



Full wwPDB EM Validation Report ⓘ

Aug 1, 2023 – 10:21 PM JST

PDB ID : 7XG4
EMDB ID : EMD-33185
Title : CryoEM structure of type IV-A CasDinG bound NTS-nicked Csf-crRNA-dsDNA quaternary complex in a second state
Authors : Zhang, J.T.; Cui, N.; Huang, H.D.; Jia, N.
Deposited on : 2022-04-02
Resolution : 3.70 Å(reported)

This is a Full wwPDB EM 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/EMValidationReportHelp>

with specific help available everywhere you see the ⓘ symbol.

The types of validation reports are described at

<http://www.wwpdb.org/validation/2017/FAQs#types>.

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

EMDB validation analysis : 0.0.1.dev50
Mogul : 1.8.5 (274361), CSD as541be (2020)
MolProbity : 4.02b-467
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)
MapQ : 1.9.9
Ideal geometry (proteins) : Engh & Huber (2001)
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP) : 2.34

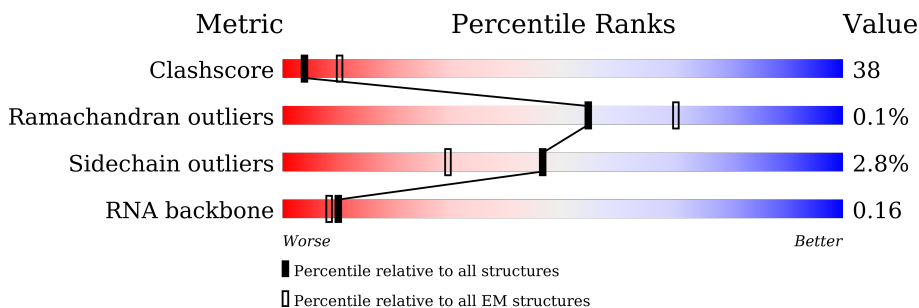
1 Overall quality at a glance i

The following experimental techniques were used to determine the structure:

ELECTRON MICROSCOPY

The reported resolution of this entry is 3.70 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.



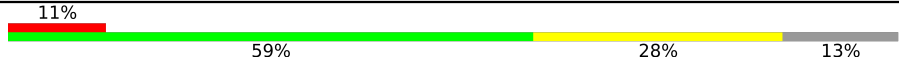

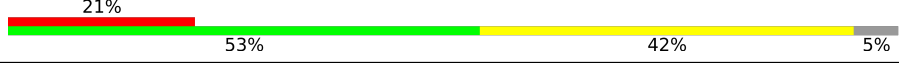
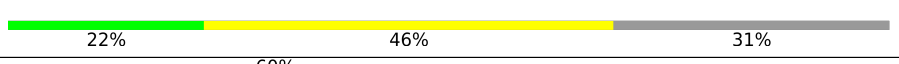
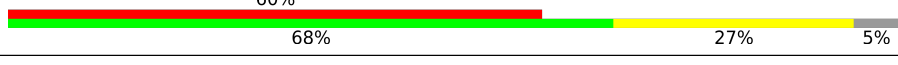
Metric	Whole archive (#Entries)	EM structures (#Entries)
Clashscore	158937	4297
Ramachandran outliers	154571	4023
Sidechain outliers	154315	3826
RNA backbone	4643	859

The table below summarises the geometric issues observed across the polymeric chains and their fit to the map. The red, orange, yellow and green segments of the 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 EM map (all-atom inclusion $< 40\%$). The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	253	 6% 51% 43% • 5%
2	B	220	 5% 57% 40% •
3	C	348	 63% 31% • 5%
3	D	348	 66% 28% • 5%
3	E	348	 54% 38% • 7%
3	F	348	 5% 51% 41% • 7%
3	G	348	 6% 47% 32% • 20%

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Mol	Chain	Length	Quality of chain
4	H	268	
5	I	61	
6	J	38	
7	K	54	
8	L	626	

The following table lists non-polymeric compounds, carbohydrate monomers and non-standard residues in protein, DNA, RNA chains that are outliers for geometric or electron-density-fit criteria:

Mol	Type	Chain	Res	Chirality	Geometry	Clashes	Electron density
5	23G	I	61	-	-	X	-

2 Entry composition [i](#)

There are 9 unique types of molecules in this entry. The entry contains 24769 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, 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 Csf1.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
1	A	241	1897	1202	336	347	12	0	0

- Molecule 2 is a protein called Csf3.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	B	219	1709	1080	316	305	8	0	0

- Molecule 3 is a protein called Csf2.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
3	C	329	2488	1570	439	467	12	0	0
3	D	331	2503	1580	441	470	12	0	0
3	E	324	2450	1546	431	461	12	0	0
3	F	324	2450	1546	431	461	12	0	0
3	G	280	2131	1352	370	398	11	0	0

- Molecule 4 is a protein called Csf5.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
4	H	234	1800	1149	322	322	7	0	0

- Molecule 5 is a RNA chain called crRNA.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
5	I	61	1317	586	247	423	61	0	0

- Molecule 6 is a DNA chain called NTS.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
6	J	36	722	355	98	233	36	0	0

- Molecule 7 is a DNA chain called TS.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	P		
7	K	37	759	361	137	224	37	0	0

- Molecule 8 is a protein called Csf4.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
8	L	594	4542	2872	817	834	19	0	0

- Molecule 9 is ZINC ION (three-letter code: ZN) (formula: Zn) (labeled as "Ligand of Interest" by depositor).

Mol	Chain	Residues	Atoms		AltConf
9	A	1	Total	Zn	0
			1	1	

C193	R256	T316	G376	E443	K509	K597	M197	P257	L317	G377	L376	E444	V444	K510	A510	R257	L318	L377	V445	A511	L598	M198	P258	L319	G378	E446	K511	A512	L599	M200	P259	L320	G379	L378	V446	A513	L600	M201	P260	L321	G380	E447	K512	A514	L601	M202	P261	L322	G382	E448	K513	A515	L602	M203	P262	L323	G383	E449	K514	A516	L603	M204	P263	L324	G384	E450	K515	A517	L604	M205	P264	L325	G385	E451	K516	A518	L605	M206	P265	L326	G386	E452	K517	A519	L606	M207	P266	L327	G387	E453	K518	A520	L607	M208	P267	L328	G388	E454	K519	A521	L608	M209	P268	L329	G389	E455	K520	A522	L609	M210	P269	L330	G390	E456	K521	A523	L610	M211	P270	L331	G391	E457	K522	A524	L611	M212	P271	L332	G392	E458	K523	A525	L612	M213	P272	L333	G393	E459	K524	A526	L613	M214	P273	L334	G394	E460	K525	A527	L614	M215	P274	L335	G395	E461	K526	A528	L615	M216	P275	L336	G396	E462	K527	A529	L616	M217	P276	L337	G397	E463	K528	A530	L617	M218	P277	L338	G398	E464	K529	A531	L618	M219	P278	L339	G399	E465	K530	A532	L619	M220	P279	L340	G400	E466	K531	A533	L620	M221	P280	L341	G401	E467	K532	A534	L621	M222	P281	L342	G402	E468	K533	A535	L622	M223	P282	L343	G403	E469	K534	A536	L623	M224	P283	L344	G404	E470	K535	A537	L624	M225	P284	L345	G405	E471	K536	A538	L625	M226	P285	L346	G406	E472	K537	A539	L626	M227	P286	L347	G407	E473	K538	A540	L627	M228	P287	L348	G408	E474	K539	A541	L628	M229	P288	L349	G409	E475	K540	A542	L629	M230	P289	L350	G410	E476	K541	A543	L630	M231	P290	L351	G411	E477	K542	A544	L631	M232	P291	L352	G412	E478	K543	A545	L632	M233	P292	L353	G413	E479	K544	A546	L633	M234	P293	L354	G414	E480	K545	A547	L634	M235	P294	L355	G415	E481	K546	A548	L635	M236	P295	L356	G416	E482	K547	A549	L636	M237	P296	L357	G417	E483	K548	A550	L637	M238	P297	L358	G418	E484	K549	A551	L638	M239	P298	L359	G419	E485	K550	A552	L639	M240	P299	L360	G420	E486	K551	A553	L640	M241	P300	L361	G421	E487	K552	A554	L641	M242	P301	L362	G422	E488	K553	A555	L642	M243	P302	L363	G423	E489	K554	A556	L643	M244	P303	L364	G424	E490	K555	A557	L644	M245	P304	L365	G425	E491	K556	A558	L645	M246	P305	L366	G426	E492	K557	A559	L646	M247	P306	L367	G427	E493	K558	A560	L647	M248	P307	L368	G428	E494	K559	A561	L648	M249	P308	L369	G429	E495	K560	A562	L649	M250	P309	L370	G430	E496	K561	A563	L650	M251	P310	L371	G431	E497	K562	A564	L651	M252	P311	L372	G432	E498	K563	A565	L652	M253	P312	L373	G433	E499	K564	A566	L653	M254	P313	L374	G434	E500	K565	A567	L654	M255	P314	L375	G435	E501	K566	A568	L655	M256	P315	L376	G436	E502	K567	A569	L656	M257	P316	L377	G437	E503	K568	A570	L657	M258	P317	L378	G438	E504	K569	A571	L658	M259	P318	L379	G439	E505	K570	A572	L659	M260	P319	L380	G440	E506	K571	A573	L660	M261	P320	L381	G441	E507	K572	A574	L661	M262	P321	L382	G442	E508	K573	A575	L662	M263	P322	L383	G443	E509	K574	A576	L663	M264	P323	L384	G444	E510	K575	A577	L664	M265	P324	L385	G445	E511	K576	A578	L665	M266	P325	L386	G446	E512	K577	A579	L666	M267	P326	L387	G447	E513	K578	A580	L667	M268	P327	L388	G448	E514	K579	A581	L668	M269	P328	L389	G449	E515	K580	A582	L669	M270	P329	L390	G450	E516	K581	A583	L670	M271	P330	L391	G451	E517	K582	A584	L671	M272	P331	L392	G452	E518	K583	A585	L672	M273	P332	L393	G453	E519	K584	A586	L673	M274	P333	L394	G454	E520	K585	A587	L674	M275	P334	L395	G455	E521	K586	A588	L675	M276	P335	L396	G456	E522	K587	A589	L676	M277	P336	L397	G457	E523	K588	A590	L677	M278	P337	L398	G458	E524	K589	A591	L678	M279	P338	L399	G459	E525	K590	A592	L679	M280	P339	L400	G460	E526	K591	A593	L680	M281	P340	L401	G461	E527	K592	A594	L681	M282	P341	L402	G462	E528	K593	A595	L682	M283	P342	L403	G463	E529	K594	A596	L683	M284	P343	L404	G464	E530	K595	A597	L684	M285	P344	L405	G465	E531	K596	A598	L685	M286	P345	L406	G466	E532	K597	A599	L686	M287	P346	L407	G467	E533	K598	A600	L687	M288	P347	L408	G468	E534	K599	A601	L688	M289	P348	L409	G469	E535	K600	A602	L689	M290	P349	L410	G470	E536	K601	A603	L690	M291	P350	L411	G471	E537	K602	A604	L691	M292	P351	L412	G472	E538	K603	A605	L692	M293	P352	L413	G473	E539	K604	A606	L693	M294	P353	L414	G474	E540	K605	A607	L694	M295	P354	L415	G475	E541	K606	A608	L695	M296	P355	L416	G476	E542	K607	A609	L696	M297	P356	L417	G477	E543	K608	A610	L697	M298	P357	L418	G478	E544	K609	A611	L698	M299	P358	L419	G479	E545	K610	A612	L699	M300	P359	L420	G480	E546	K611	A613	L700	M301	P360	L421	G481	E547	K612	A614	L701	M302	P361	L422	G482	E548	K613	A615	L702	M303	P362	L423	G483	E549	K614	A616	L703	M304	P363	L424	G484	E550	K615	A617	L704	M305	P364	L425	G485	E551	K616	A618	L705	M306	P365	L426	G486	E552	K617	A619	L706	M307	P366	L427	G487	E553	K618	A620	L707	M308	P367	L428	G488	E554	K619	A621	L708	M309	P368	L429	G489	E555	K620	A622	L709	M310	P369	L430	G490	E556	K621	A623	L710	M311	P370	L431	G491	E557	K622	A624	L711	M312	P371	L432	G492	E558	K623	A625	L712	M313	P372	L433	G493	E559	K624	A626	L713	M314	P373	L434	G494	E560	K625	A627	L714	M315	P374	L435	G495	E561	K626	A628	L715	M316	P375	L436	G496	E562	K627	A629	L716	M317	P376	L437	G497	E563	K628	A630	L717	M318	P377	L438	G498	E564	K629	A631	L718	M319	P378	L439	G499	E565	K630	A632	L719	M320	P379	L440	G500	E566	K631	A633	L720	M321	P380	L441	G501	E567	K632	A634	L721	M322	P381	L442	G502	E568	K633	A635	L722	M323	P382	L443	G503	E569	K634	A636	L723	M324	P383	L444	G504	E570	K635	A637	L724	M325	P384	L445	G505	E571	K636	A638	L725	M326	P385	L446	G506	E572	K637	A639	L726	M327	P386	L447	G507	E573	K638	A640	L727	M328	P387	L448	G508	E574	K639	A641	L728	M329	P388	L449	G509	E575	K640	A642	L729	M330	P389	L450	G510	E576	K641	A643	L730	M331	P390	L451	G511	E577	K642	A644	L731	M332	P391	L452	G512	E578	K643	A645	L732	M333	P392	L453	G513	E579	K644	A646	L733	M334	P393	L454	G514	E580	K645	A647	L734	M335	P394	L455	G515	E581	K646	A648	L735	M336	P395	L456	G516	E582	K647	A649	L736	M337	P396	L457	G517	E583	K648	A650	L737	M338	P397	L458	G518	E584	K649	A651	L738	M339	P398	L459	G519	E585	K650	A652	L739	M340	P399	L460	G520	E586	K651	A653	L740	M341	P400	L461	G521	E587	K652	A654	L741	M342	P401	L462	G522	E588	K653	A655	L742	M343	P402	L463	G523	E589	K654	A656	L743	M344	P403	L464	G524	E590	K655	A657	L744	M345	P404	L465	G525	E591	K656	A658	L745	M346	P405	L466	G526	E592	K657	A659	L746	M347	P406	L467	G527	E593	K658	A660	L747	M348	P407	L468	G528	E594	K659	A661	L748	M349	P408	L469	G529	E595	K660	A662	L749	M350	P409	L470	G530	E596	K661	A663	L750	M351	P410	L471	G531	E597	K662	A664	L751	M352	P411	L472	G532	E598	K663	A665	L752	M353	P412	L473	G533	E599	K664	A666	L753	M354	P413	L474	G534	E600	K665	A667	L754	M355	P414	L475	G535	E601	K666	A668	L755	M356	P415	L476	G536	E602	K667	A669	L756	M357	P416	L477	G537	E603	K668	A670	L757	M358	P417	L478	G538	E604	K669	A671	L758	M359	P418	L479	G539	E605	K670	A672	L759	M360	P419	L480	G540	E606	K671	A673	L760	M361	P420	L481	G541	E607	K672	A674	L761	M362	P421	L482	G542	E608	K673	A675	L762	M363	P422	L483	G543	E609	K674	A676	L763	M364	P423	L484	G544	E610	K675	A677	L764	M365	P424	L485	G545	E611	K676	A678	L765	M366	P425	L486	G546	E612	K677	A679	L766	M367	P426	L487	G547	E613	K678	A680	L767	M368	P427	L488	G548	E614	K679	A681	L768	M369	P428	L489	G549	E615	K680	A682	L769	M370	P429	L490	G550	E616	K681	A683	L770	M371	P430	L491	G551	E617	K682	A684	L771	M372	P431	L492	G552	E618	K683	A685	L772	M373	P432	L493	G553	E619	K684	A686	L773	M374	P433	L494	G554	E620	K685	A687	L774	M375	P434	L495	G555	E621	K686	A688	L775	M376	P435	L496	G556	E622	K687	A689	L776	M377	P436	L497	G557	E623	K688	A690	L777	M378	P437	L498	G558	E624	K689	A691	L778	M379	P438	L499	G559	E625	K690	A692	L779	M380	P439	L500	G560	E626	K691	A693	L780	M381	P440	L501	G561	E627	K692	A694	L781	M382	P441	L502	G562	E628	K693	A695	L782	M383	P442	L503	G563	E629	K694	A696	L783	M384	P443	L504	G564	E630	K695	A697	L784	M385	P444	L505	G565	E631	K696	A698	L785	M386	P445	L506	G566	E632	K697	A699	L786	M387	P44
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4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	8882	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	PHASE FLIPPING ONLY	Depositor
Microscope	FEI TITAN KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/\text{\AA}^2$)	50	Depositor
Minimum defocus (nm)	1500	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 (6k x 4k)	Depositor
Maximum map value	0.072	Depositor
Minimum map value	-0.031	Depositor
Average map value	0.000	Depositor
Map value standard deviation	0.001	Depositor
Recommended contour level	0.008	Depositor
Map size (\AA)	396.0, 396.0, 396.0	wwPDB
Map dimensions	360, 360, 360	wwPDB
Map angles ($^\circ$)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (\AA)	1.1, 1.1, 1.1	Depositor

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: ZN, 23G

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	0.53	0/1945	0.74	0/2643
2	B	0.48	0/1754	0.71	0/2384
3	C	0.47	0/2537	0.69	0/3439
3	D	0.46	0/2552	0.68	0/3458
3	E	0.49	0/2499	0.69	0/3391
3	F	0.48	0/2499	0.70	0/3391
3	G	0.52	0/2177	0.76	0/2955
4	H	0.46	0/1835	0.69	0/2475
5	I	0.44	0/1446	1.08	0/2256
6	J	0.65	0/800	1.21	0/1231
7	K	0.73	0/850	1.03	0/1310
8	L	0.41	0/4632	0.68	0/6301
All	All	0.49	0/25526	0.77	0/35234

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	1897	0	1892	217	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
2	B	1709	0	1694	179	0
3	C	2488	0	2494	169	0
3	D	2503	0	2513	176	0
3	E	2450	0	2446	268	0
3	F	2450	0	2446	212	0
3	G	2131	0	2128	246	0
4	H	1800	0	1838	129	0
5	I	1317	0	659	194	0
6	J	722	0	421	39	0
7	K	759	0	418	76	0
8	L	4542	0	4629	193	0
9	A	1	0	0	0	0
All	All	24769	0	23578	1810	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 38.

All (1810) 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)
3:F:180:ARG:HG2	5:I:33:U:C5'	1.21	1.62
2:B:102:LEU:CD2	2:B:104:LEU:HD23	1.29	1.62
3:G:48:VAL:HG21	3:G:62:LEU:CD1	1.19	1.61
3:D:70:MET:CA	3:D:73:LEU:HD23	1.24	1.60
3:G:82:VAL:CG2	3:G:277:LEU:HD21	1.26	1.59
3:G:82:VAL:CG2	3:G:277:LEU:CD2	1.76	1.58
3:D:182:MET:CE	3:D:187:ASN:HD21	1.16	1.57
3:G:276:LEU:HA	3:G:279:LEU:CD2	1.34	1.56
3:G:82:VAL:HG21	3:G:277:LEU:CD2	1.24	1.56
3:F:180:ARG:CG	5:I:33:U:H5''	1.41	1.50
4:H:23:VAL:CA	4:H:26:LEU:HD11	1.42	1.46
3:D:182:MET:HE2	3:D:187:ASN:ND2	1.23	1.45
2:B:22:HIS:CE1	2:B:206:TYR:CE2	2.07	1.42
1:A:85:VAL:HB	1:A:94:ILE:CD1	1.48	1.41
3:E:79:LEU:CD2	3:E:103:TYR:CZ	2.03	1.41
3:E:79:LEU:HD21	3:E:103:TYR:CZ	1.56	1.41
1:A:85:VAL:CB	1:A:94:ILE:HD11	1.49	1.40
5:I:47:C:N3	5:I:60:G:N1	1.68	1.40
3:G:139:MET:CE	5:I:29:G:N2	1.84	1.40
4:H:23:VAL:C	4:H:26:LEU:HD11	1.38	1.40
1:A:12:LEU:HA	1:A:237:MET:CE	1.51	1.39

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:180:ARG:NE	5:I:33:U:C4'	1.83	1.39
4:H:23:VAL:O	4:H:26:LEU:CD1	1.70	1.39
3:E:167:GLU:CG	3:E:257:LYS:HD3	1.52	1.37
1:A:149:ARG:NE	1:A:152:VAL:HG21	1.36	1.36
3:D:69:THR:O	3:D:73:LEU:CD2	1.72	1.36
3:F:180:ARG:NE	5:I:33:U:H4'	1.05	1.35
4:H:217:LEU:CD2	5:I:61:23G:N7	1.89	1.35
3:D:70:MET:HA	3:D:73:LEU:CD2	1.57	1.34
3:F:124:MET:CE	3:F:341:PHE:HB2	1.55	1.33
3:G:48:VAL:CG2	3:G:62:LEU:CD1	2.07	1.31
3:E:152:ILE:O	3:E:168:MET:HA	1.28	1.30
4:H:22:LEU:O	4:H:26:LEU:HG	1.25	1.30
5:I:34:G:H1'	5:I:35:A:C8	1.64	1.30
3:D:69:THR:O	3:D:73:LEU:HD22	1.22	1.29
3:G:44:ARG:NH1	3:G:66:PRO:HG3	1.44	1.29
3:E:79:LEU:CD2	3:E:103:TYR:OH	1.75	1.29
3:F:180:ARG:HE	5:I:33:U:C4'	1.38	1.29
2:B:19:ASP:HB2	5:I:3:G:C8	1.69	1.28
1:A:192:GLY:O	1:A:196:LEU:HG	1.21	1.28
4:H:190:SER:OG	4:H:192:LEU:CD2	1.81	1.28
3:E:70:MET:HE2	3:E:260:TRP:CE2	1.67	1.28
3:G:48:VAL:CG2	3:G:62:LEU:HD12	1.59	1.27
1:A:12:LEU:HD23	1:A:237:MET:CE	1.65	1.27
3:D:279:LEU:HA	3:D:282:MET:CG	1.65	1.27
3:D:69:THR:C	3:D:73:LEU:HD21	1.52	1.26
3:C:42:ARG:NH2	3:C:45:MET:SD	2.08	1.26
3:F:124:MET:SD	3:F:341:PHE:HD2	1.57	1.25
2:B:102:LEU:CD2	2:B:104:LEU:CD2	2.12	1.25
1:A:191:ALA:O	1:A:195:MET:HE3	1.34	1.24
3:C:294:ASP:OD1	3:D:145:MET:HE2	1.07	1.24
1:A:56:ARG:HD2	5:I:6:C:C5	1.73	1.24
1:A:56:ARG:CD	5:I:6:C:H5	1.50	1.23
3:G:45:MET:SD	3:G:62:LEU:N	2.06	1.23
1:A:137:ILE:CD1	1:A:148:VAL:O	1.86	1.22
4:H:27:LEU:HD21	4:H:31:GLN:O	1.37	1.22
6:J:3:DC:N4	7:K:52:DG:N1	1.87	1.22
3:E:279:LEU:HA	3:E:282:MET:CE	1.70	1.21
3:D:70:MET:CA	3:D:73:LEU:CD2	2.14	1.21
3:E:167:GLU:OE2	3:E:257:LYS:HD2	1.39	1.21
3:E:298:PHE:CE2	3:E:300:ILE:HD11	1.75	1.21
3:F:180:ARG:CD	5:I:33:U:C4'	2.18	1.21

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:69:THR:C	3:D:73:LEU:CD2	2.05	1.21
1:A:141:TYR:CE2	1:A:213:TRP:NE1	2.09	1.20
3:D:279:LEU:CA	3:D:282:MET:HG2	1.71	1.20
1:A:94:ILE:CG2	1:A:100:LYS:HD2	1.71	1.20
1:A:192:GLY:O	1:A:196:LEU:CG	1.88	1.20
3:G:276:LEU:CA	3:G:279:LEU:HD21	1.70	1.20
1:A:86:VAL:O	1:A:112:PHE:HB2	1.38	1.20
3:E:79:LEU:HD11	3:E:103:TYR:CD2	1.76	1.20
3:G:133:PHE:CE1	3:G:144:LEU:HD23	1.77	1.20
3:F:180:ARG:HD3	5:I:33:U:O4'	1.38	1.19
6:J:29:DT:H2''	6:J:30:DT:C5'	1.73	1.18
3:F:121:ILE:O	3:F:125:ARG:HG3	1.41	1.18
3:G:44:ARG:NH1	3:G:66:PRO:CG	2.06	1.18
5:I:34:G:O2'	5:I:35:A:C8	1.97	1.18
8:L:197:MET:CE	8:L:225:SER:OG	1.92	1.17
1:A:94:ILE:HG22	1:A:100:LYS:CD	1.75	1.17
3:E:6:THR:HG21	3:E:257:LYS:NZ	1.58	1.17
3:E:72:SER:HB3	5:I:20:C:O2	1.42	1.17
1:A:149:ARG:HE	1:A:152:VAL:CG2	1.57	1.17
3:E:279:LEU:CA	3:E:282:MET:HE3	1.66	1.17
5:I:34:G:O6	7:K:18:DC:N3	1.77	1.17
1:A:215:LEU:O	1:A:219:MET:HG3	1.46	1.16
2:B:20:LEU:HD11	2:B:218:PRO:C	1.63	1.16
3:E:79:LEU:HD21	3:E:103:TYR:OH	1.37	1.16
3:D:79:LEU:HD23	3:D:103:TYR:CZ	1.80	1.16
3:E:46:MET:CE	3:E:150:TYR:CE1	2.29	1.16
3:F:124:MET:HE1	3:F:341:PHE:CB	1.74	1.15
4:H:217:LEU:HD21	5:I:61:23G:N7	1.55	1.15
3:G:139:MET:HE1	5:I:29:G:N2	1.48	1.15
2:B:20:LEU:HD13	2:B:218:PRO:HG2	1.20	1.14
3:F:124:MET:HE3	3:F:341:PHE:HA	1.29	1.14
1:A:137:ILE:HD12	1:A:148:VAL:O	1.44	1.14
2:B:104:LEU:HD11	3:C:96:ILE:HA	1.26	1.14
2:B:102:LEU:HD21	2:B:104:LEU:CD2	1.76	1.14
5:I:33:U:N3	7:K:19:DA:N1	1.94	1.14
1:A:85:VAL:HG12	1:A:92:TYR:O	1.47	1.13
3:E:72:SER:CB	5:I:20:C:O2	1.95	1.13
3:F:124:MET:CE	3:F:341:PHE:CB	2.26	1.13
4:H:217:LEU:HD23	5:I:61:23G:N7	1.58	1.13
1:A:12:LEU:CA	1:A:237:MET:HE1	1.77	1.13
2:B:19:ASP:HB3	5:I:3:G:N7	1.62	1.13

