Electronic Supplementary Information

A General Protocol for π–conjugated Molecules–based Micro/nanospheres: Artificial Supramolecular Antenna in terms of Heterogeneous Photocatalysis

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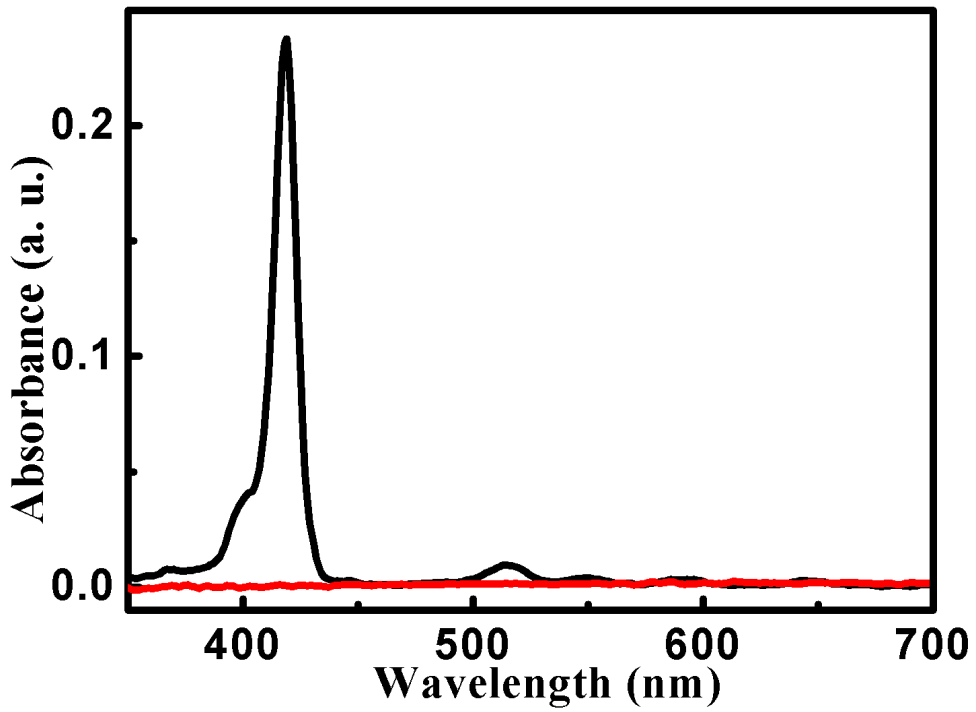

Fig. S1 UV–Vis spectrum of TPP molecules dissolved in chloroform (black) and that of the corresponding dispersion (red) obtained using plain water as host solution.

