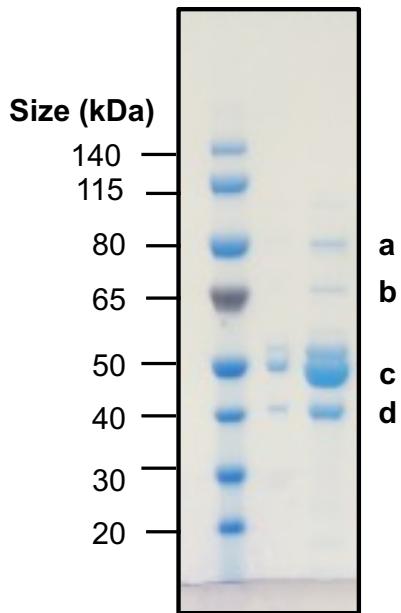
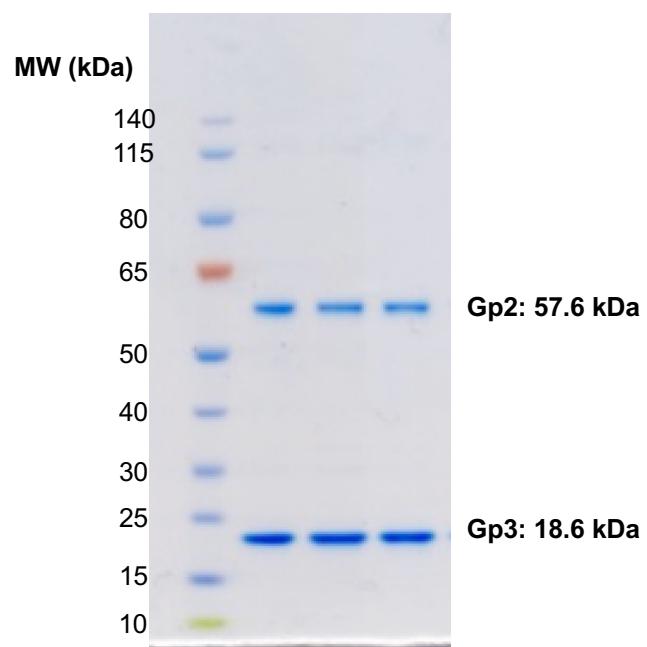
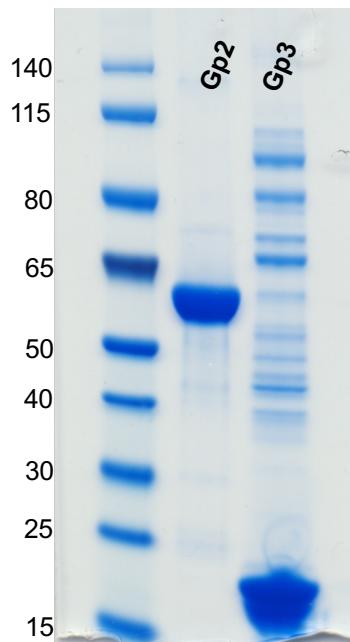


**Supplementary Figure 1. Random Conical Tilt data acquisition.** To improve sample contrast, sample was applied to thin carbon layer over the holes of C-Flat grids. Both zero (left) and -55° (right) image pairs were collected with a nominal magnification of 52000x, 1mm defocus, 2.05 Å pixel size and a dose of 20.15 e-/Å<sup>2</sup>. Particles were picked (red circles) using Difference of Gaussian algorithm.

**A****B**

**Supplementary Figure 2. Purification of P22 procapsid.** (A) Procapsids migrate to interface of  $d = 1.2\text{-}1.4$  CsCl step gradient. Procapsids appear as lens (orange arrow) when illuminated from above. (B) SDS PAGE gel indicating the components of the P22 procapsid. (a) gp1/Portal, (b) gp16/Injection protein, (c) gp5/Coat, (d) gp8/Scaffold.

**A****B**

**Supplementary Figure 3. P22 Terminase Complex. (A)** SDS-PAGE Coomassie gel showing triplicate runs of the gp2:gp3 complex. **(B)** Coomassie-stained SDS-PAGE gel depicting isolated gp2 and gp3 proteins.