GLN:NE2	2.35	0.42
1:C:443:LEU:HD22	1:C:517:MET:CE	2.50	0.42
1:C:355:ARG:CD	1:C:566:ASN:O	2.67	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:D:389:VAL:HG13	1:D:389:VAL:O	2.19	0.42
1:D:563:TRP:HD1	1:D:566:ASN:HB2	1.84	0.42
1:C:126:ILE:H	1:C:126:ILE:CD1	2.26	0.42
1:C:313:TYR:HB2	1:C:323:ILE:HD13	2.02	0.42
1:C:485:THR:HA	1:C:488:VAL:HG12	2.02	0.42
1:A:294:ALA:HB2	1:A:305:LEU:HD12	2.02	0.42
1:A:463:GLU:H	1:A:463:GLU:CD	2.23	0.42
1:B:10:VAL:HG11	1:B:80:TRP:CH2	2.54	0.42
1:C:236:PHE:CD2	1:C:312:LEU:HD11	2.54	0.42
1:C:214:ILE:HD12	1:C:558:TYR:OH	2.20	0.42
1:D:355:ARG:NH2	1:D:358:ASP:OD2	2.49	0.42
1:A:24:ILE:O	1:A:40:LEU:HG	2.20	0.42
1:A:270:LEU:HD22	1:A:274:GLN:NE2	2.35	0.42
1:A:334:GLU:O	1:A:336:PRO:HD3	2.20	0.42
1:A:304:PHE:HB2	1:A:353:TRP:HH2	1.85	0.42
1:A:402:PHE:O	1:A:406:ILE:HG22	2.20	0.42
1:A:611:GLN:OE1	1:A:611:GLN:HA	2.19	0.42
1:C:176:ASP:HB3	1:C:179:LEU:HB2	2.01	0.42
1:D:134:GLU:O	1:D:138:ARG:HG2	2.20	0.42
1:D:22:ASP:HB3	1:D:73:LYS:HA	2.00	0.42
1:B:551:ALA:HA	1:B:555:PHE:CE2	2.55	0.41
1:D:131:ARG:HD3	1:D:504:GLU:OE2	2.20	0.41
1:D:99:CYS:HB2	1:D:111:LEU:CD1	2.50	0.41
1:A:10:VAL:O	1:A:10:VAL:HG23	2.20	0.41
1:A:282:PHE:HE2	1:A:314:LYS:HB2	1.85	0.41
1:A:529:VAL:HG11	1:A:535:LEU:HB2	2.01	0.41
1:C:144:TRP:HE1	1:C:384:ARG:HD3	1.86	0.41
1:C:295:ASN:HB2	1:C:426:ALA:O	2.20	0.41
1:D:153:LEU:HD13	1:D:153:LEU:HA	1.92	0.41
1:A:155:ILE:HG12	1:A:163:LEU:HD22	2.01	0.41
1:A:29:VAL:HB	1:A:66:LEU:HB2	2.02	0.41
1:A:412:GLU:CG	1:A:413:GLN:HG3	2.50	0.41
1:A:476:LEU:CD1	1:A:644:ILE:HG23	2.50	0.41
1:C:245:ILE:HD12	1:C:284:VAL:HG23	2.01	0.41
1:C:388:ALA:HA	1:C:393:PHE:CD2	2.54	0.41
1:D:148:ASN:O	1:D:151:PHE:HB2	2.20	0.41
1:D:521:LYS:C	1:D:521:LYS:HD3	2.40	0.41
1:A:165:ARG:HA	1:A:168:GLN:CG	2.49	0.41
1:A:237:LEU:HD11	1:A:320:ILE:HD13	2.02	0.41
1:A:432:HIS:H	1:A:432:HIS:HD1	1.67	0.41
1:B:479:GLU:HA	1:B:479:GLU:OE1	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:C:120:ARG:NH1	1:C:498:VAL:HG13	2.35	0.41
