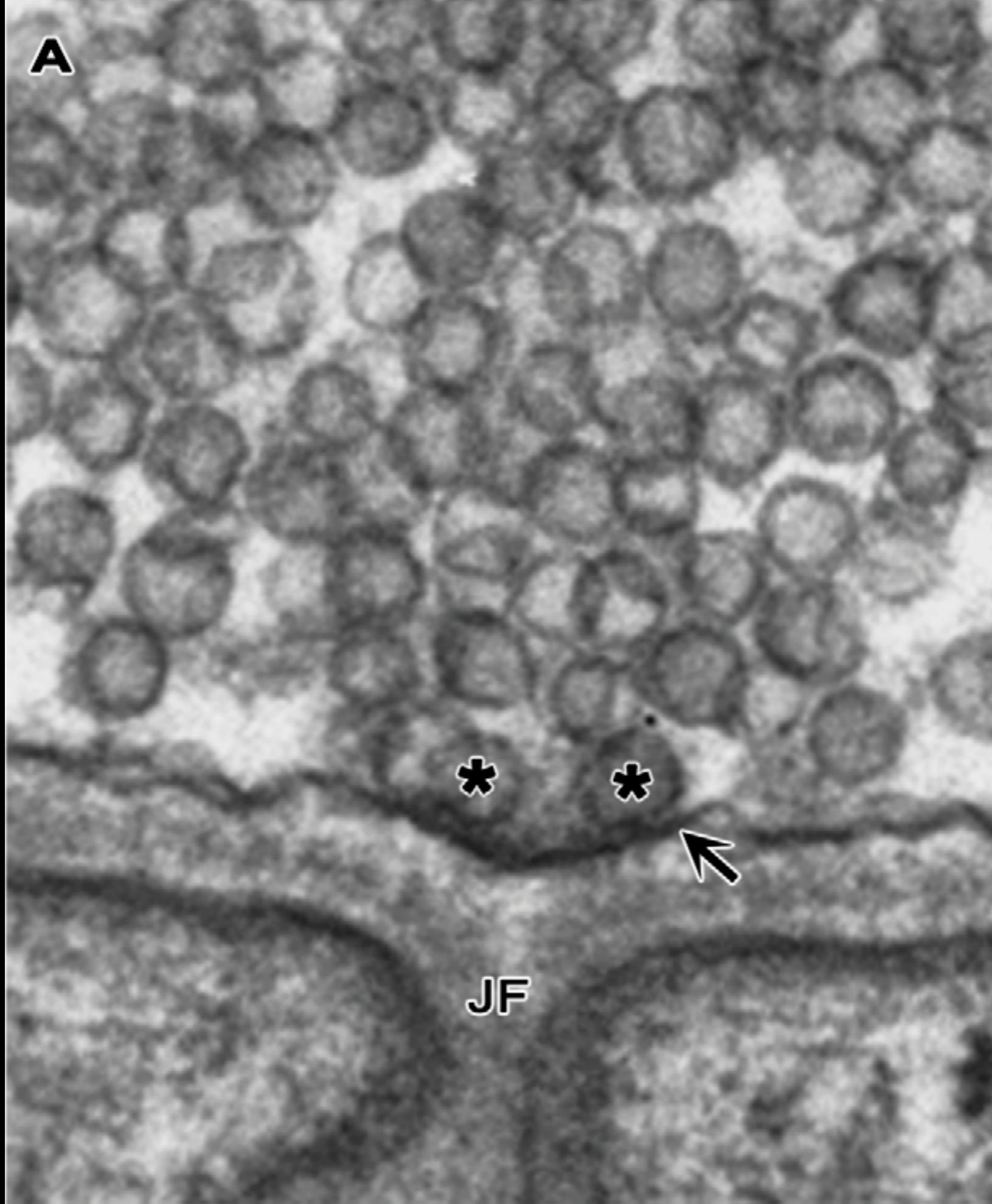
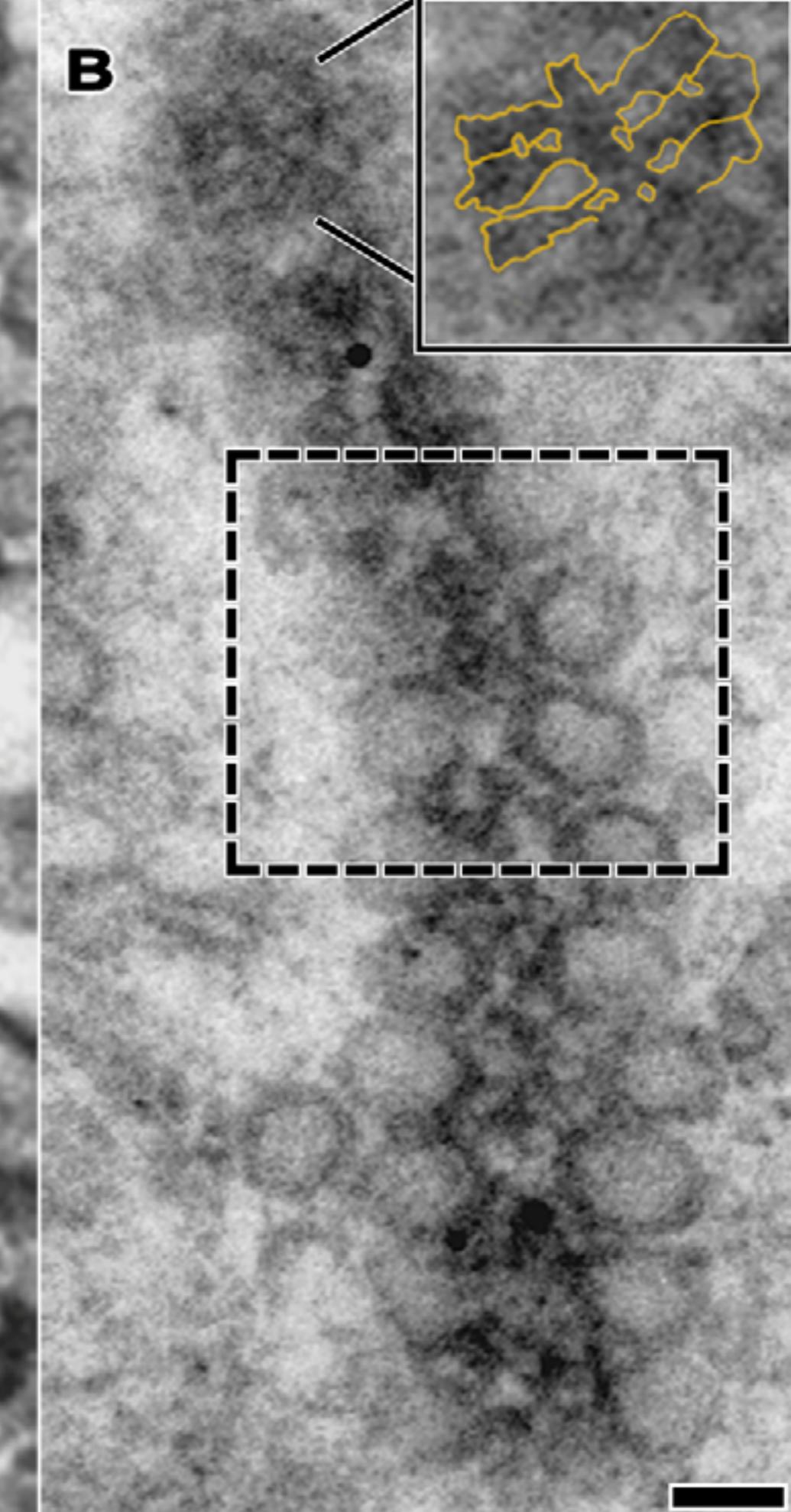
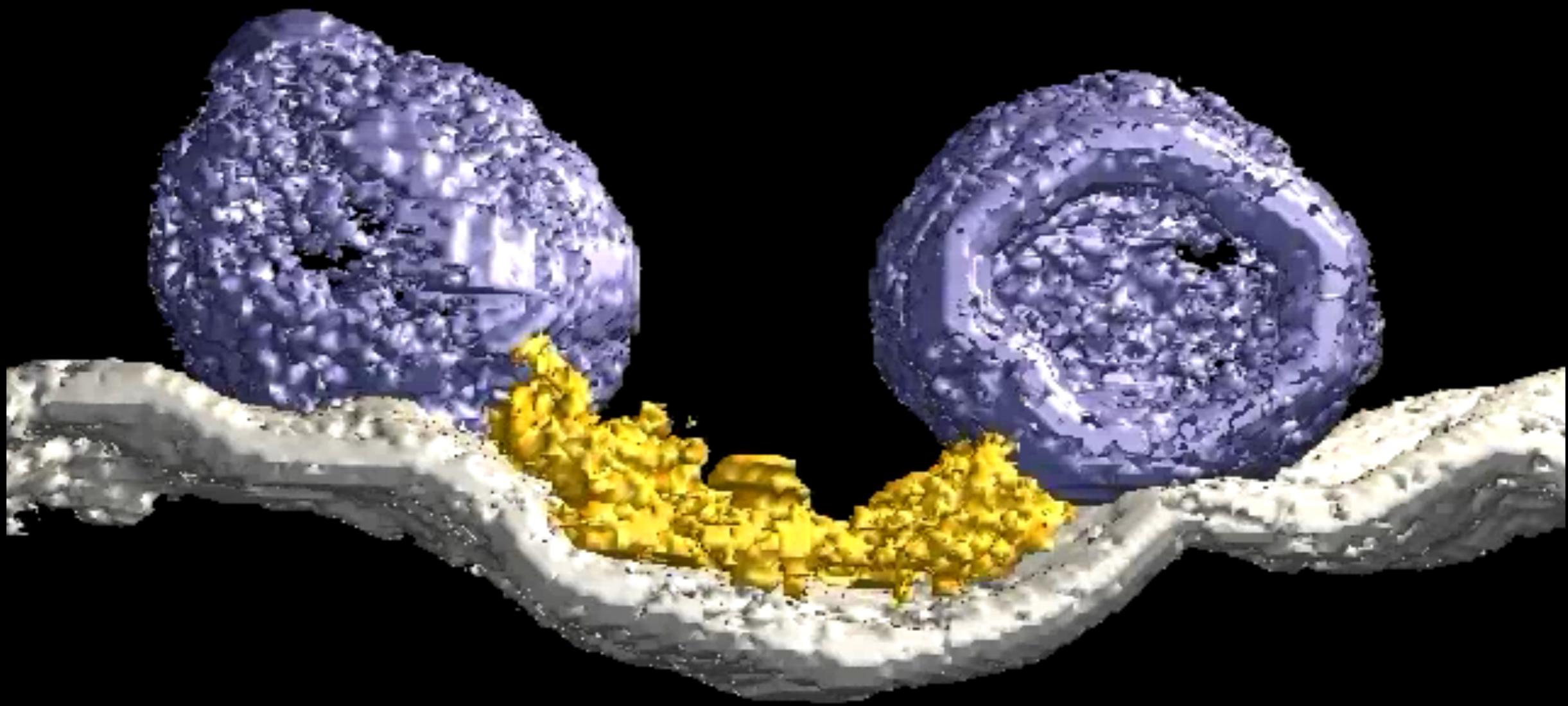
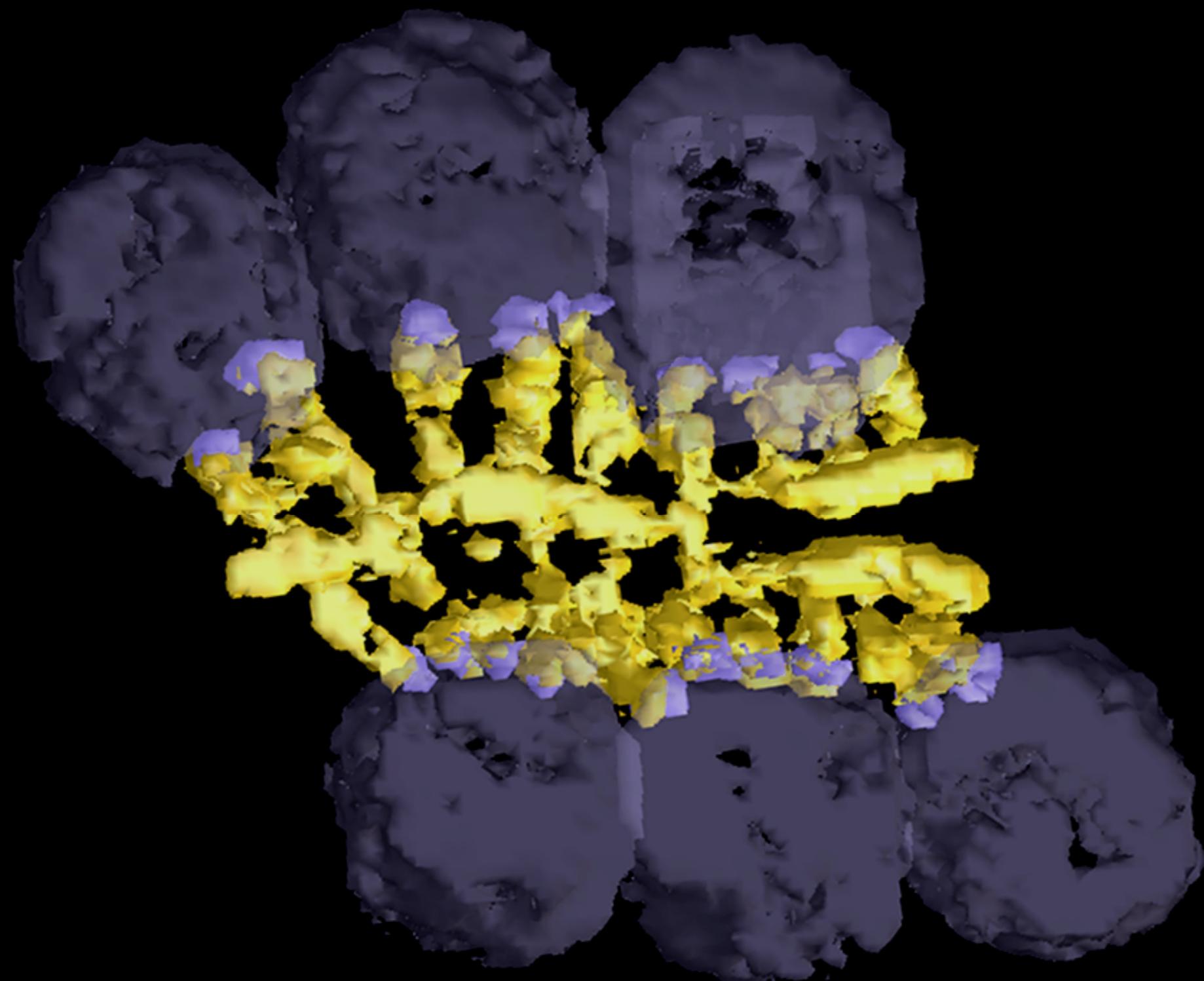