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:20:LEU:HD21	2:B:220:PRO:N	1.62	1.13
3:D:78:MET:HG2	3:D:278:ALA:HB2	1.28	1.13
3:E:152:ILE:HG22	3:E:168:MET:CA	1.79	1.13
5:I:34:G:H1'	5:I:35:A:N9	1.62	1.12
3:C:246:PHE:HB3	7:K:37:DT:H2''	1.14	1.12
3:F:209:GLN:HE22	4:H:85:HIS:CE1	1.67	1.12
1:A:56:ARG:HH11	5:I:6:C:N4	1.45	1.12
3:C:292:SER:OG	3:C:293:LYS:NZ	1.83	1.12
3:F:124:MET:SD	3:F:341:PHE:CD2	2.41	1.11
4:H:23:VAL:C	4:H:26:LEU:CD1	2.12	1.11
3:E:167:GLU:OE2	3:E:257:LYS:CD	1.97	1.11
3:E:79:LEU:HD11	3:E:103:TYR:CE2	1.86	1.11
3:G:44:ARG:O	3:G:63:GLN:HG3	1.48	1.11
1:A:12:LEU:CD2	1:A:237:MET:HE1	1.81	1.10
1:A:191:ALA:HB1	1:A:195:MET:HE1	1.32	1.10
3:C:84:GLU:O	3:C:88:VAL:HG22	1.51	1.10
3:G:62:LEU:HD21	3:G:155:ASN:CB	1.80	1.10
3:F:180:ARG:CD	5:I:33:U:O4'	1.99	1.10
4:H:27:LEU:HD22	4:H:35:VAL:CG2	1.82	1.10
2:B:21:LEU:HD11	5:I:2:U:H4'	1.22	1.10
3:C:330:ILE:HG22	3:C:333:LEU:HD11	1.14	1.10
2:B:19:ASP:CB	5:I:3:G:N7	2.15	1.09
3:F:180:ARG:HH21	5:I:34:G:H5'	1.13	1.09
3:G:139:MET:HE3	5:I:29:G:H21	0.98	1.09
5:I:33:U:O2	7:K:19:DA:C2	2.05	1.09
8:L:18:LEU:HD11	8:L:21:LEU:HD23	1.10	1.09
8:L:35:VAL:O	8:L:386:LEU:N	1.85	1.09
1:A:137:ILE:HD11	1:A:150:PRO:HD3	1.28	1.09
8:L:18:LEU:HD11	8:L:21:LEU:CD2	1.83	1.09
5:I:47:C:C2	5:I:48:C:C5	2.40	1.09
1:A:157:LEU:HD21	1:A:218:LEU:HD13	1.26	1.08
3:E:6:THR:HG21	3:E:257:LYS:HZ1	0.93	1.08
3:E:79:LEU:HD22	3:E:103:TYR:CZ	1.85	1.08
5:I:34:G:C1'	5:I:35:A:C8	2.36	1.08
1:A:85:VAL:CG1	1:A:92:TYR:HB2	1.82	1.08
8:L:36:PHE:HA	8:L:386:LEU:HB2	1.18	1.08
3:C:330:ILE:HA	3:C:333:LEU:CD1	1.82	1.08
3:E:167:GLU:HG2	3:E:257:LYS:HD3	1.34	1.08
6:J:29:DT:H2''	6:J:30:DT:H5'	1.15	1.08
3:C:330:ILE:HA	3:C:333:LEU:CG	1.84	1.07
3:G:48:VAL:HG23	3:G:60:VAL:HG23	1.28	1.07

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
6:J:3:DC:N4	7:K:52:DG:H1	1.50	1.07
2:B:22:HIS:ND1	2:B:206:TYR:CE2	2.22	1.07
3:E:79:LEU:HD21	3:E:103:TYR:CE2	1.88	1.07
1:A:12:LEU:HD23	1:A:237:MET:HE1	1.27	1.07
5:I:21:U:O2'	5:I:22:G:C8	2.07	1.07
3:C:294:ASP:OD1	3:D:145:MET:CE	2.01	1.07
2:B:19:ASP:CB	5:I:3:G:C8	2.36	1.06
2:B:20:LEU:HD21	2:B:219:THR:C	1.74	1.06
3:C:117:SER:O	3:C:120:GLU:HG3	1.52	1.06
3:C:292:SER:OG	3:C:293:LYS:CE	2.02	1.06
1:A:94:ILE:HG22	1:A:100:LYS:HD2	1.06	1.06
3:D:73:LEU:HD22	3:D:73:LEU:H	1.18	1.06
3:C:330:ILE:HA	3:C:333:LEU:HG	1.32	1.06
3:D:279:LEU:HA	3:D:282:MET:HG2	1.09	1.06
3:G:48:VAL:HG23	3:G:60:VAL:CG2	1.84	1.06
3:G:276:LEU:CA	3:G:279:LEU:CD2	2.30	1.06
4:H:23:VAL:HA	4:H:26:LEU:CD1	1.86	1.06
4:H:23:VAL:HA	4:H:26:LEU:HD11	1.13	1.05
4:H:27:LEU:CD2	4:H:35:VAL:CG2	2.34	1.05
1:A:56:ARG:CG	5:I:6:C:H5	1.67	1.05
1:A:124:LEU:HB3	1:A:140:ARG:HG2	1.36	1.05
3:E:152:ILE:HG22	3:E:168:MET:HA	1.36	1.05
3:G:276:LEU:HD23	3:G:279:LEU:CD2	1.84	1.05
1:A:12:LEU:CA	1:A:237:MET:CE	2.34	1.05
3:F:280:ASN:OD1	3:F:316:ILE:HD12	1.55	1.05
3:G:79:LEU:CD2	3:G:103:TYR:CE2	2.39	1.05
3:F:180:ARG:CD	5:I:33:U:H4'	1.84	1.04
3:G:276:LEU:HD23	3:G:279:LEU:HD21	1.33	1.04
3:G:44:ARG:O	3:G:63:GLN:CG	2.04	1.04
3:G:62:LEU:HD21	3:G:155:ASN:HB2	1.08	1.04
3:G:125:ARG:HB3	3:G:143:ARG:HH21	1.19	1.04
3:G:125:ARG:HB3	3:G:143:ARG:NH2	1.71	1.04
2:B:20:LEU:CD1	2:B:218:PRO:HG2	1.86	1.04
3:E:81:HIS:HB3	3:E:281:LYS:CE	1.87	1.04
3:G:48:VAL:HG21	3:G:62:LEU:HD11	1.08	1.04
1:A:12:LEU:HA	1:A:237:MET:HE1	1.31	1.03
4:H:217:LEU:HD21	5:I:61:23G:C5	1.87	1.03
3:E:81:HIS:HB3	3:E:281:LYS:CD	1.88	1.03
3:G:82:VAL:CG2	3:G:277:LEU:HD22	1.63	1.03
4:H:190:SER:OG	4:H:192:LEU:HD21	1.57	1.03
3:D:1:MET:SD	3:D:305:LEU:HG	1.98	1.02

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:75:ARG:HA	3:E:78:MET:CE	1.89	1.02
3:F:124:MET:HE1	3:F:341:PHE:HB2	1.05	1.02
1:A:141:TYR:CE2	1:A:213:TRP:CE2	2.45	1.02
3:F:180:ARG:CG	5:I:33:U:C5'	2.14	1.02
1:A:85:VAL:N	1:A:92:TYR:O	1.90	1.02
1:A:141:TYR:CD2	1:A:213:TRP:CZ2	2.47	1.02
3:E:167:GLU:CG	3:E:257:LYS:CD	2.36	1.02
4:H:23:VAL:CA	4:H:26:LEU:CD1	2.37	1.02
1:A:141:TYR:CD2	1:A:213:TRP:CE2	2.47	1.02
3:F:209:GLN:NE2	4:H:85:HIS:ND1	2.07	1.02
2:B:104:LEU:HD12	3:C:96:ILE:HG12	1.42	1.02
4:H:39:MET:CE	4:H:57:PHE:HE1	1.72	1.02
2:B:105:ARG:HB3	6:J:6:DC:OP1	1.59	1.01
3:C:90:LYS:NZ	3:C:333:LEU:O	1.93	1.01
4:H:217:LEU:CD2	5:I:61:23G:C8	2.38	1.01
2:B:19:ASP:HB3	5:I:3:G:C5	1.95	1.01
3:C:330:ILE:CG2	3:C:333:LEU:HD11	1.90	1.01
3:F:124:MET:HE3	3:F:341:PHE:CA	1.90	1.01
1:A:12:LEU:CD2	1:A:237:MET:CE	2.36	1.01
3:E:167:GLU:HG2	3:E:257:LYS:CD	1.91	1.01
1:A:12:LEU:HA	1:A:237:MET:HE3	1.40	1.00
3:E:70:MET:CE	3:E:260:TRP:CZ2	2.44	1.00
3:G:82:VAL:HG22	3:G:277:LEU:HD21	1.05	1.00
3:E:70:MET:HE3	3:E:260:TRP:CZ2	1.96	1.00
3:E:70:MET:CE	3:E:260:TRP:CE2	2.45	1.00
3:G:79:LEU:HD21	3:G:103:TYR:CZ	1.96	1.00
6:J:3:DC:N4	7:K:52:DG:C6	2.28	1.00
1:A:56:ARG:CD	5:I:6:C:C5	2.35	1.00
3:G:79:LEU:HD21	3:G:103:TYR:CE2	1.97	1.00
1:A:56:ARG:CG	5:I:6:C:C5	2.45	1.00
4:H:23:VAL:O	4:H:26:LEU:HD12	1.58	1.00
1:A:86:VAL:O	1:A:112:PHE:CB	2.10	0.99
3:D:78:MET:CG	3:D:278:ALA:HB2	1.91	0.99
1:A:85:VAL:HG12	1:A:92:TYR:C	1.80	0.99
1:A:141:TYR:CE2	1:A:213:TRP:CZ2	2.51	0.99
2:B:63:ASP:HB3	2:B:183:PRO:HG2	1.41	0.99
8:L:197:MET:HE2	8:L:225:SER:OG	1.59	0.99
3:F:124:MET:CE	3:F:341:PHE:CA	2.41	0.98
1:A:215:LEU:HB3	1:A:219:MET:SD	2.03	0.98
4:H:22:LEU:O	4:H:26:LEU:CG	2.10	0.98
1:A:85:VAL:CG1	1:A:92:TYR:CB	2.41	0.98

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:12:LEU:HD23	1:A:237:MET:HE2	1.44	0.97
1:A:85:VAL:HG13	1:A:92:TYR:HB2	1.46	0.97
2:B:20:LEU:CD2	2:B:220:PRO:N	2.26	0.97
3:D:257:LYS:NZ	3:D:301:ASP:OD2	1.97	0.97
2:B:22:HIS:CE1	2:B:206:TYR:CD2	2.52	0.97
3:E:152:ILE:HD12	3:E:167:GLU:CG	1.94	0.97
1:A:56:ARG:HG2	5:I:6:C:C5	1.98	0.97
2:B:43:ILE:O	3:C:118:PHE:HE2	1.46	0.97
3:G:77:THR:O	3:G:81:HIS:HB2	1.65	0.97
3:G:256:LEU:HB2	3:G:258:TRP:HE1	1.26	0.97
3:G:79:LEU:HD23	3:G:103:TYR:CD2	1.98	0.97
5:I:47:C:N4	5:I:60:G:O6	1.96	0.97
3:F:279:LEU:HA	3:F:282:MET:HG2	1.44	0.96
3:E:167:GLU:HG2	3:E:257:LYS:CE	1.95	0.96
3:E:298:PHE:HE2	3:E:300:ILE:HD11	1.17	0.96
3:F:124:MET:SD	3:F:341:PHE:HB2	2.04	0.96
3:G:48:VAL:HG21	3:G:62:LEU:HD12	0.99	0.96
3:G:62:LEU:CD2	3:G:155:ASN:HB2	1.94	0.96
8:L:160:ASP:HA	8:L:163:LEU:HG	1.47	0.96
5:I:33:U:C2	7:K:19:DA:C2	2.54	0.96
3:G:139:MET:CE	5:I:29:G:H21	1.57	0.96
3:G:321:GLN:NE2	3:G:322:TYR:CE2	2.34	0.96
3:D:70:MET:N	3:D:73:LEU:CD2	2.29	0.96
1:A:157:LEU:HD21	1:A:218:LEU:CD1	1.96	0.95
1:A:191:ALA:O	1:A:195:MET:CE	2.13	0.95
3:G:133:PHE:CE1	3:G:144:LEU:CD2	2.49	0.95
1:A:12:LEU:CB	1:A:237:MET:HE1	1.95	0.95
1:A:149:ARG:HE	1:A:152:VAL:HG21	0.78	0.95
3:E:81:HIS:CB	3:E:281:LYS:HD2	1.96	0.95
8:L:18:LEU:HD12	8:L:21:LEU:HB3	1.48	0.95
3:E:23:ILE:HD12	3:E:28:THR:O	1.66	0.95
3:G:125:ARG:CB	3:G:143:ARG:HH21	1.80	0.95
3:G:1:MET:HA	3:G:1:MET:CE	1.97	0.95
2:B:20:LEU:CD2	2:B:220:PRO:CA	2.45	0.95
3:G:44:ARG:HH11	3:G:66:PRO:HG3	1.29	0.95
3:E:152:ILE:O	3:E:168:MET:CA	2.15	0.94
3:F:169:MET:CE	3:F:256:LEU:HB2	1.96	0.94
4:H:27:LEU:HD22	4:H:35:VAL:HG22	1.46	0.94
3:F:180:ARG:HG2	5:I:33:U:C4'	1.96	0.94
3:E:46:MET:CE	3:E:150:TYR:HE1	1.78	0.94
3:G:256:LEU:HB2	3:G:258:TRP:NE1	1.82	0.94

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:150:TYR:O	3:E:259:VAL:HG12	1.66	0.94
3:G:276:LEU:HA	3:G:279:LEU:CG	1.98	0.94
5:I:47:C:N4	5:I:60:G:C6	2.35	0.94
3:G:276:LEU:CD2	3:G:279:LEU:HD21	1.98	0.94
5:I:37:G:H3'	5:I:38:A:H5''	1.47	0.94
5:I:47:C:H2'	5:I:48:C:C6	2.02	0.93
1:A:137:ILE:HD13	1:A:148:VAL:O	1.65	0.93
1:A:215:LEU:O	1:A:219:MET:CG	2.16	0.93
2:B:102:LEU:HD23	2:B:104:LEU:HD23	1.49	0.93
1:A:124:LEU:HB3	1:A:140:ARG:CG	1.99	0.93
3:G:133:PHE:HE1	3:G:144:LEU:CD2	1.81	0.93
3:F:304:SER:OG	3:F:309:GLN:OE1	1.86	0.93
3:E:167:GLU:HG3	3:E:257:LYS:HD3	1.49	0.93
3:G:1:MET:SD	3:G:306:ASN:ND2	2.41	0.93
8:L:18:LEU:CD1	8:L:21:LEU:HB3	1.99	0.93
1:A:56:ARG:NH1	5:I:6:C:H41	1.65	0.92
3:C:246:PHE:CB	7:K:37:DT:H2''	1.98	0.92
3:E:81:HIS:HB3	3:E:281:LYS:HE2	1.48	0.92
5:I:16:A:C2	7:K:36:DT:N3	2.25	0.92
5:I:47:C:H2'	5:I:48:C:H6	1.33	0.92
3:C:85:PRO:O	3:C:89:GLU:HG2	1.70	0.92
3:D:79:LEU:CD2	3:D:103:TYR:CE1	2.52	0.92
4:H:39:MET:CE	4:H:57:PHE:CE1	2.53	0.92
1:A:56:ARG:NH1	5:I:6:C:N4	2.18	0.92
3:E:46:MET:SD	3:E:150:TYR:HE1	1.92	0.92
3:G:276:LEU:O	3:G:279:LEU:HG	1.69	0.92
8:L:185:TYR:CE1	8:L:224:LEU:O	2.21	0.92
2:B:21:LEU:CD1	5:I:2:U:H4'	1.99	0.92
2:B:20:LEU:CD2	2:B:220:PRO:HA	2.01	0.92
3:E:76:ARG:NH1	5:I:20:C:O2	2.03	0.92
1:A:149:ARG:HH21	1:A:152:VAL:HG11	1.35	0.91
2:B:103:GLN:NE2	3:C:93:LYS:HB2	1.86	0.91
4:H:27:LEU:CD2	4:H:35:VAL:HG23	1.98	0.91
3:E:75:ARG:NH2	3:E:133:PHE:HB3	1.84	0.91
3:F:180:ARG:NH2	5:I:34:G:H5'	1.84	0.91
3:G:74:LEU:HG	3:G:260:TRP:HH2	1.31	0.91
1:A:233:THR:O	1:A:237:MET:HG2	1.71	0.91
2:B:83:MET:O	3:C:44:ARG:NH2	2.03	0.91
3:F:180:ARG:CG	5:I:33:U:C4'	2.45	0.91
5:I:47:C:C2	5:I:48:C:H5	1.88	0.91
2:B:22:HIS:ND1	2:B:206:TYR:CZ	2.37	0.91

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:152:ILE:HD12	3:E:167:GLU:HG2	1.53	0.91
5:I:47:C:N3	5:I:60:G:C2	2.38	0.91
1:A:96:LYS:HG3	1:A:98:VAL:HG22	1.53	0.91
3:E:81:HIS:CB	3:E:281:LYS:CD	2.49	0.91
3:D:169:MET:HG3	3:D:256:LEU:CD2	2.00	0.90
3:F:153:HIS:C	3:F:168:MET:SD	2.49	0.90
3:G:327:ALA:HA	3:G:330:ILE:CD1	2.02	0.90
4:H:190:SER:OG	4:H:192:LEU:HD22	1.70	0.90
2:B:20:LEU:HD23	2:B:220:PRO:CA	2.01	0.90
2:B:106:ALA:HB2	6:J:6:DC:H5'	1.51	0.89
8:L:18:LEU:CD1	8:L:21:LEU:HD23	1.99	0.89
2:B:184:ALA:HA	2:B:216:LEU:HD12	1.54	0.89
5:I:16:A:H2	7:K:36:DT:H3	0.91	0.89
5:I:33:U:O2	7:K:19:DA:H2	1.49	0.89
1:A:56:ARG:HH11	5:I:6:C:H41	1.07	0.89
3:F:282:MET:CE	3:F:282:MET:HA	2.03	0.89
3:G:79:LEU:CD2	3:G:103:TYR:CD2	2.56	0.89
3:D:70:MET:C	3:D:73:LEU:HD23	1.93	0.89
8:L:197:MET:HE3	8:L:225:SER:OG	1.70	0.89
2:B:102:LEU:CG	2:B:104:LEU:CD2	2.50	0.89
3:C:87:LEU:HD11	3:C:92:ASN:HB2	1.53	0.89
3:F:169:MET:HE1	3:F:256:LEU:HB2	1.51	0.88
3:D:79:LEU:HD21	3:D:103:TYR:CE1	2.08	0.88
3:G:3:ILE:HD12	3:G:3:ILE:H	1.36	0.88
3:E:81:HIS:ND1	3:E:281:LYS:HD3	1.87	0.88
2:B:104:LEU:CD1	3:C:96:ILE:HA	2.04	0.88
3:C:117:SER:OG	3:C:120:GLU:HG2	1.74	0.88
8:L:18:LEU:HG	8:L:48:MET:HE3	1.55	0.88
3:G:321:GLN:NE2	3:G:322:TYR:CD2	2.41	0.88
3:E:78:MET:CG	3:E:278:ALA:HB2	2.03	0.88
1:A:231:CYS:SG	1:A:234:GLU:OE2	2.32	0.88
3:E:167:GLU:CD	3:E:257:LYS:HD3	1.92	0.88
3:G:82:VAL:HG11	3:G:277:LEU:HD13	1.56	0.88
3:E:79:LEU:O	3:E:84:GLU:HG2	1.72	0.88
4:H:34:LEU:H	4:H:34:LEU:HD12	1.39	0.88
2:B:20:LEU:CD1	2:B:218:PRO:O	2.21	0.88
4:H:194:HIS:NE2	5:I:46:C:N4	2.22	0.87
7:K:37:DT:H5'	7:K:38:DG:N2	1.90	0.87
3:D:279:LEU:C	3:D:282:MET:HG2	1.94	0.87
5:I:48:C:N4	5:I:60:G:O6	2.06	0.87
2:B:22:HIS:CE1	2:B:206:TYR:HE2	1.92	0.87

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:G:82:VAL:HG23	3:G:277:LEU:HD21	1.52	0.87
4:H:39:MET:HE3	4:H:57:PHE:HE1	1.39	0.87
3:E:46:MET:HE2	3:E:150:TYR:CE1	2.08	0.87
8:L:428:LEU:N	8:L:597:LYS:O	2.07	0.87
3:G:128:PRO:HA	3:G:271:GLN:HG3	1.54	0.87
3:E:46:MET:SD	3:E:150:TYR:CE1	2.66	0.87
3:E:79:LEU:HD22	3:E:103:TYR:OH	1.61	0.87
4:H:39:MET:HE1	4:H:57:PHE:CE1	2.08	0.87
3:E:167:GLU:CD	3:E:257:LYS:CD	2.44	0.87
5:I:34:G:O6	7:K:18:DC:C4	2.27	0.87
3:G:79:LEU:HD23	3:G:103:TYR:CE2	2.07	0.86
2:B:22:HIS:HE1	2:B:206:TYR:CE2	1.86	0.86
3:F:154:THR:N	3:F:168:MET:SD	2.47	0.86
3:F:70:MET:HE1	3:F:149:LEU:HD13	1.57	0.86
3:G:82:VAL:HG23	3:G:277:LEU:CD2	2.01	0.86
8:L:160:ASP:HA	8:L:163:LEU:CD1	2.04	0.86
5:I:34:G:C6	7:K:18:DC:N3	2.43	0.86
2:B:102:LEU:CG	2:B:104:LEU:HD23	2.06	0.86
3:C:117:SER:O	3:C:120:GLU:CG	2.23	0.86
3:E:74:LEU:O	3:E:78:MET:HE2	1.75	0.86
5:I:30:G:N2	7:K:22:DC:O2	2.08	0.86
7:K:36:DT:H2''	7:K:37:DT:O5'	1.75	0.86
8:L:160:ASP:HA	8:L:163:LEU:CG	2.06	0.86
8:L:201:HIS:HB2	8:L:226:LEU:HD13	1.57	0.86
3:F:1:MET:SD	3:F:306:ASN:OD1	2.33	0.86
3:F:124:MET:HB3	3:F:130:ILE:HG21	1.54	0.85
2:B:180:ARG:O	2:B:182:LEU:CD1	2.22	0.85
3:E:46:MET:HE1	3:E:150:TYR:CE1	2.11	0.85
8:L:437:GLU:CD	8:L:438:PRO:HD2	1.97	0.85
5:I:30:G:N1	7:K:22:DC:N3	2.24	0.85
2:B:20:LEU:HD11	2:B:218:PRO:O	1.76	0.85
5:I:6:C:O2'	5:I:7:G:O4'	1.94	0.85
5:I:59:G:O2'	5:I:60:G:OP2	1.95	0.85
2:B:101:TYR:HE2	3:C:87:LEU:HD23	1.41	0.85
3:G:246:PHE:HB3	4:H:234:GLY:H	1.41	0.85
5:I:33:U:C2	7:K:19:DA:N1	2.45	0.85
8:L:355:THR:HG22	8:L:362:MET:HE3	1.55	0.85
3:E:113:GLY:HA3	7:K:36:DT:H5''	1.55	0.85
8:L:36:PHE:HA	8:L:386:LEU:CB	2.07	0.85
3:D:182:MET:CE	3:D:187:ASN:ND2	1.99	0.85
3:E:298:PHE:CE2	3:E:300:ILE:CD1	2.59	0.84

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:257:LYS:HG2	3:E:158:ARG:HH22	1.41	0.84
1:A:136:ARG:NH1	2:B:218:PRO:O	2.11	0.84
3:E:153:HIS:HD2	3:E:169:MET:HG3	1.42	0.84
3:G:74:LEU:CG	3:G:260:TRP:HH2	1.89	0.84
3:F:279:LEU:HA	3:F:282:MET:CG	2.06	0.84
5:I:39:G:H2'	5:I:39:G:N3	1.91	0.84
2:B:102:LEU:HD23	2:B:104:LEU:CD2	2.03	0.84
3:F:180:ARG:HH21	5:I:34:G:C5'	1.90	0.84
2:B:57:TYR:OH	2:B:187:ASP:OD2	1.94	0.83
3:D:279:LEU:O	3:D:282:MET:HG2	1.78	0.83
3:G:272:VAL:HG13	3:G:322:TYR:CD1	2.13	0.83
3:D:79:LEU:CD2	3:D:103:TYR:CZ	2.62	0.83
3:E:6:THR:CG2	3:E:257:LYS:NZ	2.40	0.83
3:D:70:MET:N	3:D:73:LEU:HD23	1.91	0.83
4:H:30:THR:CB	4:H:31:GLN:OE1	2.27	0.83
1:A:12:LEU:CG	1:A:237:MET:HE1	2.08	0.83
2:B:22:HIS:HE1	2:B:206:TYR:CD2	1.93	0.83
4:H:31:GLN:OE1	4:H:31:GLN:N	2.12	0.83
6:J:11:DC:H2''	6:J:12:DA:H5'	1.59	0.83
7:K:37:DT:C5'	7:K:38:DG:N2	2.41	0.83
3:C:330:ILE:CA	3:C:333:LEU:CD1	2.57	0.82
3:F:180:ARG:CZ	5:I:33:U:H4'	2.05	0.82
3:F:209:GLN:NE2	4:H:85:HIS:CE1	2.46	0.82
3:E:152:ILE:HG22	3:E:168:MET:N	1.95	0.82
3:D:79:LEU:HD23	3:D:103:TYR:CE2	2.13	0.82
3:D:257:LYS:NZ	3:D:301:ASP:OD1	2.12	0.82
1:A:149:ARG:NE	1:A:152:VAL:CG2	2.27	0.82
3:C:293:LYS:H	3:C:293:LYS:HE2	1.42	0.82
3:D:257:LYS:NZ	3:D:301:ASP:CG	2.32	0.82
3:E:79:LEU:CD1	3:E:103:TYR:CE2	2.63	0.82
3:D:5:VAL:HG23	3:D:260:TRP:HB3	1.62	0.82
4:H:20:ARG:NH1	4:H:219:SER:OG	2.12	0.82
5:I:34:G:C2'	5:I:35:A:C8	2.63	0.82
3:F:187:ASN:ND2	5:I:32:U:O4	2.10	0.81
4:H:130:LYS:NZ	5:I:61:23G:O6	2.13	0.81
7:K:37:DT:H5''	7:K:38:DG:C2	2.14	0.81
1:A:126:TRP:CZ3	1:A:127:ARG:HB3	2.15	0.81
2:B:19:ASP:CB	5:I:3:G:C5	2.63	0.81
2:B:20:LEU:CD1	2:B:218:PRO:C	2.46	0.81
4:H:27:LEU:O	4:H:30:THR:O	1.99	0.81
4:H:33:GLY:O	4:H:36:SER:OG	1.99	0.81

