A new strategy to make an artificial enzyme: Photosystem II around

nanosized manganese oxide

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Fig. S1 The (HR)TEM images of the obtained the Mn oxide in the absence of APSII.



Fig. S2 The (HR)TEM images of APSII.



Fig. S3 The (HR)TEM images of **1**.



Fig. S3 The (HR)TEM images of 1 (continue).



Fig. S4 The SEM images of the obtained the Mn oxide in the absence of APSII.



Fig. S5 The SEM images of 1.







Fig. S7 The excitation-emission landscapes of PSII (initial volume = 10 ml and C = 0.001 g/ml) in titration. with 0.2 M acid and base in range of pH=2-12.



Fig. S8 The excitation-emission landscapes of APSII (initial volume = 10 ml and C = 0.001 g/ml) in titration with 0.2 M acid and base in range of pH=2-12.



Fig. S9 The excitation-emission landscapes of **1** (initial volume = 10 ml and C = 0.0006 g/ml) in titration with 0.2 M acid and base in range of pH=2-12.