Full wwPDB EM Validation Report ⓘ

Dec 8, 2025 – 08:37 AM EST

PDB ID	:	9YNW / pdb_00009ynw
EMDB ID	:	EMD-73236
Title	:	Tra1, Core and minimal HAT modules of ctSAGA, composite.
Authors	:	Mattoo, R.U.H.; Chen, D.H.; Bushnell, D.A.; Tamir, S.; Kornberg, R.D.
Deposited on	:	2025-10-12
Resolution	:	3.50 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:

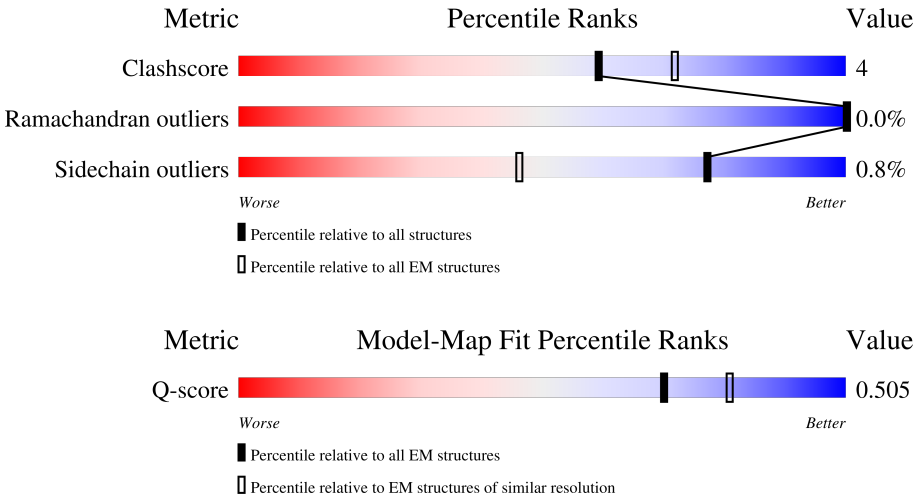
EMDB validation analysis	:	0.0.1.dev129
MolProbity	:	4-5-2 with Phenix2.0
Percentile statistics	:	20231227.v01 (using entries in the PDB archive December 27th 2023)
EM percentile statistics	:	202505.v01 (Using data in the EMDB archive up until May 2025)
MapQ	:	1.9.13
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.47

1 Overall quality at a glance

The following experimental techniques were used to determine the structure:
ELECTRON MICROSCOPY

The reported resolution of this entry is 3.50 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive (#Entries)	EM structures (#Entries)	Similar EM resolution (#Entries, resolution range(Å))
Clashscore	210492	15764	-
Ramachandran outliers	207382	16835	-
Sidechain outliers	206894	16415	-
Q-score	-	25397	13950 (3.00 - 4.00)

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 <=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	3893	12% 84% 9% 7%
2	B	1192	18% 79%
3	C	433	5% 38% 7% 55%
4	D	767	10% 62% 6% 32%

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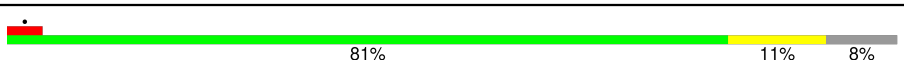
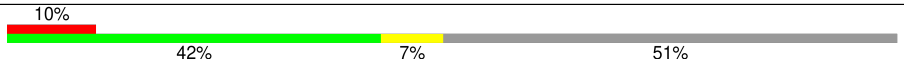
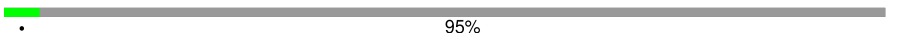
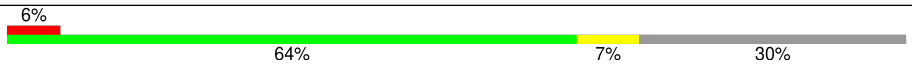
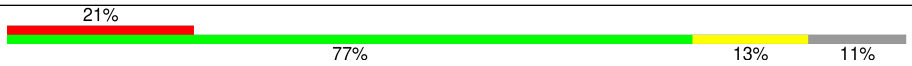
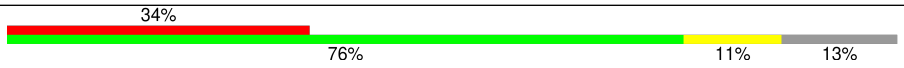
Mol	Chain	Length	Quality of chain
5	E	480	
6	F	277	
7	G	204	
8	I	770	
9	K	1196	
10	Q	1273	
11	H	485	
12	M	519	
13	N	405	
14	O	730	

2 Entry composition

There are 14 unique types of molecules in this entry. The entry contains 121271 atoms, of which 60418 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 Non-specific serine/threonine protein kinase.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
1	A	3619	58964	18811	29628	5111	5270	144	0	0

- Molecule 2 is a protein called Spt20-like SEP domain-containing protein.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
2	B	245	3987	1319	1952	341	368	7	0	0

- Molecule 3 is a protein called Uncharacterized protein.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
3	C	197	3225	1022	1607	287	303	6	0	0

- Molecule 4 is a protein called Transcription initiation factor TFIID subunit 5.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
4	D	523	8240	2632	4096	730	762	20	0	0

- Molecule 5 is a protein called Transcription initiation factor TFIID subunit 6.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
5	E	443	6959	2193	3519	598	639	10	0	0

- Molecule 6 is a protein called Putative transcription initiation factor.

Mol	Chain	Residues	Atoms						AltConf	Trace
			Total	C	H	N	O	S		
6	F	121	1461	578	546	170	166	1	0	0

- Molecule 7 is a protein called Transcription initiation factor TFIID subunit 10.

Mol	Chain	Residues	Atoms						AltConf	Trace
7	G	114	Total	C	H	N	O	S	0	0
			1762	556	879	157	166	4		

- Molecule 8 is a protein called Transcription initiation factor TFIID subunit 12.

Mol	Chain	Residues	Atoms						AltConf	Trace
8	I	154	Total	C	H	N	O	S	0	0
			2269	744	1084	215	220	6		

- Molecule 9 is a protein called Putative transcriptional activator protein.

Mol	Chain	Residues	Atoms						AltConf	Trace
9	K	587	Total	C	H	N	O	S	0	0
			9498	2973	4741	858	908	18		

- Molecule 10 is a protein called SCA7 domain-containing protein.

Mol	Chain	Residues	Atoms						AltConf	Trace
10	Q	62	Total	C	H	N	O	S	0	0
			950	303	472	86	88	1		

- Molecule 11 is a protein called Putative transcriptional coactivator HFI1 protein.

Mol	Chain	Residues	Atoms						AltConf	Trace
11	H	341	Total	C	H	N	O	S	0	0
			5279	1681	2613	463	509	13		

- Molecule 12 is a protein called Transcriptional adapter 2.

Mol	Chain	Residues	Atoms						AltConf	Trace
12	M	464	Total	C	H	N	O	S	0	0
			7393	2333	3681	656	701	22		

- Molecule 13 is a protein called histone acetyltransferase.

Mol	Chain	Residues	Atoms						AltConf	Trace
13	N	352	Total	C	H	N	O	S	0	0
			5764	1846	2874	498	530	16		

- Molecule 14 is a protein called Uncharacterized protein.

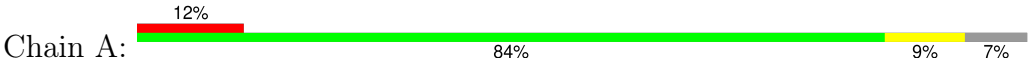
Mol	Chain	Residues	Atoms						AltConf	Trace
14	O	346	Total	C	H	N	O	S	0	0
			5520	1745	2726	491	546	12		

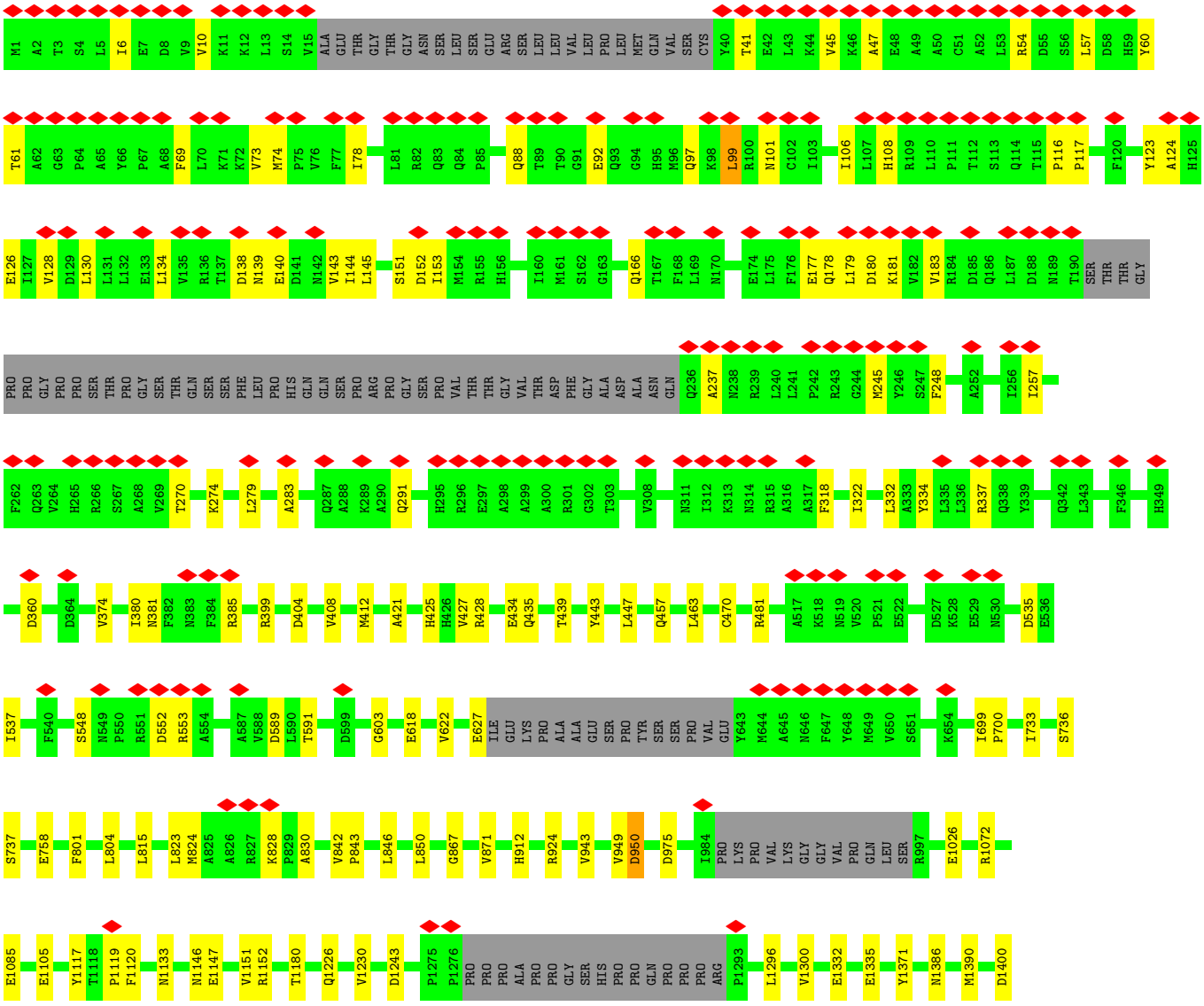
3 Residue-property plots (i)

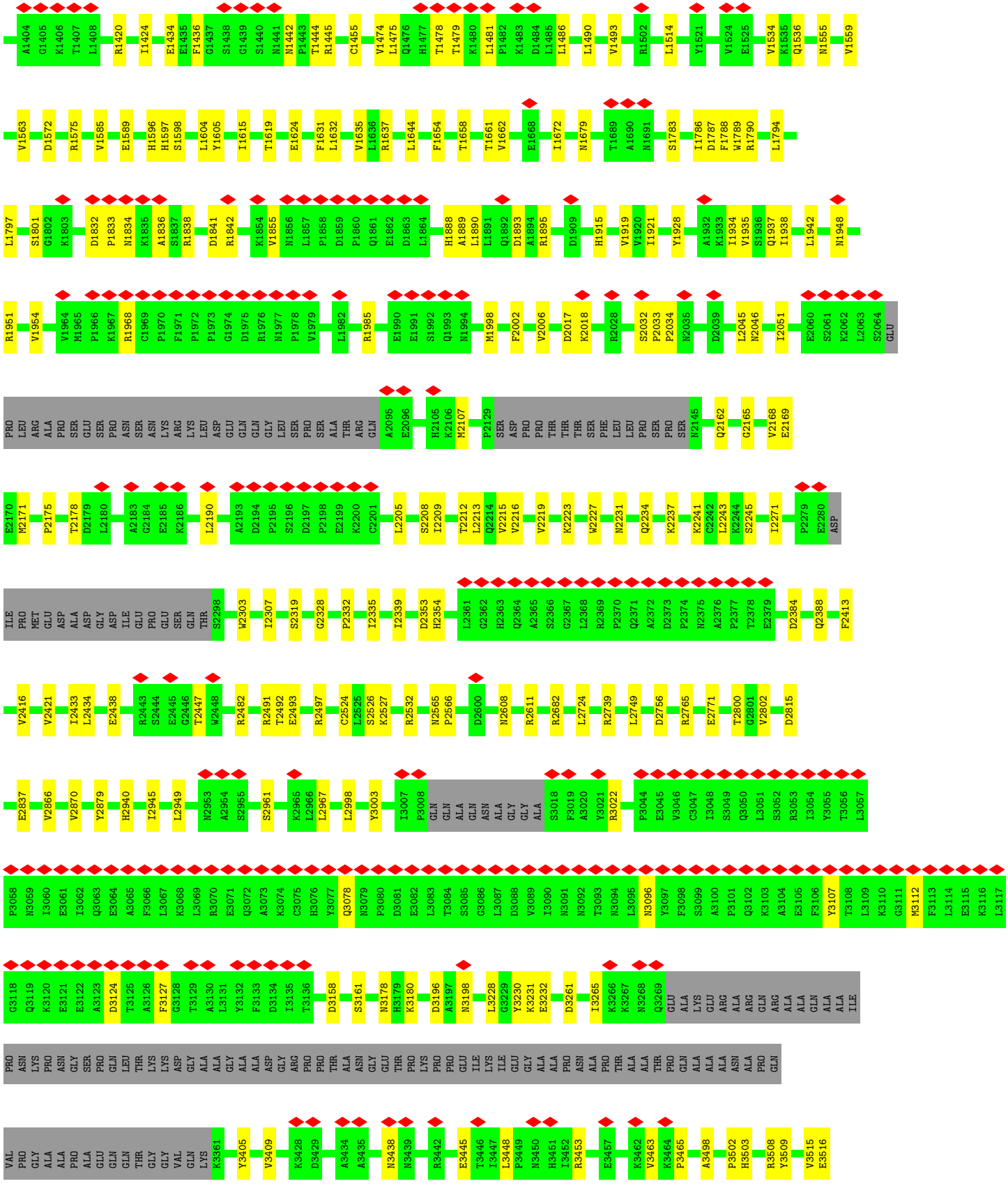
These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry and atom inclusion in map density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red diamond above a residue indicates a poor fit to the EM map for this residue (all-atom inclusion < 40%). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

- Molecule 1: Non-specific serine/threonine protein kinase

Chain A:



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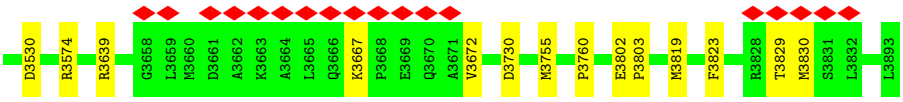
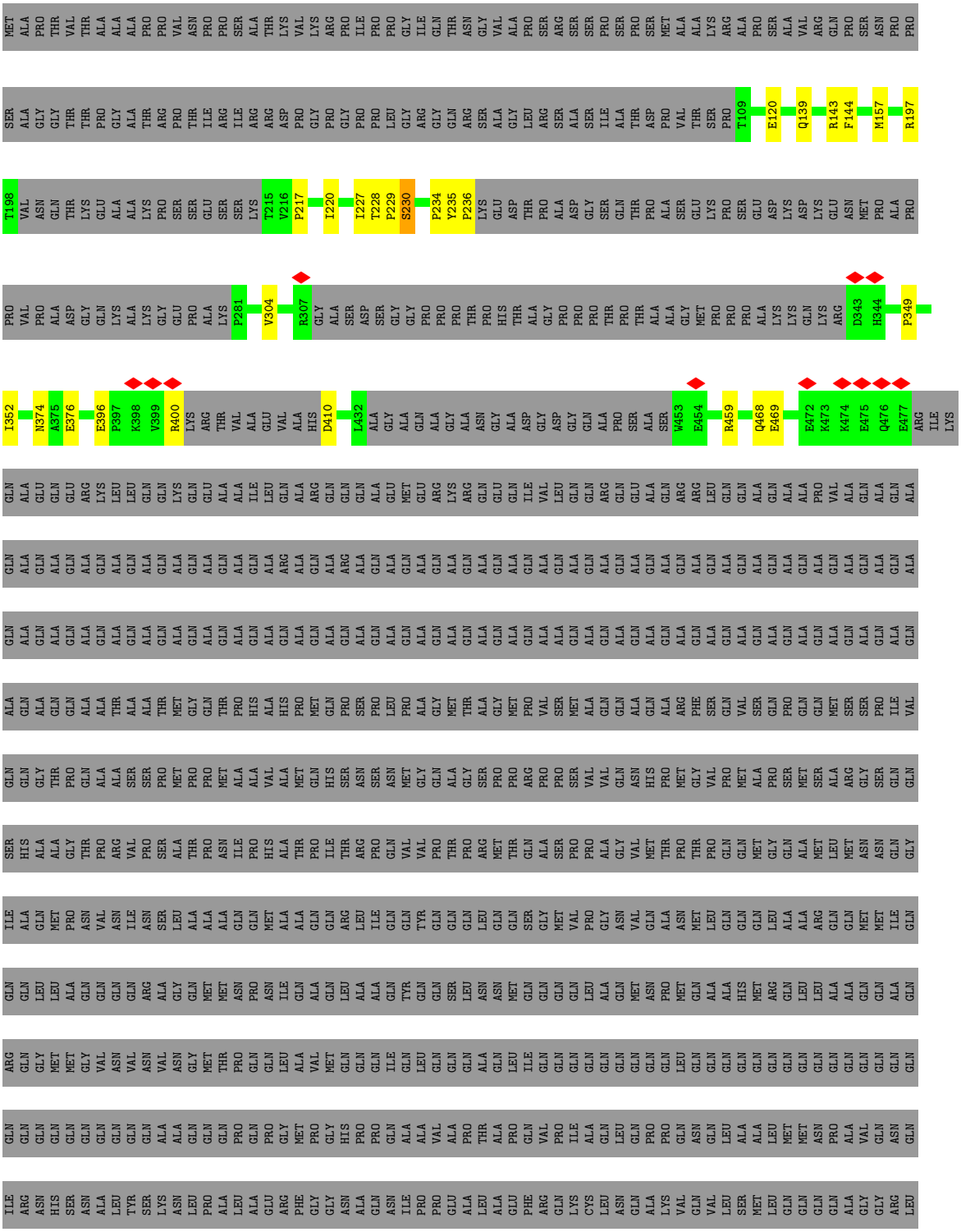
V1563 D1572 R1575 V1585 E1589 H1596 H1597 S1598 L1604 Y1605 I1615 T1619 E1624 F1631 L1632 V1635 L1636 R1637 L1644 F1654 T1658 T1661 V1662 E1668 I1672 N1679 T1689 A1690 N1691 S1783 I1786 D1787 F1788 W1789 R1790 L1794
L1797 S1801 G1802 K1803 D1832 P1833 N1834 K1835 A1836 S1837 R1838 D1841 R1842 K1854 V1855 N1856 L1857 P1858 D1859 P1860 Q1861 E1862 D1863 L1864 H1888 A1889 L1890 L1891 Q1892 D1893 A1894 R1895 D1909 H1915 V1919 V1920 I1921 Y1928 A1932 K1933 I1934 V1935 S1936 Q1937 I1938 L1942 N1948
R1951 V1954 V1964 M1965 P1966 K1967 R1968 C1969 P1970 F1971 P1972 P1973 G1974 D1975 R1976 N1977 P1978 V1979 L1982 R1985 E1990 E1991 S1992 Q1993 N1994 M1998 F2002 V2006 D2017 K2018 R2028 S2032 P2033 P2034 N2035 D2039 L2045 N2046 I2051 E2060 S2061 K2062 L2063 S2064 GLU
PRO LEU ARG ALA PRO SER GLU SER PRO ASN SER ASN LYS ARG LYS LEU ASP GLU GLN GLN GLY LEU SER PRO SER ALA THR ARG GLN A2095 E2096 H2105 K2106 M2107 P2129 SER ASP PRO PRO THR THR THR SER PHE LEU LEU PRO SER PRO SER N2145 Q2162 G2165 V2168 E2169
E2170 M2171 P2175 T2178 D2179 L2180 A2183 G2184 E2185 K2186 L2190 A2193 D2194 P2195 S2196 D2197 P2198 E2199 K2200 C2201 L2205 S2208 I2209 T2212 L2213 Q2214 V2215 V2216 V2219 K2223 W2227 N2231 Q2234 K2237 K2241 C2242 L2243 K2244 S2245 I2271 P2279 E2280 ASP
ILE PRO MET GLU ASP ALA ASP GLY ASP ILE GLU PRO GLU SER GLN THR S2298 W2303 I2307 S2319 G2328 P2332 I2335 I2339 D2353 H2354 L2361 G2362 H2363 Q2364 A2365 S2366 G2367 L2368 R2369 P2370 Q2371 A2372 D2373 P2374 N2375 A2376 P2377 T2378 E2379 D2384 Q2388 F2413
V2416 V2421 I2433 L2434 E2438 R2443 S2444 E2445 G2446 T2447 W2448 R2482 R2491 T2492 E2493 R2497 C2524 K2525 S2526 K2527 R2532 N2565 P2566 D2600 N2608 R2611 R2682 L2724 R2739 L2749 D2756 R2765 E2771 T2800 G2801 V2802 D2815
E2837 V2866 V2870 Y2879 H2940 I2945 L2949 N2953 A2954 S2955 S2961 K2965 L2966 L2967 L2998 Y3003 I3007 P3008 GLN GLN ALA GLN ASN ALA GLY GLY ALA S3018 F3019 A3020 Y3021 R3022 P3044 E3045 Y3046 C3047 I3048 S3049 Q3050 L3051 S3052 R3053 I3054 Y3055 T3056 L3057
P3058 N3059 I3060 E3061 I3062 Q3063 E3064 A3065 F3066 L3067 K3068 L3069 R3070 E3071 Q3072 A3073 K3074 C3075 H3076 Y3077 Q3078 N3079 P3080 D3081 E3082 L3083 T3084 S3085 G3086 L3087 D3088 V3089 I3090 N3091 N3092 T3093 N3094 L3095 N3096 Y3097 F3098 S3099 A3100 P3101 Q3102 K3103 A3104 E3105 F3106 Y3107 T3108 L3109 K3110 G3111 M3112 F3113 L3114 E3115 K3116 L3117
G3118 Q3119 K3120 E3121 E3122 A3123 D3124 T3125 A3126 F3127 G3128 T3129 A3130 L3131 Y3132 F3133 D3134 I3135 T3136 D3158 S3161 N3178 H3179 K3180 D3196 A3197 N3198 L3228 G3229 Y3230 K3231 E3232 D3261 I3265 K3266 K3267 N3268 Q3269 GLU ALA LYS GLU ARG ALA ARG GLN ARG ALA ALA GLN ALA ALA ILE
PRO ASN LYS PRO ASN GLY SER PRO GLN LEU THR LYS LYS ASP GLY ALA ALA GLY ALA ALA ASP GLY ARG PRO PRO THR ALA ASN GLY GLU THR PRO LYS PRO PRO GLU ILE LYS ILE GLU GLY ALA GLY ALA ALA PRO ASN ALA PRO THR ALA ALA THR PRO GLN ALA ALA ALA ASN ALA PRO GLN
VAL PRO GLY ALA ALA PRO ALA GLU GLN GLN THR GLY GLY VAL GLN LYS K3361 Y3405 V3409 K3428 D3429 A3434 A3435 N3438 N3439 R3442 E3445 T3446 I3447 L3448 P3449 N3450 H3451 I3452 R3453 E3457 K3462 V3463 K3464 P3465 A3498 P3502 H3503 R3508 Y3509 V3515 E3516



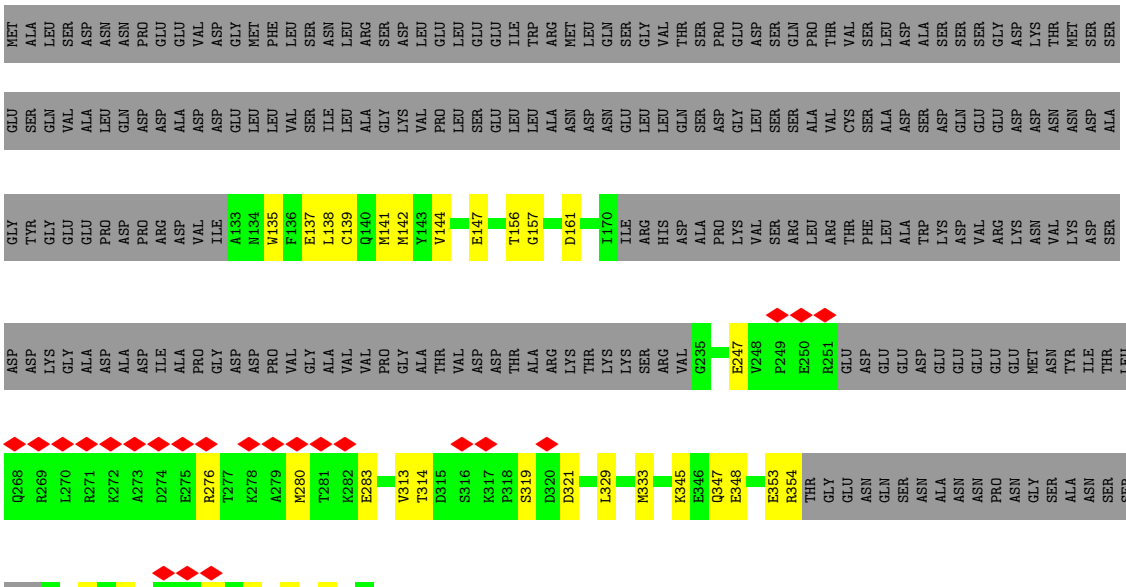
• Molecule 2: Spt20-like SEP domain-containing protein

Chain B:



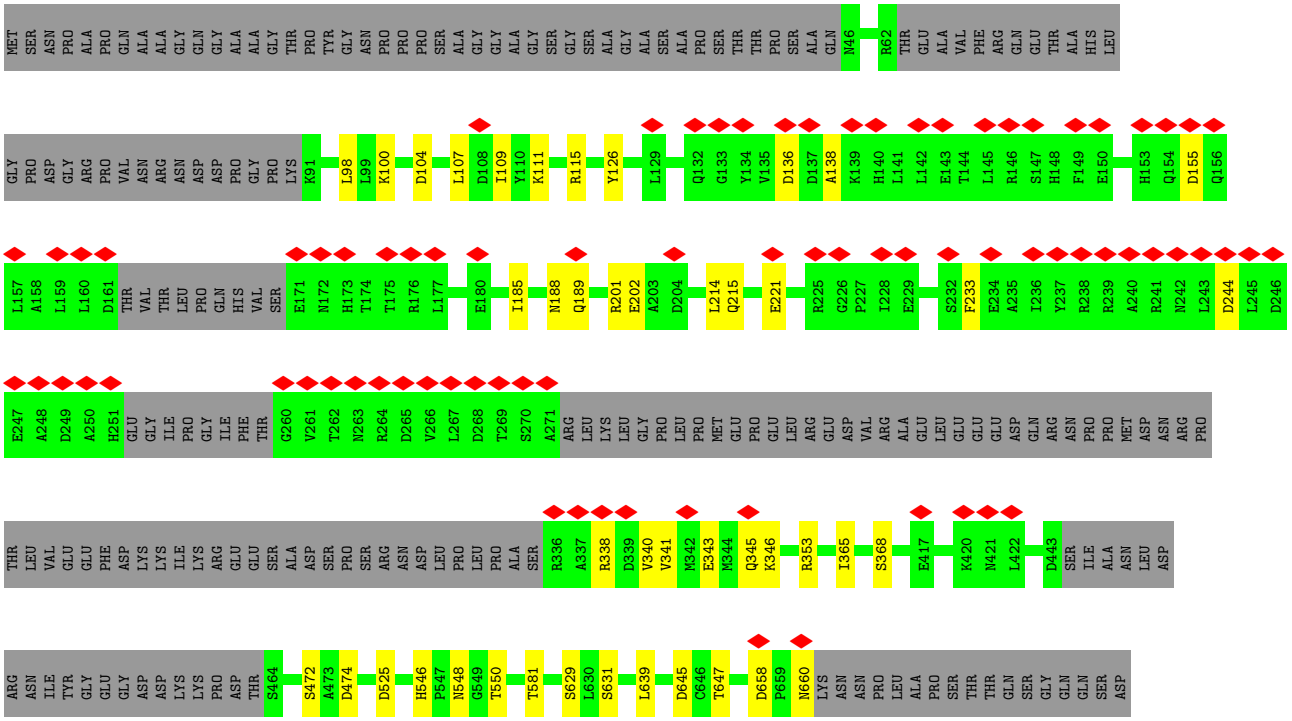
• Molecule 3: Uncharacterized protein

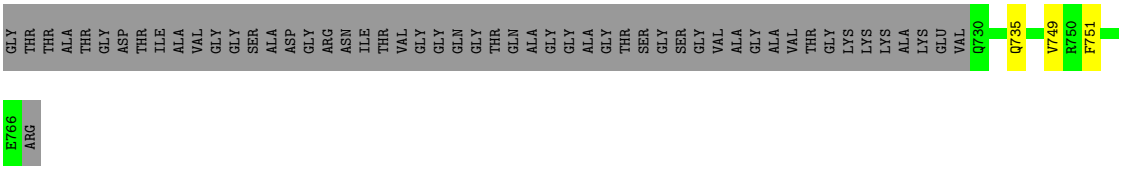
Chain C:



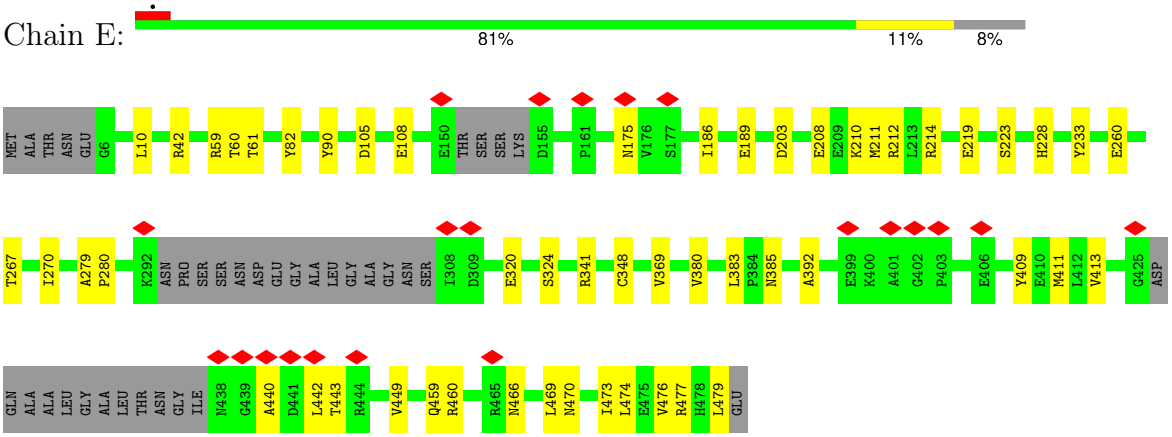
• Molecule 4: Transcription initiation factor TFIID subunit 5

Chain D:

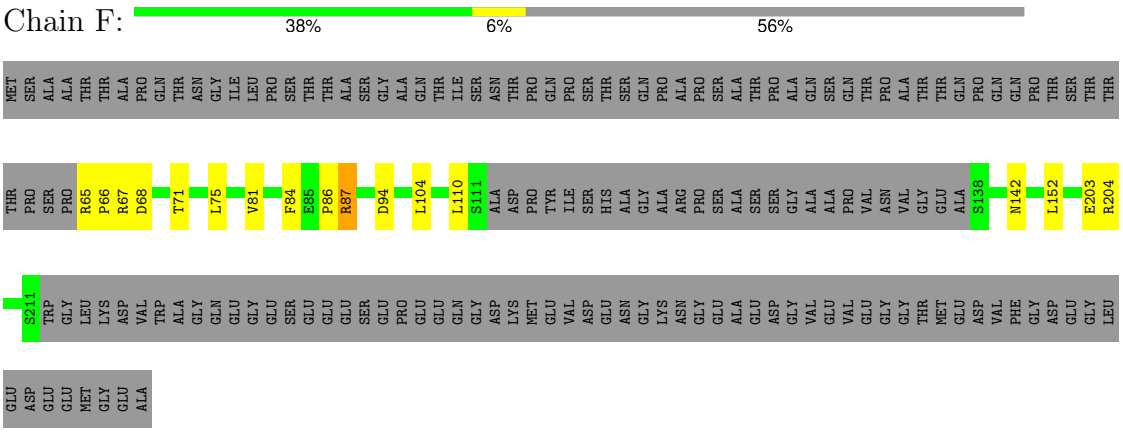




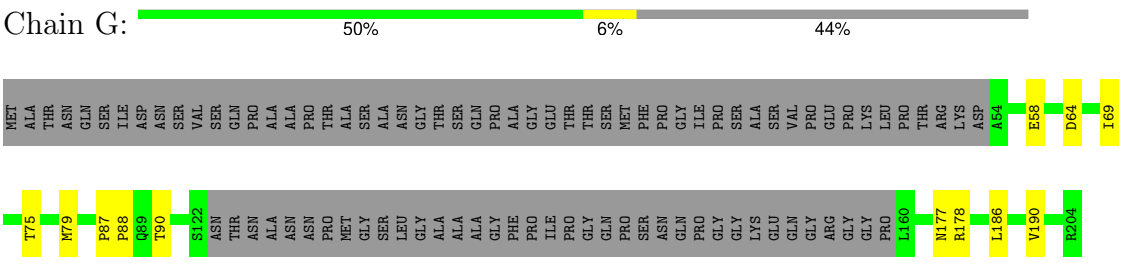
• Molecule 5: Transcription initiation factor TFIID subunit 6



