



## wwPDB EM Validation Summary Report ⓘ

Dec 7, 2022 – 01:29 PM JST

PDB ID : 7EYB  
EMDB ID : EMD-31317  
Title : core proteins  
Authors : Liu, H.R.; Chen, W.Y.  
Deposited on : 2021-05-30  
Resolution : 3.70 Å(reported)

This is a wwPDB EM Validation Summary Report for a publicly released PDB entry.

We welcome your comments at [validation@mail.wwpdb.org](mailto:validation@mail.wwpdb.org)

A user guide is available at

<https://www.wwpdb.org/validation/2017/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>.

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

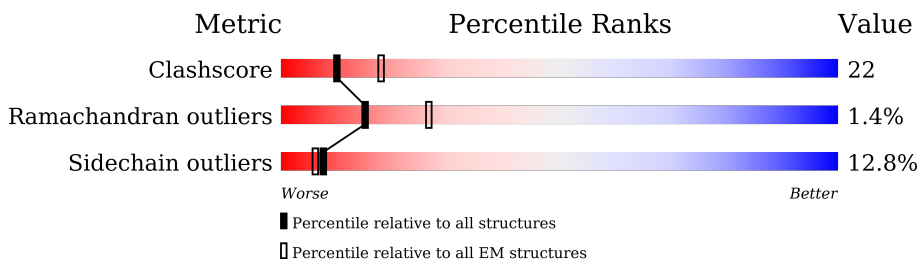
EMDB validation analysis : 0.0.1.dev43  
MolProbity : 4.02b-467  
Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)  
MapQ : 1.9.9  
Ideal geometry (proteins) : Engh & Huber (2001)  
Ideal geometry (DNA, RNA) : Parkinson et al. (1996)  
Validation Pipeline (wwPDB-VP) : 2.31.3

# 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 3.70 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

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  $\geq 3$ , 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	196	
1	b	196	
1	c	196	
1	d	196	
1	e	196	
1	f	196	
1	g	196	
1	h	196	

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Mol	Chain	Length	Quality of chain
2	A	747	
2	B	747	
2	C	747	
2	D	747	
2	E	747	
2	F	747	
2	G	747	
2	H	747	
3	I	1318	
3	J	1318	
3	K	1318	
3	L	1318	

## 2 Entry composition [i](#)

There are 3 unique types of molecules in this entry. The entry contains 78184 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 Internal virion protein gp14.

Mol	Chain	Residues	Atoms				AltConf	Trace
			Total	C	N	O		
1	a	78	387	231	78	78	0	0
1	b	78	387	231	78	78	0	0
1	c	78	387	231	78	78	0	0
1	d	78	387	231	78	78	0	0
1	e	78	387	231	78	78	0	0
1	f	78	387	231	78	78	0	0
1	g	78	387	231	78	78	0	0
1	h	78	387	231	78	78	0	0

- Molecule 2 is a protein called Internal virion protein gp15.

Mol	Chain	Residues	Atoms					AltConf	Trace
			Total	C	N	O	S		
2	A	647	5148	3184	904	1031	29	0	0
2	B	647	5148	3184	904	1031	29	0	0
2	C	647	5148	3184	904	1031	29	0	0
2	D	647	5148	3184	904	1031	29	0	0
2	E	647	5148	3184	904	1031	29	0	0
2	F	647	5148	3184	904	1031	29	0	0
2	G	647	5148	3184	904	1031	29	0	0

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Mol	Chain	Residues	Atoms					AltConf	Trace
2	H	647	Total	C	N	O	S	0	0
			5148	3184	904	1031	29		

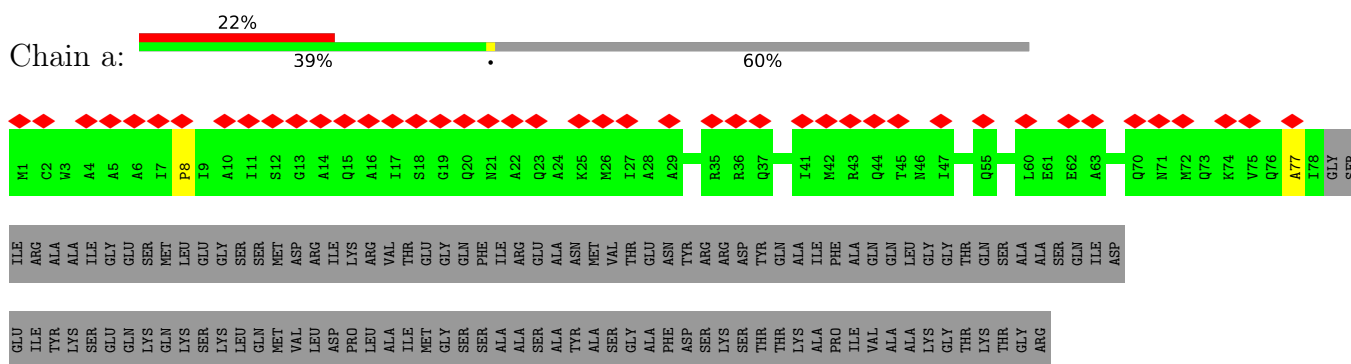
- Molecule 3 is a protein called Peptidoglycan transglycosylase gp16.

Mol	Chain	Residues	Atoms					AltConf	Trace
3	I	1101	Total	C	N	O	S	0	0
			8476	5312	1492	1628	44		
3	J	1101	Total	C	N	O	S	0	0
			8476	5312	1492	1628	44		
3	K	1101	Total	C	N	O	S	0	0
			8476	5312	1492	1628	44		
3	L	1101	Total	C	N	O	S	0	0
			8476	5312	1492	1628	44		

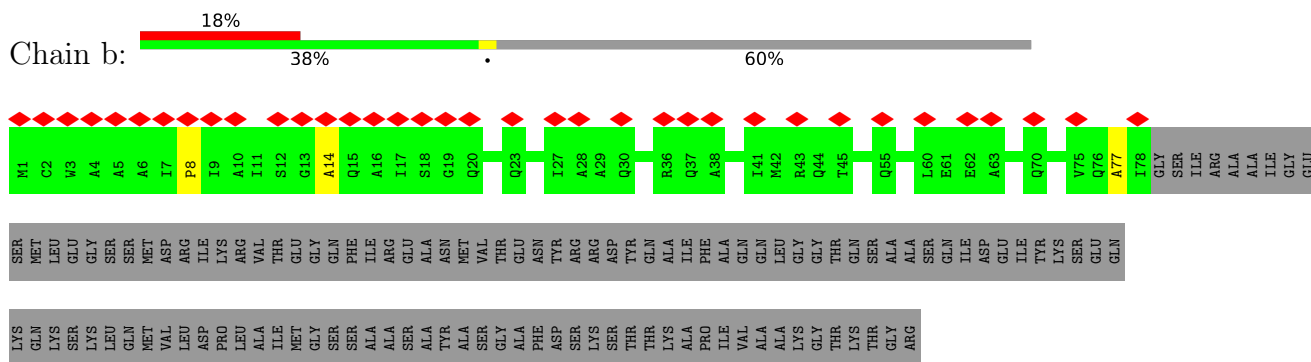
### 3 Residue-property plots [i](#)

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.

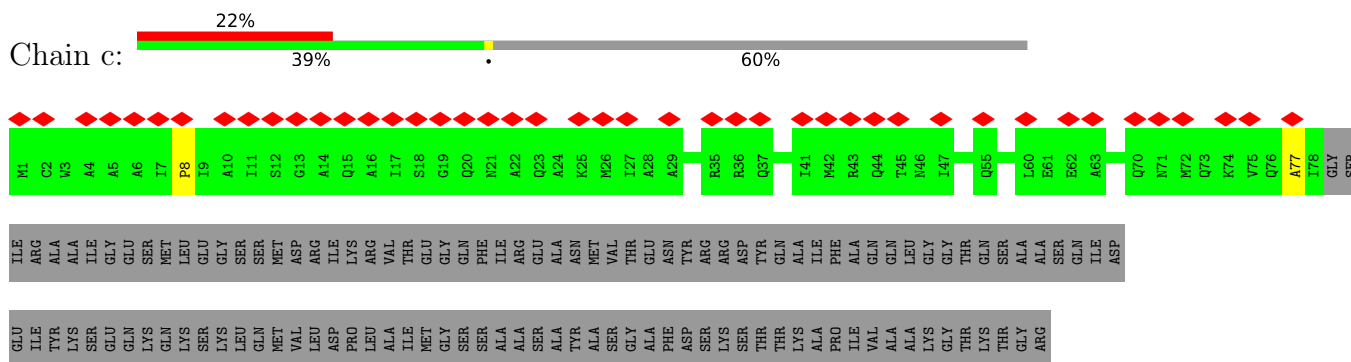
- Molecule 1: Internal virion protein gp14



- Molecule 1: Internal virion protein gp14



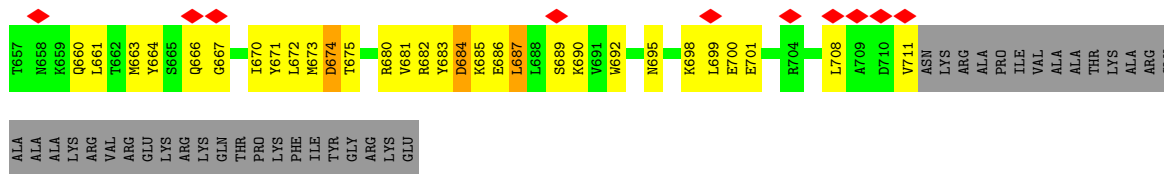
- Molecule 1: Internal virion protein gp14



