

## **Descriptions of Additional Supplementary Files**

File Name: Supplementary Movie 1

Description: TEM tomography of E. coli BL21 \* (DE3) cells producing a permuted variant of PduA (PduAP)

File Name: Supplementary Dataset 1

Description: Synthesized DNA – cloned into XbaI/NdeI sites of pET14b

File Name: Supplementary Dataset 2

Description: Synthesized permuted PduA – cloned into NdeI/BamHI sites of pET3a

File Name: Supplementary Dataset 3

Description: N-Terminal coiled-coil peptides, coiled-coil regions underlined

File Name: Supplementary Dataset 4

Description: Plasmids Used in this study