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Supporting Information

In_6S_7 Nanoparticle-Embedded and Sulfur and Nitrogen Co-doped Microporous Carbons Derived from $In(tdc)_2$ Metal-Organic Framework

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Calculation of specific capacitance, specific energy, and specific power

The specific capacitances from cyclic voltammetry curves are calculated from the following equation [R1]:

$$C = \frac{1}{2m \cdot v \cdot \Delta V} \int I_{(V)} dV$$

where, m: mass of active material (g)
v: potential scan rate (V/s)
ΔV: sweep potential window (V)
$I_{(V)}$: voltammetric current on the curves (A)

The specific capacitances from galvanostatic charge/discharge curves (chronopotentiometry) are calculated from the following equation [R2]:

$$C = \frac{I \cdot \Delta t}{m \cdot \Delta V}$$

where, I: applied current (A)
Δt: discharge time (s)
m: mass of active material (g)
ΔV: discharging potential window (V)

The specific energy (E) was obtained from galvanostatic charge/discharge curves using the following equations [R3]:

$$E = \frac{1}{2} \cdot \frac{1000}{3600} C_{sp} (\Delta V)^2$$

where, C_{sp}: specifc capacitance (F/g)
ΔV: discharging potential window (V)
E: specific energy (Wh/kg)

[R1] H. Pang, J. Deng, J. Du, S. Li, J. Li, Y. Ma, J. Zhang, *J. Chem. Soc., Dalton Trans.* 41 (2012) 10175-10181.
[R2] J.-W. Wang, Y. Chen, B.-Z. Chen, *J. Electrochem. Soc.* 162 (2015) A1654-A1661.
[R3] J. S. Suroshe, S. S. Garje, *J. Mater. Chem. A* 3 (2015) 15650-15660.

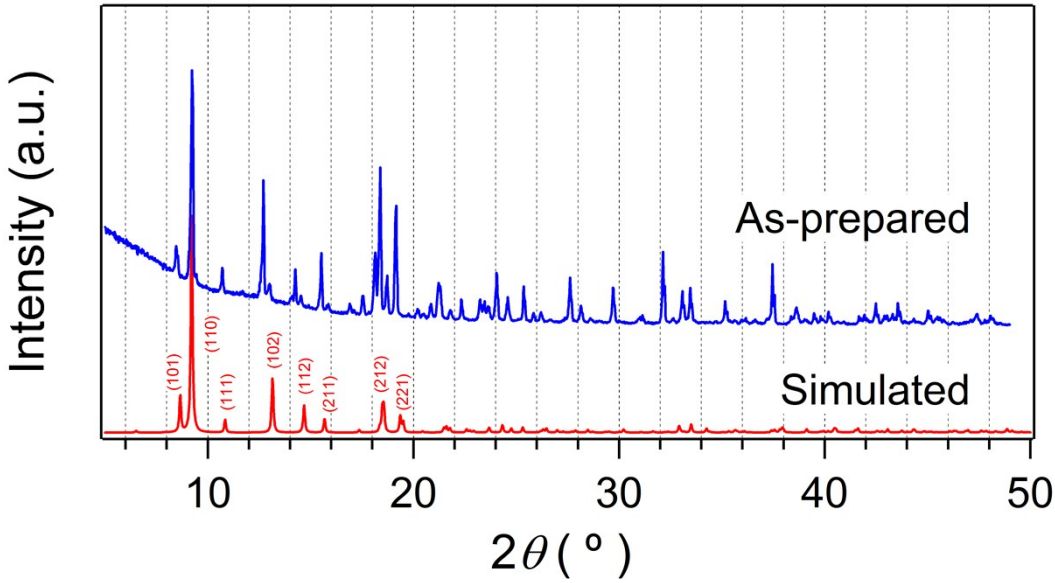


Figure S1. PXRD pattern of the as-prepared In-MOF, $[Et_2NH_2][In(tdc)_2]\cdot DFF$, and the corresponding simulated pattern from X-ray crytallography data of $[Me_2NH_2][In(tdc)_2]\cdot DMF$.

