WORLDWIDE PDB PROTEIN DATA BANK

wwPDB X-ray Structure Validation Summary Report (i)

Jun 22, 2024 – 05:52 PM EDT

PDB ID	:	6BBH
Title	:	The CRAC channel Orai in an unlatched-closed conformation; K163W loss-of-function mutation
Authors	:	Long, S.B.; Hou, X.; Burstein, S.
Deposited on	:	2017-10-18
Resolution	:	6.10 Å(reported)

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

|		
MolProbity	:	4.02b-467
Xtriage (Phenix)	:	1.20.1
EDS	:	2.37.1
Percentile statistics	:	20191225.v01 (using entries in the PDB archive December 25th 2019)
Refmac	:	5.8.0158
CCP4	:	7.0.044 (Gargrove)
Ideal geometry (proteins)	:	Engh & Huber (2001)
Ideal geometry (DNA, RNA)	:	Parkinson et al. (1996)
Validation Pipeline (wwPDB-VP)	:	2.37.1

1 Overall quality at a glance ⓘ

The following experimental techniques were used to determine the structure:
X-RAY DIFFRACTION

The reported resolution of this entry is 6.10 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.
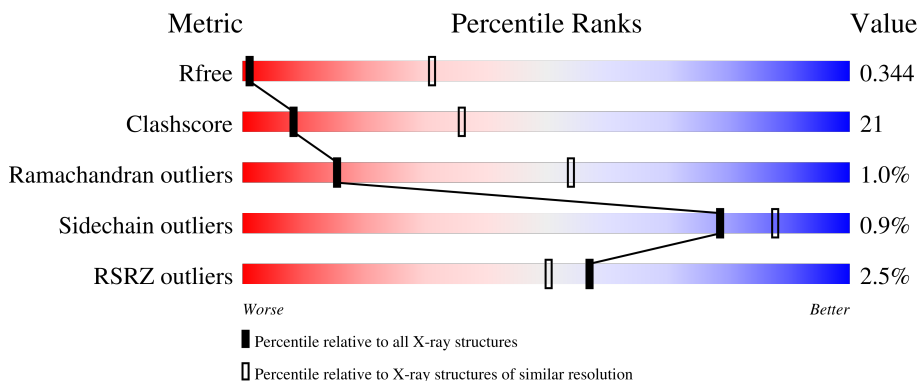
Metric	Whole archive (#Entries)	Similar resolution (#Entries, resolution range(Å))
R_{free}	130704	1002 (8.30-3.88)
Clashscore	141614	1051 (8.30-3.90)
Ramachandran outliers	138981	1018 (8.30-3.86)
Sidechain outliers	138945	1019 (8.30-3.82)
RSRZ outliers	127900	1015 (8.20-3.78)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5% The upper red bar (where present) indicates the fraction of residues that have poor fit to the electron density. The numeric value is given above the bar.

Mol	Chain	Length	Quality of chain
1	A	214	43% 26% • 30%
1	B	214	45% 25% 30%
1	C	214	45% 24% • 30%
1	D	214	45% 24% • 30%
1	E	214	44% 25% 30%

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Mol	Chain	Length	Quality of chain
1	F	214	44% 25% • 30%
1	G	214	2% 44% 25% • 30%
1	H	214	% 45% 23% • 30%
1	I	214	44% 24% • 30%
1	J	214	% 45% 24% 30%
1	K	214	2% 46% 23% 30%
1	L	214	% 43% 26% 30%
1	M	214	2% 43% 25% • 30%
1	N	214	2% 45% 24% • 30%
1	O	214	2% 45% 24% • 30%
1	P	214	% 43% 26% • 30%
1	Q	214	3% 42% 27% • 30%
1	R	214	% 45% 23% • 30%
1	S	214	3% 43% 26% • 30%
1	T	214	2% 45% 24% • 30%
1	U	214	3% 43% 26% • 30%
1	V	214	5% 44% 25% • 30%
1	W	214	3% 44% 25% • 30%
1	X	214	% 41% 28% • 30%

2   Entry composition ⓘ

There is only 1 type of molecule in this entry. The entry contains 27360 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

- Molecule 1 is a protein called Calcium release-activated calcium channel protein 1.

Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	A	150	Total	C	N	O	S	0	0	0
			1140	761	178	190	11			
1	B	150	Total	C	N	O	S	0	0	0
			1140	761	178	190	11			
1	C	150	Total	C	N	O	S	0	0	0
			1140	761	178	190	11			
1	D	150	Total	C	N	O	S	0	0	0
			1140	761	178	190	11			
1	E	150	Total	C	N	O	S	0	0	0
			1140	761	178	190	11			
1	F	150	Total	C	N	O	S	0	0	0
			1140	761	178	190	11			
1	G	150	Total	C	N	O	S	0	0	0
			1140	761	178	190	11			
1	H	150	Total	C	N	O	S	0	0	0
			1140	761	178	190	11			
1	I	150	Total	C	N	O	S	0	0	0
			1140	761	178	190	11			
1	J	150	Total	C	N	O	S	0	0	0
			1140	761	178	190	11			
1	K	150	Total	C	N	O	S	0	0	0
			1140	761	178	190	11			
1	L	150	Total	C	N	O	S	0	0	0
			1140	761	178	190	11			
1	M	150	Total	C	N	O	S	0	0	0
			1140	761	178	190	11			
1	N	150	Total	C	N	O	S	0	0	0
			1140	761	178	190	11			
1	O	150	Total	C	N	O	S	0	0	0
			1140	761	178	190	11			
1	P	150	Total	C	N	O	S	0	0	0
			1140	761	178	190	11			

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Mol	Chain	Residues	Atoms					ZeroOcc	AltConf	Trace
1	Q	150	Total 1140	C 761	N 178	O 190	S 11	0	0	0
1	R	150	Total 1140	C 761	N 178	O 190	S 11	0	0	0
1	S	150	Total 1140	C 761	N 178	O 190	S 11	0	0	0
1	T	150	Total 1140	C 761	N 178	O 190	S 11	0	0	0
1	U	150	Total 1140	C 761	N 178	O 190	S 11	0	0	0
1	V	150	Total 1140	C 761	N 178	O 190	S 11	0	0	0
1	W	150	Total 1140	C 761	N 178	O 190	S 11	0	0	0
1	X	150	Total 1140	C 761	N 178	O 190	S 11	0	0	0

There are 192 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	163	TRP	LYS	engineered mutation	UNP Q9U6B8
A	224	SER	CYS	engineered mutation	UNP Q9U6B8
A	283	THR	CYS	engineered mutation	UNP Q9U6B8
A	342	GLU	-	expression tag	UNP Q9U6B8
A	343	GLY	-	expression tag	UNP Q9U6B8
A	344	GLU	-	expression tag	UNP Q9U6B8
A	345	GLU	-	expression tag	UNP Q9U6B8
A	346	PHE	-	expression tag	UNP Q9U6B8
B	163	TRP	LYS	engineered mutation	UNP Q9U6B8
B	224	SER	CYS	engineered mutation	UNP Q9U6B8
B	283	THR	CYS	engineered mutation	UNP Q9U6B8
B	342	GLU	-	expression tag	UNP Q9U6B8
B	343	GLY	-	expression tag	UNP Q9U6B8
B	344	GLU	-	expression tag	UNP Q9U6B8
B	345	GLU	-	expression tag	UNP Q9U6B8
B	346	PHE	-	expression tag	UNP Q9U6B8
C	163	TRP	LYS	engineered mutation	UNP Q9U6B8
C	224	SER	CYS	engineered mutation	UNP Q9U6B8
C	283	THR	CYS	engineered mutation	UNP Q9U6B8
C	342	GLU	-	expression tag	UNP Q9U6B8
C	343	GLY	-	expression tag	UNP Q9U6B8
C	344	GLU	-	expression tag	UNP Q9U6B8
C	345	GLU	-	expression tag	UNP Q9U6B8

