

Supporting Information

Theophylline-Bearing Microspheres with Dual Features as Coordinative Adsorbent and Catalytic Support for Palladium Ions

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Fig. S1. Snapshot image of wettability of μ -T1 (left), μ -T2 (right) (5mg) in the phase-separated mixture of diethyl ether/water (2.0 mL/2.0 mL).

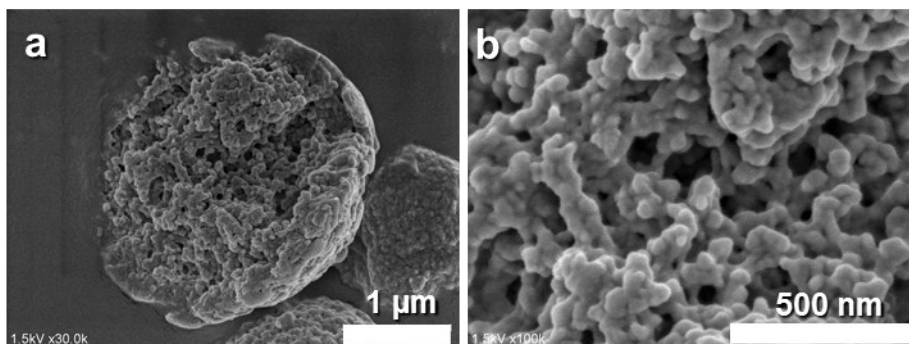


Fig. S2. SEM section images of the internal structure of μ -T2.

Table S1. Specific surface areas and pore properties of microspheres

type of microball	surface area ^{a)} ($\text{m}^2 \text{g}^{-1}$)	Pore size (nm)	pore volume ($\text{cm}^3 \text{g}^{-1}$)
μ -1	1.7	76.3	0.0055
μ -T1	1.9	61.7	0.0068
μ -2	1.5	77.0	0.0071
μ -T2	1.9	62.2	0.0130

a) Specific surface area based BET method.

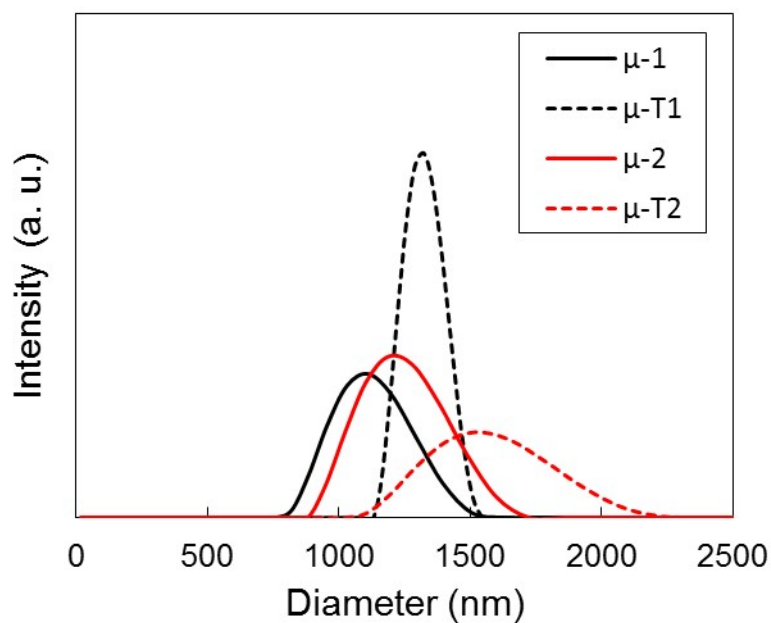


Fig. S3. DLS results of $\mu-1$, $\mu-T1$ and $\mu-2$, $\mu-T2$.