1:C:133:LYS:HE3	1:C:133:LYS:HB3	1.67	0.41
1:C:258:THR:HG22	1:C:259:THR:N	2.34	0.41
1:C:35:SER:HB3	1:C:61:LEU:CD1	2.45	0.41
1:D:13:GLY:HA2	1:D:83:LYS:CD	2.49	0.41
1:A:82:LEU:HG	1:A:99:CYS:CB	2.50	0.41
1:B:549:GLN:O	1:B:553:VAL:HG22	2.20	0.41
1:B:199:SER:O	1:B:594:ARG:HG3	2.20	0.41
1:C:131:ARG:HH21	1:C:504:GLU:CD	2.23	0.41
1:C:399:HIS:HE1	1:C:617:LEU:CD1	2.34	0.41
1:D:206:ASP:OD2	1:D:594:ARG:NH2	2.43	0.41
1:D:206:ASP:O	1:D:210:ILE:HD13	2.20	0.41
1:D:226:TRP:CE2	1:D:227:GLN:HG3	2.56	0.41
1:D:651:ARG:HD3	1:D:655:LEU:HD11	2.00	0.41
1:A:116:ALA:HB3	1:A:492:TYR:CE1	2.55	0.41
1:B:146:GLU:OE2	1:B:149:PRO:HA	2.20	0.41
1:C:296:LYS:NZ	1:C:302:LEU:HD22	2.35	0.41
1:D:424:ALA:HA	1:D:596:ARG:HG2	2.03	0.41
1:D:201:TRP:CE2	1:D:594:ARG:HG2	2.56	0.41
1:A:197:PHE:C	1:A:199:SER:N	2.74	0.41
1:A:311:LEU:HB3	1:A:324:ALA:HB3	2.02	0.41
1:B:23:TYR:O	1:B:24:ILE:HD12	2.21	0.41
1:B:276:VAL:HG22	1:B:281:ILE:HG13	2.01	0.41
1:C:27:SER:HB2	1:C:68:ARG:HB2	2.02	0.41
1:D:296:LYS:HZ3	1:D:302:LEU:CD2	2.34	0.41
1:D:402:PHE:O	1:D:406:ILE:HG22	2.20	0.41
1:A:209:LYS:HE2	1:A:209:LYS:CA	2.37	0.41
1:D:635:ALA:HA	1:D:638:ARG:NH1	2.34	0.41
1:A:221:ARG:HG3	1:A:225:HIS:HD2	1.85	0.41
1:A:584:ILE:O	1:A:588:VAL:HG23	2.21	0.41
1:B:144:TRP:HB3	1:B:153:LEU:HD13	2.03	0.41
1:B:271:SER:N	1:B:274:GLN:OE1	2.47	0.41
1:C:151:PHE:CE2	1:C:433:VAL:HG13	2.56	0.41
1:C:221:ARG:HG2	1:C:231:MET:HE1	2.03	0.41
1:C:234:TYR:CZ	1:C:238:ASN:HB2	2.56	0.41
1:C:347:TRP:O	1:C:351:LYS:HG3	2.21	0.41
1:C:26:LEU:CB	1:C:40:LEU:HD21	2.50	0.41
1:C:87:LEU:CD1	1:C:95:ILE:HB	2.51	0.41
1:D:211:PHE:HE1	1:D:219:SER:HG	1.67	0.41
1:A:131:ARG:HE	1:A:504:GLU:CD	2.19	0.41
1:A:241:ASN:N	1:A:242:PRO:HD3	2.36	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:370:ARG:HH22	1:A:447:SER:CB	2.31	0.41
1:A:673:ILE:HG23	1:A:673:ILE:O	2.20	0.41
1:B:399:HIS:CE1	1:B:543:ILE:HG23	2.55	0.41
1:C:118:LEU:HD22	1:C:502:ASP:OD2	2.20	0.41
1:C:148:ASN:O	1:C:151:PHE:HB2	2.20	0.41