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Chain	Residue	Modelled	Actual	Comment	Reference
C	346	PHE	-	expression tag	UNP Q9U6B8
D	163	TRP	LYS	engineered mutation	UNP Q9U6B8
D	224	SER	CYS	engineered mutation	UNP Q9U6B8
D	283	THR	CYS	engineered mutation	UNP Q9U6B8
D	342	GLU	-	expression tag	UNP Q9U6B8
D	343	GLY	-	expression tag	UNP Q9U6B8
D	344	GLU	-	expression tag	UNP Q9U6B8
D	345	GLU	-	expression tag	UNP Q9U6B8
D	346	PHE	-	expression tag	UNP Q9U6B8
E	163	TRP	LYS	engineered mutation	UNP Q9U6B8
E	224	SER	CYS	engineered mutation	UNP Q9U6B8
E	283	THR	CYS	engineered mutation	UNP Q9U6B8
E	342	GLU	-	expression tag	UNP Q9U6B8
E	343	GLY	-	expression tag	UNP Q9U6B8
E	344	GLU	-	expression tag	UNP Q9U6B8
E	345	GLU	-	expression tag	UNP Q9U6B8
E	346	PHE	-	expression tag	UNP Q9U6B8
F	163	TRP	LYS	engineered mutation	UNP Q9U6B8
F	224	SER	CYS	engineered mutation	UNP Q9U6B8
F	283	THR	CYS	engineered mutation	UNP Q9U6B8
F	342	GLU	-	expression tag	UNP Q9U6B8
F	343	GLY	-	expression tag	UNP Q9U6B8
F	344	GLU	-	expression tag	UNP Q9U6B8
F	345	GLU	-	expression tag	UNP Q9U6B8
F	346	PHE	-	expression tag	UNP Q9U6B8
G	163	TRP	LYS	engineered mutation	UNP Q9U6B8
G	224	SER	CYS	engineered mutation	UNP Q9U6B8
G	283	THR	CYS	engineered mutation	UNP Q9U6B8
G	342	GLU	-	expression tag	UNP Q9U6B8
G	343	GLY	-	expression tag	UNP Q9U6B8
G	344	GLU	-	expression tag	UNP Q9U6B8
G	345	GLU	-	expression tag	UNP Q9U6B8
G	346	PHE	-	expression tag	UNP Q9U6B8
H	163	TRP	LYS	engineered mutation	UNP Q9U6B8
H	224	SER	CYS	engineered mutation	UNP Q9U6B8
H	283	THR	CYS	engineered mutation	UNP Q9U6B8
H	342	GLU	-	expression tag	UNP Q9U6B8
H	343	GLY	-	expression tag	UNP Q9U6B8
H	344	GLU	-	expression tag	UNP Q9U6B8
H	345	GLU	-	expression tag	UNP Q9U6B8
H	346	PHE	-	expression tag	UNP Q9U6B8
I	163	TRP	LYS	engineered mutation	UNP Q9U6B8

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Chain	Residue	Modelled	Actual	Comment	Reference
I	224	SER	CYS	engineered mutation	UNP Q9U6B8
I	283	THR	CYS	engineered mutation	UNP Q9U6B8
I	342	GLU	-	expression tag	UNP Q9U6B8
I	343	GLY	-	expression tag	UNP Q9U6B8
I	344	GLU	-	expression tag	UNP Q9U6B8
I	345	GLU	-	expression tag	UNP Q9U6B8
I	346	PHE	-	expression tag	UNP Q9U6B8
J	163	TRP	LYS	engineered mutation	UNP Q9U6B8
J	224	SER	CYS	engineered mutation	UNP Q9U6B8
J	283	THR	CYS	engineered mutation	UNP Q9U6B8
J	342	GLU	-	expression tag	UNP Q9U6B8
J	343	GLY	-	expression tag	UNP Q9U6B8
J	344	GLU	-	expression tag	UNP Q9U6B8
J	345	GLU	-	expression tag	UNP Q9U6B8
J	346	PHE	-	expression tag	UNP Q9U6B8
K	163	TRP	LYS	engineered mutation	UNP Q9U6B8
K	224	SER	CYS	engineered mutation	UNP Q9U6B8
K	283	THR	CYS	engineered mutation	UNP Q9U6B8
K	342	GLU	-	expression tag	UNP Q9U6B8
K	343	GLY	-	expression tag	UNP Q9U6B8
K	344	GLU	-	expression tag	UNP Q9U6B8
K	345	GLU	-	expression tag	UNP Q9U6B8
K	346	PHE	-	expression tag	UNP Q9U6B8
L	163	TRP	LYS	engineered mutation	UNP Q9U6B8
L	224	SER	CYS	engineered mutation	UNP Q9U6B8
L	283	THR	CYS	engineered mutation	UNP Q9U6B8
L	342	GLU	-	expression tag	UNP Q9U6B8
L	343	GLY	-	expression tag	UNP Q9U6B8
L	344	GLU	-	expression tag	UNP Q9U6B8
L	345	GLU	-	expression tag	UNP Q9U6B8
L	346	PHE	-	expression tag	UNP Q9U6B8
M	163	TRP	LYS	engineered mutation	UNP Q9U6B8
M	224	SER	CYS	engineered mutation	UNP Q9U6B8
M	283	THR	CYS	engineered mutation	UNP Q9U6B8
M	342	GLU	-	expression tag	UNP Q9U6B8
M	343	GLY	-	expression tag	UNP Q9U6B8
M	344	GLU	-	expression tag	UNP Q9U6B8
M	345	GLU	-	expression tag	UNP Q9U6B8
M	346	PHE	-	expression tag	UNP Q9U6B8
N	163	TRP	LYS	engineered mutation	UNP Q9U6B8
N	224	SER	CYS	engineered mutation	UNP Q9U6B8
N	283	THR	CYS	engineered mutation	UNP Q9U6B8

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Chain	Residue	Modelled	Actual	Comment	Reference
N	342	GLU	-	expression tag	UNP Q9U6B8
N	343	GLY	-	expression tag	UNP Q9U6B8
N	344	GLU	-	expression tag	UNP Q9U6B8
N	345	GLU	-	expression tag	UNP Q9U6B8
N	346	PHE	-	expression tag	UNP Q9U6B8
O	163	TRP	LYS	engineered mutation	UNP Q9U6B8
O	224	SER	CYS	engineered mutation	UNP Q9U6B8
O	283	THR	CYS	engineered mutation	UNP Q9U6B8
O	342	GLU	-	expression tag	UNP Q9U6B8
O	343	GLY	-	expression tag	UNP Q9U6B8
O	344	GLU	-	expression tag	UNP Q9U6B8
O	345	GLU	-	expression tag	UNP Q9U6B8
O	346	PHE	-	expression tag	UNP Q9U6B8
P	163	TRP	LYS	engineered mutation	UNP Q9U6B8
P	224	SER	CYS	engineered mutation	UNP Q9U6B8
P	283	THR	CYS	engineered mutation	UNP Q9U6B8
P	342	GLU	-	expression tag	UNP Q9U6B8
P	343	GLY	-	expression tag	UNP Q9U6B8
P	344	GLU	-	expression tag	UNP Q9U6B8
P	345	GLU	-	expression tag	UNP Q9U6B8
P	346	PHE	-	expression tag	UNP Q9U6B8
Q	163	TRP	LYS	engineered mutation	UNP Q9U6B8
Q	224	SER	CYS	engineered mutation	UNP Q9U6B8
Q	283	THR	CYS	engineered mutation	UNP Q9U6B8
Q	342	GLU	-	expression tag	UNP Q9U6B8
Q	343	GLY	-	expression tag	UNP Q9U6B8
Q	344	GLU	-	expression tag	UNP Q9U6B8
Q	345	GLU	-	expression tag	UNP Q9U6B8
Q	346	PHE	-	expression tag	UNP Q9U6B8
R	163	TRP	LYS	engineered mutation	UNP Q9U6B8
R	224	SER	CYS	engineered mutation	UNP Q9U6B8
R	283	THR	CYS	engineered mutation	UNP Q9U6B8
R	342	GLU	-	expression tag	UNP Q9U6B8
R	343	GLY	-	expression tag	UNP Q9U6B8
R	344	GLU	-	expression tag	UNP Q9U6B8
R	345	GLU	-	expression tag	UNP Q9U6B8
R	346	PHE	-	expression tag	UNP Q9U6B8
S	163	TRP	LYS	engineered mutation	UNP Q9U6B8
S	224	SER	CYS	engineered mutation	UNP Q9U6B8
S	283	THR	CYS	engineered mutation	UNP Q9U6B8
S	342	GLU	-	expression tag	UNP Q9U6B8
S	343	GLY	-	expression tag	UNP Q9U6B8