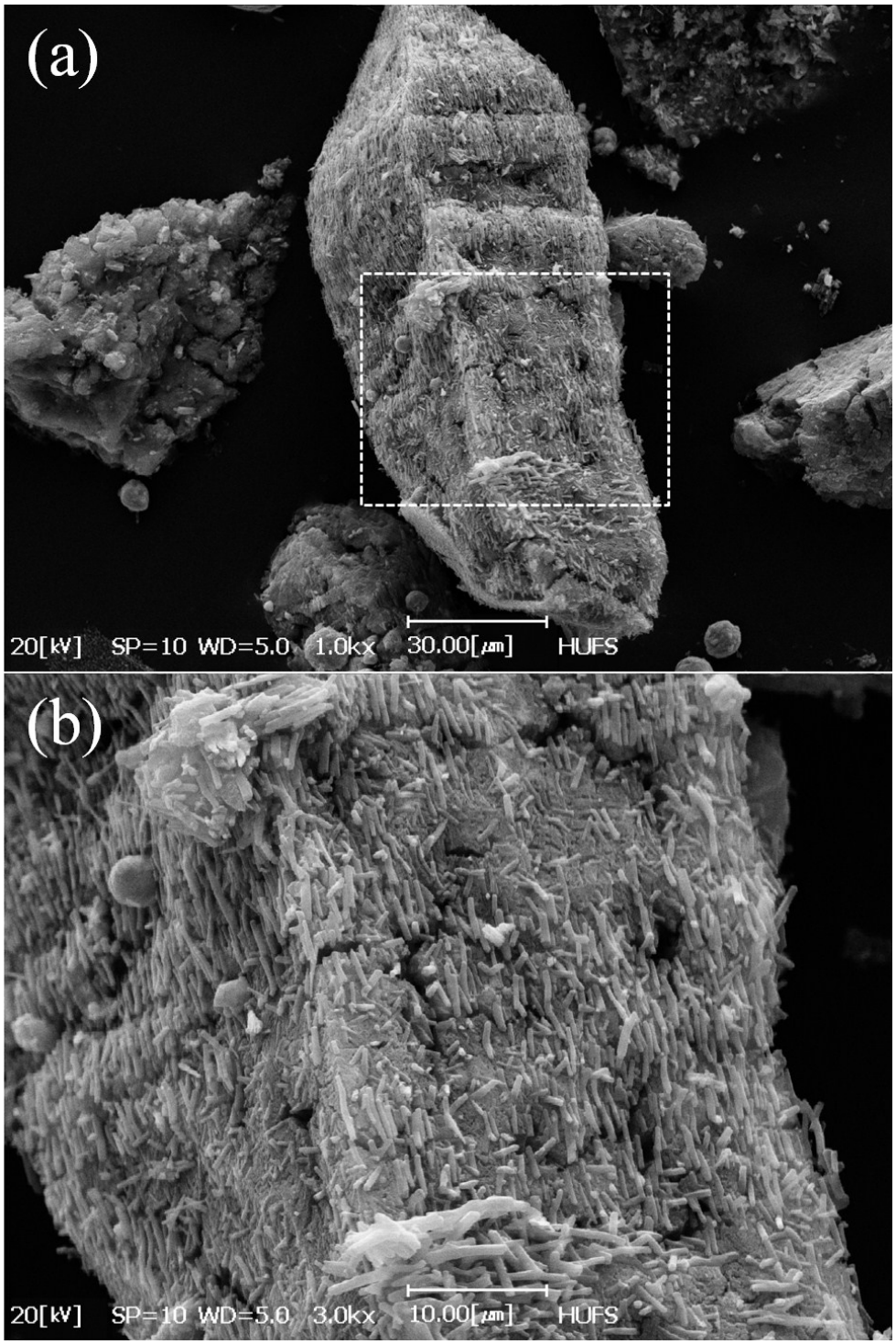
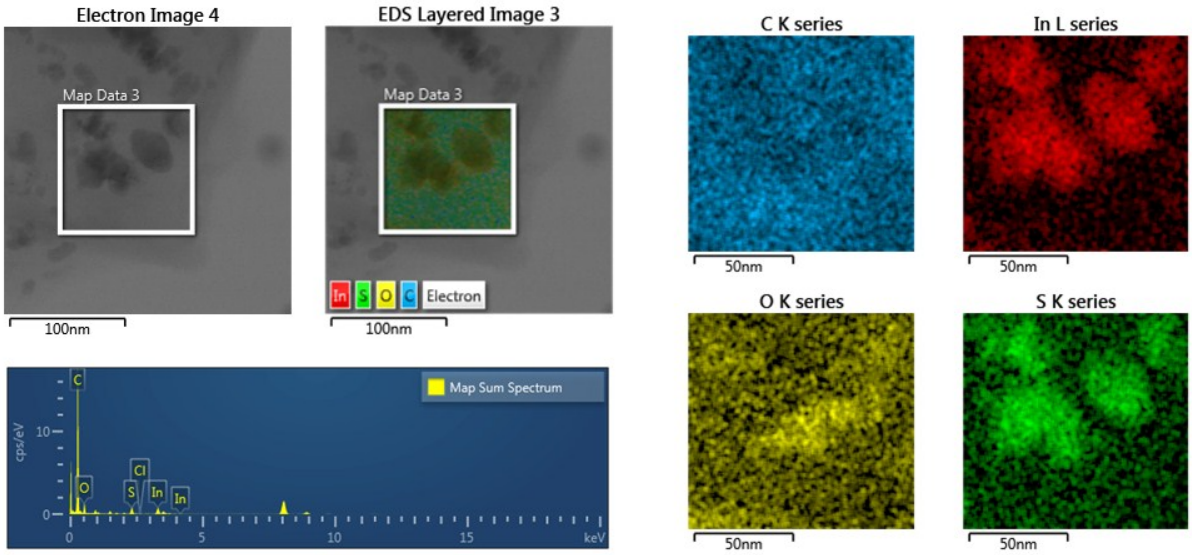


Figure S2. SEM images of PCM-900 on different magnifications. The image (b) is an expanded view of the boxed area of image (a) (Coxem CX-100S, accelerating voltage = 20 kV).