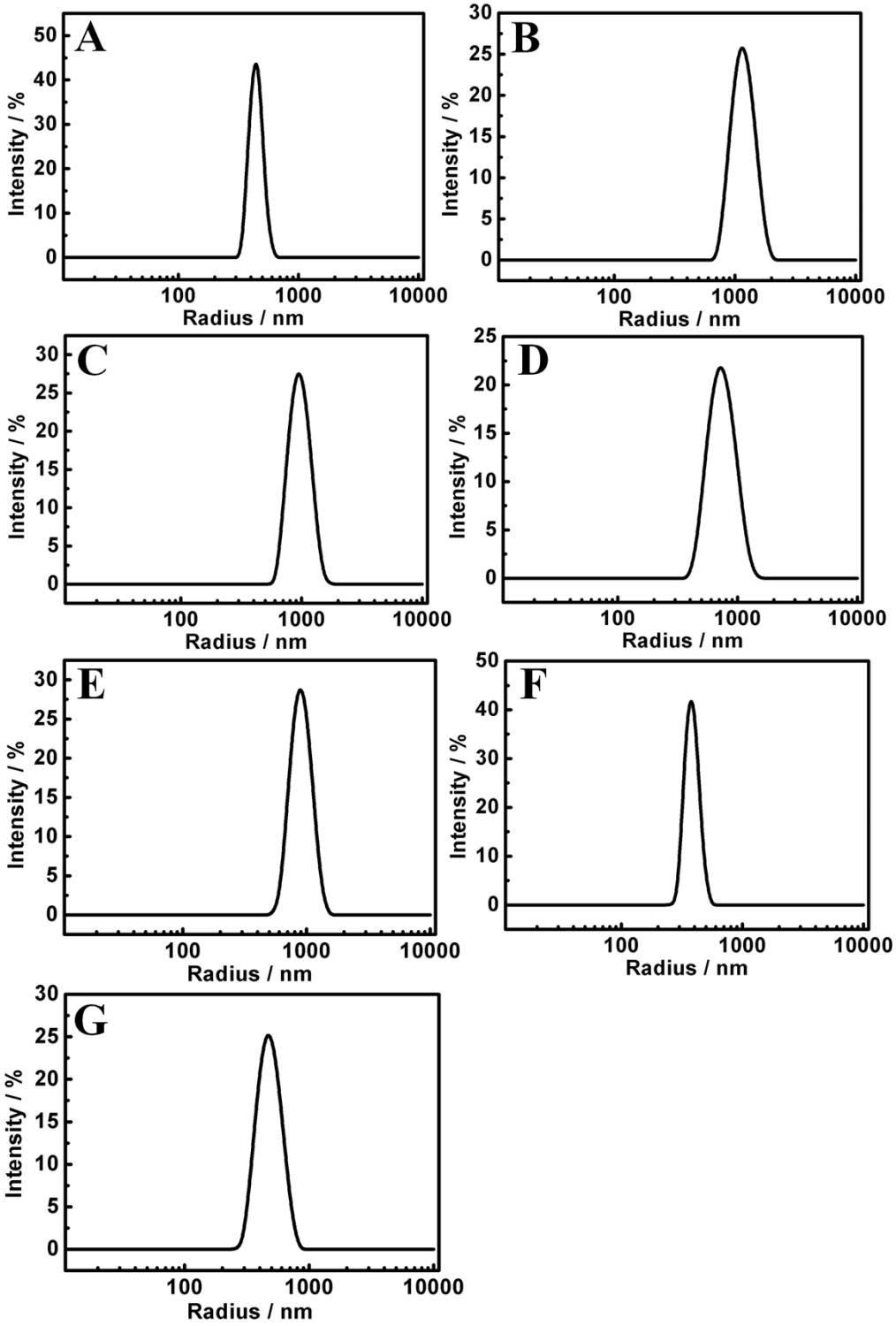

Fig. S2 DLS histograms of the as–fabricated spherical structures: TPP (A), TPPDOMe (B), TPPCOOH (C), TPPCOOMe (D), $SiPc(OH)_2$ (E), NDI(F), and NH_2AN (G).

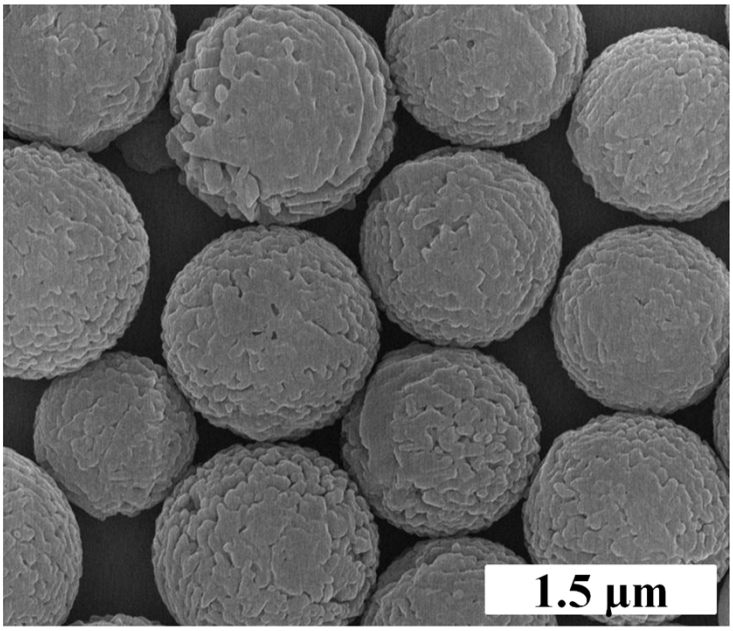

Fig. S3 SEM image of our TPP spheres produced by aging the assembly systems for 2 weeks.