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Chain	Residue	Modelled	Actual	Comment	Reference
S	344	GLU	-	expression tag	UNP Q9U6B8
S	345	GLU	-	expression tag	UNP Q9U6B8
S	346	PHE	-	expression tag	UNP Q9U6B8
T	163	TRP	LYS	engineered mutation	UNP Q9U6B8
T	224	SER	CYS	engineered mutation	UNP Q9U6B8
T	283	THR	CYS	engineered mutation	UNP Q9U6B8
T	342	GLU	-	expression tag	UNP Q9U6B8
T	343	GLY	-	expression tag	UNP Q9U6B8
T	344	GLU	-	expression tag	UNP Q9U6B8
T	345	GLU	-	expression tag	UNP Q9U6B8
T	346	PHE	-	expression tag	UNP Q9U6B8
U	163	TRP	LYS	engineered mutation	UNP Q9U6B8
U	224	SER	CYS	engineered mutation	UNP Q9U6B8
U	283	THR	CYS	engineered mutation	UNP Q9U6B8
U	342	GLU	-	expression tag	UNP Q9U6B8
U	343	GLY	-	expression tag	UNP Q9U6B8
U	344	GLU	-	expression tag	UNP Q9U6B8
U	345	GLU	-	expression tag	UNP Q9U6B8
U	346	PHE	-	expression tag	UNP Q9U6B8
V	163	TRP	LYS	engineered mutation	UNP Q9U6B8
V	224	SER	CYS	engineered mutation	UNP Q9U6B8
V	283	THR	CYS	engineered mutation	UNP Q9U6B8
V	342	GLU	-	expression tag	UNP Q9U6B8
V	343	GLY	-	expression tag	UNP Q9U6B8
V	344	GLU	-	expression tag	UNP Q9U6B8
V	345	GLU	-	expression tag	UNP Q9U6B8
V	346	PHE	-	expression tag	UNP Q9U6B8
W	163	TRP	LYS	engineered mutation	UNP Q9U6B8
W	224	SER	CYS	engineered mutation	UNP Q9U6B8
W	283	THR	CYS	engineered mutation	UNP Q9U6B8
W	342	GLU	-	expression tag	UNP Q9U6B8
W	343	GLY	-	expression tag	UNP Q9U6B8
W	344	GLU	-	expression tag	UNP Q9U6B8
W	345	GLU	-	expression tag	UNP Q9U6B8
W	346	PHE	-	expression tag	UNP Q9U6B8
X	163	TRP	LYS	engineered mutation	UNP Q9U6B8
X	224	SER	CYS	engineered mutation	UNP Q9U6B8
X	283	THR	CYS	engineered mutation	UNP Q9U6B8
X	342	GLU	-	expression tag	UNP Q9U6B8
X	343	GLY	-	expression tag	UNP Q9U6B8
X	344	GLU	-	expression tag	UNP Q9U6B8
X	345	GLU	-	expression tag	UNP Q9U6B8

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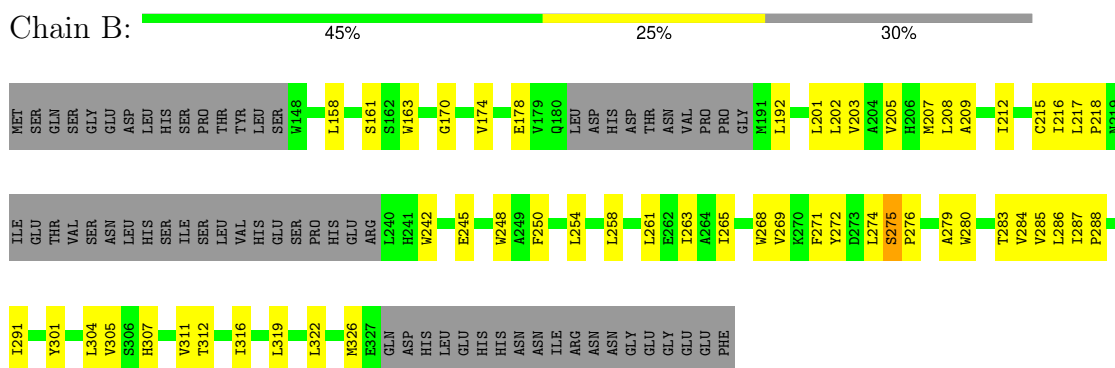| Chain	Residue	Modelled	Actual	Comment	Reference
X	346	PHE	-	expression tag	UNP Q9U6B8

3   Residue-property plots ⓘ

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 electron density. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. A red dot above a residue indicates a poor fit to the electron density (RSRZ > 2). Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.
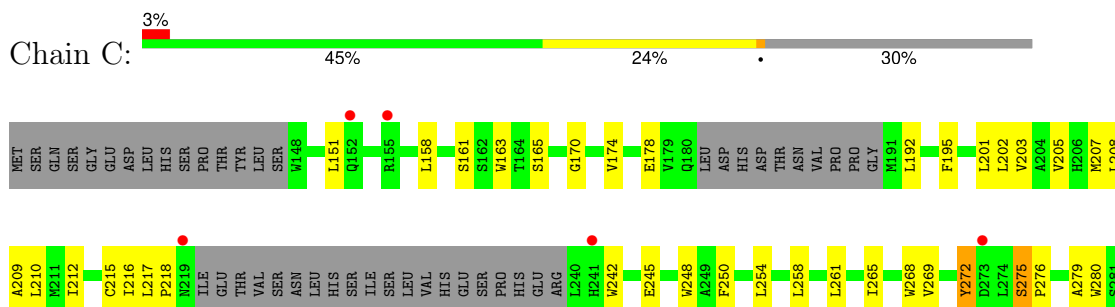
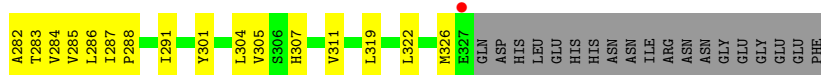- Molecule 1: Calcium release-activated calcium channel protein 1

Chain A:

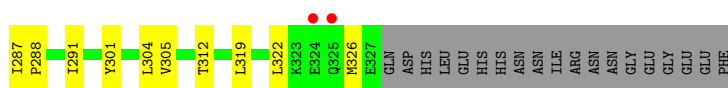- Molecule 1: Calcium release-activated calcium channel protein 1

Chain B:

- Molecule 1: Calcium release-activated calcium channel protein 1

Chain C:

A282 T283 V284 V285 L286 I287 P288 I291 Y301 L304 V305 S306 H307 V311 L319 L322 M326 E327 GLN ASP HIS LEU GLU HIS HIS ASN ASN ILE ARG ASN ASN GLY GLU GLY GLU GLU PHE

● Molecule 1: Calcium release-activated calcium channel protein 1

Chain D:

%

| 45% | 24% | • | 30% |

MET SER GLN SER GLY GLU ASP LEU HIS SER PRO THR TYR LEU SER W148 L158 S161 S162 W163 T164 S165 G170 V174 E178 V179 Q180 LEU ASP HIS ASP THR ASN VAL PRO GLY M191 L192 F195 L201 L202 V203 A204 V205 H206 M207 L208 A209 L210 M211 I212

C215 I216 L217 P218 N219 ILE GLU THR VAL SER ASN LEU HIS SER ILE SER LEU VAL HIS GLU SER PRO HIS GLU ARG L240 H241 W242 E245 W248 A249 F250 L254 L258 F259 L260 L261 I265 W268 V269 K270 F271 Y272 S275 P276 A279 W280 T283 V284 V285 L286

I287 P288 I291 Y301 L304 V305 T312 L319 L322 K323 E324 Q325 M326 E327 GLN ASP HIS LEU GLU HIS HIS ASN ASN ILE ARG ASN ASN GLY GLU GLY GLU GLU PHE

● Molecule 1: Calcium release-activated calcium channel protein 1

Chain E:

%

| 44% | 25% | 30% |

MET SER GLN SER GLY GLU ASP LEU HIS SER PRO THR TYR LEU SER W148 R149 K150 L151 L158 S161 S162 W163 G170 V174 E178 V179 Q180 LEU ASP HIS ASP THR ASN VAL PRO GLY M191 L192 F195 L201 L202 V203 A204 V205 H206 M207 L208 A209 I212

C215 I216 L217 P218 N219 ILE GLU THR VAL SER ASN LEU HIS SER ILE SER LEU VAL HIS GLU SER PRO HIS GLU ARG L240 H241 W242 E245 W248 A249 F250 L254 L258 L261 A264 I265 V269 K270 F271 Y272 D273 L274 S275 P276 W280 T283 V284 V285 L286 I287

P288 I291 Y301 L304 V305 S306 H307 V311 T312 G315 I316 L319 L322 M326 E327 GLN ASP HIS LEU GLU HIS HIS ASN ASN ILE ARG ASN ASN GLY GLU GLY GLU GLU PHE

