



**Fig. 1. Design and studies on DNA aptamer-streptavidin-ligand complex.** (A) A schematic of the designed DNA aptamer-streptavidin complex. The DNA three-way junction is where the aptamer binds ligands. In this case the ligand quinine can be bound with submicromolar affinity. (B) An atomic model for the designed complex, illustrating the potential organization. (C). 2D class averages from cryo-EM data collected on the Glacios microscope while screening the quality of the grids. (D). Initial 3D volume from the good 2D class averages.