Element	Line Type	k Factor	k Factor type	Absorption Correction	Wt%	Wt% Sigma	Atomic %
C	K series	3.115		1.09	86.73	0.14	94.93
O	K series	1.455		1.36	4.08	0.09	3.35
S	K series	0.980		0.99	2.20	0.04	0.90
Cl	K series	1.004		0.99	0.08	0.02	0.03
In	L series	1.854		0.99	6.91	0.11	0.79
Total:					100.00		100.00

Figure S3. TEM-EDS elemental mapping images of ultramicrotomed PCM-800 embedded in Epon resin (JEOL C_S-corrected JEM-ARM200F with a cold FEG, accelerating voltage = 200 kV).

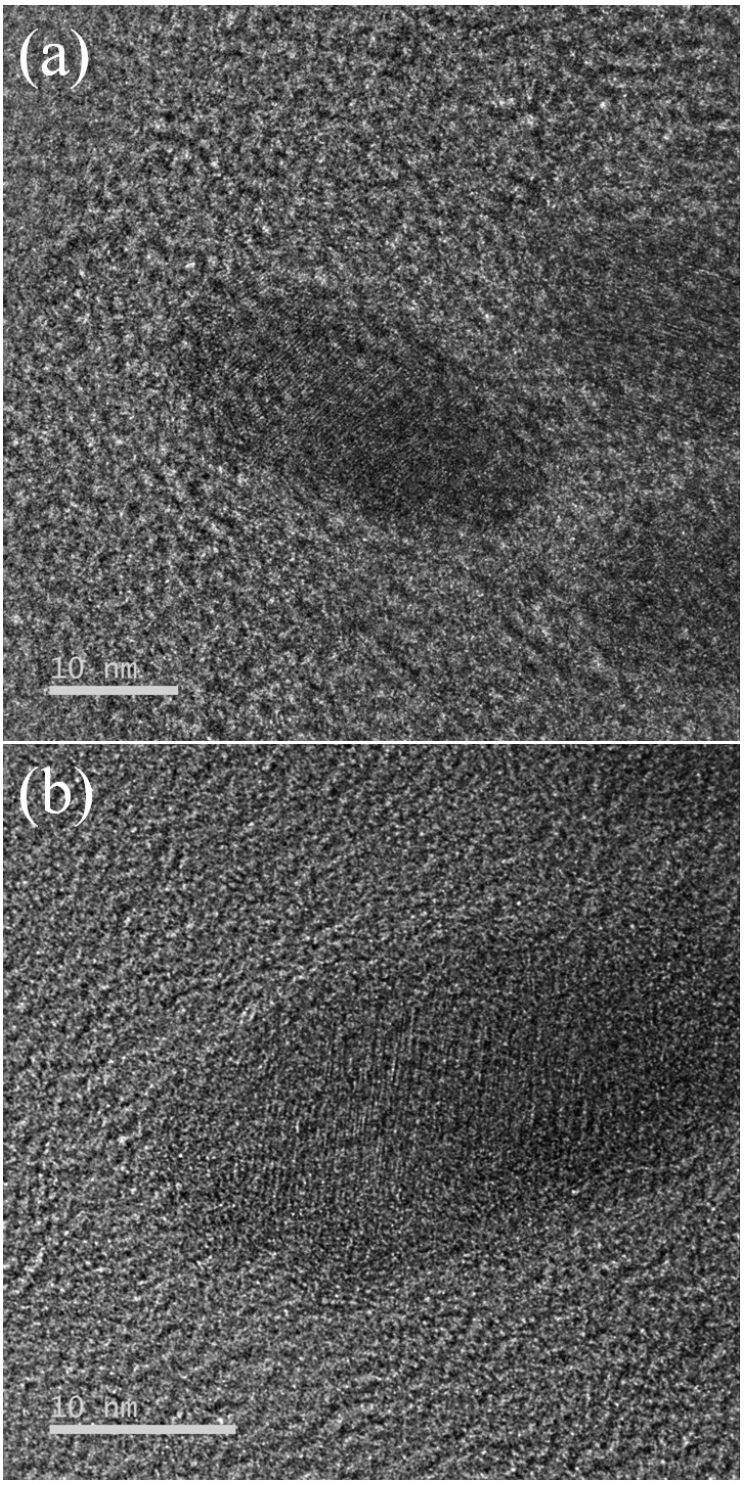


Figure S4. HR-TEM images of ultramicrotomed PCM-800 embedded in Epon resin (JEOL C_S-corrected JEM-ARM200F with a cold FEG, accelerating voltage = 200 kV).