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:H:80:ALA:O	4:H:84:ILE:HG22	1.81	0.81
3:G:132:LEU:HD22	3:G:144:LEU:HB2	1.61	0.81
6:J:32:DT:N3	8:L:557:ARG:HB2	1.95	0.81
3:D:246:PHE:CG	7:K:31:DA:N3	2.49	0.81
3:E:70:MET:HE2	3:E:260:TRP:CD2	2.13	0.81
3:G:48:VAL:CG2	3:G:60:VAL:HG23	2.07	0.81
3:G:82:VAL:HG21	3:G:277:LEU:HD22	0.82	0.81
3:E:280:ASN:ND2	3:E:316:ILE:H	1.77	0.81
3:G:272:VAL:HG11	3:G:322:TYR:CE1	2.16	0.81
1:A:96:LYS:HB3	1:A:99:ASN:OD1	1.81	0.81
3:G:276:LEU:HA	3:G:279:LEU:HD21	0.85	0.81
3:E:279:LEU:HA	3:E:282:MET:HE3	0.87	0.81
3:G:44:ARG:NH1	3:G:66:PRO:HG2	1.94	0.80
3:E:68:ASN:OD1	5:I:20:C:H5''	1.81	0.80
4:H:30:THR:C	4:H:31:GLN:OE1	2.19	0.80
5:I:47:C:N4	5:I:60:G:N1	2.29	0.80
2:B:102:LEU:HG	2:B:104:LEU:CD2	2.12	0.80
3:E:81:HIS:HB3	3:E:281:LYS:HD2	1.56	0.80
3:F:180:ARG:HE	5:I:33:U:C3'	1.95	0.80
5:I:34:G:O6	7:K:18:DC:N4	2.15	0.80
5:I:48:C:N4	5:I:60:G:C6	2.50	0.80
3:C:294:ASP:CB	3:D:145:MET:HG3	2.12	0.79
3:F:127:HIS:HE1	3:F:129:PHE:HB3	1.44	0.79
1:A:173:PRO:HB3	1:A:196:LEU:HD21	1.65	0.79
3:C:11:THR:HG23	3:C:297:ARG:HB3	1.64	0.79
7:K:36:DT:H3'	7:K:36:DT:OP2	1.83	0.79
3:D:79:LEU:HD23	3:D:103:TYR:CE1	2.15	0.79
2:B:201:ALA:N	2:B:212:HIS:CE1	2.51	0.79
3:D:173:ILE:HD11	3:D:256:LEU:HD21	1.63	0.79
3:D:187:ASN:ND2	5:I:20:C:N4	2.31	0.79
6:J:32:DT:H3	8:L:557:ARG:HB2	1.46	0.79
2:B:102:LEU:HD21	2:B:104:LEU:HD23	0.80	0.79
3:F:304:SER:HA	3:F:308:GLU:O	1.83	0.79
3:G:44:ARG:HB3	3:G:64:ILE:O	1.82	0.79
5:I:34:G:H4'	5:I:35:A:O5'	1.81	0.79
8:L:355:THR:CG2	8:L:362:MET:CE	2.61	0.79
1:A:141:TYR:HD2	1:A:213:TRP:CZ2	1.96	0.78
3:G:143:ARG:HD2	3:G:271:GLN:NE2	1.98	0.78
5:I:47:C:C4	5:I:60:G:N1	2.30	0.78
1:A:191:ALA:CB	1:A:195:MET:HE1	2.12	0.78
3:E:78:MET:CE	3:E:133:PHE:HZ	1.96	0.78

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:79:LEU:HD13	3:E:103:TYR:CD1	2.18	0.78
3:F:291:HIS:NE2	3:G:145:MET:SD	2.57	0.78
3:G:8:ARG:HA	3:G:256:LEU:O	1.84	0.78
3:G:149:LEU:HD23	3:G:258:TRP:CE3	2.19	0.78
5:I:21:U:O2	7:K:31:DA:N1	2.17	0.78
8:L:92:LEU:HD21	8:L:94:LEU:CD2	2.14	0.78
3:F:280:ASN:OD1	3:F:316:ILE:CD1	2.31	0.78
1:A:192:GLY:C	1:A:196:LEU:HG	2.03	0.78
3:C:74:LEU:CD1	3:C:78:MET:HE3	2.14	0.78
3:E:73:LEU:HA	3:E:76:ARG:HH22	1.49	0.78
3:F:102:ALA:O	3:F:129:PHE:HZ	1.66	0.78
3:E:152:ILE:CD1	3:E:167:GLU:HB3	2.14	0.78
3:C:246:PHE:HB3	7:K:37:DT:C2'	2.07	0.77
3:D:70:MET:N	3:D:73:LEU:HD21	1.97	0.77
3:F:121:ILE:O	3:F:125:ARG:CG	2.27	0.77
3:G:327:ALA:HA	3:G:330:ILE:HD11	1.64	0.77
5:I:34:G:O2'	5:I:35:A:H8	1.54	0.77
2:B:63:ASP:HB3	2:B:183:PRO:CG	2.13	0.77
3:D:187:ASN:HD21	5:I:20:C:N4	1.81	0.77
3:G:82:VAL:HG21	3:G:277:LEU:CG	2.11	0.77
3:E:78:MET:HG2	3:E:278:ALA:HB2	1.64	0.77
3:G:276:LEU:HA	3:G:279:LEU:HD23	1.63	0.77
3:E:46:MET:HE1	3:E:150:TYR:CZ	2.20	0.77
5:I:34:G:H1'	5:I:35:A:C1'	2.15	0.77
3:G:46:MET:N	3:G:62:LEU:O	2.17	0.77
4:H:194:HIS:CE1	5:I:46:C:H42	2.01	0.77
5:I:15:A:N1	7:K:37:DT:O2	2.18	0.77
8:L:18:LEU:HD23	8:L:48:MET:HG3	1.65	0.77
1:A:85:VAL:CG1	1:A:92:TYR:O	2.31	0.77
3:D:79:LEU:HD21	3:D:103:TYR:CD1	2.20	0.77
3:E:76:ARG:NH1	5:I:20:C:C2	2.53	0.77
3:F:129:PHE:CD2	3:F:338:PHE:HE2	2.02	0.77
3:E:78:MET:HG3	3:E:278:ALA:CB	2.15	0.77
3:G:44:ARG:HH12	3:G:66:PRO:CG	1.96	0.77
3:G:1:MET:HA	3:G:1:MET:HE2	1.65	0.77
8:L:18:LEU:HD12	8:L:21:LEU:CB	2.15	0.77
1:A:100:LYS:HE3	1:A:104:PHE:HE1	1.50	0.76
2:B:180:ARG:O	2:B:182:LEU:HD12	1.84	0.76
2:B:182:LEU:HD12	2:B:182:LEU:N	2.01	0.76
3:G:305:LEU:O	3:G:308:GLU:HG2	1.85	0.76
5:I:43:G:O2'	5:I:44:U:OP2	2.02	0.76

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:L:467:CYS:SG	8:L:476:LEU:HD12	2.25	0.76
2:B:183:PRO:HB2	2:B:185:ASP:OD1	1.85	0.76
8:L:18:LEU:O	8:L:48:MET:HE3	1.84	0.76
3:E:75:ARG:HH21	3:E:133:PHE:HB3	1.47	0.76
4:H:23:VAL:HA	4:H:26:LEU:HD21	1.67	0.76
2:B:20:LEU:HD23	2:B:220:PRO:CG	2.16	0.76
3:G:48:VAL:CG2	3:G:62:LEU:HD11	1.96	0.76
1:A:194:GLU:OE1	1:A:195:MET:CE	2.33	0.76
8:L:92:LEU:CD2	8:L:94:LEU:HG	2.15	0.76
3:C:125:ARG:HG2	3:C:140:LEU:HD21	1.67	0.76
3:G:44:ARG:O	3:G:63:GLN:HG2	1.86	0.76
3:F:281:LYS:N	3:F:281:LYS:HD2	2.00	0.76
8:L:36:PHE:CA	8:L:386:LEU:HB2	2.08	0.76
3:D:182:MET:HE1	3:D:187:ASN:HD21	1.43	0.75
3:F:305:LEU:HD23	3:F:310:VAL:CG1	2.15	0.75
4:H:194:HIS:CE1	5:I:46:C:N4	2.54	0.75
8:L:18:LEU:CD1	8:L:21:LEU:CD2	2.61	0.75
1:A:124:LEU:HD12	1:A:124:LEU:N	2.02	0.75
2:B:43:ILE:O	3:C:118:PHE:CE2	2.36	0.75
2:B:104:LEU:CD1	3:C:96:ILE:HG12	2.15	0.75
3:E:78:MET:HG3	3:E:278:ALA:HB2	1.68	0.75
8:L:105:THR:HG23	8:L:162:LEU:HD13	1.67	0.75
1:A:232:ILE:O	1:A:236:VAL:HG22	1.86	0.75
3:C:87:LEU:CD1	3:C:92:ASN:HB2	2.16	0.75
3:D:5:VAL:HG12	3:D:303:VAL:HG22	1.67	0.75
2:B:102:LEU:HG	2:B:104:LEU:HD21	1.67	0.75
3:G:276:LEU:C	3:G:279:LEU:HG	2.06	0.75
3:C:294:ASP:CG	3:D:145:MET:HG2	2.07	0.75
3:G:272:VAL:CG1	3:G:322:TYR:CD1	2.69	0.75
3:E:79:LEU:CD1	3:E:103:TYR:CD2	2.65	0.75
2:B:105:ARG:CB	6:J:6:DC:OP1	2.34	0.75
3:C:330:ILE:HA	3:C:333:LEU:HD12	1.69	0.74
3:C:330:ILE:CB	3:C:333:LEU:CD1	2.64	0.74
5:I:59:G:N3	5:I:60:G:C8	2.55	0.74
8:L:428:LEU:HB3	8:L:598:ASN:HA	1.68	0.74
3:C:85:PRO:HA	3:C:88:VAL:CG2	2.16	0.74
1:A:141:TYR:CD2	1:A:213:TRP:NE1	2.54	0.74
3:G:3:ILE:HD12	3:G:3:ILE:N	2.02	0.74
3:F:138:ARG:NH2	3:F:341:PHE:O	2.21	0.74
3:C:70:MET:CE	3:C:73:LEU:HD23	2.18	0.74
2:B:20:LEU:CD1	2:B:218:PRO:CG	2.65	0.74

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:256:LEU:HD21	3:E:258:TRP:HE1	1.53	0.74
3:E:79:LEU:HD22	3:E:103:TYR:CE1	2.23	0.74
3:F:132:LEU:HD22	3:F:144:LEU:HD13	1.70	0.74
3:G:327:ALA:O	3:G:330:ILE:CG1	2.36	0.74
8:L:355:THR:CG2	8:L:362:MET:HE3	2.16	0.74
2:B:21:LEU:HD11	5:I:2:U:C4'	2.10	0.73
8:L:442:PRO:HA	8:L:479:ARG:HH21	1.53	0.73
3:C:84:GLU:O	3:C:88:VAL:CG2	2.33	0.73
4:H:23:VAL:O	4:H:26:LEU:HD11	1.50	0.73
3:E:152:ILE:CG2	3:E:168:MET:N	2.52	0.73
8:L:471:GLN:O	8:L:475:LEU:HG	1.87	0.73
3:E:85:PRO:O	3:E:89:GLU:HB2	1.87	0.73
3:F:279:LEU:CA	3:F:282:MET:HG2	2.15	0.73
1:A:192:GLY:HA2	1:A:195:MET:HG2	1.69	0.73
3:C:121:ILE:O	3:C:125:ARG:HG3	1.88	0.73
3:E:78:MET:HE1	3:E:133:PHE:HZ	1.52	0.73
3:E:284:ASN:O	3:E:285:GLU:HG2	1.88	0.73
3:G:149:LEU:CD2	3:G:258:TRP:CE3	2.72	0.73
3:E:181:ARG:O	3:E:244:LYS:HA	1.88	0.73
8:L:49:ILE:HD12	8:L:75:LEU:HD21	1.70	0.73
1:A:191:ALA:C	1:A:195:MET:CE	2.58	0.72
3:C:330:ILE:CA	3:C:333:LEU:HD12	2.19	0.72
3:F:279:LEU:HD21	3:F:303:VAL:HG11	1.71	0.72
3:G:319:GLY:O	3:G:323:PHE:HD2	1.72	0.72
4:H:27:LEU:CD2	4:H:31:GLN:O	2.29	0.72
1:A:97:ASP:OD1	1:A:98:VAL:N	2.22	0.72
3:D:73:LEU:CD2	3:D:73:LEU:H	1.96	0.72
3:E:79:LEU:CD1	3:E:103:TYR:CZ	2.72	0.72
3:E:152:ILE:HD13	3:E:167:GLU:HB3	1.69	0.72
8:L:45:LYS:O	8:L:49:ILE:HG13	1.90	0.72
3:E:75:ARG:HA	3:E:78:MET:HE3	1.71	0.72
6:J:3:DC:H2'	6:J:4:DA:C8	2.25	0.72
4:H:34:LEU:HD12	4:H:34:LEU:N	2.05	0.72
8:L:18:LEU:CD2	8:L:48:MET:HG3	2.20	0.72
8:L:185:TYR:HE1	8:L:224:LEU:O	1.68	0.72
3:G:131:GLY:O	3:G:143:ARG:HG2	1.90	0.72
5:I:16:A:H2	7:K:36:DT:N3	1.73	0.72
3:F:9:ASN:HB2	3:F:13:ILE:HD11	1.72	0.71
8:L:160:ASP:CA	8:L:163:LEU:HG	2.19	0.71
3:E:151:PRO:HA	3:E:258:TRP:HA	1.71	0.71
3:G:74:LEU:HG	3:G:260:TRP:CH2	2.21	0.71

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:79:LEU:HD13	3:E:103:TYR:CE1	2.25	0.71
3:F:305:LEU:HD23	3:F:310:VAL:HG11	1.72	0.71
8:L:92:LEU:HB3	8:L:139:ILE:HD11	1.73	0.71
3:E:72:SER:HB2	5:I:20:C:O2	1.88	0.71
3:G:327:ALA:HA	3:G:330:ILE:HG12	1.71	0.71
3:G:275:VAL:O	3:G:279:LEU:HD23	1.90	0.71
3:G:327:ALA:HA	3:G:330:ILE:CG1	2.19	0.71
1:A:56:ARG:HB3	5:I:6:C:N4	2.06	0.71
3:D:70:MET:HA	3:D:73:LEU:HD23	0.71	0.71
3:F:12:PRO:HB2	3:F:295:TYR:CE1	2.26	0.71
3:F:129:PHE:CD2	3:F:338:PHE:CE2	2.78	0.71
2:B:3:ASN:ND2	2:B:175:CYS:SG	2.64	0.71
3:E:78:MET:HE3	3:E:133:PHE:CZ	2.26	0.71
1:A:137:ILE:HD12	1:A:137:ILE:N	2.05	0.71
6:J:29:DT:C2'	6:J:30:DT:C5'	2.62	0.71
2:B:101:TYR:CE2	3:C:87:LEU:HD23	2.26	0.70
3:E:78:MET:CE	3:E:133:PHE:CZ	2.74	0.70
3:E:79:LEU:HD11	3:E:103:TYR:CG	2.24	0.70
3:D:132:LEU:HD21	3:D:271:GLN:HB3	1.74	0.70
2:B:20:LEU:HD21	2:B:220:PRO:CA	2.16	0.70
4:H:190:SER:CB	4:H:192:LEU:CD2	2.68	0.70
4:H:34:LEU:H	4:H:34:LEU:CD1	2.04	0.70
3:C:294:ASP:HB2	3:D:145:MET:HG3	1.73	0.70
3:E:113:GLY:HA3	7:K:36:DT:C5'	2.20	0.70
3:G:276:LEU:HD23	3:G:279:LEU:HD22	1.73	0.70
6:J:29:DT:H2'	6:J:30:DT:O4'	1.90	0.70
1:A:141:TYR:HE2	1:A:213:TRP:CZ2	2.04	0.70
3:C:330:ILE:HB	3:C:333:LEU:HD12	1.73	0.70
3:C:330:ILE:CB	3:C:333:LEU:HD12	2.22	0.70
3:G:1:MET:HA	3:G:1:MET:HE3	1.74	0.70
3:G:327:ALA:O	3:G:330:ILE:HG13	1.92	0.70
1:A:96:LYS:CG	1:A:98:VAL:HG22	2.22	0.70
3:E:300:ILE:O	3:E:311:TRP:NE1	2.25	0.70
2:B:45:PRO:HD3	3:C:118:PHE:HZ	1.57	0.70
3:D:73:LEU:HD22	3:D:73:LEU:N	2.01	0.70
3:F:282:MET:HA	3:F:282:MET:HE3	1.73	0.70
6:J:29:DT:C2'	6:J:30:DT:O4'	2.40	0.70
1:A:151:GLU:H	1:A:151:GLU:CD	1.95	0.69
3:E:81:HIS:CG	3:E:281:LYS:HD3	2.26	0.69
3:E:149:LEU:HD12	3:E:259:VAL:O	1.92	0.69
4:H:183:SER:H	5:I:43:G:H21	1.36	0.69

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:79:LEU:HD21	3:E:103:TYR:HH	1.57	0.69
3:E:279:LEU:HA	3:E:282:MET:HB2	1.73	0.69
8:L:35:VAL:O	8:L:386:LEU:HG	1.92	0.69
3:D:246:PHE:CB	7:K:31:DA:N3	2.55	0.69
3:E:150:TYR:O	3:E:259:VAL:CG1	2.41	0.69
8:L:36:PHE:HE2	8:L:401:THR:HB	1.57	0.69
1:A:194:GLU:OE1	1:A:195:MET:HE3	1.93	0.69
4:H:27:LEU:HD23	4:H:35:VAL:CG2	2.21	0.69
1:A:85:VAL:HG11	1:A:92:TYR:HB2	1.69	0.69
4:H:30:THR:HB	4:H:31:GLN:OE1	1.93	0.69
5:I:47:C:C2	5:I:60:G:N2	2.59	0.69
3:F:124:MET:SD	3:F:341:PHE:CB	2.79	0.69
8:L:18:LEU:CD1	8:L:21:LEU:CB	2.71	0.69
1:A:96:LYS:HB3	1:A:99:ASN:CG	2.13	0.69
3:E:81:HIS:HB2	3:E:281:LYS:HD2	1.73	0.69
2:B:180:ARG:NH1	2:B:181:ALA:O	2.25	0.69
3:D:182:MET:HE2	3:D:187:ASN:HD21	0.53	0.69
3:D:187:ASN:HD21	5:I:20:C:H41	1.38	0.69
3:E:79:LEU:HD23	3:E:79:LEU:C	2.13	0.69
4:H:23:VAL:HA	4:H:26:LEU:CD2	2.23	0.69
4:H:31:GLN:HG2	4:H:83:ILE:HD11	1.74	0.69
1:A:192:GLY:O	1:A:196:LEU:CD1	2.41	0.69
3:E:72:SER:HB3	3:E:76:ARG:NH1	2.08	0.69
3:E:280:ASN:HD21	3:E:316:ILE:H	1.39	0.69
8:L:197:MET:CE	8:L:225:SER:HG	2.05	0.68
1:A:192:GLY:O	1:A:196:LEU:CB	2.41	0.68
3:D:246:PHE:HB3	7:K:31:DA:H1'	1.74	0.68
3:E:279:LEU:CA	3:E:282:MET:CE	2.48	0.68
4:H:217:LEU:HD23	5:I:61:23G:C8	2.12	0.68
5:I:37:G:H3'	5:I:38:A:C5'	2.22	0.68
3:G:319:GLY:O	3:G:323:PHE:CD2	2.46	0.68
3:C:294:ASP:CG	3:D:145:MET:CG	2.62	0.68
3:E:25:ILE:N	3:E:25:ILE:HD12	2.08	0.68
6:J:33:DT:H71	8:L:493:LYS:NZ	2.09	0.68
8:L:92:LEU:HD21	8:L:94:LEU:HD21	1.76	0.68
3:E:152:ILE:CG2	3:E:168:MET:HG3	2.24	0.68
3:G:277:LEU:HD23	3:G:277:LEU:C	2.14	0.68
8:L:36:PHE:HB2	8:L:414:PHE:HA	1.74	0.68
3:F:249:HIS:CD2	3:F:293:LYS:HZ3	2.11	0.68
3:F:305:LEU:HD22	3:F:305:LEU:N	2.09	0.68
8:L:14:VAL:HG11	8:L:48:MET:CE	2.24	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:135:ARG:O	1:A:150:PRO:HD2	1.94	0.68
3:E:74:LEU:O	3:E:77:THR:HG23	1.93	0.68
3:E:24:THR:HG23	3:E:31:PRO:HG3	1.74	0.67
3:G:45:MET:HA	3:G:62:LEU:O	1.93	0.67
1:A:12:LEU:HA	1:A:237:MET:SD	2.35	0.67
3:C:120:GLU:OE2	3:C:138:ARG:NH1	2.28	0.67
3:D:81:HIS:HB3	3:D:281:LYS:HG2	1.76	0.67
1:A:149:ARG:CZ	1:A:152:VAL:HG21	2.20	0.67
3:E:77:THR:O	3:E:81:HIS:HB2	1.95	0.67
3:G:44:ARG:HH12	3:G:66:PRO:HG2	1.57	0.67
3:G:48:VAL:CG2	3:G:62:LEU:CG	2.73	0.67
3:G:143:ARG:HD2	3:G:271:GLN:CD	2.13	0.67
8:L:353:GLU:O	8:L:362:MET:HB2	1.93	0.67
1:A:77:MET:CE	1:A:81:LEU:HB2	2.24	0.67
3:G:45:MET:HA	3:G:63:GLN:HA	1.76	0.67
3:E:24:THR:HG23	3:E:31:PRO:CG	2.24	0.67
3:E:79:LEU:CD1	3:E:103:TYR:CG	2.78	0.67
3:F:81:HIS:NE2	3:F:281:LYS:HD3	2.10	0.67
8:L:35:VAL:O	8:L:386:LEU:CB	2.43	0.67
3:E:48:VAL:O	3:E:59:SER:HA	1.95	0.67
3:G:3:ILE:H	3:G:3:ILE:CD1	2.06	0.67
3:E:256:LEU:HG	3:E:258:TRP:NE1	2.10	0.67
3:E:300:ILE:HD12	3:E:300:ILE:N	2.09	0.67
2:B:22:HIS:HB3	2:B:24:ASP:OD2	1.95	0.67
3:C:64:ILE:HG22	3:C:151:PRO:HD3	1.75	0.67
3:C:330:ILE:CB	3:C:333:LEU:HD11	2.25	0.67
3:G:276:LEU:O	3:G:279:LEU:CG	2.42	0.67
8:L:14:VAL:CG1	8:L:48:MET:CE	2.73	0.67
3:D:187:ASN:ND2	5:I:20:C:H41	1.93	0.66
3:F:281:LYS:HD2	3:F:281:LYS:H	1.59	0.66
8:L:467:CYS:SG	8:L:476:LEU:CD1	2.84	0.66
1:A:56:ARG:HD2	5:I:6:C:C4	2.28	0.66
3:E:46:MET:SD	3:E:150:TYR:OH	2.51	0.66
3:G:256:LEU:CB	3:G:258:TRP:NE1	2.58	0.66
3:D:189:GLY:CA	3:F:125:ARG:HD3	2.25	0.66
1:A:124:LEU:CB	1:A:140:ARG:HG2	2.19	0.66
2:B:20:LEU:N	2:B:220:PRO:HG3	2.09	0.66
3:E:73:LEU:O	3:E:77:THR:HG22	1.96	0.66
4:H:190:SER:CB	4:H:192:LEU:HD21	2.26	0.66
1:A:215:LEU:HD13	1:A:218:LEU:HD11	1.77	0.66
3:C:293:LYS:HE2	3:C:293:LYS:N	2.11	0.66

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:218:LEU:C	1:A:218:LEU:HD12	2.16	0.66
2:B:211:LEU:HD23	2:B:211:LEU:C	2.15	0.65
3:F:127:HIS:CE1	3:F:129:PHE:HB3	2.29	0.65
3:F:128:PRO:HA	3:F:271:GLN:CG	2.26	0.65
3:C:175:GLN:NE2	3:D:45:MET:SD	2.69	0.65
3:E:75:ARG:HA	3:E:78:MET:HE2	1.75	0.65
8:L:37:ALA:N	8:L:386:LEU:O	2.23	0.65
3:G:327:ALA:CA	3:G:330:ILE:HG12	2.26	0.65
1:A:141:TYR:CE2	1:A:213:TRP:HZ2	2.10	0.65
2:B:19:ASP:HB2	5:I:3:G:N9	2.11	0.65
2:B:23:LEU:HD23	2:B:23:LEU:C	2.17	0.65
3:E:78:MET:CG	3:E:278:ALA:CB	2.74	0.65
3:G:152:ILE:HG12	3:G:259:VAL:HG13	1.79	0.65
2:B:20:LEU:HD23	2:B:220:PRO:HG3	1.78	0.65
3:E:152:ILE:HG22	3:E:168:MET:CG	2.27	0.65
3:E:256:LEU:HD11	3:E:258:TRP:CZ2	2.32	0.65
8:L:235:VAL:HG11	8:L:241:LEU:HD22	1.79	0.65
3:E:101:THR:HG23	3:E:106:ASN:HA	1.78	0.65
3:E:152:ILE:HD12	3:E:167:GLU:CB	2.27	0.65
3:G:48:VAL:O	3:G:60:VAL:HG22	1.97	0.65
3:G:318:GLY:O	3:G:323:PHE:HE2	1.79	0.65
8:L:203:ARG:NH1	8:L:207:MET:HE1	2.12	0.65
3:E:73:LEU:HA	3:E:76:ARG:NH2	2.12	0.64
8:L:22:LEU:HB2	8:L:48:MET:SD	2.36	0.64
1:A:137:ILE:HD12	1:A:137:ILE:H	1.62	0.64
1:A:94:ILE:HG22	1:A:100:LYS:HD3	1.76	0.64
3:C:329:ALA:O	3:C:333:LEU:HG	1.98	0.64
3:G:82:VAL:HG11	3:G:277:LEU:CD1	2.27	0.64
1:A:137:ILE:HD11	1:A:150:PRO:CD	2.17	0.64
3:D:1:MET:HE1	3:D:322:TYR:CZ	2.33	0.64
3:G:79:LEU:HA	3:G:83:ILE:HB	1.79	0.64
4:H:7:PHE:O	4:H:103:VAL:HA	1.98	0.64
3:C:21:ASN:HB2	3:C:40:LEU:O	1.97	0.64
5:I:34:G:C4	5:I:35:A:C4	2.86	0.64
8:L:349:ARG:HH11	8:L:367:ARG:HH22	1.44	0.64
3:C:70:MET:HE1	3:C:73:LEU:HD23	1.80	0.64
3:E:5:VAL:HG21	3:E:279:LEU:HD13	1.79	0.64
8:L:475:LEU:O	8:L:479:ARG:HD3	1.98	0.64
3:G:79:LEU:HD21	3:G:103:TYR:CE1	2.33	0.64
3:F:124:MET:HB3	3:F:130:ILE:CG2	2.24	0.64
3:C:208:ILE:HG21	3:E:117:SER:HA	1.79	0.64