1:D:355:ARG:HG3	1:D:355:ARG:NH1	2.36	0.41
1:D:327:LEU:HD13	1:D:575:PRO:HB3	2.03	0.41
1:D:616:PHE:HA	1:D:668:PRO:HA	2.02	0.41
1:A:24:ILE:HD13	1:A:71:LYS:HG3	2.03	0.41
1:B:615:LEU:CA	1:B:619:MET:HE2	2.48	0.41
1:B:101:ARG:NH2	3:B:702:AF7:O04	2.54	0.41
1:C:179:LEU:HD23	1:C:179:LEU:HA	1.73	0.41
1:C:485:THR:O	1:C:488:VAL:HG13	2.21	0.41
1:C:493:TYR:O	1:C:532:ARG:HD3	2.21	0.41
1:D:160:HIS:HB2	1:D:409:LYS:CD	2.49	0.41
1:D:399:HIS:CE1	1:D:543:ILE:HG23	2.55	0.41
1:A:126:ILE:CD1	1:A:126:ILE:H	2.24	0.40
1:A:479:GLU:HA	1:A:479:GLU:OE1	2.21	0.40
1:A:235:GLN:NE2	1:A:566:ASN:OD1	2.41	0.40
1:B:497:GLN:O	1:B:501:GLU:HG3	2.21	0.40
1:B:-13:HIS:HB3	1:B:51:ASP:OD1	2.21	0.40
1:C:37:LYS:CG	1:C:37:LYS:O	2.69	0.40
1:C:484:PHE:HB2	1:C:637:PHE:CD1	2.56	0.40
1:C:87:LEU:HD13	1:C:89:THR:HG23	2.03	0.40
1:D:25:TYR:HB2	1:D:70:GLU:CG	2.51	0.40
1:D:403:THR:HA	1:D:406:ILE:HG22	2.02	0.40
1:A:469:PHE:HB3	1:A:651:ARG:NH1	2.36	0.40
1:B:508:PHE:O	1:B:512:VAL:HG23	2.21	0.40
1:C:158:LYS:CD	1:C:158:LYS:N	2.83	0.40
1:C:591:LEU:HB3	1:C:592:PRO:CD	2.50	0.40
1:A:12:THR:HG22	1:A:13:GLY:N	2.35	0.40
1:A:401:ARG:O	1:A:402:PHE:HB2	2.22	0.40
1:A:197:PHE:HA	1:A:593:ASP:OD2	2.21	0.40
1:B:241:ASN:N	1:B:242:PRO:HD3	2.36	0.40
1:B:369:LEU:CD2	1:B:443:LEU:HD11	2.49	0.40
1:A:195:HIS:NE2	1:B:490:ASP:OD2	2.55	0.40
1:C:423:LYS:HE2	1:C:599:TRP:CZ2	2.56	0.40
1:D:28:LEU:HD22	1:D:87:LEU:HD11	2.02	0.40
1:A:25:TYR:CZ	1:A:39:LEU:HD13	2.57	0.40
1:B:282:PHE:O	1:B:311:LEU:HD12	2.21	0.40
1:B:652:ASN:OD1	1:B:655:LEU:HD12	2.21	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:B:22:ASP:HA	1:B:74:TYR:HB3	2.04	0.40
1:C:245:ILE:HA	1:C:284:VAL:HG22	2.04	0.40
1:A:41:ASP:HB2	1:A:53:TYR:CE1	2.54	0.40
1:B:665:ASP:OD1	1:B:665:ASP:N	2.55	0.40
1:B:108:GLU:O	3:B:702:AF7:O03	2.40	0.40
1:C:129:GLN:OE1	1:C:129:GLN:HA	2.22	0.40
1:C:437:GLN:HG2	1:C:437:GLN:H	1.76	0.40
1:C:581:VAL:CG1	1:C:581:VAL:O	2.68	0.40
1:D:12:THR:HG22	1:D:13:GLY:N	2.36	0.40
1:D:251:LEU:HD21	1:D:276:VAL:HG21	2.04	0.40