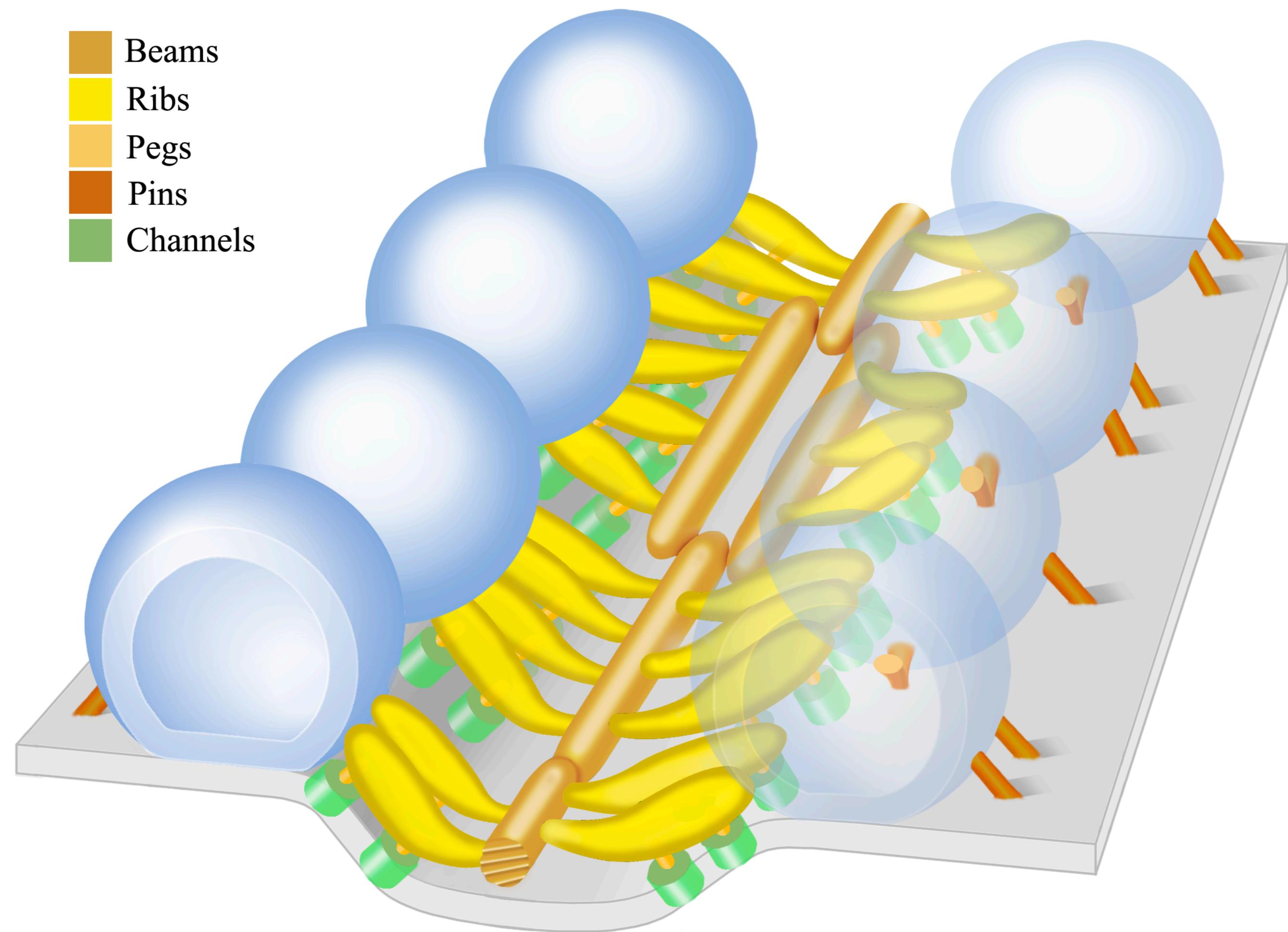
**A****B**



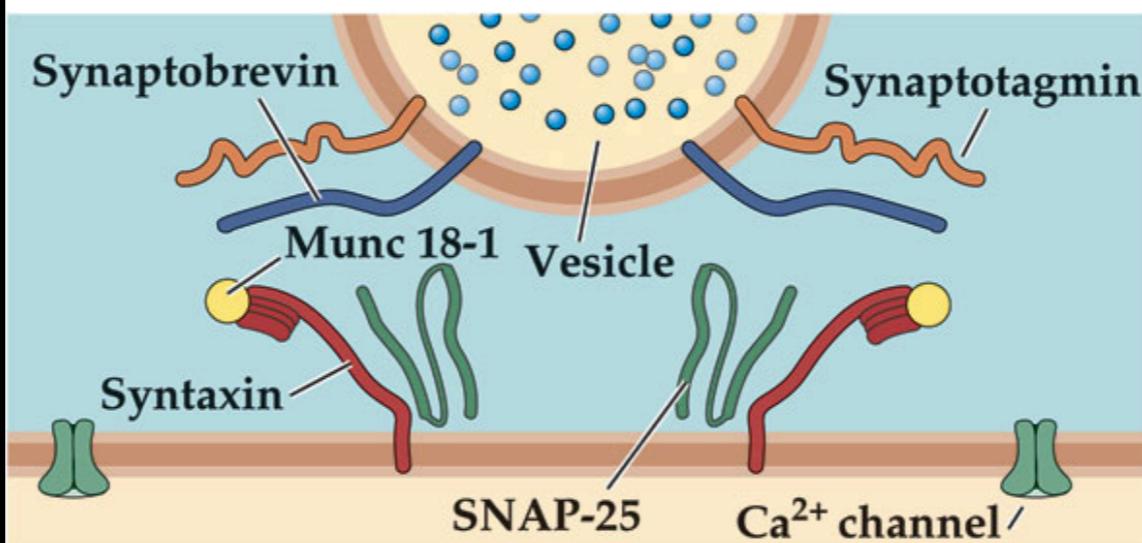


*Harlow, Ress, Marshall & McMahan (2001) Nature 409: 479-484.*

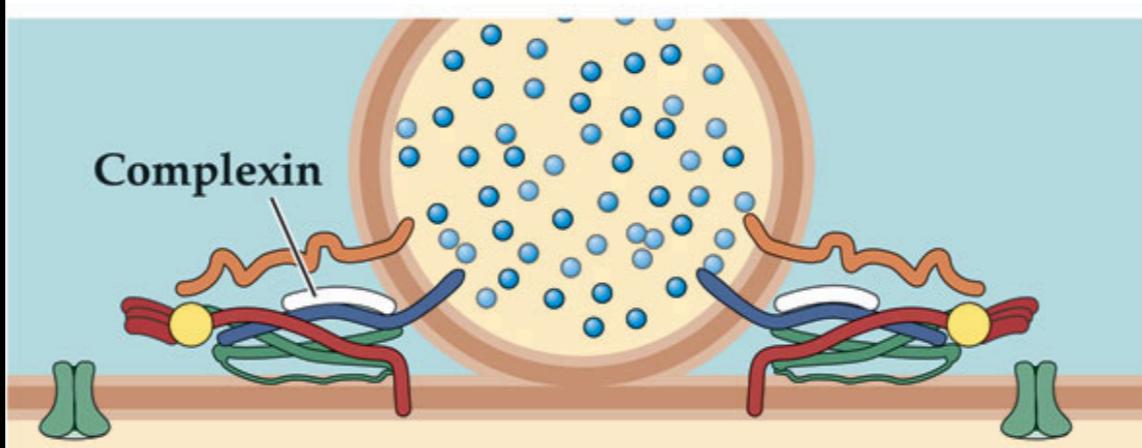
Beams  
Ribs  
Pegs  
Pins  
Channels



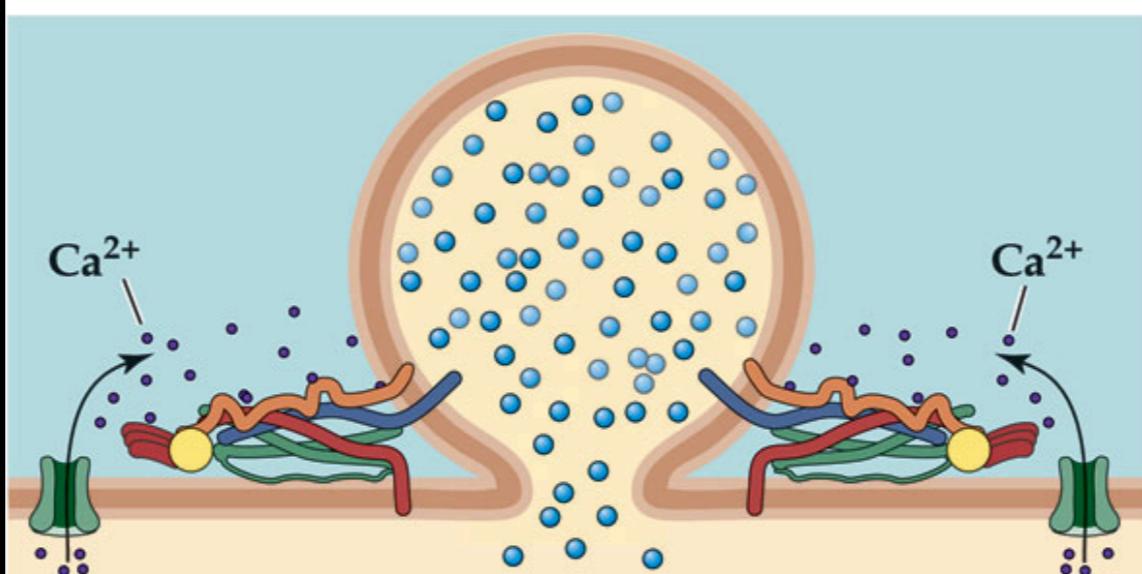
(A) Docked vesicle

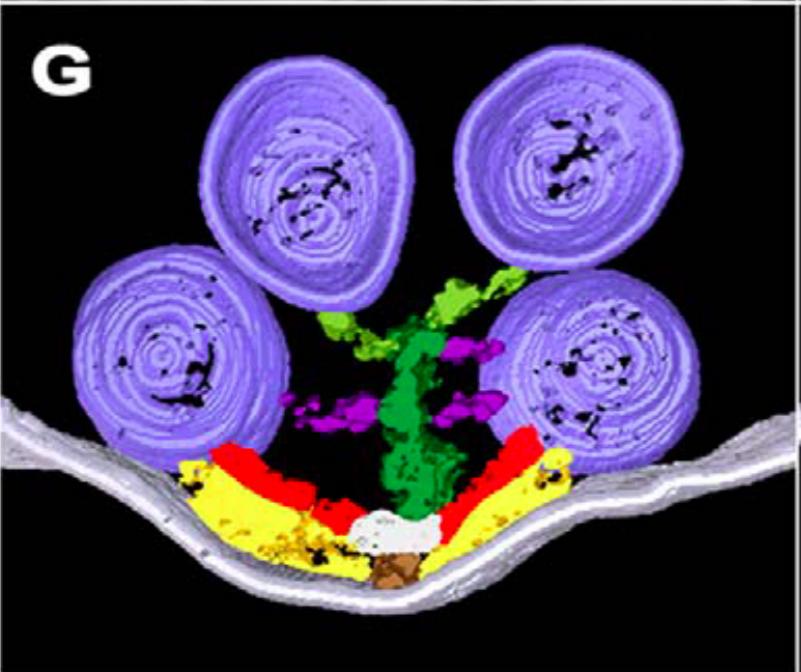
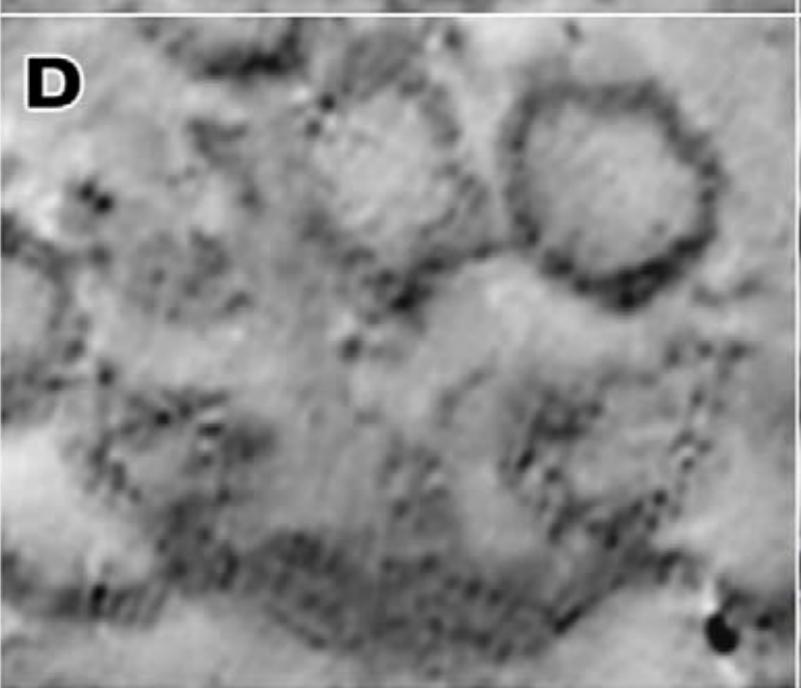
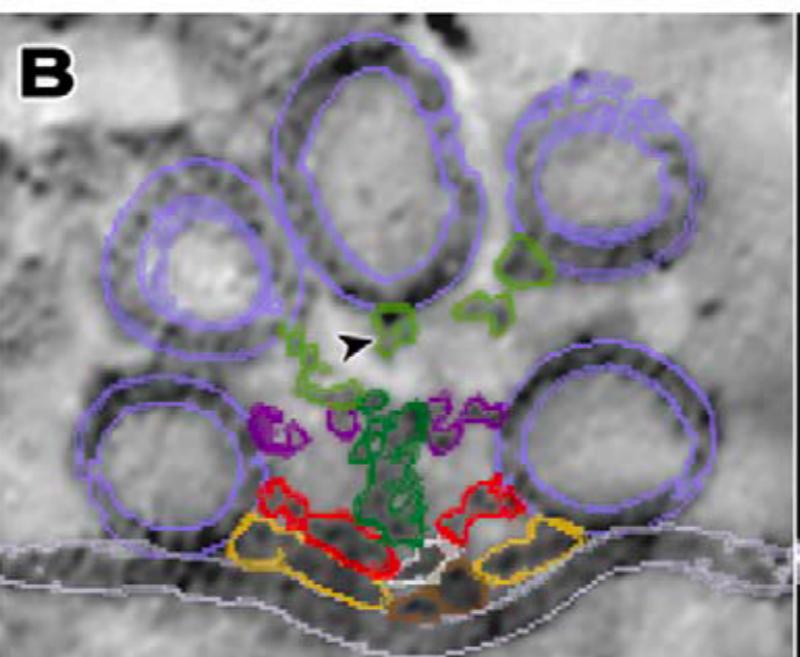
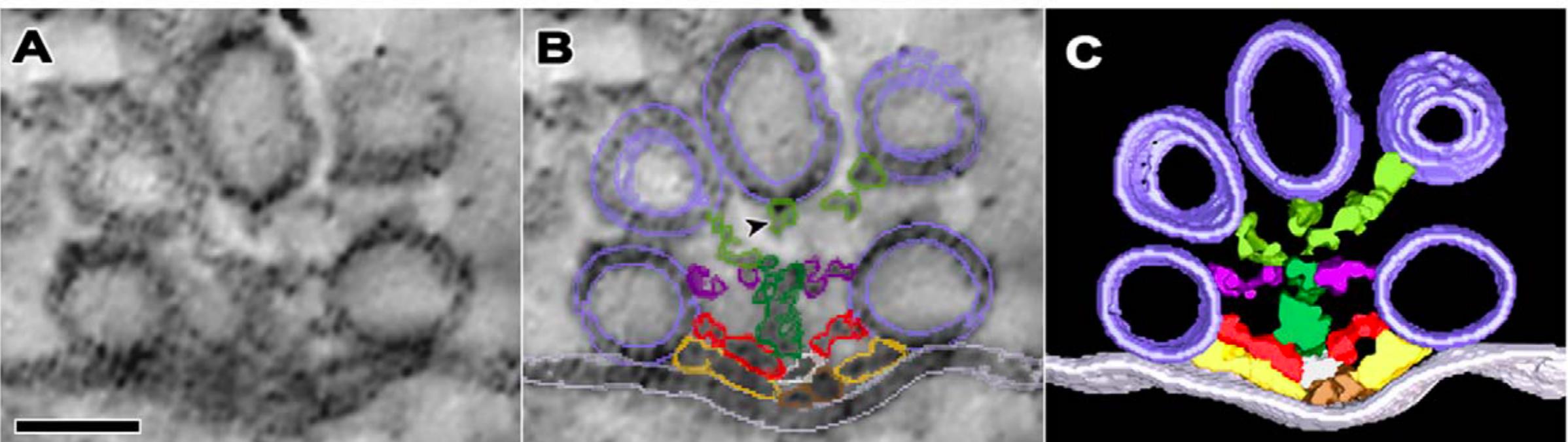


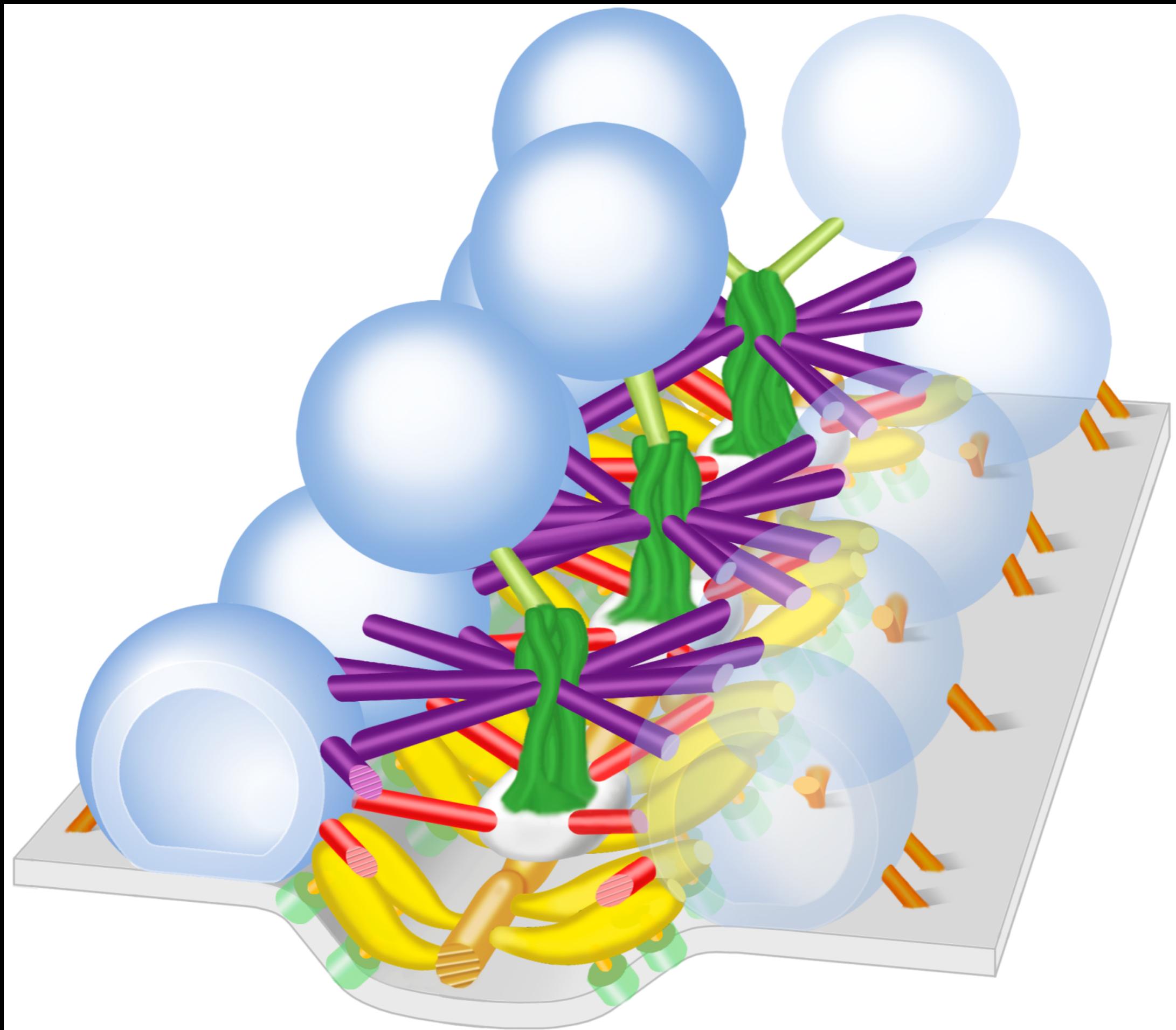
(B) Vesicle in primed position



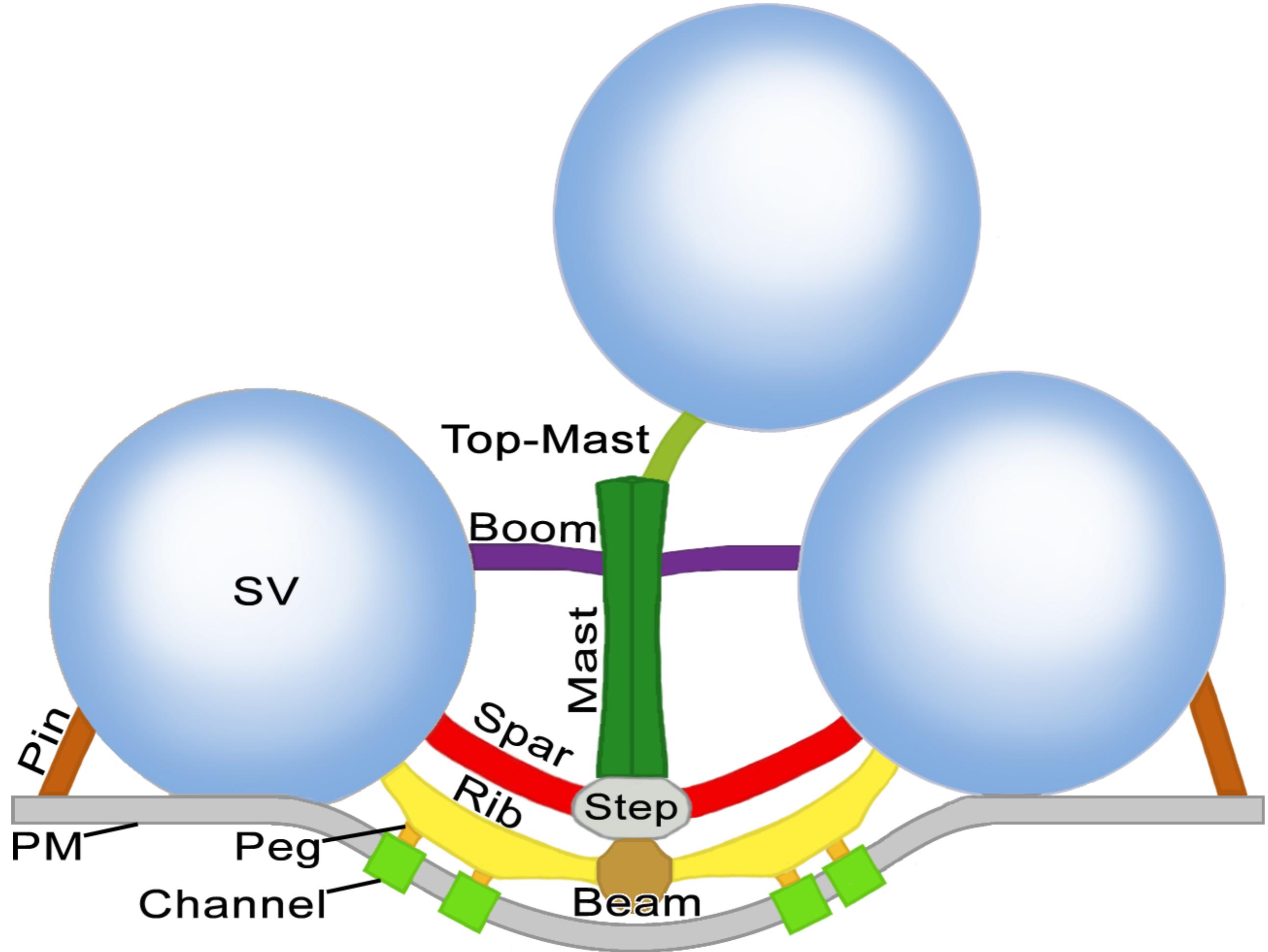
(C) Entering Ca<sup>2+</sup> binds to synaptotagmin

