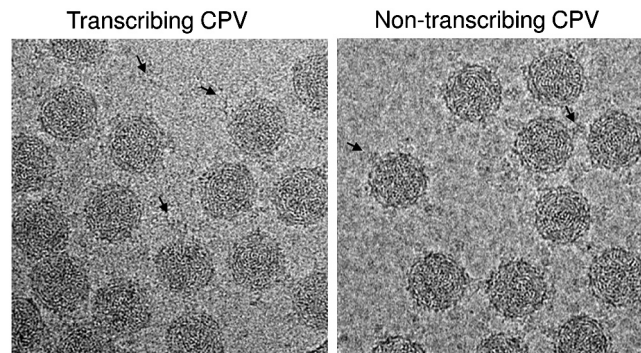
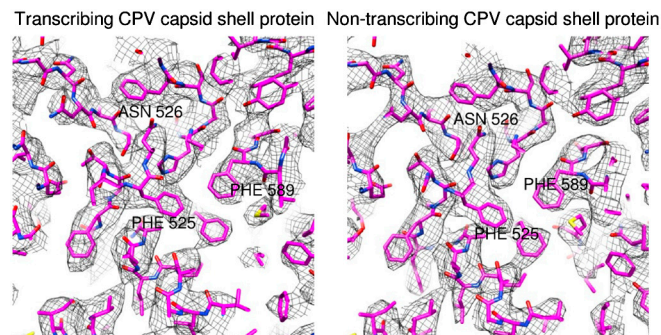


# Supporting Information

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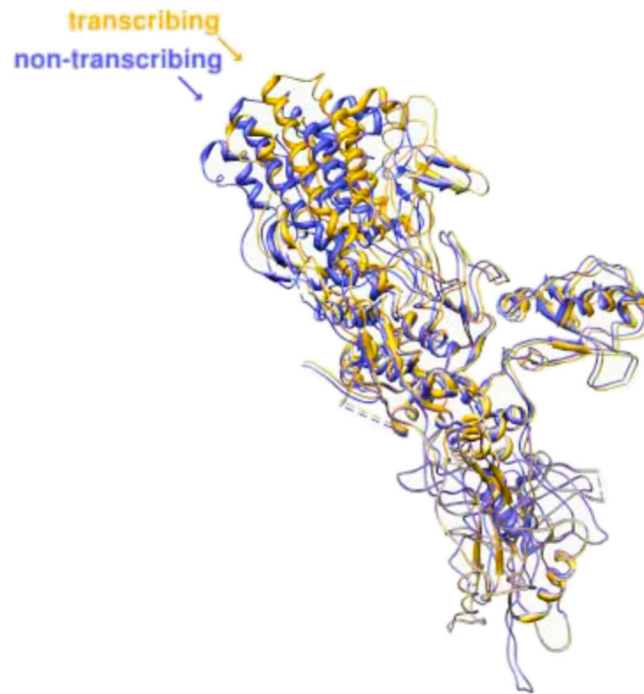


**Fig. S1.** Side-by-side comparison of a cryo-EM image of transcribing CPV (left) and a cryo-EM image of nontranscribing CPV (right). Left: arrows point to strand-like material around the CPV particles; right: arrows point to spike-like protein complexes.



**Fig. S2.** Side-by-side comparison of transcribing CPV capsid shell protein (density map superimposed on the atomic model) with its counterpart in nontranscribing CPV filtered at a resolution of 4.1 Å. It indicates that both structures have a resolution of 4.1 Å.





**Movie S1.** VP1A from transcribing CPV (yellow) superimposed on VP1A from nontranscribing CPV (blue). The structural transition from the nontranscribing state to the transcribing state is shown.

[Movie S1 \(MOV\)](#)



**Movie S2.** VP1B from transcribing CPV (yellow) superimposed on VP1B from nontranscribing CPV (blue). The structural transition from the nontranscribing state to the transcribing state is shown.

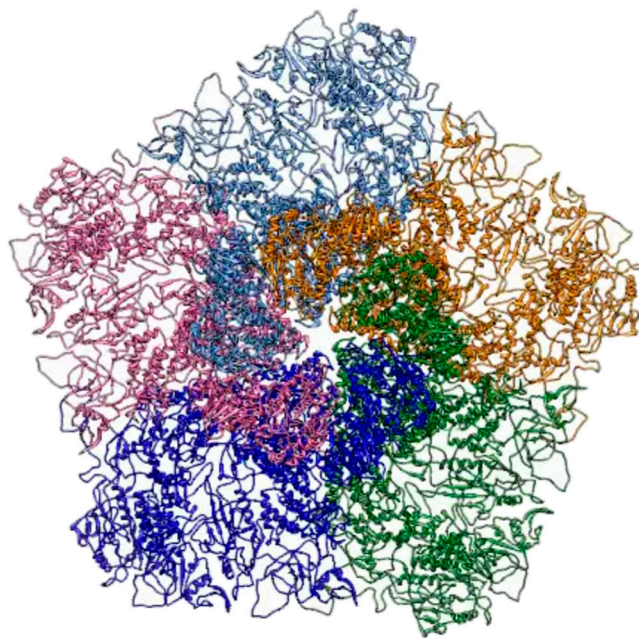
[Movie S2 \(MOV\)](#)