There are no symmetry-related clashes.

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

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

There are no protein backbone outliers to report in this entry.

#### 5.3.2 Protein sidechains [i](#)

There are no protein residues with a non-rotameric sidechain to report in this entry.

#### 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

Of 5 ligands modelled in this entry, 4 are monoatomic - leaving 1 for Mogul analysis.

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

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z  > 2	Counts	RMSZ	# Z  > 2
3	AF7	B	702	1	39,41,41	2.30	14 (35%)	62,70,70	2.84	31 (50%)

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	AF7	B	702	1	-	2/4/106/106	0/5/5/5

All (14) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
3	B	702	AF7	C17-C33	6.51	1.61	1.50
3	B	702	AF7	C07-C13	4.45	1.61	1.53
3	B	702	AF7	C26-C20	4.13	1.54	1.46
3	B	702	AF7	C17-C10	3.94	1.66	1.56
3	B	702	AF7	C27-C23	3.60	1.59	1.51
3	B	702	AF7	C28-C14	3.48	1.60	1.54
3	B	702	AF7	C08-C09	3.17	1.61	1.56
3	B	702	AF7	C17-C23	2.94	1.61	1.56
3	B	702	AF7	C06-C09	2.82	1.60	1.56
3	B	702	AF7	C09-C20	2.57	1.55	1.52
3	B	702	AF7	C12-C13	2.37	1.63	1.53
3	B	702	AF7	C30-C29	2.33	1.58	1.53
3	B	702	AF7	C14-C12	2.28	1.58	1.55
3	B	702	AF7	C12-C22	2.23	1.61	1.56

All (31) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed( $^{\circ}$ )	Ideal( $^{\circ}$ )
3	B	702	AF7	C24-C07-C13	7.62	114.89	106.95
3	B	702	AF7	C24-C07-C06	-6.97	105.81	112.33
3	B	702	AF7	C06-C09-C08	-6.58	113.30	118.10
3	B	702	AF7	C09-C08-C10	6.47	114.02	106.47
3	B	702	AF7	C18-C08-C09	5.30	113.94	108.19
3	B	702	AF7	O01-C36-C37	5.08	120.44	111.09
3	B	702	AF7	C07-C13-C26	-4.16	116.47	120.29
3	B	702	AF7	C21-C06-C07	-3.90	105.38	109.97
3	B	702	AF7	C35-C29-C30	3.78	117.97	111.04
3	B	702	AF7	C09-C20-C26	3.64	120.44	116.81
3	B	702	AF7	C25-C08-C09	-3.54	105.50	112.41
3	B	702	AF7	C07-C06-C09	3.46	110.73	107.93
3	B	702	AF7	C18-C08-C10	-3.36	103.91	108.02
3	B	702	AF7	C21-C06-C09	3.31	113.83	110.39
3	B	702	AF7	C30-C29-C22	-3.30	106.82	110.81
3	B	702	AF7	C06-C07-C13	2.88	112.50	108.80
3	B	702	AF7	C16-C07-C13	-2.86	108.16	111.68
3	B	702	AF7	C11-C06-C07	2.84	113.22	110.26
3	B	702	AF7	O01-C23-C17	2.82	112.32	107.26
3	B	702	AF7	C11-C06-C09	-2.72	106.83	109.77
3	B	702	AF7	C31-C14-C19	-2.71	104.29	108.94
3	B	702	AF7	C35-C29-C22	-2.70	109.17	112.36
3	B	702	AF7	C10-C17-C23	2.70	113.89	109.17
3	B	702	AF7	C11-C15-C10	2.42	115.78	111.07
3	B	702	AF7	C19-C14-C28	2.32	113.36	109.65
3	B	702	AF7	C18-C27-C23	2.32	115.08	110.63
3	B	702	AF7	C22-C12-C13	2.28	118.41	113.09
3	B	702	AF7	O01-C23-C27	2.26	112.35	108.48
3	B	702	AF7	C34-C22-C29	-2.19	107.43	111.00
3	B	702	AF7	O02-C20-C09	-2.16	120.43	123.19
3	B	702	AF7	C19-C14-C12	-2.08	105.39	109.06

There are no chirality outliers.