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:L:14:VAL:HG11	8:L:48:MET:HE1	1.78	0.64
1:A:2:ARG:NH2	2:B:212:HIS:O	2.31	0.63
3:F:180:ARG:NH1	3:F:182:MET:SD	2.71	0.63
3:E:330:ILE:HA	3:E:333:LEU:HG	1.80	0.63
3:F:282:MET:HA	3:F:282:MET:HE2	1.77	0.63
5:I:47:C:O2	5:I:60:G:N2	2.30	0.63
1:A:85:VAL:HG13	1:A:92:TYR:CB	2.20	0.63
1:A:192:GLY:HA2	1:A:195:MET:CG	2.27	0.63
3:D:6:THR:HA	3:D:258:TRP:O	1.97	0.63
5:I:34:G:C1'	5:I:35:A:N9	2.50	0.63
8:L:85:VAL:HA	8:L:88:VAL:HG22	1.80	0.63
3:F:180:ARG:NH2	5:I:34:G:C5'	2.54	0.63
3:F:276:LEU:HD21	3:F:305:LEU:HD11	1.81	0.63
3:D:81:HIS:CB	3:D:281:LYS:HG2	2.28	0.63
3:F:340:GLN:HA	3:F:340:GLN:NE2	2.13	0.63
3:G:256:LEU:CB	3:G:258:TRP:HE1	2.08	0.63
1:A:198:GLN:OE1	1:A:198:GLN:HA	1.98	0.62
3:C:74:LEU:HG	3:C:78:MET:CE	2.29	0.62
4:H:22:LEU:HD23	4:H:26:LEU:HD23	1.81	0.62
5:I:2:U:OP1	5:I:4:A:O2'	2.17	0.62
3:C:70:MET:HE3	3:C:73:LEU:HD23	1.80	0.62
3:E:256:LEU:CD2	3:E:258:TRP:HE1	2.10	0.62
3:E:256:LEU:CD2	3:E:256:LEU:H	2.12	0.62
3:G:82:VAL:CG1	3:G:277:LEU:CD1	2.76	0.62
3:G:327:ALA:O	3:G:330:ILE:HG12	1.99	0.62
8:L:473:THR:HG21	8:L:519:LEU:CD2	2.29	0.62
1:A:233:THR:O	1:A:236:VAL:HG23	1.98	0.62
3:E:4:GLU:HB2	3:E:304:SER:HB2	1.80	0.62
3:E:305:LEU:HD22	3:E:310:VAL:HG21	1.82	0.62
3:G:8:ARG:O	3:G:8:ARG:HD3	1.98	0.62
7:K:36:DT:H4'	7:K:37:DT:OP1	1.97	0.62
3:E:153:HIS:CD2	3:E:169:MET:HG3	2.31	0.62
3:G:48:VAL:HG22	3:G:62:LEU:HD12	1.75	0.62
8:L:224:LEU:HD23	8:L:224:LEU:C	2.19	0.62
3:D:277:LEU:O	3:D:281:LYS:HD3	1.99	0.62
3:E:70:MET:HE3	3:E:260:TRP:CH2	2.34	0.62
3:E:75:ARG:CA	3:E:78:MET:CE	2.73	0.62
3:G:113:GLY:HA3	7:K:24:DT:H5'	1.81	0.62
3:G:125:ARG:O	3:G:143:ARG:NH2	2.32	0.62
1:A:79:TYR:HA	1:A:82:SER:OG	1.98	0.62
3:D:7:VAL:HG12	3:D:300:ILE:CG1	2.30	0.62

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:124:MET:HE1	3:F:341:PHE:CA	2.15	0.62
8:L:203:ARG:HH11	8:L:207:MET:CE	2.11	0.62
1:A:77:MET:HE2	1:A:81:LEU:HB2	1.81	0.62
1:A:85:VAL:CG1	1:A:92:TYR:CA	2.77	0.62
1:A:159:ILE:HB	1:A:200:GLU:OE1	1.99	0.62
3:F:279:LEU:O	3:F:282:MET:HG2	1.99	0.62
6:J:29:DT:H2''	6:J:30:DT:C4'	2.28	0.62
1:A:100:LYS:HE3	1:A:104:PHE:CE1	2.35	0.61
2:B:180:ARG:O	2:B:182:LEU:HD11	2.00	0.61
3:D:189:GLY:O	3:F:125:ARG:HD3	1.99	0.61
3:G:25:ILE:HG23	3:G:27:GLY:H	1.65	0.61
1:A:85:VAL:HG11	1:A:92:TYR:CB	2.28	0.61
3:F:128:PRO:HA	3:F:271:GLN:HG2	1.83	0.61
3:F:264:LEU:HD22	3:F:267:PRO:HB3	1.82	0.61
3:G:74:LEU:O	3:G:78:MET:HG2	1.99	0.61
3:G:272:VAL:CG1	3:G:322:TYR:CE1	2.83	0.61
8:L:36:PHE:CA	8:L:386:LEU:HD12	2.30	0.61
3:C:292:SER:CB	3:C:293:LYS:HZ1	2.14	0.61
3:E:178:TRP:HB2	3:F:44:ARG:HH22	1.64	0.61
3:E:254:PRO:HD2	3:F:48:VAL:HA	1.81	0.61
3:F:291:HIS:CD2	3:G:145:MET:SD	2.92	0.61
2:B:104:LEU:HD11	3:C:96:ILE:CA	2.18	0.61
3:C:292:SER:HG	3:C:293:LYS:CE	2.12	0.61
3:E:280:ASN:OD1	3:E:315:GLY:HA3	2.00	0.61
4:H:26:LEU:HD12	4:H:26:LEU:H	1.66	0.61
2:B:20:LEU:HD12	2:B:218:PRO:O	1.99	0.61
3:E:70:MET:CE	3:E:260:TRP:CH2	2.82	0.61
4:H:31:GLN:N	4:H:32:PRO:HD3	2.16	0.61
2:B:76:GLN:HE21	2:B:127:GLN:HG3	1.66	0.61
3:E:7:VAL:HA	3:E:300:ILE:HA	1.82	0.61
1:A:136:ARG:HD3	2:B:198:CYS:HB3	1.83	0.61
3:C:87:LEU:HD21	3:C:94:LEU:CD1	2.29	0.61
3:C:292:SER:OG	3:C:293:LYS:HE2	1.97	0.61
3:G:82:VAL:CG2	3:G:277:LEU:CD1	2.79	0.61
3:G:276:LEU:CB	3:G:279:LEU:HD21	2.29	0.61
4:H:39:MET:HE3	4:H:57:PHE:CE1	2.28	0.61
3:C:174:THR:OG1	3:C:250:GLU:HG2	2.00	0.61
4:H:208:LEU:HB3	4:H:212:TRP:CD1	2.36	0.61
7:K:37:DT:H5''	7:K:38:DG:N2	2.12	0.61
2:B:23:LEU:HD23	2:B:23:LEU:O	2.01	0.61
3:E:298:PHE:HE2	3:E:300:ILE:CD1	2.02	0.61

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:80:LYS:HD2	3:F:81:HIS:HB3	1.83	0.61
2:B:20:LEU:HD23	2:B:220:PRO:CB	2.30	0.60
3:E:128:PRO:HA	3:E:271:GLN:HG2	1.83	0.60
3:F:282:MET:HB2	3:F:300:ILE:HD11	1.83	0.60
3:F:92:ASN:HB3	3:F:335:SER:HB3	1.83	0.60
3:G:280:ASN:HB2	3:G:316:ILE:HD11	1.83	0.60
5:I:34:G:H1'	5:I:35:A:O4'	2.01	0.60
3:E:72:SER:HB3	3:E:76:ARG:HH11	1.65	0.60
3:E:79:LEU:CD1	3:E:103:TYR:CE1	2.84	0.60
5:I:47:C:N3	5:I:48:C:C5	2.69	0.60
8:L:484:LEU:HD13	8:L:515:VAL:HG21	1.83	0.60
3:D:138:ARG:NH1	3:D:343:GLN:O	2.32	0.60
3:G:82:VAL:CG2	3:G:277:LEU:CG	2.76	0.60
5:I:21:U:C2	7:K:31:DA:N1	2.69	0.60
3:E:79:LEU:CD1	3:E:103:TYR:CD1	2.84	0.60
1:A:124:LEU:HD12	1:A:124:LEU:H	1.67	0.60
3:C:74:LEU:HD11	3:C:78:MET:HE3	1.83	0.60
3:C:330:ILE:HG22	3:C:333:LEU:CD1	2.09	0.60
4:H:192:LEU:H	4:H:192:LEU:HD23	1.66	0.60
4:H:192:LEU:HD23	4:H:192:LEU:N	2.17	0.60
8:L:92:LEU:HD23	8:L:92:LEU:C	2.22	0.60
2:B:45:PRO:HD3	3:C:118:PHE:CZ	2.36	0.60
5:I:2:U:H5''	5:I:3:G:OP2	2.02	0.60
8:L:145:TRP:HE1	8:L:173:PRO:HB2	1.66	0.60
1:A:85:VAL:HG12	1:A:92:TYR:CA	2.32	0.60
1:A:137:ILE:HD13	1:A:148:VAL:HG23	1.84	0.60
3:E:7:VAL:HG12	3:E:300:ILE:HG13	1.83	0.59
5:I:47:C:H2'	5:I:48:C:C5	2.37	0.59
1:A:215:LEU:O	1:A:219:MET:CB	2.50	0.59
3:C:14:PHE:HB2	3:C:251:VAL:HG12	1.82	0.59
3:D:173:ILE:HG13	3:D:256:LEU:HD11	1.84	0.59
3:D:1:MET:HE1	3:D:322:TYR:CE2	2.37	0.59
3:F:78:MET:HE2	3:F:278:ALA:HB2	1.83	0.59
2:B:20:LEU:CD2	2:B:220:PRO:CD	2.80	0.59
3:E:15:SER:HB2	3:E:65:VAL:HG23	1.83	0.59
3:F:61:PRO:O	3:F:155:ASN:ND2	2.35	0.59
3:F:249:HIS:CD2	3:F:293:LYS:NZ	2.69	0.59
3:E:208:ILE:HG21	3:G:117:SER:HA	1.83	0.59
3:G:82:VAL:HG21	3:G:277:LEU:CD1	2.32	0.59
4:H:30:THR:OG1	4:H:31:GLN:OE1	2.19	0.59
8:L:355:THR:CG2	8:L:362:MET:HE2	2.32	0.59

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:5:VAL:CG2	3:D:260:TRP:HB3	2.32	0.59
4:H:27:LEU:HD22	4:H:35:VAL:HG23	1.66	0.59
8:L:469:SER:O	8:L:473:THR:HG23	2.03	0.59
3:C:186:LEU:HD21	3:E:115:PRO:HB3	1.85	0.59
3:E:81:HIS:CG	3:E:281:LYS:CD	2.83	0.59
3:E:152:ILE:CG2	3:E:168:MET:HA	2.24	0.59
4:H:192:LEU:CD2	4:H:192:LEU:H	2.15	0.59
3:F:249:HIS:NE2	3:F:293:LYS:NZ	2.43	0.59
4:H:26:LEU:HD12	4:H:26:LEU:N	2.18	0.59
3:E:25:ILE:HD12	3:E:25:ILE:H	1.67	0.58
3:E:46:MET:CE	3:E:150:TYR:CZ	2.79	0.58
3:C:112:ASP:OD1	3:C:112:ASP:N	2.37	0.58
3:G:50:ALA:HA	3:G:158:ARG:HD3	1.85	0.58
8:L:238:ALA:HB2	8:L:387:VAL:O	2.03	0.58
3:D:73:LEU:O	3:D:77:THR:HG22	2.03	0.58
3:D:79:LEU:CD2	3:D:103:TYR:CD1	2.81	0.58
3:D:257:LYS:HG2	3:E:158:ARG:NH2	2.14	0.58
3:F:14:PHE:HB2	3:F:251:VAL:HG23	1.85	0.58
5:I:30:G:O6	7:K:22:DC:N4	2.36	0.58
8:L:255:LEU:HB2	8:L:361:PRO:HG2	1.85	0.58
8:L:613:VAL:HB	8:L:617:ARG:HH22	1.69	0.58
3:E:152:ILE:CG2	3:E:168:MET:CG	2.82	0.58
2:B:27:LEU:HA	2:B:30:LEU:HG	1.85	0.58
3:C:89:GLU:OE1	3:C:89:GLU:HA	2.04	0.58
4:H:182:SER:OG	4:H:198:ARG:NH2	2.37	0.58
8:L:92:LEU:HD21	8:L:94:LEU:HG	1.86	0.58
3:E:175:GLN:NE2	3:F:45:MET:O	2.32	0.58
3:G:48:VAL:CG1	3:G:62:LEU:HD12	2.34	0.58
3:G:318:GLY:O	3:G:323:PHE:CE2	2.56	0.58
3:F:70:MET:HA	3:F:73:LEU:HB3	1.86	0.58
3:D:182:MET:CE	3:D:187:ASN:CG	2.71	0.57
3:E:25:ILE:HG22	3:F:19:GLY:HA2	1.84	0.57
3:F:78:MET:CE	3:F:278:ALA:HB2	2.34	0.57
4:H:23:VAL:HA	4:H:26:LEU:CG	2.33	0.57
4:H:27:LEU:O	4:H:27:LEU:HD23	2.03	0.57
8:L:39:ALA:HA	8:L:418:VAL:HG22	1.85	0.57
8:L:472:ASN:O	8:L:476:LEU:HG	2.04	0.57
1:A:84:ALA:HA	1:A:93:SER:HA	1.86	0.57
4:H:23:VAL:O	4:H:26:LEU:HD13	1.89	0.57
3:G:48:VAL:HG23	3:G:60:VAL:HG22	1.81	0.57
3:G:327:ALA:C	3:G:330:ILE:HG12	2.24	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:123:HIS:HE2	7:K:45:DA:H4'	1.69	0.57
2:B:103:GLN:NE2	3:C:93:LYS:CB	2.63	0.57
8:L:617:ARG:O	8:L:620:LEU:HB3	2.04	0.57
1:A:81:LEU:HD23	1:A:125:SER:HB3	1.86	0.57
3:D:132:LEU:HD13	3:D:144:LEU:HD13	1.85	0.57
3:F:79:LEU:HD12	3:F:129:PHE:CZ	2.38	0.57
3:F:260:TRP:CE2	3:F:262:ILE:HD11	2.39	0.57
4:H:183:SER:H	5:I:43:G:N2	2.00	0.57
1:A:191:ALA:O	1:A:195:MET:HG2	2.04	0.57
2:B:104:LEU:CD1	3:C:96:ILE:CG1	2.81	0.57
3:C:74:LEU:HG	3:C:78:MET:HE1	1.86	0.57
3:C:90:LYS:HG2	3:C:92:ASN:OD1	2.05	0.57
8:L:472:ASN:HD21	8:L:550:ARG:HH11	1.52	0.57
1:A:141:TYR:HE2	1:A:213:TRP:HZ2	1.48	0.57
3:F:138:ARG:NH1	3:F:343:GLN:O	2.33	0.57
8:L:160:ASP:HA	8:L:163:LEU:HD12	1.86	0.57
1:A:57:ASP:OD2	1:A:140:ARG:NH2	2.37	0.57
3:F:1:MET:HB3	3:F:264:LEU:HB2	1.87	0.57
8:L:18:LEU:CG	8:L:48:MET:HE3	2.33	0.57
8:L:35:VAL:HG13	8:L:415:LEU:HD23	1.86	0.57
8:L:371:GLN:HA	8:L:406:GLU:HG3	1.86	0.57
3:E:46:MET:SD	3:E:150:TYR:CZ	2.98	0.57
3:E:113:GLY:CA	7:K:36:DT:H5''	2.32	0.57
3:G:246:PHE:HB3	4:H:234:GLY:N	2.18	0.57
2:B:188:PRO:HA	2:B:191:VAL:HG12	1.87	0.57
3:C:330:ILE:CA	3:C:333:LEU:HG	2.21	0.57
7:K:38:DG:H5'	7:K:39:DC:H5'	1.87	0.57
8:L:571:ARG:O	8:L:575:GLN:HB2	2.05	0.57
1:A:29:ALA:HA	1:A:36:PRO:HA	1.85	0.56
2:B:200:ALA:HA	2:B:212:HIS:CE1	2.40	0.56
3:E:6:THR:HG22	3:E:301:ASP:HB3	1.86	0.56
3:F:216:LYS:HD2	4:H:78:SER:HA	1.87	0.56
3:C:95:SER:OG	3:C:96:ILE:N	2.38	0.56
3:E:167:GLU:OE2	3:E:257:LYS:CE	2.53	0.56
2:B:179:TRP:HE1	2:B:194:GLU:HG2	1.70	0.56
3:C:61:PRO:O	3:C:155:ASN:ND2	2.38	0.56
3:D:208:ILE:HG21	3:F:117:SER:HA	1.87	0.56
3:F:124:MET:SD	3:F:341:PHE:CG	2.97	0.56
7:K:29:DT:H72	7:K:30:DC:H42	1.70	0.56
8:L:36:PHE:CE2	8:L:401:THR:HB	2.39	0.56
8:L:92:LEU:HB3	8:L:139:ILE:CD1	2.35	0.56

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:191:ALA:C	1:A:195:MET:HE3	2.12	0.56
3:F:180:ARG:NE	5:I:33:U:O4'	2.29	0.56
3:G:48:VAL:CB	3:G:62:LEU:HD12	2.34	0.56
6:J:33:DT:H71	8:L:493:LYS:HZ2	1.69	0.56
8:L:470:TYR:O	8:L:474:GLU:HG2	2.06	0.56
3:C:294:ASP:HA	3:D:145:MET:CE	2.35	0.56
3:E:167:GLU:HG2	3:E:257:LYS:HE2	1.81	0.56
2:B:80:GLN:HG3	2:B:125:ILE:HB	1.87	0.56
3:C:3:ILE:HB	3:C:262:ILE:HB	1.88	0.56
3:C:11:THR:CG2	3:C:297:ARG:HB3	2.35	0.56
2:B:104:LEU:HD22	2:B:104:LEU:N	2.20	0.56
3:C:73:LEU:CD1	3:C:285:GLU:HG3	2.36	0.56
4:H:34:LEU:HD22	4:H:83:ILE:HD13	1.88	0.56
8:L:367:ARG:HD3	8:L:369:ASN:H	1.69	0.56
2:B:26:LEU:HD23	2:B:30:LEU:HD21	1.88	0.56
2:B:211:LEU:HD23	2:B:211:LEU:O	2.06	0.56
3:F:181:ARG:HB3	3:F:245:ALA:H	1.71	0.56
5:I:48:C:O2'	5:I:49:C:H5'	2.06	0.56
1:A:184:GLY:HA2	1:A:187:LEU:HD13	1.88	0.56
8:L:18:LEU:HD11	8:L:21:LEU:HB3	1.85	0.56
1:A:137:ILE:HB	1:A:148:VAL:HG23	1.88	0.56
3:D:180:ARG:N	5:I:21:U:OP2	2.39	0.56
1:A:133:ASP:HB2	2:B:197:ARG:HB2	1.87	0.55
2:B:102:LEU:HD23	2:B:104:LEU:HD22	1.85	0.55
3:C:294:ASP:HA	3:D:145:MET:HE3	1.89	0.55
3:D:279:LEU:HA	3:D:282:MET:SD	2.45	0.55
3:E:6:THR:CG2	3:E:257:LYS:HZ2	2.17	0.55
2:B:15:MET:SD	2:B:154:LYS:HB2	2.47	0.55
3:E:25:ILE:H	3:E:25:ILE:CD1	2.20	0.55
5:I:21:U:O2	7:K:31:DA:C2	2.59	0.55
8:L:204:MET:HA	8:L:207:MET:HG2	1.88	0.55
3:G:258:TRP:N	3:G:258:TRP:CD1	2.74	0.55
1:A:85:VAL:HB	1:A:94:ILE:CG1	2.29	0.55
3:C:128:PRO:HA	3:C:271:GLN:HG2	1.89	0.55
3:E:5:VAL:HG22	3:E:303:VAL:HG22	1.89	0.55
3:F:305:LEU:HD21	3:F:310:VAL:HG21	1.88	0.55
3:F:340:GLN:HA	3:F:340:GLN:HE21	1.70	0.55
4:H:81:THR:O	4:H:84:ILE:HG23	2.06	0.55
5:I:34:G:C8	5:I:35:A:C5	2.94	0.55
3:F:62:LEU:HD13	3:F:155:ASN:HB2	1.87	0.55
1:A:91:ILE:HD12	1:A:236:VAL:HG21	1.88	0.55

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:294:ASP:HA	3:D:145:MET:HG3	1.88	0.55
3:D:246:PHE:CG	7:K:31:DA:C2	2.95	0.55
8:L:35:VAL:O	8:L:386:LEU:CG	2.53	0.55
8:L:92:LEU:HD21	8:L:94:LEU:CG	2.36	0.55
1:A:197:THR:OG1	1:A:200:GLU:HB2	2.07	0.55
3:E:256:LEU:CG	3:E:258:TRP:NE1	2.70	0.55
3:G:45:MET:CA	3:G:62:LEU:O	2.54	0.55
5:I:47:C:O2	5:I:48:C:C5	2.59	0.55
1:A:137:ILE:HD13	1:A:148:VAL:C	2.28	0.55
3:C:294:ASP:CB	3:D:145:MET:CG	2.84	0.55
3:D:74:LEU:HD23	3:D:144:LEU:HD21	1.89	0.55
3:E:46:MET:HE3	3:E:48:VAL:HG22	1.89	0.55
3:E:79:LEU:CG	3:E:103:TYR:CZ	2.89	0.55
3:E:256:LEU:N	3:E:256:LEU:HD23	2.22	0.55
3:F:278:ALA:O	3:F:282:MET:HE3	2.07	0.55
3:G:8:ARG:HH11	3:G:255:GLY:C	2.11	0.55
2:B:200:ALA:HB3	2:B:215:ALA:HB3	1.89	0.55
3:C:49:ALA:O	3:C:158:ARG:NE	2.37	0.55
3:C:87:LEU:HD21	3:C:94:LEU:HD11	1.88	0.55
3:F:131:GLY:O	3:F:143:ARG:N	2.30	0.55
3:F:279:LEU:CD2	3:F:303:VAL:HG11	2.37	0.55
4:H:22:LEU:HD23	4:H:26:LEU:CD2	2.37	0.55
4:H:27:LEU:HD23	4:H:35:VAL:HG21	1.89	0.55
8:L:91:THR:HG22	8:L:188:ALA:HB3	1.89	0.55
3:D:7:VAL:HG12	3:D:300:ILE:HG13	1.89	0.54
3:E:152:ILE:HG21	3:E:167:GLU:HB3	1.89	0.54
5:I:59:G:HO2'	5:I:60:G:P	2.30	0.54
6:J:4:DA:H61	7:K:51:DT:H3	1.54	0.54
8:L:355:THR:HG23	8:L:362:MET:HE2	1.89	0.54
2:B:104:LEU:CD1	3:C:96:ILE:CA	2.82	0.54
3:G:143:ARG:CD	3:G:271:GLN:NE2	2.69	0.54
5:I:15:A:C2	7:K:37:DT:O2	2.59	0.54
2:B:20:LEU:HD11	2:B:219:THR:N	2.18	0.54
2:B:82:TRP:O	2:B:122:HIS:HA	2.08	0.54
3:D:282:MET:HA	3:D:282:MET:CE	2.37	0.54
3:E:70:MET:HE2	3:E:260:TRP:NE1	2.17	0.54
3:F:153:HIS:CD2	3:F:169:MET:HB2	2.42	0.54
3:E:152:ILE:CD1	3:E:167:GLU:CB	2.84	0.54
3:F:3:ILE:HB	3:F:262:ILE:HB	1.90	0.54
2:B:10:LEU:HA	2:B:163:ALA:H	1.72	0.54
3:F:79:LEU:HD12	3:F:129:PHE:CE1	2.43	0.54