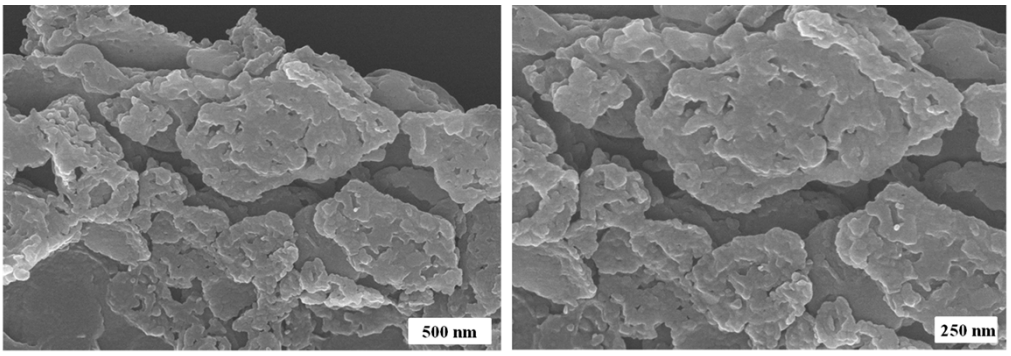

Fig. S4 SEM images of the TPP aggregates obtained using plain water as host solution. The aggregates absorbed on the stirring bar or floating on the surface of the dispersion were collected and their SEM images were measured.

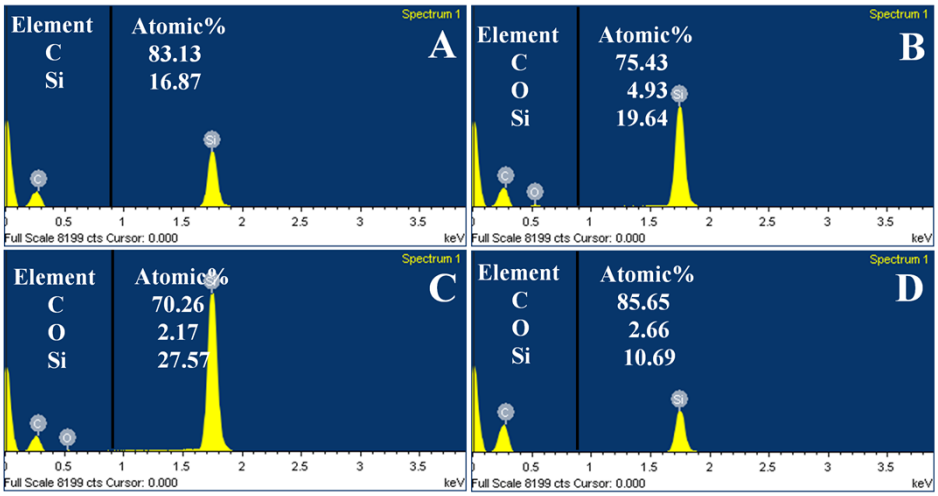

Fig. S5 EDX elemental analyses of the as–produced porphyrin spheres: TPP (A), TPPDOMe (B), TPPCOOH (C), and TPPCOOMe (D).

