

Figure A. Representative hole mag (1) and corresponding high image (2) of phosphorylated RNA polymerase-TFIIF (pPoIF) complex for proposed data collection. Grids are 2/2 um Quantifoils 200 and 300 meshes. Grids screened locally for particle distriubiton and optimal ice thickness on Tecnai TF20 with Falcon III direct detector Figure B. Class averages from ~40,000 particles obtained from locally collected data show classes consistent with RNA polymerase. Data analysis performed in cryosparc (top panel) and Relion (bottom panel). Figure C. Initial 3D Model from subsetted particles fit with crystal structure of RNA pol II (PDB 1y1v). Map is consistent with polII though at current resolution no additional densities for TFIIF or CTD are apparent.