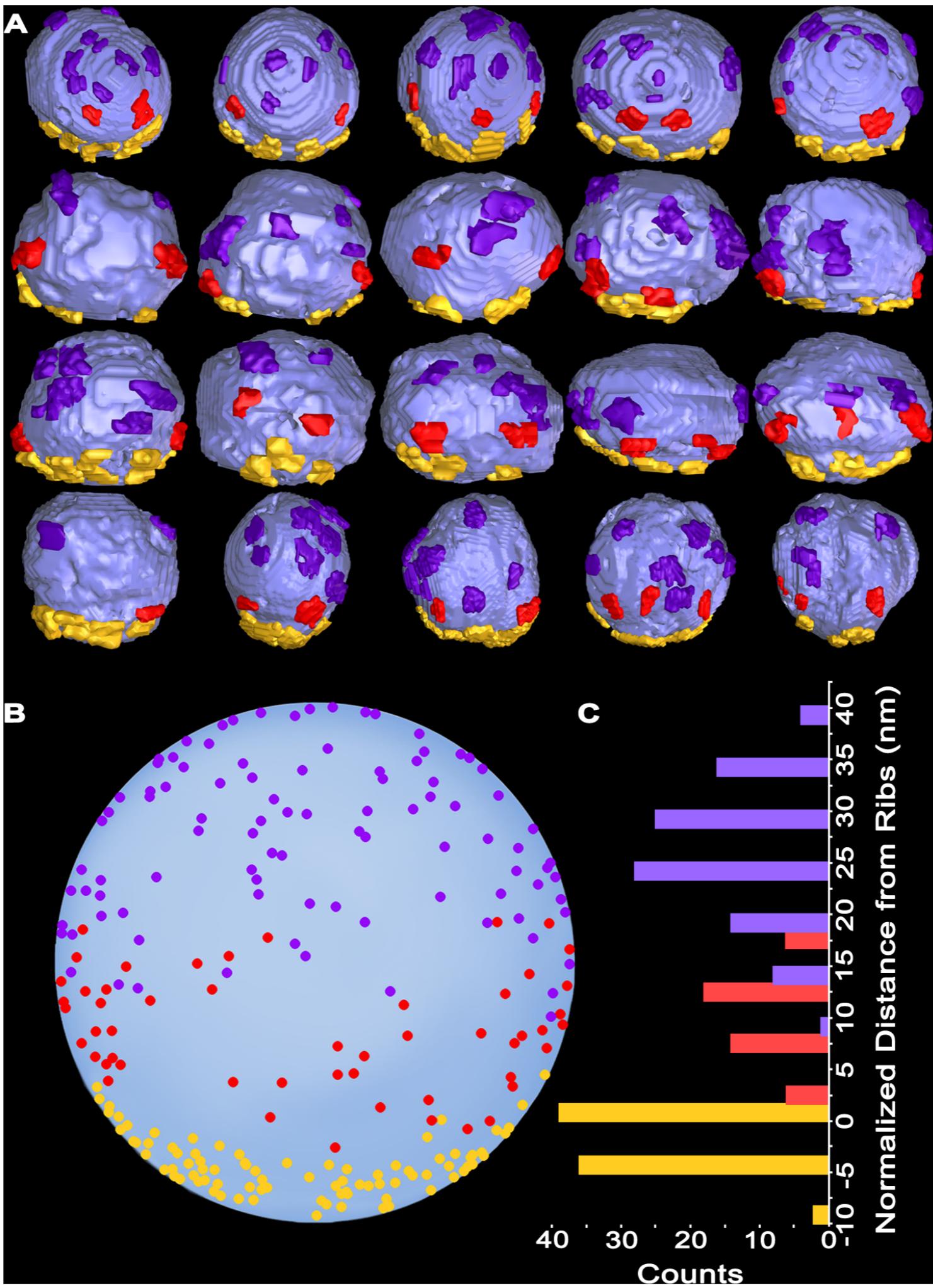


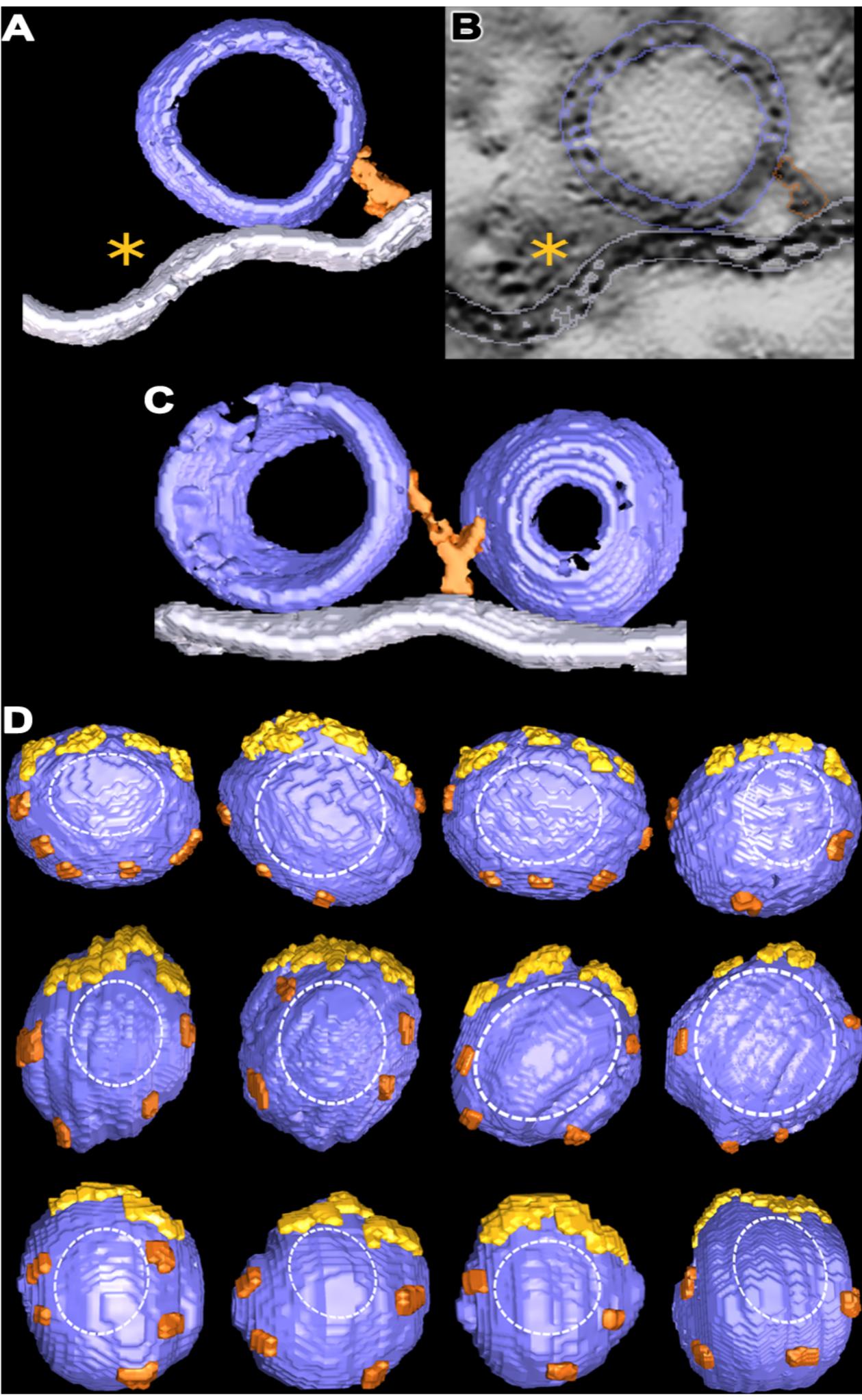




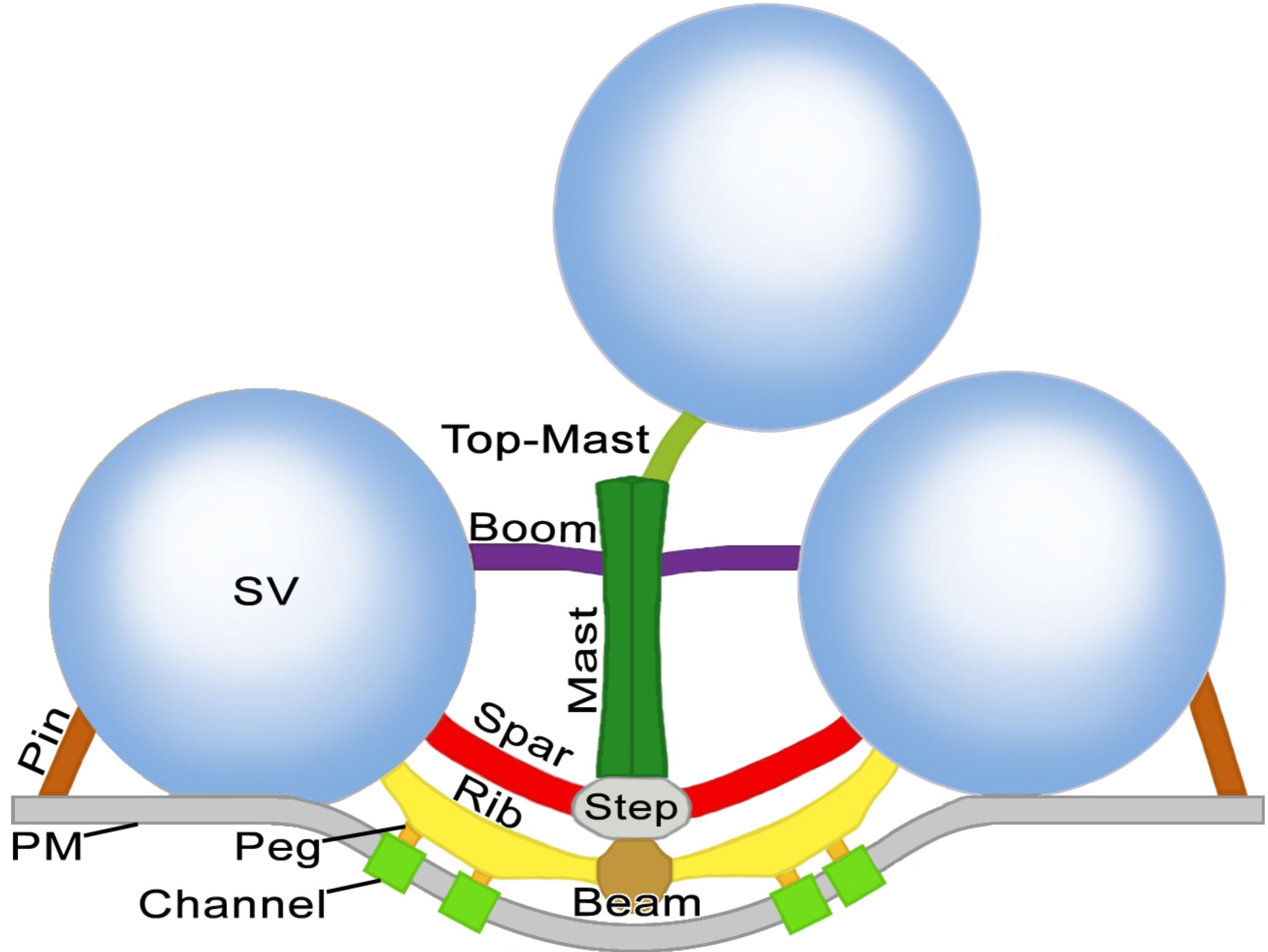
Szule, Harlow, Jung, De-Miguel, Marshall, McMahan (2012) PLoS ONE 7(3): e33333.

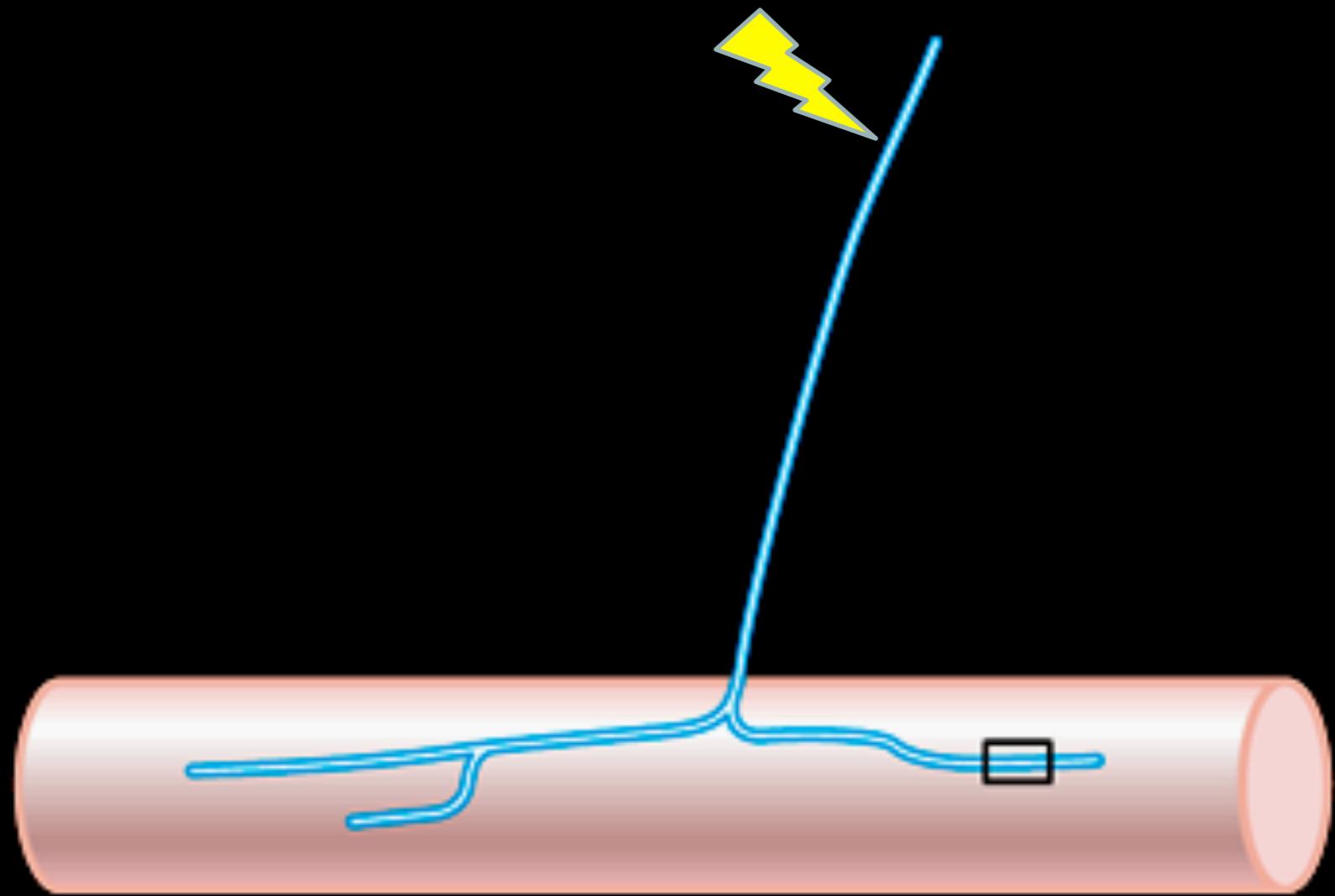


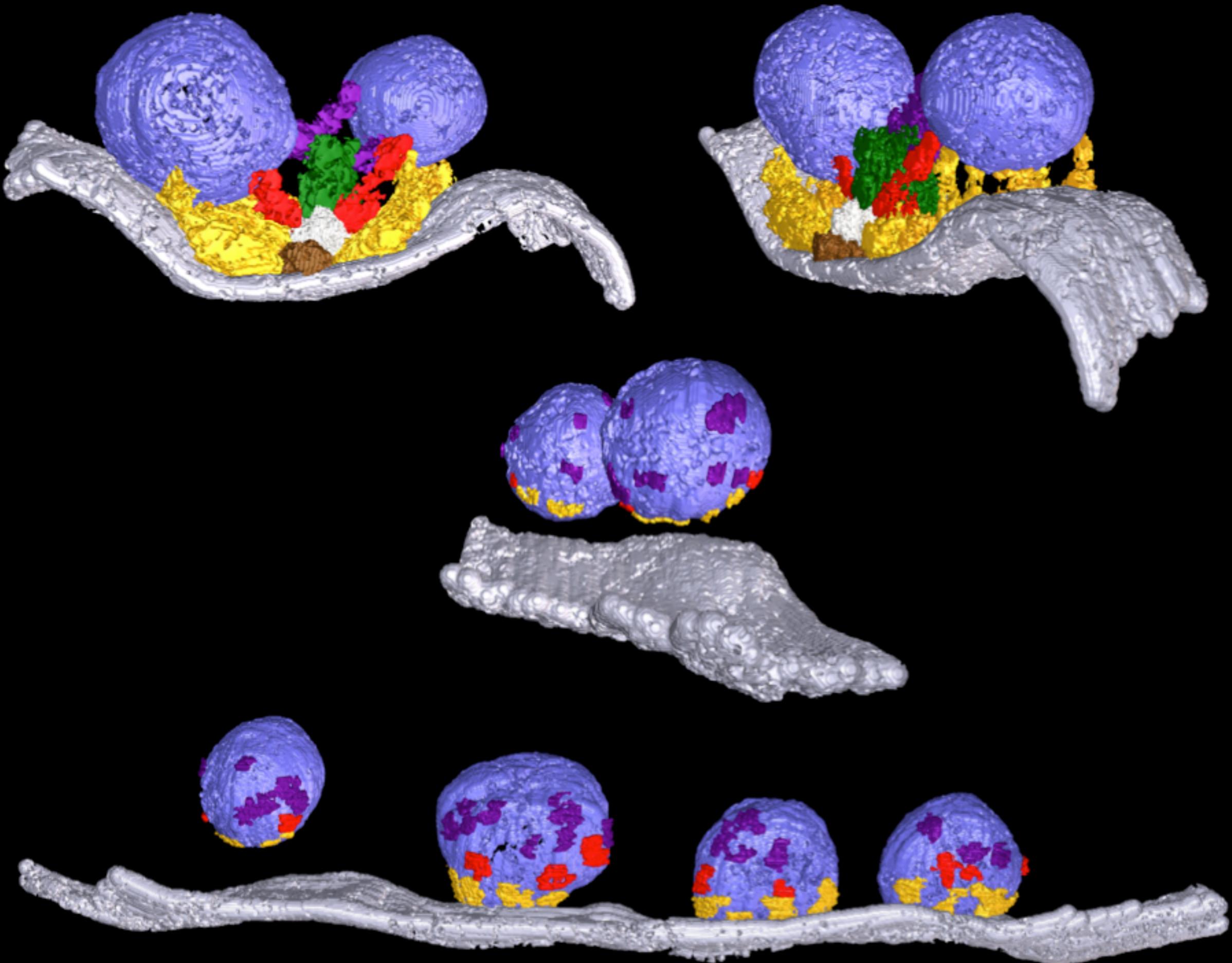


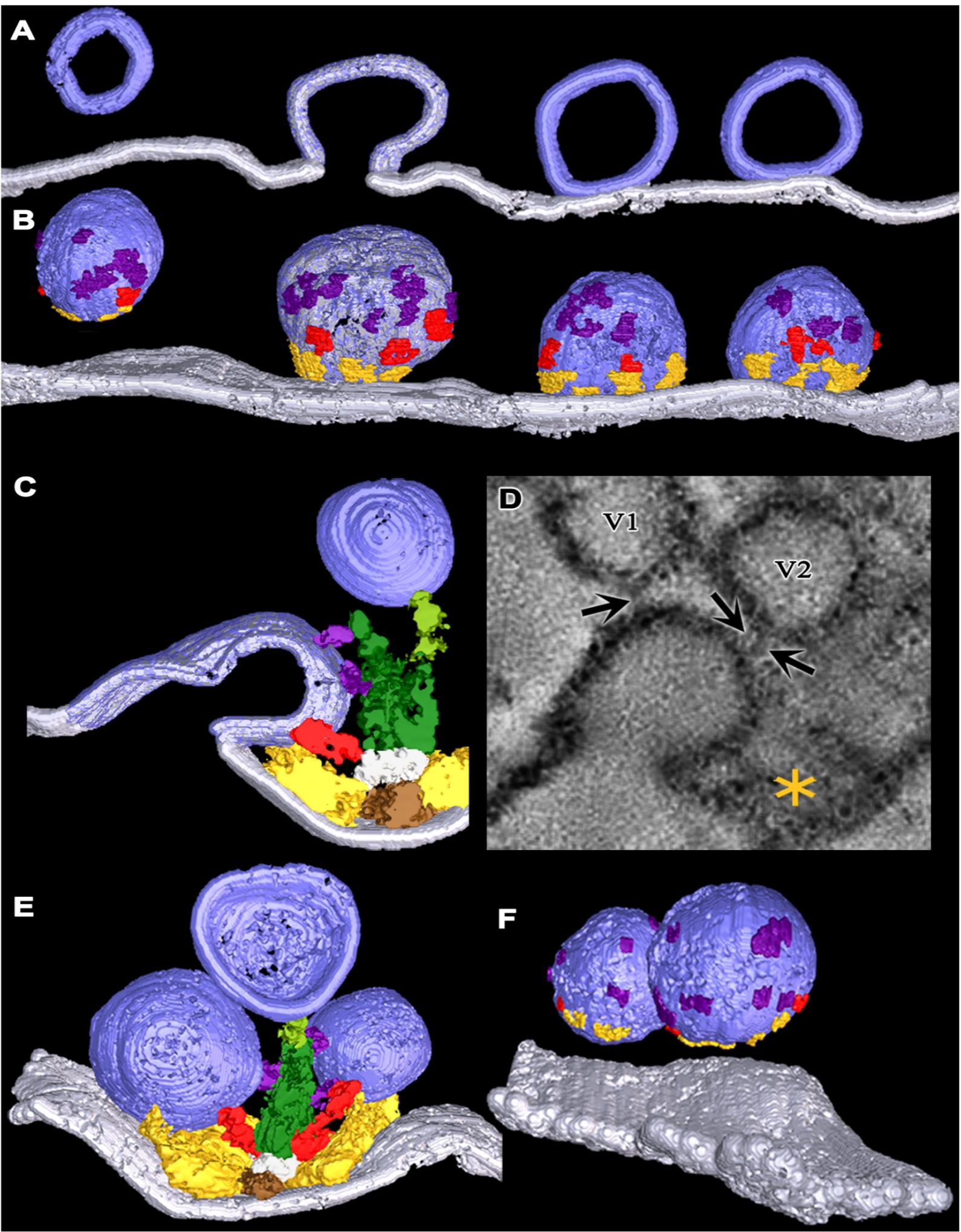


Szule, Harlow, Jung, De-Miguel,  
Marshall, McMahan (2012) PLoS ONE  
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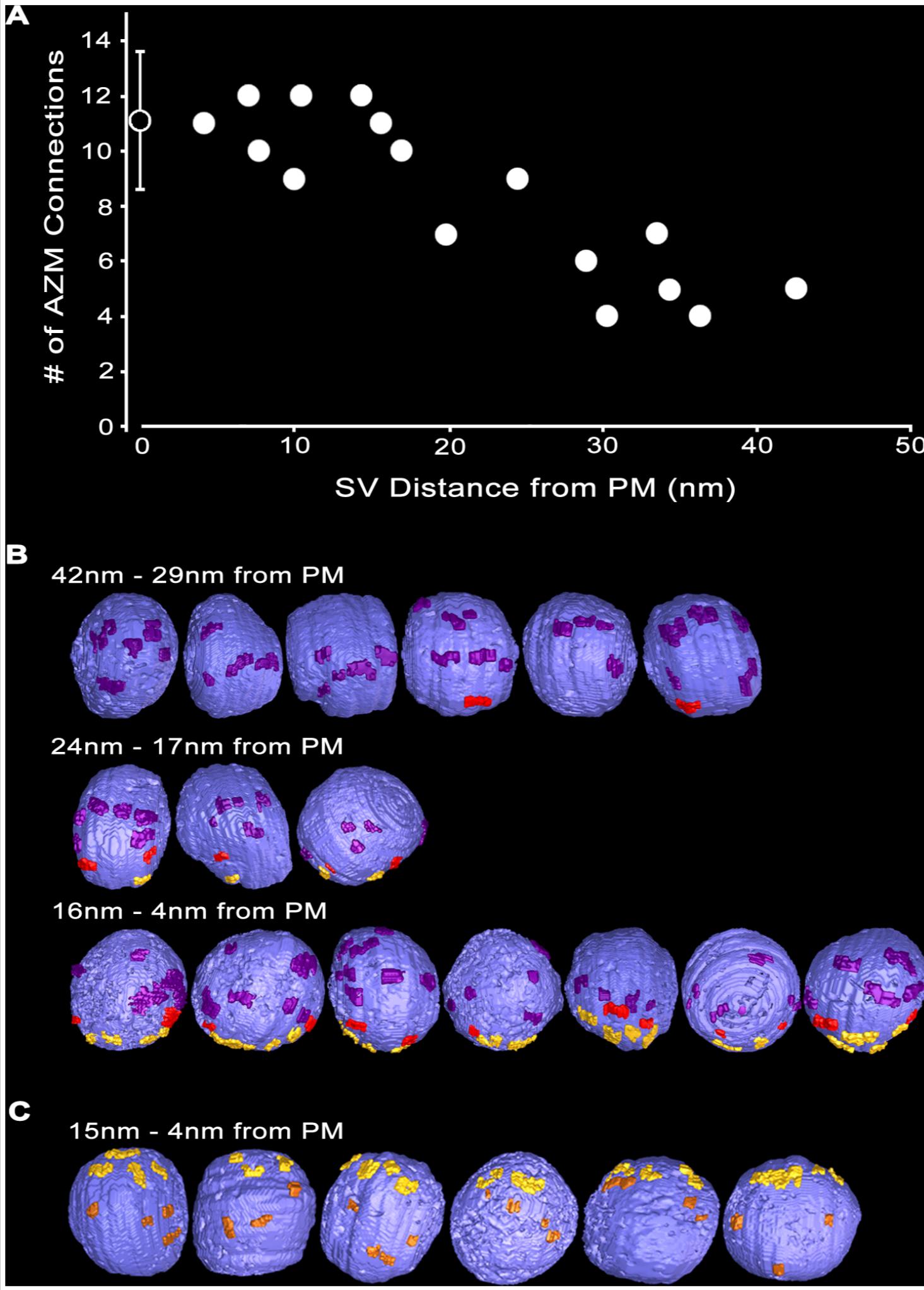




