Electronic Supplementary Material (ESI) for Nanoscale.

Supporting Information for

One-Step Synthesis of Cross-Linked and Hollow Microporous Organic-Inorganic Hybrid Nanoreactors for Selective Redox Reactions

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Supplementary Figure

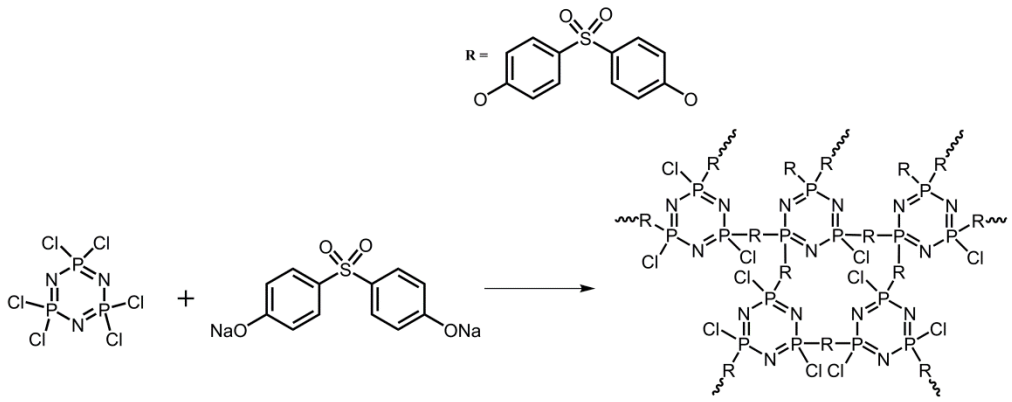


Figure S1. Illustration of the polymerization of PZS.

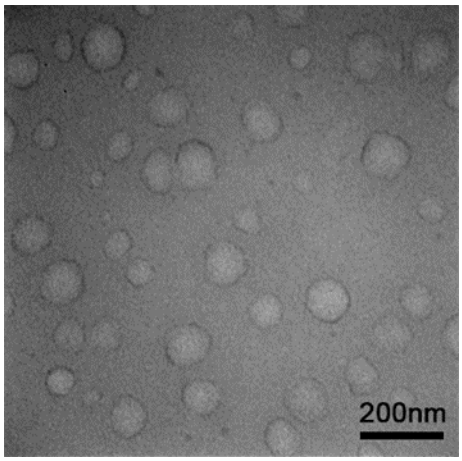


Figure S2. TEM image of the PZS HMNs after adding NaOH solution (5 ml, 0.05 M) for 1.5 min.

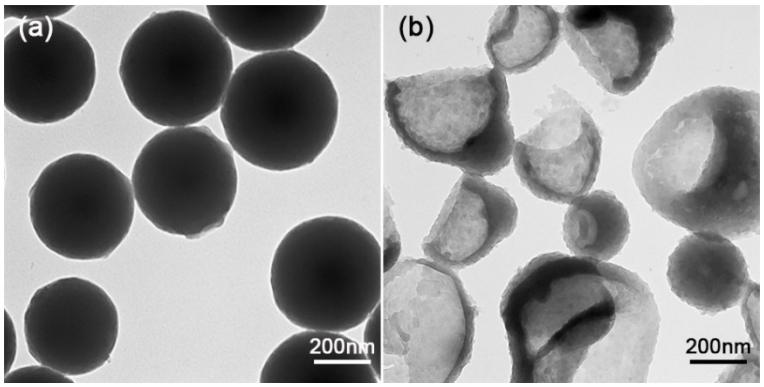
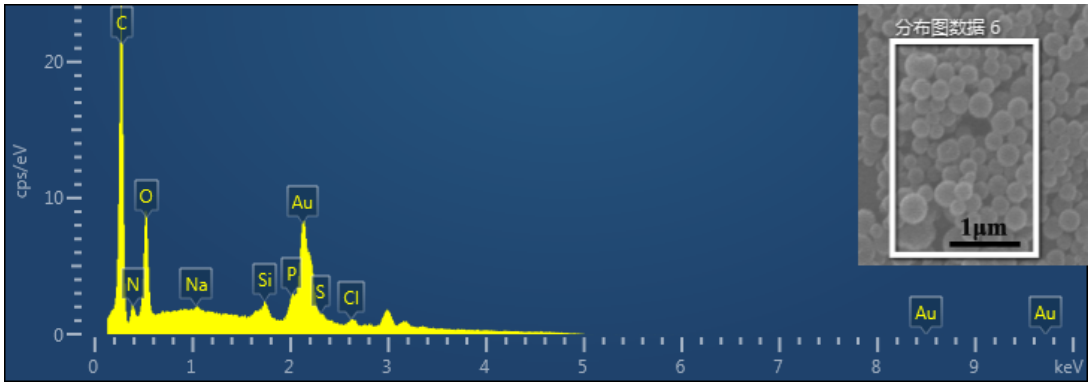


Figure S3. TEM image of the PZS nanomaterials after adding 5 mL NaOH solution: (a) 0.025M, and (b) 0.063M.