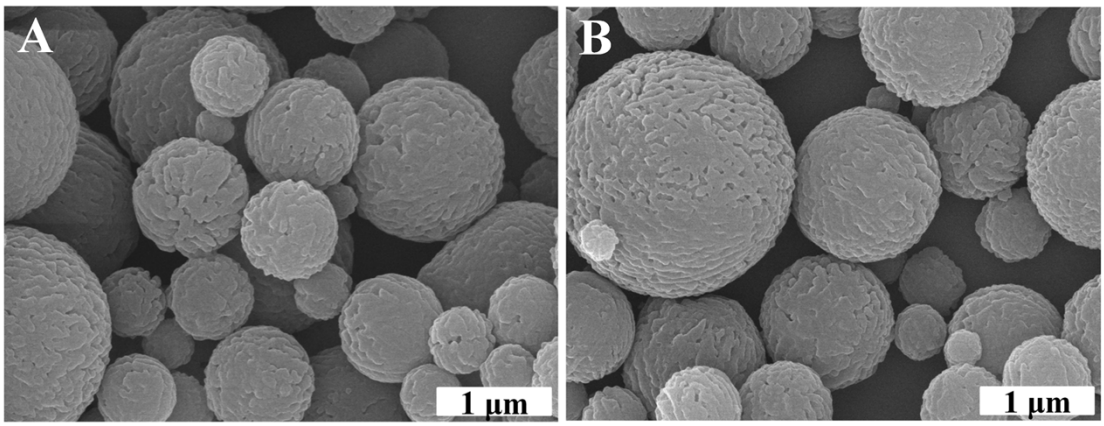

Fig. S6 SEM images of the TPP spheres produced by using SDBS aqueous solutions of different concentrations as the host phase. The concentration of the employed SDBS solution is 1.25 (A) and 20 (B) mM, respectively.

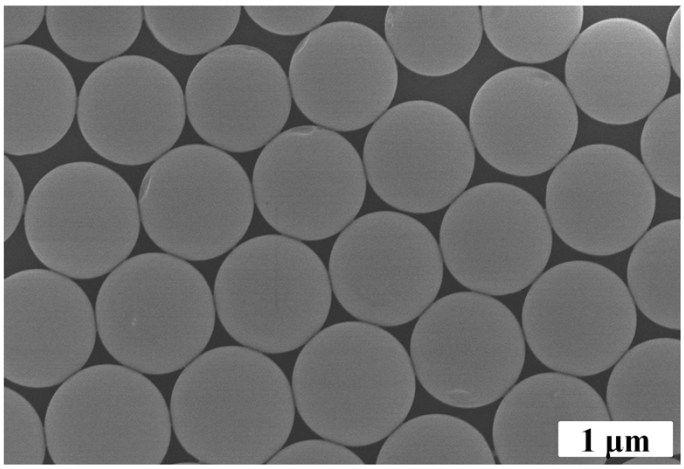

Fig. S7 Typical SEM image of the TPPDOMe spheres produced by using an aqueous solution of CTAB as the host phase.