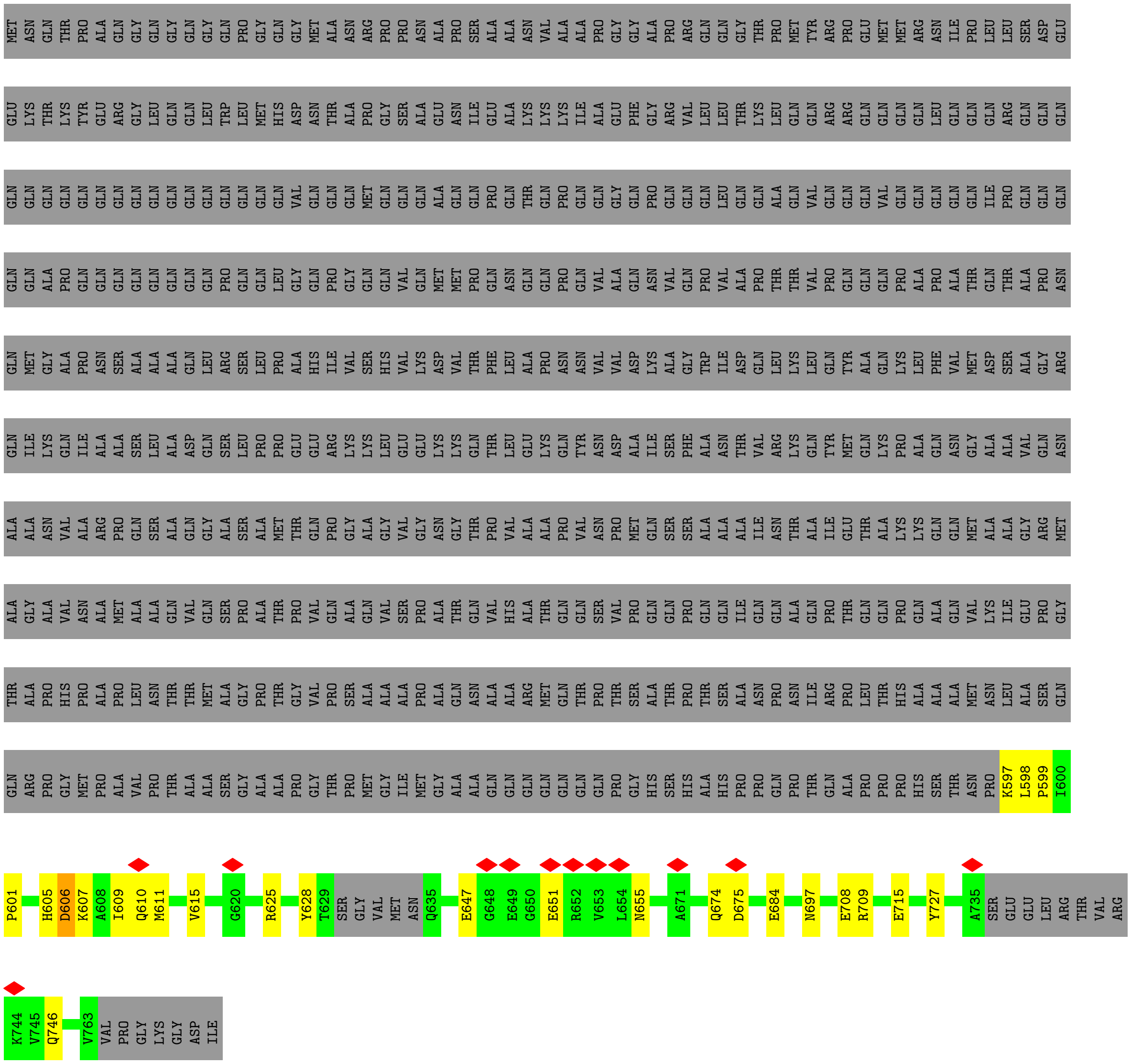
• Molecule 6: Putative transcription initiation factor



• Molecule 7: Transcription initiation factor TFIID subunit 10

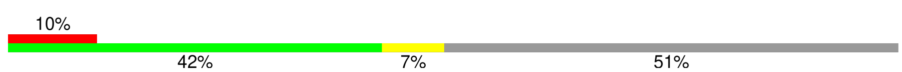


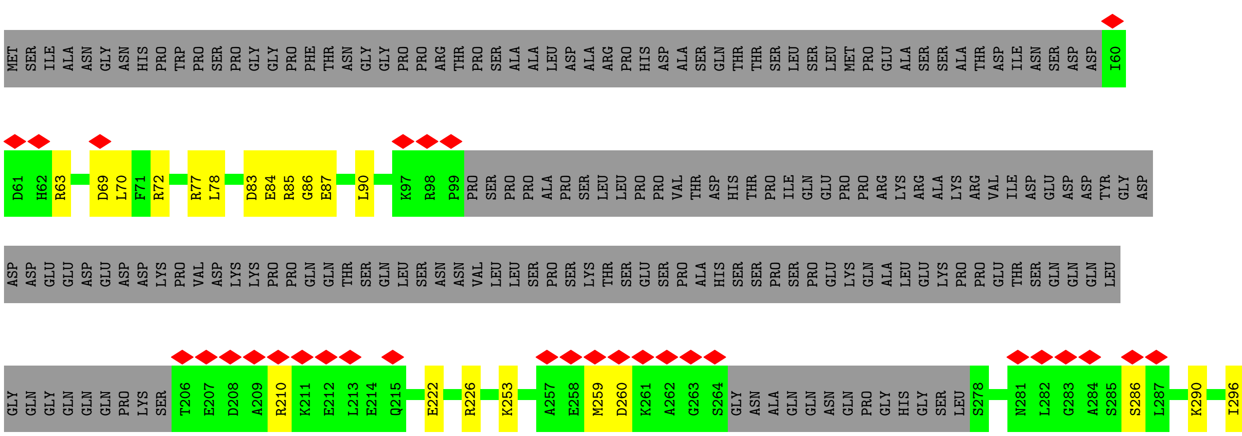
• Molecule 8: Transcription initiation factor TFIID subunit 12

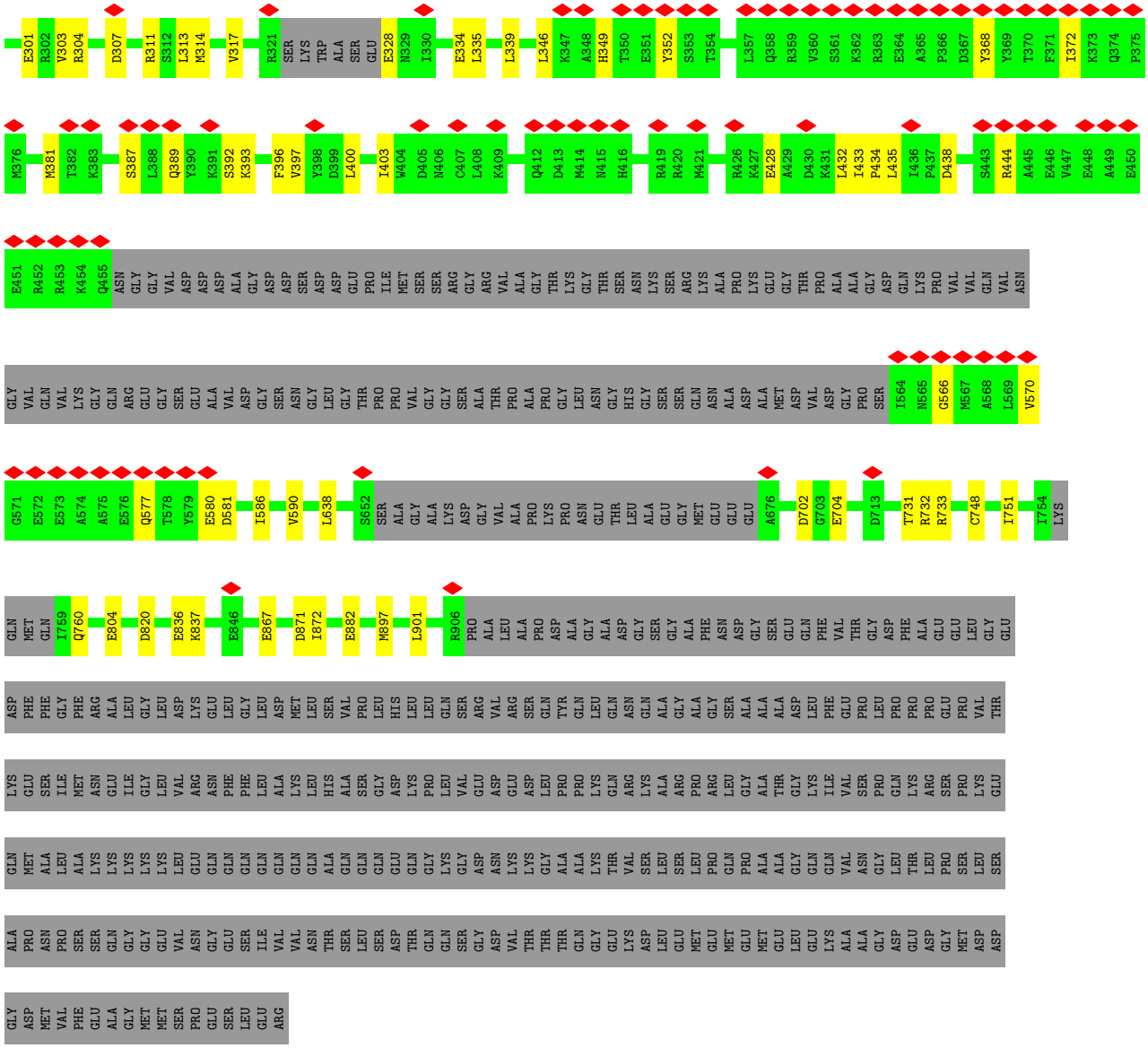


- Molecule 9: Putative transcriptional activator protein

Chain K:

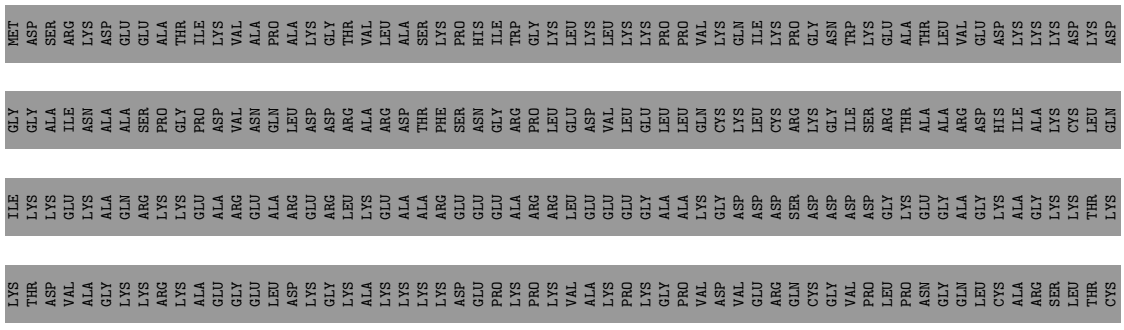


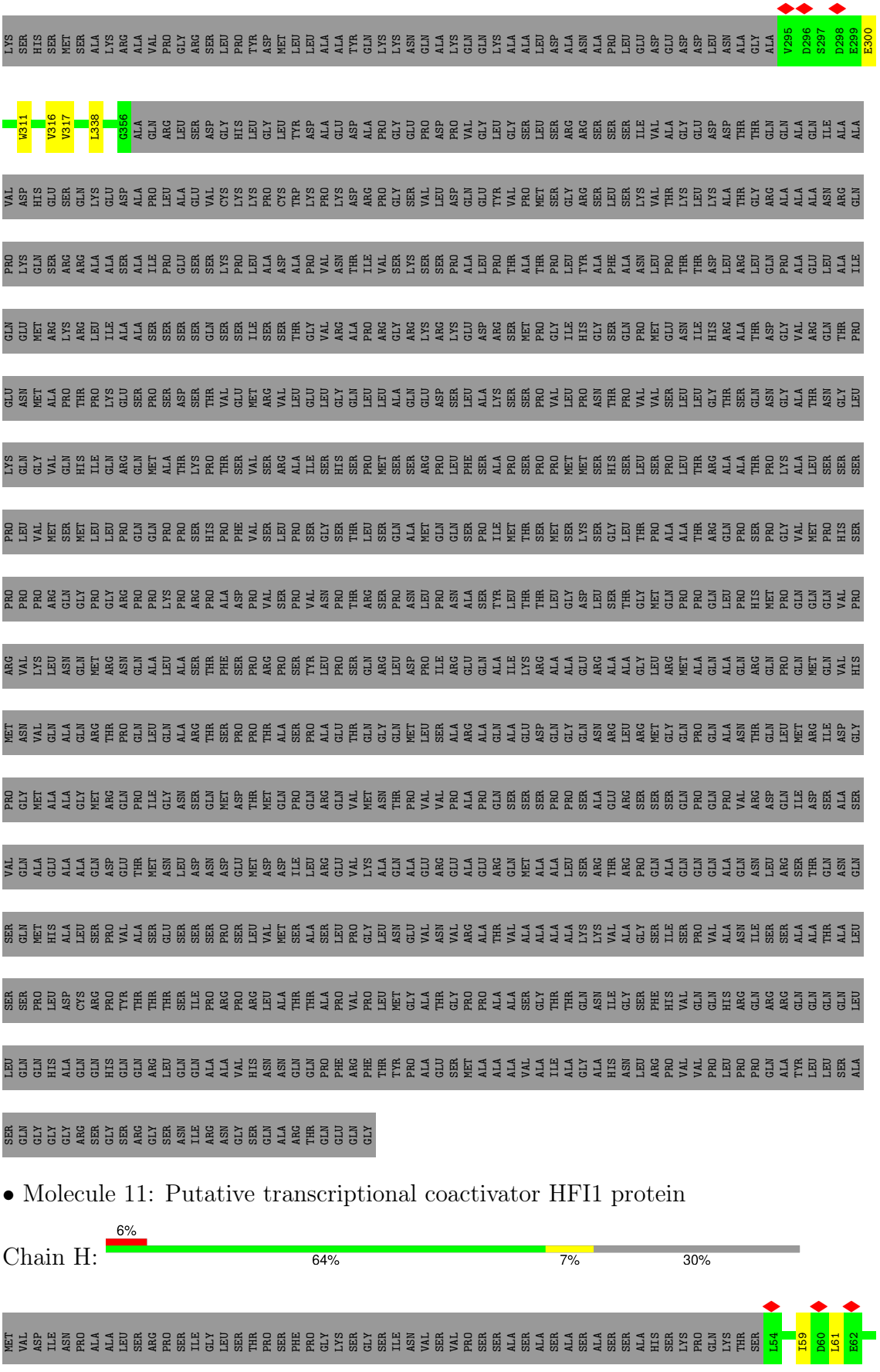




• Molecule 10: SCA7 domain-containing protein

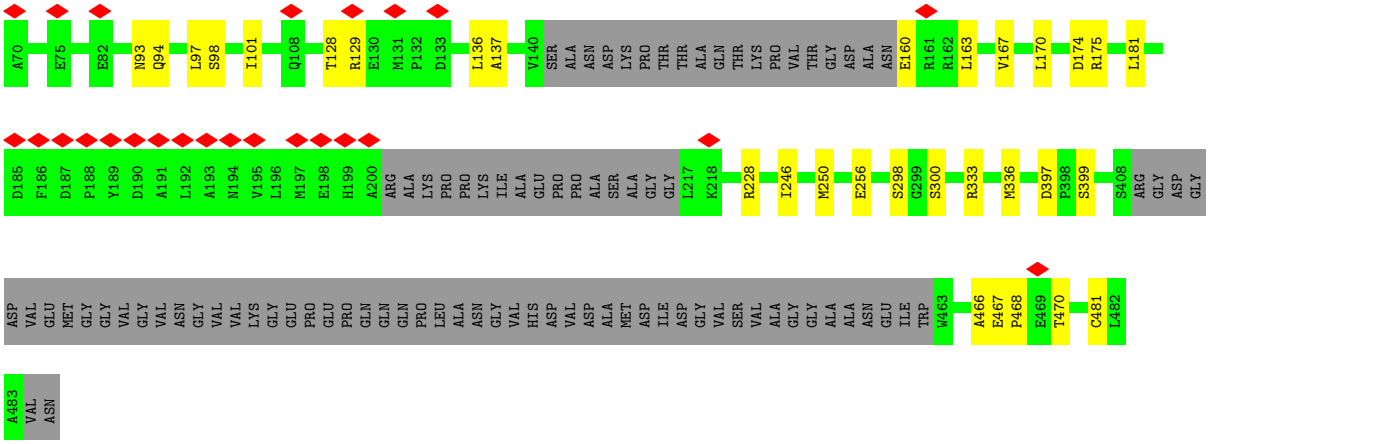
Chain Q: 95%



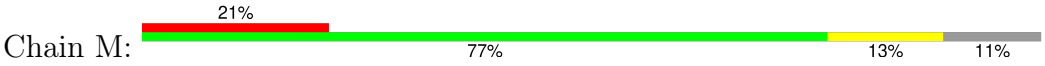


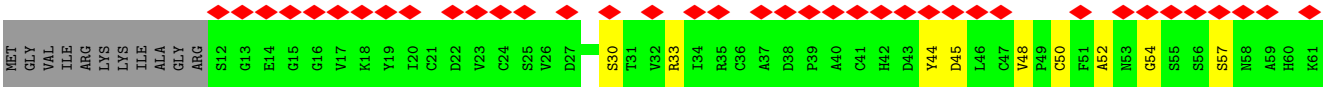
• Molecule 11: Putative transcriptional coactivator HFI1 protein