Elemental	C	N	O	Na	Si	P	S	Cl	Au	Total
Percent (%)	65.60	2.22	9.33	0.31	2.07	4.72	2.93	2.46	10.35	100

Figure S4. EDS analysis of PZS nanoshells (white box region in SEM image). Each analysis corresponds to an area of ca. 5–6 μm^2.

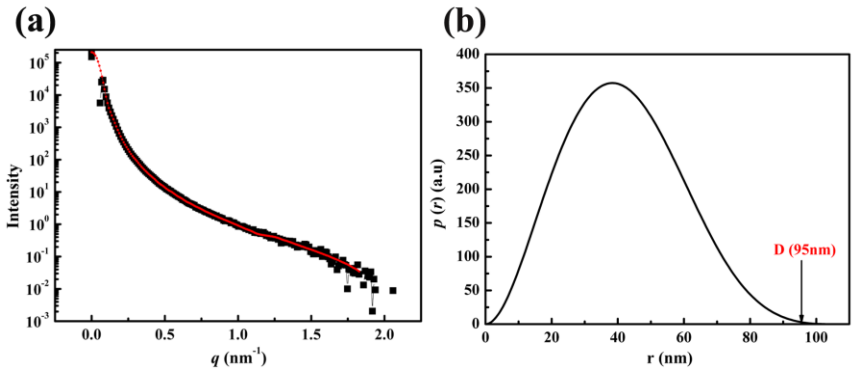


Figure S5. (a) Morphological characterization of PZS nanoshells by small-angle X-ray scattering. The radius of gyration (Rg) determined by Guinier analysis. (b) Pair distance distribution functions (PDDFs), D= 95 nm.

The $p(r)$ functions are calculated using following fomular.

$$P\,(q) = 4\pi \int_{-\infty}^{\infty} (p) r \frac{\sin(qr)}{r}\, dr$$

Table S1. Zeta Potentials of Pt@PZS and PZS suspensions in water.

Sample	Zeta Potential[a] (mV 25°C)
Pt@PZS	-30±0.41
PZS	-26±0.30

[a] Values are averaged from three measurements.

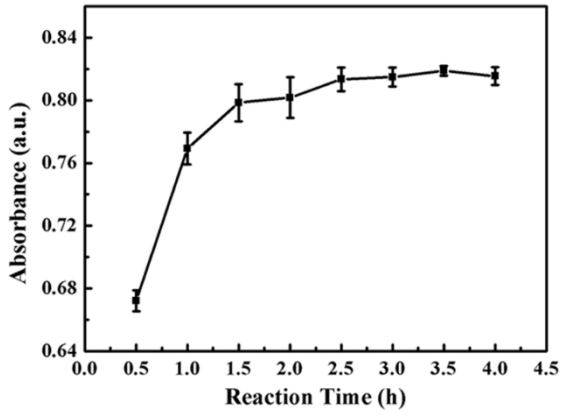


Figure S6. Time-dependent absorbance changes at 650 nm for the oxidation of TMB catalysed by the Pt@PZS in NaAc buffer (pH 4.0) at room temperature. TMB: 0.25 mM.

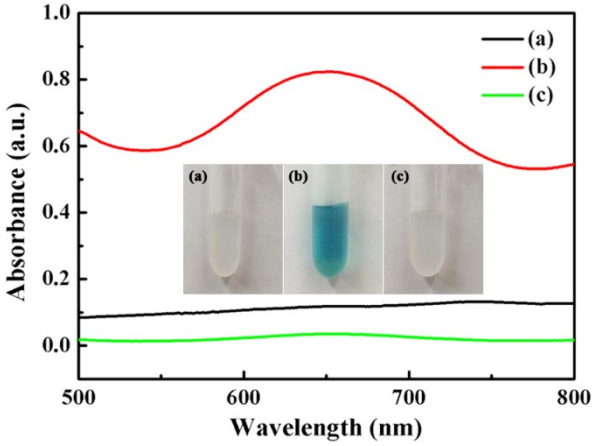


Figure S7. UV-vis absorption spectra of TMB solutions reacting for 4h in the presence of Pt@PZS and the inset corresponds to photography of (a) the TMB solutions (b) the TMB solutions after reaction in the presence of the Pt@PZS, (c) Pt@PZS after centrifuging and washing by ethanol.