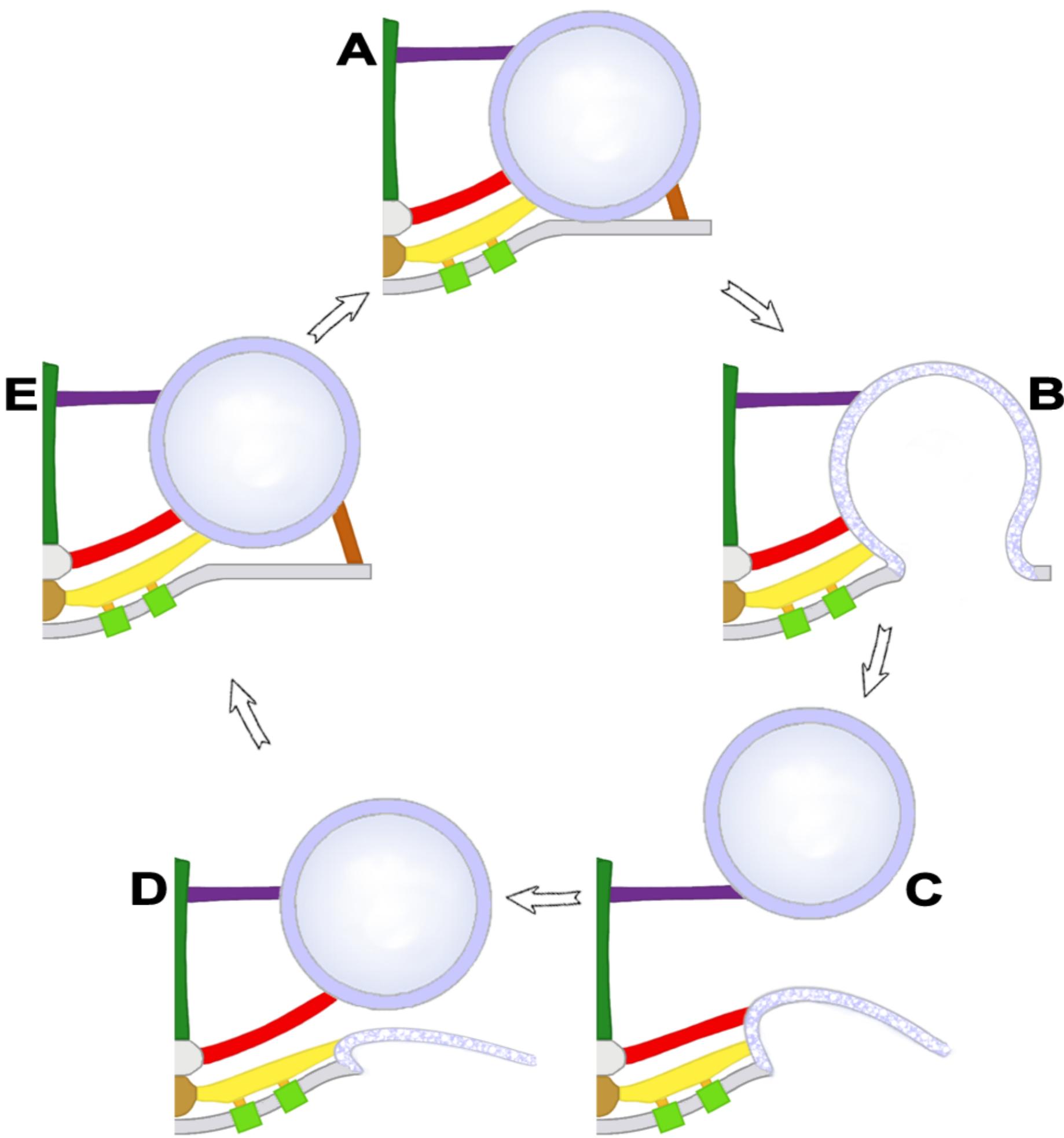


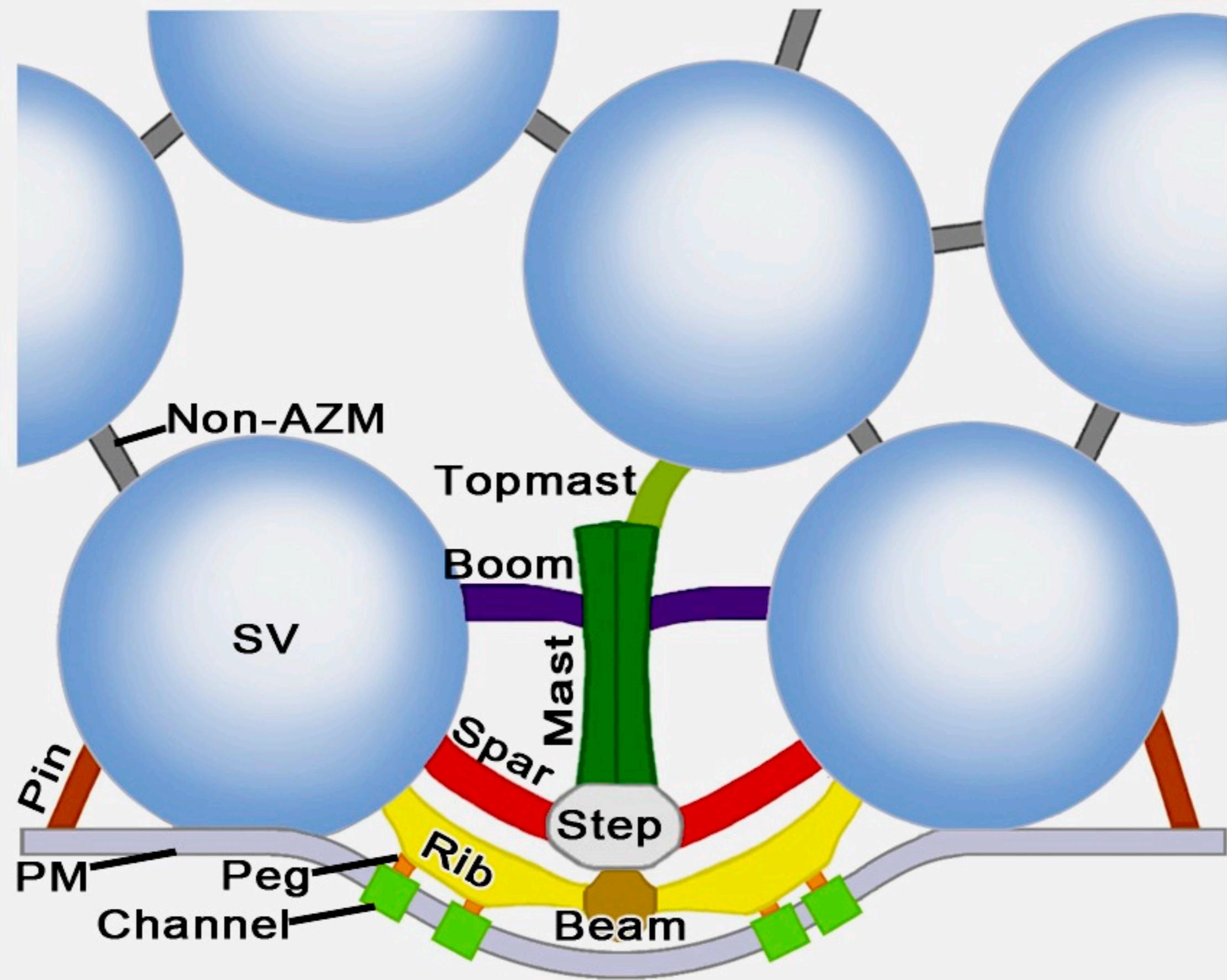


Szule, Harlow, Jung, De-Miguel, Marshall, McMahan (2012) PLoS ONE 7(3): e33333.

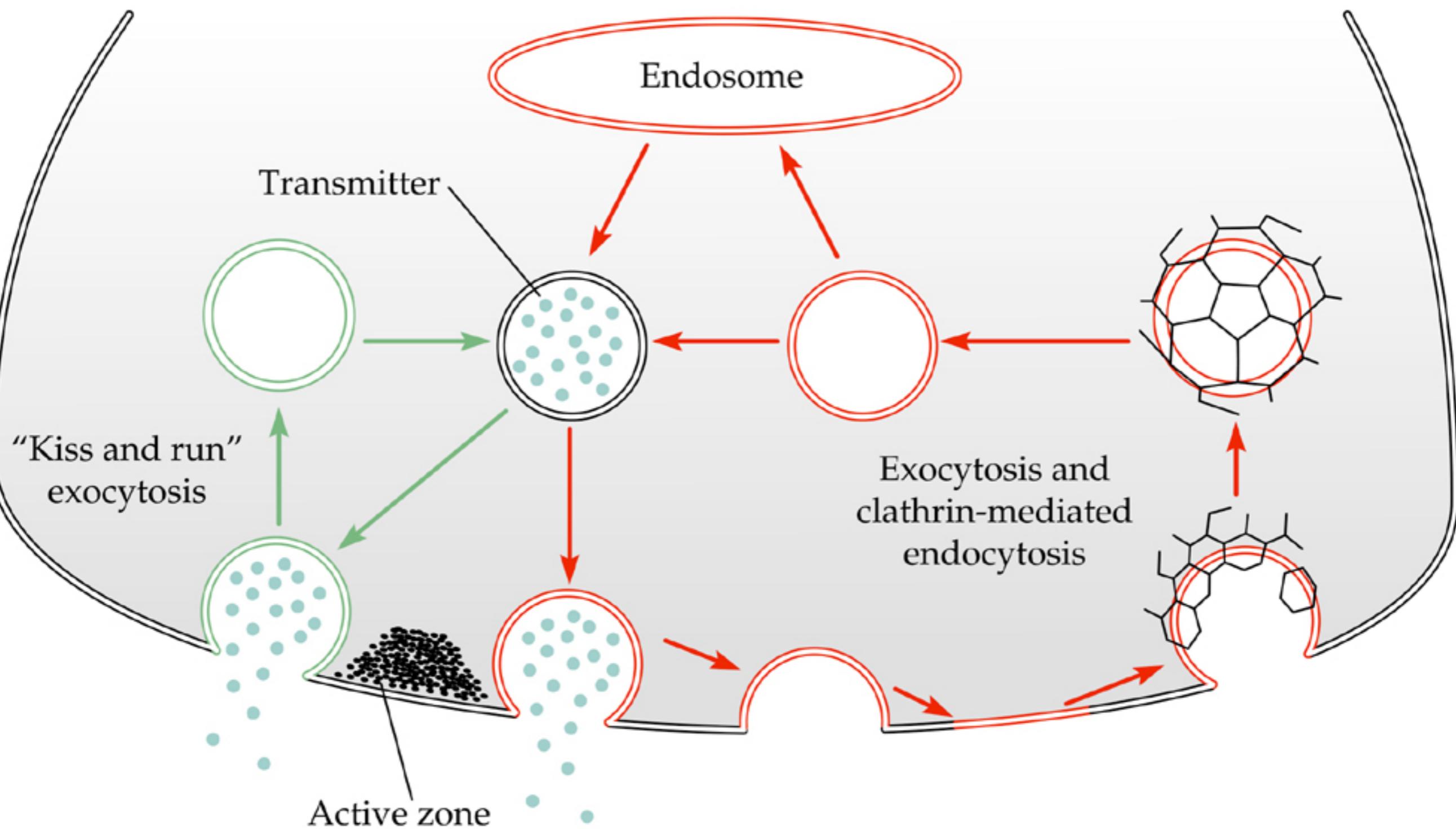


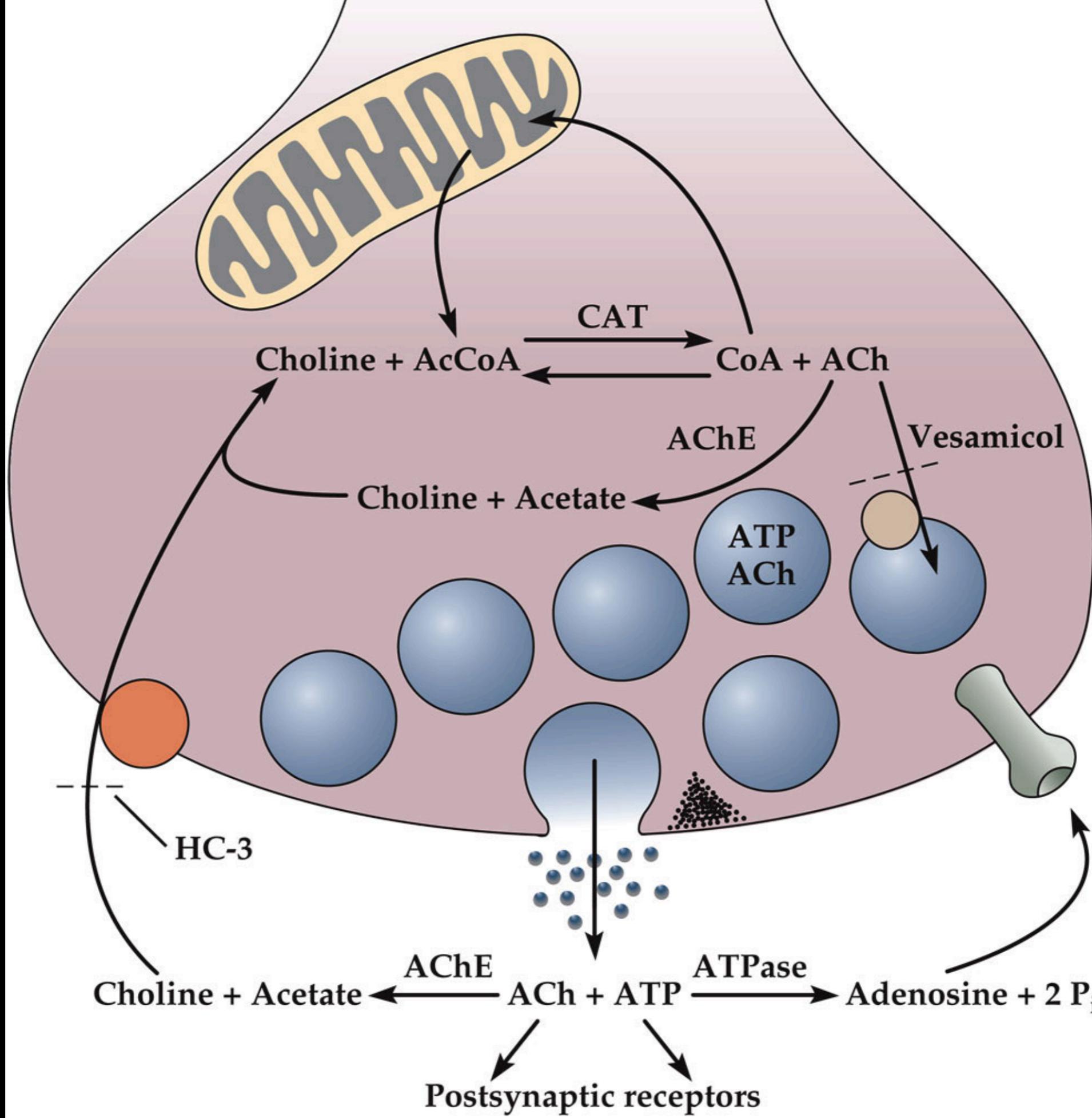
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Marshall, McMahan (2012) PLoS  
ONE 7(3): e33333.





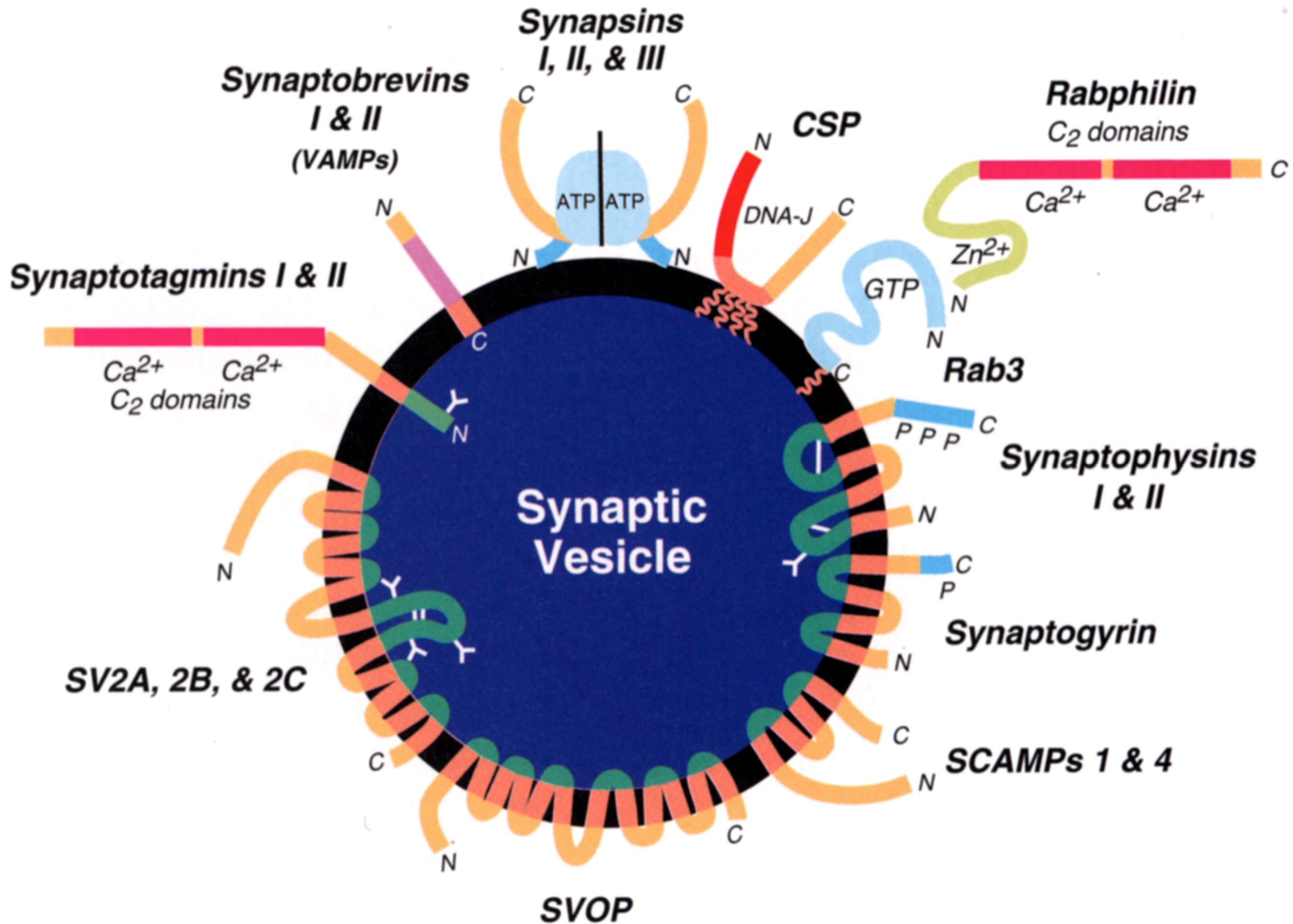


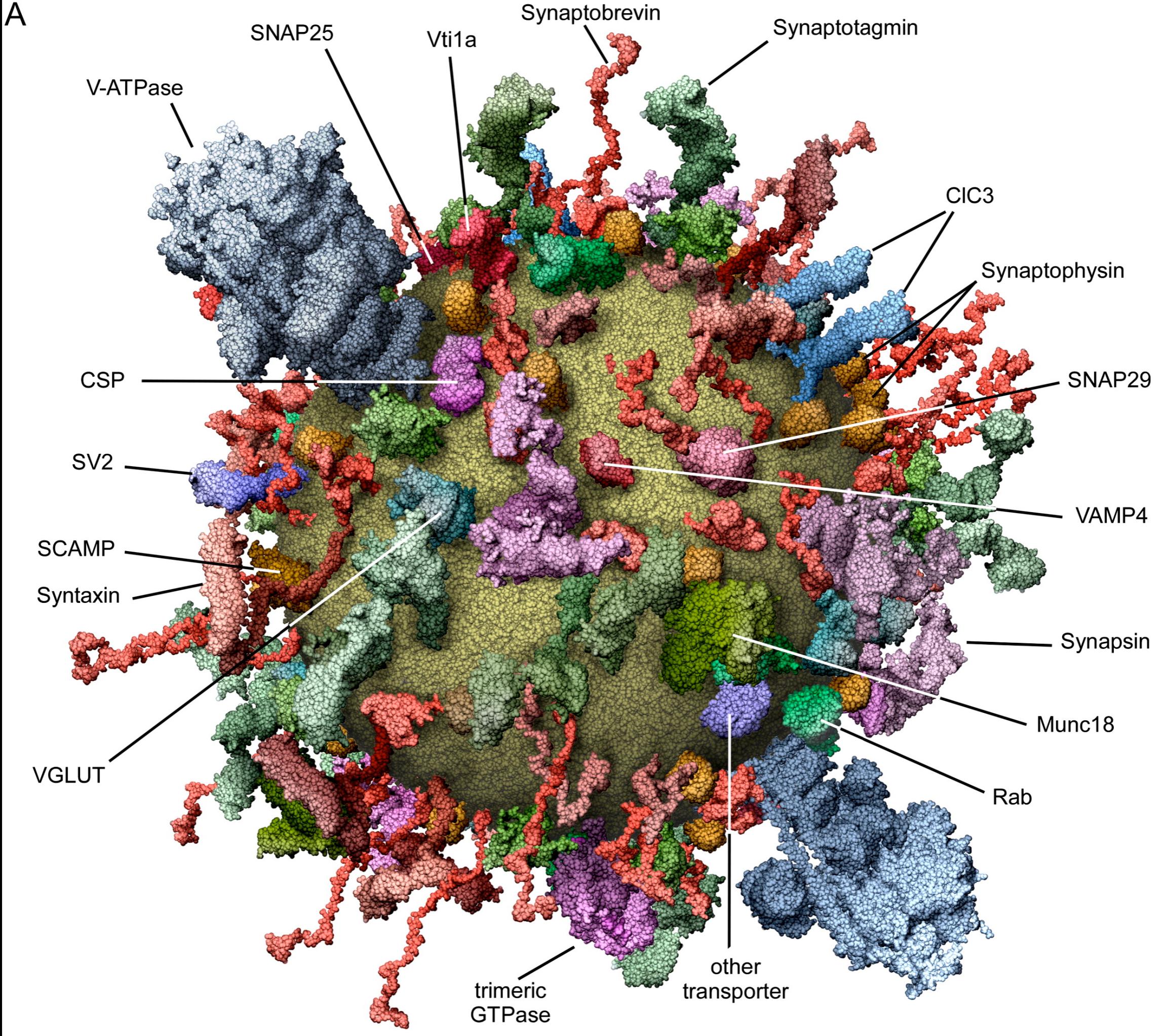


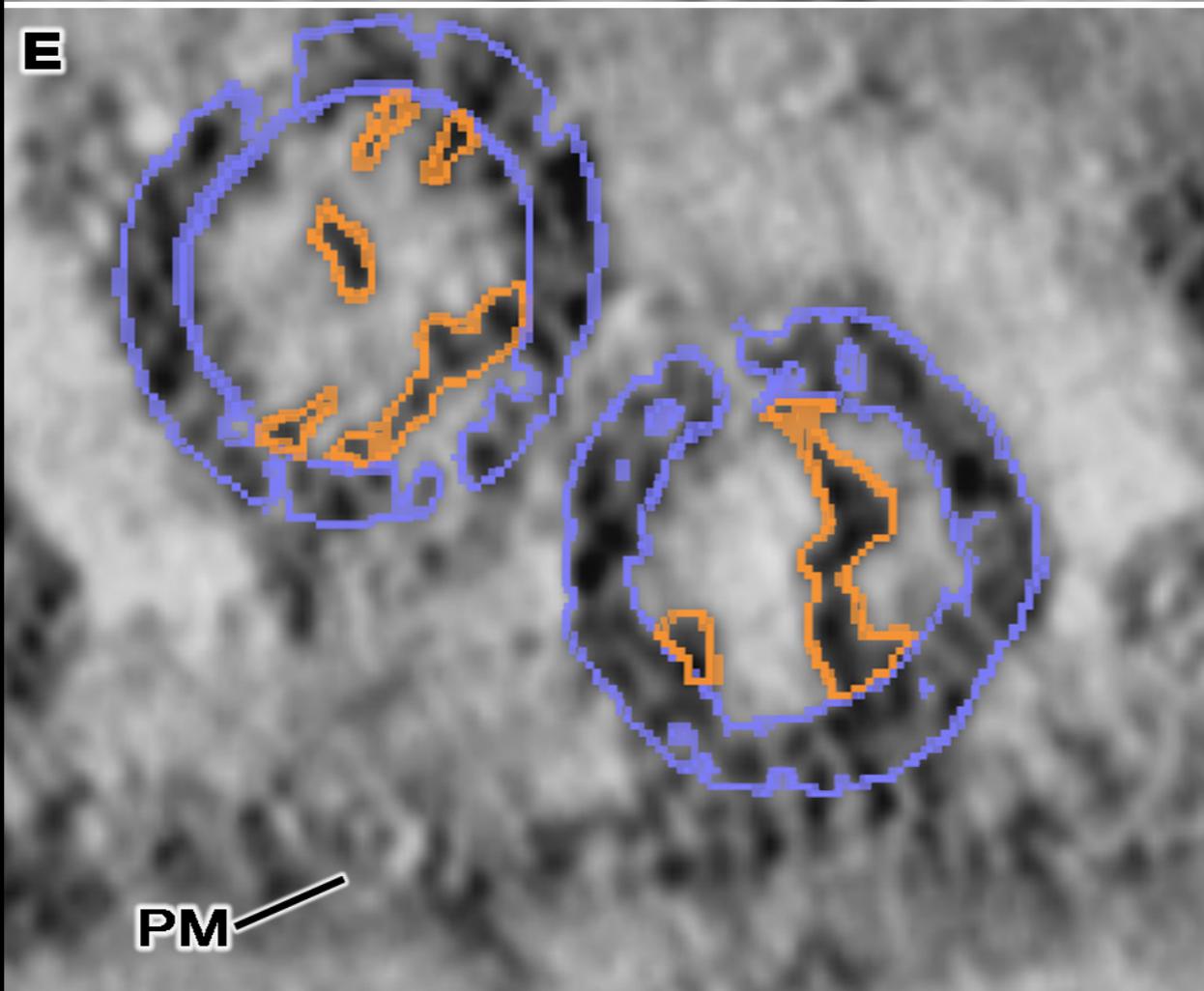
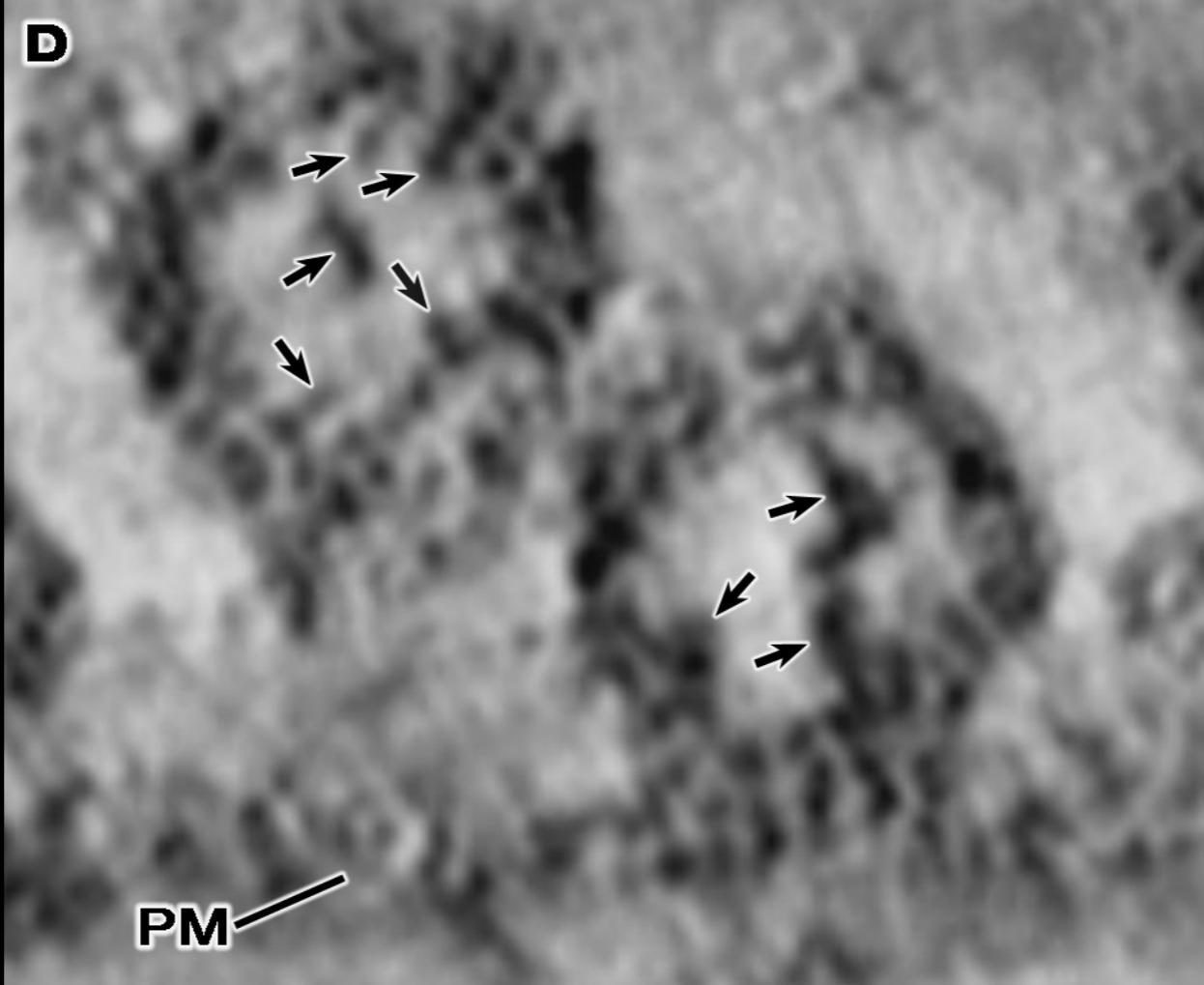