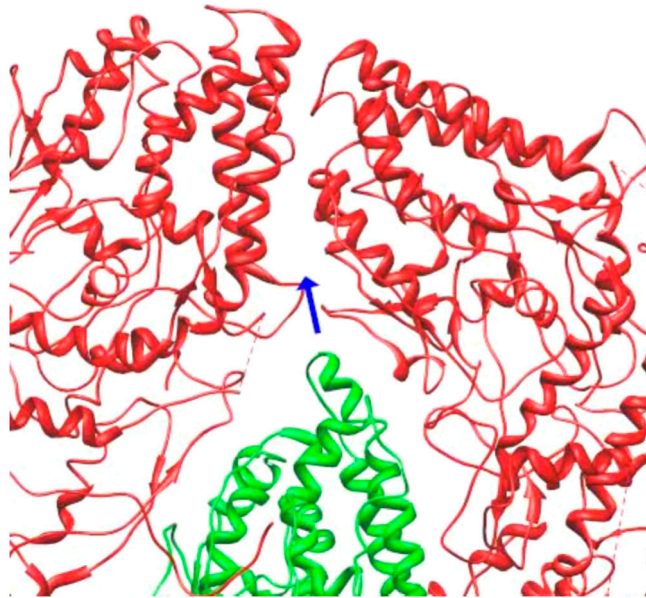
**Movie S3.** Alternative presentation of the slab view of the turret from transcribing CPV (yellow) and nontranscribing CPV (blue). The capsid chamber of transcribing CPV is enlarged.

[Movie S3 \(MOV\)](#)



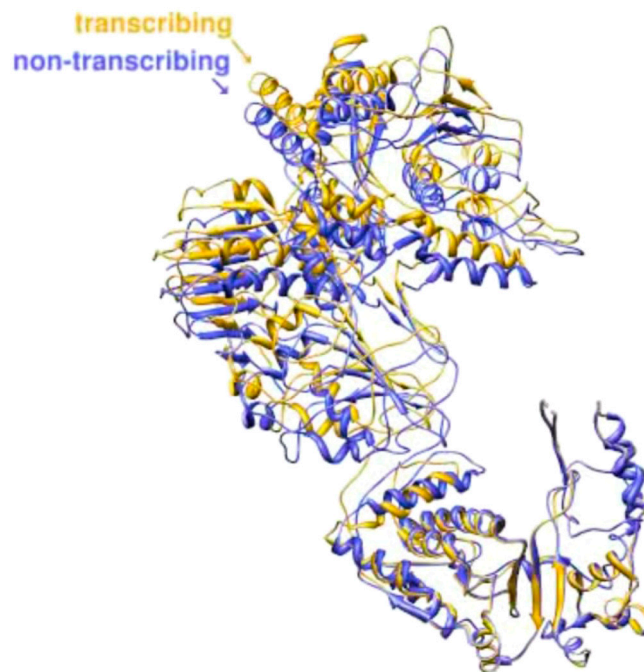
**Movie S4.** The fivefold region from turret protein VP3, and capsid shell proteins VP1A and B around a fivefold axis. The structural transition from the nontranscribing state to the transcribing state is shown.

[Movie S4 \(MOV\)](#)



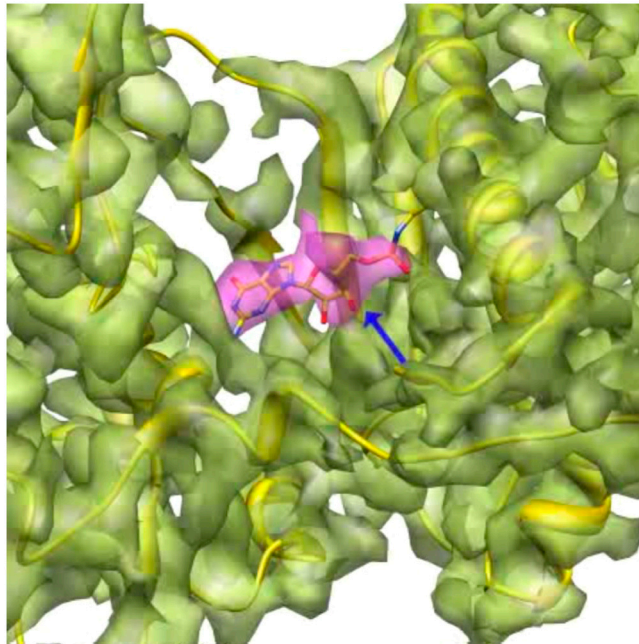
**Movie S5.** The RNA channel in the capsid shell. The RNA channel transition from the nontranscribing state to the transcribing state is shown. The peripentonal channel is indicated by a blue arrow.

[Movie S5 \(MOV\)](#)



**Movie S6.** VP3 from transcribing CPV (yellow) superimposed on VP3 from nontranscribing CPV (blue). The structural transition from the nontranscribing state to the transcribing state is shown.

[Movie S6 \(MOV\)](#)



**Movie S7.** The density map (transparent) of VP3 with its atomic model superimposed and a zoom-in view of the GMP in the GTase domain.

[Movie S7 \(MOV\)](#)