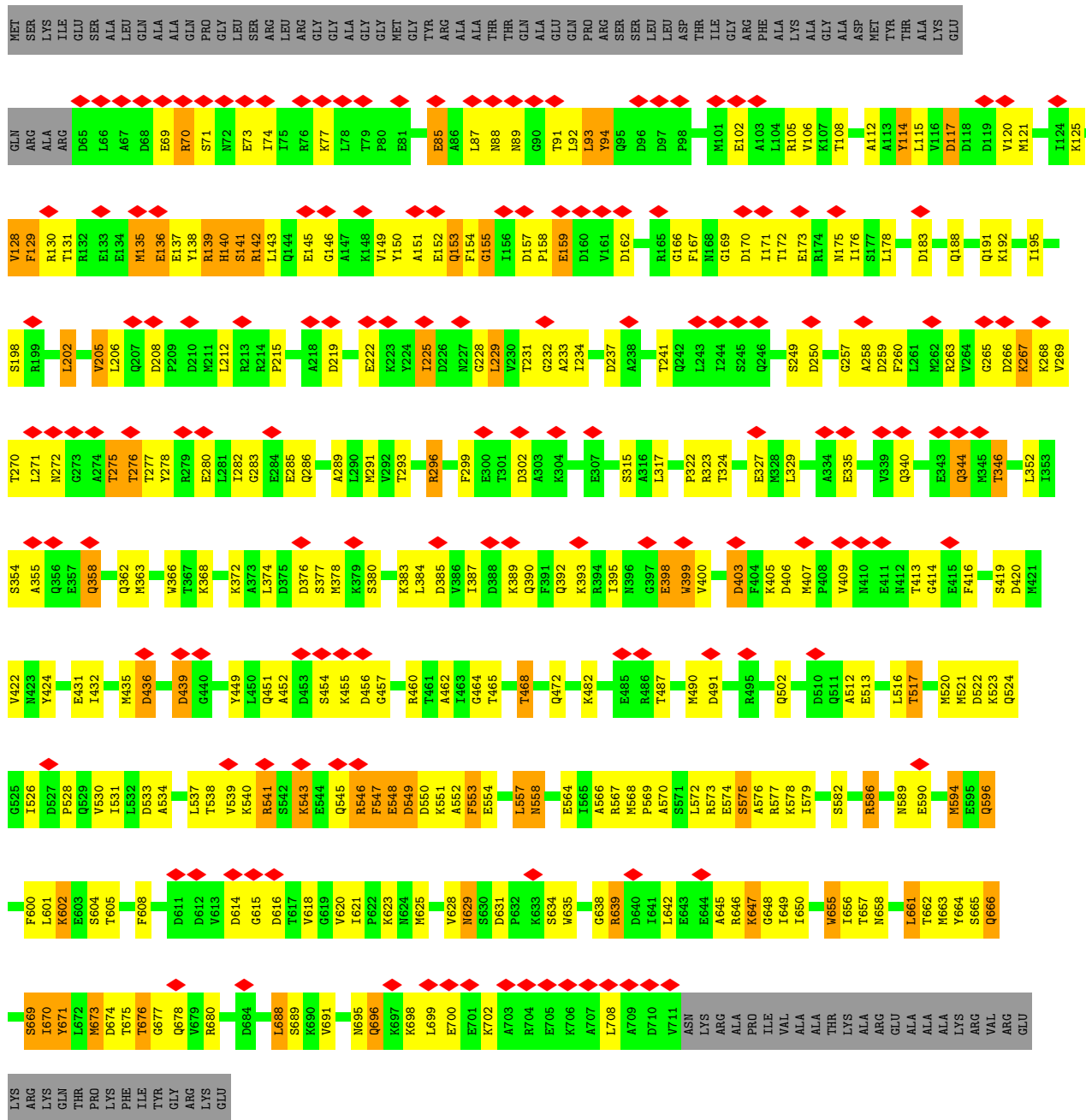








• Molecule 2: Internal virion protein gp15



• Molecule 2: Internal virion protein gp15

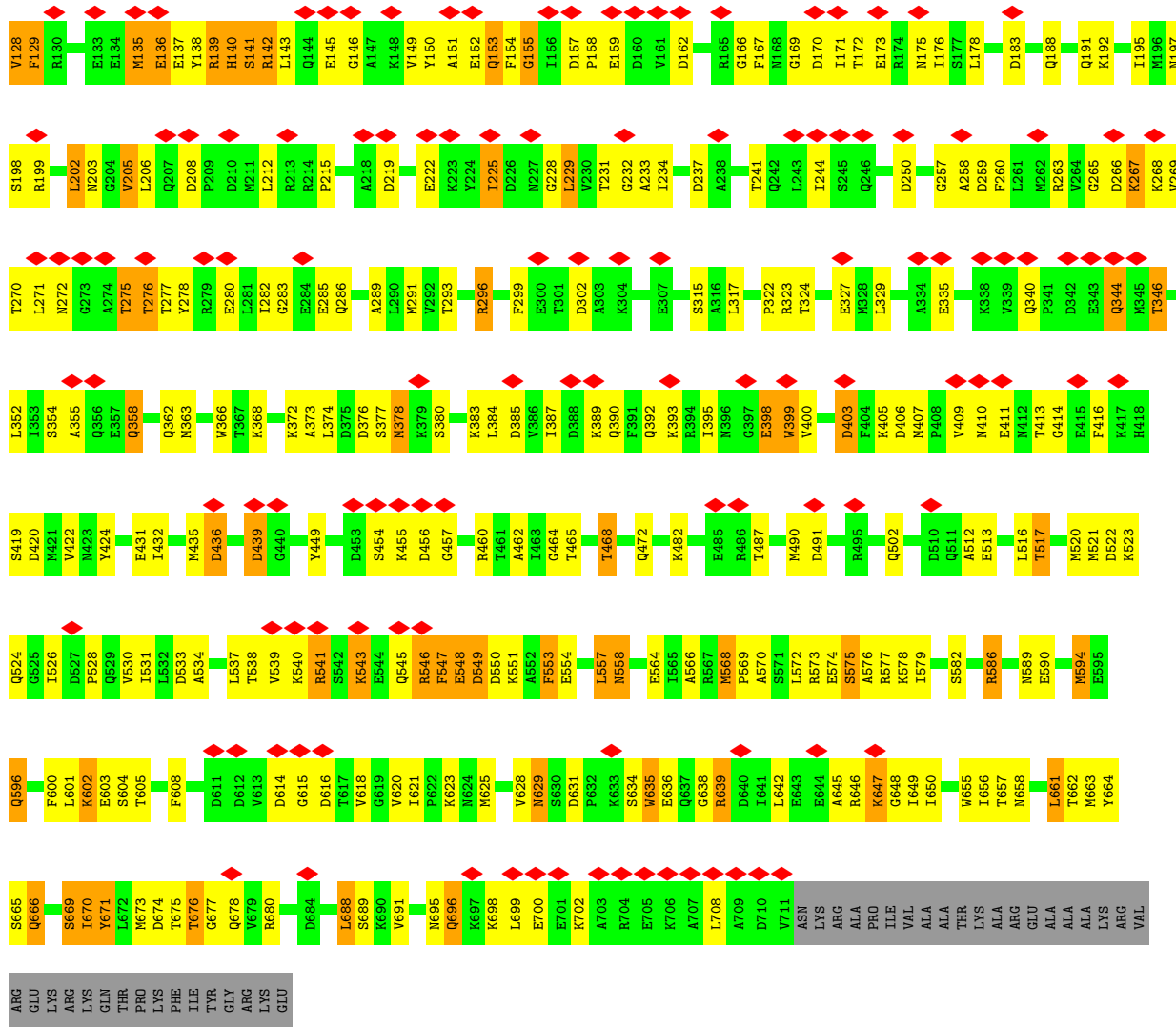


MET	SER	LYS	ILE	GLU	SER	ALA	LEU	ALA	ALA	GLN	PRO	GLY	LEU	SER	ARG	LEU	ARG	GLY	GLY	ALA	ALA	GLY	GLY	MET	GLY	TYR	ARG	ALA	ALA	THR	THR	GLN	ALA	GLU	GLN	PRO	ARG	SER	SER	LEU	LEU	ASP	THR	THR	ILE	GLY	ARG	ALA	LYS	LYS	ALA	ALA	ASP	MET	THR	THR	LYS	LYS	GLU
GLN	ARG	ALA	ARG	D65	L66	A67	D68	E69	R70	S71	N72	E73	I74	I75	R76	K77	L78	T79	F80	E81	Q82	R83	R84	E85	N88	N89	G90	T91	L92	L93	D97	P98	Y99	A100	H101	E102	A103	L104	R105	V106	A112	A113	Y114	L115	V116	D117	D118	V119	M120	M121	Q122	K123	I124	K125	E126				
F129	R130	T131	R132	E133	E134	M135	A136	E137	R138	R139	H140	S141	L142	L143	Q144	E145	G146	A147	K148	V149	Y150	A151	E152	I156	D157	E158	O159	D160	V161	D162	R165	G166	F167	M168	G169	D170	I171	T172	E173	R174	M175	I176	Y179	H182	D183	M184	D185	Q188	Q191	I195	M196	N197	S198						
L202	G203	M204	V205	L206	Q207	D208	P209	D210	M211	L212	R213	R214	P215	D216	S217	A218	F219	D220	F221	E222	K223	E224	L225	D226	N227	G228	L229	V230	T231	G232	A233	P235	S236	D237	T241	Q242	L243	Q246	A247	F248	S249	D250	A251	S252	G257	A258	D259	D260	G265	D266	K267	K268	V269						
T270	L271	N272	G273	A274	T275	T276	T277	E280	L281	L282	G283	E284	E285	Q286	A289	L290	M291	V292	T293	A294	Q295	R296	F299	E300	T301	D302	E307	K312	S315	A316	L317	E320	D321	P322	R323	T324	E327	M328	L329	Q330	G331	I332	K333	A334	E335	L336	D337	K338	V339	Q340	P341								
D342	E343	Q344	K345	T346	P347	Q348	R349	S354	A355	Q358	Q362	K363	K366	K367	K368	K372	A373	L374	D375	D376	S377	K378	K379	S380	K383	L384	D385	K389	F391	Q392	K393	R394	L395	M396	G397	E398	W399	V400	D403	F404	K405	D406	M407	P408	V409	M410	E411	M412	T413										
F416	K417	H418	S419	D420	M421	V422	M423	Y424	E431	L432	D433	S434	M435	D436	D439	G440	A441	Y449	L450	Q451	A452	D453	S454	O455	D456	G457	R460	T461	A462	L463	G464	T465	T468	D469	Q472	K482	E485	R486	D491	L496	R497	M498	A499	D500	P501	O502	A505												
E513	L514	F515	L516	T517	M520	M521	D522	K523	I526	P527	F528	Q529	V530	D533	L537	T538	V539	K540	R541	S542	K543	E544	O545	R546	F547	F548	D549	A552	S555	S560	K561	A562	F563	E564	R567	M568	F569	L572	R573	A576	I579	S582	V583	K584	S587	G588													
M589	M592	E595	T598	K599	F600	L601	R602	E603	S604	T605	F608	T609	G610	D611	V613	D614	G615	D616	T617	L621	P622	V628	K633	S634	W635	E636	K637	G638	R639	D640	T641	L642	E643	E644	K647	T650	A651	S652	M653	P654	M655	L656	T657	V658	K659	Q660	L661	T662	M663										
Y664	S665	Q666	G667	I670	Y671	L672	M673	D674	T675	R680	V681	R682	R683	Y684	K685	E686	L687	L688	S689	K690	V691	W692	K698	L699	E700	E701	R704	L708	A709	D710	Y711	ASN	LYS	ARG	ALA	PRO	PRO	ILE	VAL	ALA	THR	LYS	ALA	ALA	ARG	ALA	GLY	ALA	ASP	MET	THR	THR	LYS	VAL	ARG	ARG	GLU	LYS	

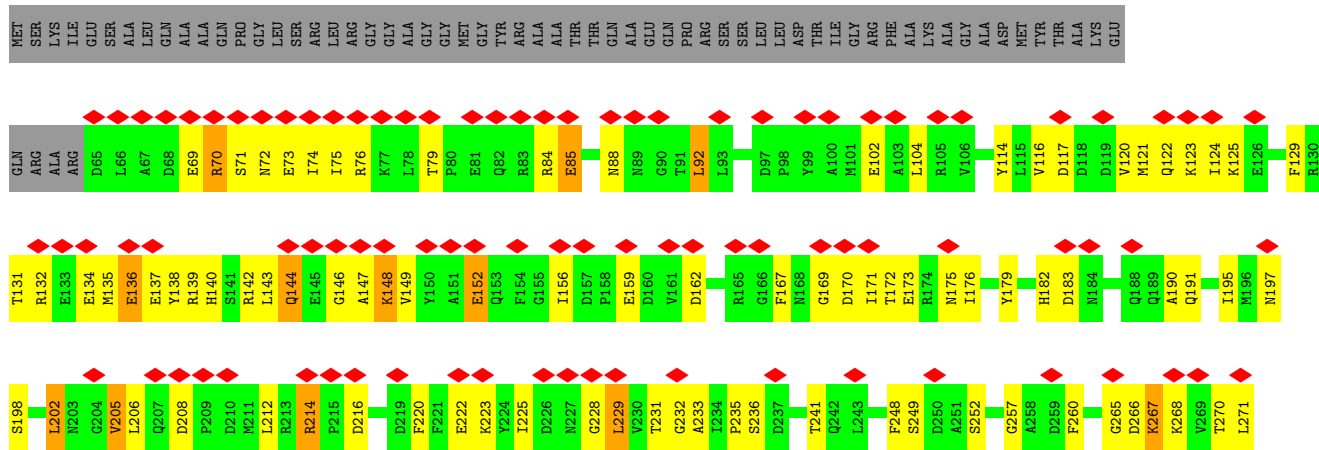
• Molecule 2: Internal virion protein gp15

