# Article information:

Cryo-EM Structure of an Extended SARS-CoV-2 Replication and Transcription Complex Reveals an Intermediate State in Cap Synthesis - PubMed  
<https://pubmed.ncbi.nlm.nih.gov/33232691/>

# Article summary:

1. Researchers have determined the atomic cryo-EM structure of an extended SARS-CoV-2 replication and transcription complex (RTC) assembled by nsp7-nsp82-nsp12-nsp132-RNA and a single RNA-binding protein, nsp9.

2. Nsp9 binds tightly to nsp12 (RdRp) NiRAN, allowing nsp9 N terminus inserting into the catalytic center of nsp12 NiRAN, which then inhibits activity.

3. The orientation of nsp13 that anchors the 5' extension of template RNA shows a remarkable conformational shift, resulting in zinc finger 3 of its ZBD inserting into a minor groove of paired template-primer RNA.

# Article rating:

Appears well balanced: The article presents the information in a reliable and balanced way, without biases and prejudices. The claims made in the article are well supported and, where applicable, all sides of the argument are given opportunity to present their point of view. The article appears trustworthy and reliable.

# Article analysis:

This article is generally reliable and trustworthy as it provides evidence for its claims in the form of structural snapshots and experiments conducted on the SARS-CoV-2 RTC. The authors provide detailed descriptions of their methods and results, which are supported by figures and tables. Furthermore, they cite relevant literature to support their findings.

The article does not appear to be biased or one sided as it presents both sides equally and does not make any unsupported claims or omit any points of consideration. It also does not contain any promotional content or partiality towards any particular viewpoint or opinion. Additionally, possible risks are noted throughout the article where applicable.

The only potential issue with this article is that it does not explore counterarguments or present alternative viewpoints on its findings. However, this is understandable given that this is a scientific paper rather than an opinion piece or debate article.

# Topics for further research:

* SARS-CoV-2 structure-function relationships
* SARS-CoV-2 receptor-binding domain
* SARS-CoV-2 mutation effects
* SARS-CoV-2 vaccine development
* SARS-CoV-2 antiviral therapies
* SARS-CoV-2 transmission dynamics

# Report location:

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