Chain H:

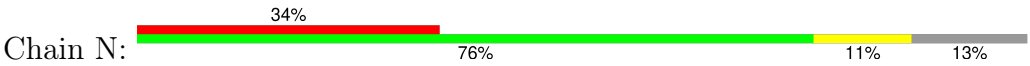


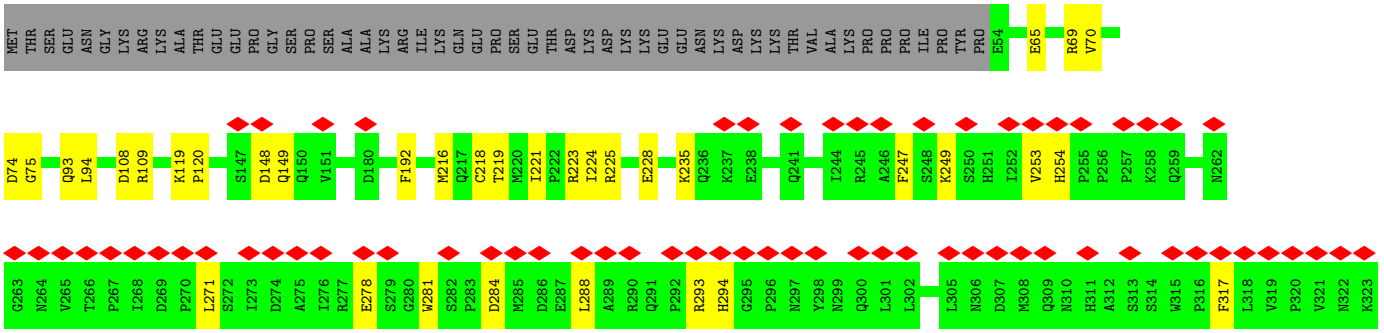
• Molecule 12: Transcriptional adapter 2





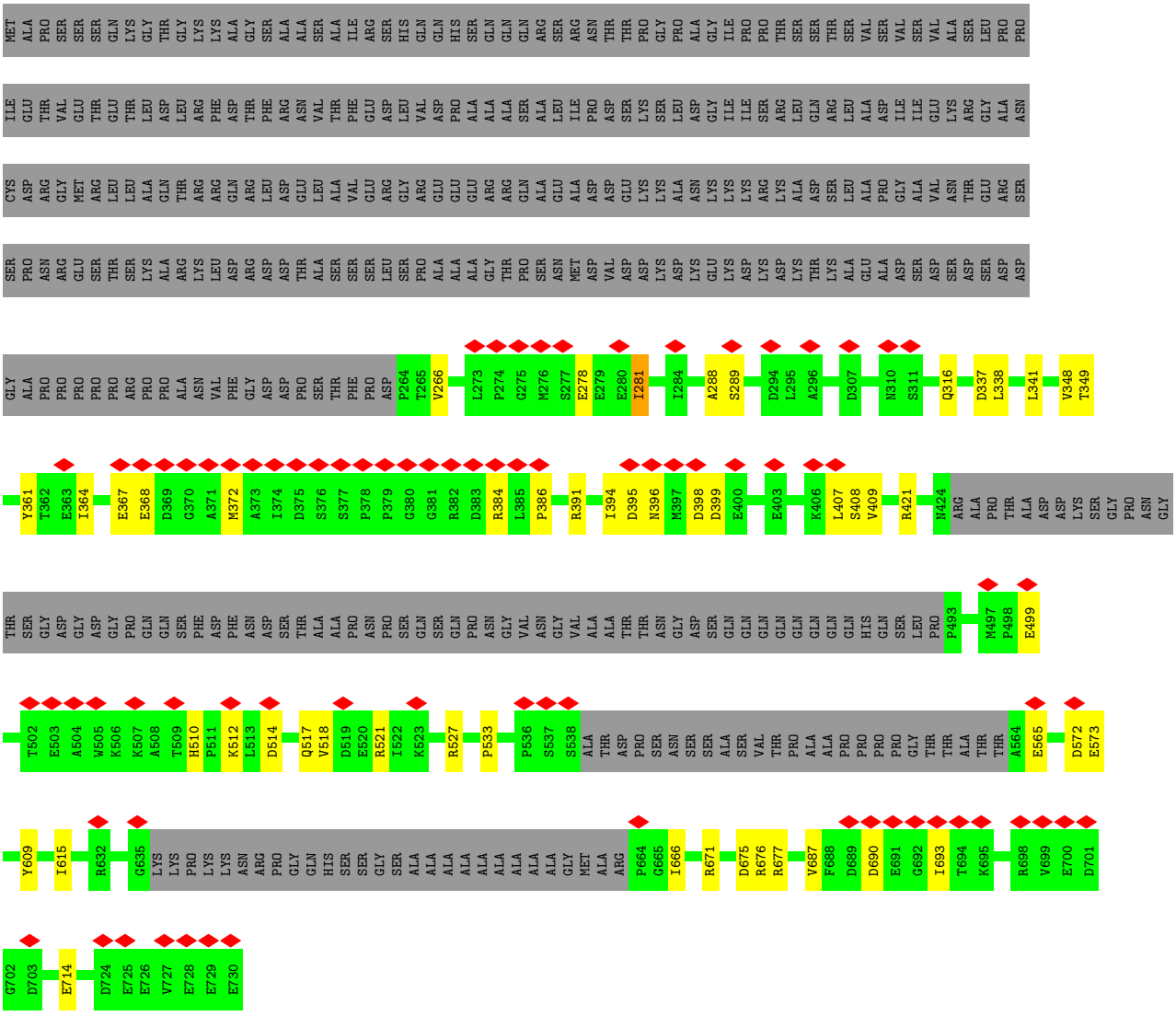
• Molecule 13: histone acetyltransferase





• Molecule 14: Uncharacterized protein

Chain O:



4 Experimental information (i)

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, Not provided	
Number of particles used	3566416	Depositor
Resolution determination method	OTHER	Depositor
CTF correction method	PHASE FLIPPING AND AMPLITUDE CORRECTION	Depositor
Microscope	TFS KRIOS	Depositor
Voltage (kV)	300	Depositor
Electron dose ($e^-/Å^2$)	68.9	Depositor
Minimum defocus (nm)	1200	Depositor
Maximum defocus (nm)	2500	Depositor
Magnification	Not provided	
Image detector	GATAN K3 BIOQUANTUM (6k x 4k)	Depositor
Maximum map value	71.846	Depositor
Minimum map value	-0.910	Depositor
Average map value	0.421	Depositor
Map value standard deviation	1.062	Depositor
Recommended contour level	7	Depositor
Map size (Å)	503.844, 502.803, 521.541	wwPDB
Map dimensions	484, 483, 501	wwPDB
Map angles (°)	90.0, 90.0, 90.0	wwPDB
Pixel spacing (Å)	1.041, 1.041, 1.041	Depositor

5 Model quality

5.1 Standard geometry

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	0.10	0/30011	0.26	0/40686
2	B	0.11	0/2094	0.23	0/2842
3	C	0.11	0/1649	0.24	0/2214
4	D	0.09	0/4235	0.26	0/5730
5	E	0.10	0/3505	0.25	0/4767
6	F	0.11	0/932	0.25	0/1259
7	G	0.12	0/899	0.25	0/1213
8	I	0.10	0/1203	0.26	0/1624
9	K	0.11	0/4832	0.25	0/6495
10	Q	0.11	0/489	0.22	0/667
11	H	0.09	0/2723	0.22	0/3686
12	M	0.08	0/3793	0.23	0/5121
13	N	0.08	0/2962	0.22	0/4003
14	O	0.09	0/2851	0.26	0/3848
All	All	0.10	0/62178	0.25	0/84155

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

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	29336	29628	29619	227	0
2	B	2035	1952	2013	21	0

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Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
3	C	1618	1607	1602	23	0
4	D	4144	4096	4088	32	0
5	E	3440	3519	3515	43	0
6	F	915	546	922	23	0
7	G	883	879	877	9	0
8	I	1185	1084	1220	22	0
9	K	4757	4741	4740	54	0
10	Q	478	472	471	5	0
11	H	2666	2613	2609	24	0
12	M	3712	3681	3679	52	0
13	N	2890	2874	2873	28	0
14	O	2794	2726	2725	42	0
All	All	60853	60418	60953	536	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 4.

All (536) 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)
11:H:128:THR:HG1	14:O:510:HIS:HD1	1.11	0.88
1:A:2756:ASP:OD1	8:I:628:TYR:OH	1.90	0.87
1:A:1888:HIS:O	1:A:1928:TYR:OH	1.98	0.81
1:A:1400:ASP:OD1	1:A:1420:ARG:NH2	2.13	0.80
14:O:386:PRO:O	14:O:391:ARG:NH2	2.15	0.80
4:D:546:HIS:ND1	4:D:548:ASN:OD1	2.14	0.79
14:O:671:ARG:NE	14:O:671:ARG:O	2.17	0.78
6:F:203:GLU:O	9:K:837:LYS:NZ	2.15	0.78
13:N:69:ARG:NH1	14:O:288:ALA:O	2.17	0.78
2:B:400:ARG:NH2	8:I:684:GLU:OE1	2.16	0.78
5:E:10:LEU:HD13	11:H:181:LEU:HD11	1.65	0.78
2:B:143:ARG:NH1	2:B:144:PHE:O	2.17	0.77
4:D:645:ASP:OD1	4:D:647:THR:OG1	2.02	0.76
11:H:129:ARG:O	14:O:521:ARG:NH2	2.18	0.76
12:M:162:ILE:HG21	13:N:288:LEU:HD21	1.66	0.76
5:E:203:ASP:O	5:E:214:ARG:NH1	2.18	0.76
4:D:472:SER:OG	4:D:474:ASP:OD1	2.04	0.75
1:A:3261:ASP:O	1:A:3265:ILE:HG22	1.85	0.75
12:M:234:GLU:OE1	12:M:234:GLU:N	2.20	0.75
14:O:572:ASP:OD1	14:O:573:GLU:N	2.20	0.75
12:M:243:GLU:OE1	14:O:677:ARG:NH2	2.20	0.75

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:341:ARG:NH1	9:K:86:GLY:O	2.19	0.74
8:I:746:GLN:N	8:I:746:GLN:OE1	2.19	0.74
1:A:3445:GLU:O	1:A:3453:ARG:NH1	2.21	0.74
13:N:249:LYS:NZ	13:N:278:GLU:OE1	2.20	0.74
1:A:2526:SER:O	1:A:2532:ARG:NH1	2.21	0.74
2:B:157:MET:HE2	10:Q:338:LEU:HD21	1.68	0.73
3:C:313:VAL:HG23	3:C:314:THR:HG23	1.71	0.73
1:A:2765:ARG:NH1	2:B:220:ILE:O	2.22	0.73
3:C:144:VAL:O	3:C:276:ARG:NH2	2.22	0.73
13:N:369:ARG:NE	13:N:383:ASN:OD1	2.22	0.72
14:O:675:ASP:OD1	14:O:676:ARG:N	2.21	0.72
5:E:385:ASN:CG	9:K:70:LEU:HD21	2.14	0.72
12:M:71:GLU:N	12:M:71:GLU:OE1	2.23	0.72
1:A:2438:GLU:OE2	1:A:2482:ARG:NH1	2.23	0.72
1:A:435:GLN:O	1:A:439:THR:HG23	1.90	0.71
8:I:647:GLU:N	8:I:647:GLU:OE1	2.22	0.71
2:B:229:PRO:O	2:B:230:SER:HB3	1.89	0.71
6:F:67:ARG:HG2	6:F:68:ASP:OD1	1.90	0.71
5:E:442:LEU:HD12	5:E:443:THR:N	2.06	0.71
1:A:1637:ARG:NH2	1:A:1679:ASN:OD1	2.24	0.70
4:D:215:GLN:OE1	4:D:341:VAL:HG23	1.90	0.70
1:A:1596:HIS:O	1:A:1597:HIS:ND1	2.25	0.70
9:K:352:TYR:OH	9:K:577:GLN:OE1	2.09	0.70
1:A:2303:TRP:CE2	1:A:2307:ILE:HD11	2.27	0.70
6:F:68:ASP:O	6:F:71:THR:HG22	1.92	0.70
12:M:66:SER:OG	13:N:254:HIS:O	2.07	0.70
12:M:391:GLU:OE1	12:M:401:ARG:NE	2.25	0.70
11:H:170:LEU:O	11:H:175:ARG:NH1	2.24	0.70
1:A:126:GLU:N	1:A:126:GLU:OE1	2.24	0.69
14:O:714:GLU:OE1	14:O:714:GLU:N	2.24	0.69
1:A:1928:TYR:O	1:A:1968:ARG:NH2	2.26	0.69
9:K:387:SER:O	9:K:389:GLN:NE2	2.25	0.69
8:I:651:GLU:OE1	8:I:655:ASN:ND2	2.25	0.69
1:A:1146:ASN:O	1:A:1152:ARG:NH1	2.25	0.69
1:A:2162:GLN:N	1:A:2162:GLN:OE1	2.26	0.68
1:A:1085:GLU:OE1	1:A:1085:GLU:N	2.26	0.68
1:A:548:SER:O	1:A:553:ARG:NH2	2.26	0.68
13:N:65:GLU:N	13:N:65:GLU:OE1	2.26	0.68
9:K:301:GLU:OE2	9:K:301:GLU:N	2.25	0.68
12:M:112:TYR:O	12:M:165:ARG:NH1	2.27	0.68
6:F:142:ASN:ND2	8:I:708:GLU:OE1	2.27	0.68

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:K:882:GLU:OE1	9:K:882:GLU:N	2.27	0.67
5:E:203:ASP:OD2	5:E:210:LYS:NZ	2.21	0.67
1:A:2237:LYS:O	1:A:2241:LYS:NZ	2.27	0.67
3:C:319:SER:OG	3:C:321:ASP:OD1	2.12	0.66
9:K:580:GLU:N	9:K:580:GLU:OE1	2.28	0.66
4:D:201:ARG:NH1	5:E:219:GLU:OE2	2.28	0.66
1:A:589:ASP:OD1	1:A:591:THR:HG23	1.94	0.66
1:A:2739:ARG:NH1	2:B:217:PRO:O	2.29	0.66
1:A:627:GLU:N	1:A:627:GLU:OE1	2.28	0.66
3:C:135:TRP:CD1	3:C:156:THR:HG21	2.30	0.66
1:A:2171:MET:O	1:A:2223:LYS:NZ	2.29	0.65
1:A:2815:ASP:OD1	8:I:625:ARG:NH1	2.28	0.65
1:A:2493:GLU:OE2	1:A:2497:ARG:NH1	2.29	0.65
5:E:108:GLU:N	5:E:108:GLU:OE1	2.30	0.65
1:A:1026:GLU:OE1	1:A:1026:GLU:N	2.30	0.65
12:M:136:GLU:N	12:M:136:GLU:OE1	2.29	0.65
9:K:296:ILE:HD11	9:K:303:VAL:HG11	1.79	0.64
1:A:2447:THR:OG1	3:C:283:GLU:OE2	2.10	0.64
12:M:48:VAL:O	12:M:52:ALA:N	2.31	0.64
5:E:189:GLU:N	5:E:189:GLU:OE1	2.30	0.63
4:D:365:ILE:HD11	5:E:228:HIS:HB2	1.79	0.63
14:O:565:GLU:OE1	14:O:565:GLU:N	2.30	0.63
1:A:1478:THR:O	1:A:1479:THR:OG1	2.12	0.63
8:I:610:GLN:OE1	8:I:610:GLN:HA	1.97	0.63
9:K:392:SER:OG	9:K:438:ASP:OD1	2.13	0.63
13:N:70:VAL:N	14:O:289:SER:OG	2.25	0.63
1:A:1436:PHE:O	1:A:1445:ARG:NH1	2.31	0.62
6:F:68:ASP:HA	6:F:71:THR:HG22	1.81	0.62
9:K:871:ASP:OD1	9:K:872:ILE:N	2.32	0.62
12:M:269:GLU:N	12:M:269:GLU:OE1	2.32	0.62
12:M:344:ARG:NH2	14:O:368:GLU:OE1	2.33	0.62
1:A:2002:PHE:O	1:A:2006:VAL:HG23	1.99	0.62
1:A:912:HIS:CG	8:I:609:ILE:HG22	2.34	0.62
4:D:338:ARG:NH2	4:D:343:GLU:OE2	2.33	0.62
8:I:715:GLU:OE1	8:I:715:GLU:N	2.33	0.61
11:H:160:GLU:OE1	11:H:160:GLU:N	2.33	0.61
9:K:296:ILE:HD12	14:O:687:VAL:HG21	1.83	0.61
1:A:3178:ASN:OD1	1:A:3178:ASN:O	2.19	0.61
12:M:44:TYR:OH	12:M:57:SER:OG	2.08	0.61
1:A:1998:MET:SD	1:A:1998:MET:N	2.74	0.61
2:B:139:GLN:O	2:B:197:ARG:NH1	2.33	0.60