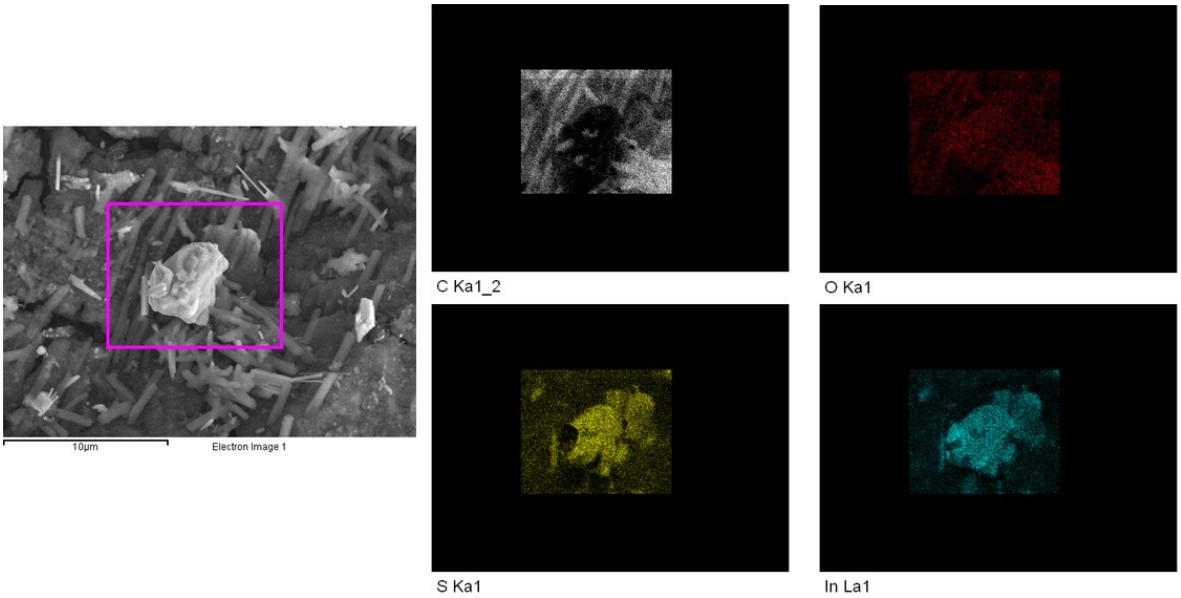


Figure S5. SEM-EDS elemental mapping images of PCM-900 (Hitachi SU-70, accelerating voltage = 5 kV).

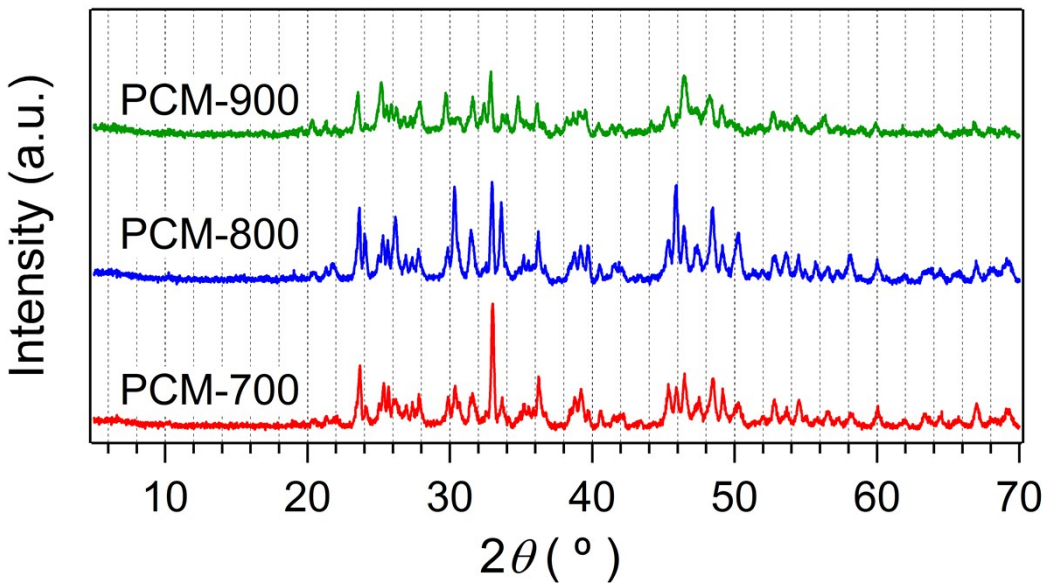


Figure S6. PXRD patterns of PCM-700, PCM-800, and PCM-900.