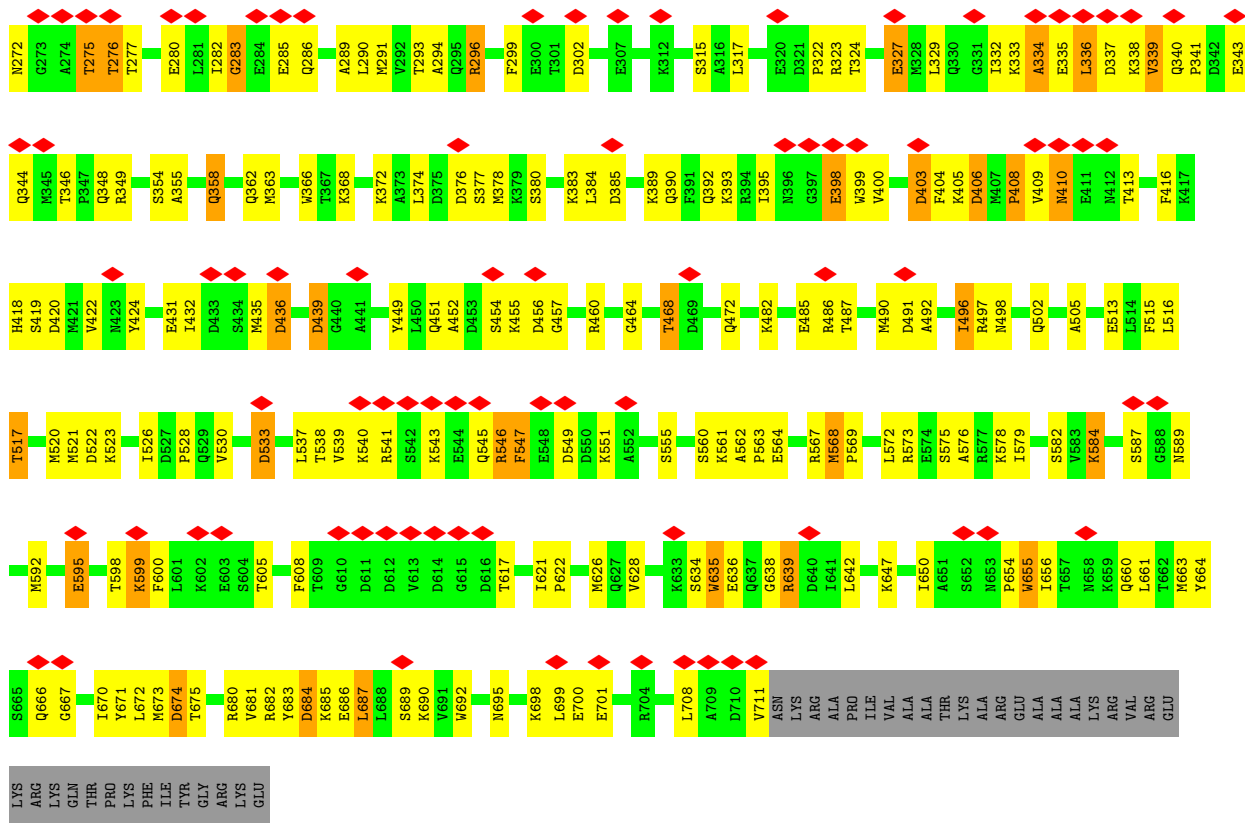


MET	SER	LYS	ILE	GLU	SER	ALA	LEU	ALA	ALA	GLN	PRO	GLY	LEU	SER	ARG	LEU	ARG	GLY	GLY	ALA	ALA	THR	THR	GLN	ALA	GLU	GLN	PRO	ARG	SER	SER	LEU	LEU	ASP	THR	THR	ILE	GLY	ARG	ALA	LYS	LYS	ALA	ALA	ASP	MET	THR	THR	LYS	VAL				
GLN	ARG	ALA	ARG	D65	L66	A67	D68	E69	R70	S71	N72	E73	I74	I75	R76	K77	L78	T79	F80	E81	E85	A86	L87	N88	N89	G90	T91	L92	L93	Y94	Q95	D96	D97	P98	M101	E102	A103	L104	R105	V106	K107	T108	A112	A113	Y114	L115	V116	D117	D118	D119	V120	M121	I124	K125

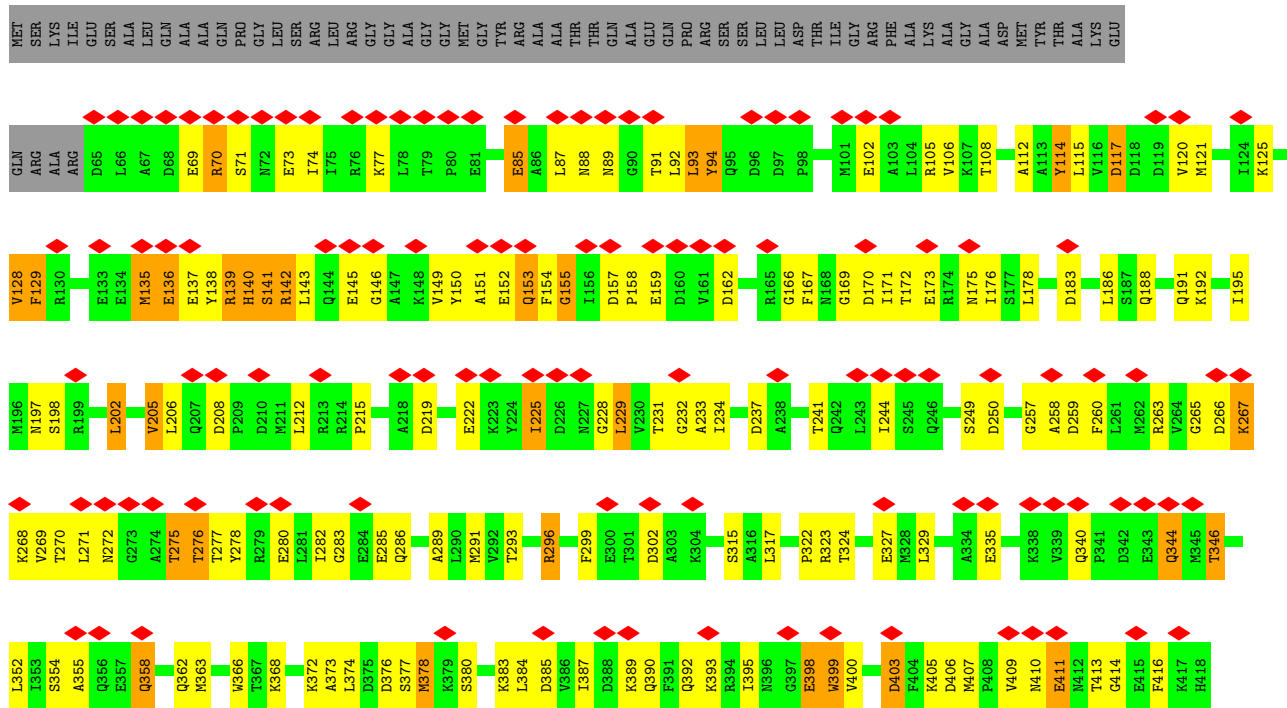


● Molecule 2: Internal virion protein gp15

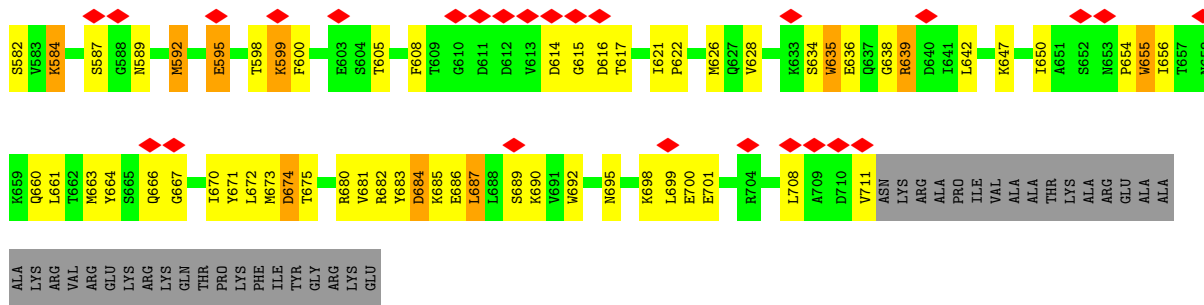




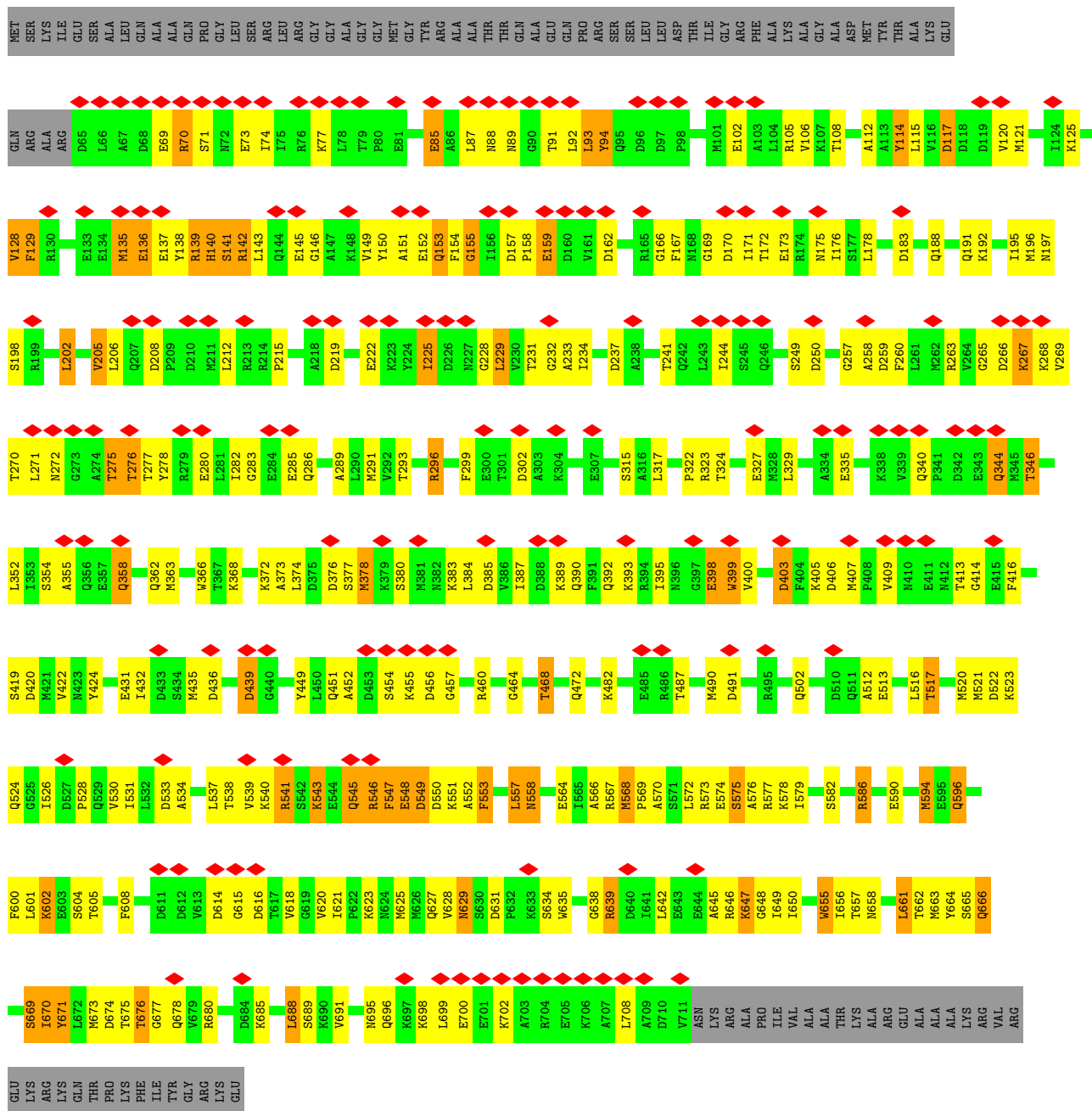
• Molecule 2: Internal virion protein gp15