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1475:LEU:CD2	1:A:1481:LEU:HD21	2.31	0.60
1:A:2771:GLU:N	1:A:2771:GLU:OE1	2.35	0.60
3:C:137:GLU:N	3:C:137:GLU:OE1	2.35	0.60
4:D:109:ILE:HD13	5:E:320:GLU:OE1	2.02	0.60
5:E:449:VAL:HG21	5:E:470:ASN:OD1	2.01	0.60
1:A:2765:ARG:NH2	2:B:228:THR:O	2.36	0.59
9:K:69:ASP:OD1	9:K:72:ARG:NH1	2.35	0.59
11:H:298:SER:OG	11:H:333:ARG:NH2	2.35	0.59
1:A:457:GLN:N	1:A:457:GLN:OE1	2.35	0.59
1:A:2949:LEU:HD11	1:A:3003:TYR:CE1	2.37	0.59
12:M:50:CYS:O	12:M:54:GLY:N	2.35	0.59
1:A:1836:ALA:O	1:A:1838:ARG:NH2	2.35	0.59
1:A:180:ASP:OD1	1:A:181:LYS:N	2.36	0.59
1:A:434:GLU:N	1:A:434:GLU:OE1	2.35	0.59
6:F:86:PRO:O	6:F:87:ARG:HG2	2.03	0.59
9:K:586:ILE:O	9:K:590:VAL:HG23	2.03	0.59
3:C:321:ASP:OD1	3:C:321:ASP:N	2.35	0.59
11:H:397:ASP:OD1	11:H:399:SER:OG	2.21	0.59
1:A:1786:ILE:HD12	1:A:1786:ILE:H	1.69	0.58
5:E:348:CYS:HB3	5:E:369:VAL:HG23	1.85	0.58
12:M:86:GLU:OE2	12:M:113:ARG:NH1	2.36	0.58
1:A:2940:HIS:NE2	8:I:599:PRO:HD3	2.19	0.58
1:A:3760:PRO:HB2	1:A:3819:MET:HE1	1.84	0.58
1:A:3819:MET:HE3	1:A:3819:MET:HA	1.86	0.58
1:A:2945:ILE:HD11	1:A:2967:LEU:HD22	1.86	0.58
1:A:2608:ASN:OD1	1:A:2611:ARG:NH2	2.36	0.58
1:A:134:LEU:O	1:A:138:ASP:N	2.34	0.58
1:A:2245:SER:O	1:A:2319:SER:OG	2.23	0.57
1:A:3530:ASP:OD1	1:A:3530:ASP:N	2.36	0.57
12:M:30:SER:O	12:M:30:SER:OG	2.18	0.57
12:M:121:HIS:CE1	12:M:125:VAL:HG21	2.39	0.57
1:A:166:GLN:N	1:A:166:GLN:OE1	2.36	0.57
13:N:93:GLN:C	13:N:94:LEU:HD12	2.29	0.57
1:A:924:ARG:HG3	8:I:598:LEU:HD13	1.85	0.57
12:M:448:LEU:HD23	12:M:448:LEU:O	2.04	0.57
1:A:2384:ASP:O	1:A:2388:GLN:NE2	2.37	0.57
4:D:548:ASN:ND2	4:D:550:THR:OG1	2.37	0.57
3:C:247:GLU:OE1	3:C:247:GLU:N	2.33	0.57
2:B:235:TYR:CG	2:B:236:PRO:HD2	2.39	0.57
1:A:139:ASN:O	1:A:143:VAL:HG22	2.04	0.57
1:A:2205:LEU:O	1:A:2209:ILE:HG13	2.05	0.57

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:K:381:MET:HE3	9:K:403:ILE:HD11	1.86	0.57
1:A:1934:ILE:H	1:A:1934:ILE:HD12	1.68	0.56
1:A:1619:THR:HG21	1:A:1632:LEU:HD22	1.88	0.56
1:A:2384:ASP:OD1	1:A:2388:GLN:NE2	2.38	0.56
1:A:3228:LEU:HD12	1:A:3228:LEU:O	2.05	0.56
1:A:124:ALA:O	1:A:128:VAL:HG22	2.05	0.56
12:M:285:LEU:HD21	12:M:308:ILE:HD11	1.87	0.56
1:A:1797:LEU:O	1:A:1801:SER:N	2.38	0.56
1:A:1572:ASP:OD1	1:A:1575:ARG:NH2	2.38	0.56
2:B:410:ASP:OD1	2:B:410:ASP:N	2.38	0.56
1:A:828:LYS:O	1:A:830:ALA:N	2.37	0.56
3:C:147:GLU:OE1	3:C:393:ARG:NH2	2.38	0.56
11:H:136:LEU:HD23	11:H:137:ALA:N	2.21	0.56
1:A:950:ASP:OD2	1:A:3639:ARG:NH2	2.38	0.56
4:D:188:ASN:OD1	4:D:189:GLN:N	2.39	0.56
12:M:33:ARG:NH2	12:M:45:ASP:OD1	2.39	0.56
12:M:74:SER:OG	12:M:155:GLN:OE1	2.09	0.56
1:A:2492:THR:HG22	1:A:2493:GLU:H	1.70	0.55
5:E:279:ALA:HB3	5:E:280:PRO:HD3	1.88	0.55
5:E:469:LEU:O	5:E:473:ILE:HG13	2.07	0.55
1:A:3829:THR:OG1	1:A:3830:MET:N	2.39	0.55
12:M:330:ASP:N	12:M:330:ASP:OD1	2.39	0.55
1:A:2190:LEU:HD13	1:A:2205:LEU:HD23	1.89	0.55
1:A:270:THR:O	1:A:274:LYS:NZ	2.25	0.55
9:K:387:SER:OG	9:K:389:GLN:OE1	2.08	0.55
1:A:3158:ASP:O	1:A:3161:SER:OG	2.23	0.55
12:M:143:LEU:HD22	13:N:247:PHE:CE1	2.41	0.55
13:N:148:ASP:OD1	13:N:149:GLN:N	2.40	0.54
1:A:758:GLU:OE2	1:A:801:PHE:N	2.36	0.54
9:K:400:LEU:HA	9:K:403:ILE:HD12	1.88	0.54
6:F:68:ASP:HA	6:F:71:THR:CG2	2.37	0.54
14:O:408:SER:OG	14:O:409:VAL:N	2.41	0.54
1:A:1475:LEU:HD22	1:A:1481:LEU:HD21	1.90	0.54
14:O:690:ASP:OD1	14:O:690:ASP:N	2.38	0.54
4:D:346:LYS:HE2	5:E:212:ARG:CD	2.37	0.54
9:K:428:GLU:O	9:K:432:LEU:HD12	2.07	0.54
1:A:425:HIS:O	1:A:428:ARG:NH1	2.41	0.54
5:E:186:ILE:HD11	5:E:233:TYR:CE2	2.43	0.54
14:O:514:ASP:N	14:O:517:GLN:OE1	2.41	0.54
3:C:329:LEU:O	3:C:333:MET:HG3	2.06	0.53
12:M:191:ILE:N	14:O:316:GLN:OE1	2.41	0.53

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
9:K:760:GLN:N	9:K:760:GLN:OE1	2.37	0.53
4:D:98:LEU:HD21	4:D:202:GLU:OE2	2.08	0.53
7:G:186:LEU:O	7:G:190:VAL:HG22	2.09	0.53
12:M:122:TYR:CE2	12:M:127:ILE:HD11	2.43	0.53
1:A:2231:ASN:OD1	1:A:2234:GLN:NE2	2.42	0.53
3:C:413:LYS:NZ	9:K:867:GLU:OE1	2.41	0.53
5:E:409:TYR:O	5:E:413:VAL:HG23	2.09	0.53
1:A:1619:THR:HG21	1:A:1632:LEU:CD2	2.39	0.53
1:A:2332:PRO:O	1:A:2335:ILE:HD12	2.09	0.53
9:K:396:PHE:HE2	9:K:433:ILE:HD13	1.73	0.53
1:A:69:PHE:O	1:A:73:VAL:HG13	2.09	0.52
1:A:318:PHE:O	1:A:322:ILE:HG12	2.08	0.52
11:H:94:GLN:OE1	14:O:421:ARG:NH2	2.41	0.52
5:E:459:GLN:OE1	5:E:459:GLN:O	2.27	0.52
9:K:222:GLU:OE2	9:K:226:ARG:NH2	2.42	0.52
12:M:497:ARG:NH2	14:O:394:ILE:O	2.43	0.52
8:I:675:ASP:N	8:I:675:ASP:OD1	2.41	0.52
11:H:128:THR:HG1	14:O:510:HIS:CG	2.25	0.52
13:N:271:LEU:HD21	13:N:281:TRP:O	2.09	0.52
1:A:332:LEU:C	1:A:332:LEU:HD23	2.35	0.52
1:A:1654:PHE:HD1	1:A:1654:PHE:O	1.93	0.52
8:I:611:MET:O	8:I:611:MET:HG3	2.08	0.52
9:K:328:GLU:OE2	9:K:444:ARG:N	2.43	0.52
10:Q:300:GLU:OE2	11:H:175:ARG:NE	2.42	0.51
2:B:468:GLN:OE1	2:B:469:GLU:N	2.43	0.51
3:C:354:ARG:NH2	11:H:336:MET:SD	2.83	0.51
1:A:443:TYR:CE2	1:A:463:LEU:HD23	2.45	0.51
1:A:1434:GLU:N	1:A:1434:GLU:OE1	2.39	0.51
2:B:120:GLU:OE2	2:B:120:GLU:N	2.41	0.51
1:A:823:LEU:HD12	1:A:824:MET:O	2.10	0.51
9:K:210:ARG:NH2	9:K:435:LEU:O	2.44	0.51
14:O:572:ASP:OD1	14:O:572:ASP:C	2.54	0.51
9:K:334:GLU:OE1	9:K:334:GLU:N	2.44	0.51
12:M:448:LEU:HD21	12:M:456:ILE:HD11	1.91	0.51
9:K:260:ASP:OD1	9:K:260:ASP:N	2.44	0.51
1:A:152:ASP:OD1	1:A:153:ILE:N	2.43	0.51
1:A:2800:THR:HG22	1:A:2802:VAL:HG13	1.93	0.50
5:E:392:ALA:O	9:K:63:ARG:NH2	2.44	0.50
8:I:597:LYS:O	8:I:598:LEU:HD12	2.11	0.50
12:M:344:ARG:NH1	14:O:368:GLU:OE2	2.43	0.50
3:C:347:GLN:NE2	11:H:300:SER:O	2.35	0.50

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
11:H:97:LEU:HD11	11:H:101:ILE:HD12	1.92	0.50
12:M:112:TYR:HE2	12:M:162:ILE:HG23	1.77	0.50
14:O:395:ASP:OD1	14:O:396:ASN:N	2.45	0.50
1:A:183:VAL:HG22	1:A:248:PHE:CZ	2.46	0.50
1:A:1534:VAL:HG23	1:A:1563:VAL:HG11	1.94	0.50
5:E:474:LEU:O	5:E:477:ARG:NH1	2.37	0.50
1:A:2169:GLU:OE1	1:A:2169:GLU:N	2.44	0.50
2:B:234:PRO:O	2:B:235:TYR:HB2	2.12	0.50
12:M:121:HIS:O	12:M:125:VAL:HG23	2.11	0.50
1:A:3760:PRO:CB	1:A:3819:MET:HE1	2.41	0.49
12:M:81:ASP:O	12:M:113:ARG:NH2	2.44	0.49
1:A:334:TYR:O	1:A:337:ARG:NE	2.45	0.49
5:E:208:GLU:HG3	5:E:212:ARG:HE	1.77	0.49
12:M:471:MET:HE1	14:O:407:LEU:HD13	1.94	0.49
5:E:270:ILE:O	5:E:270:ILE:HG22	2.11	0.49
9:K:732:ARG:O	9:K:733:ARG:HB3	2.13	0.49
9:K:304:ARG:NH1	9:K:304:ARG:HA	2.27	0.49
9:K:751:ILE:HD11	9:K:901:LEU:HB2	1.93	0.49
1:A:408:VAL:HG13	1:A:412:MET:HE2	1.94	0.49
14:O:527:ARG:NH1	14:O:533:PRO:O	2.46	0.49
1:A:3802:GLU:CB	1:A:3803:PRO:HD3	2.43	0.49
12:M:237:LEU:HD22	14:O:666:ILE:HD11	1.95	0.49
1:A:2866:VAL:O	1:A:2870:VAL:HG22	2.12	0.49
5:E:380:VAL:HG12	5:E:380:VAL:O	2.13	0.49
12:M:90:LEU:O	12:M:105:ILE:HD11	2.13	0.49
1:A:427:VAL:O	1:A:427:VAL:HG13	2.12	0.49
1:A:3078:GLN:HG2	1:A:3112:MET:HE1	1.94	0.49
6:F:68:ASP:CA	6:F:71:THR:HG22	2.42	0.49
9:K:83:ASP:OD1	9:K:87:GLU:N	2.39	0.49
12:M:455:GLU:OE1	12:M:469:TYR:OH	2.21	0.49
1:A:179:LEU:C	1:A:179:LEU:HD12	2.38	0.49
1:A:1536:GLN:O	1:A:1536:GLN:NE2	2.43	0.49
1:A:1783:SER:OG	1:A:1789:TRP:NE1	2.45	0.49
5:E:90:TYR:CD2	6:F:66:PRO:HD3	2.48	0.49
12:M:448:LEU:HD21	12:M:456:ILE:CD1	2.42	0.49
1:A:2961:SER:O	1:A:3022:ARG:NH1	2.46	0.49
12:M:148:SER:OG	12:M:149:ILE:HD12	2.13	0.49
1:A:399:ARG:NH1	1:A:404:ASP:OD1	2.46	0.48
4:D:221:GLU:N	4:D:221:GLU:OE1	2.46	0.48
1:A:1534:VAL:CG2	1:A:1563:VAL:HG11	2.42	0.48
12:M:147:ASN:C	12:M:147:ASN:OD1	2.56	0.48

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:1951:ARG:HH21	1:A:1954:VAL:HG11	1.78	0.48
1:A:179:LEU:O	1:A:183:VAL:HG23	2.13	0.48
1:A:2682:ARG:HA	1:A:2682:ARG:NE	2.27	0.48
1:A:867:GLY:O	1:A:871:VAL:HG23	2.13	0.48
1:A:92:GLU:N	1:A:92:GLU:OE1	2.46	0.48
1:A:2212:THR:HA	1:A:2215:VAL:HG12	1.96	0.48
1:A:2353:ASP:OD1	1:A:2354:HIS:N	2.47	0.48
4:D:104:ASP:N	4:D:104:ASP:OD1	2.45	0.48
14:O:348:VAL:HG13	14:O:349:THR:N	2.29	0.48
1:A:2017:ASP:OD1	1:A:2018:LYS:N	2.47	0.48
1:A:3124:ASP:HA	1:A:3127:PHE:CE1	2.48	0.48
6:F:86:PRO:O	6:F:87:ARG:CG	2.62	0.48
3:C:138:LEU:O	3:C:142:MET:HG3	2.14	0.48
3:C:345:LYS:NZ	3:C:395:PRO:O	2.46	0.48
8:I:605:HIS:CD2	8:I:607:LYS:HB3	2.49	0.48
9:K:296:ILE:CD1	14:O:687:VAL:HG21	2.44	0.48
13:N:70:VAL:H	14:O:289:SER:HG	1.57	0.48
1:A:1332:GLU:N	1:A:1335:GLU:OE1	2.43	0.47
1:A:3755:MET:HE1	1:A:3819:MET:SD	2.54	0.47
6:F:68:ASP:C	6:F:71:THR:HG22	2.39	0.47
12:M:381:VAL:O	12:M:381:VAL:HG12	2.14	0.47
14:O:398:ASP:OD1	14:O:399:ASP:N	2.47	0.47
1:A:1296:LEU:O	1:A:1300:VAL:HG23	2.14	0.47
4:D:136:ASP:OD1	4:D:136:ASP:N	2.45	0.47
8:I:709:ARG:NH2	8:I:715:GLU:OE2	2.47	0.47
1:A:421:ALA:HB1	1:A:463:LEU:HD22	1.95	0.47
1:A:421:ALA:CB	1:A:463:LEU:HD22	2.44	0.47
6:F:75:LEU:HD21	10:Q:311:TRP:CE3	2.48	0.47
1:A:1855:VAL:O	1:A:1855:VAL:HG13	2.13	0.47
3:C:353:GLU:OE1	3:C:354:ARG:N	2.47	0.47
9:K:286:SER:O	9:K:290:LYS:N	2.48	0.47
1:A:1146:ASN:OD1	1:A:1147:GLU:N	2.47	0.47
1:A:2335:ILE:HD12	1:A:2335:ILE:H	1.80	0.47
4:D:340:VAL:O	4:D:341:VAL:HB	2.14	0.47
5:E:385:ASN:ND2	9:K:70:LEU:HD21	2.28	0.47
1:A:1226:GLN:O	1:A:1230:VAL:HG23	2.15	0.47
1:A:3196:ASP:OD1	1:A:3198:ASN:N	2.47	0.47
4:D:98:LEU:HD21	4:D:202:GLU:CD	2.39	0.47
8:I:599:PRO:O	8:I:601:PRO:HD3	2.14	0.47
9:K:566:GLY:O	9:K:570:VAL:HG23	2.15	0.47
5:E:476:VAL:HG12	5:E:476:VAL:O	2.14	0.47