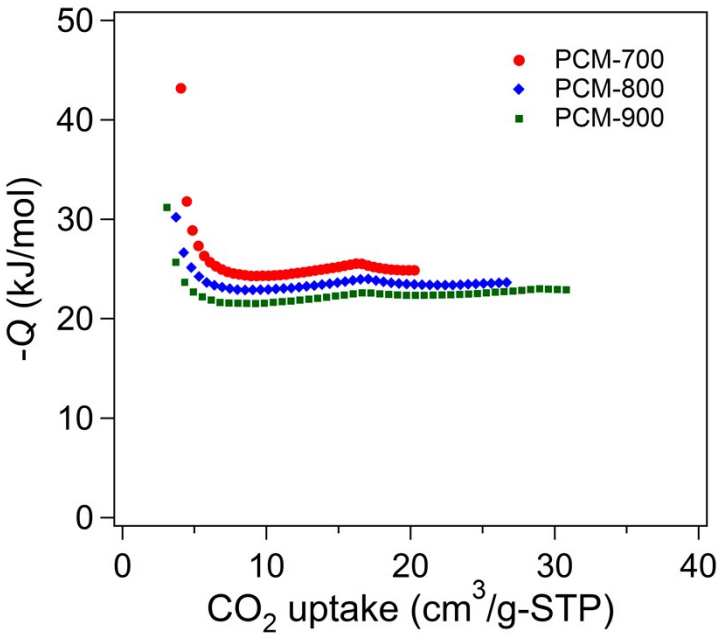


Figure S7. Isosteric heats (Q_{st}) of CO_2 adsorption as a function of CO_2 uptake.

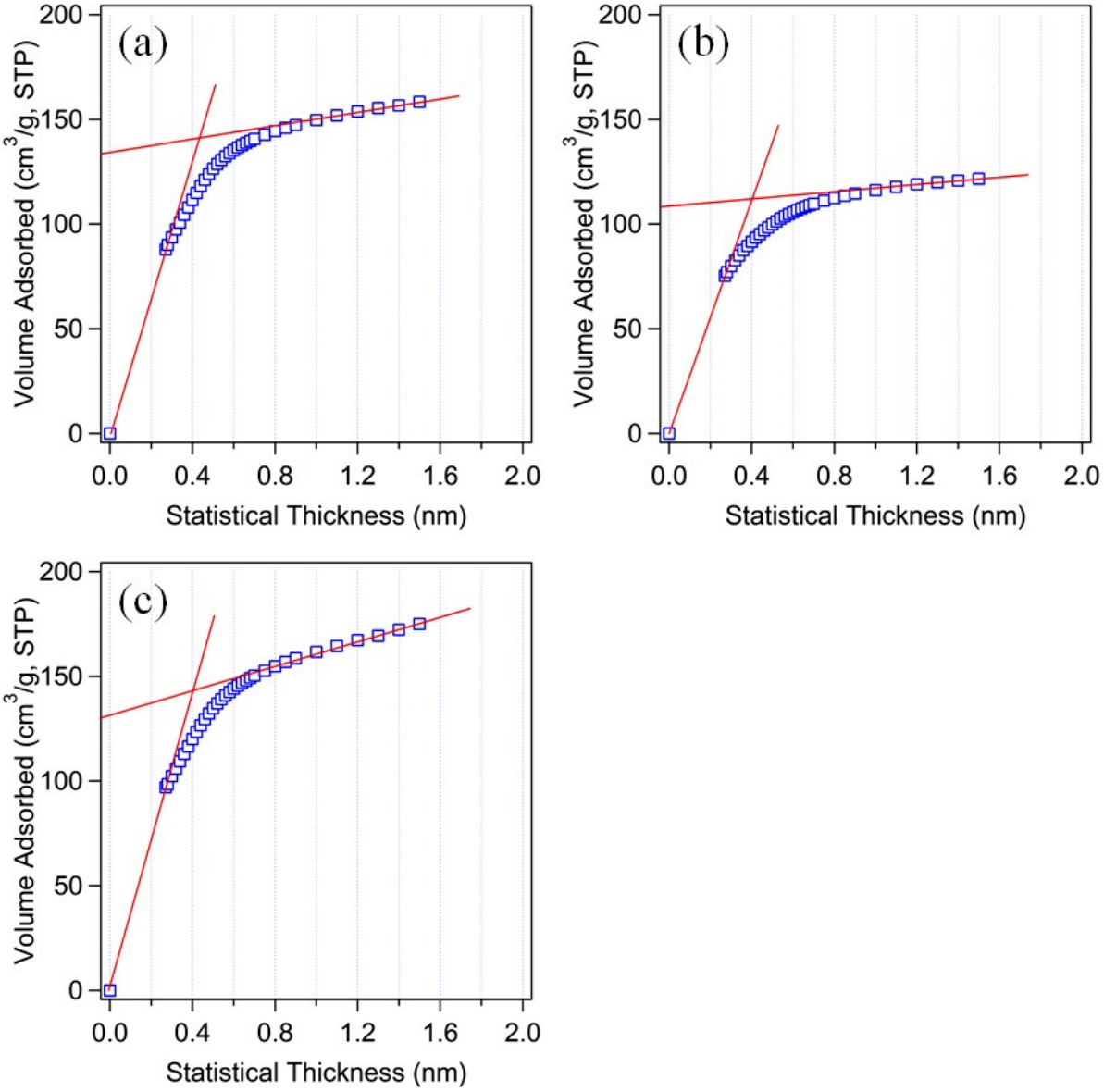


Figure S8. The *t*-plots for PCM-700 (a), PCM-800 (b), and PCM-900 (c).