● Molecule 1: Calcium release-activated calcium channel protein 1

Chain F:

| 44% | 25% | • | 30% |

MET SER GLN SER GLY GLU ASP LEU HIS SER PRO THR TYR LEU SER W148 L151 L158 S161 S162 W163 G170 V174 E178 V179 Q180 LEU ASP HIS ASP THR ASN VAL PRO GLY M191 L192 L201 L202 V203 A204 V205 H206 M207 L208 A209 I212 C215 I216 L217

P218 N219 ILE GLU THR VAL SER ASN LEU HIS SER ILE SER LEU VAL HIS GLU SER PRO HIS GLU ARG L240 H241 W242 E245 W248 A249 F250 L254 L258 L261 A264 I265 W268 V269 K270 F271 L274 S275 P276 A279 W280 S281 A282 T283 V284 V285 L286 I287 P288

I291 Y301 L304 V305 S306 H307 V311 T312 G315 I316 L319 L322 M326 E327 GLN ASP HIS LEU GLU HIS HIS ASN ASN ILE ARG ASN ASN GLY GLU GLY GLU GLU PHE

● Molecule 1: Calcium release-activated calcium channel protein 1

Chain G:
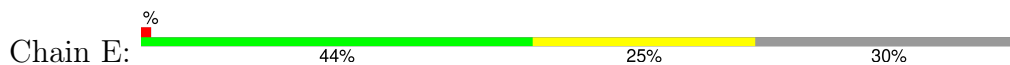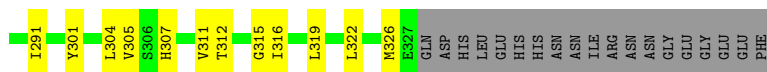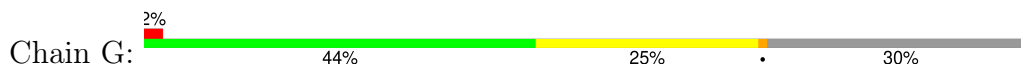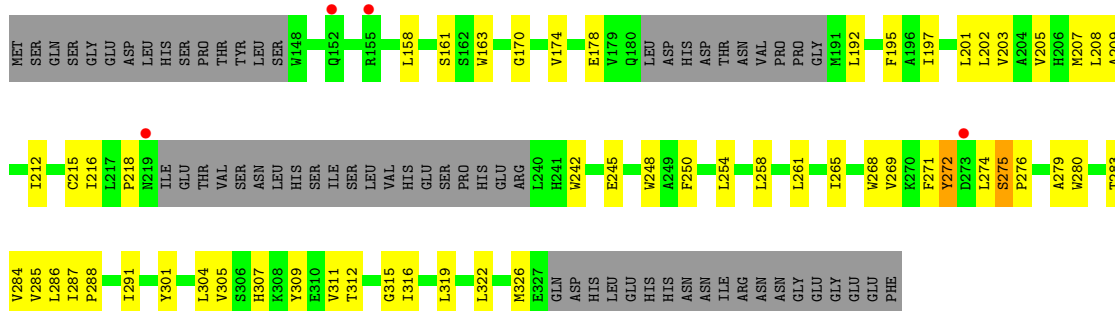
2%

| 44% | 25% | • | 30% |

• Molecule 1: Calcium release-activated calcium channel protein 1

Chain H:

• Molecule 1: Calcium release-activated calcium channel protein 1

Chain I:

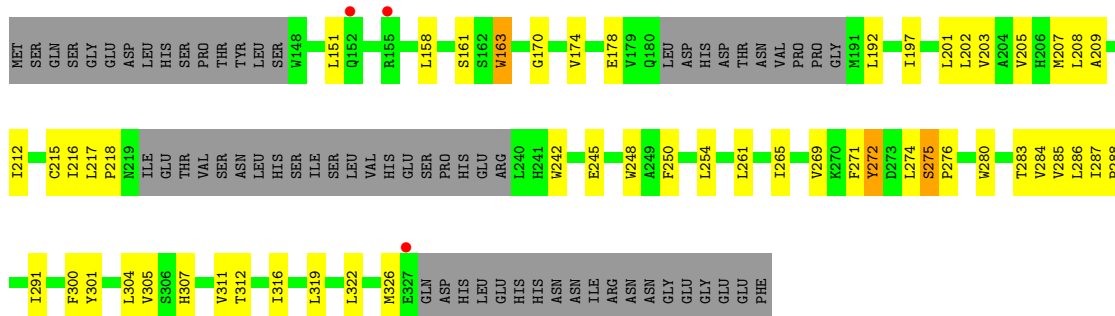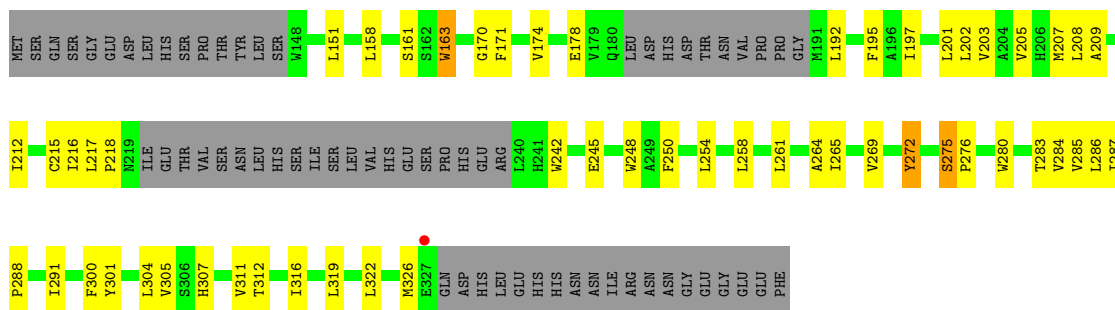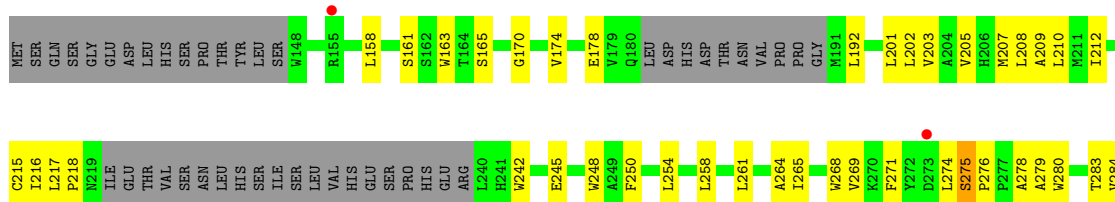• Molecule 1: Calcium release-activated calcium channel protein 1

Chain J:

V285 L286 I287 P288 I291 Y301 L304 V305 S306 H307 V311 T312 L319 E327 GLN ASP HIS LEU GLU HIS HIS ASN ILE ARG ASN ASN GLY GLU GLY GLU GLU PHE

• Molecule 1: Calcium release-activated calcium channel protein 1

Chain K:

2%

46%   23%   30%

MET SER GLN SER GLY GLU ASP LEU HIS SER PRO THR TYR LEU SER W148 R149 K150 L151 L158 S161 S162 W163 G170 V174 E178 V179 Q180 LEU ASP HIS ASP THR ASN VAL PRO GLY M191 L192 F195 L201 L202 V203 A204 V205 H206 M207 L208 A209 I212

C215 I216 L217 P218 N219 ILE GLU THR VAL SER ASN LEU HIS SER ILE SER LEU VAL HIS GLU SER PRO HIS GLU ARG L240 H241 W242 E245 W248 A249 F250 L254 L258 L261 I265 W268 V269 Y272 S275 P276 A279 W280 T283 V284 V285 L286 I287 P288

I291 Y301 L304 V305 S306 H307 V311 T312 L322 K323 E324 Q325 M326 E327 GLN ASP HIS LEU GLU HIS HIS ASN ILE ARG ASN ASN GLY GLU GLY GLU GLU PHE