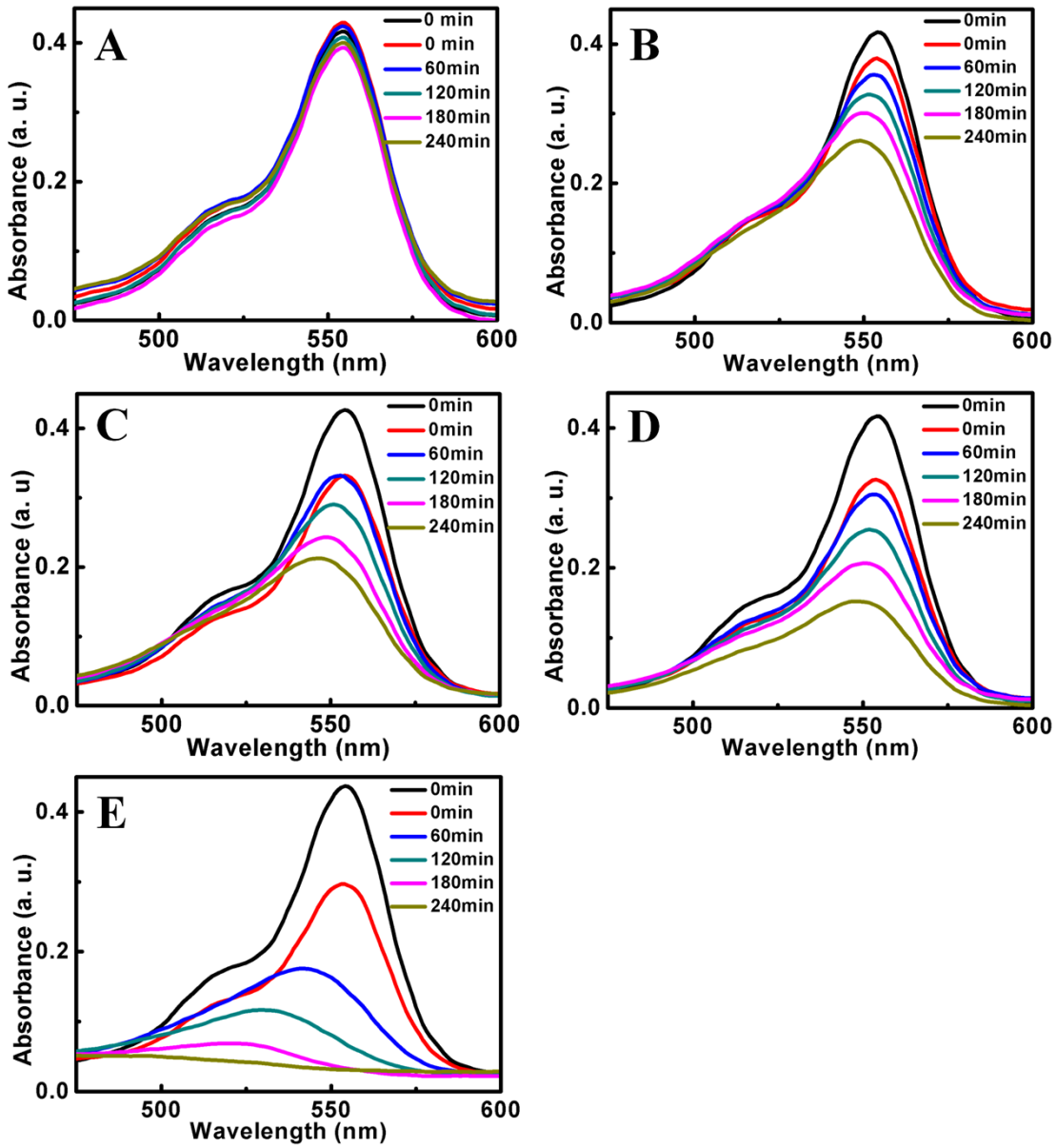

Fig. S8 Real–time absorption spectra of RhB dye measured during the photocatalytic performances. A): The result obtained from a blank experiment, wherein no photocatalysts are involved. B–E): the employed photocatalysts are TPPCOOMe (B), TPPCOOH (C), TPPDOMe (D), and TPP (E), respectively. The black and red curves marked as 0 minute are the absorption spectra detected from the original RhB solution before (black) and after (red) the dark adsorption experiment, respectively.

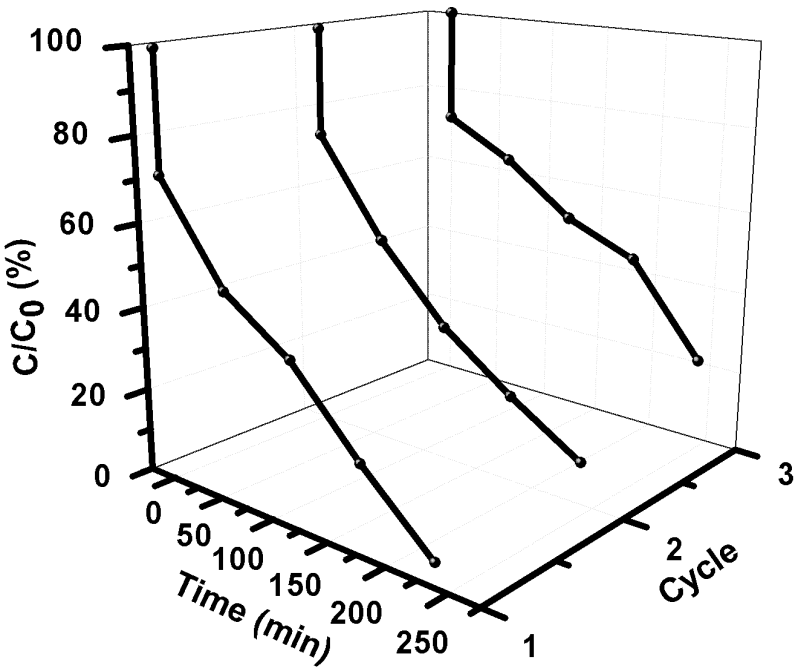

Fig. S9 Three consecutive cycling photodegradation curves of RhB molecules over our TPP spheres under visible light irradiation.