All (2) torsion outliers are listed below:

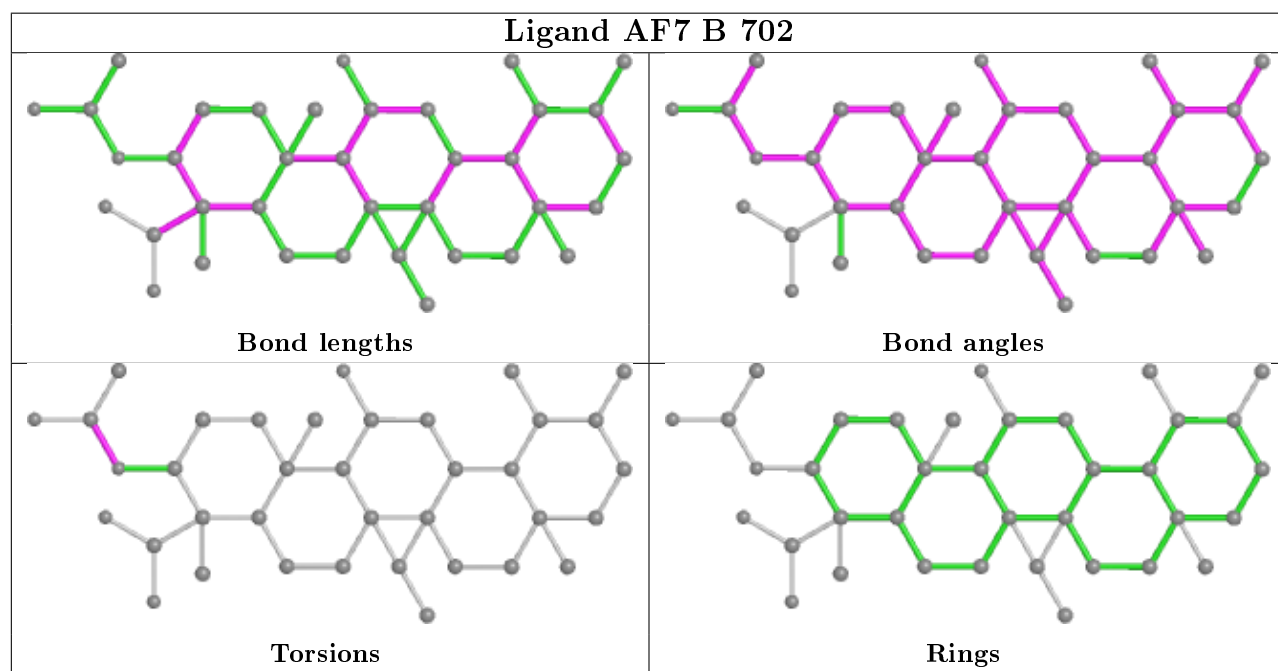
Mol	Chain	Res	Type	Atoms
3	B	702	AF7	C37-C36-O01-C23
3	B	702	AF7	O05-C36-O01-C23

There are no ring outliers.

1 monomer is involved in 11 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
3	B	702	AF7	11	0

The following is a two-dimensional graphical depiction of Mogul quality analysis of bond lengths, bond angles, torsion angles, and ring geometry for all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the validation Tables will also be included. For torsion angles, if less than 5% of the Mogul distribution of torsion angles is within 10 degrees of the torsion angle in question, then that torsion angle is considered an outlier. Any bond that is central to one or more torsion angles identified as an outlier by Mogul will be highlighted in the graph. For rings, the root-mean-square deviation (RMSD) between the ring in question and similar rings identified by Mogul is calculated over all ring torsion angles. If the average RMSD is greater than 60 degrees and the minimal RMSD between the ring in question and any Mogul-identified rings is also greater than 60 degrees, then that ring is considered an outlier. The outliers are highlighted in purple. The color gray indicates Mogul did not find sufficient equivalents in the CSD to analyse the geometry.



## 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 failed to run properly - this section is therefore empty.

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

EDS failed to run properly - this section is therefore empty.