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:G:82:VAL:HG13	3:G:277:LEU:HD11	1.90	0.54
8:L:14:VAL:CG1	8:L:48:MET:HE2	2.37	0.54
2:B:23:LEU:HD21	2:B:27:LEU:HD11	1.90	0.54
3:C:330:ILE:CG2	3:C:333:LEU:CD1	2.74	0.54
3:F:305:LEU:HD23	3:F:310:VAL:HG13	1.89	0.54
4:H:192:LEU:HD12	5:I:46:C:N3	2.22	0.54
8:L:238:ALA:HB3	8:L:388:SER:HB2	1.88	0.54
3:F:279:LEU:O	3:F:279:LEU:HD12	2.08	0.54
8:L:14:VAL:HG13	8:L:48:MET:HE2	1.90	0.54
3:C:73:LEU:HD11	3:C:285:GLU:HG3	1.89	0.54
3:G:6:THR:OG1	3:G:301:ASP:O	2.23	0.54
3:G:79:LEU:HD21	3:G:103:TYR:CD2	2.35	0.54
3:G:132:LEU:O	3:G:144:LEU:HB3	2.08	0.54
4:H:208:LEU:HB3	4:H:212:TRP:HD1	1.72	0.54
1:A:34:SER:O	1:A:34:SER:OG	2.26	0.54
2:B:87:ARG:NH1	5:I:8:G:O2'	2.40	0.54
3:D:169:MET:HG3	3:D:256:LEU:HD23	1.90	0.54
3:F:5:VAL:HB	3:F:260:TRP:HB3	1.89	0.54
3:F:129:PHE:CE2	3:F:338:PHE:HE2	2.26	0.54
3:G:84:GLU:OE1	3:G:103:TYR:OH	2.26	0.54
8:L:615:PRO:O	8:L:618:GLN:NE2	2.41	0.54
1:A:128:THR:HB	1:A:140:ARG:HB2	1.88	0.54
3:G:24:THR:HG23	3:G:31:PRO:HG3	1.89	0.54
3:G:82:VAL:CG1	3:G:277:LEU:HD11	2.38	0.54
1:A:209:PRO:HA	1:A:212:ARG:HG3	1.89	0.53
2:B:103:GLN:HE21	3:C:93:LYS:HD2	1.72	0.53
3:E:75:ARG:CA	3:E:78:MET:HE2	2.36	0.53
6:J:33:DT:OP1	8:L:519:LEU:HD13	2.08	0.53
3:D:83:ILE:HD11	3:D:274:LEU:HD21	1.90	0.53
3:D:246:PHE:CD2	7:K:31:DA:N3	2.76	0.53
3:E:67:GLY:HA2	3:E:70:MET:HB2	1.90	0.53
6:J:3:DC:N3	7:K:52:DG:N2	2.56	0.53
3:C:117:SER:OG	3:C:120:GLU:CG	2.54	0.53
3:D:42:ARG:NH1	6:J:25:DT:O2	2.39	0.53
3:D:173:ILE:CD1	3:D:256:LEU:HD11	2.38	0.53
3:F:102:ALA:O	3:F:129:PHE:CZ	2.54	0.53
3:G:270:ALA:O	3:G:326:VAL:HG23	2.08	0.53
4:H:180:ARG:HD2	4:H:198:ARG:HE	1.73	0.53
8:L:168:ASP:O	8:L:175:GLN:NE2	2.41	0.53
8:L:203:ARG:HH11	8:L:207:MET:HE1	1.70	0.53
3:G:9:ASN:OD1	3:G:256:LEU:N	2.39	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:G:132:LEU:CD2	3:G:144:LEU:HB2	2.36	0.53
3:G:297:ARG:HE	3:G:298:PHE:H	1.56	0.53
4:H:210:GLY:O	4:H:227:THR:OG1	2.25	0.53
5:I:6:C:HO2'	5:I:7:G:C1'	2.22	0.53
3:C:313:GLN:OE1	3:C:313:GLN:N	2.33	0.53
3:D:70:MET:HA	3:D:73:LEU:CG	2.34	0.53
3:F:277:LEU:O	3:F:281:LYS:NZ	2.30	0.53
3:G:12:PRO:HG3	3:G:254:PRO:HD3	1.90	0.53
3:G:125:ARG:O	3:G:143:ARG:NE	2.42	0.53
3:G:141:GLU:HG3	5:I:29:G:H4'	1.90	0.53
3:G:276:LEU:CA	3:G:279:LEU:HG	2.39	0.53
4:H:22:LEU:O	4:H:26:LEU:CD1	2.56	0.53
5:I:13:G:H1	7:K:39:DC:H42	1.57	0.53
5:I:48:C:O2'	5:I:49:C:C5'	2.56	0.53
1:A:194:GLU:OE1	1:A:195:MET:HE2	2.09	0.53
2:B:74:LYS:NZ	2:B:75:ARG:O	2.42	0.53
2:B:184:ALA:HA	2:B:216:LEU:CD1	2.33	0.53
3:G:83:ILE:O	3:G:87:LEU:CB	2.57	0.53
4:H:31:GLN:HG2	4:H:83:ILE:CD1	2.38	0.53
2:B:178:SER:HB3	2:B:190:LEU:HD22	1.91	0.53
3:D:246:PHE:CD2	7:K:31:DA:C4	2.97	0.53
3:G:1:MET:HB2	3:G:3:ILE:HD11	1.91	0.53
3:G:74:LEU:CG	3:G:260:TRP:CH2	2.81	0.53
1:A:87:THR:HG23	1:A:110:ALA:HB3	1.89	0.53
2:B:20:LEU:HG	2:B:220:PRO:HD3	1.89	0.53
3:C:9:ASN:HD22	3:C:13:ILE:HG12	1.74	0.53
3:E:74:LEU:O	3:E:77:THR:CG2	2.55	0.53
1:A:205:GLN:O	2:B:75:ARG:NH1	2.42	0.52
1:A:233:THR:O	1:A:236:VAL:CG2	2.56	0.52
3:F:127:HIS:HE2	3:F:333:LEU:CD1	2.22	0.52
3:G:257:LYS:C	3:G:258:TRP:CD1	2.83	0.52
3:G:275:VAL:C	3:G:279:LEU:HD23	2.28	0.52
5:I:34:G:O2'	5:I:35:A:N7	2.23	0.52
8:L:19:ARG:HB2	8:L:20:PRO:HD3	1.91	0.52
8:L:495:SER:OG	8:L:500:CYS:SG	2.67	0.52
1:A:149:ARG:HH22	1:A:207:VAL:HA	1.74	0.52
3:E:72:SER:CB	3:E:76:ARG:NH1	2.73	0.52
3:D:108:THR:OG1	3:D:109:GLY:N	2.41	0.52
3:F:246:PHE:CZ	5:I:33:U:N3	2.78	0.52
5:I:33:U:C2	7:K:19:DA:H2	2.10	0.52
8:L:167:GLU:O	8:L:327:ARG:HD2	2.09	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:L:201:HIS:CB	8:L:226:LEU:HD13	2.34	0.52
1:A:122:GLN:OE1	1:A:124:LEU:HD21	2.10	0.52
3:C:310:VAL:HG13	3:C:316:ILE:HD12	1.92	0.52
3:E:169:MET:CE	3:E:173:ILE:HG22	2.39	0.52
3:G:48:VAL:O	3:G:60:VAL:N	2.40	0.52
8:L:437:GLU:OE1	8:L:438:PRO:HD2	2.07	0.52
3:C:85:PRO:CA	3:C:88:VAL:HG22	2.39	0.52
3:E:256:LEU:CD2	3:E:256:LEU:N	2.73	0.52
3:E:256:LEU:CG	3:E:258:TRP:HE1	2.22	0.52
3:F:279:LEU:C	3:F:282:MET:HG2	2.29	0.52
3:G:5:VAL:HG13	3:G:260:TRP:HB3	1.90	0.52
3:G:74:LEU:HD11	3:G:260:TRP:CH2	2.45	0.52
3:G:128:PRO:O	3:G:132:LEU:HG	2.10	0.52
3:C:293:LYS:CE	3:C:293:LYS:N	2.73	0.52
3:D:143:ARG:NH1	3:D:266:ARG:O	2.42	0.52
3:E:44:ARG:HG2	3:E:66:PRO:HG3	1.92	0.52
3:E:120:GLU:O	3:E:124:MET:HG2	2.09	0.52
3:E:152:ILE:O	3:E:169:MET:N	2.41	0.52
3:F:209:GLN:OE1	4:H:85:HIS:HB3	2.10	0.52
3:F:279:LEU:HD21	3:F:303:VAL:CG1	2.39	0.52
3:G:48:VAL:CG2	3:G:62:LEU:HG	2.40	0.52
3:G:70:MET:HB3	3:G:260:TRP:CZ2	2.45	0.52
3:G:316:ILE:HG21	3:G:323:PHE:HZ	1.75	0.52
5:I:34:G:N1	7:K:18:DC:N3	2.57	0.52
3:G:110:ASN:HA	7:K:22:DC:H2''	1.91	0.52
3:G:132:LEU:HG	3:G:271:GLN:HG2	1.91	0.52
4:H:227:THR:O	4:H:230:GLN:NE2	2.42	0.52
2:B:6:VAL:HG22	2:B:167:VAL:HG22	1.91	0.52
2:B:111:PRO:HD3	3:D:115:PRO:HG3	1.91	0.52
3:C:1:MET:HB3	3:C:264:LEU:HB2	1.92	0.52
3:C:71:ARG:HA	3:C:146:VAL:HG21	1.91	0.52
3:D:279:LEU:HA	3:D:282:MET:HG3	1.81	0.52
3:D:316:ILE:HG13	3:D:323:PHE:HZ	1.75	0.52
3:E:25:ILE:N	3:E:25:ILE:CD1	2.73	0.52
3:E:152:ILE:HG22	3:E:168:MET:HG3	1.92	0.52
3:E:300:ILE:CD1	3:E:300:ILE:N	2.73	0.52
3:G:74:LEU:CD1	3:G:260:TRP:HH2	2.23	0.52
8:L:393:THR:HG21	8:L:575:GLN:HE21	1.75	0.52
2:B:182:LEU:CD1	2:B:182:LEU:N	2.73	0.52
3:D:4:GLU:HB3	3:D:304:SER:OG	2.10	0.52
3:D:221:LYS:HD3	7:K:32:DG:H21	1.75	0.52

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:167:GLU:OE1	3:E:167:GLU:HA	2.09	0.52
3:E:241:ARG:NH2	7:K:26:DC:OP1	2.43	0.51
3:G:125:ARG:CB	3:G:143:ARG:NH2	2.50	0.51
8:L:16:GLU:HA	8:L:19:ARG:HG3	1.91	0.51
1:A:72:LEU:HA	1:A:77:MET:HG2	1.91	0.51
2:B:201:ALA:H	2:B:212:HIS:CE1	2.25	0.51
3:C:92:ASN:OD1	3:C:92:ASN:N	2.42	0.51
3:E:131:GLY:HA3	3:E:271:GLN:HE22	1.74	0.51
3:F:102:ALA:HB1	3:F:129:PHE:CE2	2.46	0.51
3:F:128:PRO:HA	3:F:271:GLN:HG3	1.91	0.51
1:A:8:VAL:HB	1:A:68:ARG:HG2	1.93	0.51
2:B:171:ALA:HB3	2:B:174:ASP:HB2	1.92	0.51
3:G:138:ARG:NH1	3:G:343:GLN:O	2.42	0.51
1:A:124:LEU:HD23	1:A:142:GLY:O	2.10	0.51
2:B:180:ARG:NH2	2:B:206:TYR:OH	2.44	0.51
3:D:44:ARG:HG2	3:D:66:PRO:HG3	1.92	0.51
3:E:74:LEU:HB2	3:E:260:TRP:HH2	1.75	0.51
3:G:276:LEU:O	3:G:279:LEU:CD1	2.59	0.51
5:I:43:G:HO2'	5:I:44:U:P	2.29	0.51
3:C:11:THR:OG1	3:C:297:ARG:N	2.43	0.51
3:D:1:MET:HE1	3:D:322:TYR:OH	2.11	0.51
3:G:176:VAL:HA	3:G:250:GLU:HA	1.92	0.51
1:A:84:ALA:HB1	1:A:91:ILE:CG2	2.40	0.51
1:A:137:ILE:O	1:A:147:ILE:HD13	2.11	0.51
2:B:44:ASN:HA	3:C:118:PHE:CZ	2.45	0.51
3:D:169:MET:CE	3:D:256:LEU:HD21	2.41	0.51
3:E:152:ILE:HD12	3:E:167:GLU:HB3	1.85	0.51
3:F:135:GLY:C	3:F:341:PHE:HZ	2.13	0.51
4:H:26:LEU:CD1	4:H:26:LEU:H	2.21	0.51
8:L:37:ALA:O	8:L:391:LEU:HD12	2.11	0.51
3:E:243:LEU:HD11	3:F:100:ALA:HB1	1.92	0.51
3:F:141:GLU:OE1	3:F:142:GLY:N	2.43	0.51
3:G:44:ARG:CZ	3:G:66:PRO:HG3	2.32	0.51
1:A:85:VAL:CG2	1:A:94:ILE:HD11	2.34	0.51
3:F:15:SER:O	3:F:44:ARG:N	2.44	0.51
1:A:2:ARG:O	1:A:2:ARG:NH1	2.37	0.51
3:C:78:MET:HG3	3:C:278:ALA:HB2	1.92	0.51
3:C:294:ASP:OD1	3:D:145:MET:CG	2.59	0.51
3:D:116:SER:HB3	3:D:138:ARG:HE	1.76	0.51
3:C:294:ASP:CA	3:D:145:MET:HG3	2.41	0.50
3:D:140:LEU:O	5:I:11:G:O2'	2.27	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:121:ILE:HG22	3:F:125:ARG:HD2	1.93	0.50
3:F:280:ASN:OD1	3:F:316:ILE:CG1	2.59	0.50
3:F:291:HIS:O	3:G:145:MET:HG3	2.10	0.50
3:F:305:LEU:N	3:F:305:LEU:CD2	2.73	0.50
5:I:6:C:H2'	5:I:7:G:C8	2.47	0.50
3:C:193:ASP:OD1	3:D:80:LYS:NZ	2.33	0.50
3:D:78:MET:CG	3:D:278:ALA:CB	2.79	0.50
3:G:70:MET:SD	3:G:260:TRP:NE1	2.84	0.50
5:I:2:U:C5'	5:I:3:G:OP2	2.59	0.50
8:L:35:VAL:O	8:L:386:LEU:CA	2.59	0.50
2:B:20:LEU:HD23	2:B:220:PRO:HA	1.73	0.50
3:D:189:GLY:HA3	3:F:125:ARG:HD3	1.91	0.50
3:F:69:THR:OG1	5:I:27:A:OP1	2.29	0.50
3:G:74:LEU:CD1	3:G:260:TRP:CH2	2.94	0.50
3:F:1:MET:SD	3:F:306:ASN:CG	2.90	0.50
1:A:215:LEU:C	1:A:219:MET:HG3	2.25	0.50
3:C:197:ILE:HB	3:C:200:GLY:HA2	1.94	0.50
3:D:169:MET:HG3	3:D:256:LEU:HD22	1.87	0.50
3:F:185:ILE:HA	3:F:188:LEU:HD23	1.93	0.50
6:J:29:DT:C2'	6:J:30:DT:H5'	2.10	0.50
1:A:85:VAL:CG1	1:A:92:TYR:C	2.68	0.50
3:F:169:MET:CE	3:F:256:LEU:CB	2.83	0.50
3:F:180:ARG:HG2	5:I:33:U:H5''	0.51	0.50
3:G:45:MET:SD	3:G:46:MET:N	2.85	0.50
1:A:94:ILE:CG2	1:A:100:LYS:CD	2.54	0.50
3:G:330:ILE:HA	3:G:333:LEU:HG	1.94	0.50
3:E:78:MET:HE3	3:E:133:PHE:CE2	2.46	0.50
3:F:77:THR:OG1	3:F:282:MET:HE1	2.11	0.50
3:F:119:ASP:O	3:F:123:THR:HG23	2.12	0.50
3:F:124:MET:CE	3:F:341:PHE:N	2.74	0.50
3:G:3:ILE:N	3:G:262:ILE:O	2.45	0.50
3:D:279:LEU:O	3:D:282:MET:CG	2.56	0.50
3:F:180:ARG:HD3	5:I:33:U:C1'	2.37	0.50
3:G:44:ARG:C	3:G:63:GLN:HG3	2.28	0.50
3:G:303:VAL:HB	3:G:311:TRP:HB2	1.92	0.50
5:I:47:C:O2	5:I:48:C:C6	2.65	0.50
8:L:428:LEU:HD23	8:L:598:ASN:OD1	2.11	0.50
1:A:56:ARG:HB3	5:I:6:C:H41	1.77	0.49
4:H:229:LEU:HD21	5:I:38:A:C4	2.47	0.49
6:J:33:DT:C7	8:L:493:LYS:NZ	2.75	0.49
8:L:371:GLN:O	8:L:375:LEU:HB2	2.12	0.49

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:133:ASP:OD2	2:B:196:ALA:HB1	2.12	0.49
1:A:24:GLU:OE1	1:A:24:GLU:N	2.45	0.49
2:B:85:THR:HA	2:B:119:SER:O	2.12	0.49
3:D:173:ILE:HD11	3:D:256:LEU:CD2	2.39	0.49
8:L:16:GLU:CD	8:L:19:ARG:HE	2.16	0.49
3:E:181:ARG:HB2	5:I:25:G:H1'	1.93	0.49
3:G:64:ILE:HD12	3:G:148:SER:HB3	1.93	0.49
3:G:75:ARG:HB2	3:G:133:PHE:CE2	2.48	0.49
3:G:125:ARG:O	3:G:143:ARG:CZ	2.60	0.49
7:K:46:DA:H2'	7:K:47:DA:C8	2.48	0.49
2:B:200:ALA:C	2:B:212:HIS:CE1	2.85	0.49
3:C:292:SER:OG	3:C:293:LYS:HE3	2.02	0.49
3:D:111:PRO:HD2	7:K:40:DT:H2''	1.94	0.49
3:D:281:LYS:HD2	3:D:281:LYS:N	2.28	0.49
3:G:72:SER:HG	5:I:32:U:H6	1.60	0.49
1:A:232:ILE:O	1:A:232:ILE:HG22	2.13	0.49
3:C:84:GLU:HB2	3:C:85:PRO:HD3	1.93	0.49
3:D:75:ARG:NH1	3:D:102:ALA:O	2.45	0.49
3:F:212:LEU:HD11	4:H:103:VAL:HG11	1.92	0.49
3:G:83:ILE:O	3:G:87:LEU:HB3	2.11	0.49
3:D:38:PHE:HE1	7:K:31:DA:H2'	1.77	0.49
3:F:24:THR:OG1	3:F:27:GLY:O	2.26	0.49
3:F:81:HIS:CE1	3:F:82:VAL:HG23	2.48	0.49
3:F:153:HIS:CA	3:F:168:MET:SD	3.00	0.49
6:J:3:DC:C4	7:K:52:DG:N1	2.57	0.49
1:A:149:ARG:NH2	1:A:152:VAL:HG11	2.17	0.49
2:B:23:LEU:HD12	2:B:132:ALA:HB3	1.95	0.49
2:B:105:ARG:HB3	6:J:6:DC:P	2.53	0.49
8:L:203:ARG:HH11	8:L:207:MET:HE3	1.78	0.49
3:C:10:ILE:H	3:C:298:PHE:HA	1.78	0.49
3:E:81:HIS:ND1	3:E:281:LYS:CD	2.69	0.49
3:F:124:MET:HE1	3:F:341:PHE:N	2.28	0.49
3:G:9:ASN:ND2	3:G:254:PRO:HA	2.28	0.49
3:G:326:VAL:O	3:G:330:ILE:HG12	2.13	0.49
4:H:190:SER:OG	4:H:192:LEU:HD23	1.97	0.49
2:B:150:GLN:O	2:B:155:ARG:NH2	2.46	0.48
3:C:243:LEU:HD11	3:D:100:ALA:HB1	1.95	0.48
3:E:152:ILE:HG22	3:E:168:MET:CB	2.40	0.48
3:E:280:ASN:OD1	3:E:315:GLY:CA	2.60	0.48
3:F:52:VAL:HG21	3:F:58:LYS:HB2	1.94	0.48
3:G:149:LEU:CD2	3:G:258:TRP:HE3	2.24	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:L:79:MET:HG3	8:L:90:LEU:HD22	1.94	0.48
8:L:393:THR:OG1	8:L:394:THR:N	2.46	0.48
8:L:463:THR:HB	8:L:515:VAL:HG12	1.95	0.48
1:A:7:ILE:HG21	1:A:86:VAL:HG11	1.95	0.48
3:C:117:SER:HG	3:C:120:GLU:HG2	1.74	0.48
3:C:257:LYS:NZ	3:C:301:ASP:OD2	2.44	0.48
3:C:311:TRP:HA	3:C:316:ILE:HD13	1.96	0.48
3:D:189:GLY:C	3:F:125:ARG:HD3	2.33	0.48
3:F:136:GLY:HA3	3:F:341:PHE:CE1	2.48	0.48
3:F:180:ARG:HE	5:I:33:U:H4'	0.90	0.48
4:H:217:LEU:HD21	5:I:61:23G:C8	2.24	0.48
8:L:34:ILE:HD12	8:L:407:VAL:HG13	1.94	0.48
8:L:166:SER:OG	8:L:334:ARG:NH1	2.46	0.48
8:L:473:THR:CG2	8:L:519:LEU:HD23	2.43	0.48
2:B:22:HIS:ND1	2:B:206:TYR:CD2	2.74	0.48
3:C:15:SER:O	3:C:44:ARG:N	2.46	0.48
3:E:181:ARG:NH1	3:F:106:ASN:OD1	2.47	0.48
3:E:198:ASN:HB3	3:F:93:LYS:HB3	1.95	0.48
3:F:282:MET:HE3	3:F:282:MET:CA	2.42	0.48
4:H:119:LEU:O	4:H:203:GLU:HA	2.13	0.48
3:G:125:ARG:C	3:G:143:ARG:HH21	2.16	0.48
6:J:11:DC:N4	7:K:44:DG:H1	2.11	0.48
6:J:33:DT:H71	8:L:493:LYS:HZ3	1.79	0.48
1:A:189:THR:O	1:A:193:ALA:N	2.44	0.48
1:A:233:THR:HA	1:A:236:VAL:CG2	2.43	0.48
8:L:57:ALA:HB1	8:L:88:VAL:HG21	1.95	0.48
8:L:548:ILE:HB	8:L:601:VAL:HG23	1.95	0.48
3:E:69:THR:OG1	5:I:20:C:O3'	2.31	0.48
2:B:103:GLN:HE21	3:C:93:LYS:CB	2.25	0.48
2:B:181:ALA:C	2:B:182:LEU:HD12	2.33	0.48
2:B:184:ALA:C	2:B:186:ALA:H	2.16	0.48
3:D:94:LEU:HD23	3:D:99:TYR:HD1	1.79	0.48
3:E:75:ARG:NH1	3:E:104:SER:O	2.47	0.48
3:E:76:ARG:HB2	3:E:76:ARG:CZ	2.44	0.48
2:B:31:ARG:NH2	2:B:51:ASP:OD2	2.47	0.48
2:B:43:ILE:C	3:C:118:PHE:CE2	2.87	0.48
2:B:200:ALA:HA	2:B:212:HIS:HE1	1.78	0.48
3:E:23:ILE:HB	3:E:40:LEU:HD22	1.96	0.48
3:E:50:ALA:O	3:E:57:ILE:HA	2.13	0.48
3:E:83:ILE:HD11	3:E:274:LEU:HD11	1.96	0.48
1:A:123:HIS:NE2	7:K:45:DA:H4'	2.29	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:C:330:ILE:HB	3:C:333:LEU:CD1	2.35	0.48
3:D:182:MET:HE1	3:D:187:ASN:ND2	2.14	0.48
3:G:139:MET:HG2	5:I:29:G:H1'	1.95	0.48
8:L:388:SER:HB3	8:L:391:LEU:HG	1.95	0.48
1:A:56:ARG:CB	5:I:6:C:H41	2.27	0.47
2:B:30:LEU:HD12	2:B:144:LEU:HB3	1.96	0.47
3:D:5:VAL:HG21	3:D:260:TRP:HE3	1.79	0.47
3:F:14:PHE:CE1	3:F:249:HIS:HB2	2.49	0.47
3:F:279:LEU:HD12	3:F:282:MET:HG3	1.95	0.47
3:G:80:LYS:O	3:G:80:LYS:HG2	2.13	0.47
8:L:104:ARG:HB3	8:L:162:LEU:CD2	2.44	0.47
8:L:234:ILE:HG23	8:L:385:THR:HB	1.95	0.47
8:L:442:PRO:HA	8:L:479:ARG:NH2	2.23	0.47
1:A:94:ILE:HG22	1:A:94:ILE:O	2.14	0.47
2:B:19:ASP:C	5:I:3:G:N7	2.68	0.47
3:D:201:ALA:O	3:D:205:ASN:ND2	2.40	0.47
3:G:48:VAL:HG22	3:G:62:LEU:CD1	2.29	0.47
8:L:385:THR:HG22	8:L:387:VAL:HG23	1.96	0.47
1:A:126:TRP:CE3	1:A:127:ARG:HB3	2.50	0.47
1:A:177:ASP:OD1	1:A:179:LYS:N	2.47	0.47
2:B:31:ARG:HD2	2:B:144:LEU:HD21	1.95	0.47
3:F:340:GLN:HE21	3:F:340:GLN:CA	2.23	0.47
4:H:20:ARG:HG3	4:H:39:MET:HE1	1.95	0.47
8:L:160:ASP:OD1	8:L:163:LEU:CD1	2.62	0.47
8:L:617:ARG:O	8:L:621:ASP:N	2.47	0.47
3:D:143:ARG:HH11	3:D:267:PRO:HA	1.79	0.47
3:D:173:ILE:CG1	3:D:256:LEU:HD11	2.43	0.47
3:F:94:LEU:HD23	3:F:335:SER:HB2	1.96	0.47
3:G:60:VAL:HG21	3:G:155:ASN:HB3	1.96	0.47
3:G:79:LEU:O	3:G:84:GLU:HG2	2.15	0.47
4:H:38:LEU:HD12	4:H:55:VAL:HG11	1.95	0.47
4:H:213:SER:HB2	4:H:218:LEU:HD22	1.96	0.47
1:A:32:HIS:HD2	1:A:126:TRP:NE1	2.12	0.47
2:B:73:LEU:HD12	2:B:75:ARG:HH21	1.79	0.47
3:C:13:ILE:HB	3:C:252:VAL:HB	1.96	0.47
3:D:160:LEU:HA	3:D:261:ARG:HH22	1.79	0.47
3:E:68:ASN:HD21	5:I:19:C:C2'	2.27	0.47
4:H:217:LEU:HD22	5:I:61:23G:C8	2.38	0.47
7:K:36:DT:H2''	7:K:37:DT:C5'	2.44	0.47
8:L:547:VAL:HG22	8:L:600:TRP:HB2	1.95	0.47
3:D:246:PHE:CD1	7:K:31:DA:C2	3.03	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:D:278:ALA:O	3:D:282:MET:SD	2.72	0.47
3:F:17:ALA:HB2	3:F:44:ARG:HA	1.96	0.47
4:H:185:LYS:O	4:H:220:LYS:NZ	2.45	0.47
8:L:473:THR:HG21	8:L:519:LEU:HD23	1.95	0.47
1:A:137:ILE:O	1:A:147:ILE:HA	2.14	0.47
2:B:23:LEU:CD2	2:B:27:LEU:HG	2.44	0.47
3:D:70:MET:C	3:D:73:LEU:CD2	2.70	0.47
3:D:180:ARG:HH21	5:I:20:C:H5	1.60	0.47
3:E:1:MET:SD	3:E:306:ASN:ND2	2.88	0.47
3:E:279:LEU:CA	3:E:282:MET:HB2	2.44	0.47
3:E:298:PHE:CD2	3:E:300:ILE:CD1	2.98	0.47
3:G:82:VAL:CG1	3:G:277:LEU:HD13	2.30	0.47
3:G:276:LEU:CA	3:G:279:LEU:CG	2.76	0.47
4:H:27:LEU:HD11	4:H:31:GLN:HB2	1.96	0.47
4:H:190:SER:CB	4:H:192:LEU:HD23	2.44	0.47
4:H:192:LEU:CD2	4:H:192:LEU:N	2.77	0.47
5:I:47:C:N1	5:I:48:C:H5	2.12	0.47
6:J:29:DT:H2'	6:J:29:DT:O2	2.13	0.47
8:L:203:ARG:NH1	8:L:207:MET:CE	2.73	0.47
8:L:440:ASP:OD1	8:L:472:ASN:OD1	2.32	0.47
3:E:290:GLY:N	5:I:23:A:OP2	2.48	0.47
3:F:23:ILE:HB	3:F:40:LEU:HD22	1.96	0.47
2:B:104:LEU:HD12	3:C:96:ILE:CG1	2.27	0.47
3:E:79:LEU:CD2	3:E:103:TYR:CE2	2.64	0.47
3:E:326:VAL:O	3:E:330:ILE:HG12	2.15	0.47
4:H:27:LEU:HD11	4:H:31:GLN:CB	2.45	0.47
8:L:160:ASP:OD1	8:L:163:LEU:HD12	2.15	0.47
1:A:149:ARG:O	1:A:153:VAL:HG23	2.15	0.47
1:A:151:GLU:OE2	1:A:151:GLU:N	2.43	0.47
3:C:85:PRO:HA	3:C:88:VAL:HG21	1.96	0.47
3:D:1:MET:CE	3:D:322:TYR:CZ	2.98	0.47
3:G:44:ARG:CZ	3:G:66:PRO:CG	2.89	0.47
2:B:25:ALA:HB1	5:I:2:U:H5''	1.97	0.46
3:C:117:SER:O	3:C:121:ILE:HG13	2.15	0.46
3:C:152:ILE:HG22	3:C:168:MET:HG2	1.97	0.46
3:D:74:LEU:CD2	3:D:144:LEU:HD21	2.45	0.46
3:D:183:ASP:HB3	3:D:186:LEU:HG	1.95	0.46
3:E:152:ILE:HG21	3:E:168:MET:N	2.28	0.46
3:G:78:MET:HB3	3:G:278:ALA:HB2	1.97	0.46
5:I:47:C:C4	5:I:60:G:C6	2.94	0.46
3:C:12:PRO:HG3	3:C:254:PRO:HD3	1.96	0.46

