**Sample information:** Full-length 5-HT $_{3A}$  protein. It has been purified in 20mM HEPES pH 8.0, 150mM NaCl, 0.01% C12E9. Filtered 5-HT $_{3A}$  (~3mg/ml) was incubated with 3mM Fluorinated Fos-choline 8 and modulators. The sample was blotted onto 200 mesh Quantifoil 1.2/1.3 grids and grid was plunge frozen using Vitrobot. Representative images are shown below.

**Imaging Conditions**: The grids were imaged using a 200kV JEOL JEM2200FS microscope equipped with DE20 camera. Pixel size was 1.24 A. Dose rate was 40 e/A<sup>2</sup>/sec. Total dose 60 Total frames 1 (1 sec exposure). Defocus range 1.5-3.