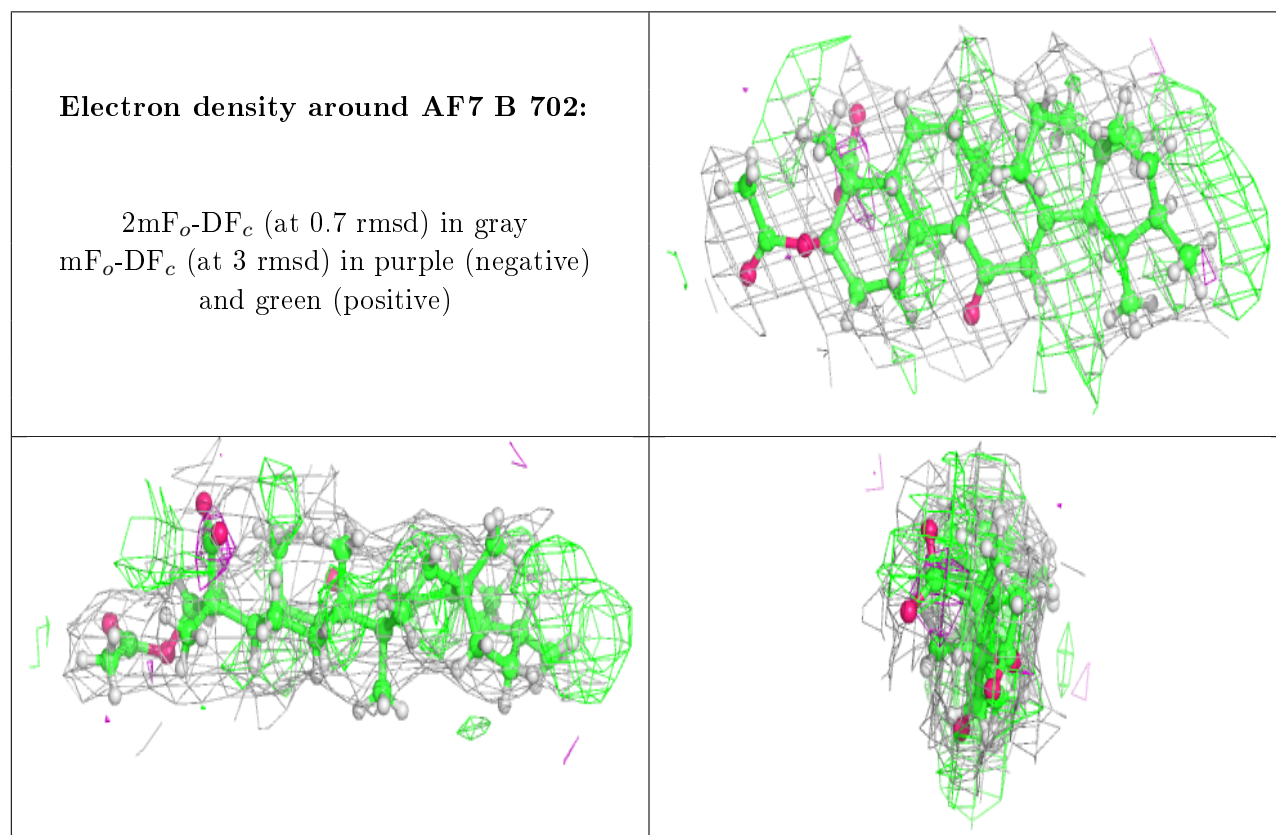
### 6.3 Carbohydrates [i](#)

EDS failed to run properly - this section is therefore empty.

### 6.4 Ligands [i](#)

EDS failed to run properly - this section is therefore empty.

The following is a graphical depiction of the model fit to experimental electron density of all instances of the Ligand of Interest. In addition, ligands with molecular weight > 250 and outliers as shown on the geometry validation Tables will also be included. Each fit is shown from different orientation to approximate a three-dimensional view.



## 6.5 Other polymers

EDS failed to run properly - this section is therefore empty.