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
14:O:514:ASP:O	14:O:518:VAL:HG23	2.15	0.47
1:A:3498:ALA:HB1	1:A:3502:PRO:HD3	1.97	0.47
6:F:86:PRO:O	6:F:87:ARG:CB	2.63	0.47
13:N:74:ASP:OD1	13:N:75:GLY:N	2.48	0.47
1:A:3730:ASP:OD1	1:A:3730:ASP:N	2.39	0.46
1:A:2227:TRP:O	1:A:2231:ASN:ND2	2.36	0.46
1:A:47:ALA:HB2	1:A:99:LEU:HD12	1.96	0.46
5:E:466:ASN:O	5:E:470:ASN:ND2	2.48	0.46
7:G:178:ARG:NE	9:K:804:GLU:OE1	2.36	0.46
11:H:98:SER:OG	14:O:421:ARG:NH2	2.48	0.46
1:A:1893:ASP:N	1:A:1893:ASP:OD1	2.48	0.46
4:D:233:PHE:HA	5:E:411:MET:HE1	1.98	0.46
12:M:99:LEU:CD2	13:N:221:ILE:HD12	2.45	0.46
13:N:218:CYS:SG	13:N:219:THR:N	2.88	0.46
14:O:499:GLU:OE1	14:O:499:GLU:N	2.42	0.46
1:A:842:VAL:HG22	1:A:843:PRO:HD2	1.97	0.46
2:B:235:TYR:CD1	2:B:236:PRO:HD2	2.50	0.46
12:M:435:VAL:HG11	12:M:461:THR:O	2.16	0.46
1:A:78:ILE:HG23	1:A:130:LEU:HD13	1.98	0.46
1:A:3508:ARG:O	1:A:3509:TYR:CD1	2.68	0.46
11:H:466:ALA:O	11:H:470:THR:HG22	2.16	0.46
1:A:97:GLN:O	1:A:101:ASN:ND2	2.45	0.46
3:C:348:GLU:OE1	3:C:400:HIS:NE2	2.43	0.46
9:K:368:TYR:O	9:K:372:ILE:N	2.43	0.46
1:A:1948:ASN:OD1	1:A:1948:ASN:N	2.49	0.46
4:D:109:ILE:HD11	5:E:324:SER:HB2	1.98	0.46
1:A:140:GLU:HA	1:A:143:VAL:HG22	1.99	0.45
1:A:2491:ARG:NH1	3:C:387:ASP:O	2.48	0.45
4:D:631:SER:O	4:D:639:LEU:HD12	2.16	0.45
1:A:1585:VAL:HG21	1:A:1604:LEU:HD13	1.98	0.45
1:A:2205:LEU:O	1:A:2208:SER:OG	2.25	0.45
1:A:2328:GLY:HA2	1:A:2335:ILE:HD11	1.98	0.45
1:A:1631:PHE:O	1:A:1635:VAL:HG23	2.16	0.45
1:A:2216:VAL:HA	1:A:2219:VAL:HG12	1.98	0.45
4:D:107:LEU:HD11	5:E:260:GLU:CD	2.42	0.45
4:D:346:LYS:HE2	5:E:212:ARG:NH1	2.31	0.45
1:A:47:ALA:HB2	1:A:99:LEU:CD1	2.46	0.45
1:A:3823:PHE:HB3	1:A:3829:THR:HG22	1.98	0.45
1:A:1119:PRO:C	1:A:1120:PHE:HD1	2.24	0.45
1:A:108:HIS:ND1	1:A:152:ASP:OD2	2.46	0.45
1:A:2967:LEU:C	1:A:2967:LEU:HD23	2.42	0.45

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
2:B:374:ASN:OD1	2:B:376:GLU:N	2.49	0.45
7:G:69:ILE:HG22	9:K:731:THR:HG22	1.98	0.45
12:M:127:ILE:HD12	13:N:224:ILE:HD11	1.98	0.45
1:A:699:ILE:HB	1:A:700:PRO:HD3	1.99	0.45
1:A:2837:GLU:OE1	2:B:459:ARG:NH1	2.50	0.45
4:D:111:LYS:O	4:D:115:ARG:HG3	2.17	0.45
11:H:93:ASN:OD1	11:H:93:ASN:N	2.50	0.45
1:A:3574:ARG:C	1:A:3574:ARG:HD2	2.42	0.45
5:E:228:HIS:NE2	5:E:267:THR:O	2.50	0.45
12:M:102:TRP:HA	12:M:105:ILE:HG22	1.99	0.45
1:A:1589:GLU:OE2	1:A:1598:SER:OG	2.19	0.45
1:A:183:VAL:HG22	1:A:248:PHE:CE1	2.52	0.44
1:A:548:SER:OG	1:A:553:ARG:NH2	2.40	0.44
1:A:3231:LYS:O	1:A:3231:LYS:HG2	2.17	0.44
4:D:100:LYS:O	4:D:104:ASP:OD1	2.34	0.44
12:M:241:VAL:HG22	12:M:241:VAL:O	2.16	0.44
1:A:69:PHE:O	1:A:73:VAL:HG22	2.17	0.44
1:A:1105:GLU:OE1	1:A:1133:ASN:ND2	2.40	0.44
11:H:246:ILE:O	11:H:250:MET:HG3	2.17	0.44
1:A:535:ASP:OD1	1:A:535:ASP:N	2.51	0.44
14:O:609:TYR:CD1	14:O:693:ILE:HG21	2.53	0.44
1:A:177:GLU:HG3	1:A:279:LEU:HD21	1.99	0.44
1:A:2243:LEU:HD21	1:A:2271:ILE:HD11	1.99	0.44
1:A:2724:LEU:CD1	1:A:2749:LEU:HD12	2.47	0.44
6:F:67:ARG:HD3	11:H:174:ASP:OD2	2.17	0.44
12:M:66:SER:OG	13:N:253:VAL:HG12	2.16	0.44
12:M:134:LEU:HD21	13:N:235:LYS:HG3	1.98	0.44
1:A:950:ASP:OD1	1:A:950:ASP:N	2.49	0.44
6:F:104:LEU:HD12	6:F:104:LEU:HA	1.82	0.44
1:A:1486:LEU:O	1:A:1490:LEU:HD13	2.17	0.44
4:D:353:ARG:O	4:D:353:ARG:HG2	2.17	0.44
8:I:598:LEU:HA	8:I:599:PRO:HD3	1.88	0.44
9:K:346:LEU:HD23	9:K:346:LEU:O	2.18	0.44
3:C:157:GLY:O	3:C:161:ASP:OD2	2.36	0.44
5:E:440:ALA:O	5:E:443:THR:OG1	2.29	0.44
13:N:223:ARG:O	13:N:223:ARG:HG2	2.17	0.44
6:F:204:ARG:NE	9:K:836:GLU:OE2	2.45	0.44
6:F:81:VAL:HB	6:F:84:PHE:HE1	1.83	0.44
12:M:238:LYS:O	12:M:241:VAL:HG12	2.18	0.44
12:M:327:ARG:NH2	14:O:384:ARG:O	2.49	0.44
5:E:383:LEU:HD13	5:E:473:ILE:HG23	2.00	0.43

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:442:LEU:HD12	5:E:443:THR:HG23	2.00	0.43
7:G:75:THR:HG22	7:G:79:MET:SD	2.58	0.43
6:F:87:ARG:HG2	6:F:87:ARG:HH11	1.83	0.43
9:K:296:ILE:HD11	9:K:303:VAL:CG1	2.47	0.43
1:A:1832:ASP:O	1:A:1834:ASN:N	2.44	0.43
5:E:59:ARG:NH1	5:E:61:THR:O	2.50	0.43
12:M:86:GLU:O	12:M:109:ILE:HD11	2.18	0.43
1:A:2413:PHE:O	1:A:2416:VAL:HG12	2.18	0.43
9:K:90:LEU:N	9:K:90:LEU:HD23	2.33	0.43
13:N:108:ASP:OD1	13:N:109:ARG:N	2.50	0.43
9:K:313:LEU:O	9:K:317:VAL:HG22	2.18	0.43
2:B:349:PRO:O	2:B:352:ILE:HG22	2.19	0.43
4:D:658:ASP:OD1	4:D:660:ASN:N	2.49	0.43
13:N:317:PHE:HB3	13:N:339:LEU:HD13	2.01	0.43
1:A:144:ILE:HG23	1:A:145:LEU:N	2.32	0.43
1:A:179:LEU:HD21	1:A:283:ALA:HB2	2.00	0.43
1:A:178:GLN:NE2	1:A:245:MET:O	2.45	0.43
1:A:447:LEU:HD23	1:A:447:LEU:O	2.19	0.43
1:A:949:VAL:O	1:A:949:VAL:HG12	2.17	0.43
1:A:443:TYR:CD2	1:A:463:LEU:HD23	2.54	0.43
1:A:815:LEU:HD13	1:A:1243:ASP:HB2	2.00	0.43
1:A:1493:VAL:HG21	1:A:1514:LEU:HD12	2.00	0.43
1:A:2421:VAL:CG1	1:A:2433:ILE:HG21	2.49	0.43
11:H:97:LEU:CD1	11:H:101:ILE:HD12	2.49	0.43
13:N:373:ASN:O	13:N:376:THR:OG1	2.31	0.43
1:A:380:ILE:HD11	1:A:385:ARG:HB3	2.01	0.43
1:A:1895:ARG:HB2	1:A:1895:ARG:NH1	2.34	0.43
1:A:3405:TYR:O	1:A:3409:VAL:HG23	2.19	0.43
7:G:177:ASN:OD1	7:G:177:ASN:O	2.37	0.43
9:K:259:MET:SD	9:K:260:ASP:N	2.92	0.43
9:K:393:LYS:O	9:K:397:VAL:HG23	2.17	0.43
14:O:512:LYS:HE3	14:O:512:LYS:HA	2.01	0.43
1:A:88:GLN:NE2	1:A:237:ALA:O	2.52	0.42
1:A:291:GLN:NE2	1:A:360:ASP:OD1	2.48	0.42
1:A:2526:SER:OG	1:A:2527:LYS:N	2.52	0.42
1:A:3096:ASN:ND2	1:A:3107:TYR:OH	2.52	0.42
3:C:137:GLU:O	3:C:141:MET:HG3	2.19	0.42
6:F:65:ARG:HA	6:F:66:PRO:HD3	1.89	0.42
10:Q:316:VAL:HG12	10:Q:317:VAL:HG13	2.01	0.42
1:A:1787:ASP:O	1:A:1788:PHE:HB3	2.18	0.42
1:A:1942:LEU:HD22	1:A:1954:VAL:HG13	2.00	0.42

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
5:E:82:TYR:OH	6:F:94:ASP:OD2	2.24	0.42
5:E:223:SER:O	5:E:223:SER:OG	2.35	0.42
9:K:702:ASP:OD1	9:K:704:GLU:N	2.52	0.42
13:N:225:ARG:NH1	13:N:228:GLU:OE1	2.52	0.42
14:O:266:VAL:O	14:O:266:VAL:HG13	2.18	0.42
1:A:552:ASP:N	1:A:552:ASP:OD1	2.52	0.42
1:A:1615:ILE:HG21	1:A:1644:LEU:HD21	2.01	0.42
1:A:1889:ALA:C	1:A:1890:LEU:HD12	2.44	0.42
1:A:2033:PRO:N	1:A:2034:PRO:CD	2.82	0.42
9:K:253:LYS:HE2	9:K:253:LYS:HA	2.01	0.42
14:O:338:LEU:HD12	14:O:341:LEU:HD11	2.01	0.42
1:A:116:PRO:N	1:A:117:PRO:HD2	2.35	0.42
1:A:1146:ASN:HD22	1:A:1151:VAL:HG11	1.85	0.42
1:A:1442:ASN:O	1:A:1444:THR:N	2.51	0.42
1:A:3178:ASN:O	1:A:3180:LYS:N	2.52	0.42
4:D:341:VAL:O	4:D:345:GLN:HG2	2.19	0.42
14:O:337:ASP:OD1	14:O:337:ASP:C	2.62	0.42
9:K:748:CYS:SG	9:K:897:MET:HE3	2.59	0.42
11:H:163:LEU:O	11:H:167:VAL:HG23	2.19	0.42
1:A:6:ILE:O	1:A:10:VAL:HG23	2.19	0.42
1:A:381:ASN:OD1	1:A:381:ASN:C	2.62	0.42
12:M:483:GLY:O	12:M:484:ASN:HB3	2.19	0.42
1:A:41:THR:O	1:A:45:VAL:HG23	2.19	0.42
1:A:1841:ASP:OD1	1:A:1842:ARG:N	2.48	0.42
1:A:2335:ILE:O	1:A:2339:ILE:HG12	2.19	0.42
2:B:229:PRO:O	2:B:230:SER:CB	2.60	0.42
1:A:151:SER:HB3	1:A:257:ILE:HG23	2.01	0.42
1:A:3667:LYS:HG2	1:A:3672:VAL:HA	2.02	0.42
7:G:64:ASP:OD2	7:G:64:ASP:C	2.63	0.42
1:A:1654:PHE:CD1	1:A:1654:PHE:C	2.98	0.42
1:A:2724:LEU:HD12	1:A:2749:LEU:HD12	2.01	0.42
5:E:175:ASN:OD1	5:E:175:ASN:C	2.63	0.42
7:G:87:PRO:O	7:G:90:THR:O	2.38	0.42
1:A:139:ASN:O	1:A:143:VAL:HG13	2.20	0.42
3:C:276:ARG:O	3:C:280:MET:HG3	2.19	0.41
11:H:228:ARG:NH2	11:H:256:GLU:OE2	2.39	0.41
11:H:467:GLU:N	11:H:468:PRO:HD2	2.35	0.41
1:A:1424:ILE:HD11	1:A:1455:CYS:SG	2.61	0.41
2:B:304:VAL:HG13	2:B:304:VAL:O	2.19	0.41
12:M:131:ASN:O	12:M:134:LEU:O	2.38	0.41
13:N:192:PHE:HB3	13:N:216:MET:HE2	2.02	0.41

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:57:LEU:O	1:A:61:THR:N	2.52	0.41
1:A:618:GLU:O	1:A:622:VAL:HG23	2.21	0.41
1:A:1937:GLN:O	1:A:1937:GLN:OE1	2.39	0.41
1:A:3515:VAL:HG12	1:A:3516:GLU:N	2.36	0.41
4:D:629:SER:OG	4:D:749:VAL:HG22	2.20	0.41
5:E:413:VAL:HG11	5:E:460:ARG:NE	2.35	0.41
9:K:84:GLU:OE2	9:K:85:ARG:NH2	2.49	0.41
9:K:335:LEU:HD12	9:K:339:LEU:HD13	2.03	0.41
14:O:367:GLU:HA	14:O:372:MET:HE1	2.03	0.41
1:A:332:LEU:HD23	1:A:332:LEU:O	2.20	0.41
1:A:975:ASP:OD1	1:A:1072:ARG:NH2	2.46	0.41
9:K:433:ILE:N	9:K:434:PRO:CD	2.83	0.41
13:N:390:TRP:CZ3	13:N:393:ILE:HD13	2.55	0.41
1:A:537:ILE:HG22	1:A:537:ILE:O	2.21	0.41
2:B:396:GLU:OE1	2:B:396:GLU:N	2.50	0.41
12:M:107:ASP:OD1	13:N:293:ARG:NH2	2.53	0.41
13:N:284:ASP:N	13:N:284:ASP:OD1	2.52	0.41
1:A:481:ARG:NH2	1:A:603:GLY:O	2.54	0.41
6:F:110:LEU:HD23	6:F:110:LEU:HA	1.80	0.41
4:D:126:TYR:CE1	4:D:138:ALA:HB1	2.55	0.41
12:M:499:ASP:OD2	12:M:502:LYS:NZ	2.53	0.41
14:O:361:TYR:HA	14:O:364:ILE:HD11	2.03	0.41
8:I:697:ASN:OD1	8:I:727:TYR:OH	2.39	0.41
1:A:54:ARG:HB2	1:A:106:ILE:HD11	2.02	0.41
1:A:733:ILE:O	1:A:737:SER:OG	2.30	0.41
1:A:1605:TYR:CE1	1:A:1635:VAL:HG22	2.55	0.41
1:A:1624:GLU:O	1:A:1672:ILE:HG21	2.20	0.41
1:A:2051:ILE:CG2	1:A:2107:MET:HE1	2.50	0.41
5:E:479:LEU:HD21	9:K:77:ARG:NH2	2.35	0.41
8:I:674:GLN:OE1	8:I:675:ASP:N	2.54	0.41
13:N:119:LYS:HB3	13:N:120:PRO:HD3	2.03	0.41
1:A:1481:LEU:HD22	1:A:1486:LEU:HD21	2.03	0.41
1:A:1790:ARG:O	1:A:1794:LEU:HD23	2.21	0.41
1:A:2175:PRO:HA	1:A:2178:THR:HG22	2.02	0.41
1:A:1833:PRO:O	1:A:1834:ASN:C	2.64	0.40
1:A:3230:TYR:O	1:A:3232:GLU:N	2.54	0.40
1:A:3463:VAL:HG13	1:A:3465:PRO:HD3	2.03	0.40
1:A:1915:HIS:O	1:A:1919:VAL:HG23	2.21	0.40
1:A:1921:ILE:HG21	1:A:1938:ILE:HD13	2.02	0.40
1:A:1985:ARG:O	1:A:1985:ARG:NH1	2.54	0.40
1:A:2051:ILE:HG21	1:A:2107:MET:HE1	2.02	0.40