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:5:VAL:HG21	3:E:279:LEU:CD1	2.44	0.46
3:E:46:MET:HE2	3:E:150:TYR:HE1	1.55	0.46
3:F:281:LYS:H	3:F:281:LYS:CD	2.28	0.46
7:K:36:DT:C2'	7:K:37:DT:O5'	2.56	0.46
3:E:147:ASP:HB3	3:E:261:ARG:HB2	1.97	0.46
6:J:26:DT:O2	6:J:26:DT:H2'	2.14	0.46
8:L:381:THR:HG21	8:L:384:ALA:HB2	1.97	0.46
3:G:139:MET:HE3	5:I:29:G:N2	1.67	0.46
3:E:132:LEU:HD22	3:E:144:LEU:HD13	1.97	0.46
3:G:10:ILE:HD11	3:G:297:ARG:HG3	1.98	0.46
8:L:35:VAL:O	8:L:386:LEU:HB2	2.14	0.46
8:L:103:GLN:HE22	8:L:172:CYS:HB3	1.81	0.46
3:D:173:ILE:HD11	3:D:256:LEU:HD11	1.97	0.46
3:E:59:SER:O	3:E:59:SER:OG	2.32	0.46
3:F:77:THR:HG21	3:F:282:MET:HE2	1.97	0.46
3:G:149:LEU:HG	3:G:258:TRP:HE3	1.80	0.46
6:J:37:DT:OP2	8:L:98:ASN:ND2	2.47	0.46
3:F:39:PRO:HG3	7:K:21:DG:H5'	1.98	0.46
3:F:81:HIS:HE1	3:F:278:ALA:HA	1.81	0.46
3:G:70:MET:HB3	3:G:260:TRP:HZ2	1.81	0.46
1:A:136:ARG:HD3	2:B:198:CYS:CB	2.46	0.46
3:E:74:LEU:O	3:E:78:MET:CE	2.54	0.46
3:E:87:LEU:O	3:E:92:ASN:N	2.48	0.46
6:J:13:DT:H4'	6:J:14:DT:H5'	1.98	0.46
8:L:204:MET:HA	8:L:207:MET:CG	2.46	0.46
8:L:437:GLU:CG	8:L:438:PRO:HD2	2.45	0.46
3:E:123:THR:OG1	3:E:124:MET:SD	2.72	0.46
3:F:185:ILE:HD12	3:F:207:TRP:HB3	1.98	0.46
6:J:11:DC:H42	7:K:44:DG:H1	1.64	0.46
3:E:113:GLY:O	7:K:36:DT:H5''	2.16	0.45
3:F:112:ASP:N	3:F:137:PRO:O	2.45	0.45
4:H:49:LYS:O	5:I:60:G:H4'	2.16	0.45
4:H:190:SER:HG	4:H:192:LEU:HD21	1.71	0.45
7:K:37:DT:OP2	7:K:38:DG:N2	2.33	0.45
1:A:215:LEU:O	1:A:219:MET:HB2	2.15	0.45
2:B:23:LEU:HD21	2:B:27:LEU:CD1	2.46	0.45
2:B:23:LEU:CD2	2:B:27:LEU:CD1	2.95	0.45
2:B:103:GLN:NE2	3:C:93:LYS:HD2	2.31	0.45
3:E:77:THR:HG23	3:E:278:ALA:HB1	1.98	0.45
3:F:85:PRO:HA	3:F:88:VAL:HG12	1.98	0.45
6:J:32:DT:C4	8:L:557:ARG:HB2	2.51	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:L:121:ILE:HG22	8:L:145:TRP:HZ3	1.81	0.45
8:L:206:GLN:OE1	8:L:249:TYR:OH	2.20	0.45
3:E:241:ARG:HD2	7:K:28:DT:H5'	1.98	0.45
8:L:63:VAL:HB	8:L:190:ILE:HG12	1.98	0.45
3:D:38:PHE:CE1	7:K:31:DA:H2'	2.52	0.45
3:F:79:LEU:HA	3:F:83:ILE:HB	1.98	0.45
5:I:34:G:N9	5:I:35:A:C4	2.84	0.45
3:D:8:ARG:HG2	3:D:257:LYS:HD2	1.99	0.45
3:F:143:ARG:HH21	3:F:266:ARG:HB2	1.81	0.45
8:L:63:VAL:HG22	8:L:232:THR:HB	1.97	0.45
1:A:56:ARG:HB3	5:I:6:C:C4	2.51	0.45
2:B:188:PRO:HA	2:B:191:VAL:CG1	2.45	0.45
3:C:186:LEU:HD23	3:C:186:LEU:HA	1.70	0.45
3:D:24:THR:HG23	3:D:26:ASP:H	1.81	0.45
3:E:196:VAL:HG21	3:F:84:GLU:HG2	1.99	0.45
3:F:191:SER:HA	3:F:194:VAL:HG22	1.98	0.45
3:F:282:MET:CE	3:F:282:MET:CA	2.85	0.45
3:G:48:VAL:HG11	3:G:62:LEU:HD12	1.98	0.45
4:H:115:ARG:HH22	4:H:207:ARG:HD2	1.82	0.45
8:L:79:MET:HE1	8:L:90:LEU:HD13	1.97	0.45
3:D:282:MET:O	3:D:298:PHE:CZ	2.70	0.45
1:A:12:LEU:HD22	1:A:237:MET:SD	2.57	0.45
2:B:103:GLN:HE21	3:C:93:LYS:CD	2.30	0.45
3:D:275:VAL:O	3:D:279:LEU:HG	2.17	0.45
3:E:182:MET:SD	3:E:182:MET:N	2.84	0.45
4:H:170:ASP:OD1	4:H:170:ASP:N	2.48	0.45
4:H:226:ASN:OD1	4:H:226:ASN:N	2.48	0.45
3:C:45:MET:CE	3:C:61:PRO:HB3	2.46	0.45
3:D:75:ARG:HB2	3:D:133:PHE:CZ	2.52	0.45
3:E:68:ASN:HD21	5:I:19:C:H2'	1.82	0.45
3:C:246:PHE:N	7:K:38:DG:OP1	2.47	0.45
3:E:81:HIS:CB	3:E:281:LYS:HE2	2.35	0.45
3:E:108:THR:HG22	3:E:110:ASN:H	1.80	0.45
4:H:29:ASP:N	4:H:29:ASP:OD1	2.50	0.45
4:H:123:VAL:HG11	4:H:126:MET:CE	2.47	0.45
5:I:9:U:O2'	5:I:10:G:O4'	2.35	0.45
8:L:18:LEU:HD11	8:L:21:LEU:CG	2.44	0.45
8:L:496:SER:OG	8:L:497:ALA:N	2.49	0.45
1:A:188:ILE:HG21	1:A:201:GLN:HE21	1.81	0.44
3:G:7:VAL:HG12	3:G:300:ILE:HG12	1.99	0.44
4:H:81:THR:O	4:H:84:ILE:CG2	2.65	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:22:HIS:CD2	2:B:180:ARG:HG2	2.53	0.44
3:G:73:LEU:HG	3:G:282:MET:HE1	1.98	0.44
2:B:23:LEU:C	2:B:23:LEU:CD2	2.85	0.44
3:C:29:ILE:HG21	6:J:20:DT:O4	2.17	0.44
3:F:12:PRO:O	3:F:295:TYR:HD1	2.00	0.44
3:G:125:ARG:HA	3:G:131:GLY:HA3	1.99	0.44
1:A:104:PHE:CE2	1:A:148:VAL:HG11	2.52	0.44
1:A:127:ARG:NH2	1:A:143:PRO:HA	2.32	0.44
2:B:112:ALA:HB1	7:K:44:DG:H2'	2.00	0.44
3:C:74:LEU:CD1	3:C:78:MET:CE	2.93	0.44
3:F:9:ASN:CB	3:F:13:ILE:HD11	2.46	0.44
3:F:264:LEU:HD13	3:F:272:VAL:HG22	1.99	0.44
5:I:6:C:O2'	5:I:7:G:C5'	2.65	0.44
8:L:233:LEU:O	8:L:384:ALA:HA	2.18	0.44
8:L:459:ALA:O	8:L:513:ARG:NH1	2.51	0.44
1:A:32:HIS:CE1	1:A:58:LEU:HD11	2.53	0.44
1:A:126:TRP:CE3	1:A:126:TRP:C	2.91	0.44
1:A:213:TRP:CZ2	1:A:217:TYR:CE1	3.05	0.44
3:C:84:GLU:O	3:C:88:VAL:HG13	2.17	0.44
3:E:165:GLU:HA	3:E:168:MET:SD	2.57	0.44
3:F:135:GLY:C	3:F:341:PHE:CZ	2.90	0.44
3:G:48:VAL:HG22	3:G:62:LEU:HG	1.99	0.44
3:G:256:LEU:O	3:G:258:TRP:CD1	2.70	0.44
2:B:30:LEU:HB2	2:B:144:LEU:HD22	2.00	0.44
3:C:293:LYS:N	3:C:293:LYS:HZ3	2.14	0.44
3:D:105:GLY:O	3:D:136:GLY:N	2.41	0.44
3:D:294:ASP:HA	3:E:145:MET:CE	2.48	0.44
3:E:24:THR:CG2	3:E:31:PRO:CG	2.94	0.44
3:E:169:MET:HE1	3:E:173:ILE:HG22	1.99	0.44
3:G:17:ALA:N	3:G:42:ARG:O	2.47	0.44
4:H:185:LYS:NZ	5:I:42:U:O3'	2.51	0.44
5:I:34:G:N1	7:K:18:DC:C2	2.86	0.44
8:L:488:LEU:HA	8:L:515:VAL:HG23	1.98	0.44
1:A:192:GLY:O	1:A:196:LEU:HD12	2.17	0.44
2:B:205:PRO:HG3	5:I:1:G:C8	2.53	0.44
3:C:74:LEU:CG	3:C:78:MET:CE	2.96	0.44
3:C:79:LEU:HA	3:C:83:ILE:HB	1.99	0.44
3:F:79:LEU:HD22	3:F:103:TYR:CZ	2.52	0.44
3:F:284:ASN:O	3:F:286:ARG:NH1	2.50	0.44
3:G:274:LEU:N	3:G:326:VAL:HG21	2.33	0.44
8:L:275:ASP:N	8:L:275:ASP:OD1	2.51	0.44

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:20:LEU:HD23	2:B:220:PRO:CD	2.46	0.44
3:D:159:ILE:HG22	3:D:261:ARG:HH12	1.83	0.44
3:F:81:HIS:NE2	3:F:281:LYS:CD	2.80	0.44
2:B:92:GLU:O	2:B:96:HIS:ND1	2.51	0.44
3:C:85:PRO:O	3:C:88:VAL:HG23	2.17	0.44
3:E:152:ILE:HA	3:E:160:LEU:HD11	1.99	0.44
5:I:2:U:C4'	5:I:3:G:OP2	2.66	0.44
1:A:192:GLY:C	1:A:196:LEU:CD1	2.86	0.43
1:A:218:LEU:CD1	1:A:218:LEU:C	2.85	0.43
2:B:83:MET:HE1	5:I:9:U:C2	2.53	0.43
2:B:200:ALA:C	2:B:212:HIS:ND1	2.72	0.43
3:D:4:GLU:CD	3:D:164:TYR:HH	2.20	0.43
3:F:153:HIS:HD2	3:F:169:MET:HB2	1.83	0.43
6:J:33:DT:C7	8:L:493:LYS:HZ3	2.31	0.43
1:A:85:VAL:HG13	1:A:92:TYR:H	1.82	0.43
1:A:157:LEU:HA	1:A:157:LEU:HD23	1.70	0.43
3:C:74:LEU:HG	3:C:78:MET:HE3	2.00	0.43
3:E:188:LEU:HB3	3:G:118:PHE:CE1	2.53	0.43
8:L:34:ILE:HG23	8:L:384:ALA:HB3	1.99	0.43
8:L:224:LEU:C	8:L:224:LEU:CD2	2.86	0.43
3:C:282:MET:HG3	3:C:298:PHE:HZ	1.83	0.43
3:D:184:PRO:HD3	3:D:243:LEU:HD23	2.01	0.43
3:D:282:MET:HA	3:D:282:MET:HE3	2.00	0.43
3:E:131:GLY:O	3:E:143:ARG:N	2.45	0.43
3:F:78:MET:HE3	3:F:278:ALA:CB	2.48	0.43
3:F:185:ILE:HD11	3:F:211:LEU:HD11	1.99	0.43
3:G:316:ILE:HG21	3:G:323:PHE:CZ	2.54	0.43
5:I:39:G:N3	5:I:39:G:C2'	2.72	0.43
5:I:59:G:C4	5:I:60:G:N7	2.86	0.43
8:L:204:MET:HA	8:L:207:MET:SD	2.59	0.43
1:A:93:SER:HB3	1:A:232:ILE:HG13	2.00	0.43
2:B:200:ALA:CA	2:B:212:HIS:CE1	3.01	0.43
3:C:116:SER:OG	3:C:138:ARG:NH1	2.44	0.43
3:D:74:LEU:O	3:D:77:THR:HG23	2.18	0.43
3:F:10:ILE:HG21	3:F:297:ARG:HH21	1.82	0.43
3:F:204:ALA:O	3:F:208:ILE:HG12	2.18	0.43
3:F:242:GLY:O	3:G:109:GLY:N	2.52	0.43
3:G:9:ASN:HD21	3:G:254:PRO:HA	1.83	0.43
8:L:182:ARG:HB3	8:L:224:LEU:HD21	2.00	0.43
1:A:81:LEU:HG	1:A:81:LEU:O	2.18	0.43
1:A:149:ARG:HE	1:A:152:VAL:CB	2.26	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:23:LEU:HD23	2:B:27:LEU:HG	1.99	0.43
3:C:58:LYS:HD2	3:C:58:LYS:HA	1.76	0.43
3:D:291:HIS:NE2	3:E:265:ASP:OD2	2.35	0.43
3:E:25:ILE:HD11	3:E:36:SER:HB3	2.00	0.43
3:E:252:VAL:HG12	3:E:256:LEU:HD13	2.00	0.43
4:H:4:LYS:HB3	4:H:77:LEU:HD12	2.01	0.43
8:L:53:ALA:HB1	8:L:190:ILE:HD13	2.00	0.43
1:A:191:ALA:O	1:A:195:MET:CG	2.66	0.43
2:B:20:LEU:CA	2:B:220:PRO:HG3	2.48	0.43
2:B:74:LYS:HA	2:B:74:LYS:HD2	1.88	0.43
2:B:183:PRO:CB	2:B:185:ASP:OD1	2.61	0.43
3:C:74:LEU:CG	3:C:78:MET:HE3	2.48	0.43
3:D:7:VAL:HG12	3:D:300:ILE:HG12	1.99	0.43
3:E:79:LEU:CD2	3:E:103:TYR:CE1	2.82	0.43
3:F:78:MET:CE	3:F:278:ALA:CB	2.96	0.43
3:G:75:ARG:NH1	5:I:31:C:O5'	2.51	0.43
3:G:277:LEU:CD2	3:G:277:LEU:C	2.86	0.43
4:H:126:MET:HB3	4:H:126:MET:HE2	1.87	0.43
1:A:176:PHE:HE1	1:A:186:GLY:HA2	1.84	0.43
1:A:231:CYS:SG	1:A:233:THR:HG22	2.57	0.43
2:B:57:TYR:HB2	2:B:67:LYS:HE3	2.01	0.43
3:C:73:LEU:HD22	3:C:287:ILE:HG13	2.01	0.43
3:C:278:ALA:O	3:C:282:MET:HB2	2.19	0.43
3:C:286:ARG:HG3	3:D:145:MET:HE1	2.00	0.43
3:C:303:VAL:HB	3:C:311:TRP:HB2	2.00	0.43
3:G:6:THR:HA	3:G:258:TRP:O	2.18	0.43
3:G:26:ASP:N	3:G:26:ASP:OD1	2.52	0.43
3:G:257:LYS:NZ	3:G:301:ASP:OD2	2.52	0.43
3:C:74:LEU:HD11	3:C:78:MET:CE	2.47	0.43
3:C:132:LEU:HD13	3:C:144:LEU:HD12	2.01	0.43
3:E:185:ILE:HD11	3:F:100:ALA:HB2	2.00	0.43
3:F:12:PRO:O	3:F:295:TYR:CD1	2.72	0.43
3:G:77:THR:O	3:G:81:HIS:CB	2.51	0.43
5:I:47:C:C4	5:I:48:C:N4	2.85	0.43
8:L:117:LEU:O	8:L:121:ILE:HG12	2.19	0.43
8:L:433:PHE:HB2	8:L:602:LEU:HA	2.00	0.43
1:A:131:THR:HG22	1:A:138:HIS:H	1.84	0.43
1:A:136:ARG:NH1	2:B:217:ALA:C	2.72	0.43
1:A:136:ARG:HH12	2:B:218:PRO:C	2.15	0.43
3:C:9:ASN:OD1	3:C:256:LEU:N	2.51	0.43
3:E:73:LEU:HD22	3:E:287:ILE:HA	2.01	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:F:290:GLY:N	5:I:29:G:OP1	2.51	0.43
5:I:59:G:C2	5:I:60:G:C8	3.07	0.43
1:A:63:ARG:HH12	3:C:110:ASN:ND2	2.17	0.43
3:D:1:MET:HG3	3:D:1:MET:O	2.18	0.43
3:G:276:LEU:CG	3:G:279:LEU:HD21	2.46	0.43
8:L:104:ARG:HB3	8:L:162:LEU:HD23	2.01	0.43
8:L:588:LEU:HD23	8:L:588:LEU:HA	1.87	0.43
1:A:213:TRP:CE2	1:A:217:TYR:HE1	2.37	0.42
3:C:64:ILE:HD12	3:C:65:VAL:O	2.19	0.42
3:C:127:HIS:NE2	3:C:337:GLU:OE1	2.52	0.42
3:E:74:LEU:HD13	3:E:282:MET:HE1	2.01	0.42
3:E:165:GLU:HA	3:E:168:MET:CE	2.49	0.42
3:F:183:ASP:OD1	3:F:185:ILE:HG12	2.19	0.42
4:H:131:LYS:HB2	4:H:134:HIS:HD2	1.84	0.42
4:H:186:LEU:O	4:H:187:ARG:NH1	2.46	0.42
5:I:48:C:C4	5:I:60:G:C6	3.06	0.42
8:L:18:LEU:HG	8:L:18:LEU:O	2.19	0.42
8:L:34:ILE:HG13	8:L:411:ARG:HG2	2.00	0.42
8:L:159:ALA:O	8:L:163:LEU:HG	2.19	0.42
1:A:69:CYS:HA	1:A:72:LEU:HD12	2.01	0.42
3:D:78:MET:SD	3:D:274:LEU:HG	2.59	0.42
3:F:279:LEU:O	3:F:282:MET:CG	2.66	0.42
5:I:43:G:O2'	5:I:44:U:P	2.75	0.42
3:D:281:LYS:N	3:D:281:LYS:CD	2.81	0.42
3:E:152:ILE:HA	3:E:160:LEU:CD1	2.50	0.42
3:G:264:LEU:HD22	3:G:267:PRO:HB3	2.01	0.42
4:H:176:LYS:HA	4:H:176:LYS:HD2	1.87	0.42
8:L:253:LEU:HD22	8:L:255:LEU:HD12	2.02	0.42
1:A:32:HIS:CD2	1:A:126:TRP:CE2	3.07	0.42
2:B:82:TRP:CH2	3:C:44:ARG:NE	2.88	0.42
3:E:29:ILE:HG23	3:E:40:LEU:HD23	2.01	0.42
3:F:281:LYS:N	3:F:281:LYS:CD	2.73	0.42
3:G:143:ARG:NE	3:G:271:GLN:HE22	2.17	0.42
4:H:9:ASP:HB2	4:H:60:PHE:HE2	1.83	0.42
8:L:18:LEU:O	8:L:48:MET:CE	2.63	0.42
8:L:400:LEU:O	8:L:404:LYS:HG2	2.19	0.42
8:L:606:ILE:HA	8:L:617:ARG:NH2	2.33	0.42
1:A:192:GLY:CA	1:A:196:LEU:HG	2.50	0.42
3:D:268:THR:HG22	3:D:270:ALA:H	1.83	0.42
3:G:277:LEU:HD23	3:G:277:LEU:O	2.19	0.42
4:H:112:CYS:SG	4:H:167:LEU:HD22	2.59	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
8:L:348:SER:HA	8:L:367:ARG:HE	1.84	0.42
1:A:21:LEU:HD23	1:A:45:PRO:HD3	2.01	0.42
1:A:136:ARG:NH1	2:B:217:ALA:O	2.53	0.42
3:D:1:MET:SD	3:D:305:LEU:CG	2.89	0.42
3:D:1:MET:HG2	3:D:305:LEU:CD1	2.49	0.42
3:F:194:VAL:HA	3:F:197:ILE:HD13	2.01	0.42
3:F:194:VAL:HG11	4:H:100:VAL:HG11	2.01	0.42
3:G:139:MET:HE1	7:K:23:DC:O2	2.20	0.42
1:A:136:ARG:CD	2:B:198:CYS:SG	3.08	0.42
3:C:134:GLY:HA3	3:C:140:LEU:HB3	2.01	0.42
3:E:124:MET:SD	3:E:124:MET:N	2.92	0.42
3:E:272:VAL:HG23	3:E:322:TYR:HB3	2.01	0.42
3:G:46:MET:HG3	3:G:48:VAL:HG13	2.00	0.42
8:L:52:LEU:HB3	8:L:234:ILE:CD1	2.49	0.42
8:L:141:HIS:NE2	8:L:187:GLU:OE2	2.40	0.42
2:B:21:LEU:HD22	5:I:2:U:O2'	2.19	0.42
3:D:15:SER:O	3:D:44:ARG:N	2.53	0.42
3:D:197:ILE:HD12	3:D:197:ILE:H	1.83	0.42
3:G:82:VAL:CG2	3:G:277:LEU:HD11	2.49	0.42
3:G:139:MET:CG	5:I:29:G:H1'	2.50	0.42
8:L:258:LEU:HG	8:L:262:ILE:HD13	2.02	0.42
8:L:342:ASP:OD2	8:L:365:SER:OG	2.37	0.42
1:A:129:PRO:HG3	2:B:209:ARG:HH22	1.84	0.42
2:B:14:MET:HE3	2:B:126:VAL:HG13	2.02	0.42
3:E:141:GLU:HG3	5:I:17:C:H5''	2.01	0.42
3:E:153:HIS:HD2	3:E:169:MET:CG	2.21	0.42
3:F:26:ASP:OD2	3:G:20:SER:N	2.50	0.42
8:L:239:HIS:ND1	8:L:388:SER:OG	2.45	0.42
1:A:56:ARG:HD2	5:I:6:C:N4	2.33	0.42
1:A:136:ARG:HD3	2:B:198:CYS:SG	2.60	0.42
2:B:19:ASP:CA	5:I:3:G:C8	3.03	0.42
3:C:79:LEU:O	3:C:84:GLU:N	2.45	0.42
3:E:47:TYR:HA	3:E:60:VAL:O	2.20	0.42
3:F:25:ILE:HD13	3:F:25:ILE:HA	1.90	0.42
5:I:5:A:H2'	5:I:6:C:H5'	2.02	0.42
1:A:231:CYS:SG	1:A:234:GLU:CD	2.97	0.41
2:B:20:LEU:CD2	2:B:220:PRO:CG	2.94	0.41
3:D:183:ASP:HA	3:D:184:PRO:HD3	1.90	0.41
3:G:1:MET:HB3	3:G:306:ASN:OD1	2.20	0.41
3:G:143:ARG:NE	3:G:271:GLN:NE2	2.68	0.41
3:G:259:VAL:O	3:G:259:VAL:HG23	2.20	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
4:H:81:THR:HA	4:H:84:ILE:CG2	2.50	0.41
4:H:85:HIS:HA	4:H:88:MET:HE3	2.02	0.41
4:H:113:GLU:HB2	4:H:115:ARG:HH21	1.85	0.41
1:A:157:LEU:HD22	1:A:223:ARG:CZ	2.50	0.41
2:B:102:LEU:HD12	3:C:99:TYR:CE1	2.54	0.41
3:D:94:LEU:HD12	3:D:94:LEU:HA	1.84	0.41
3:D:277:LEU:HD23	3:D:277:LEU:HA	1.87	0.41
3:E:74:LEU:C	3:E:78:MET:HE2	2.37	0.41
3:E:244:LYS:NZ	7:K:25:DT:H4'	2.34	0.41
1:A:79:TYR:CE1	6:J:11:DC:H4'	2.55	0.41
1:A:191:ALA:CA	1:A:195:MET:HE1	2.48	0.41
3:D:185:ILE:HA	3:D:188:LEU:HD23	2.01	0.41
3:D:191:SER:HA	3:D:194:VAL:HG12	2.03	0.41
3:E:1:MET:HB3	3:E:264:LEU:HB2	2.03	0.41
3:F:23:ILE:HG21	3:F:248:ALA:HB3	2.02	0.41
3:F:78:MET:HE1	3:F:275:VAL:HA	2.02	0.41
3:G:264:LEU:HD13	3:G:267:PRO:HB3	2.02	0.41
8:L:82:ILE:HG13	8:L:85:VAL:HG22	2.02	0.41
8:L:327:ARG:HA	8:L:327:ARG:HD3	1.78	0.41
1:A:65:ILE:CG2	1:A:69:CYS:HB2	2.50	0.41
1:A:85:VAL:HG13	1:A:92:TYR:CA	2.49	0.41
2:B:184:ALA:C	2:B:186:ALA:N	2.74	0.41
3:C:37:ARG:HH12	7:K:39:DC:P	2.44	0.41
3:C:44:ARG:HG2	3:C:66:PRO:HG3	2.03	0.41
3:D:279:LEU:HD23	3:D:282:MET:HG3	2.02	0.41
3:E:152:ILE:HD12	3:E:167:GLU:HG3	1.95	0.41
4:H:155:SER:HB2	4:H:214:VAL:HG12	2.03	0.41
6:J:31:DT:H2''	6:J:32:DT:H72	2.03	0.41
8:L:16:GLU:OE1	8:L:19:ARG:NE	2.53	0.41
8:L:393:THR:OG1	8:L:397:ASN:OD1	2.24	0.41
1:A:218:LEU:O	1:A:223:ARG:HD2	2.20	0.41
3:C:5:VAL:HB	3:C:260:TRP:HB3	2.01	0.41
3:C:85:PRO:CA	3:C:88:VAL:CG2	2.89	0.41
3:C:100:ALA:O	3:C:105:GLY:N	2.53	0.41
3:C:264:LEU:HB3	3:C:267:PRO:HB3	2.03	0.41
3:E:119:ASP:OD1	3:E:119:ASP:N	2.53	0.41
3:G:8:ARG:HD3	3:G:8:ARG:C	2.41	0.41
8:L:14:VAL:CG1	8:L:48:MET:HE1	2.43	0.41
8:L:237:GLU:HB3	8:L:240:LEU:HD12	2.03	0.41
1:A:157:LEU:HD11	1:A:218:LEU:HD22	2.02	0.41
3:E:32:PRO:HA	3:E:33:PRO:HD3	1.89	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
3:E:78:MET:HE1	3:E:133:PHE:CZ	2.42	0.41
3:E:212:LEU:HD22	3:G:114:VAL:HG23	2.02	0.41
3:F:255:GLY:O	3:G:158:ARG:NH2	2.51	0.41
3:G:83:ILE:O	3:G:87:LEU:HB2	2.20	0.41
4:H:8:PHE:HZ	4:H:81:THR:HG23	1.85	0.41
8:L:428:LEU:CB	8:L:597:LYS:O	2.69	0.41
2:B:76:GLN:H	2:B:76:GLN:HG2	1.73	0.41
3:C:84:GLU:CB	3:C:85:PRO:HD3	2.51	0.41
3:G:149:LEU:CG	3:G:258:TRP:HE3	2.34	0.41
8:L:315:LYS:HA	8:L:315:LYS:HD2	1.75	0.41
3:D:58:LYS:HA	3:D:58:LYS:HD2	1.79	0.41
3:D:169:MET:HE2	3:D:256:LEU:CD2	2.50	0.41
3:D:294:ASP:HA	3:E:145:MET:HE1	2.03	0.41
3:E:68:ASN:OD1	5:I:20:C:C5'	2.62	0.41
3:E:264:LEU:HD13	3:E:272:VAL:HG12	2.03	0.41
3:F:280:ASN:CG	3:F:316:ILE:HD12	2.33	0.41
8:L:35:VAL:HB	8:L:385:THR:HA	2.03	0.41
1:A:113:LEU:HD11	1:A:128:THR:HG23	2.02	0.41
2:B:55:GLU:HB2	2:B:67:LYS:HG3	2.03	0.41
3:D:69:THR:O	3:D:73:LEU:HD21	1.67	0.41
3:D:169:MET:HG3	3:D:256:LEU:HD21	1.97	0.41
3:D:305:LEU:HB2	3:D:310:VAL:HG21	2.03	0.41
3:E:180:ARG:NH1	5:I:28:A:N3	2.69	0.41
3:E:305:LEU:HD12	3:E:305:LEU:HA	1.82	0.41
3:F:71:ARG:HH12	3:F:144:LEU:HB3	1.86	0.41
3:F:121:ILE:HG22	3:F:125:ARG:CD	2.50	0.41
3:F:124:MET:CB	3:F:130:ILE:HG21	2.38	0.41
3:F:145:MET:HB2	3:F:263:SER:HB2	2.03	0.41
4:H:30:THR:CA	4:H:31:GLN:OE1	2.69	0.41
4:H:31:GLN:N	4:H:31:GLN:CD	2.73	0.41
8:L:241:LEU:O	8:L:244:ALA:HB3	2.20	0.41
2:B:166:LYS:HE3	2:B:166:LYS:HB3	1.92	0.41
3:D:291:HIS:HA	3:E:145:MET:HE3	2.03	0.41
3:F:127:HIS:HE2	3:F:333:LEU:HD11	1.85	0.41
4:H:84:ILE:HG13	4:H:88:MET:CE	2.51	0.41
4:H:140:ASN:HB3	4:H:143:THR:HG22	2.03	0.41
2:B:22:HIS:NE2	2:B:181:ALA:HB3	2.36	0.40
3:E:256:LEU:HD11	3:E:258:TRP:HZ2	1.84	0.40
3:F:154:THR:CA	3:F:168:MET:SD	3.10	0.40
3:G:99:TYR:O	3:G:102:ALA:N	2.53	0.40
1:A:85:VAL:CG1	1:A:94:ILE:HD11	2.37	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:156:ALA:HA	1:A:159:ILE:HD11	2.02	0.40
2:B:22:HIS:HD2	2:B:180:ARG:HG2	1.87	0.40
3:D:69:THR:HG22	3:D:73:LEU:HD21	2.03	0.40
3:D:286:ARG:HD3	3:D:286:ARG:HA	1.80	0.40
3:E:147:ASP:OD1	3:E:148:SER:N	2.54	0.40
3:F:241:ARG:NH1	7:K:20:DA:OP1	2.54	0.40
3:G:3:ILE:O	3:G:262:ILE:N	2.51	0.40
3:G:48:VAL:HG22	3:G:62:LEU:CG	2.47	0.40
8:L:491:GLN:OE1	8:L:519:LEU:N	2.48	0.40
1:A:151:GLU:HA	1:A:154:ARG:NE	2.35	0.40
2:B:77:LEU:HD22	3:C:59:SER:HB3	2.04	0.40
2:B:180:ARG:C	2:B:182:LEU:HD12	2.41	0.40
3:C:241:ARG:HD3	3:D:109:GLY:HA3	2.04	0.40
3:D:75:ARG:HH21	5:I:13:G:H5''	1.86	0.40
3:F:169:MET:HE2	3:F:256:LEU:HB2	1.96	0.40
3:G:173:ILE:HD12	3:G:173:ILE:HA	1.89	0.40
8:L:251:HIS:CD2	8:L:338:ARG:HH11	2.40	0.40
1:A:50:ALA:HA	3:C:111:PRO:HG3	2.03	0.40
2:B:57:TYR:OH	2:B:187:ASP:CG	2.59	0.40
3:D:166:ASN:OD1	3:D:166:ASN:N	2.53	0.40
3:F:206:GLY:HA2	3:F:209:GLN:HG2	2.03	0.40
6:J:3:DC:O2	6:J:3:DC:C2'	2.70	0.40
8:L:49:ILE:HD13	8:L:236:ASP:HB2	2.02	0.40
8:L:92:LEU:CD2	8:L:94:LEU:CG	2.92	0.40
4:H:10:LEU:HD21	4:H:88:MET:HB2	2.03	0.40
8:L:618:GLN:HA	8:L:621:ASP:HB2	2.03	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 PDB entries followed by that with respect to all EM entries.