FROM NEURON TO BRAIN 5e, Figure 15.3

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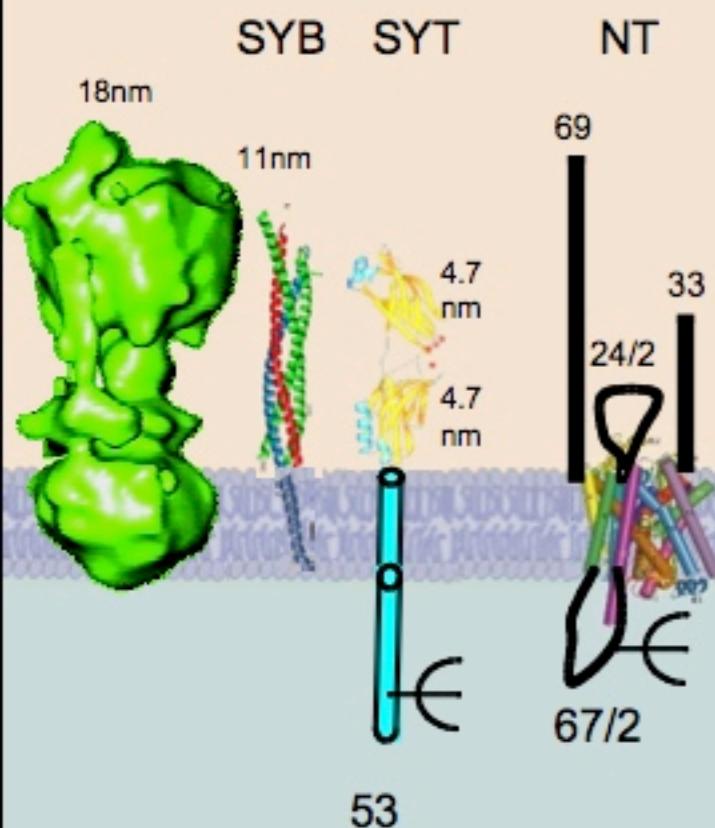


Harlow ML, Szule JA, Xu J, Jung JH,  
Marshall RM, McMahan UJ. (2013)  
PLoS ONE 8(7): e69410. doi:  
10.1371/journal.pone.0069410

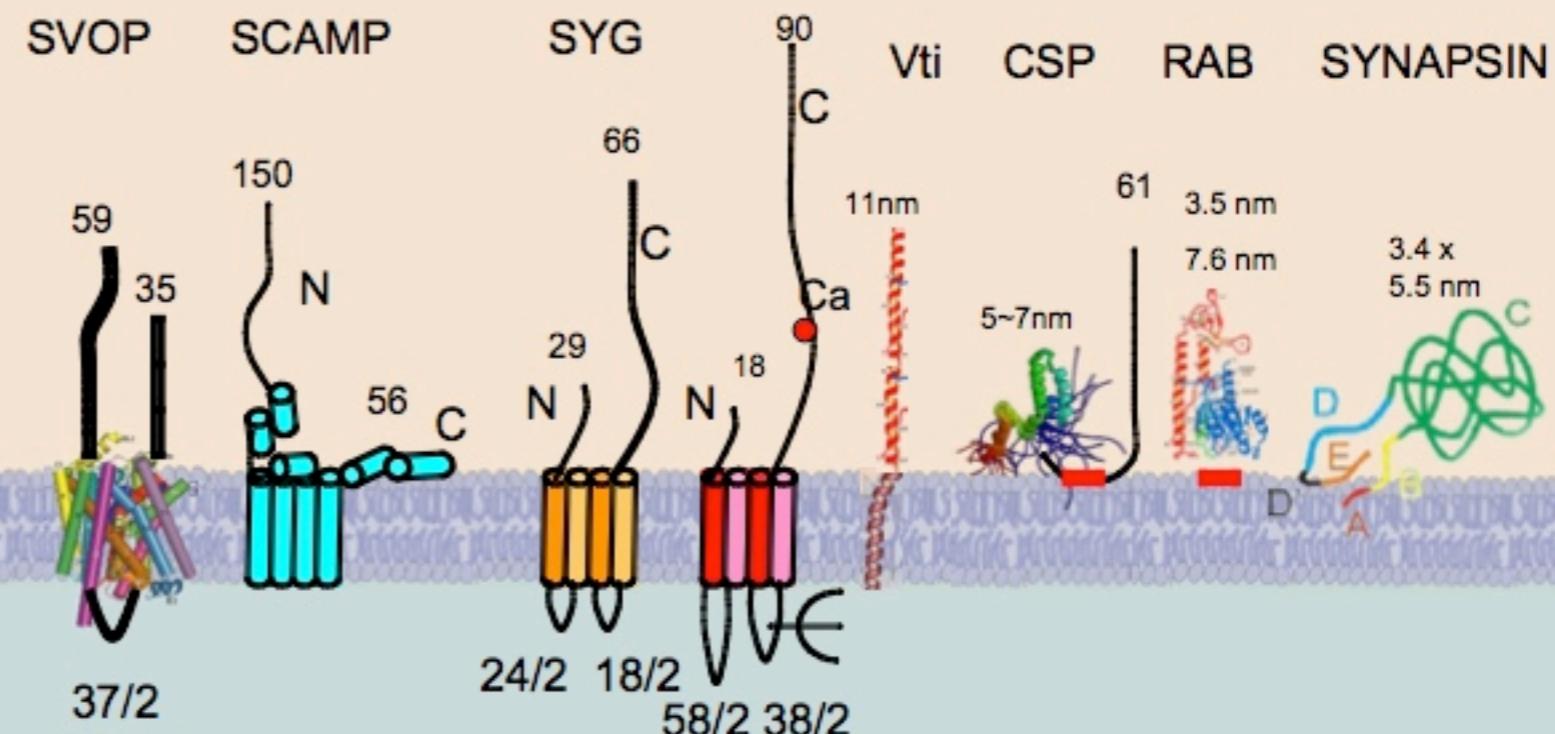
SV2

94/2 167

V-ATPase



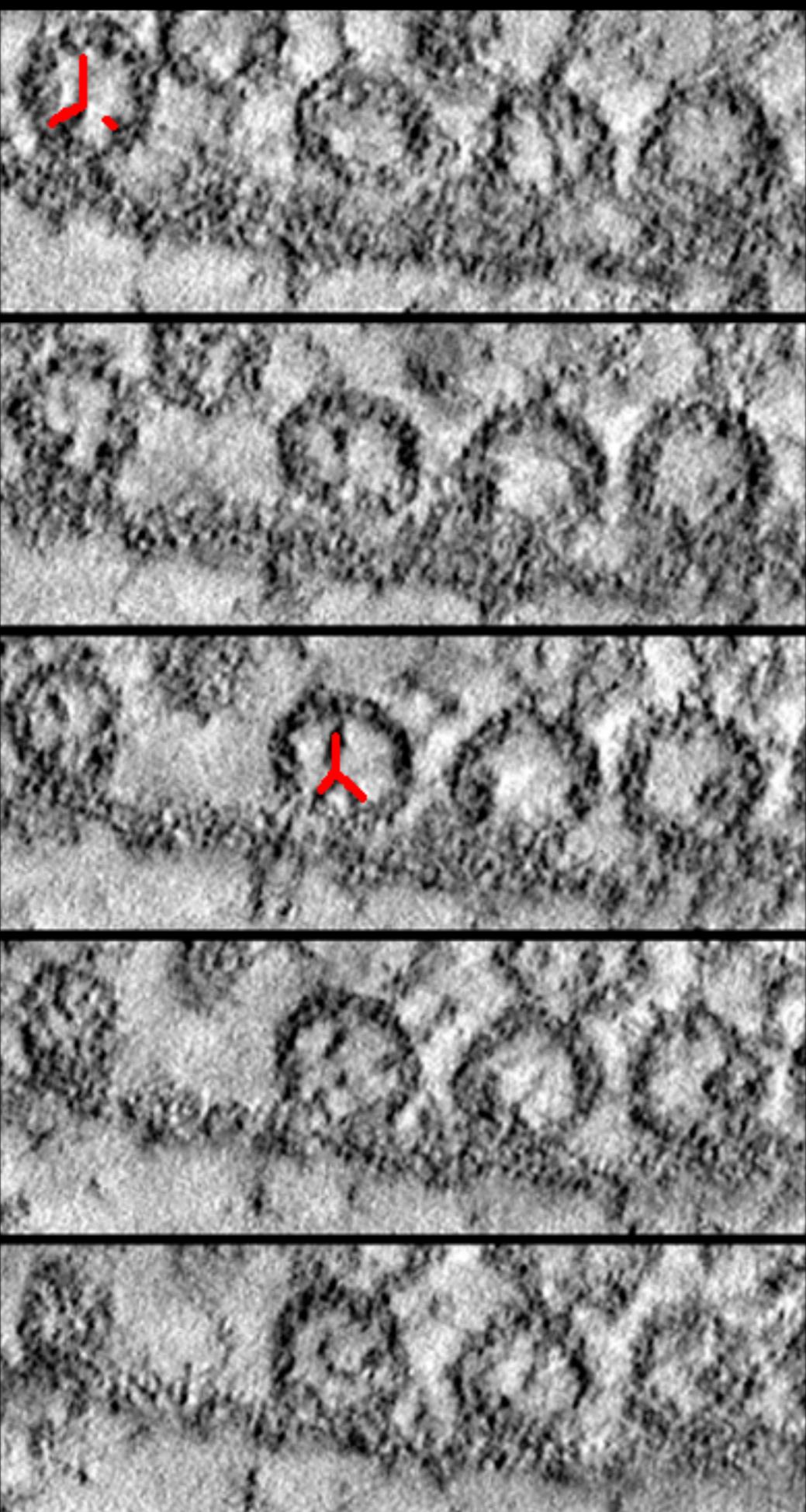
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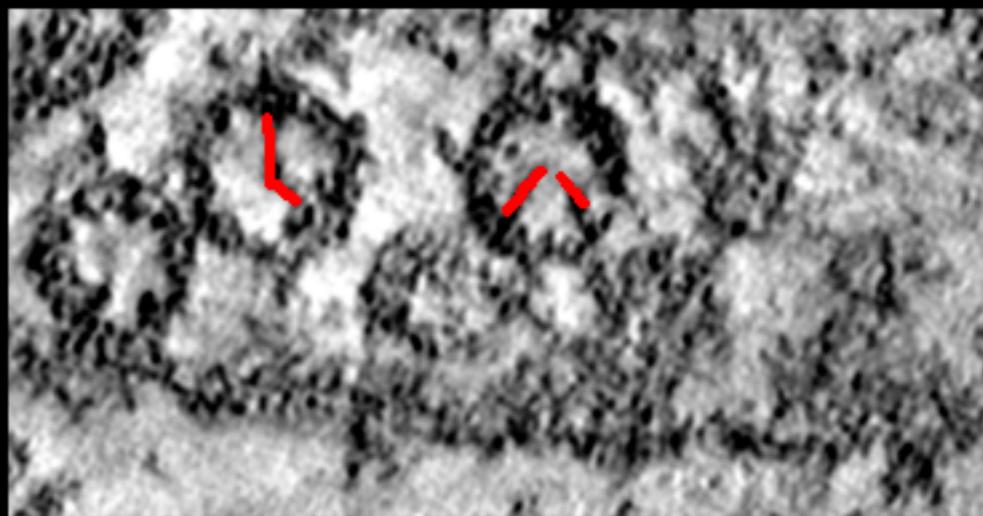
SV membrane:  
6nm

Vesicle Lumen

UC18

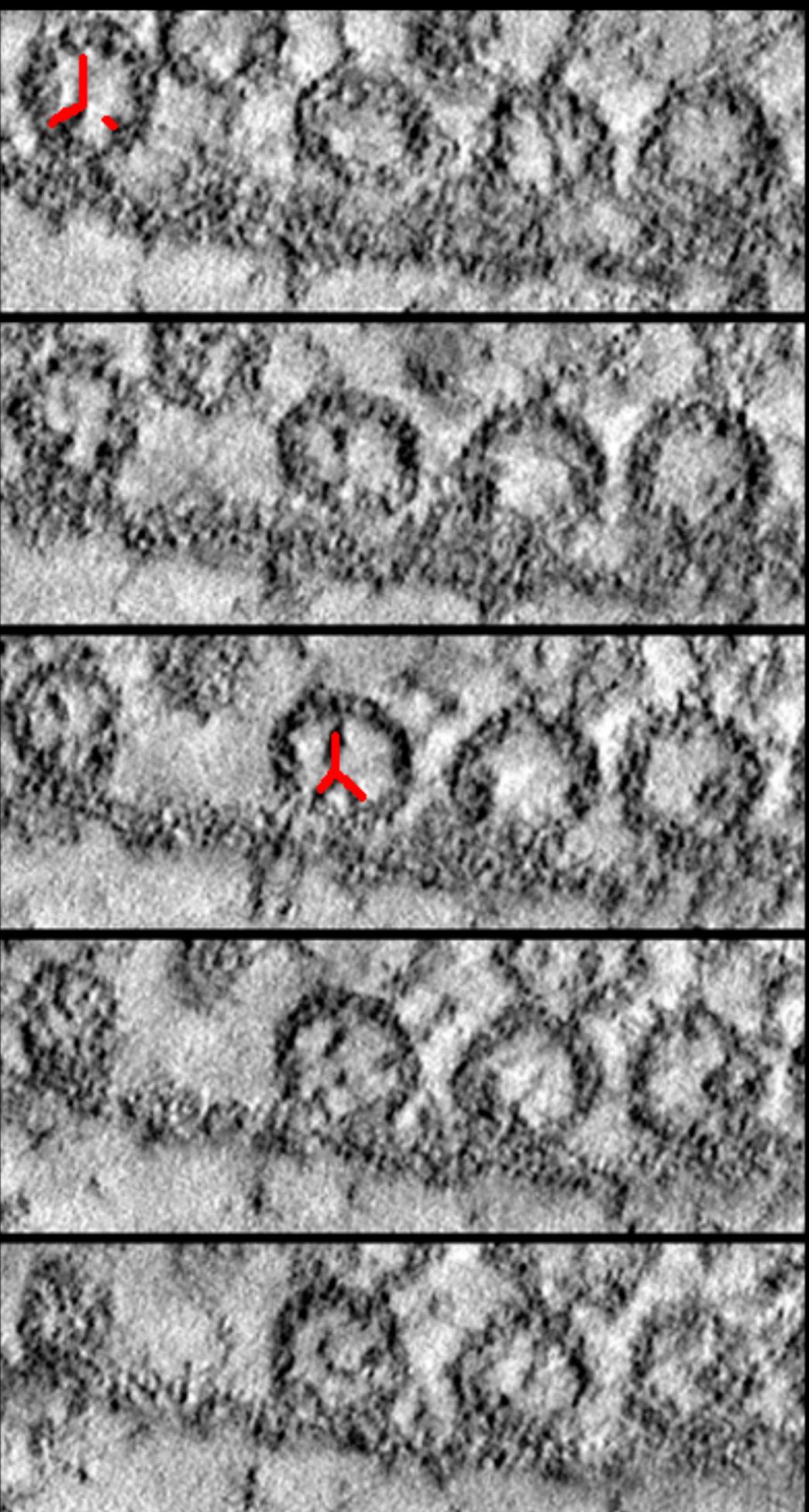


6 7

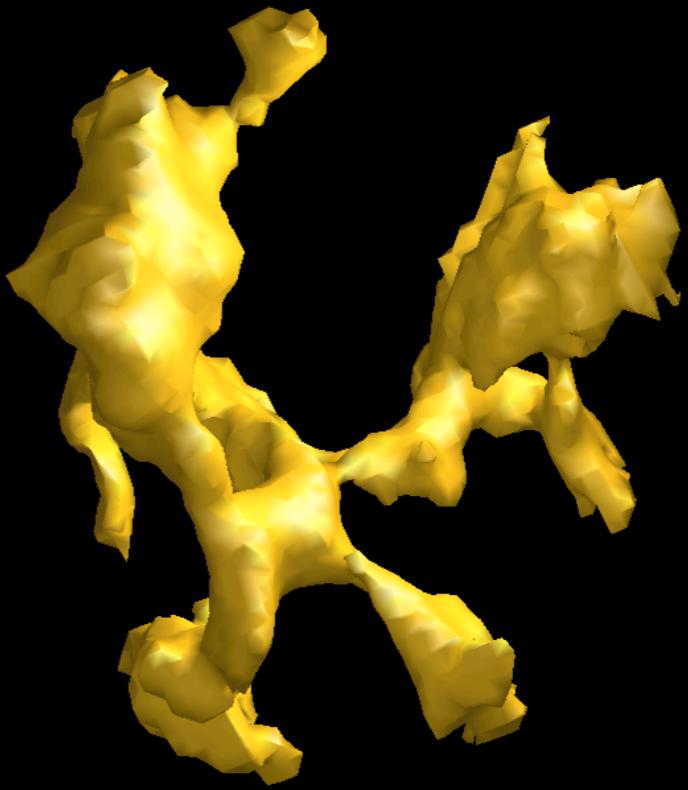
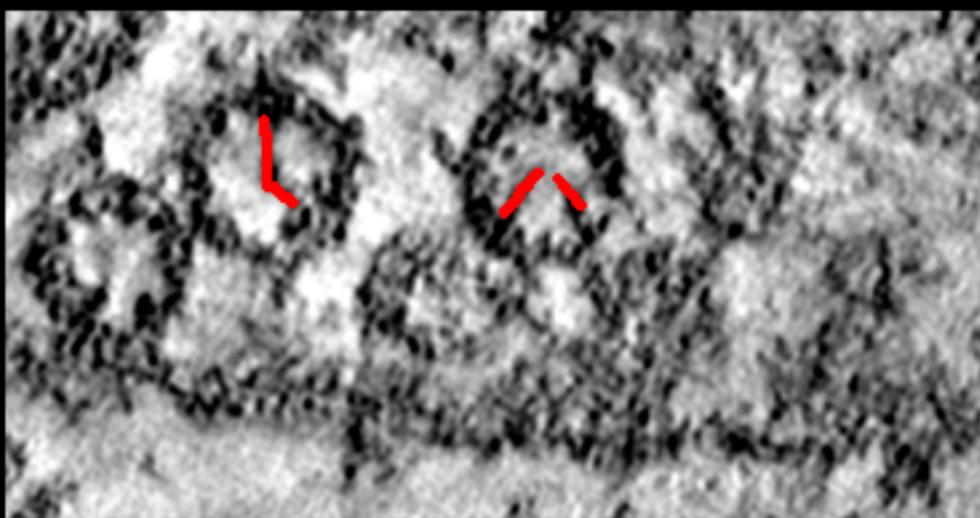


Harlow ML, Szule JA, Xu J, Jung JH, Marshall RM, McMahan UJ. (2013)  
PLoS ONE 8(7): e69410. doi:10.1371/journal.pone.0069410