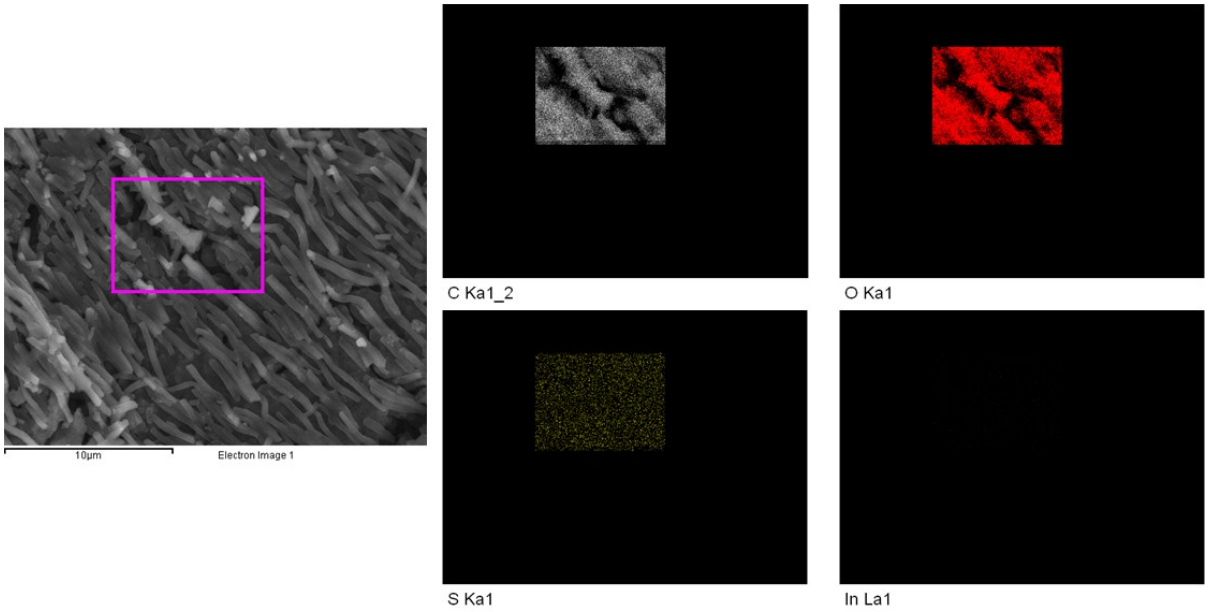


Figure S9. SEM-EDS elemental mapping images of PCME-900 (Hitachi SU-70, accelerating voltage = 5 kV).