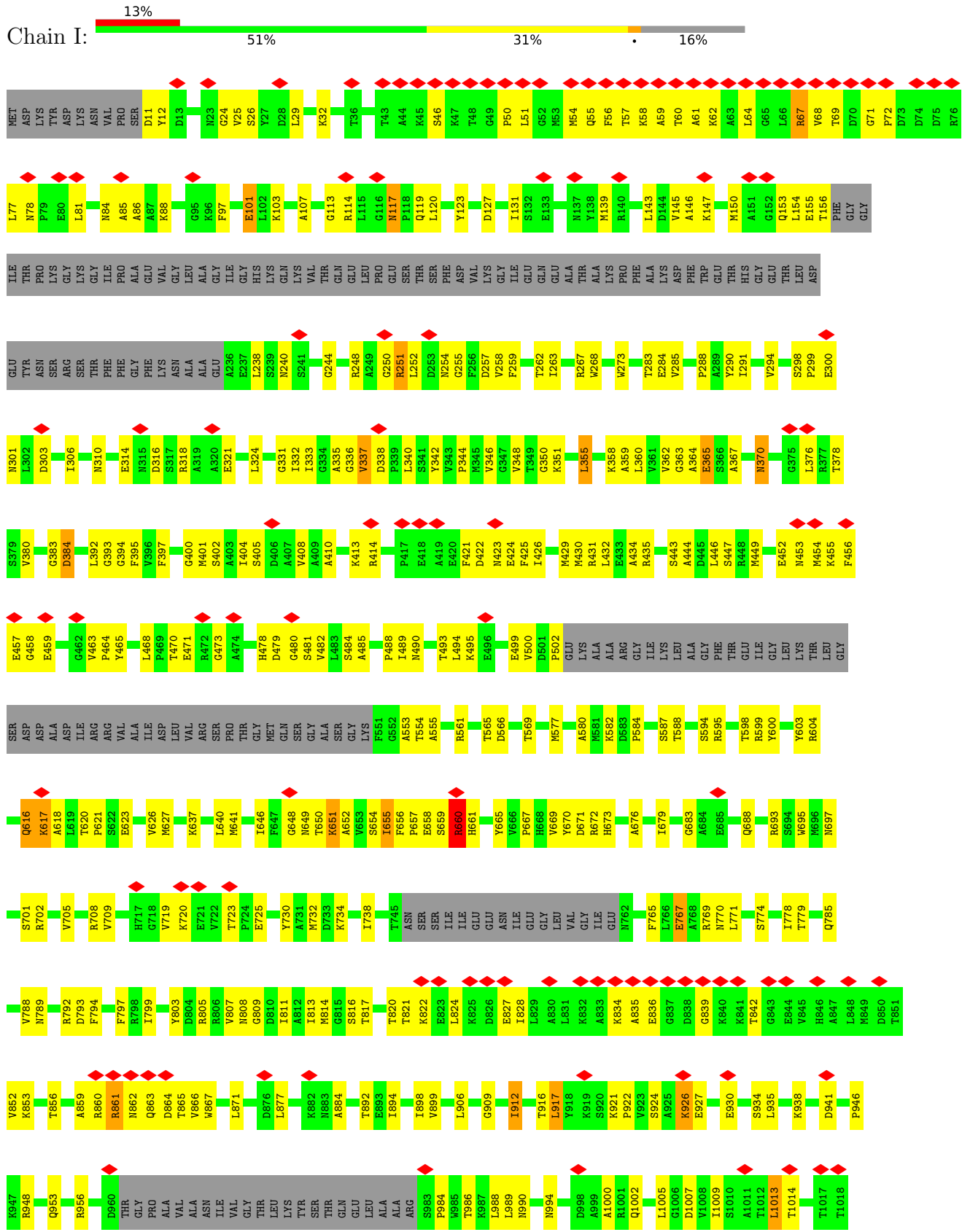


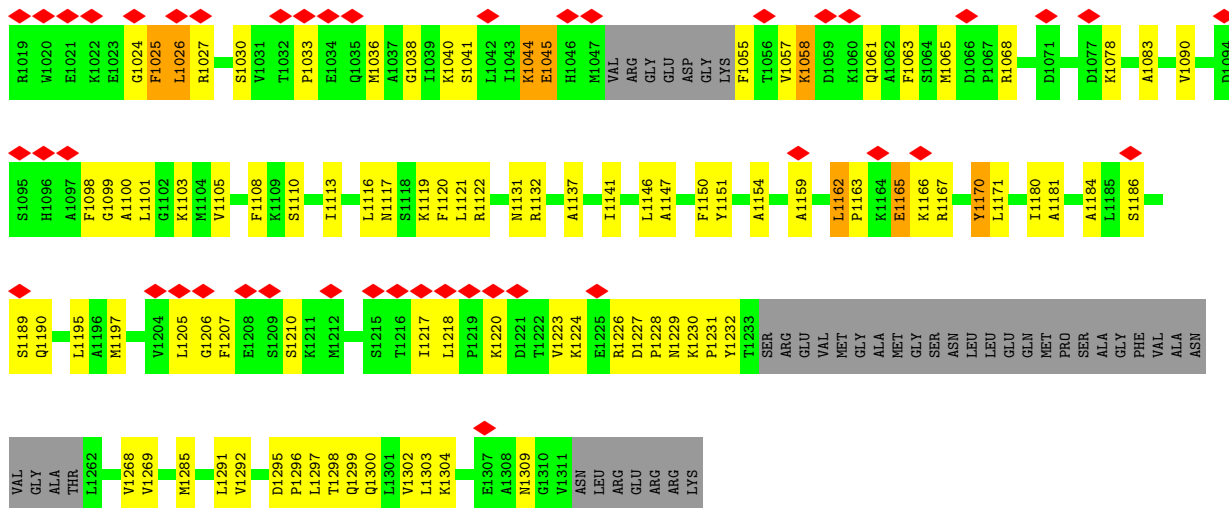


● Molecule 2: Internal virion protein gp15

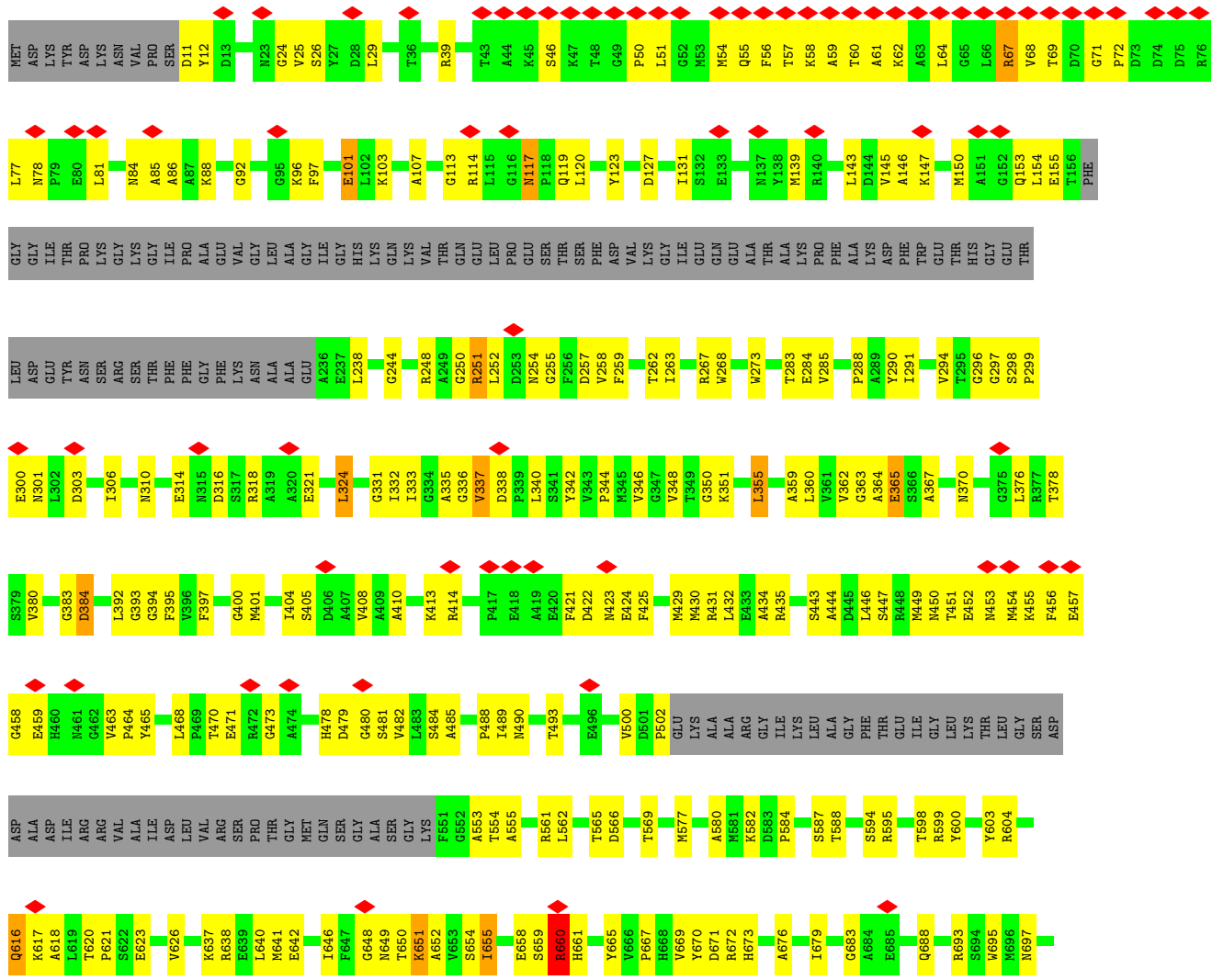


● Molecule 3: Peptidoglycan transglycosylase gp16

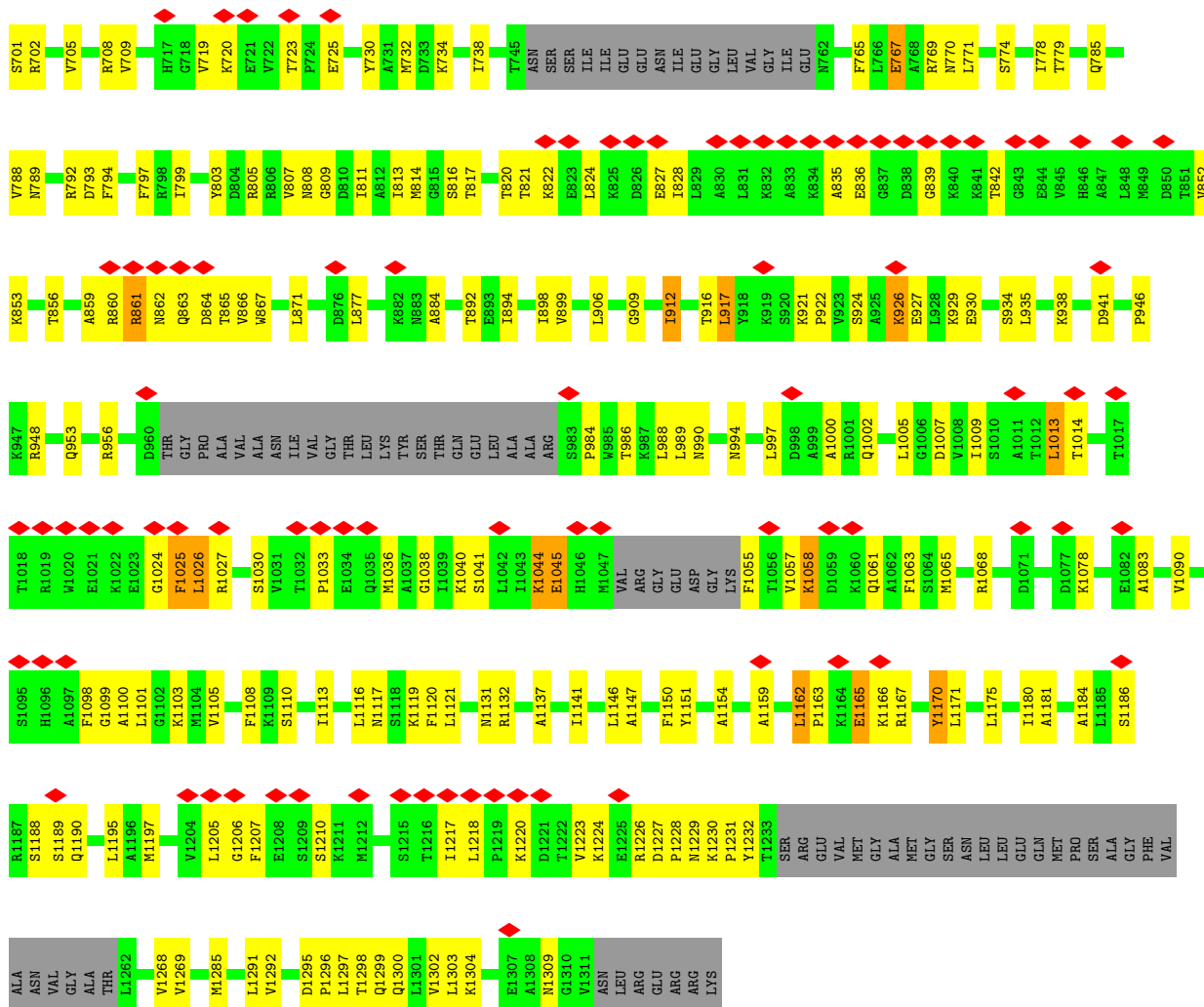




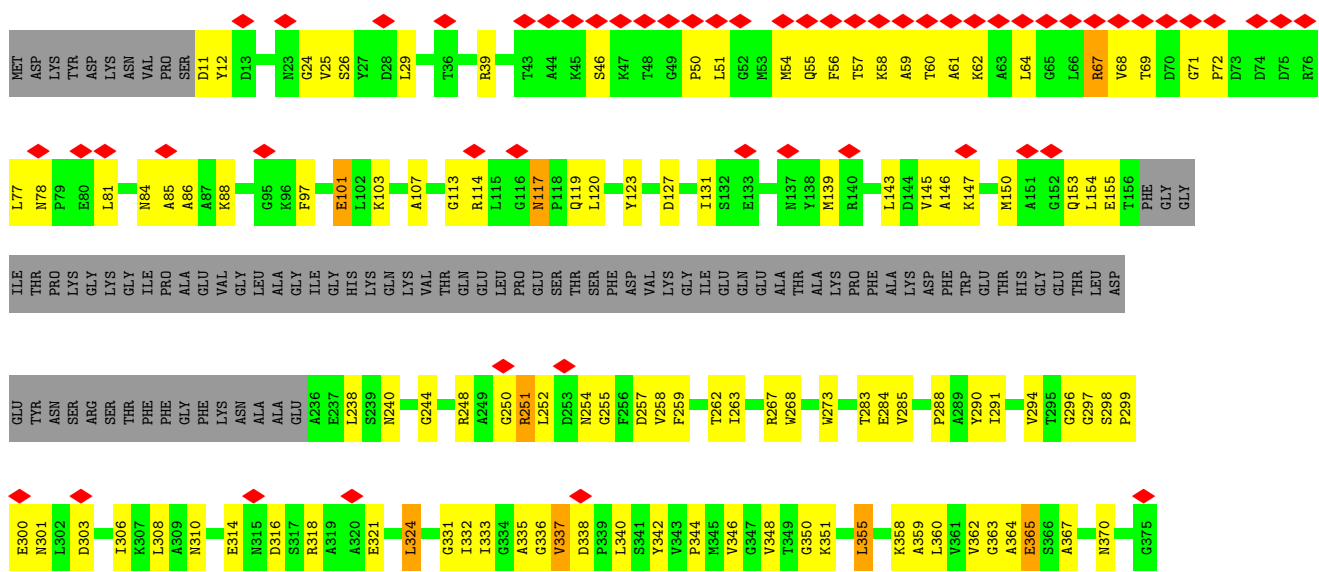
• Molecule 3: Peptidoglycan transglycosylase gp16

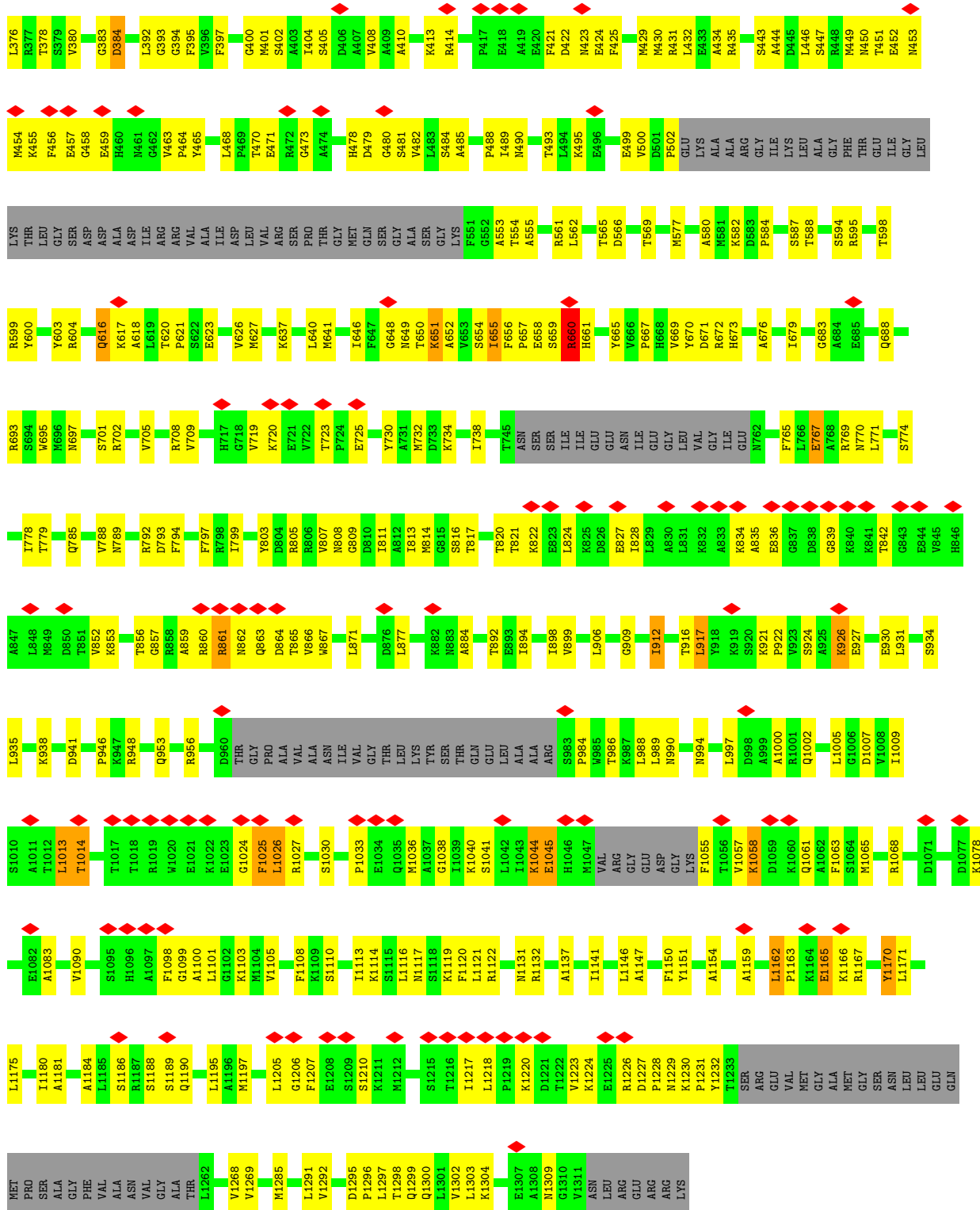






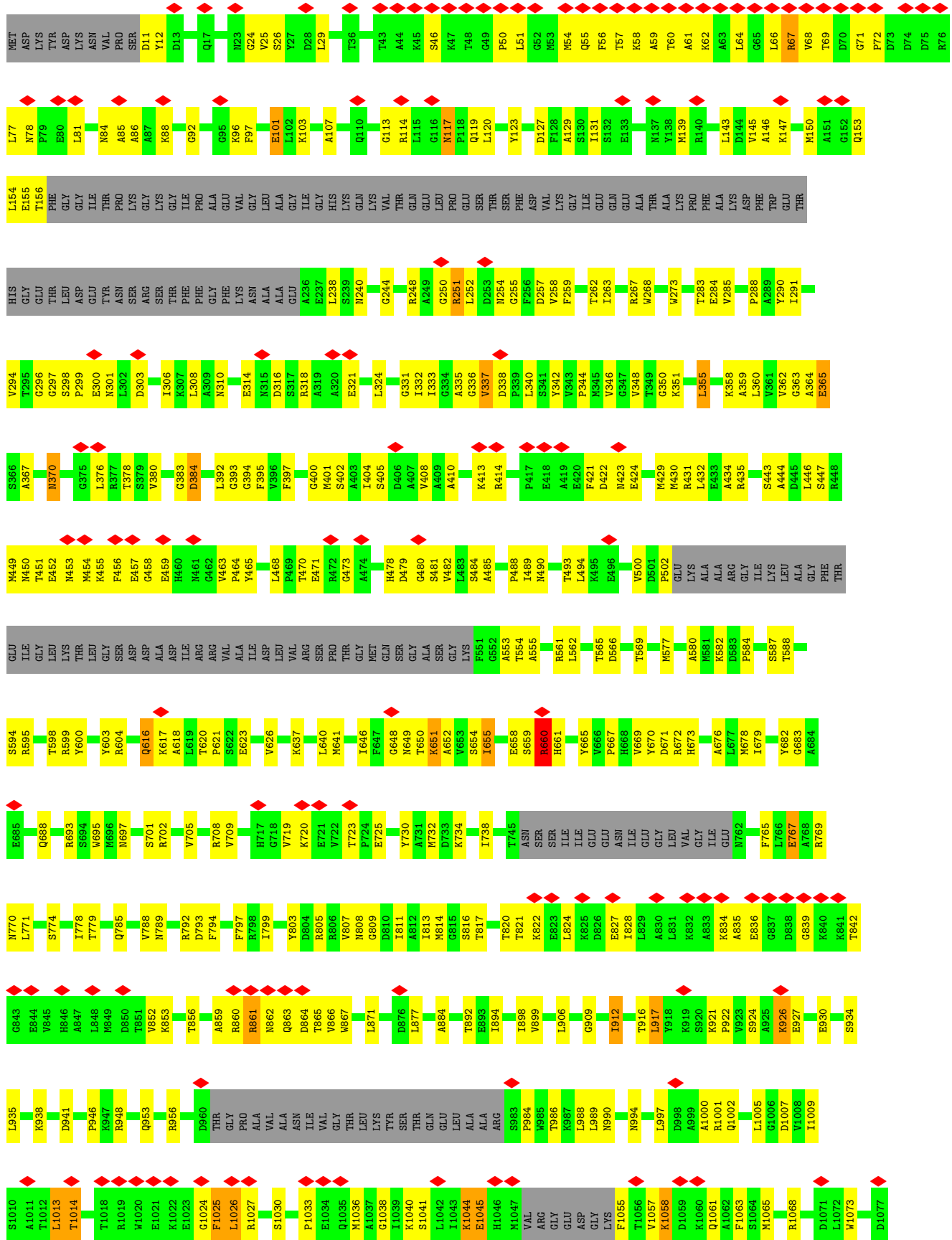
• Molecule 3: Peptidoglycan transglycosylase gp16

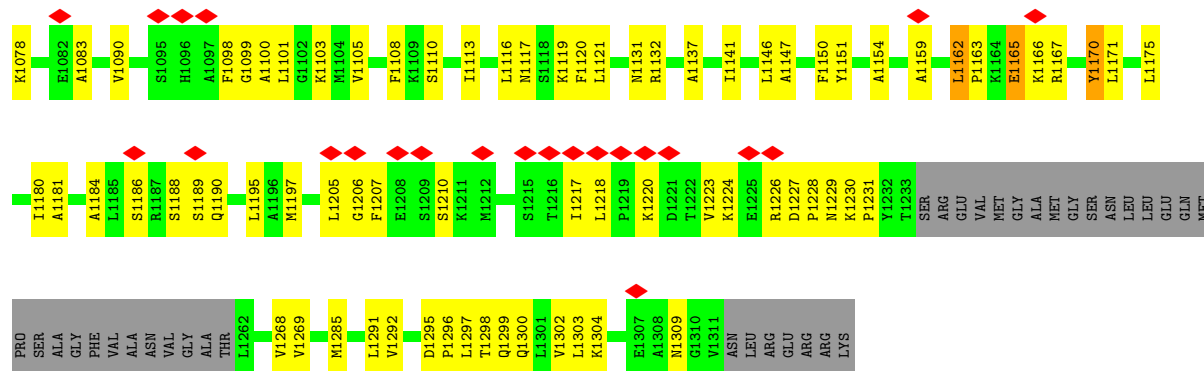




• Molecule 3: Peptidoglycan transglycosylase gp16







## 4 Experimental information

Property	Value	Source
EM reconstruction method	SINGLE PARTICLE	Depositor
Imposed symmetry	POINT, C4	Depositor
Number of particles used	74984	Depositor
Resolution determination method	FSC 0.143 CUT-OFF	Depositor
CTF correction method	NONE	Depositor
Microscope	FEI TECNAI ARCTICA	Depositor
Voltage (kV)	200	Depositor
Electron dose ( $e^-/\text{\AA}^2$ )	25	Depositor
Minimum defocus (nm)	Not provided	
Maximum defocus (nm)	Not provided	
Magnification	Not provided	
Image detector	FEI FALCON II (4k x 4k)	Depositor
Maximum map value	72.374	Depositor
Minimum map value	-46.971	Depositor
Average map value	0.038	Depositor
Map value standard deviation	2.961	Depositor
Recommended contour level	11.0	Depositor
Map size ( $\text{\AA}$ )	406.4, 406.4, 406.4	wwPDB
Map dimensions	320, 320, 320	wwPDB
Map angles ( $^\circ$ )	90.0, 90.0, 90.0	wwPDB
Pixel spacing ( $\text{\AA}$ )	1.27, 1.27, 1.27	Depositor