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	239/253 (94%)	226 (95%)	13 (5%)	0	100	100
2	B	217/220 (99%)	204 (94%)	12 (6%)	1 (0%)	29	66
3	C	325/348 (93%)	310 (95%)	14 (4%)	1 (0%)	41	74
3	D	327/348 (94%)	312 (95%)	15 (5%)	0	100	100
3	E	320/348 (92%)	310 (97%)	10 (3%)	0	100	100
3	F	320/348 (92%)	306 (96%)	14 (4%)	0	100	100
3	G	276/348 (79%)	263 (95%)	13 (5%)	0	100	100
4	H	232/268 (87%)	228 (98%)	4 (2%)	0	100	100
8	L	586/626 (94%)	572 (98%)	14 (2%)	0	100	100
All	All	2842/3107 (92%)	2731 (96%)	109 (4%)	2 (0%)	54	83

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
2	B	185	ASP
3	C	128	PRO

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 PDB entries followed by that with respect to all EM entries.

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	210/222 (95%)	200 (95%)	10 (5%)	25	56
2	B	176/177 (99%)	168 (96%)	8 (4%)	27	57
3	C	263/274 (96%)	257 (98%)	6 (2%)	50	71
3	D	264/274 (96%)	257 (97%)	7 (3%)	44	68
3	E	259/274 (94%)	253 (98%)	6 (2%)	50	71
3	F	259/274 (94%)	250 (96%)	9 (4%)	36	63
3	G	227/274 (83%)	219 (96%)	8 (4%)	36	63
4	H	191/215 (89%)	188 (98%)	3 (2%)	62	80
8	L	480/503 (95%)	472 (98%)	8 (2%)	60	79

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
All	All	2329/2487 (94%)	2264 (97%)	65 (3%)	46 67

All (65) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	4	PRO
1	A	34	SER
1	A	54	ASP
1	A	66	CYS
1	A	124	LEU
1	A	137	ILE
1	A	164	ASN
1	A	199	GLU
1	A	204	PHE
1	A	230	GLU
2	B	12	ASN
2	B	14	MET
2	B	48	TYR
2	B	63	ASP
2	B	149	ARG
2	B	166	LYS
2	B	182	LEU
2	B	211	LEU
3	C	37	ARG
3	C	51	ASP
3	C	169	MET
3	C	193	ASP
3	C	293	LYS
3	C	336	LYS
3	D	59	SER
3	D	73	LEU
3	D	77	THR
3	D	89	GLU
3	D	188	LEU
3	D	266	ARG
3	D	323	PHE
3	E	21	ASN
3	E	77	THR
3	E	138	ARG
3	E	193	ASP
3	E	247	ASN
3	E	256	LEU

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Mol	Chain	Res	Type
3	F	30	ASN
3	F	47	TYR
3	F	80	LYS
3	F	90	LYS
3	F	150	TYR
3	F	192	GLU
3	F	207	TRP
3	F	324	ASP
3	F	336	LYS
3	G	1	MET
3	G	8	ARG
3	G	32	PRO
3	G	119	ASP
3	G	124	MET
3	G	150	TYR
3	G	266	ARG
3	G	326	VAL
4	H	26	LEU
4	H	110	LEU
4	H	224	HIS
8	L	52	LEU
8	L	66	SER
8	L	193	CYS
8	L	275	ASP
8	L	396	ASP
8	L	405	LEU
8	L	503	GLN
8	L	559	LEU

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (18) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	32	HIS
1	A	116	HIS
1	A	138	HIS
1	A	201	GLN
2	B	3	ASN
2	B	76	GLN
2	B	103	GLN
2	B	212	HIS
3	D	2	GLN
3	D	187	ASN

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Mol	Chain	Res	Type
3	D	284	ASN
3	D	306	ASN
3	E	68	ASN
3	F	340	GLN
4	H	230	GLN
8	L	251	HIS
8	L	472	ASN
8	L	575	GLN

5.3.3 RNA [i](#)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
5	I	59/61 (96%)	40 (67%)	14 (23%)

All (40) RNA backbone outliers are listed below:

Mol	Chain	Res	Type
5	I	2	U
5	I	3	G
5	I	4	A
5	I	6	C
5	I	9	U
5	I	13	G
5	I	14	C
5	I	15	A
5	I	19	C
5	I	20	C
5	I	21	U
5	I	22	G
5	I	26	G
5	I	27	A
5	I	28	A
5	I	29	G
5	I	30	G
5	I	31	C
5	I	32	U
5	I	33	U
5	I	34	G
5	I	35	A
5	I	36	U
5	I	37	G

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Mol	Chain	Res	Type
5	I	38	A
5	I	39	G
5	I	40	C
5	I	41	G
5	I	43	G
5	I	44	U
5	I	45	U
5	I	46	C
5	I	47	C
5	I	48	C
5	I	53	U
5	I	54	A
5	I	55	C
5	I	56	G
5	I	58	G
5	I	60	G

All (14) RNA pucker outliers are listed below:

Mol	Chain	Res	Type
5	I	2	U
5	I	3	G
5	I	6	C
5	I	20	C
5	I	21	U
5	I	32	U
5	I	33	U
5	I	34	G
5	I	38	A
5	I	39	G
5	I	43	G
5	I	46	C
5	I	47	C
5	I	48	C

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

1 non-standard protein/DNA/RNA residue is modelled in this entry.

In the following table, the Counts columns list the number of bonds (or angles) for which Mogul statistics could be retrieved, the number of bonds (or angles) that are observed in the model and the number of bonds (or angles) that are defined in the Chemical Component Dictionary. The

Link column lists molecule types, if any, to which the group is linked. The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with $|Z| > 2$ is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Type	Chain	Res	Link	Bond lengths			Bond angles		
					Counts	RMSZ	# Z > 2	Counts	RMSZ	# Z > 2
5	23G	I	61	5	19,29,30	1.07	1 (5%)	20,45,48	1.46	4 (20%)

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
5	23G	I	61	5	-	0/3/35/36	0/4/4/4

All (1) bond length outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(Å)	Ideal(Å)
5	I	61	23G	C6-N1	-2.44	1.34	1.37

All (4) bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
5	I	61	23G	OC1-PC-OC2	3.32	120.62	109.89
5	I	61	23G	O3'-PC-OC2	-2.43	109.35	115.76
5	I	61	23G	C8-N7-C5	2.32	107.41	102.99
5	I	61	23G	C5-C6-N1	2.29	117.99	113.95

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

1 monomer is involved in 9 short contacts:

Mol	Chain	Res	Type	Clashes	Symm-Clashes
5	I	61	23G	9	0

5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

5.6 Ligand geometry

Of 1 ligands modelled in this entry, 1 is monoatomic - leaving 0 for Mogul analysis.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.

There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

5.7 Other polymers

There are no such residues in this entry.

5.8 Polymer linkage issues

There are no chain breaks in this entry.

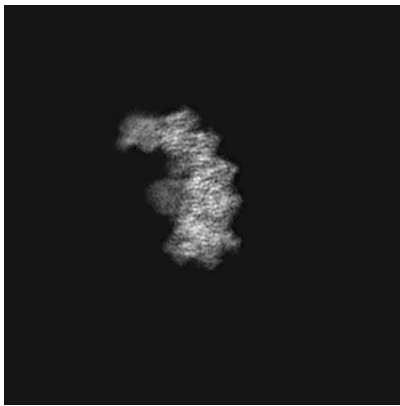
6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-33185. These allow visual inspection of the internal detail of the map and identification of artifacts.

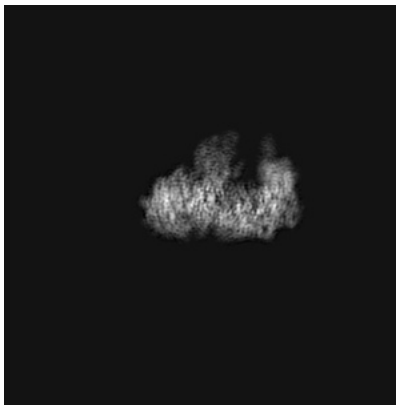
Images derived from a raw map, generated by summing the deposited half-maps, are presented below the corresponding image components of the primary map to allow further visual inspection and comparison with those of the primary map.

6.1 Orthogonal projections [i](#)

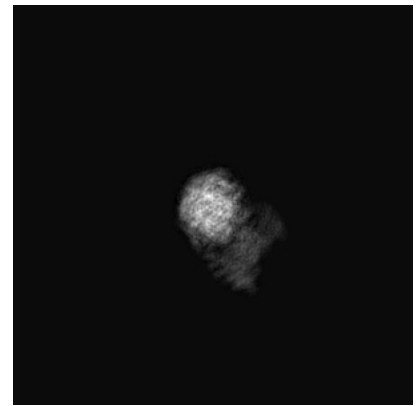
6.1.1 Primary map



X

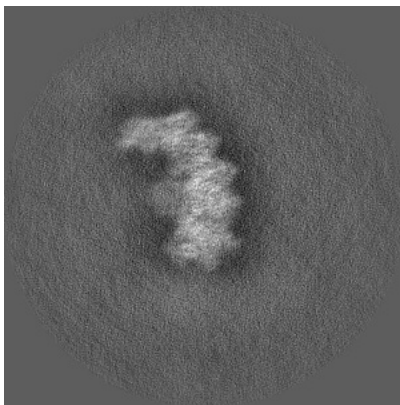


Y

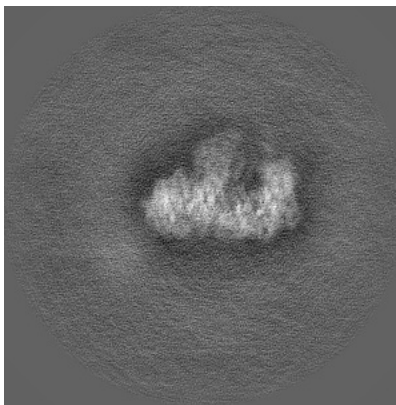


Z

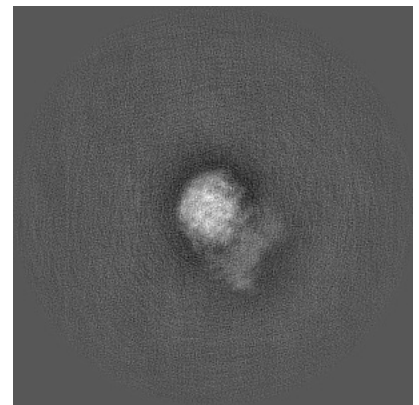
6.1.2 Raw map



X



Y

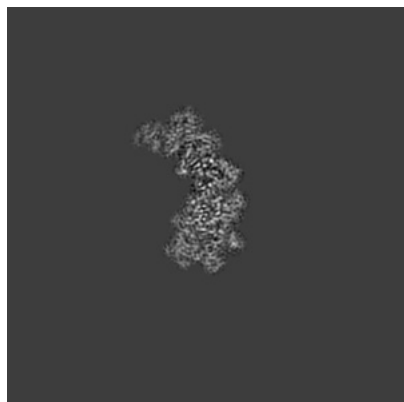


Z

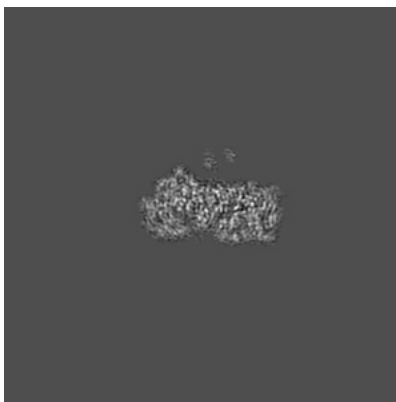
The images above show the map projected in three orthogonal directions.

6.2 Central slices [i](#)

6.2.1 Primary map



X Index: 180

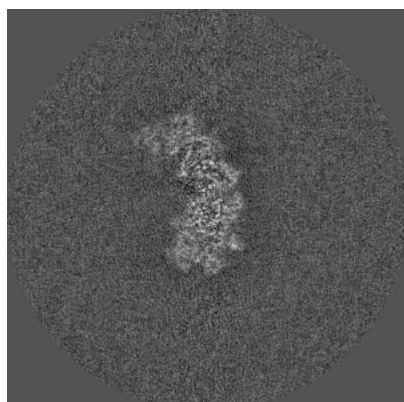


Y Index: 180

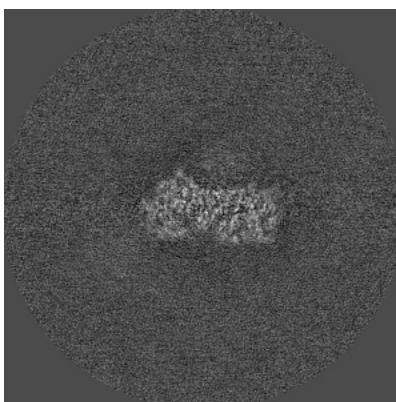


Z Index: 180

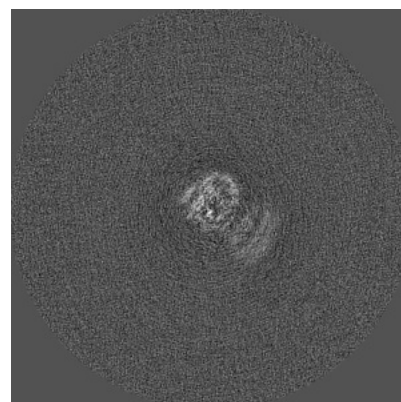
6.2.2 Raw map



X Index: 180



Y Index: 180

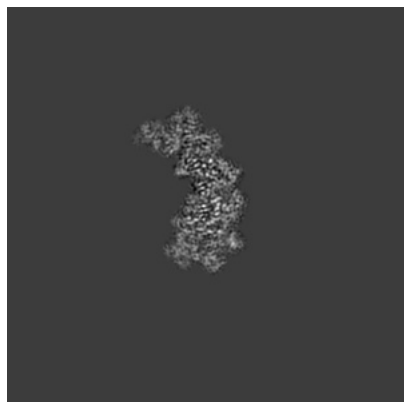


Z Index: 180

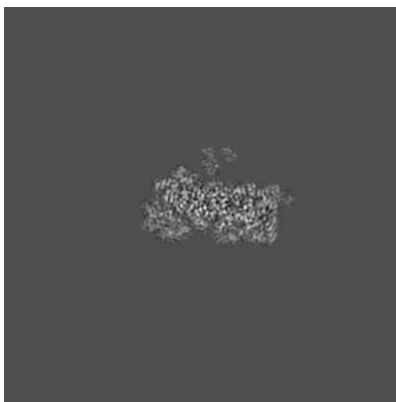
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices [i](#)

6.3.1 Primary map



X Index: 179

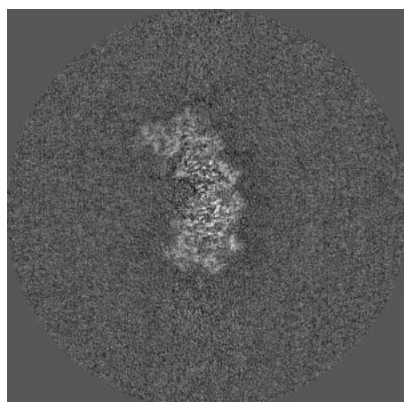


Y Index: 177

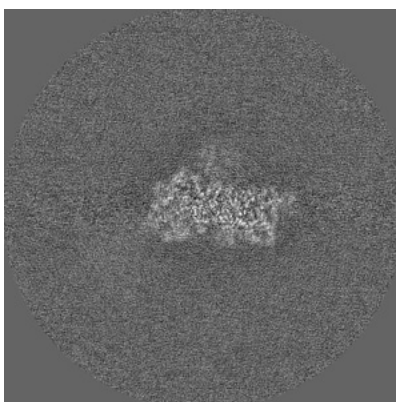


Z Index: 183

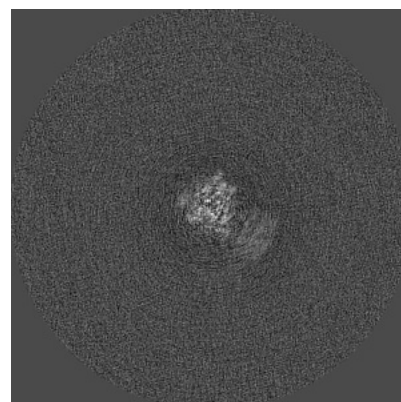
6.3.2 Raw map



X Index: 179



Y Index: 174

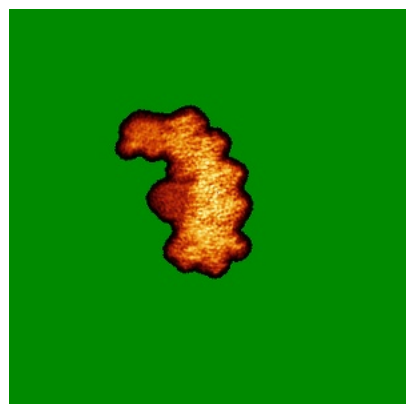


Z Index: 176

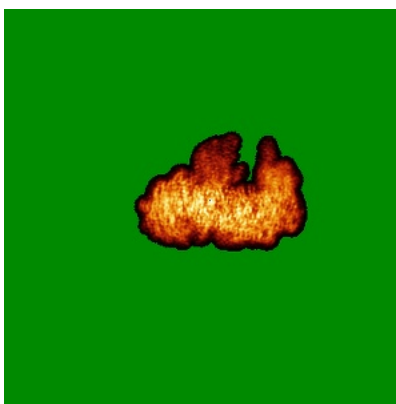
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) [i](#)

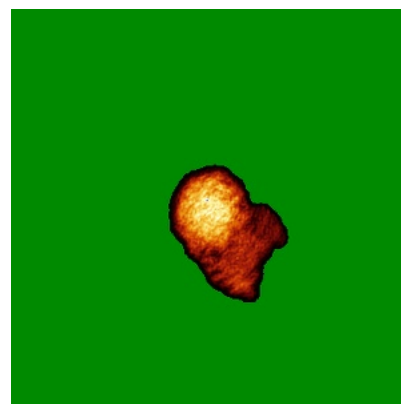
6.4.1 Primary map



X

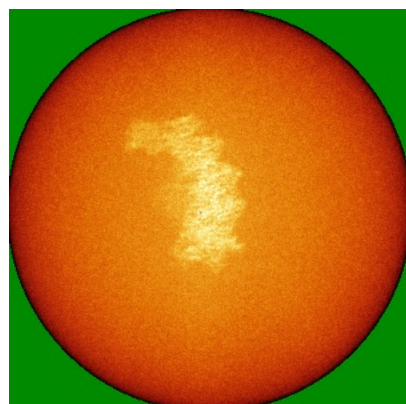


Y

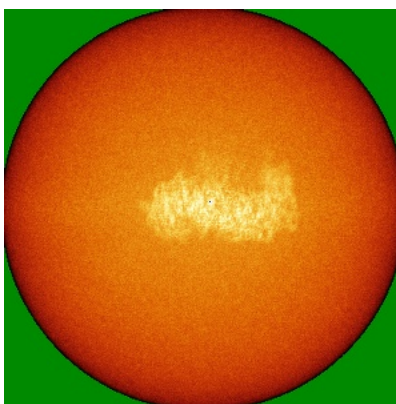


Z

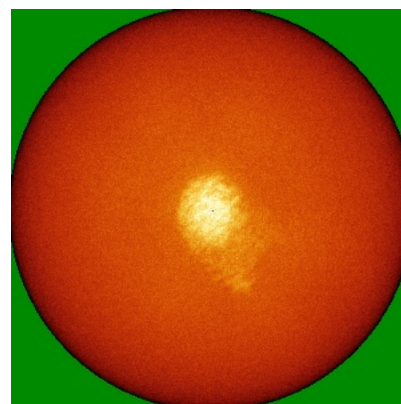
6.4.2 Raw map



X



Y



Z

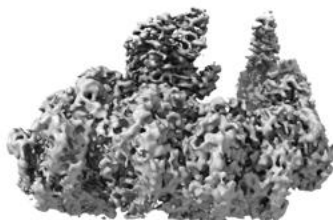
The images above show the map standard deviation projections with false color in three orthogonal directions. Minimum values are shown in green, max in blue, and dark to light orange shades represent small to large values respectively.

6.5 Orthogonal surface views [i](#)

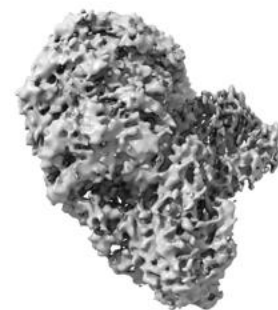
6.5.1 Primary map



X



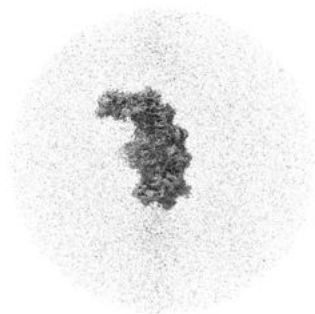
Y



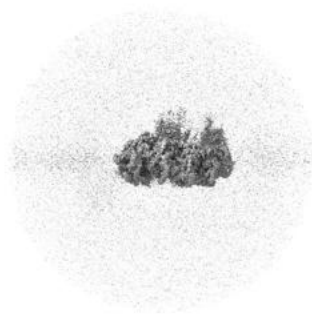
Z

The images above show the 3D surface view of the map at the recommended contour level 0.008. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

6.5.2 Raw map



X



Y



Z

These images show the 3D surface of the raw map. The raw map's contour level was selected so that its surface encloses the same volume as the primary map does at its recommended contour level.