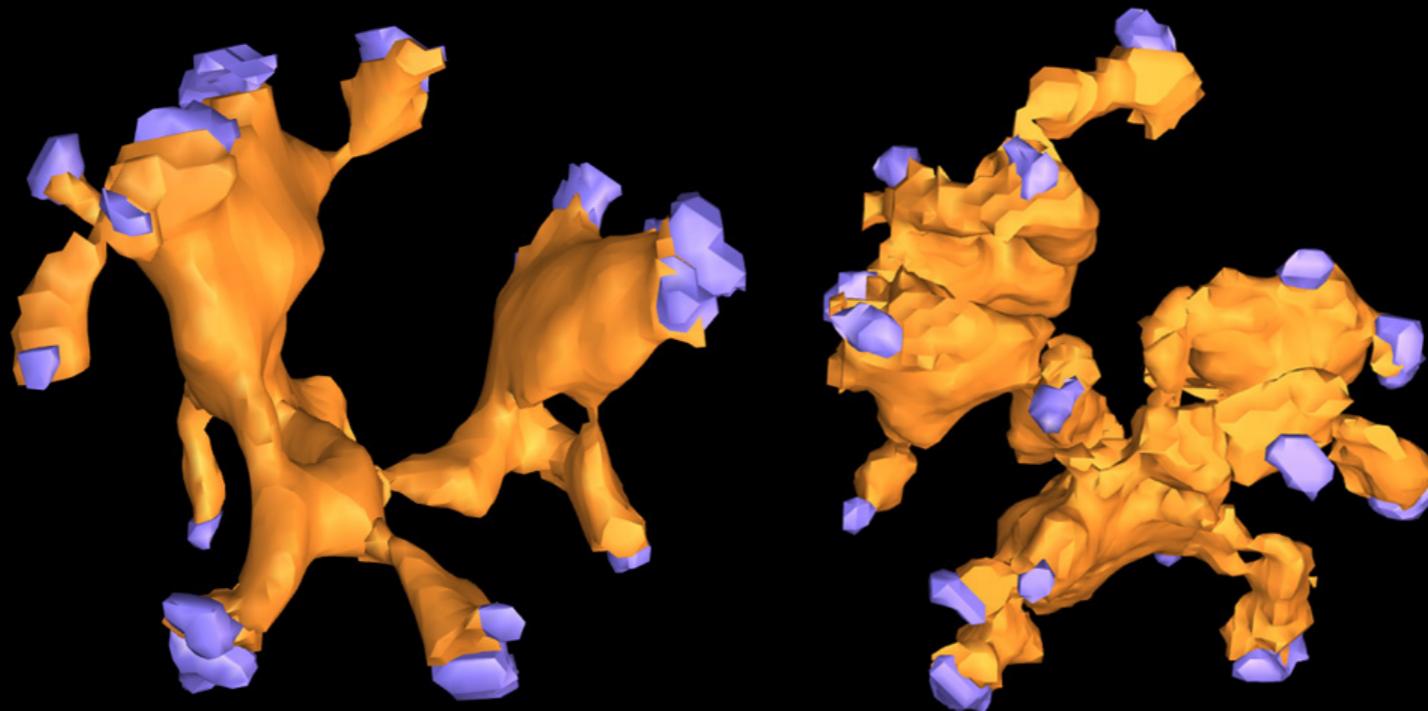
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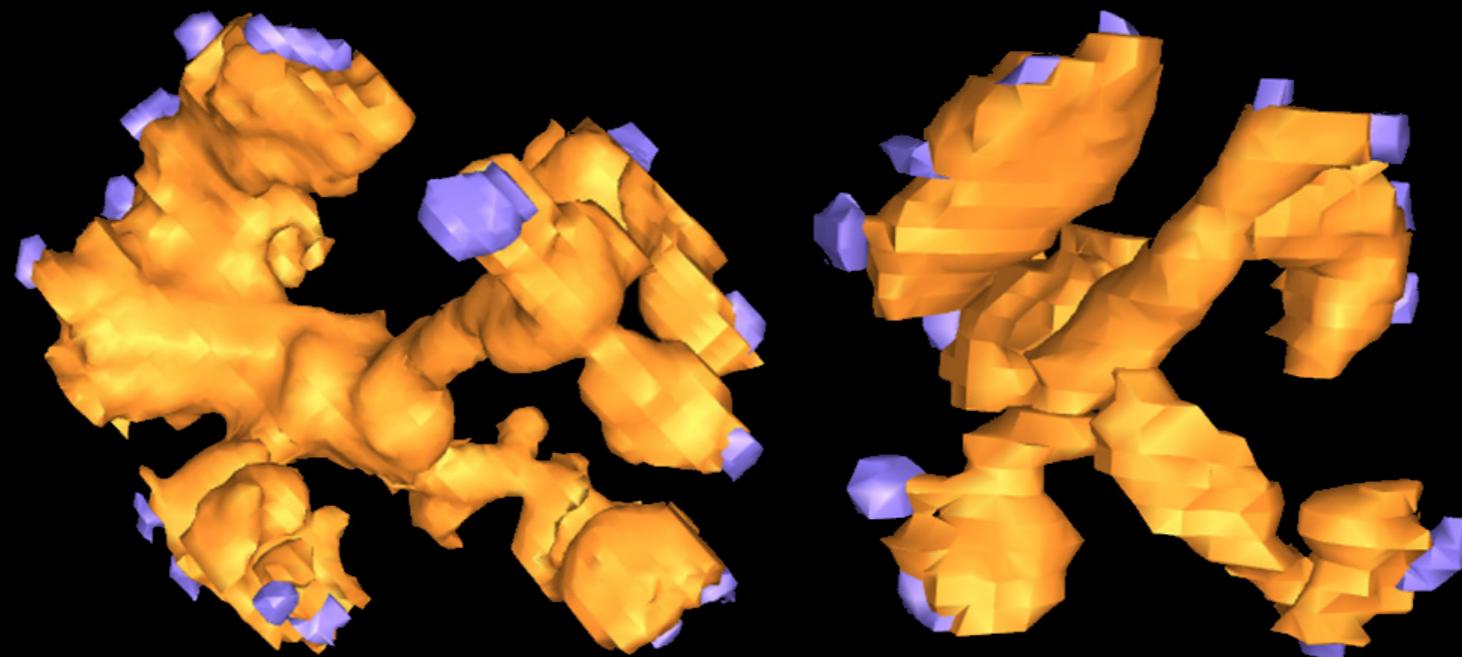
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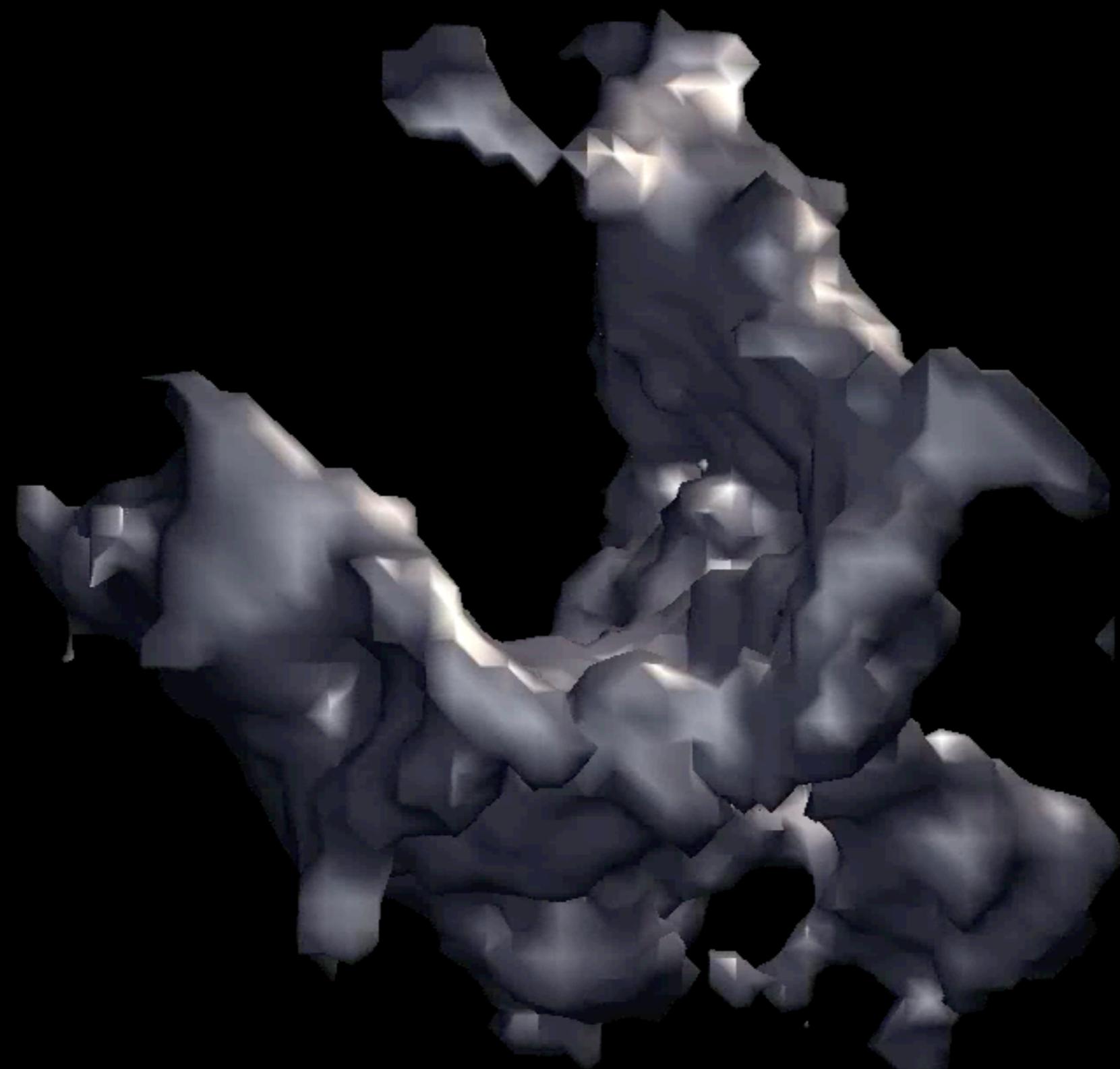


