



**Supplementary information, Figure S6** Conformation comparison of our proteasome-ADP-AIFx map with the previously reported cryo-EM proteasome maps. **(A)** Comparison of proteasome-ADP-AIFx map (dodger blue) with the substrate-engaged proteasome map (goldenrod, EMDB ID: 5669) [17], revealing a similar overall conformation between them. **(B)** Comparison of proteasome-ADP-AIFx map (dodger blue) with the map of proteasome in the M1 state (orchid, EMDB ID: 6574) [23], indicating a noticeable rearrangement in the 19S RP (direction indicated by a black arrow in the top view). **(C-D)** Comparisons of proteasome-ADP-AIFx map (dodger blue) with the maps of proteasome in the S2 (yellow, EMDB ID: 2595) [18] and S3 (salmon, EMDB ID: 2596) [18] states, respectively. In these comparisons, noticeable relative rotation especially in the 19S RP region can be observed, but with different rotation directions (indicated by black arrow).