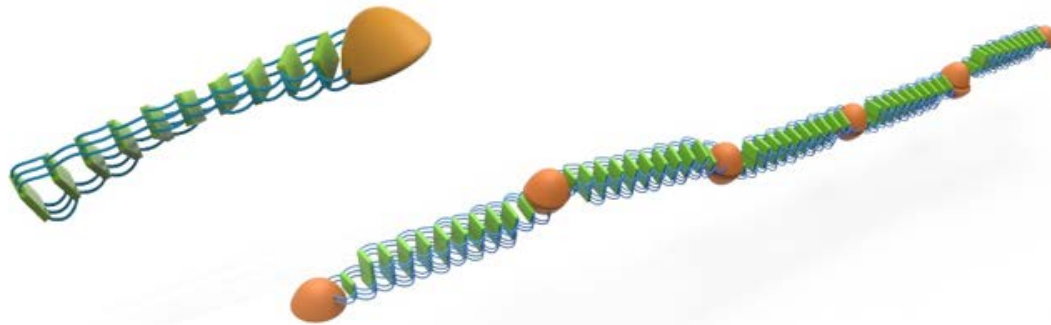


Spider Silk-CBD-Cellulose Nanocrystal Composites: Mechanism of Assembly

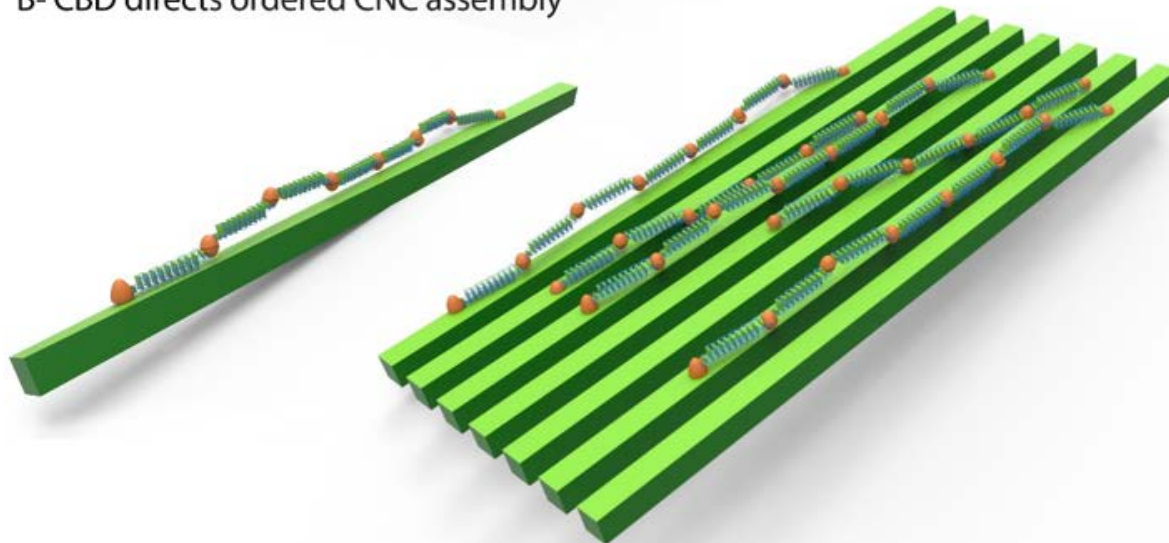
Zvi Shtein¹ Sigal Meirovitch¹, Oded Shoseyov¹



A- CBD as an inner fibril molecular order initiator



B- CBD directs ordered CNC assembly



CBD drives spider silk molecular ordering in two levels. (A) CBD's ability to form dimers encourages spider silk alignment; and (B) CBD's ability to bind CNCs drives directional alignment of silk-CBD-CNC composites.