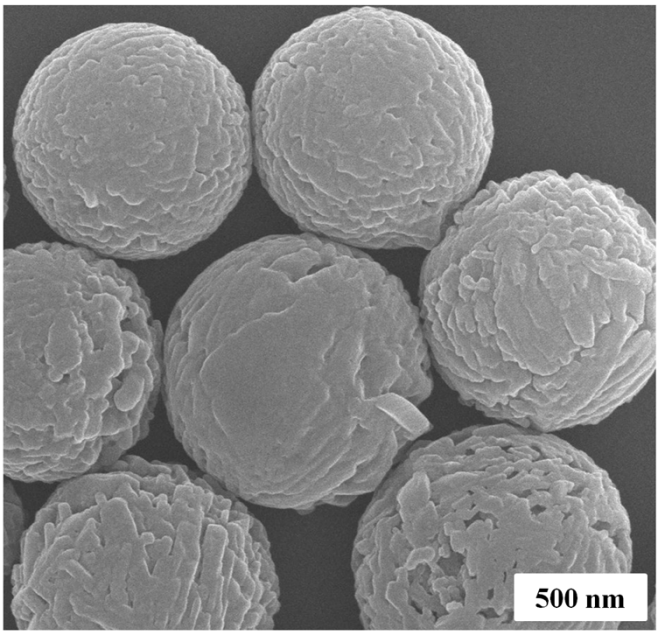

Fig. S10 The SEM image of the TPP spheres measured after the catalytic performances.

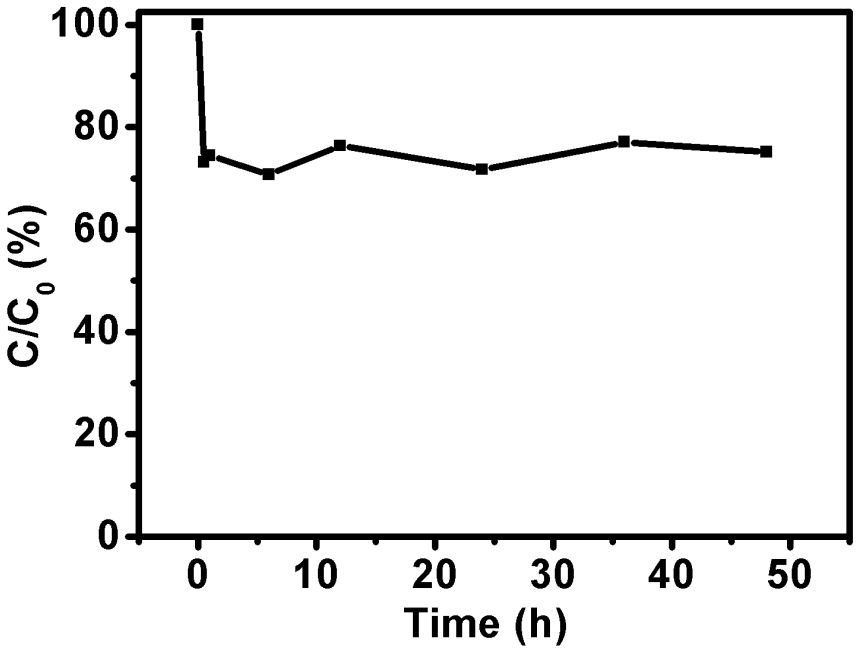

Fig. S11 The adsorption behaviors of our TPP spheres toward RhB molecules in a dark room during a period of 48 hours.