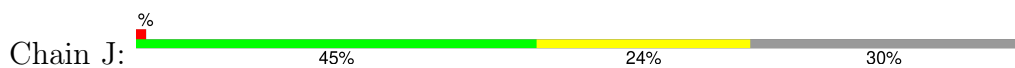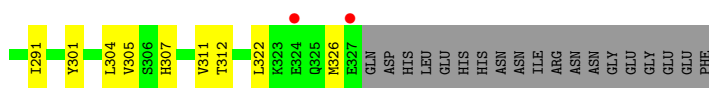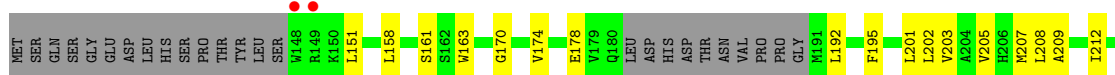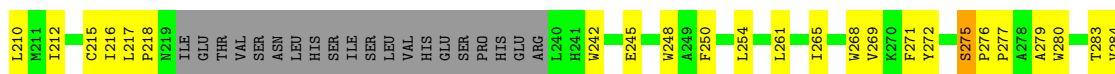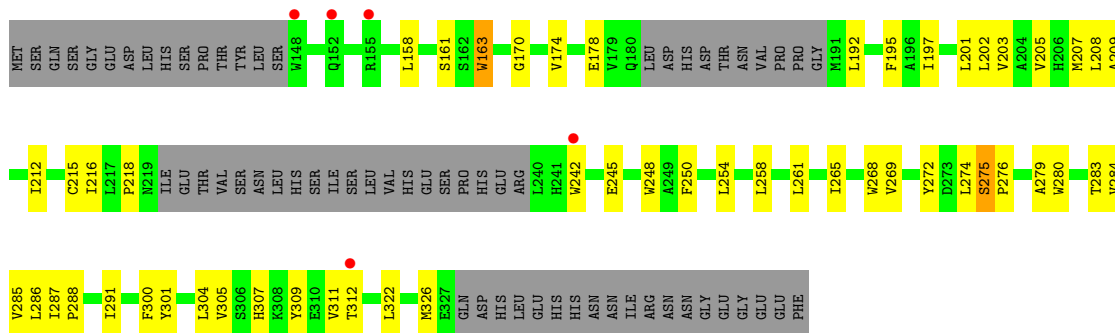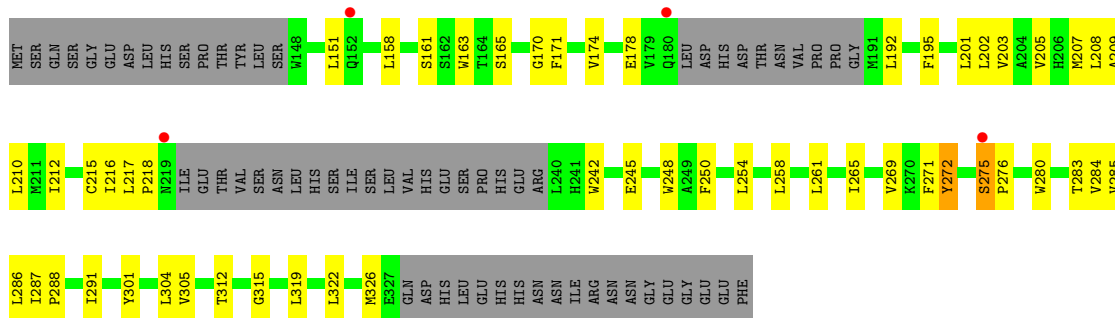• Molecule 1: Calcium release-activated calcium channel protein 1

Chain L:

%

43%   26%   30%

MET SER GLN SER GLY GLU ASP LEU HIS SER PRO THR TYR LEU SER W148 R155 L158 S161 S162 W163 T164 S165 G170 V174 E178 V179 Q180 LEU ASP HIS ASP THR ASN VAL PRO PRO GLY M191 L192 F195 A196 I197 L201 L202 V203 A204 V205 H206 M207 L208 A209

L210 M211 I212 C215 I216 L217 P218 N219 ILE GLU THR VAL SER ASN LEU HIS SER ILE SER LEU VAL HIS GLU SER PRO HIS GLU ARG L240 H241 W242 E245 W248 A249 F250 L254 L261 I265 W268 V269 K270 F271 Y272 S275 P276 P277 A278 A279 W280 T283 V284

V285 L286 I287 P288 I291 Y301 L304 V305 S306 H307 V311 T312 Q315 I316 L319 L322 M326 E327 GLN ASP HIS LEU GLU HIS HIS ASN ILE ARG ASN ASN GLY GLU GLY GLU GLU PHE

• Molecule 1: Calcium release-activated calcium channel protein 1

Chain M:

2%

43%   25%   •   30%

MET SER GLN SER GLY GLU ASP LEU HIS SER PRO THR TYR LEU SER W148 L151 R155 L158 S161 S162 W163 G170 V174 E178 V179 Q180 LEU ASP HIS ASP THR ASN VAL PRO PRO GLY M191 L192 I197 L201 L202 V203 A204 V205 H206 M207 L208 A209 I212

C215 I216 L217 P218 N219 ILE GLU THR VAL SER ASN LEU HIS SER ILE SER LEU VAL HIS GLU SER PRO HIS GLU ARG L240 H241 W242 Y243 I244 E245 W248 A249 F250 L254 L258 L261 A264 I265 V269 K270 F271 Y272 D273 L274 S275 P276 P277 A278 A279 W280 T283

V284 V285 L286 I287 P288 I291 Y301 L304 V305 S306 H307 E310 V311 T312 I316 L319 L322 K323 M326 E327 GLN ASP HIS LEU GLU HIS HIS ASN ILE ARG ASN ASN GLY GLU GLY GLU GLU PHE

• Molecule 1: Calcium release-activated calcium channel protein 1

Chain N:

2%

45%   24%   •   30%

MET SER GLN GLY GLU ASP LEU HIS SER PRO THR TYR LEU SER W148 Q152 R155 L158 S161 S162 W163 G170 V174 E178 V179 Q180 LEU ASP HIS ASP THR ASN VAL PRO PRO GLY M191 L192 F195 A196 I197 L201 L202 V203 A204 V205 H206 M207 L208 A209

I212 C215 I216 L217 P218 N219 ILE GLU THR VAL SER ASN LEU HIS SER ILE SER LEU VAL HIS GLU SER PRO HIS GLU ARG L240 H241 W242 E245 W248 A249 F250 L254 L258 L261 I265 W268 V269 Y272 D273 L274 S275 P276 A279 W280 T283 V284

V285 L286 I287 P288 I291 F300 Y301 L304 V305 S306 H307 K308 Y309 E310 V311 T312 L322 M326 E327 GLN ASP HIS GLU HIS ASN ILE ARG ASN ASN GLY GLY GLU GLU PHE

• Molecule 1: Calcium release-activated calcium channel protein 1

Chain O:

MET SER GLN GLY GLU ASP LEU HIS SER PRO THR TYR LEU SER W148 L151 Q152 L158 S161 S162 W163 T164 S165 G170 F171 V174 E178 V179 Q180 LEU ASP HIS ASP THR ASN VAL PRO PRO GLY M191 L192 F195 L201 L202 V203 A204 V205 H206 M207 L208 A209

L210 M211 I212 C215 I216 L217 P218 N219 ILE GLU THR VAL SER ASN LEU HIS SER ILE SER LEU VAL HIS GLU SER PRO HIS GLU ARG L240 H241 W242 E245 W248 A249 F250 L254 L258 L261 I265 V269 K270 F271 Y272 S275 P276 W280 T283 V284 V285

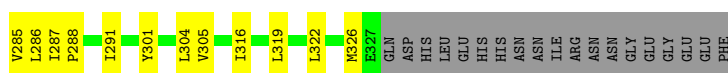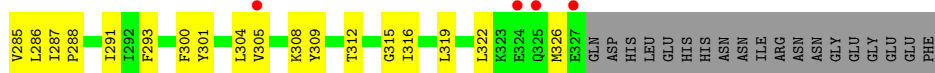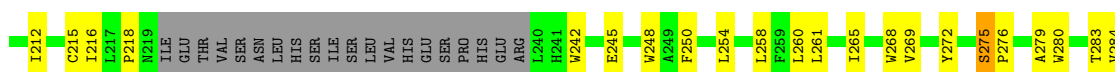L286 I287 P288 I291 Y301 L304 V305 T312 G315 L319 L322 M326 E327 GLN ASP HIS GLU HIS ASN ILE ARG ASN ASN GLY GLY GLU GLU PHE

• Molecule 1: Calcium release-activated calcium channel protein 1

Chain P:

MET SER GLN GLY GLU ASP LEU HIS SER PRO THR TYR LEU SER W148 L151 R155 L158 S161 S162 W163 G170 V174 E178 V179 Q180 LEU ASP HIS ASP THR ASN VAL PRO PRO GLY M191 L192 F195 A196 I197 L201 L202 V203 A204 V205 H206 M207 L208 A209