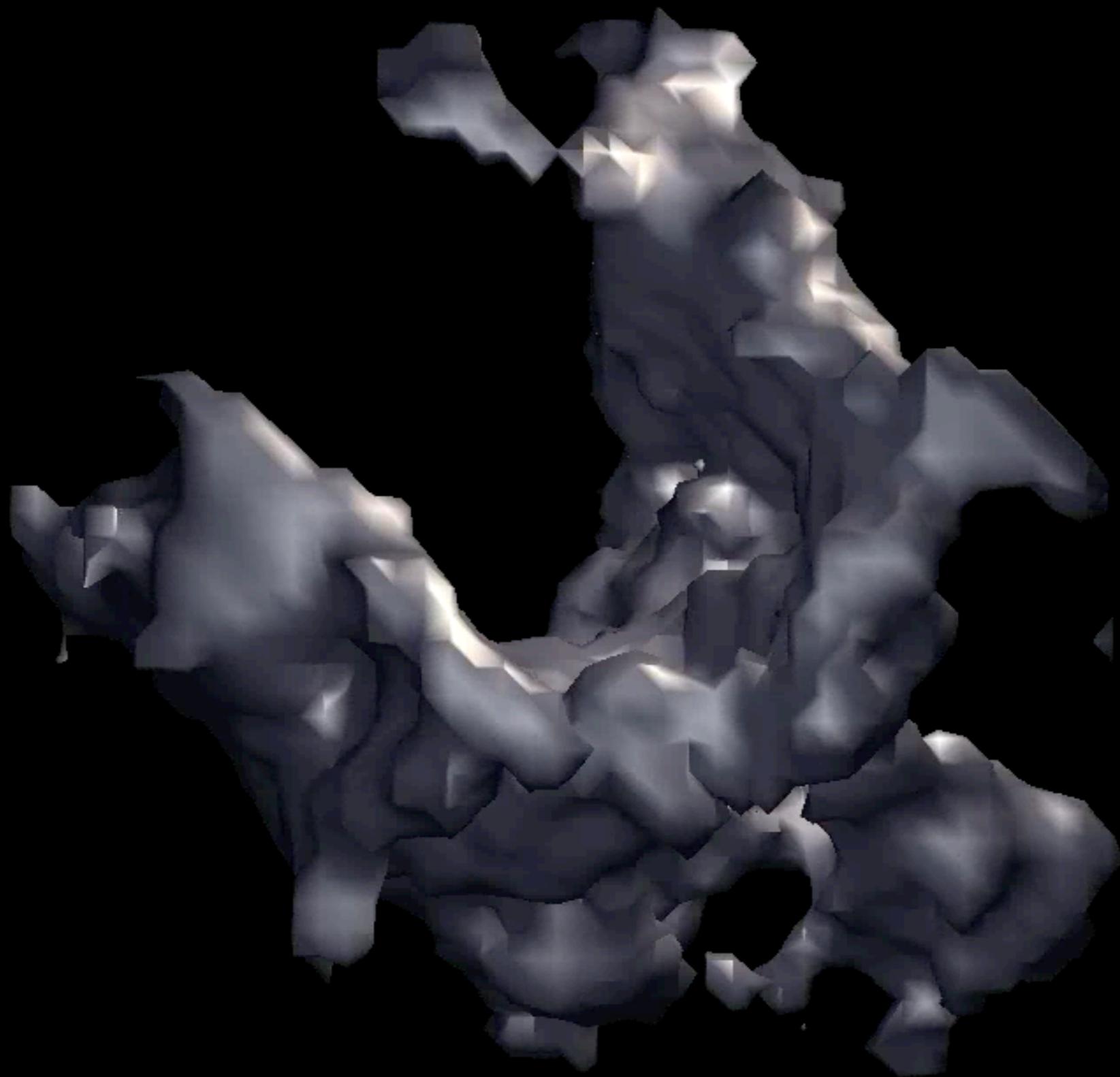
## Docked Vesicles

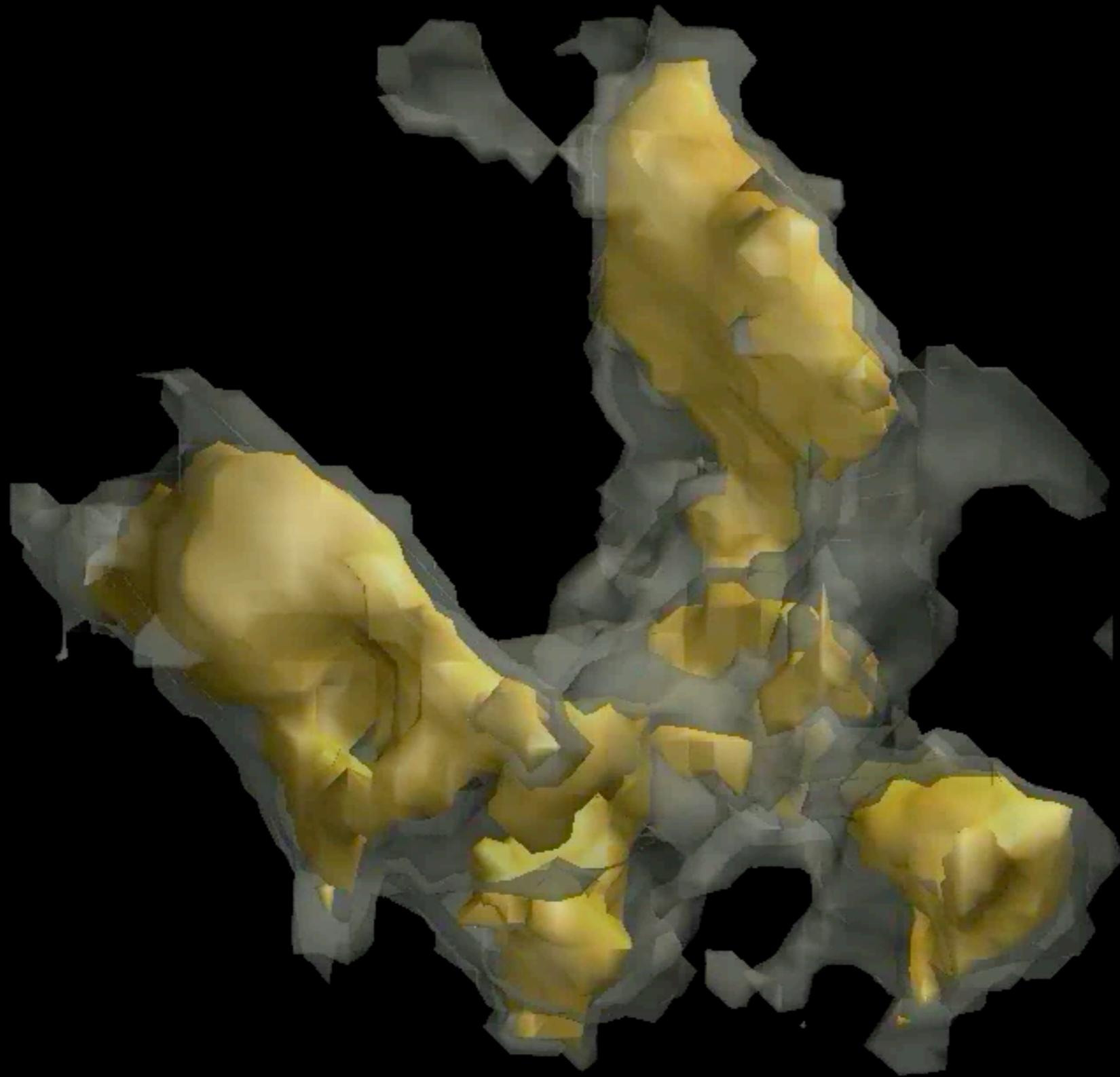


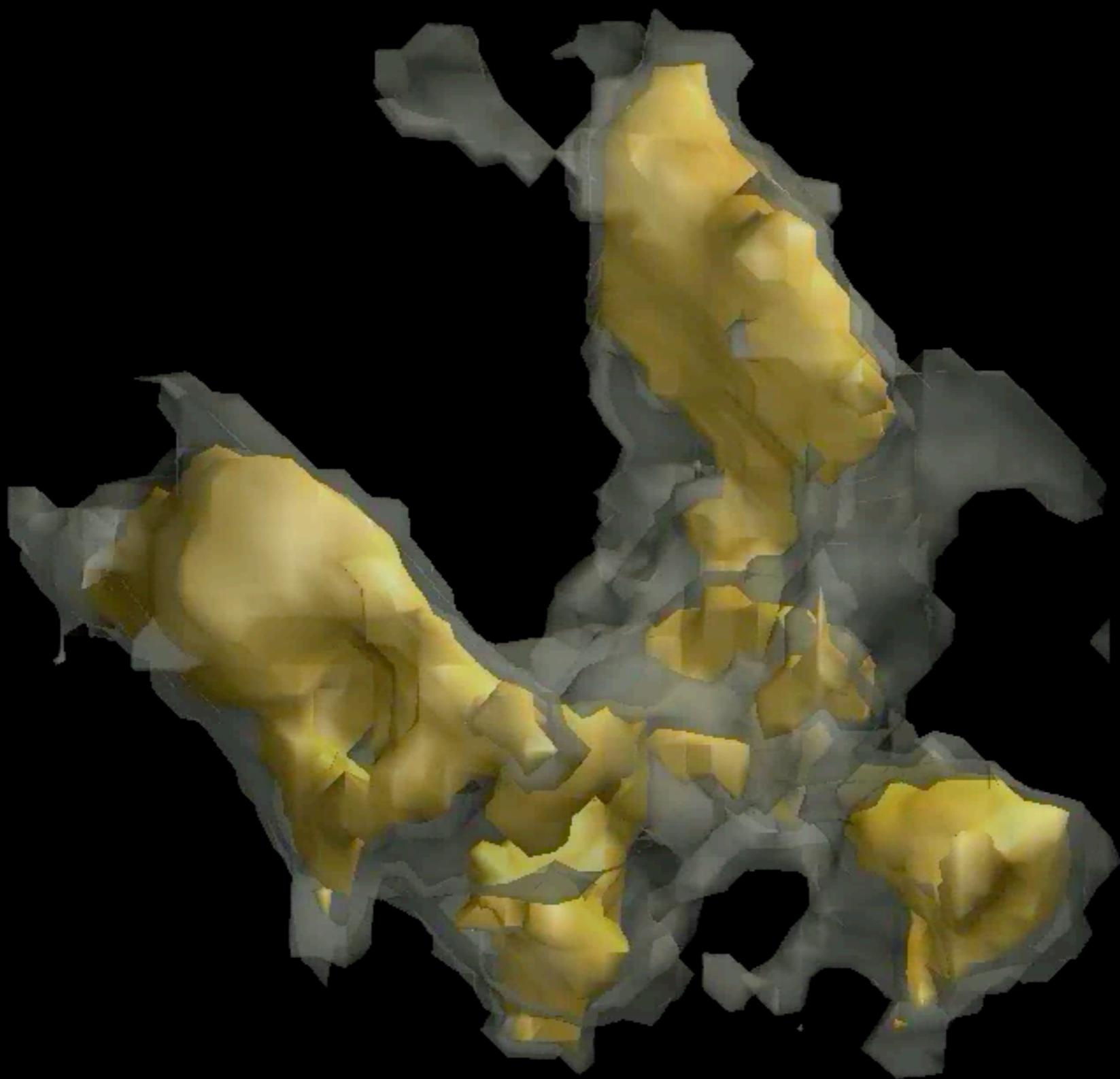
## Undocked Vesicles



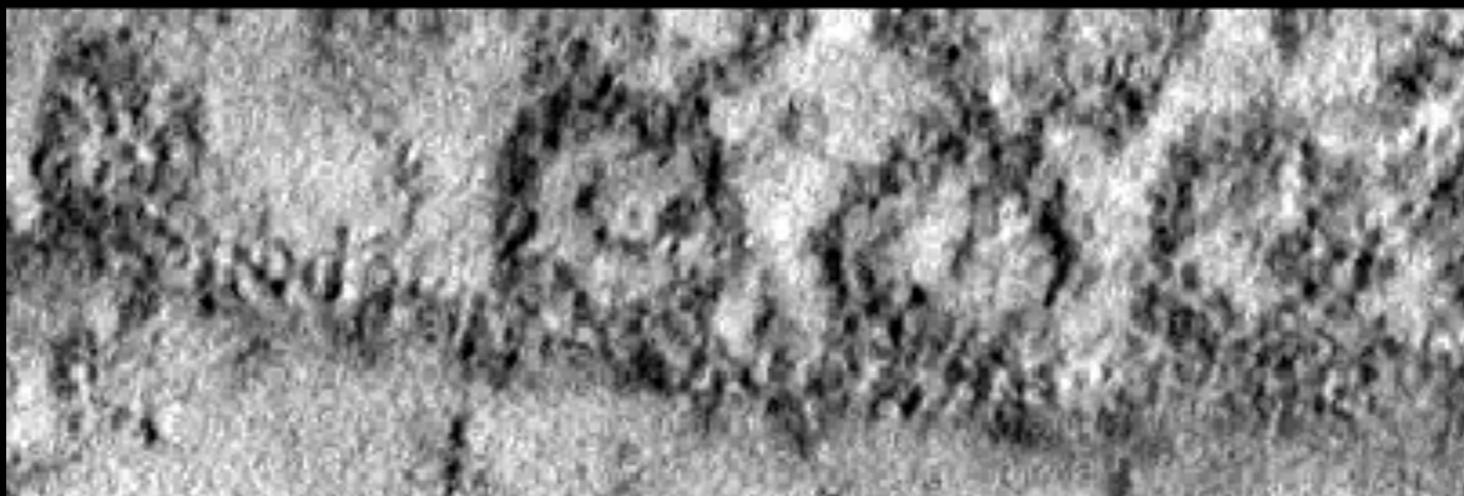








UC18

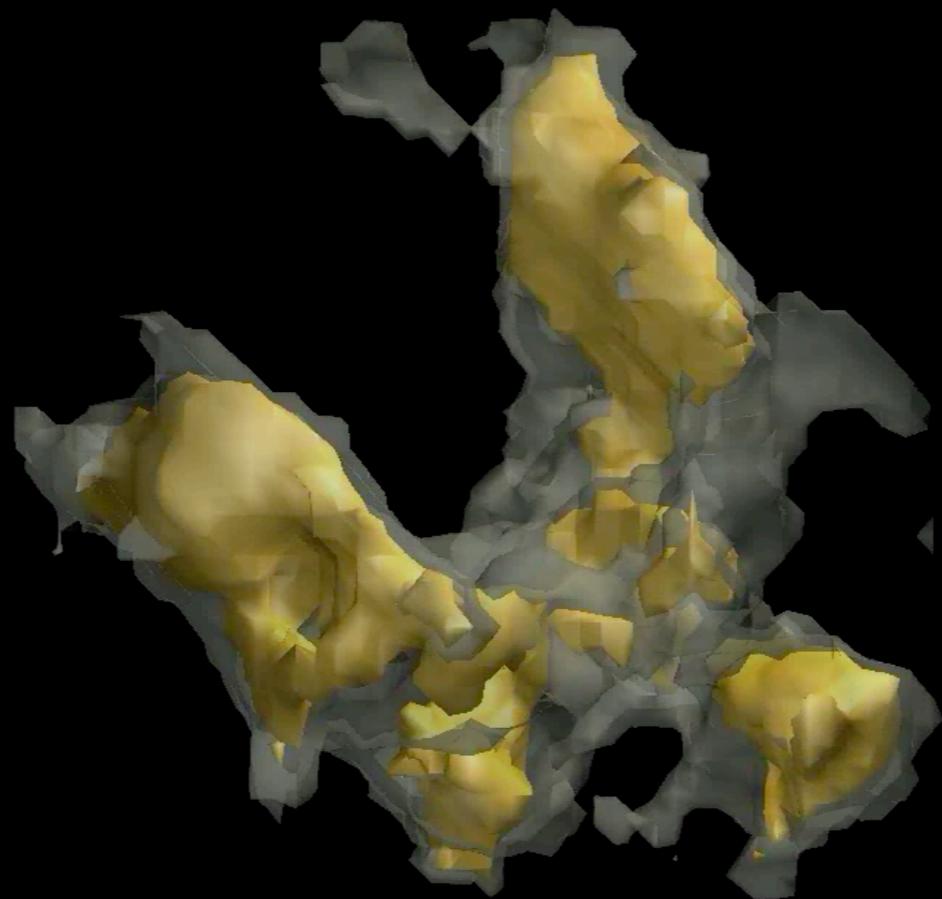


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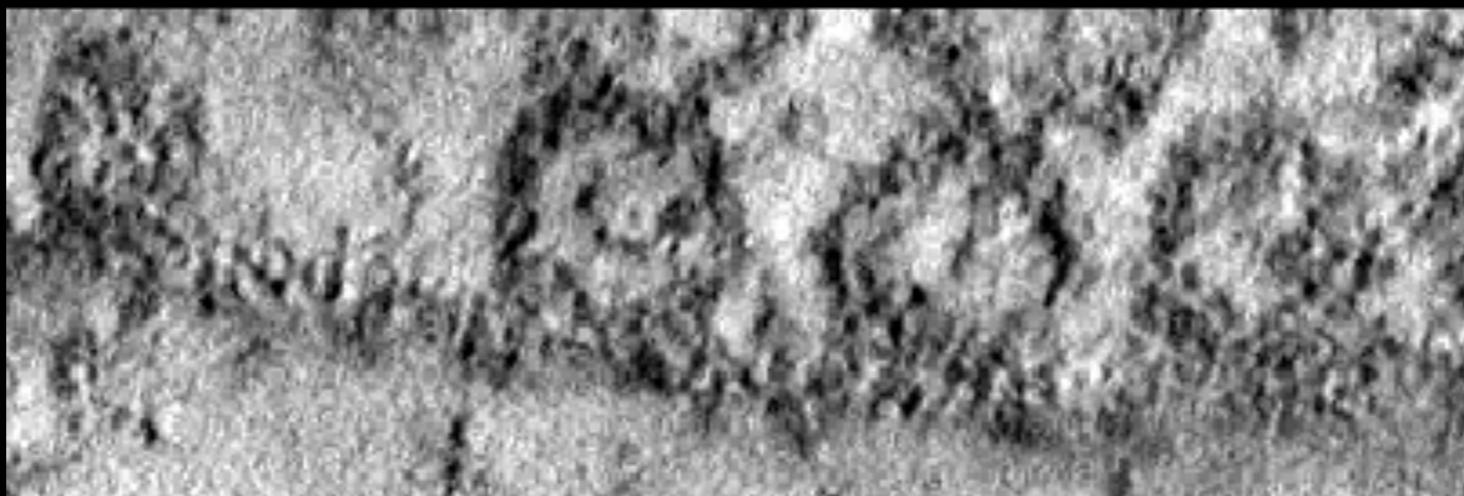
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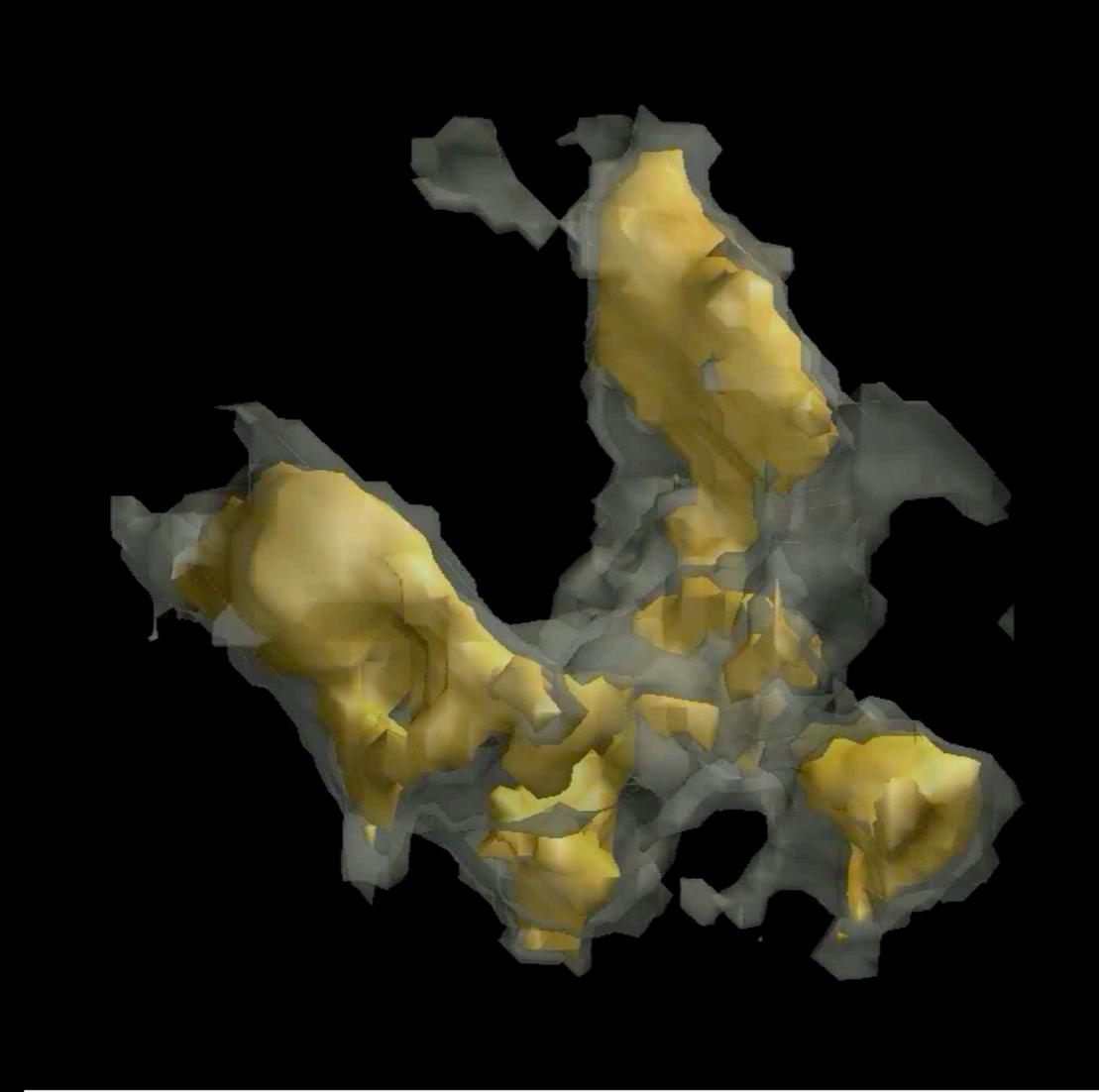
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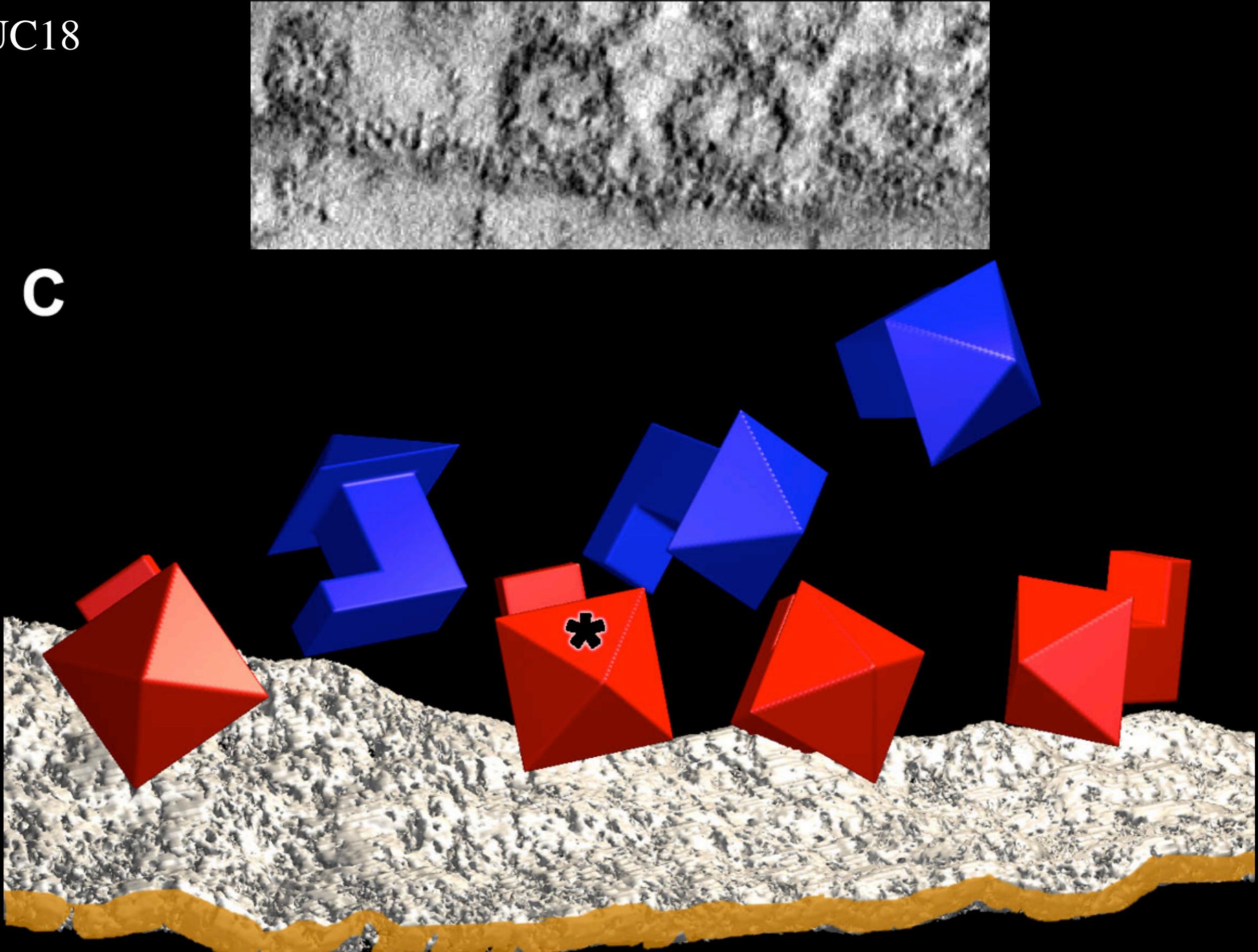
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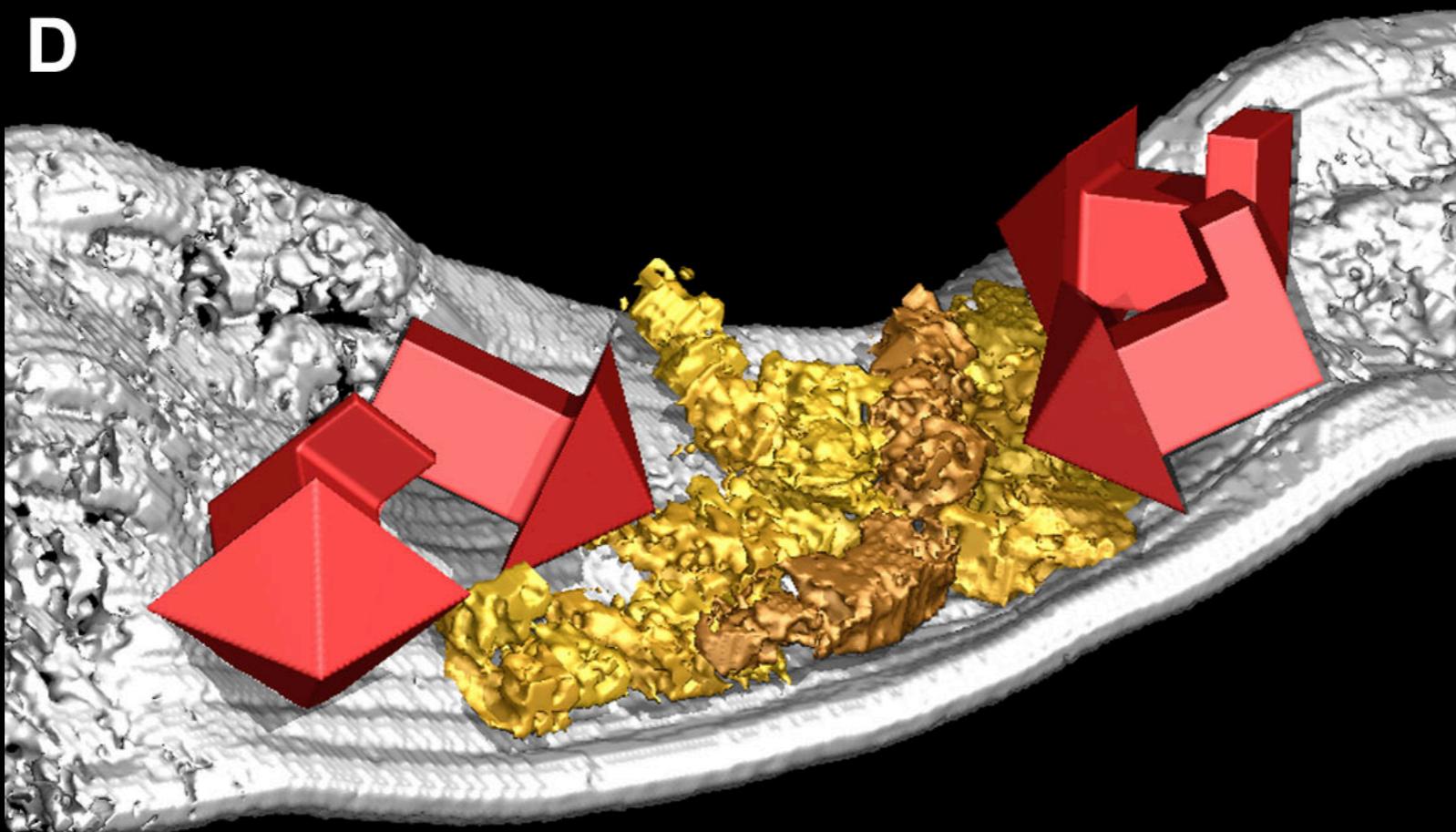
1            3            4            5



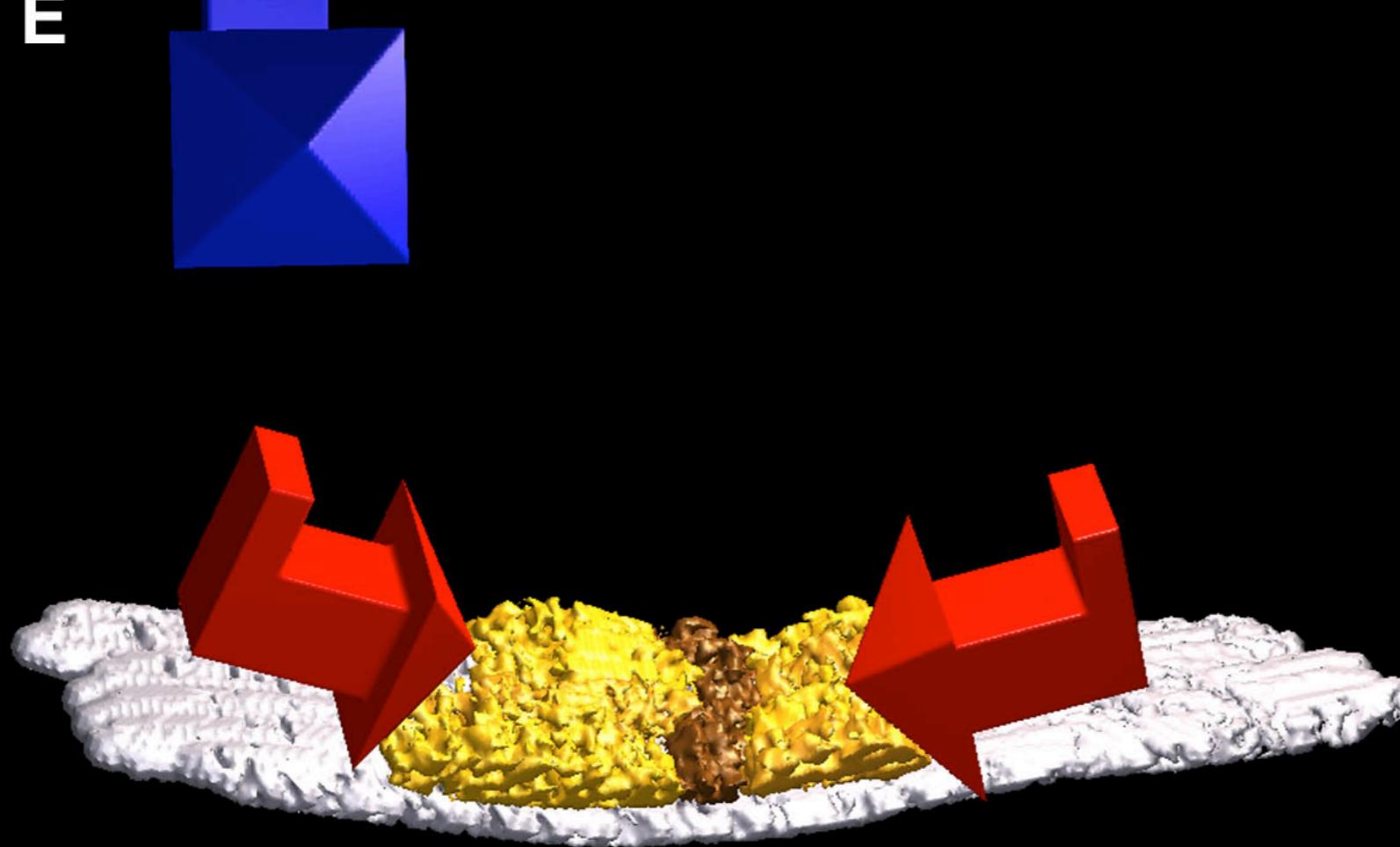
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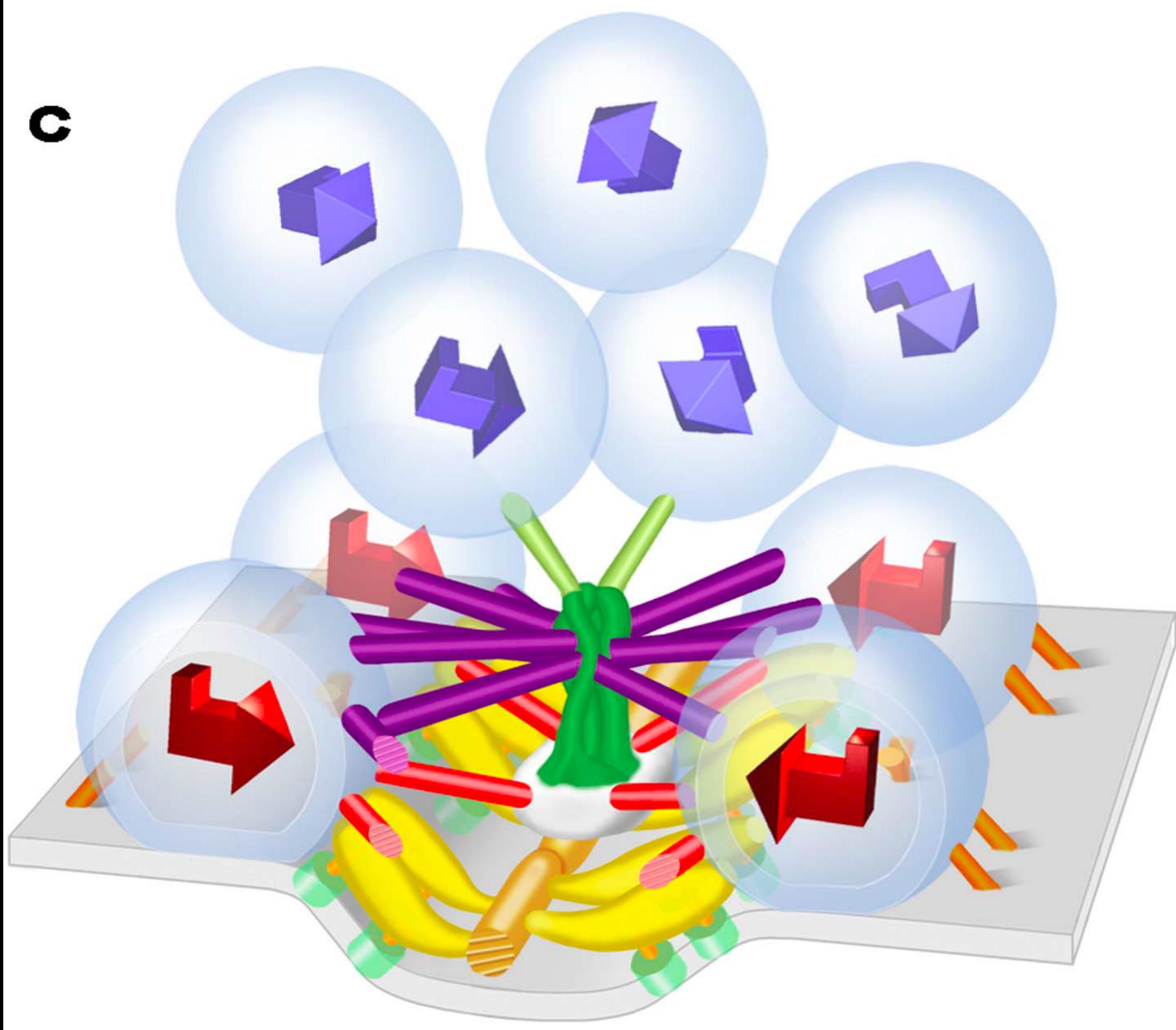
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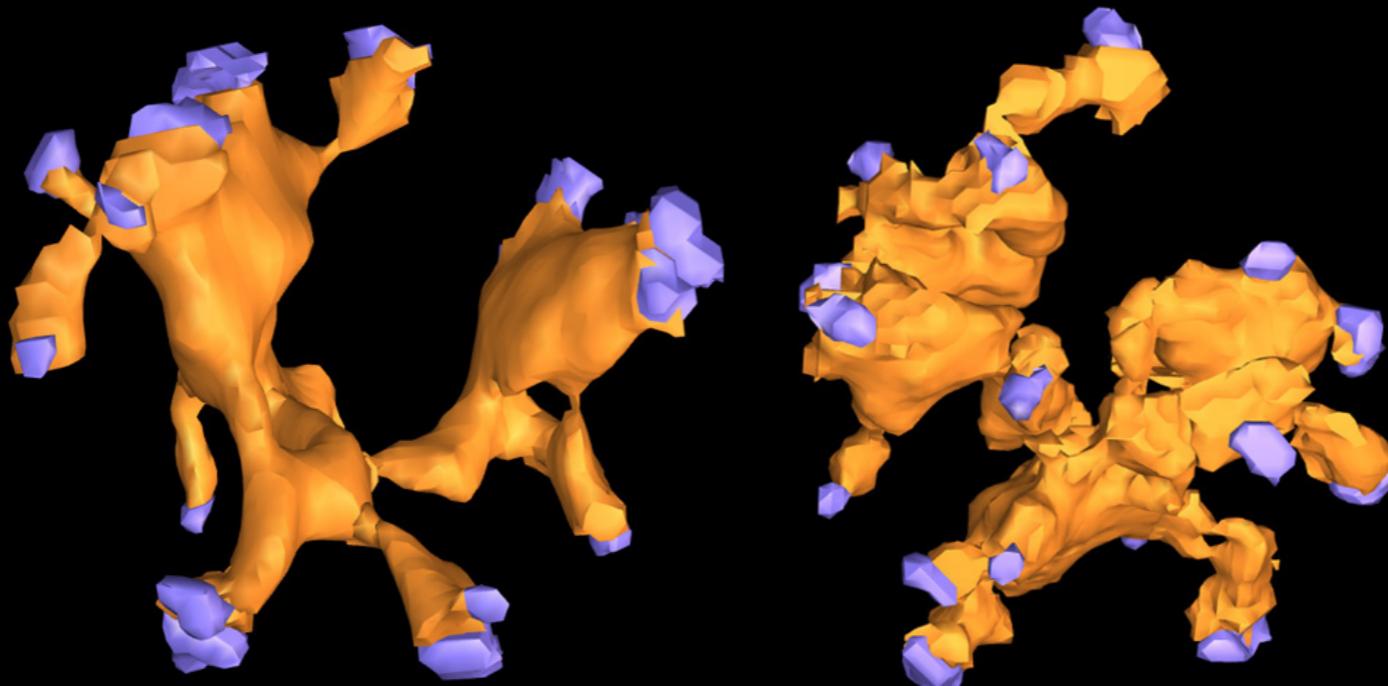
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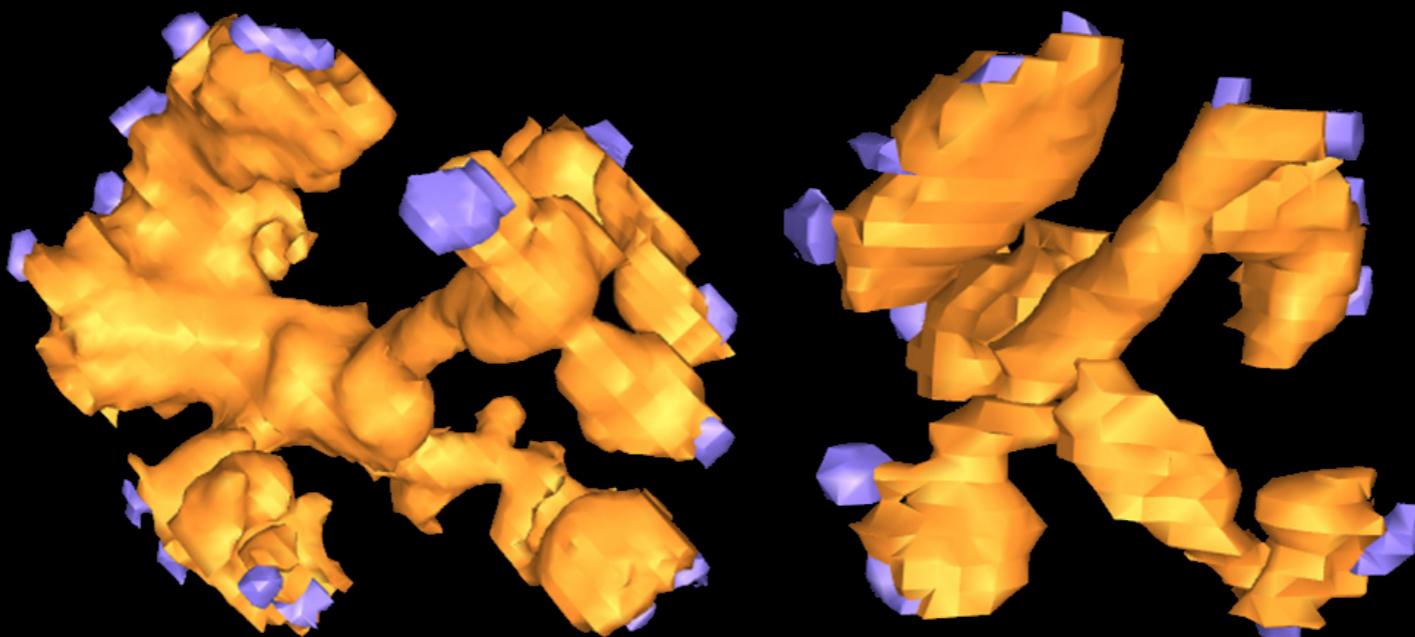
Harlow ML, Szule JA, Xu J, Jung  
JH, Marshall RM, McMahan UJ.  
(2013) PLoS ONE 8(7): e69410.  
doi:10.1371/journal.pone.0069410