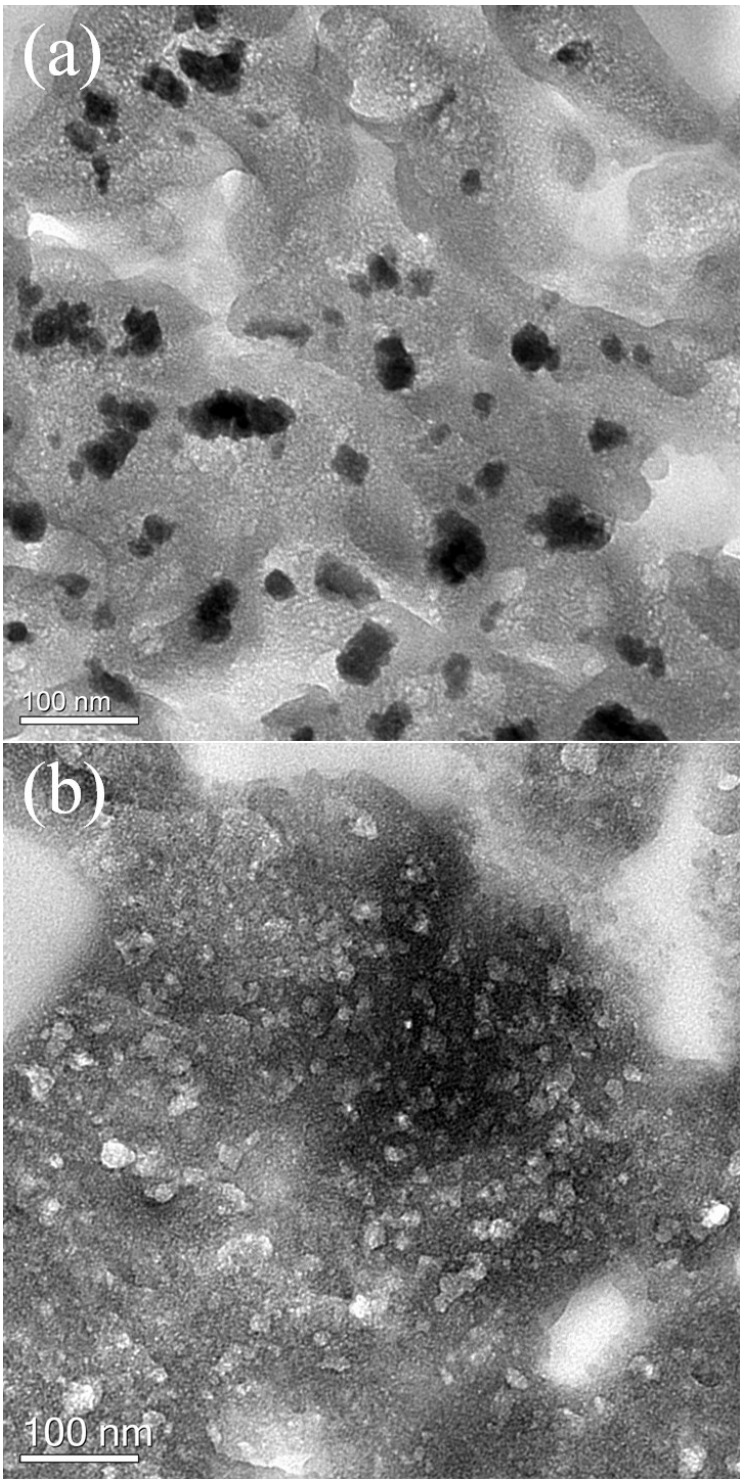


Figure S10. TEM images of ultramicrotomed PCM-900 (a) and PCME-900 (b) (FEI Tecnai F20, accelerating voltage = 200 kV).

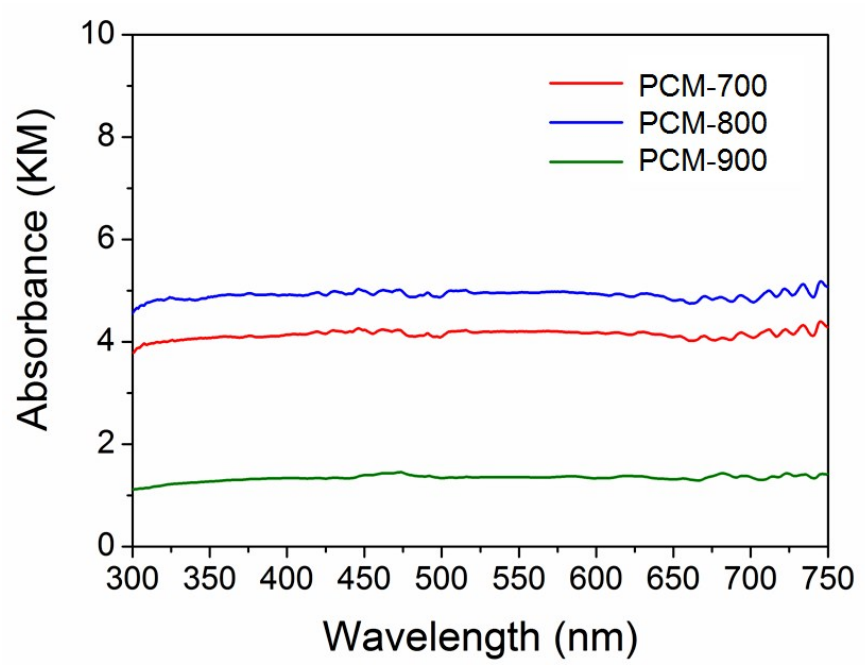


Figure S11. Solid-state UV/Vis absorption spectra of PCM-700, PCM-800, and PCM-900. The absorbance values are calculated from the reflectance data using the Kubelka-Munk function ($F(R) = K/S = (1-R)^2/2R$ where R is a reflectance, K is an absorption coefficient, and S is a scattering coefficient).

