

Supporting Information

A functional protein retention and release multilayer with high stability

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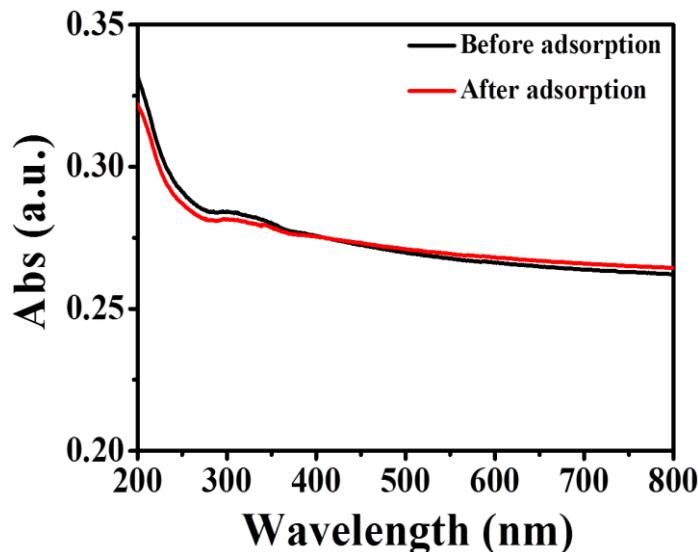


Figure S1 The substrate covered by only polymeric $(\text{PAH}/\text{PAA})_5/(\text{PAH}/\text{DAS})_5$ multilayers displayed no characteristic absorbance for CAT.

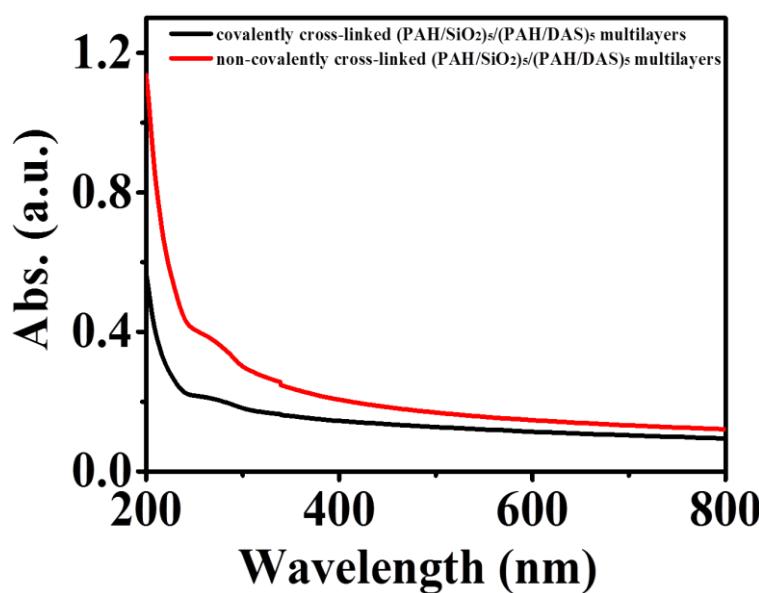


Figure S2 The covalently cross-linked $(\text{PAH}/\text{SiO}_2 \text{ NP})_5/(\text{PAH}/\text{DAS})_5$ hybrid multilayers loaded smaller amount of CAT compared with the uncross-linked multilayers after the same period of CAT infiltration.

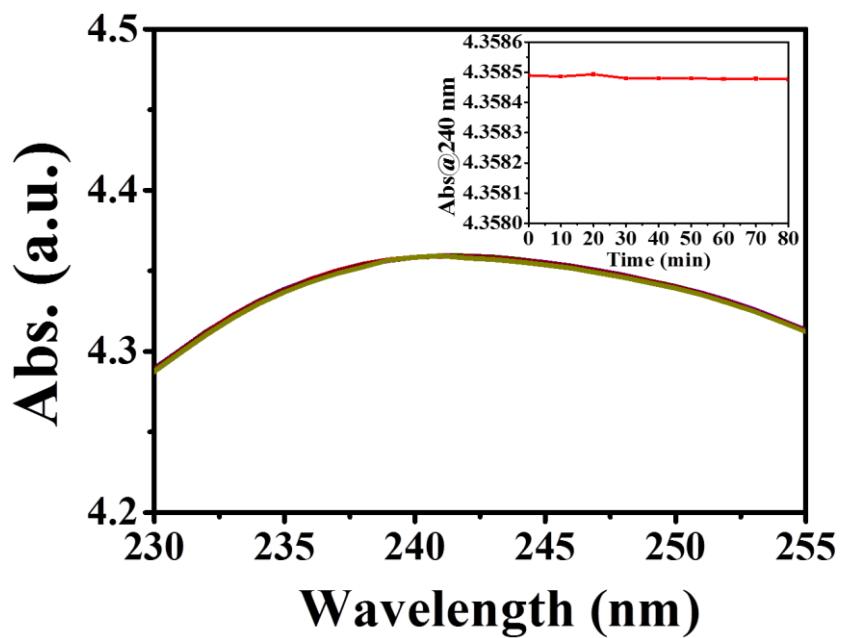


Figure S3 (CAT/PAH)₅/(PAH/DAS)₅ films assembled without the mesoporous silica reservoir failed to display any catalytic activities towards H₂O₂ decomposition, indicating that the enzymes therein were deactivated.

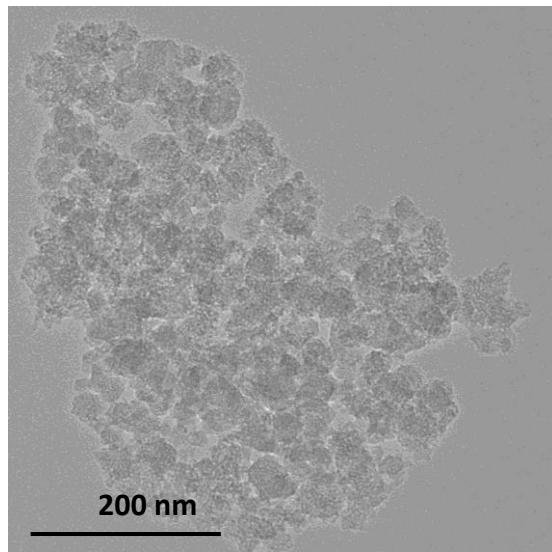


Figure S4 TEM images of mesoporous silica.