## 5 Model quality [i](#)

### 5.1 Standard geometry [i](#)

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with  $|Z| > 5$  is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mol	Chain	Bond lengths		Bond angles	
		RMSZ	# Z  >5	RMSZ	# Z  >5
1	a	0.84	0/386	1.03	1/537 (0.2%)
1	b	0.84	0/386	1.02	1/537 (0.2%)
1	c	0.84	0/386	1.03	1/537 (0.2%)
1	d	0.84	0/386	1.02	1/537 (0.2%)
1	e	0.84	0/386	1.03	1/537 (0.2%)
1	f	0.84	0/386	1.02	1/537 (0.2%)
1	g	0.85	0/386	1.03	1/537 (0.2%)
1	h	0.84	0/386	1.03	1/537 (0.2%)
2	A	0.52	0/5226	0.73	0/7039
2	B	0.60	0/5226	0.74	0/7039
2	C	0.52	0/5226	0.73	0/7039
2	D	0.60	0/5226	0.74	0/7039
2	E	0.52	0/5226	0.73	0/7039
2	F	0.60	0/5226	0.74	0/7039
2	G	0.52	0/5226	0.73	0/7039
2	H	0.60	0/5226	0.74	0/7039
3	I	0.46	0/8620	0.70	3/11617 (0.0%)
3	J	0.46	0/8620	0.70	3/11617 (0.0%)
3	K	0.46	0/8620	0.70	3/11617 (0.0%)
3	L	0.46	0/8620	0.70	3/11617 (0.0%)
All	All	0.54	0/79376	0.73	20/107076 (0.0%)

There are no bond length outliers.

The worst 5 of 20 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms	Z	Observed(°)	Ideal(°)
3	J	1165	GLU	N-CA-C	-7.01	92.06	111.00
3	I	1165	GLU	N-CA-C	-7.01	92.07	111.00
3	J	355	LEU	CA-CB-CG	7.01	131.42	115.30
3	L	355	LEU	CA-CB-CG	7.01	131.42	115.30
3	K	1165	GLU	N-CA-C	-7.00	92.09	111.00

There are no chirality outliers.

There are no planarity outliers.

## 5.2 Too-close contacts [i](#)

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

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	a	387	0	214	0	0
1	b	387	0	214	0	0
1	c	387	0	214	0	0
1	d	387	0	214	0	0
1	e	387	0	214	0	0
1	f	387	0	214	0	0
1	g	387	0	214	0	0
1	h	387	0	214	0	0
2	A	5148	0	5040	213	0
2	B	5148	0	5040	311	0
2	C	5148	0	5040	190	0
2	D	5148	0	5040	303	0
2	E	5148	0	5040	206	0
2	F	5148	0	5040	311	0
2	G	5148	0	5040	212	0
2	H	5148	0	5040	308	0
3	I	8476	0	8466	376	0
3	J	8476	0	8466	364	0
3	K	8476	0	8466	380	0
3	L	8476	0	8466	368	0
All	All	78184	0	75896	3275	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 22.

The worst 5 of 3275 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:L:146:ALA:HB1	3:L:147:LYS:CG	1.42	1.49
3:J:146:ALA:HB1	3:J:147:LYS:CG	1.42	1.47
3:I:146:ALA:HB1	3:I:147:LYS:CG	1.42	1.47
3:K:146:ALA:HB1	3:K:147:LYS:CG	1.42	1.43
2:F:541:ARG:CG	2:F:546:ARG:HB3	1.61	1.31

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	76/196 (39%)	65 (86%)	10 (13%)	1 (1%)	12	47
1	b	76/196 (39%)	66 (87%)	8 (10%)	2 (3%)	5	34
1	c	76/196 (39%)	66 (87%)	9 (12%)	1 (1%)	12	47
1	d	76/196 (39%)	66 (87%)	9 (12%)	1 (1%)	12	47
1	e	76/196 (39%)	65 (86%)	10 (13%)	1 (1%)	12	47
1	f	76/196 (39%)	66 (87%)	9 (12%)	1 (1%)	12	47
1	g	76/196 (39%)	66 (87%)	8 (10%)	2 (3%)	5	34
1	h	76/196 (39%)	66 (87%)	9 (12%)	1 (1%)	12	47
2	A	645/747 (86%)	582 (90%)	56 (9%)	7 (1%)	14	50
2	B	645/747 (86%)	576 (89%)	56 (9%)	13 (2%)	7	39
2	C	645/747 (86%)	583 (90%)	55 (8%)	7 (1%)	14	50
2	D	645/747 (86%)	577 (90%)	55 (8%)	13 (2%)	7	39
2	E	645/747 (86%)	583 (90%)	55 (8%)	7 (1%)	14	50
2	F	645/747 (86%)	577 (90%)	55 (8%)	13 (2%)	7	39
2	G	645/747 (86%)	583 (90%)	55 (8%)	7 (1%)	14	50
2	H	645/747 (86%)	576 (89%)	56 (9%)	13 (2%)	7	39
3	I	1087/1318 (82%)	940 (86%)	133 (12%)	14 (1%)	12	47
3	J	1087/1318 (82%)	940 (86%)	133 (12%)	14 (1%)	12	47
3	K	1087/1318 (82%)	938 (86%)	135 (12%)	14 (1%)	12	47
3	L	1087/1318 (82%)	938 (86%)	135 (12%)	14 (1%)	12	47
All	All	10116/12816 (79%)	8919 (88%)	1051 (10%)	146 (1%)	15	45

5 of 146 Ramachandran outliers are listed below:



Mol	Chain	Res	Type
2	A	334	ALA
2	A	339	VAL
2	B	570	ALA
2	B	676	THR
2	C	334	ALA

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

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all 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	
2	A	552/624 (88%)	446 (81%)	106 (19%)	1	9
2	B	552/624 (88%)	440 (80%)	112 (20%)	1	8
2	C	552/624 (88%)	446 (81%)	106 (19%)	1	9
2	D	552/624 (88%)	440 (80%)	112 (20%)	1	8
2	E	552/624 (88%)	446 (81%)	106 (19%)	1	9
2	F	552/624 (88%)	439 (80%)	113 (20%)	1	7
2	G	552/624 (88%)	445 (81%)	107 (19%)	1	9
2	H	552/624 (88%)	440 (80%)	112 (20%)	1	8
3	I	890/1059 (84%)	854 (96%)	36 (4%)	31	60
3	J	890/1059 (84%)	854 (96%)	36 (4%)	31	60
3	K	890/1059 (84%)	854 (96%)	36 (4%)	31	60
3	L	890/1059 (84%)	854 (96%)	36 (4%)	31	60
All	All	7976/9228 (86%)	6958 (87%)	1018 (13%)	7	23

5 of 1018 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
2	E	229	LEU
3	I	355	LEU
2	F	208	ASP
3	I	117	ASN
3	K	67	ARG

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 137 such sidechains are listed below:

Mol	Chain	Res	Type
3	K	1131	ASN
3	L	78	ASN
3	L	994	ASN
2	F	696	GLN
2	F	695	ASN

### 5.3.3 RNA [i](#)

There are no RNA molecules in this entry.

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

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

### 5.5 Carbohydrates [i](#)

There are no monosaccharides in this entry.

### 5.6 Ligand geometry [i](#)

There are no ligands in this entry.

### 5.7 Other polymers [i](#)

There are no such residues in this entry.

### 5.8 Polymer linkage issues [i](#)

There are no chain breaks in this entry.

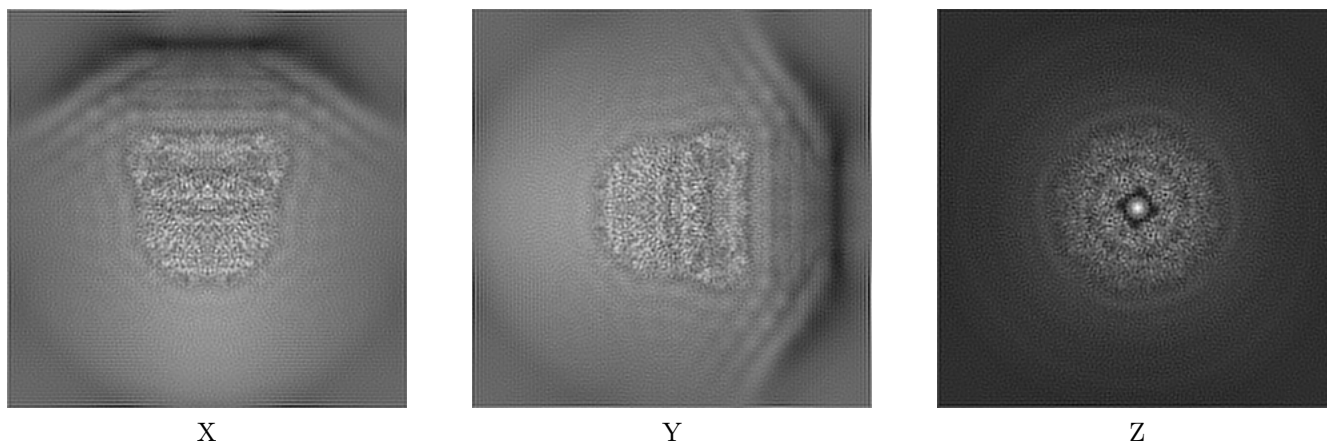
## 6 Map visualisation [i](#)

This section contains visualisations of the EMDB entry EMD-31317. 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 [i](#)

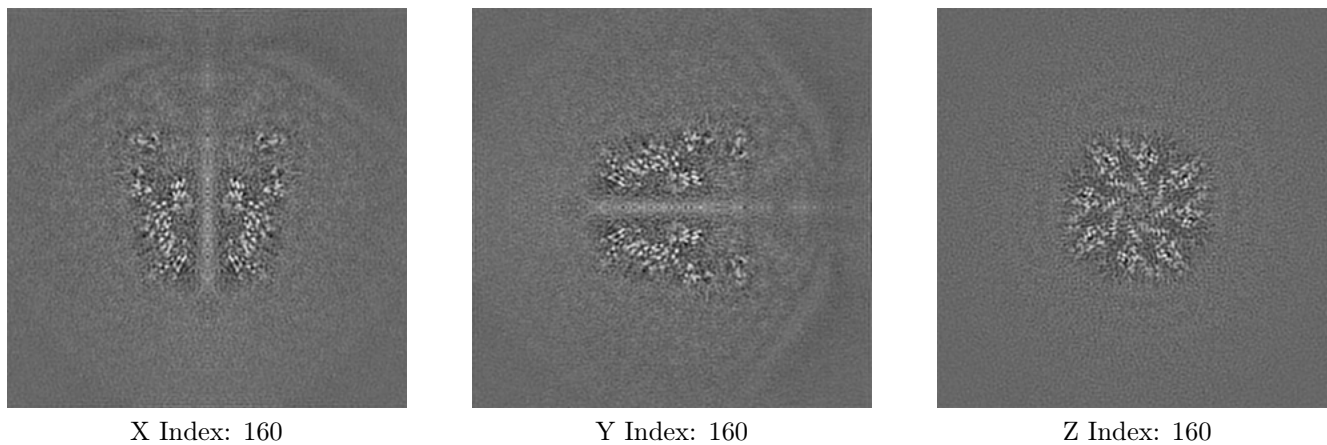
#### 6.1.1 Primary map



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

### 6.2 Central slices [i](#)

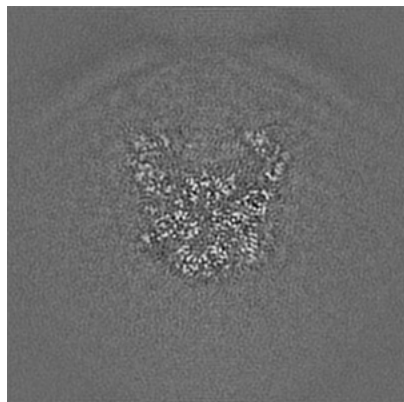
#### 6.2.1 Primary map



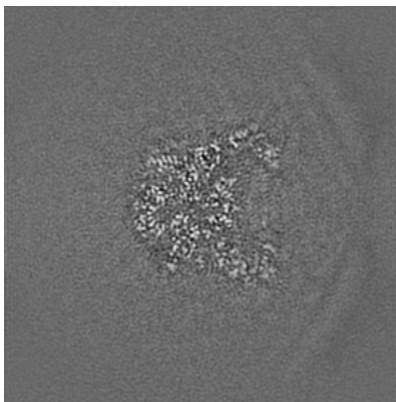
The images above show central slices of the map in three orthogonal directions.