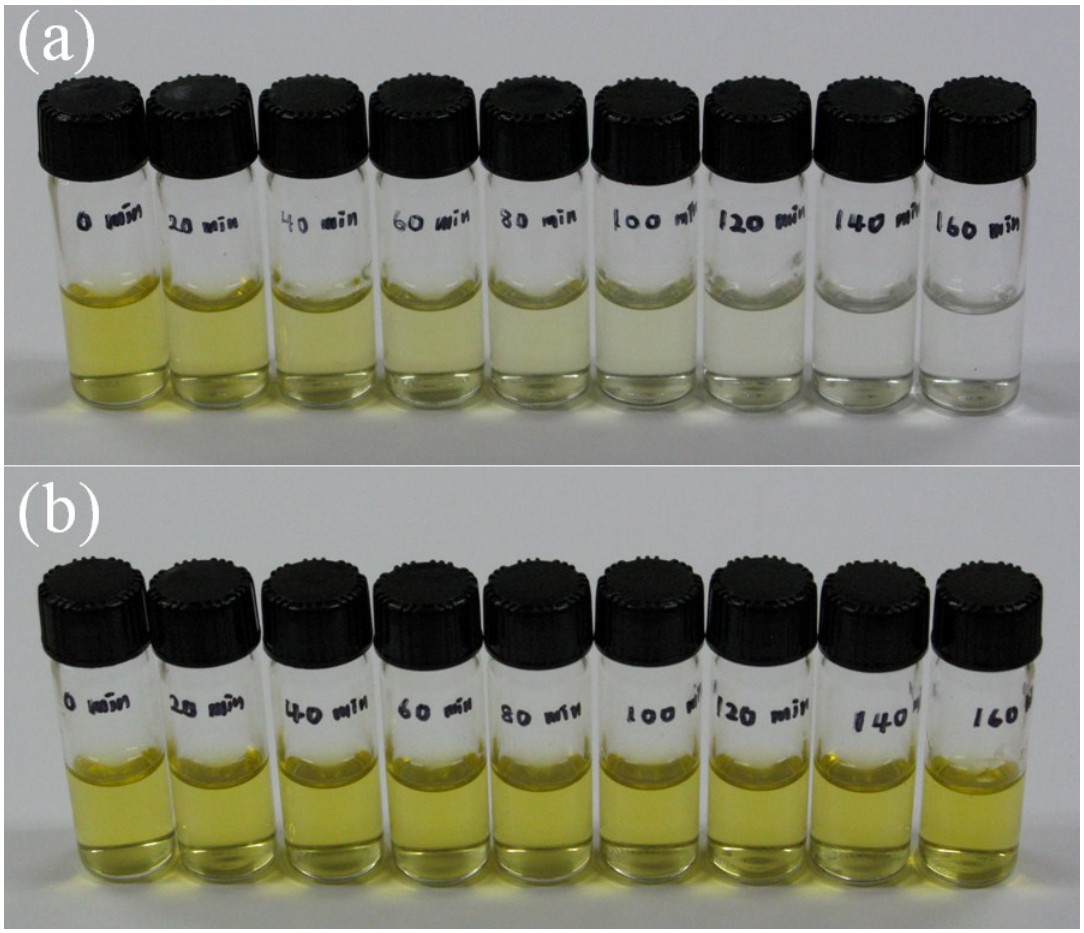


Figure S12. Digital photographic images of the aliquots periodically withdrawn from the reaction mixture during the visible light-driven photocatalytic degradation of methyl orange by PCM-900 (a) and a blank run without a photocatalyst (b).

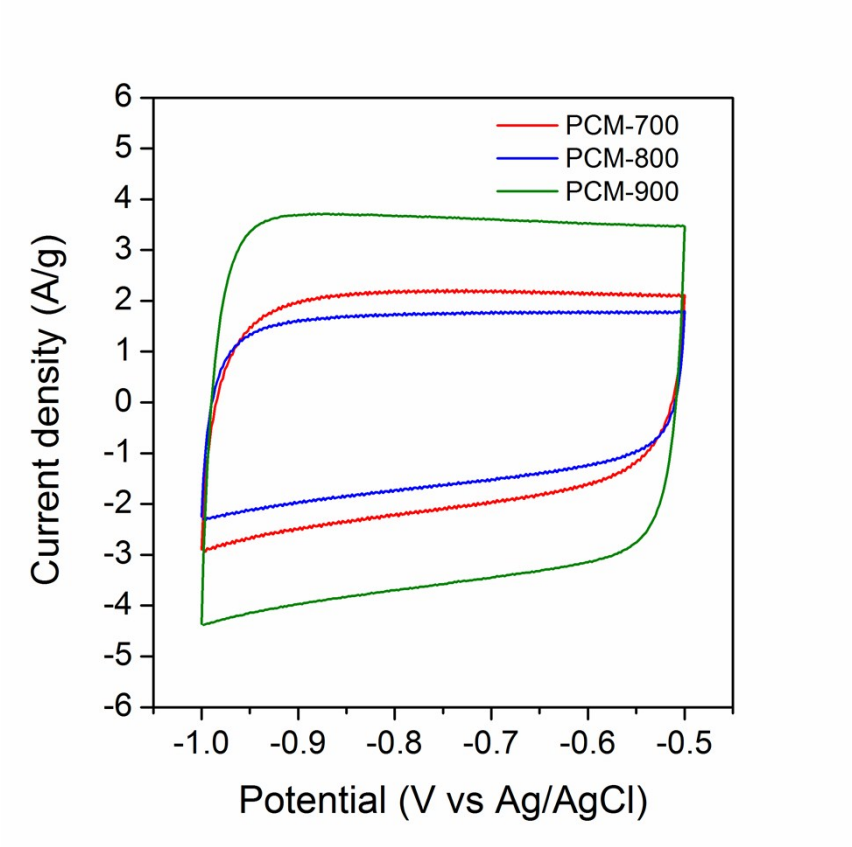


Figure S13. Cyclic voltammograms of PCM samples measured at a scan rate of 50 mV s^{-1} with 1.0 M Na_2SO_4 electrolyte.