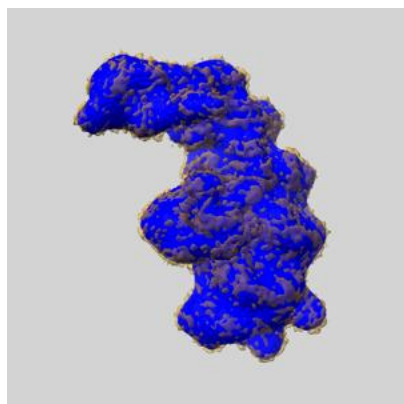
6.6 Mask visualisation [i](#)

This section shows the 3D surface view of the primary map at 50% transparency overlaid with the specified mask at 0% transparency

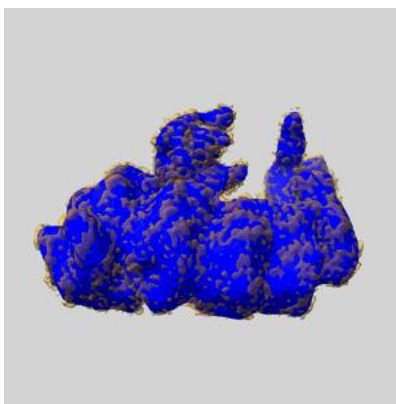
A mask typically either:

- Encompasses the whole structure
- Separates out a domain, a functional unit, a monomer or an area of interest from a larger structure

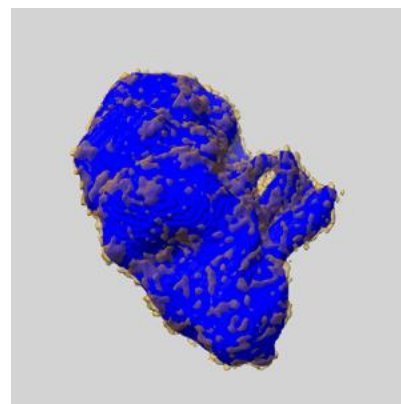
6.6.1 emd_33185_msk_1.map [i](#)



X



Y

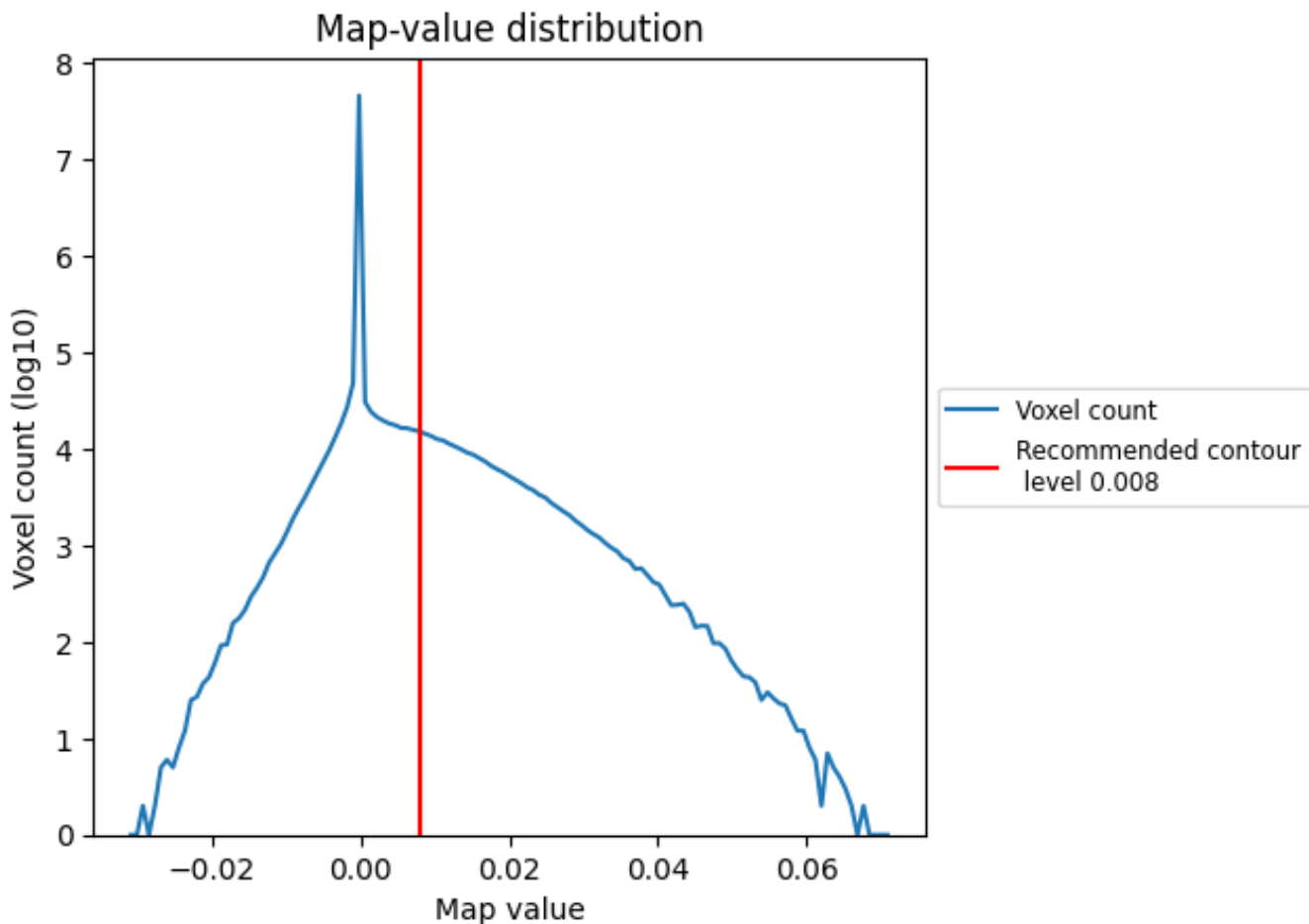


Z

7 Map analysis [i](#)

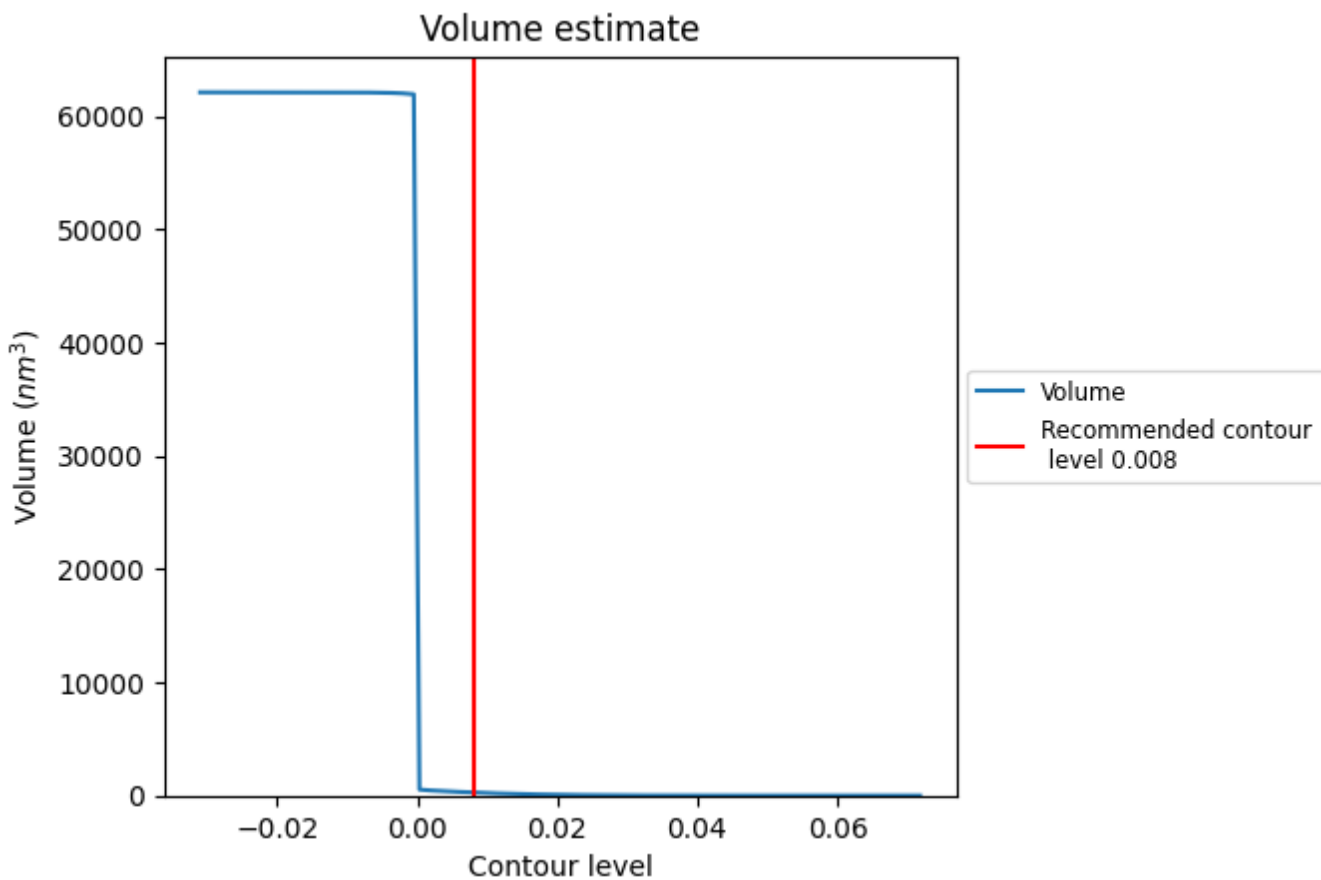
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution [i](#)



The map-value distribution is plotted in 128 intervals along the x-axis. The y-axis is logarithmic. A spike in this graph at zero usually indicates that the volume has been masked.

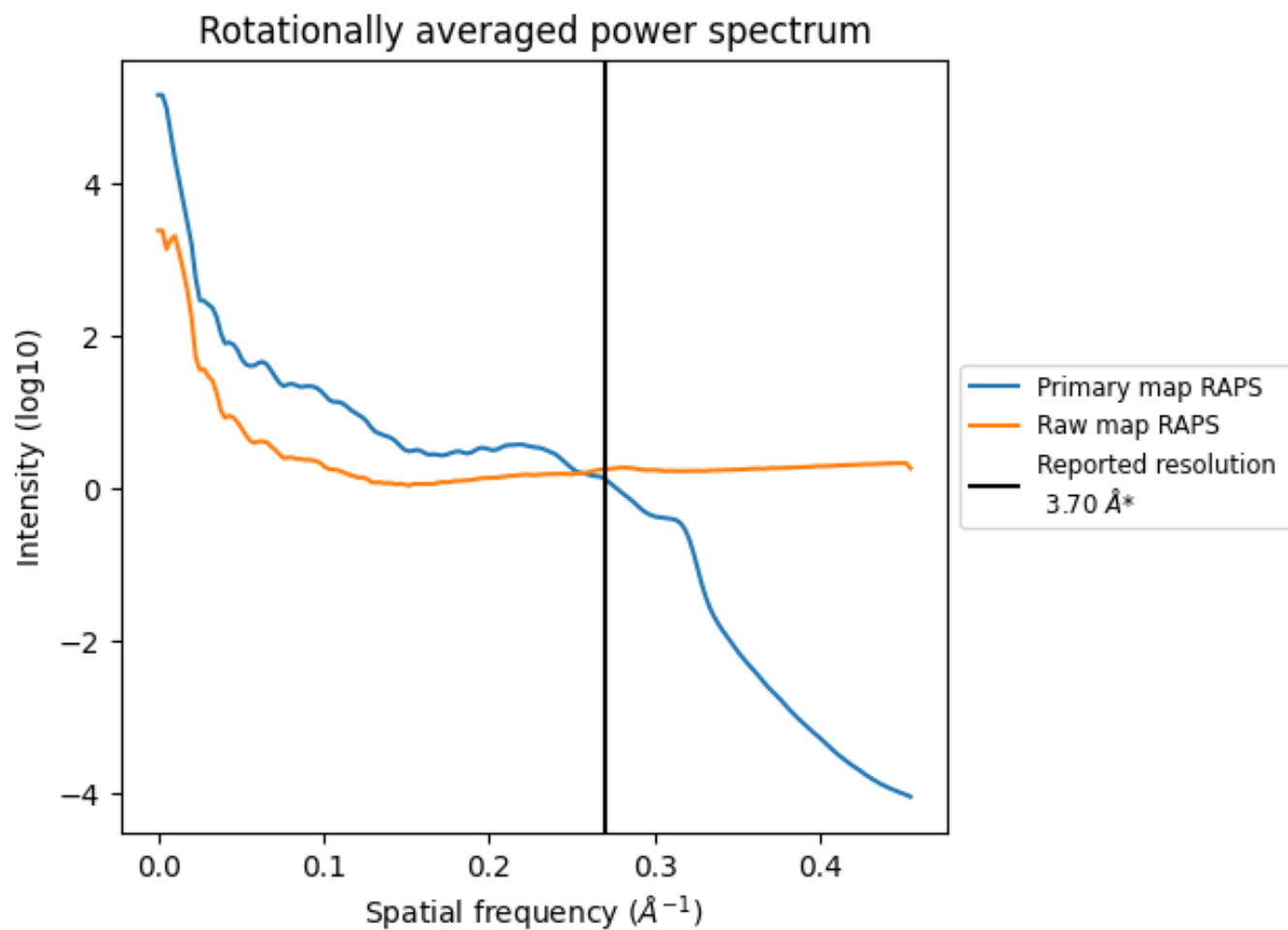
7.2 Volume estimate [i](#)



The volume at the recommended contour level is 272 nm³; this corresponds to an approximate mass of 245 kDa.

The volume estimate graph shows how the enclosed volume varies with the contour level. The recommended contour level is shown as a vertical line and the intersection between the line and the curve gives the volume of the enclosed surface at the given level.

7.3 Rotationally averaged power spectrum i

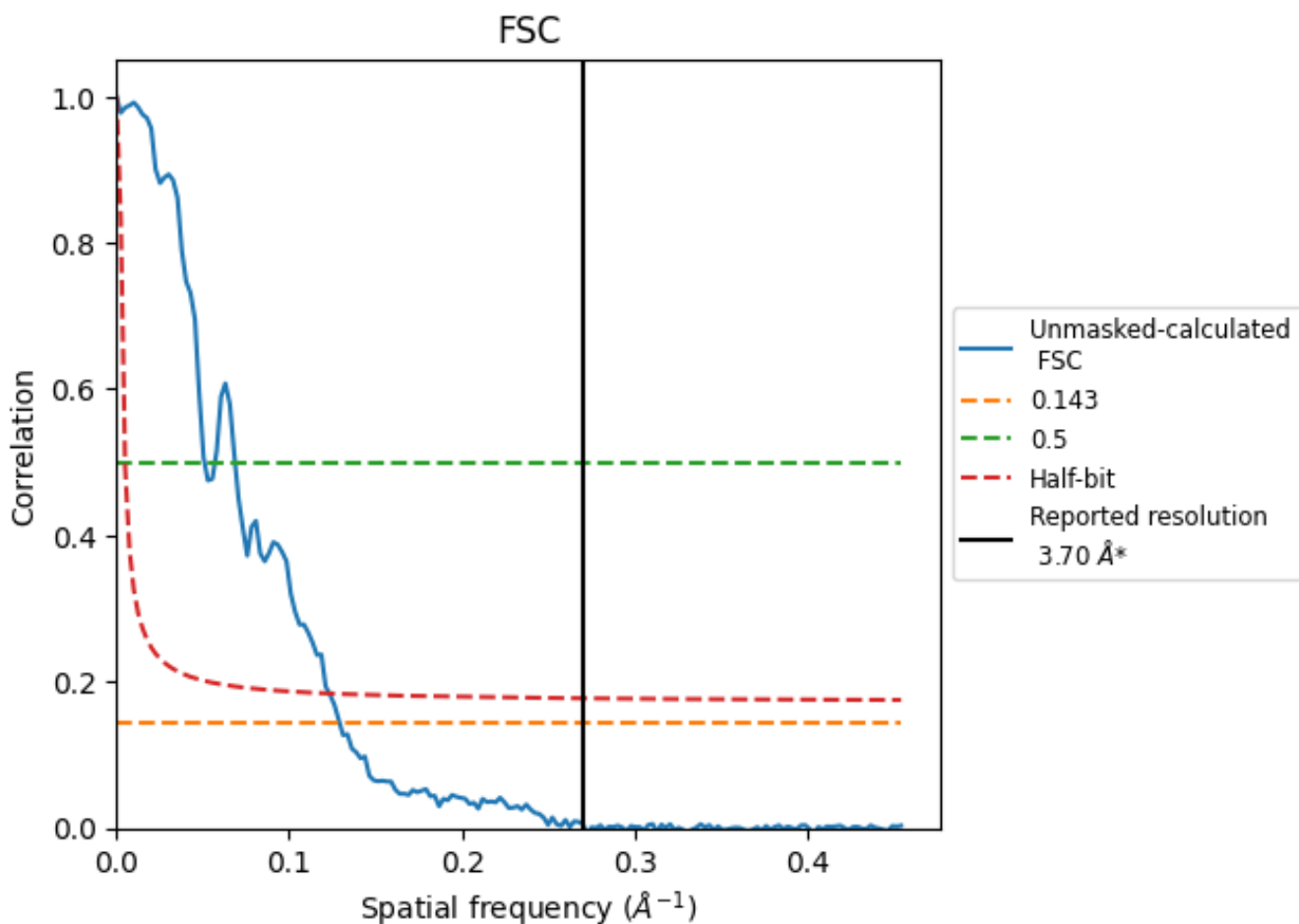


*Reported resolution corresponds to spatial frequency of 0.270 Å⁻¹

8 Fourier-Shell correlation [i](#)

Fourier-Shell Correlation (FSC) is the most commonly used method to estimate the resolution of single-particle and subtomogram-averaged maps. The shape of the curve depends on the imposed symmetry, mask and whether or not the two 3D reconstructions used were processed from a common reference. The reported resolution is shown as a black line. A curve is displayed for the half-bit criterion in addition to lines showing the 0.143 gold standard cut-off and 0.5 cut-off.

8.1 FSC [i](#)



*Reported resolution corresponds to spatial frequency of 0.270 Å⁻¹

8.2 Resolution estimates [i](#)

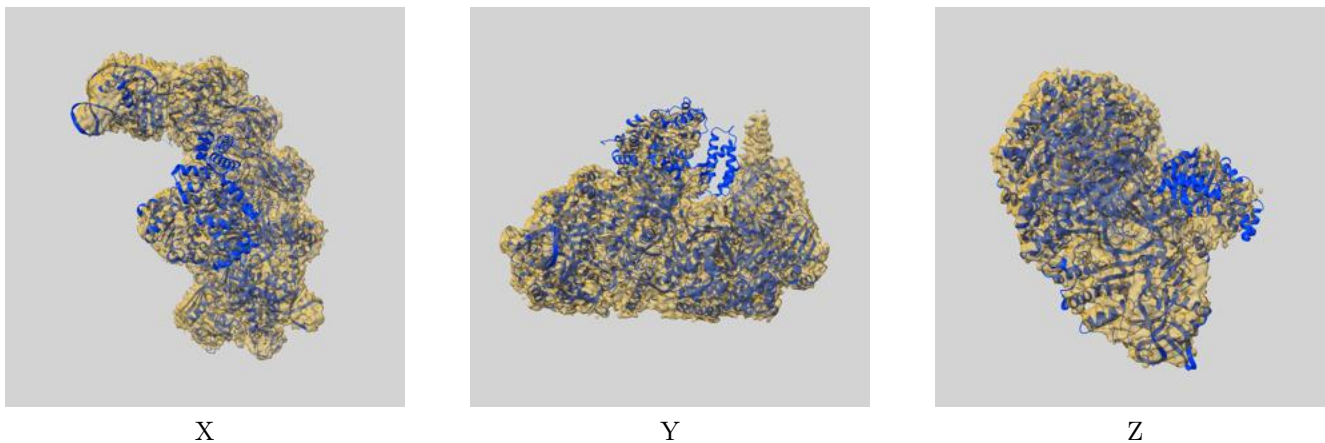
Resolution estimate (Å)	Estimation criterion (FSC cut-off)		
	0.143	0.5	Half-bit
Reported by author	3.70	-	-
Author-provided FSC curve	-	-	-
Unmasked-calculated*	7.73	19.61	8.10

*Resolution estimate based on FSC curve calculated by comparison of deposited half-maps. The value from deposited half-maps intersecting FSC 0.143 CUT-OFF 7.73 differs from the reported value 3.7 by more than 10 %

9 Map-model fit [i](#)

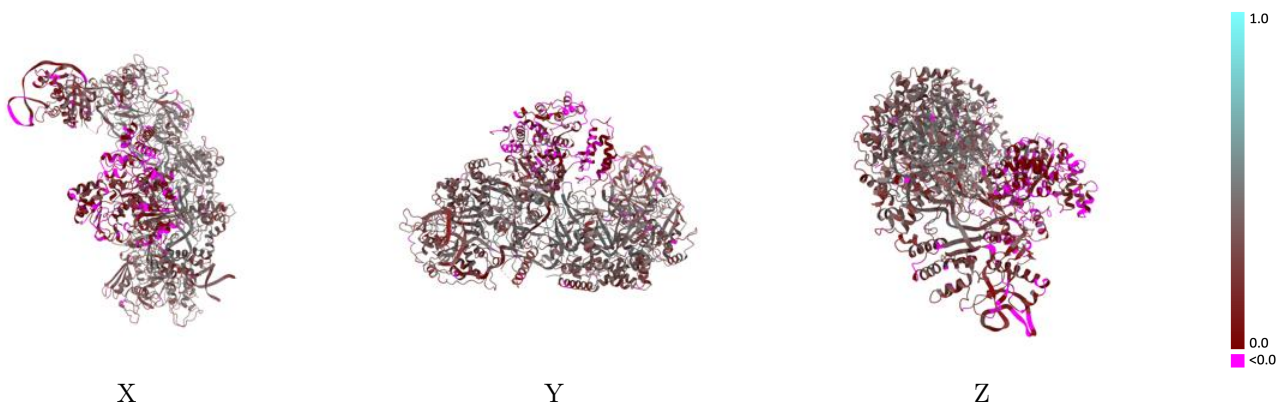
This section contains information regarding the fit between EMDB map EMD-33185 and PDB model 7XG4. Per-residue inclusion information can be found in section 3 on page 6.

9.1 Map-model overlay [i](#)



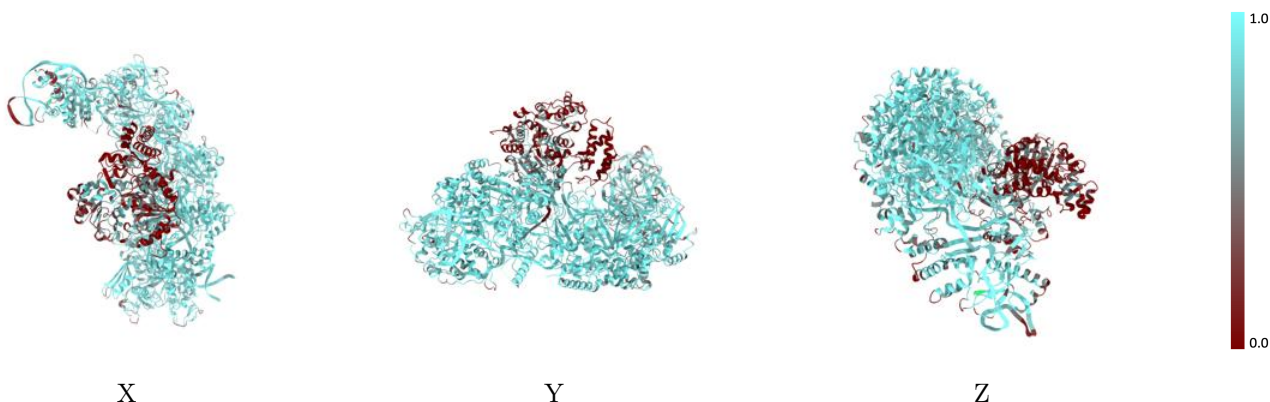
The images above show the 3D surface view of the map at the recommended contour level 0.008 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

9.2 Q-score mapped to coordinate model [i](#)



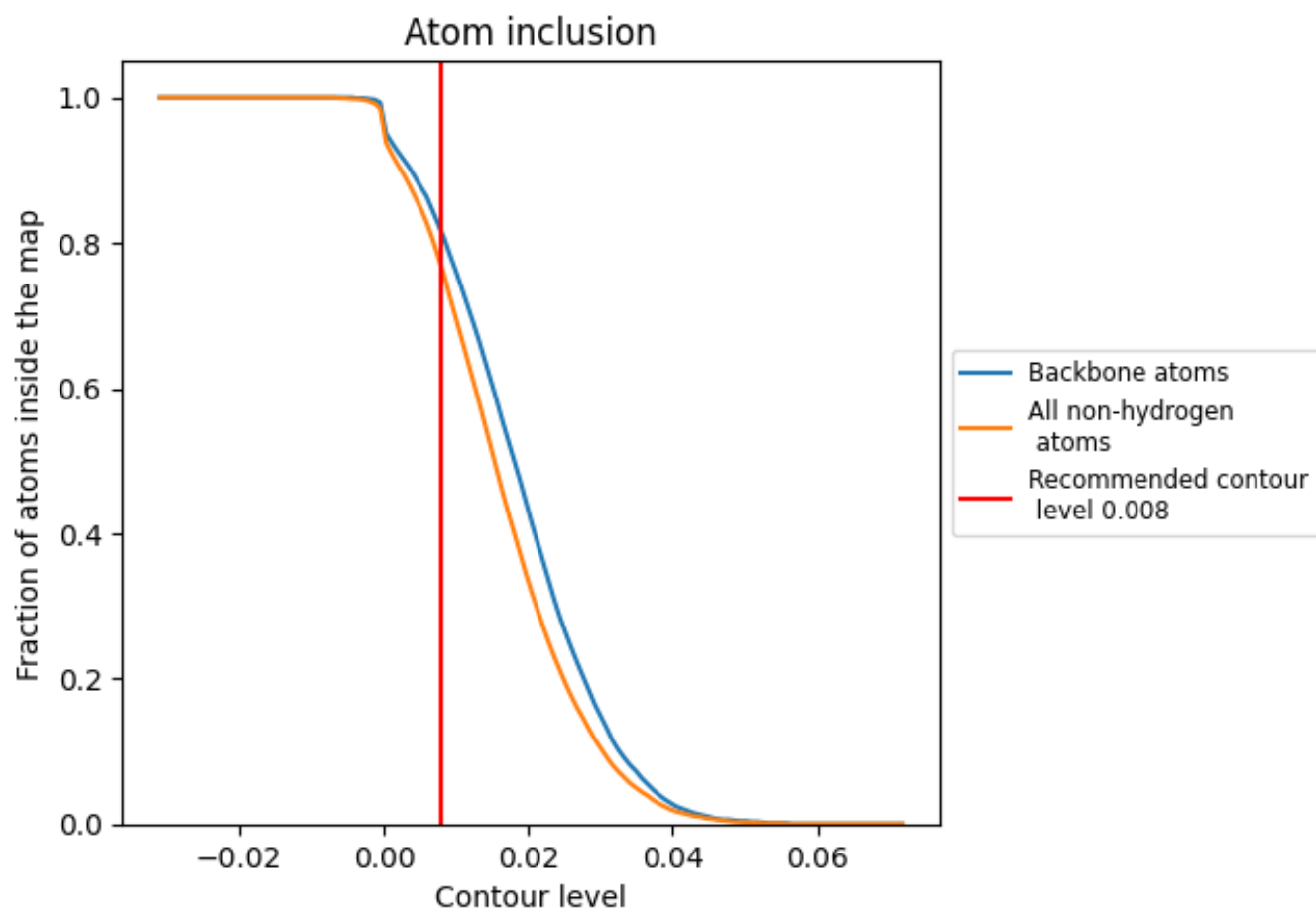
The images above show the model with each residue coloured according to its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions at which atoms can be resolved. Low Q-score values may therefore be expected for many entries.

9.3 Atom inclusion mapped to coordinate model [i](#)



The images above show the model with each residue coloured according to its atom inclusion. This shows to what extent they are inside the map at the recommended contour level (0.008).



























9.4 Atom inclusion [i](#)



At the recommended contour level, 82% of all backbone atoms, 77% of all non-hydrogen atoms, are inside the map.

9.5 Map-model fit summary

The table lists the average atom inclusion at the recommended contour level (0.008) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.7680	 0.2850
A	 0.8600	 0.3050
B	 0.8950	 0.3170
C	 0.9150	 0.3600
D	 0.9330	 0.3880
E	 0.9090	 0.3880
F	 0.8560	 0.3510
G	 0.8120	 0.3110
H	 0.7820	 0.2140
I	 0.8970	 0.3030
J	 0.6790	 0.1980
K	 0.9310	 0.3700
L	 0.3100	 0.0860