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Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:2565:ASN:N	1:A:2566:PRO:CD	2.84	0.40
4:D:340:VAL:HG12	4:D:341:VAL:N	2.36	0.40
5:E:42:ARG:NH2	6:F:152:LEU:HD21	2.35	0.40
11:H:61:LEU:O	11:H:61:LEU:HG	2.20	0.40
1:A:74:MET:HE1	1:A:123:TYR:O	2.21	0.40
1:A:1555:ASN:O	1:A:1559:VAL:HG23	2.21	0.40
1:A:3498:ALA:HB1	1:A:3502:PRO:CD	2.51	0.40
3:C:135:TRP:CD1	3:C:139:CYS:HG	2.40	0.40
7:G:87:PRO:HA	7:G:90:THR:O	2.21	0.40
7:G:87:PRO:N	7:G:88:PRO:CD	2.84	0.40
8:I:606:ASP:OD1	8:I:606:ASP:N	2.54	0.40
1:A:1658:THR:O	1:A:1662:VAL:HG23	2.22	0.40
1:A:2524:CYS:CB	3:C:385:LEU:HD12	2.52	0.40
6:F:75:LEU:HD21	10:Q:311:TRP:CZ3	2.57	0.40
1:A:1386:ASN:O	1:A:1390:MET:HG2	2.22	0.40
1:A:2165:GLY:O	1:A:2168:VAL:HG22	2.21	0.40
1:A:2213:LEU:HA	1:A:2216:VAL:HG22	2.04	0.40
2:B:227:ILE:HG22	2:B:228:THR:O	2.21	0.40
4:D:155:ASP:OD1	4:D:155:ASP:N	2.53	0.40
4:D:345:GLN:HG2	4:D:345:GLN:H	1.77	0.40
9:K:226:ARG:HH11	9:K:638:LEU:HD21	1.87	0.40
9:K:307:ASP:OD2	9:K:311:ARG:NH2	2.54	0.40
14:O:278:GLU:O	14:O:281:ILE:HG22	2.21	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	3597/3893 (92%)	3442 (96%)	155 (4%)	0	100	100
2	B	233/1192 (20%)	223 (96%)	9 (4%)	1 (0%)	30	64

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
3	C	189/433 (44%)	185 (98%)	4 (2%)	0	100	100
4	D	509/767 (66%)	488 (96%)	21 (4%)	0	100	100
5	E	435/480 (91%)	428 (98%)	7 (2%)	0	100	100
6	F	117/277 (42%)	110 (94%)	6 (5%)	1 (1%)	14	49
7	G	110/204 (54%)	107 (97%)	3 (3%)	0	100	100
8	I	148/770 (19%)	143 (97%)	5 (3%)	0	100	100
9	K	573/1196 (48%)	557 (97%)	16 (3%)	0	100	100
10	Q	60/1273 (5%)	60 (100%)	0	0	100	100
11	H	333/485 (69%)	327 (98%)	6 (2%)	0	100	100
12	M	458/519 (88%)	433 (94%)	25 (6%)	0	100	100
13	N	350/405 (86%)	348 (99%)	2 (1%)	0	100	100
14	O	338/730 (46%)	321 (95%)	17 (5%)	0	100	100
All	All	7450/12624 (59%)	7172 (96%)	276 (4%)	2 (0%)	100	100

All (2) Ramachandran outliers are listed below:

Mol	Chain	Res	Type
6	F	87	ARG
2	B	230	SER

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	3197/3412 (94%)	3172 (99%)	25 (1%)	79	88
2	B	227/928 (24%)	227 (100%)	0	100	100
3	C	173/377 (46%)	173 (100%)	0	100	100
4	D	450/635 (71%)	442 (98%)	8 (2%)	54	74
5	E	375/401 (94%)	372 (99%)	3 (1%)	79	88
6	F	92/212 (43%)	92 (100%)	0	100	100

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles
7	G	90/157 (57%)	89 (99%)	1 (1%)	70 83
8	I	129/620 (21%)	127 (98%)	2 (2%)	58 76
9	K	507/999 (51%)	502 (99%)	5 (1%)	73 84
10	Q	50/1047 (5%)	50 (100%)	0	100 100
11	H	279/387 (72%)	277 (99%)	2 (1%)	81 89
12	M	404/449 (90%)	400 (99%)	4 (1%)	73 84
13	N	318/365 (87%)	315 (99%)	3 (1%)	75 86
14	O	301/609 (49%)	299 (99%)	2 (1%)	81 89
All	All	6592/10598 (62%)	6537 (99%)	55 (1%)	77 88

All (55) residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	A	60	TYR
1	A	99	LEU
1	A	374	VAL
1	A	470	CYS
1	A	736	SER
1	A	804	LEU
1	A	846	LEU
1	A	850	LEU
1	A	943	VAL
1	A	950	ASP
1	A	1117	TYR
1	A	1180	THR
1	A	1371	TYR
1	A	1474	VAL
1	A	1661	THR
1	A	1935	VAL
1	A	2032	SER
1	A	2045	LEU
1	A	2046	ASN
1	A	2434	LEU
1	A	2879	TYR
1	A	2998	LEU
1	A	3438	ASN
1	A	3448	LEU
1	A	3503	HIS
4	D	185	ILE

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Mol	Chain	Res	Type
4	D	214	LEU
4	D	244	ASP
4	D	368	SER
4	D	525	ASP
4	D	581	THR
4	D	735	GLN
4	D	751	PHE
5	E	60	THR
5	E	105	ASP
5	E	211	MET
7	G	58	GLU
8	I	606	ASP
8	I	615	VAL
9	K	78	LEU
9	K	314	MET
9	K	349	HIS
9	K	581	ASP
9	K	820	ASP
11	H	59	ILE
11	H	481	CYS
12	M	109	ILE
12	M	138	CYS
12	M	142	ASP
12	M	259	ILE
13	N	294	HIS
13	N	342	MET
13	N	391	GLN
14	O	281	ILE
14	O	615	ILE

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. All (45) such sidechains are listed below:

Mol	Chain	Res	Type
1	A	349	HIS
1	A	1067	GLN
1	A	1590	GLN
1	A	1596	HIS
1	A	1638	HIS
1	A	1701	HIS
1	A	2008	HIS
1	A	2705	HIS
1	A	2795	GLN

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Mol	Chain	Res	Type
1	A	2822	GLN
1	A	2882	GLN
1	A	2977	ASN
1	A	3269	GLN
1	A	3391	GLN
1	A	3524	HIS
1	A	3540	ASN
1	A	3631	GLN
1	A	3806	HIS
1	A	3844	ASN
2	B	171	HIS
2	B	196	HIS
2	B	223	HIS
2	B	293	GLN
4	D	46	ASN
4	D	197	HIS
4	D	217	HIS
5	E	131	HIS
5	E	139	GLN
5	E	240	ASN
5	E	241	GLN
5	E	315	GLN
5	E	385	ASN
8	I	635	GLN
9	K	237	HIS
9	K	349	HIS
9	K	687	GLN
9	K	737	ASN
9	K	740	GLN
10	Q	319	GLN
10	Q	335	HIS
11	H	313	HIS
12	M	189	HIS
12	M	270	ASN
12	M	512	ASN
13	N	157	HIS

5.3.3 RNA

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates (i)

There are no oligosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.

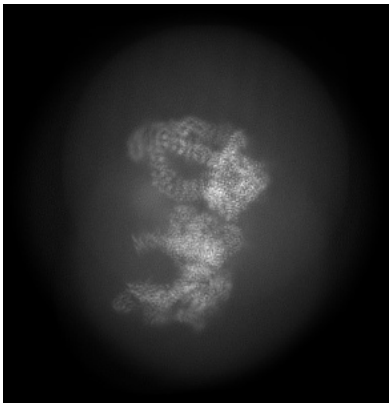
6 Map visualisation

This section contains visualisations of the EMDB entry EMD-73236. These allow visual inspection of the internal detail of the map and identification of artifacts.

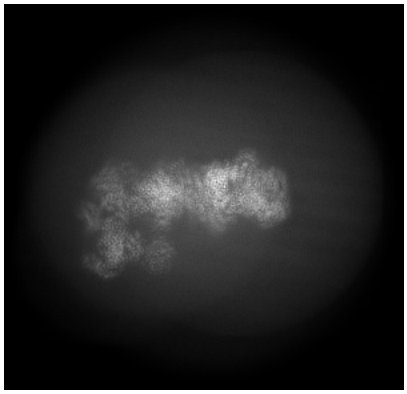
No raw map or half-maps were deposited for this entry and therefore no images, graphs, etc. pertaining to the raw map can be shown.

6.1 Orthogonal projections

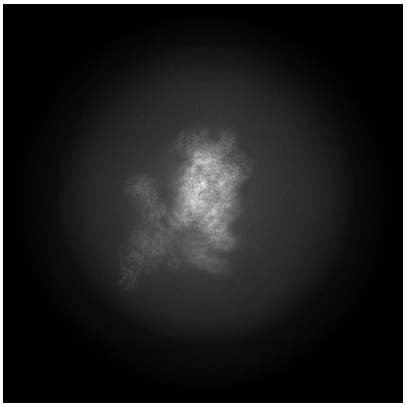
6.1.1 Primary map



X



Y

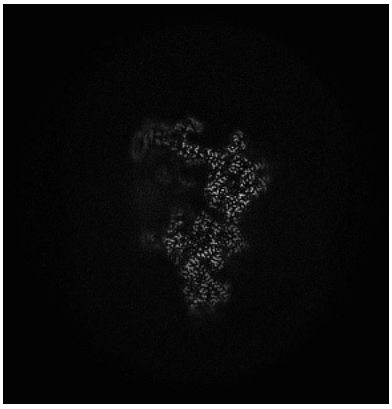


Z

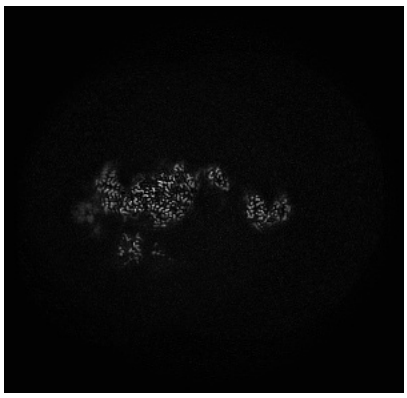
The images above show the map projected in three orthogonal directions.

6.2 Central slices

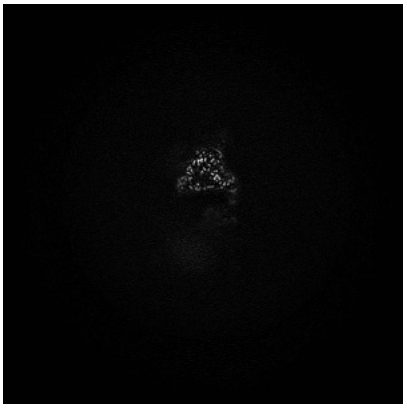
6.2.1 Primary map



X Index: 242



Y Index: 241

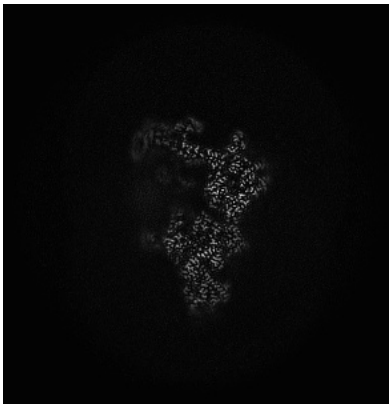


Z Index: 250

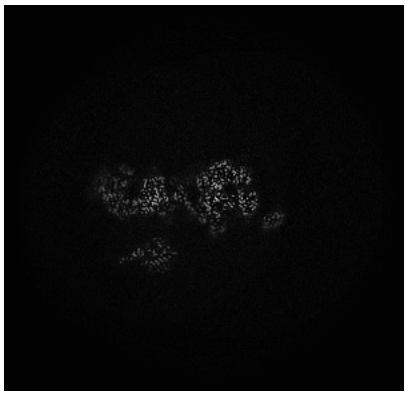
The images above show central slices of the map in three orthogonal directions.

6.3 Largest variance slices (i)

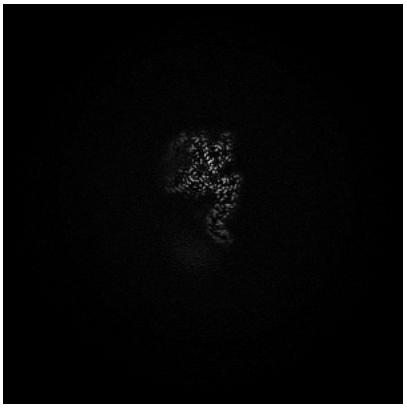
6.3.1 Primary map



X Index: 242



Y Index: 264

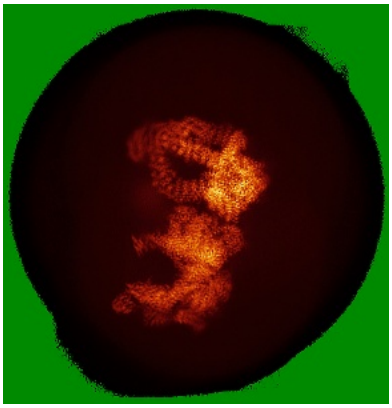


Z Index: 268

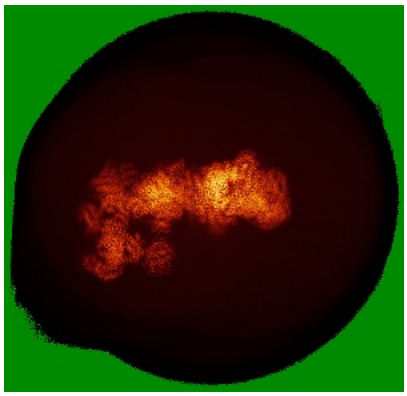
The images above show the largest variance slices of the map in three orthogonal directions.