I212 C215 I216 L217 P218 N219 ILE THR VAL SER ASN LEU HIS SER ILE SER LEU VAL HIS GLU SER PRO HIS GLU ARG L240 H241 W242 Y243 I244 E245 W248 A249 F250 L254 L258 L261 I265 V269 K270 F271 Y272 D273 L274 S275 P276 W280 T283 V284

V285 L286 I287 P288 I291 F300 Y301 L304 V305 S306 H307 K308 Y309 E310 V311 T312 I316 L319 E320 M321 L322 M326 E327 GLN ASP HIS LEU GLU HIS ASN ILE ARG ASN ASN GLY GLY GLU GLU PHE

• Molecule 1: Calcium release-activated calcium channel protein 1

Chain Q:
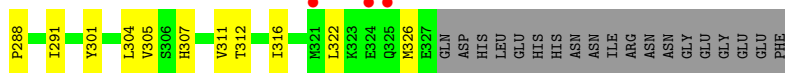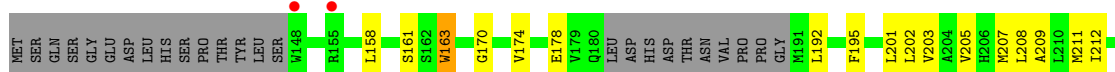

MET SER GLN GLY GLU ASP LEU HIS SER PRO THR TYR LEU SER W148 R149 K150 R155 L158 K159 A160 S161 S162 W163 G170 F171 V174 E178 V179 Q180 LEU ASP HIS ASP THR ASN VAL PRO GLY M191 L192 F195 L201 L202 V203 A204 V205 H206 M207 L208 A209

I212 C215 I216 L217 P218 N219 ILE GLU THR VAL SER ASN LEU HIS SER ILE SER LEU VAL HIS GLU SER PRO HIS GLU ARG L240 H241 W242 E245 W248 A249 F250 L254 L258 L261 I265 W268 V269 K270 F271 Y272 D273 L274 S275 P276 A279 W280 T283

V284 V285 L286 I287 P288 I291 M294 I298 H299 F300 Y301 L304 V305 K308 Y309 T312 I316 R317 E318 L319 L322 M326 E327 GLN HIS LEU GLU HIS HIS ASN ASN ILE ARG ASN ASN GLY GLU GLY GLU GLU PHE

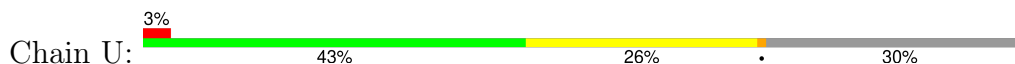• Molecule 1: Calcium release-activated calcium channel protein 1

Chain R:

| 45% | 23% | • | 30% |

MET SER GLN SER GLY GLU ASP LEU HIS SER PRO THR TYR LEU SER W148 L151 R155 L158 S161 S162 W163 G170 V174 E178 V179 Q180 LEU ASP HIS ASP THR ASN VAL PRO PRO GLY M191 L192 F195 L201 L202 V203 A204 V205 H206 M207 L208 A209 I212

C215 I216 L217 P218 N219 ILE GLU THR VAL SER ASN LEU HIS SER ILE SER LEU VAL HIS GLU SER PRO HIS GLU ARG L240 H241 W242 E245 W248 A249 F250 L254 L258 L261 I265 W268 V269 K270 Y272 D273 L274 S275 P276 P277 A278 A279 W280 T283 V284

V285 L286 I287 P288 I291 Y301 L304 V305 I316 L319 L322 M326 E327 GLN HIS LEU GLU HIS HIS ASN ASN ILE ARG ASN ASN GLY GLU GLY GLU GLU PHE

• Molecule 1: Calcium release-activated calcium channel protein 1

Chain S:

3%

| 43% | 26% | • | 30% |

MET SER GLN SER GLY GLU ASP LEU HIS SER PRO THR TYR LEU SER W148 L151 R155 L158 S161 S162 W163 G170 V174 E178 V179 Q180 LEU ASP HIS ASP THR ASN VAL PRO PRO GLY M191 L192 F195 A196 I197 L201 L202 V203 A204 V205 H206 M207 L208 A209

I212 C215 I216 L217 P218 N219 ILE GLU THR VAL SER ASN LEU HIS SER ILE SER LEU VAL HIS GLU SER PRO HIS GLU ARG L240 H241 W242 E245 W248 A249 F250 L254 L258 E259 L260 L261 I265 W268 V269 Y272 S275 P276 A279 W280 T283 V284

V285 L286 I287 P288 I291 I292 F293 F300 Y301 L304 V305 K308 Y309 T312 Q315 I316 L319 L322 K323 E324 Q325 M326 E327 GLN ASP HIS LEU GLU HIS HIS ASN ASN ILE ARG ASN ASN GLY GLU GLY GLU GLU PHE

• Molecule 1: Calcium release-activated calcium channel protein 1

Chain T:

2%

| 45% | 24% | • | 30% |

MET SER GLN SER GLY GLU ASP LEU HIS SER PRO THR TYR LEU SER W148 R155 L158 S161 S162 W163 G170 V174 E178 V179 Q180 LEU ASP HIS ASP THR ASN VAL PRO PRO GLY M191 L192 F195 L201 L202 V203 A204 V205 H206 M207 L208 A209 L210 M211 I212

C215 I216 L217 P218 N219 ILE GLU THR VAL SER ASN LEU HIS SER ILE SER LEU VAL HIS GLU SER PRO HIS GLU ARG L240 H241 W242 E245 W248 A249 F250 L254 L260 L261 I265 W268 V269 K270 F271 Y272 D273 L274 S275 P276 A279 W280 T283 V284 V285 L286 I287

P288 I291 Y301 L304 V305 S306 H307 V311 T312 I316 M321 L322 K323 E324 Q325 M326 E327 GLN ASP HIS LEU GLU HIS HIS ASN ASN ILE ARG ASN ASN GLY GLU GLY GLU GLU PHE

• Molecule 1: Calcium release-activated calcium channel protein 1
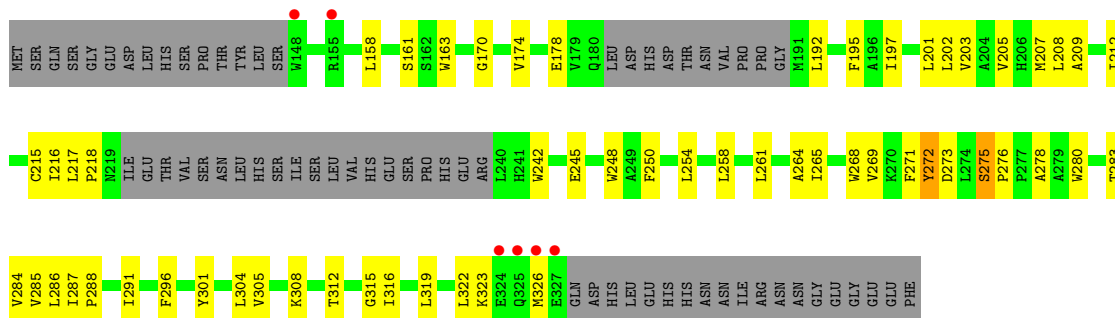
Chain U:

3%

| 43% | 26% | • | 30% |

• Molecule 1: Calcium release-activated calcium channel protein 1

• Molecule 1: Calcium release-activated calcium channel protein 1

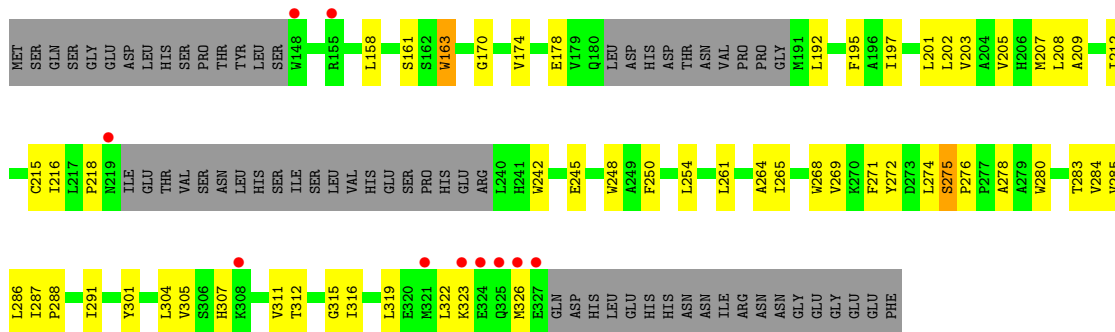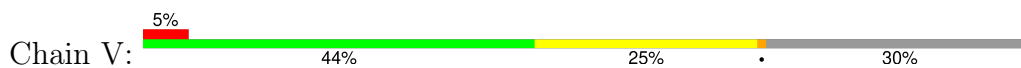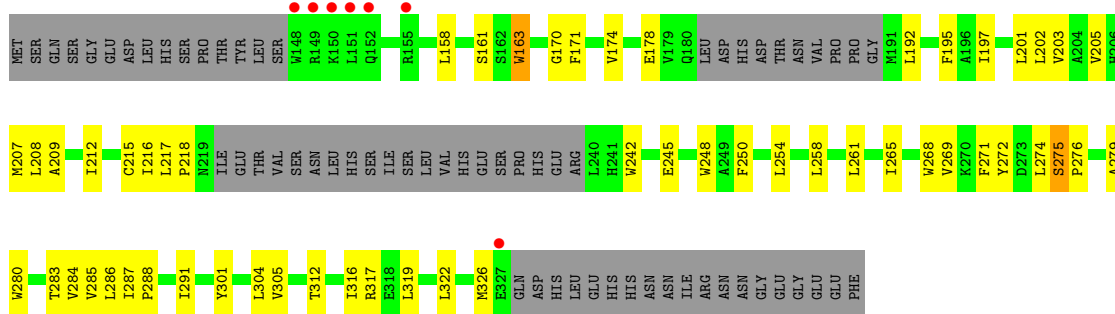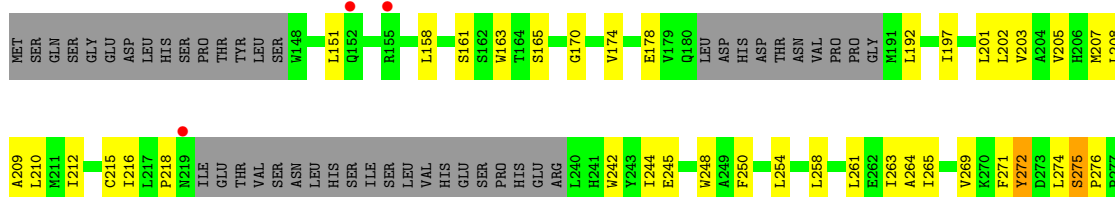• Molecule 1: Calcium release-activated calcium channel protein 1

A278 A279 W280 T283 V284 V285 L286 I287 P288 I291 F300 Y301 L304 V305 S306 H307 V311 T312 V313 S314 G315 I316 R317 E318 L319 L322 K323 M326 E327 GLN ASP HIS LEU GLU HIS HIS ASN ASN ILE ARG ASN ASN GLY GLU GLY GLU GLU PHE

4 Data and refinement statistics ⓘ

Property	Value	Source
Space group	I 41	Depositor
Cell constants a, b, c, α, β, γ	247.46Å 247.46Å 210.16Å 90.00° 90.00° 90.00°	Depositor
Resolution (Å)	19.99 – 6.10 19.99 – 6.10	Depositor EDS
% Data completeness (in resolution range)	99.7 (19.99-6.10) 100.0 (19.99-6.10)	Depositor EDS
R_{merge}	(Not available)	Depositor
R_{sym}	0.06	Depositor
$< I/\sigma(I) >$ [1]	1.41 (at 5.92Å)	Xtriage
Refinement program	PHENIX 1.12_2829	Depositor
R, R_{free}	0.314 , 0.341 0.316 , 0.344	Depositor DCC
R_{free} test set	1530 reflections (10.39%)	wwPDB-VP
Wilson B-factor (Å^2)	523.4	Xtriage
Anisotropy	0.135	Xtriage
Bulk solvent k_{sol}(e/Å^3), B_{sol}(Å^2)	0.23 , 460.2	EDS
L-test for twinning[2]	$< |L| > = 0.47, < L^2 > = 0.30$	Xtriage
Estimated twinning fraction	0.033 for -k,-h,-l	Xtriage
F_o,F_c correlation	0.89	EDS
Total number of atoms	27360	wwPDB-VP
Average B, all atoms (Å^2)	564.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: *The largest off-origin peak in the Patterson function is 4.35% of the height of the origin peak. No significant pseudotranslation is detected.*

---

[1]Intensities estimated from amplitudes.

[2]Theoretical values of $< |L| >$, $< L^2 >$ for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.

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	0.26	0/1168	0.43	0/1591
1	B	0.26	0/1168	0.43	0/1591
1	C	0.26	0/1168	0.43	0/1591
1	D	0.26	0/1168	0.43	0/1591
1	E	0.26	0/1168	0.43	0/1591
1	F	0.26	0/1168	0.43	0/1591
1	G	0.26	0/1168	0.43	0/1591
1	H	0.26	0/1168	0.43	0/1591
1	I	0.26	0/1168	0.43	0/1591
1	J	0.26	0/1168	0.43	0/1591
1	K	0.26	0/1168	0.43	0/1591
1	L	0.26	0/1168	0.43	0/1591
1	M	0.26	0/1168	0.43	0/1591
1	N	0.26	0/1168	0.43	0/1591
1	O	0.26	0/1168	0.43	0/1591
1	P	0.26	0/1168	0.43	0/1591
1	Q	0.26	0/1168	0.43	0/1591
1	R	0.26	0/1168	0.43	0/1591
1	S	0.26	0/1168	0.43	0/1591
1	T	0.26	0/1168	0.43	0/1591
1	U	0.26	0/1168	0.43	0/1591
1	V	0.26	0/1168	0.43	0/1591
1	W	0.26	0/1168	0.43	0/1591
1	X	0.26	0/1168	0.43	0/1591
All	All	0.26	0/28032	0.43	0/38184

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	1140	0	1140	69	0
1	B	1140	0	1140	47	0
1	C	1140	0	1140	43	0
1	D	1140	0	1140	45	0
1	E	1140	0	1140	52	0
1	F	1140	0	1140	51	0
1	G	1140	0	1140	66	0
1	H	1140	0	1140	51	0
1	I	1140	0	1140	55	0
1	J	1140	0	1140	46	0
1	K	1140	0	1140	41	0
1	L	1140	0	1140	55	0
1	M	1140	0	1140	64	0
1	N	1140	0	1140	49	0
1	O	1140	0	1140	49	0
1	P	1140	0	1140	67	0
1	Q	1140	0	1140	75	0
1	R	1140	0	1140	53	0
1	S	1140	0	1140	61	0
1	T	1140	0	1140	59	0
1	U	1140	0	1140	77	0
1	V	1140	0	1140	68	0
1	W	1140	0	1140	54	0
1	X	1140	0	1140	59	0
All	All	27360	0	27360	1146	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 21.

The worst 5 of 1146 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:A:319:LEU:HB3	1:G:312:THR:HG23	1.16	1.12
1:Q:312:THR:HG23	1:U:319:LEU:HB3	1.15	1.09
1:Q:312:THR:HA	1:U:319:LEU:HD22	1.27	1.08

Continued on next page...

Continued from previous page...

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:F:312:THR:HG23	1:H:319:LEU:HB3	1.34	1.08
1:E:319:LEU:HB3	1:I:312:THR:HG23	1.35	1.07

There are no symmetry-related clashes.