## 6.3 Largest variance slices [i](#)

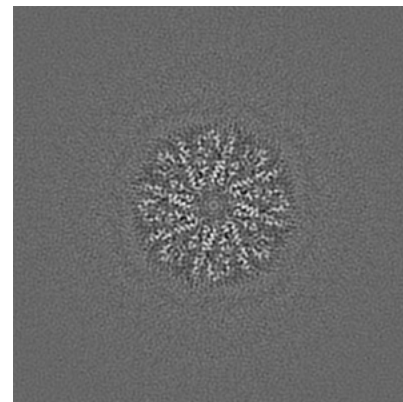
### 6.3.1 Primary map



X Index: 135



Y Index: 185

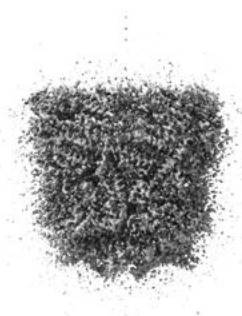


Z Index: 170

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

## 6.4 Orthogonal surface views [i](#)

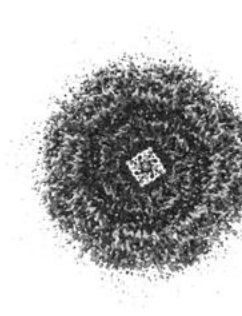
### 6.4.1 Primary map



X



Y



Z

The images above show the 3D surface view of the map at the recommended contour level 11.0. These images, in conjunction with the slice images, may facilitate assessment of whether an appropriate contour level has been provided.

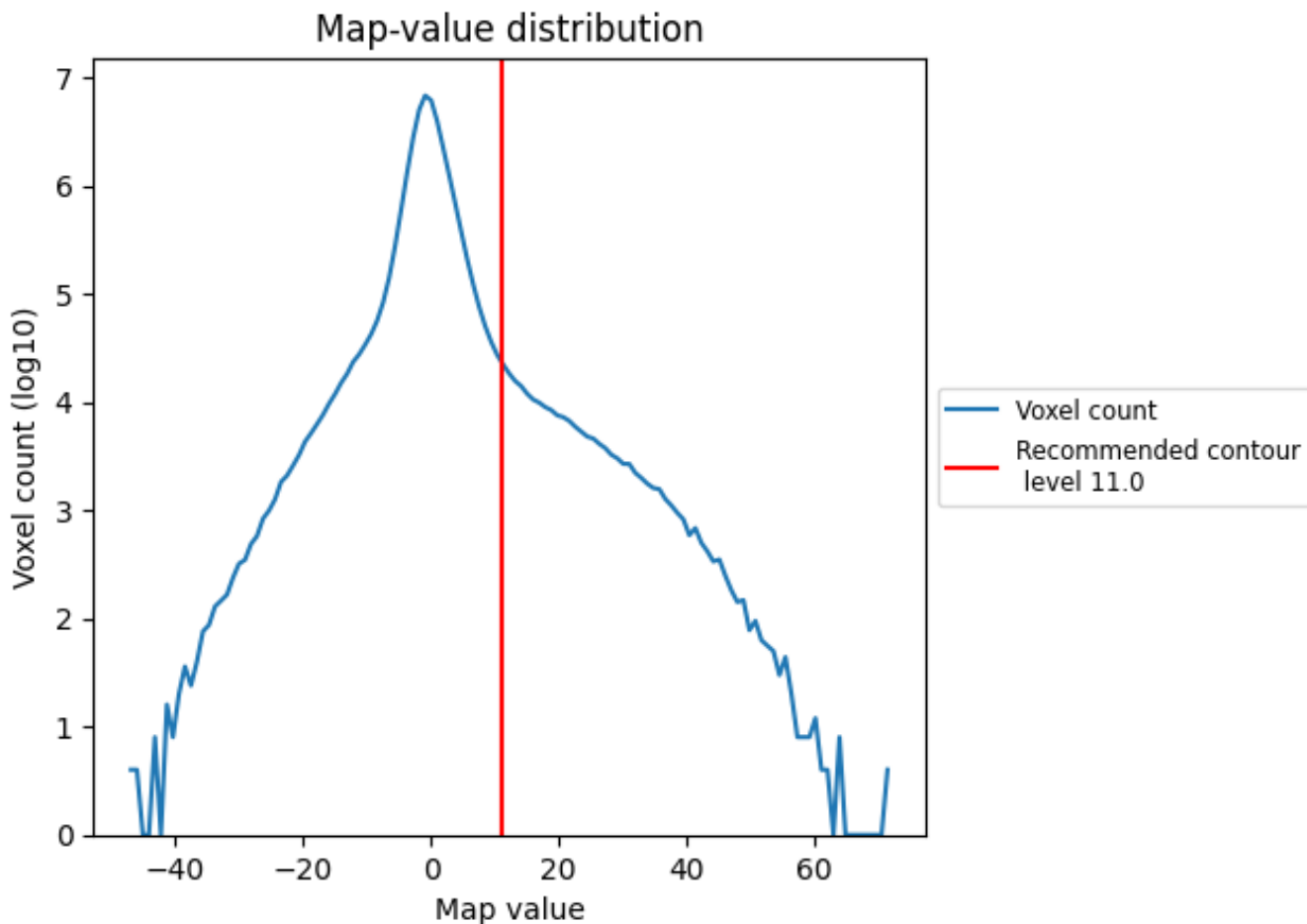
## 6.5 Mask visualisation

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

## 7 Map analysis [i](#)

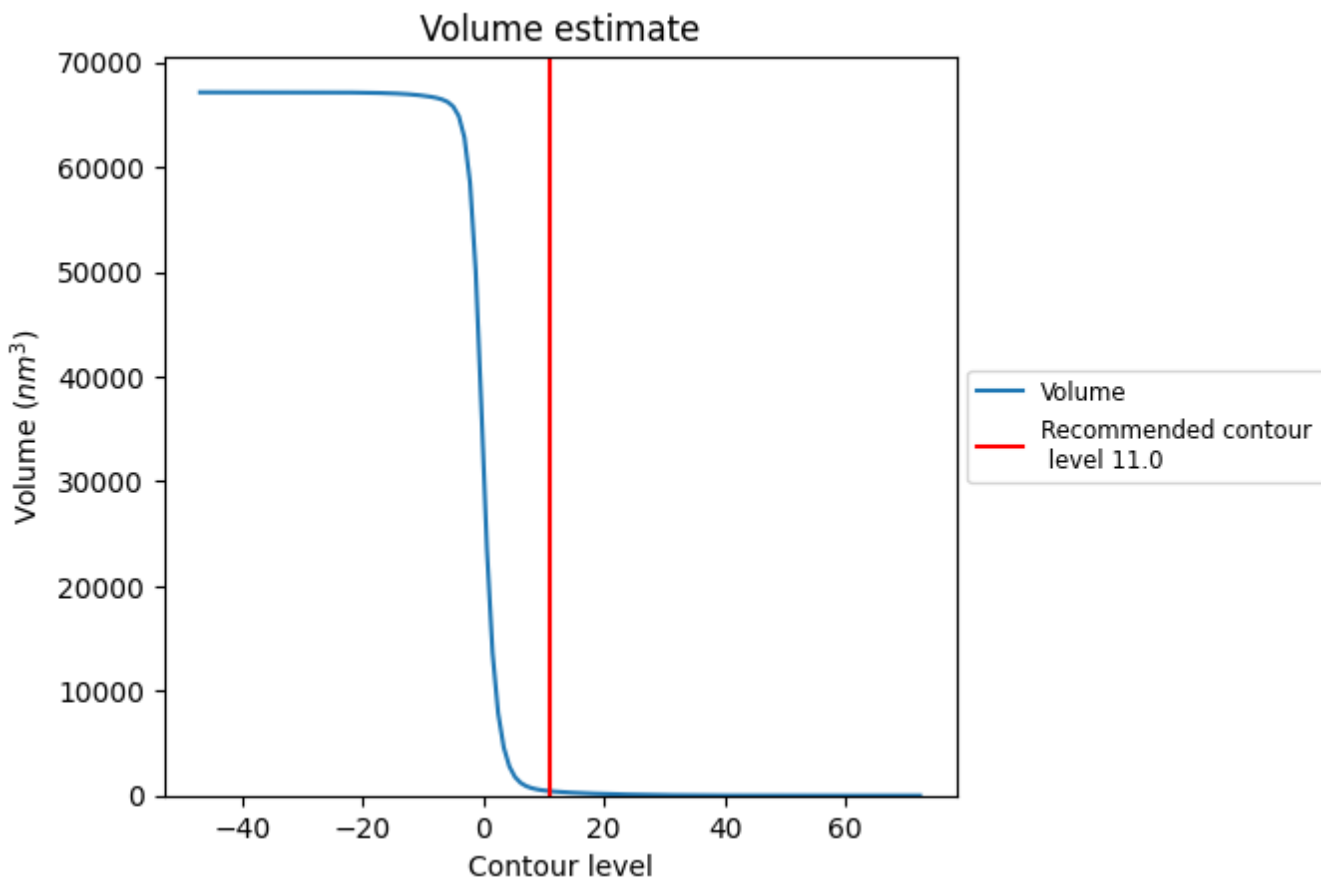
This section contains the results of statistical analysis of the map.

### 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.

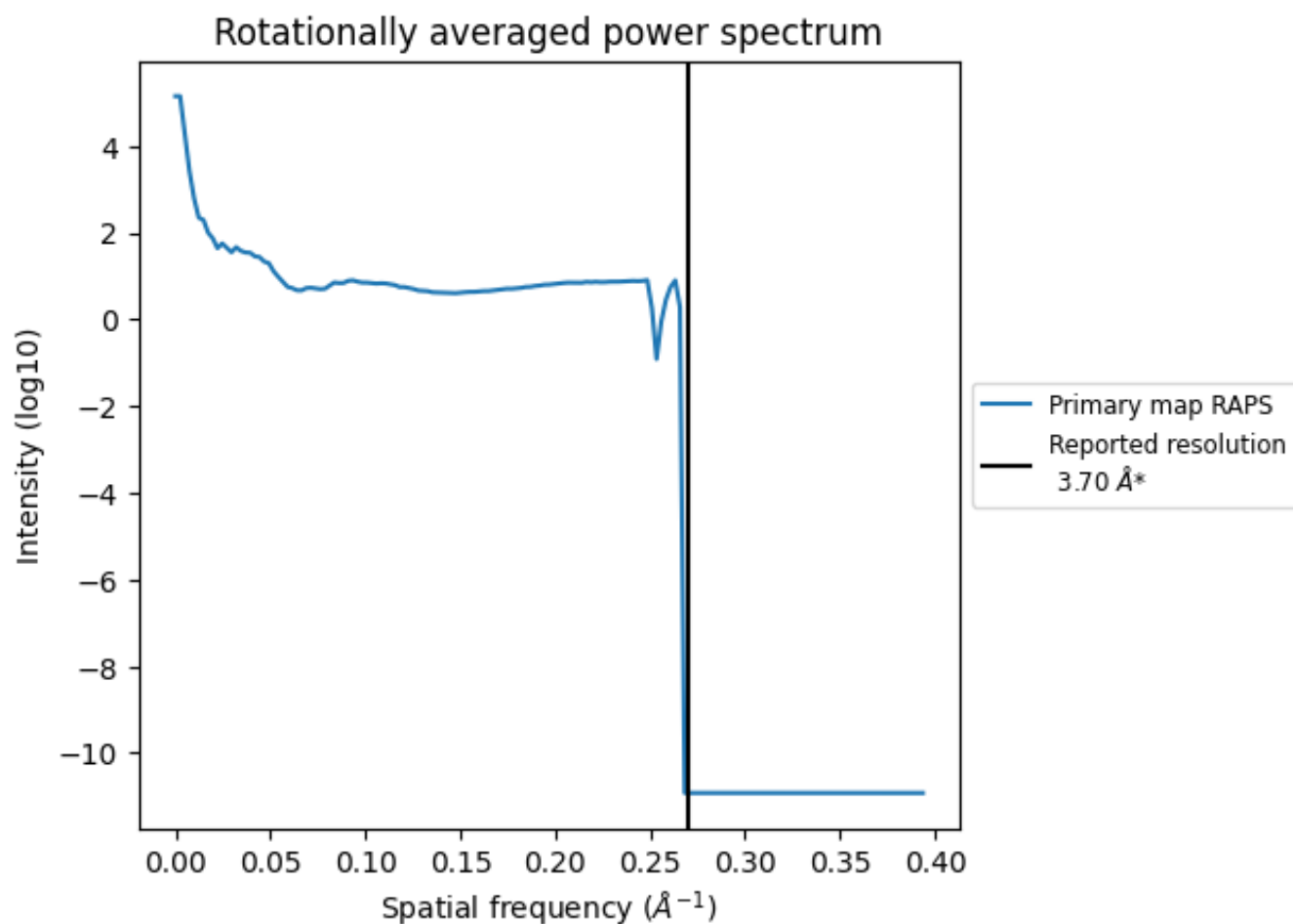
## 7.2 Volume estimate [i](#)



