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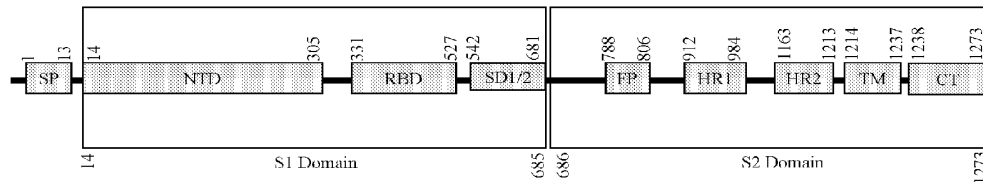
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(54) Title: SARS-COV-2 VACCINE COMPOSITIONS

Fig. 1A



(57) Abstract: Disclosed herein are coronavirus (CoV) Spike (S) polypeptides, including naturally and non-naturally occurring polypeptides, and nanoparticles and immunogenic compositions comprising the same, which are useful for stimulating immune responses against various SARS-CoV-2 strains. The nanoparticles present antigens from pathogens surrounded to and associated with a detergent core resulting in enhanced stability and good immunogenicity. Dosages, formulations, and methods for preparing the vaccines and nanoparticles are also disclosed.