5.3 Torsion angles ⓘ

5.3.1 Protein backbone ⓘ

In the following table, the Percentiles column shows the percent Ramachandran outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the backbone conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	A	144/214 (67%)	140 (97%)	3 (2%)	1 (1%)	22	62
1	B	144/214 (67%)	140 (97%)	3 (2%)	1 (1%)	22	62
1	C	144/214 (67%)	140 (97%)	2 (1%)	2 (1%)	11	46
1	D	144/214 (67%)	140 (97%)	2 (1%)	2 (1%)	11	46
1	E	144/214 (67%)	140 (97%)	3 (2%)	1 (1%)	22	62
1	F	144/214 (67%)	140 (97%)	3 (2%)	1 (1%)	22	62
1	G	144/214 (67%)	140 (97%)	2 (1%)	2 (1%)	11	46
1	H	144/214 (67%)	140 (97%)	2 (1%)	2 (1%)	11	46
1	I	144/214 (67%)	140 (97%)	2 (1%)	2 (1%)	11	46
1	J	144/214 (67%)	140 (97%)	3 (2%)	1 (1%)	22	62
1	K	144/214 (67%)	140 (97%)	3 (2%)	1 (1%)	22	62
1	L	144/214 (67%)	140 (97%)	3 (2%)	1 (1%)	22	62
1	M	144/214 (67%)	140 (97%)	2 (1%)	2 (1%)	11	46
1	N	144/214 (67%)	140 (97%)	3 (2%)	1 (1%)	22	62
1	O	144/214 (67%)	140 (97%)	2 (1%)	2 (1%)	11	46
1	P	144/214 (67%)	140 (97%)	2 (1%)	2 (1%)	11	46
1	Q	144/214 (67%)	140 (97%)	3 (2%)	1 (1%)	22	62
1	R	144/214 (67%)	140 (97%)	2 (1%)	2 (1%)	11	46

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Mol	Chain	Analysed	Favoured	Allowed	Outliers	Percentiles	
1	S	144/214 (67%)	140 (97%)	3 (2%)	1 (1%)	22	62
1	T	144/214 (67%)	140 (97%)	3 (2%)	1 (1%)	22	62
1	U	144/214 (67%)	140 (97%)	2 (1%)	2 (1%)	11	46
1	V	144/214 (67%)	140 (97%)	3 (2%)	1 (1%)	22	62
1	W	144/214 (67%)	140 (97%)	3 (2%)	1 (1%)	22	62
1	X	144/214 (67%)	140 (97%)	2 (1%)	2 (1%)	11	46
All	All	3456/5136 (67%)	3360 (97%)	61 (2%)	35 (1%)	15	54

5 of 35 Ramachandran outliers are listed below:

Mol	Chain	Res	Type
1	H	272	TYR
1	M	272	TYR
1	P	272	TYR
1	R	272	TYR
1	U	272	TYR

5.3.2   Protein sidechains   ⓘ

In the following table, the Percentiles column shows the percent sidechain outliers of the chain as a percentile score with respect to all X-ray entries followed by that with respect to entries of similar resolution.

The Analysed column shows the number of residues for which the sidechain conformation was analysed, and the total number of residues.

Mol	Chain	Analysed	Rotameric	Outliers	Percentiles	
1	A	116/190 (61%)	115 (99%)	1 (1%)	78	88
1	B	116/190 (61%)	115 (99%)	1 (1%)	78	88
1	C	116/190 (61%)	115 (99%)	1 (1%)	78	88
1	D	116/190 (61%)	115 (99%)	1 (1%)	78	88
1	E	116/190 (61%)	115 (99%)	1 (1%)	78	88
1	F	116/190 (61%)	115 (99%)	1 (1%)	78	88
1	G	116/190 (61%)	115 (99%)	1 (1%)	78	88
1	H	116/190 (61%)	115 (99%)	1 (1%)	78	88
1	I	116/190 (61%)	115 (99%)	1 (1%)	78	88
1	J	116/190 (61%)	115 (99%)	1 (1%)	78	88

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Mol	Chain	Analysed	Rotameric	Outliers	Percentiles		
1	K	116/190 (61%)	115 (99%)	1 (1%)		78	88
1	L	116/190 (61%)	115 (99%)	1 (1%)		78	88
1	M	116/190 (61%)	115 (99%)	1 (1%)		78	88
1	N	116/190 (61%)	115 (99%)	1 (1%)		78	88
1	O	116/190 (61%)	115 (99%)	1 (1%)		78	88
1	P	116/190 (61%)	115 (99%)	1 (1%)		78	88
1	Q	116/190 (61%)	115 (99%)	1 (1%)		78	88
1	R	116/190 (61%)	115 (99%)	1 (1%)		78	88
1	S	116/190 (61%)	115 (99%)	1 (1%)		78	88
1	T	116/190 (61%)	115 (99%)	1 (1%)		78	88
1	U	116/190 (61%)	115 (99%)	1 (1%)		78	88
1	V	116/190 (61%)	115 (99%)	1 (1%)		78	88
1	W	116/190 (61%)	115 (99%)	1 (1%)		78	88
1	X	116/190 (61%)	115 (99%)	1 (1%)		78	88
All	All	2784/4560 (61%)	2760 (99%)	24 (1%)		78	88

5 of 24 residues with a non-rotameric sidechain are listed below:

Mol	Chain	Res	Type
1	O	163	TRP
1	R	163	TRP
1	Q	163	TRP
1	S	163	TRP
1	G	163	TRP

Sometimes sidechains can be flipped to improve hydrogen bonding and reduce clashes. 5 of 24 such sidechains are listed below:

Mol	Chain	Res	Type
1	O	206	HIS
1	R	206	HIS
1	Q	206	HIS
1	S	206	HIS
1	G	206	HIS

5.3.3 RNA ⓘ

There are no RNA molecules in this entry.

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

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

5.5 Carbohydrates ⓘ

There are no monosaccharides in this entry.

5.6 Ligand geometry ⓘ

There are no ligands in this entry.

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 Fit of model and data ⓘ

6.1 Protein, DNA and RNA chains ⓘ

In the following table, the column labelled '#RSRZ> 2' contains the number (and percentage) of RSRZ outliers, followed by percent RSRZ outliers for the chain as percentile scores relative to all X-ray entries and entries of similar resolution. The OWAB column contains the minimum, median, 95th percentile and maximum values of the occupancy-weighted average B-factor per residue. The column labelled 'Q< 0.9' lists the number of (and percentage) of residues with an average occupancy less than 0.9.

Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å^2)	Q<0.9
1	A	150/214 (70%)	-0.23	2 (1%)	77	68	476, 510, 583, 638	0
1	B	150/214 (70%)	-0.28	0	100	100	482, 530, 638, 721	0
1	C	150/214 (70%)	-0.16	6 (4%)	38	34	484, 541, 726, 777	0
1	D	150/214 (70%)	-0.26	2 (1%)	77	68	477, 516, 709, 732	0
1	E	150/214 (70%)	-0.28	2 (1%)	77	68	472, 496, 612, 670	0
1	F	150/214 (70%)	-0.34	0	100	100	472, 501, 589, 649	0
1	G	150/214 (70%)	-0.16	4 (2%)	54	47	470, 520, 654, 754	0
1	H	150/214 (70%)	-0.11	3 (2%)	65	58	470, 518, 679, 724	0
1	I	150/214 (70%)	-0.10	1 (0%)	87	82	467, 505, 644, 674	0
1	J	150/214 (70%)	-0.26	2 (1%)	77	68	466, 506, 643, 724	0
1	K	150/214 (70%)	-0.23	4 (2%)	54	47	467, 509, 650, 735	0
1	L	150/214 (70%)	-0.17	3 (2%)	65	58	468, 511, 628, 700	0
1	M	150/214 (70%)	-0.07	4 (2%)	54	47	542, 595, 765, 794	0
1	N	150/214 (70%)	0.12	5 (3%)	46	40	542, 594, 748, 791	0
1	O	150/214 (70%)	-0.15	4 (2%)	54	47	539, 576, 659, 693	0
1	P	150/214 (70%)	-0.17	2 (1%)	77	68	538, 589, 714, 741	0
1	Q	150/214 (70%)	0.01	6 (4%)	38	34	536, 575, 726, 746	0
1	R	150/214 (70%)	-0.06	2 (1%)	77	68	537, 567, 725, 768	0
1	S	150/214 (70%)	-0.18	6 (4%)	38	34	505, 571, 737, 786	0
1	T	150/214 (70%)	-0.22	5 (3%)	46	40	499, 547, 764, 818	0
1	U	150/214 (70%)	0.01	6 (4%)	38	34	499, 549, 804, 853	0
1	V	150/214 (70%)	-0.01	10 (6%)	17	17	502, 562, 811, 833	0
1	W	150/214 (70%)	-0.06	7 (4%)	31	30	506, 565, 755, 791	0
1	X	150/214 (70%)	-0.11	3 (2%)	65	58	509, 579, 754, 802	0

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Mol	Chain	Analysed	<RSRZ>	#RSRZ>2			OWAB(Å²)	Q<0.9
All	All	3600/5136 (70%)	-0.14	89 (2%)	57	50	466, 547, 716, 853	0

The worst 5 of 89 RSRZ outliers are listed below:

Mol	Chain	Res	Type	RSRZ
1	M	327	GLU	6.6
1	W	152	GLN	6.6
1	W	148	TRP	5.8
1	W	327	GLU	5.3
1	Q	148	TRP	5.2

6.2 Non-standard residues in protein, DNA, RNA chains ⓘ

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

6.3 Carbohydrates ⓘ

There are no monosaccharides in this entry.

6.4 Ligands ⓘ

There are no ligands in this entry.

6.5 Other polymers ⓘ

There are no such residues in this entry.