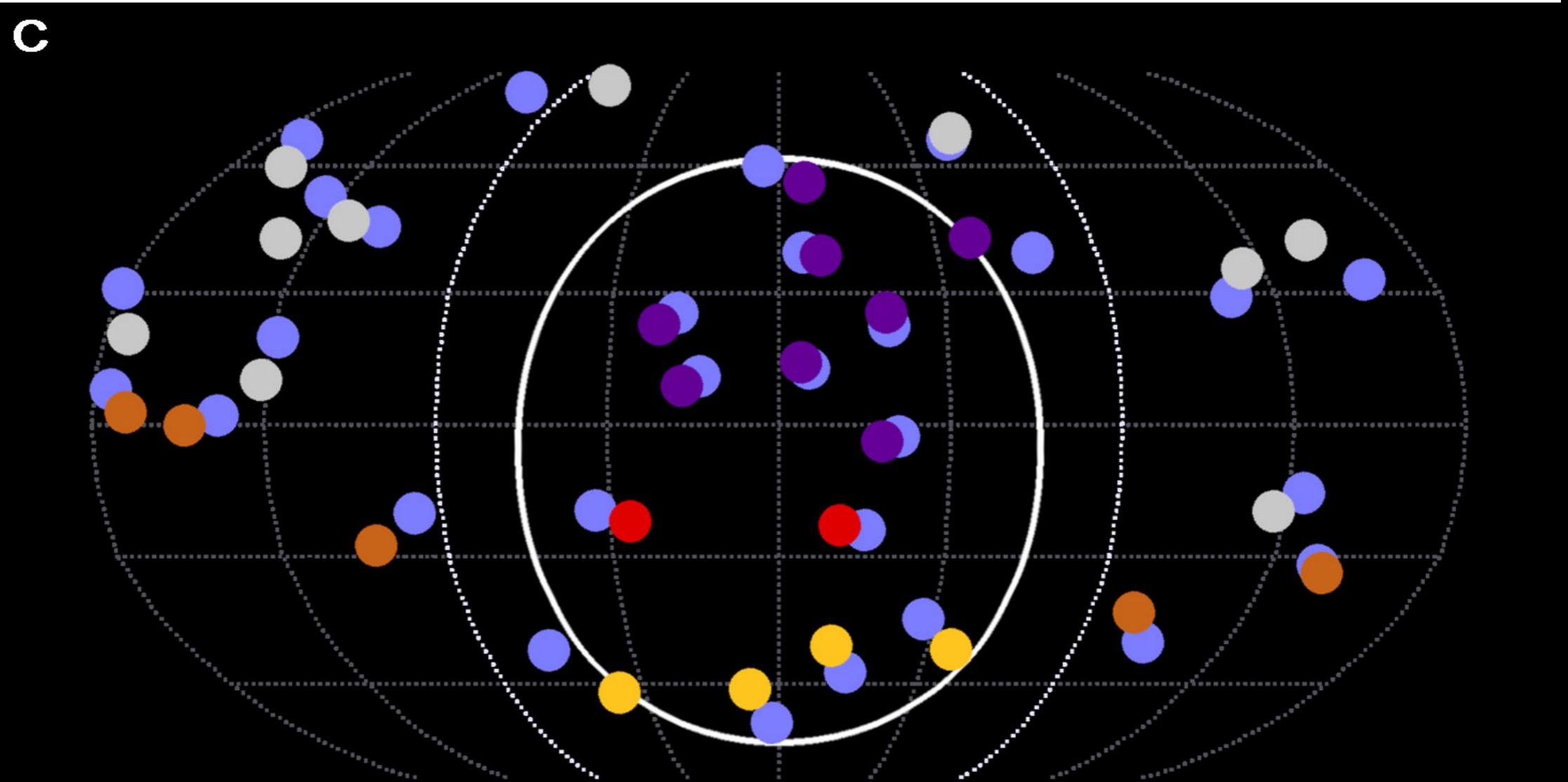
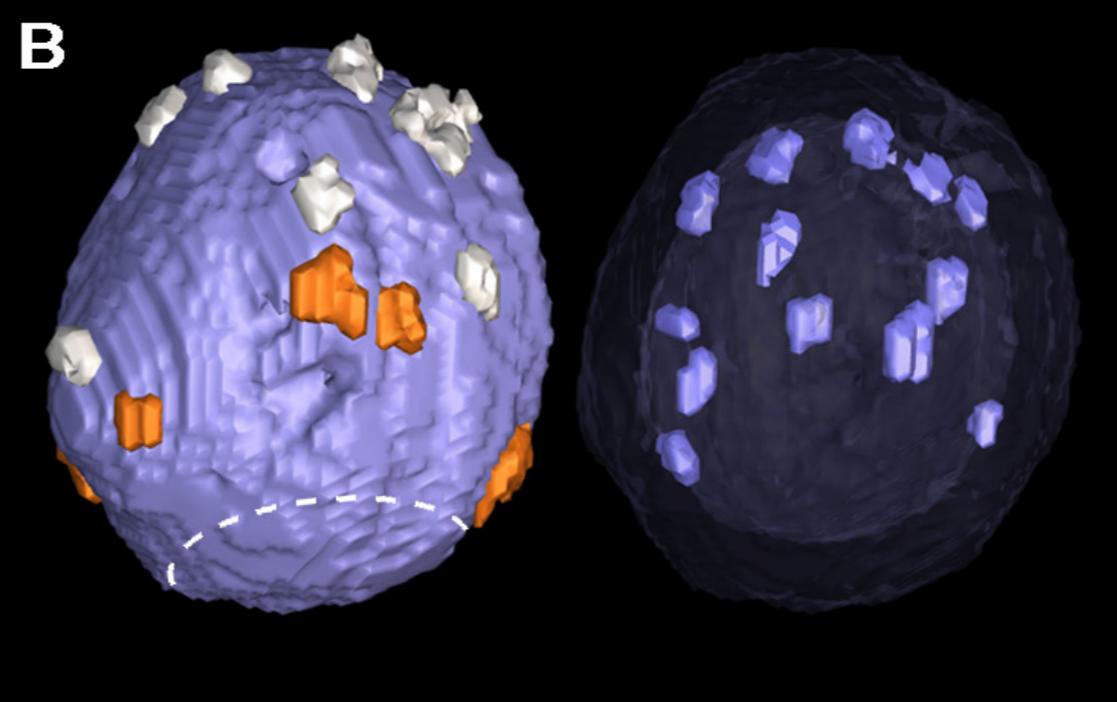
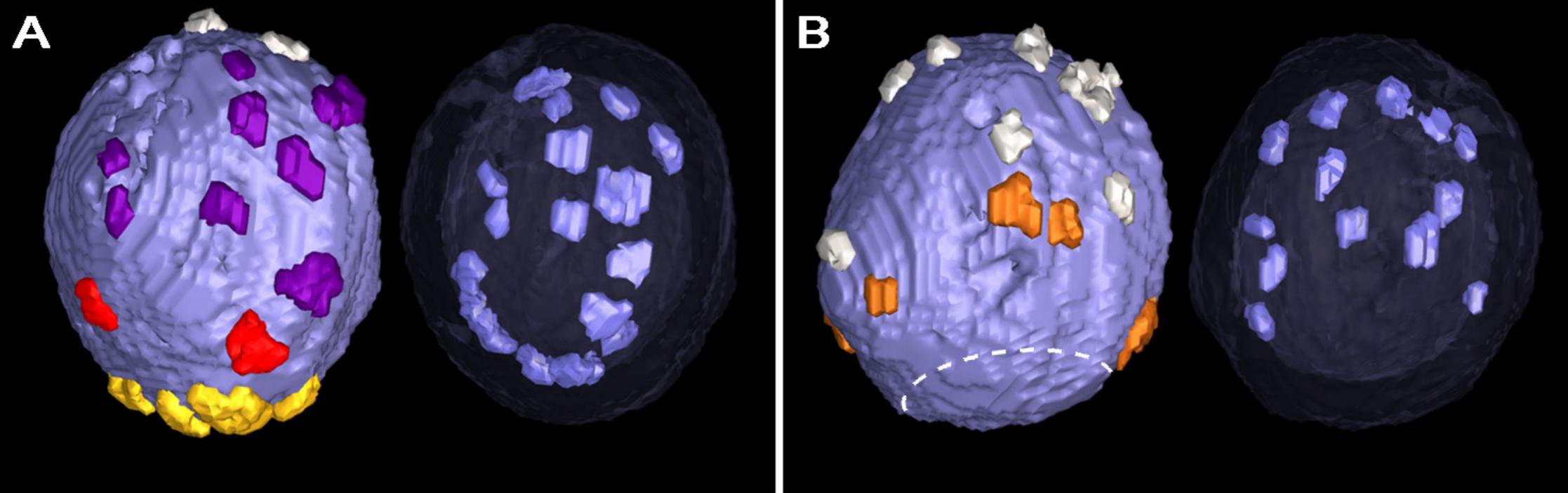


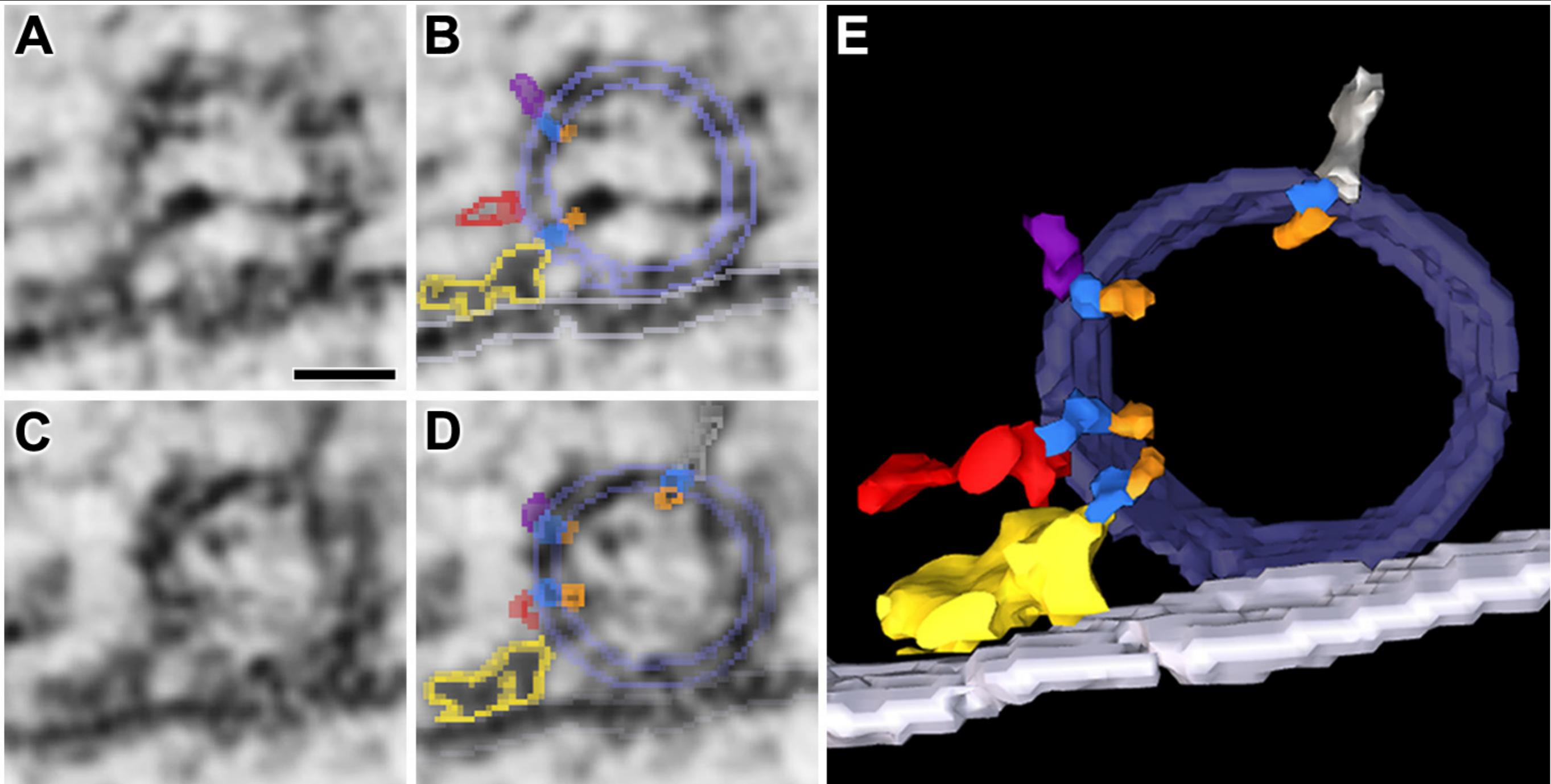
## Docked Vesicles

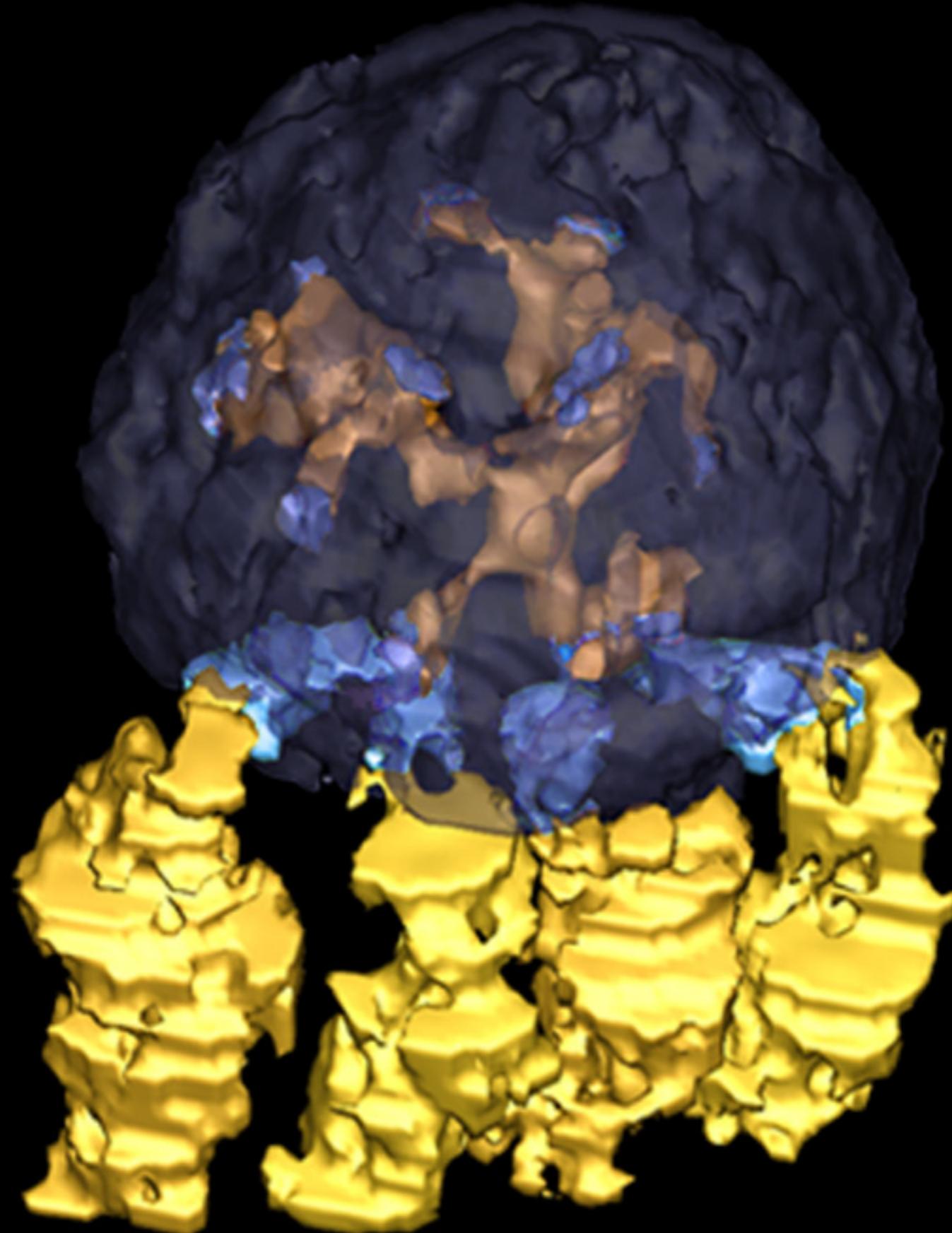


## Undocked Vesicles









Harlow ML, Szule JA, Xu J,  
Jung JH, Marshall RM,  
McMahan UJ. (2013) PLoS  
ONE 8(7): e69410. doi:  
10.1371/journal.pone.  
0069410