6.4 Orthogonal standard-deviation projections (False-color) (i)

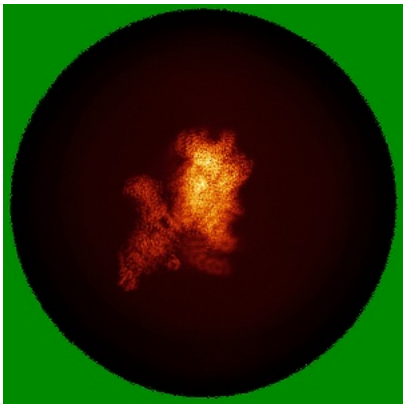
6.4.1 Primary map



X



Y

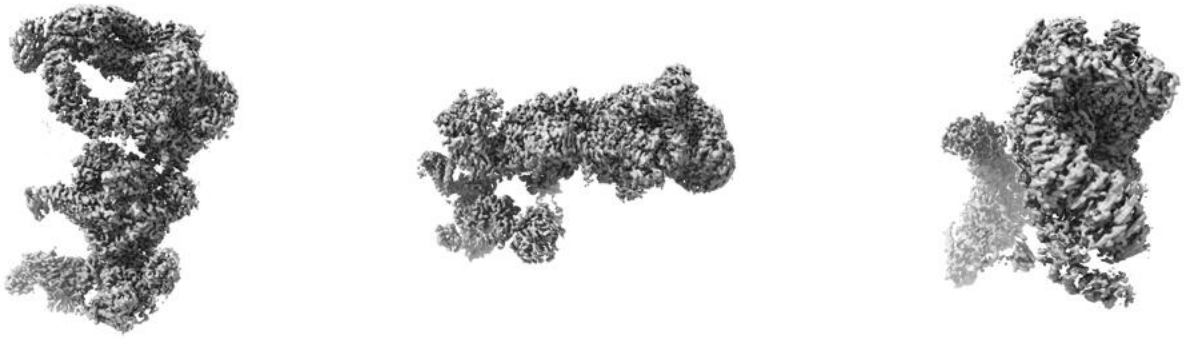


Z

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 7.0. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

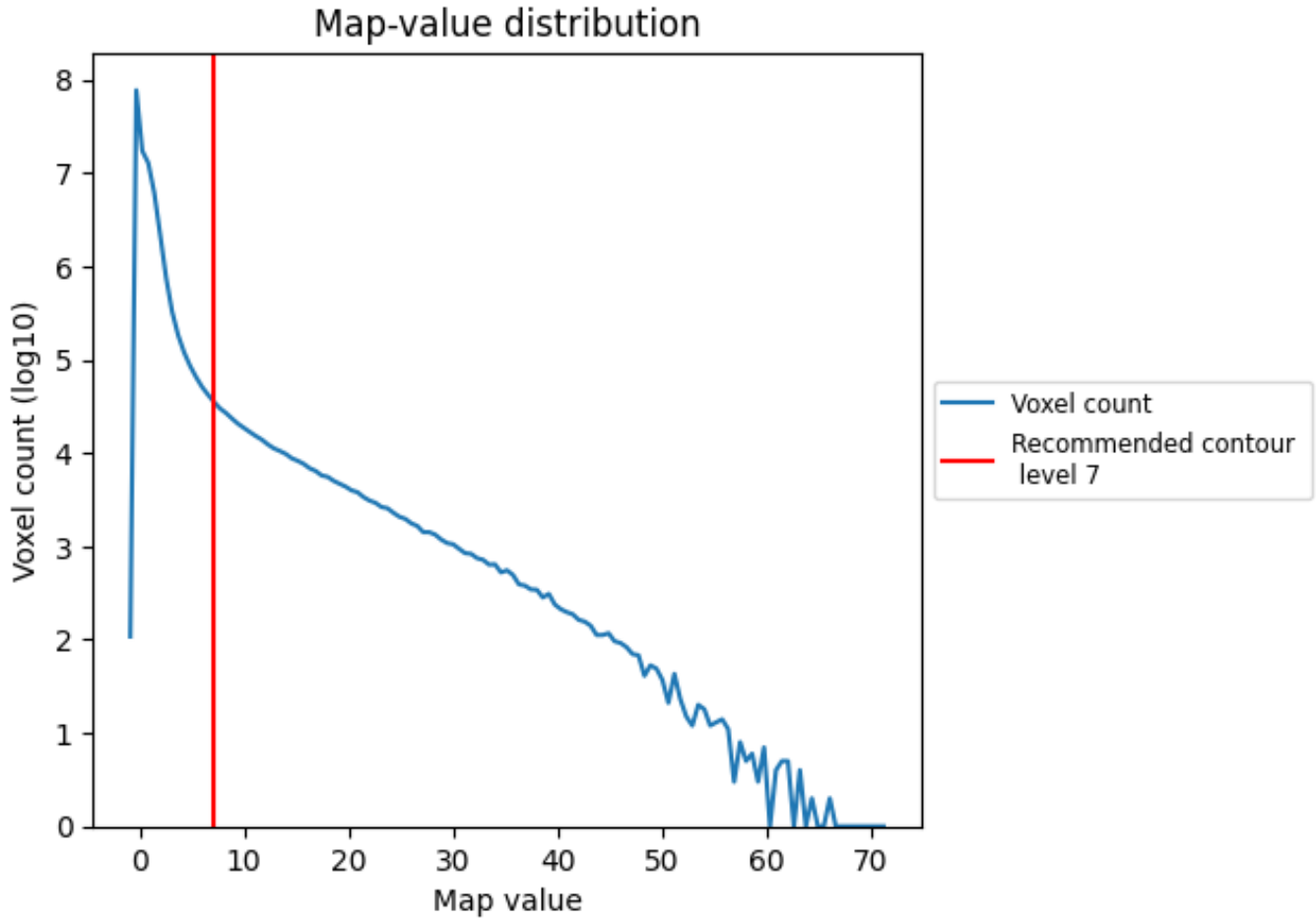
6.6 Mask visualisation (i)

This section was not generated. No masks/segmentation were deposited.

7 Map analysis

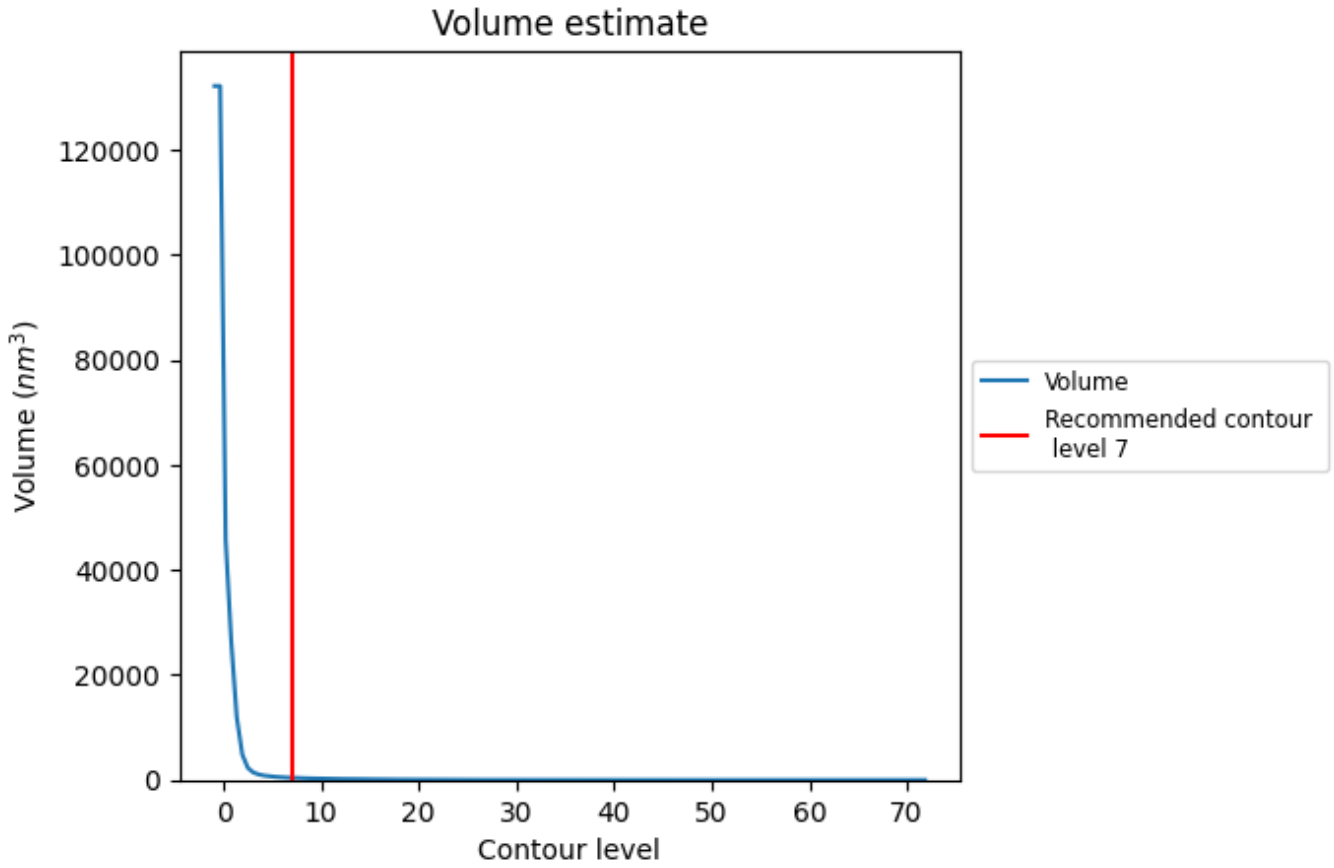
This section contains the results of statistical analysis of the map.

7.1 Map-value distribution



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



The volume at the recommended contour level is 413 nm^3; this corresponds to an approximate mass of 373 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

This section was not generated. The rotationally averaged power spectrum is only generated for cubic maps.

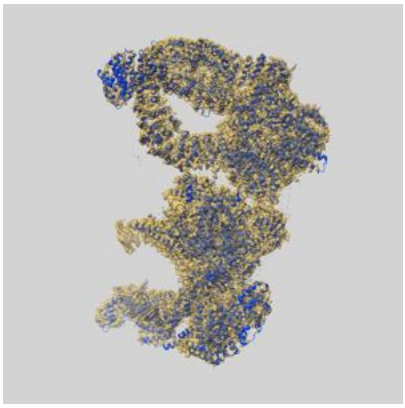
8 Fourier-Shell correlation (i)

This section was not generated. No FSC curve or half-maps provided.

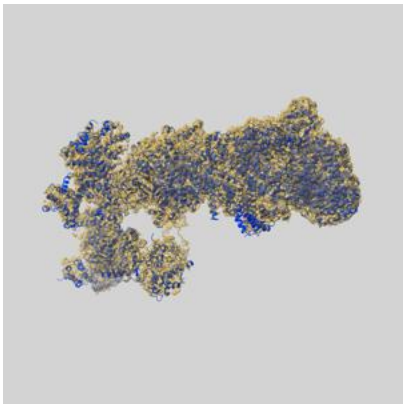
9 Map-model fit

This section contains information regarding the fit between EMDB map EMD-73236 and PDB model 9YNW. Per-residue inclusion information can be found in section 3 on page 7.

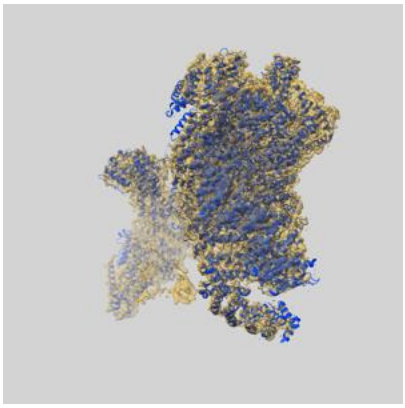
9.1 Map-model overlay



X



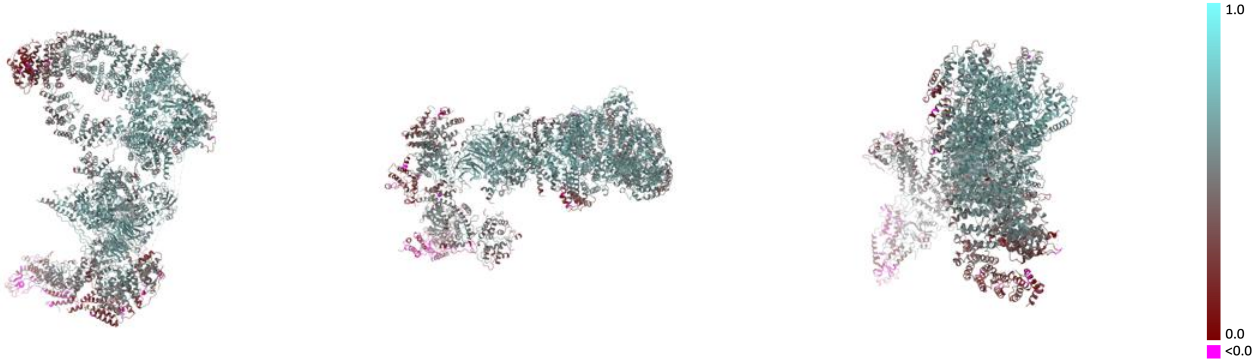
Y



Z

The images above show the 3D surface view of the map at the recommended contour level 7.0 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.

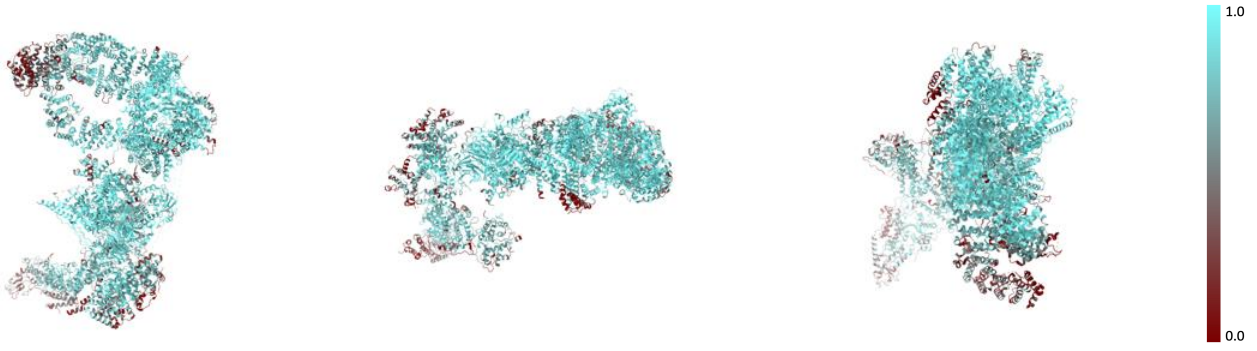
9.2 Q-score mapped to coordinate model (i)



X Y Z

The images above show the model with each residue coloured according 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.

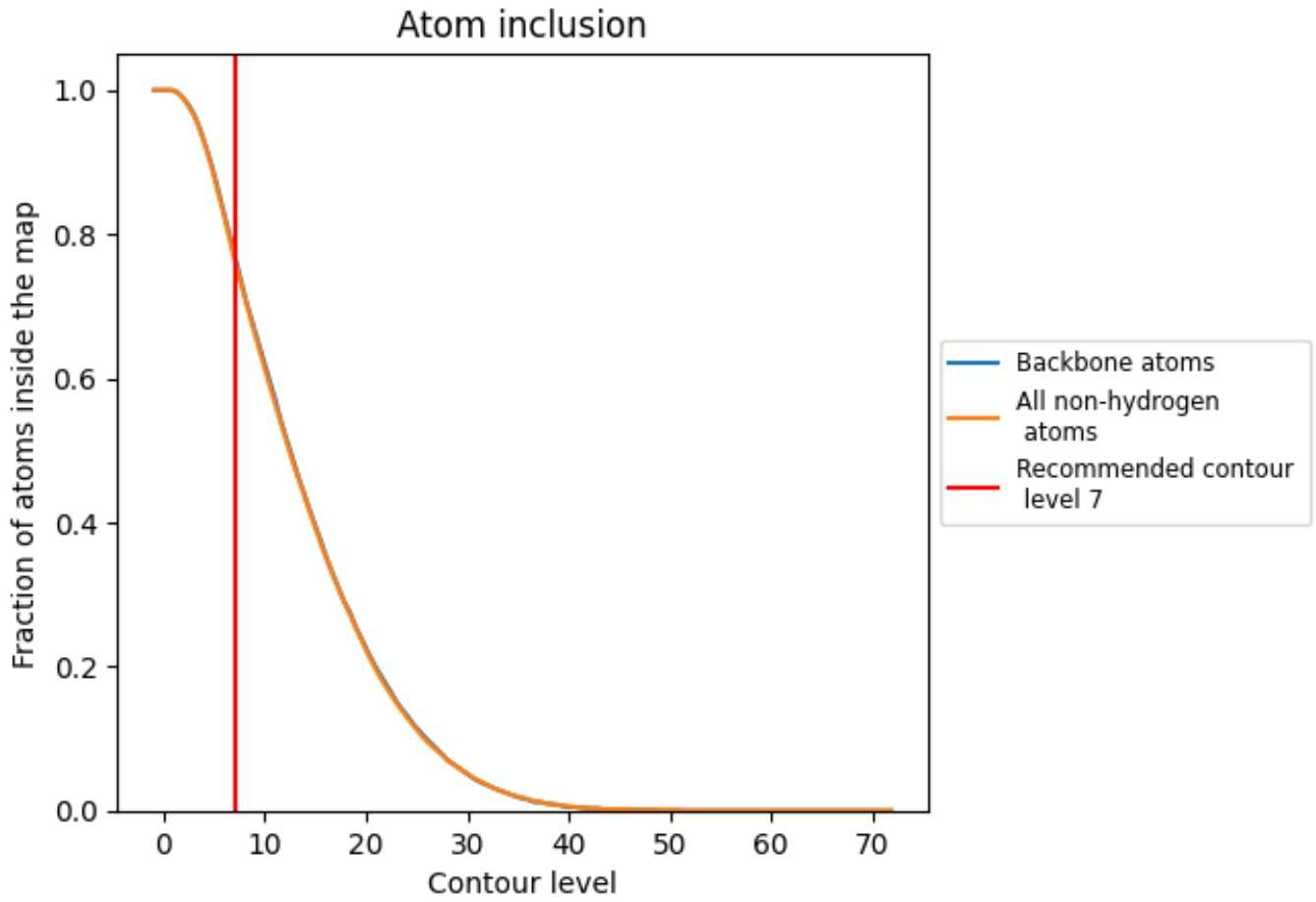
9.3 Atom inclusion mapped to coordinate model (i)



X Y Z

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 (7).

9.4 Atom inclusion (i)



At the recommended contour level, 77% 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 (7) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	0.7660	0.5050
A	0.7970	0.5360
B	0.8710	0.5830
C	0.7930	0.5370
D	0.7820	0.5460
E	0.8670	0.5490
F	0.9650	0.6170
G	0.9460	0.6210
H	0.8180	0.5420
I	0.8350	0.5730
K	0.7080	0.4360
M	0.6160	0.3470
N	0.5280	0.2730
O	0.6440	0.4070
Q	0.9080	0.5880