

Description of Additional Supplementary Files

Supplementary Movie 1: Cryo-EM structure of the *Msm* HeID-RNAP complex in State I – PCh-engaged. The movie shows LocScale filtered cryo-EM map of State I in two perpendicular rotations. The individual RNAP parts and HeID domains are labelled and color-coded as in Fig. 1.

Supplementary Movie 2: Cryo-EM structure of the *Msm* HeID-RNAP complex in State II – PCh-engaged and AS-interfering. The movie shows LocScale filtered cryo-EM map of State II in two perpendicular rotations. The individual RNAP parts and HeID domains are labelled and color-coded as in Fig. 1.

Supplementary Movie 3: Cryo-EM structure of the *Msm* HeID-RNAP complex in State III – PCh dis-engaged and AS-interfering. The movie shows LocScale filtered cryo-EM map of State III in two perpendicular rotations. The individual RNAP parts and HeID domains are labelled and color-coded as in Fig. 1.