The volume at the recommended contour level is 425 nm<sup>3</sup>; this corresponds to an approximate mass of 384 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  $0.270 \text{\AA}^{-1}$



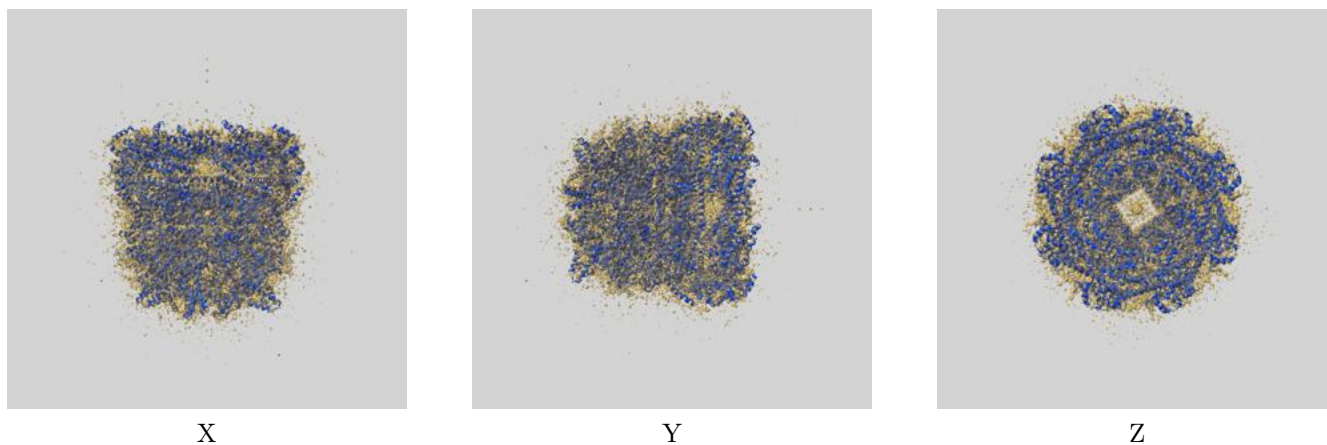
## 8 Fourier-Shell correlation

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

## 9 Map-model fit [i](#)

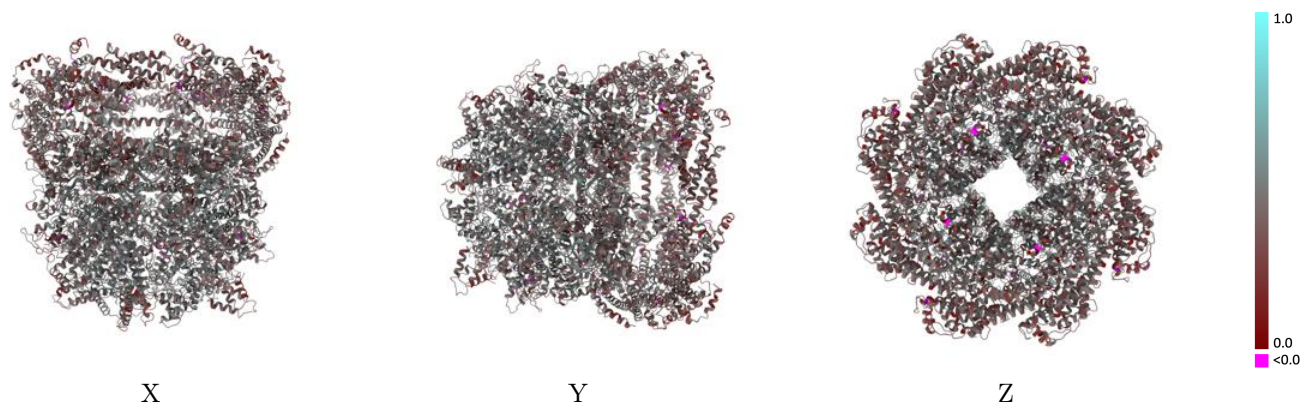
This section contains information regarding the fit between EMDB map EMD-31317 and PDB model 7EYB. Per-residue inclusion information can be found in section 3 on page 6.

### 9.1 Map-model overlay [i](#)



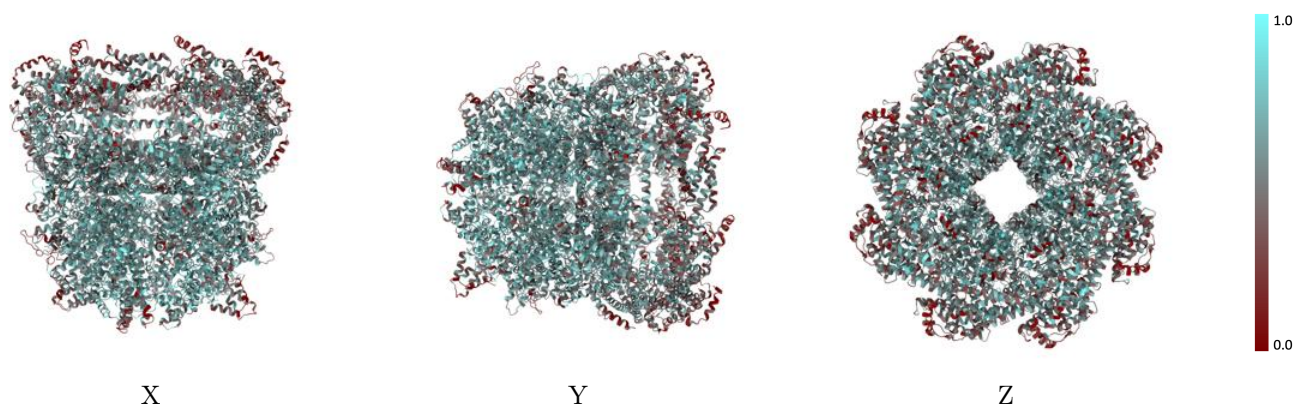
The images above show the 3D surface view of the map at the recommended contour level 11.0 at 50% transparency in yellow overlaid with a ribbon representation of the model coloured in blue. These images allow for the visual assessment of the quality of fit between the atomic model and the map.

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



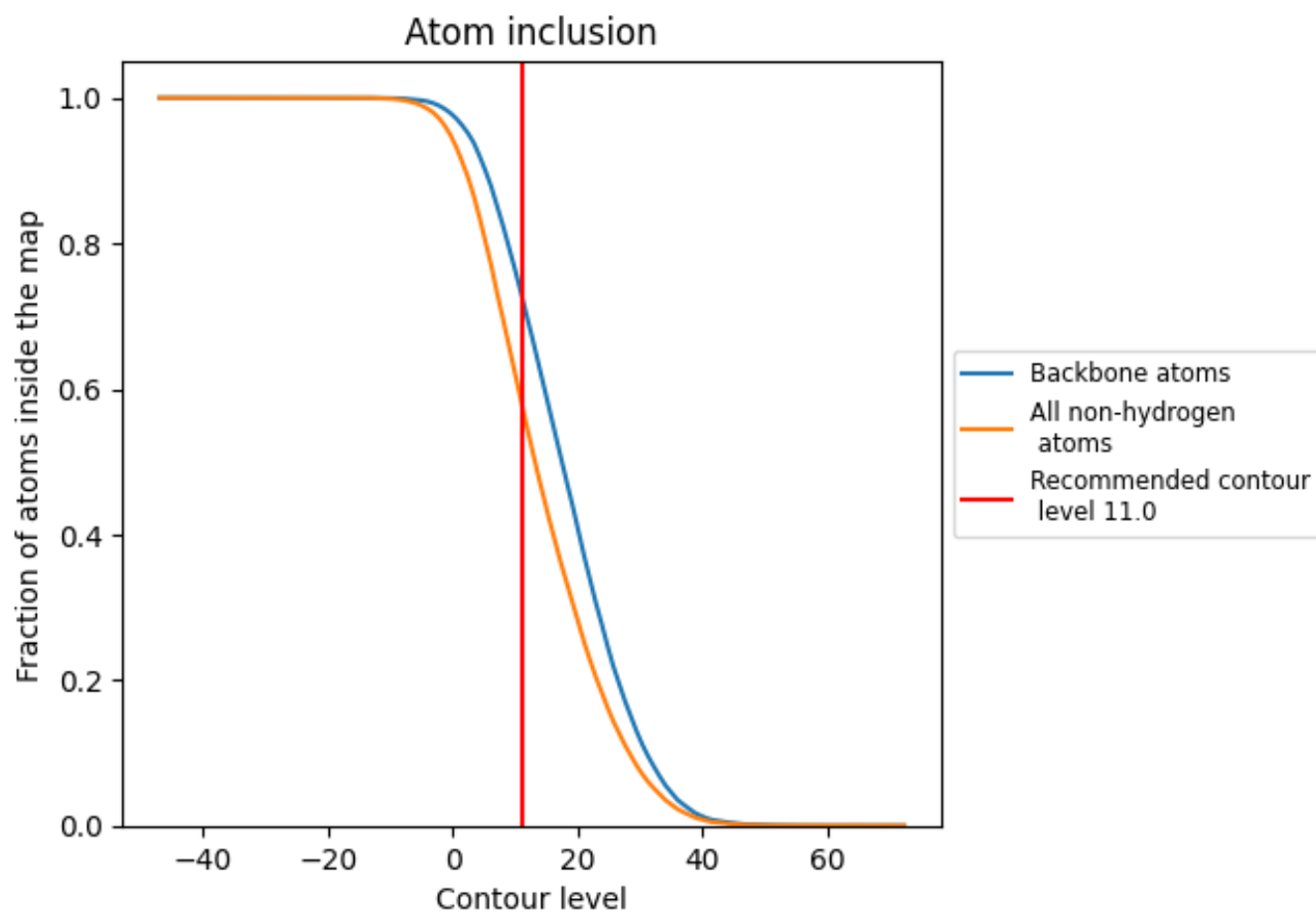
The images above show the model with each residue coloured according its Q-score. This shows their resolvability in the map with higher Q-score values reflecting better resolvability. Please note: Q-score is calculating the resolvability of atoms, and thus high values are only expected at resolutions 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](#)



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 (11.0).











































## 9.4 Atom inclusion [i](#)



At the recommended contour level, 73% of all backbone atoms, 58% of all non-hydrogen atoms, are inside the map.

## 9.5 Map-model fit summary [i](#)

The table lists the average atom inclusion at the recommended contour level (11.0) and Q-score for the entire model and for each chain.

Chain	Atom inclusion	Q-score
All	 0.5813	 0.4160
A	 0.5482	 0.3970
B	 0.5560	 0.4040
C	 0.5498	 0.3990
D	 0.5542	 0.4050
E	 0.5482	 0.3990
F	 0.5536	 0.4050
G	 0.5490	 0.3980
H	 0.5512	 0.4050
I	 0.6272	 0.4420
J	 0.6290	 0.4410
K	 0.6290	 0.4400
L	 0.6297	 0.4410
a	 0.4444	 0.3700
b	 0.4832	 0.3200
c	 0.4470	 0.3680
d	 0.4780	 0.3170
e	 0.4496	 0.3660
f	 0.4729	 0.3210
g	 0.4470	 0.3650
h	 0.4780	 0.3210