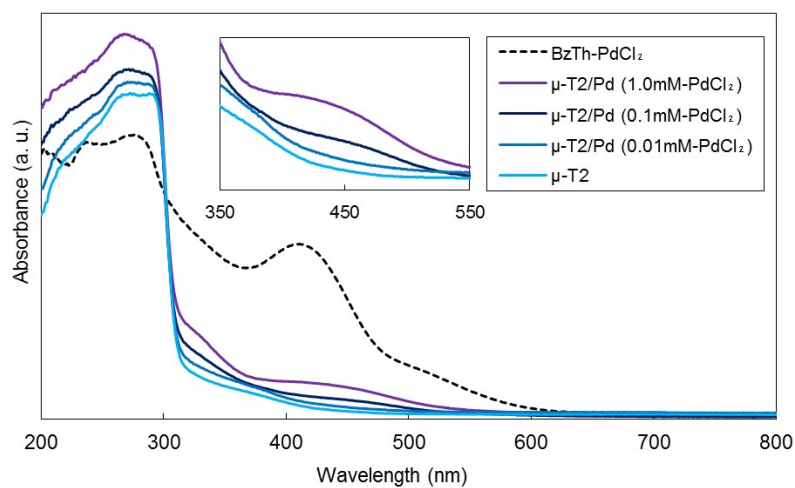


Fig. S4. UV-vis spectra of $\mu-T2$ adsorbed from different palladium(II) concentration solutions and comparison of benzyltheophylline-PdCl₂ complex. Enlargement view indicate absorbance at 420 nm corresponding to palladium.

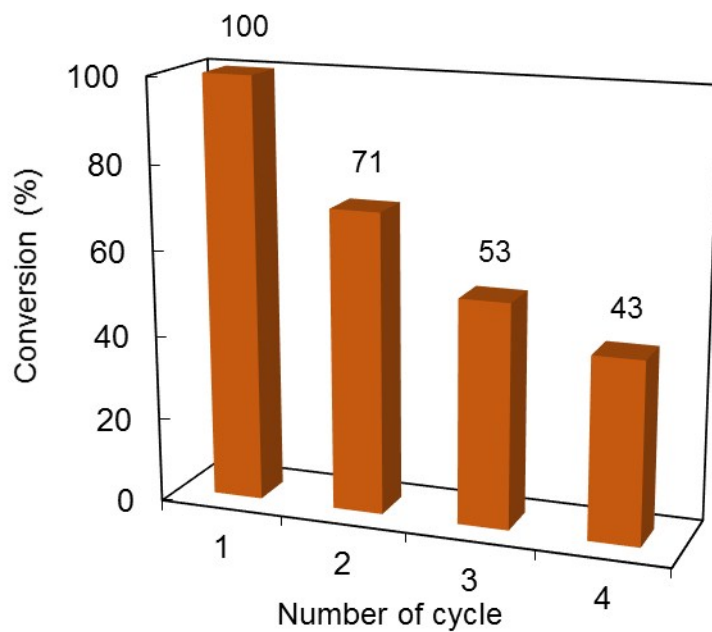


Fig. S5. The recycling test of the catalyst of Pd-loaded microsphere of μ -T2. Reaction conditions: bromobenzene (1.0 mmol), phenylboronic acid (1.5 mmol), K_2CO_3 (2.5 mmol), 2.0 mol% of Pd, H_2O (2 mL), 50 °C for 1h.

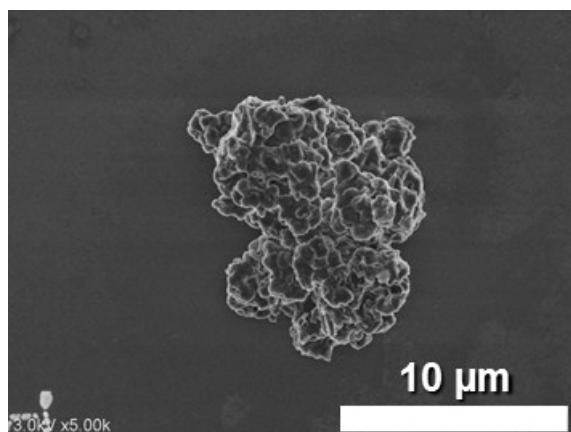


Fig. S6. SEM image of Pd-loaded μ -T2 after reuse of the 4th time.