

Supporting Information

Multifunctional Calcium Carbonate Microparticles: Synthesis and Biological Applications

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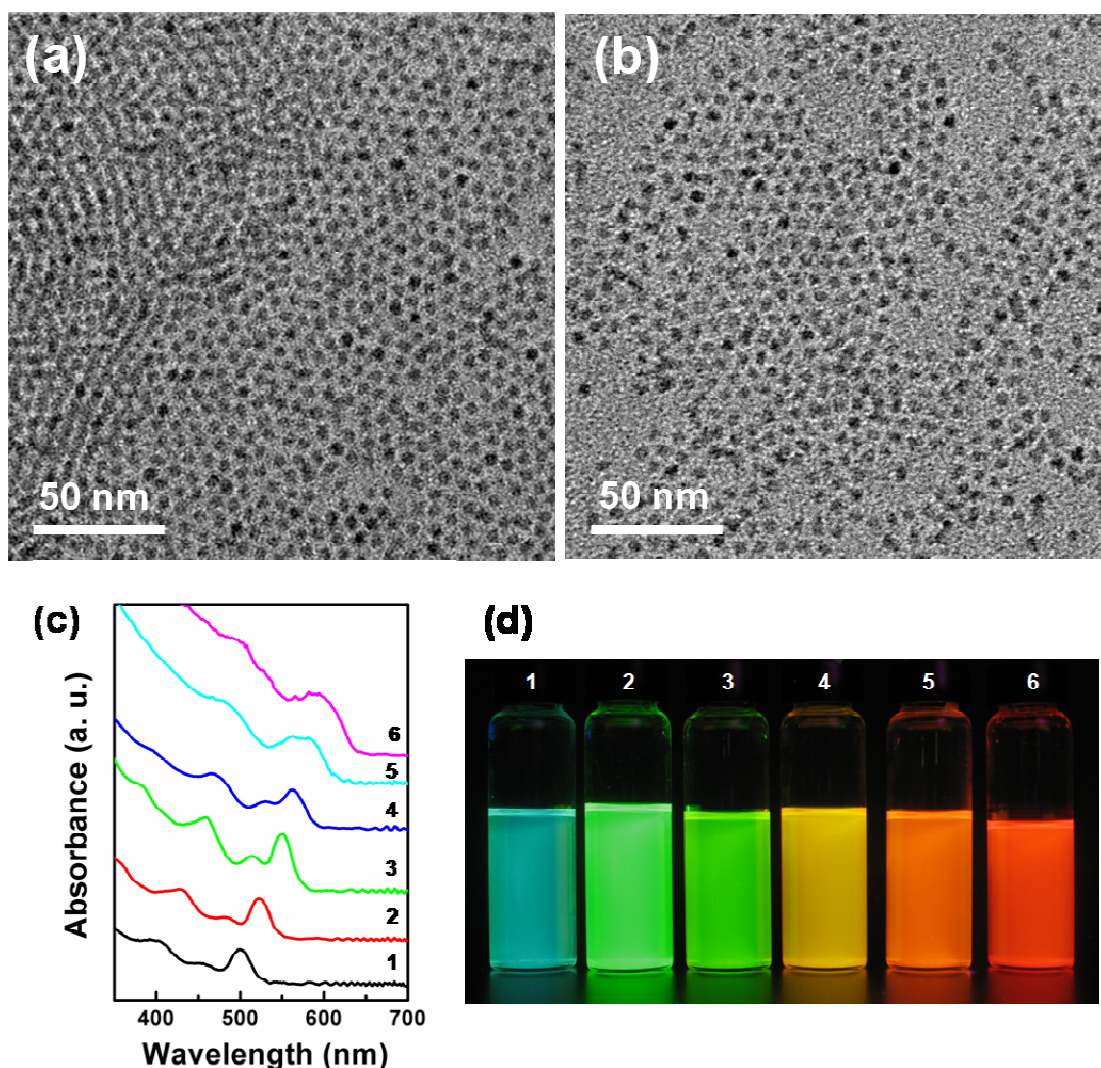


Fig. S1 (a), (b) TEM images of CdSe QDs and CdSe/ZnS QDs, respectively, (c), (d) UV-vis absorption spectra and digital camera images under UV lamp with 365 nm of CdSe QDs with different sizes, respectively.

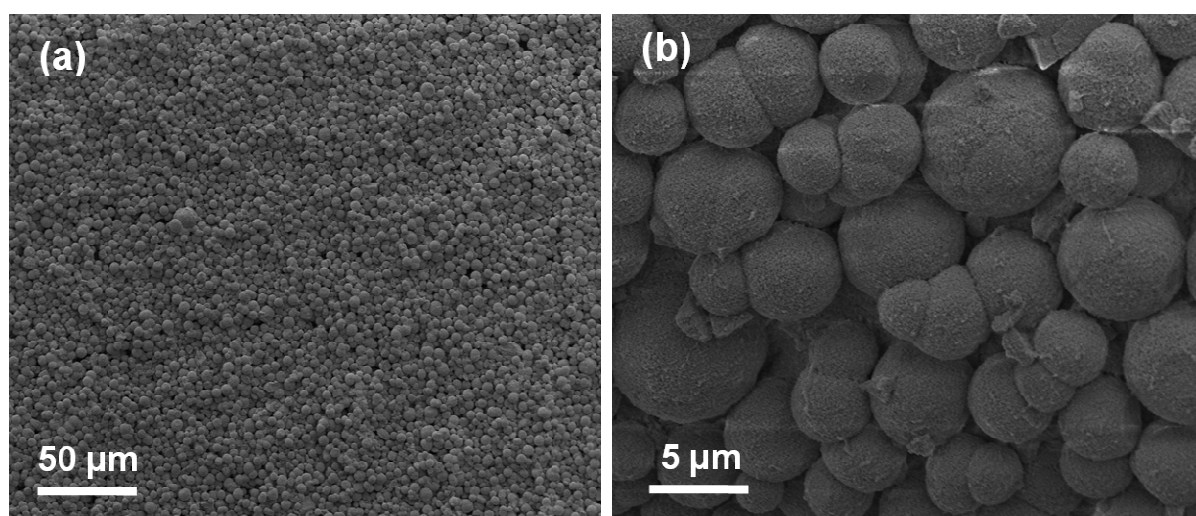


Fig. S2 SEM images of $\text{CaCO}_3\text{-CdSe/ZnS/SiO}_2$ microcomposites with (a) low magnification and (b) high magnification.

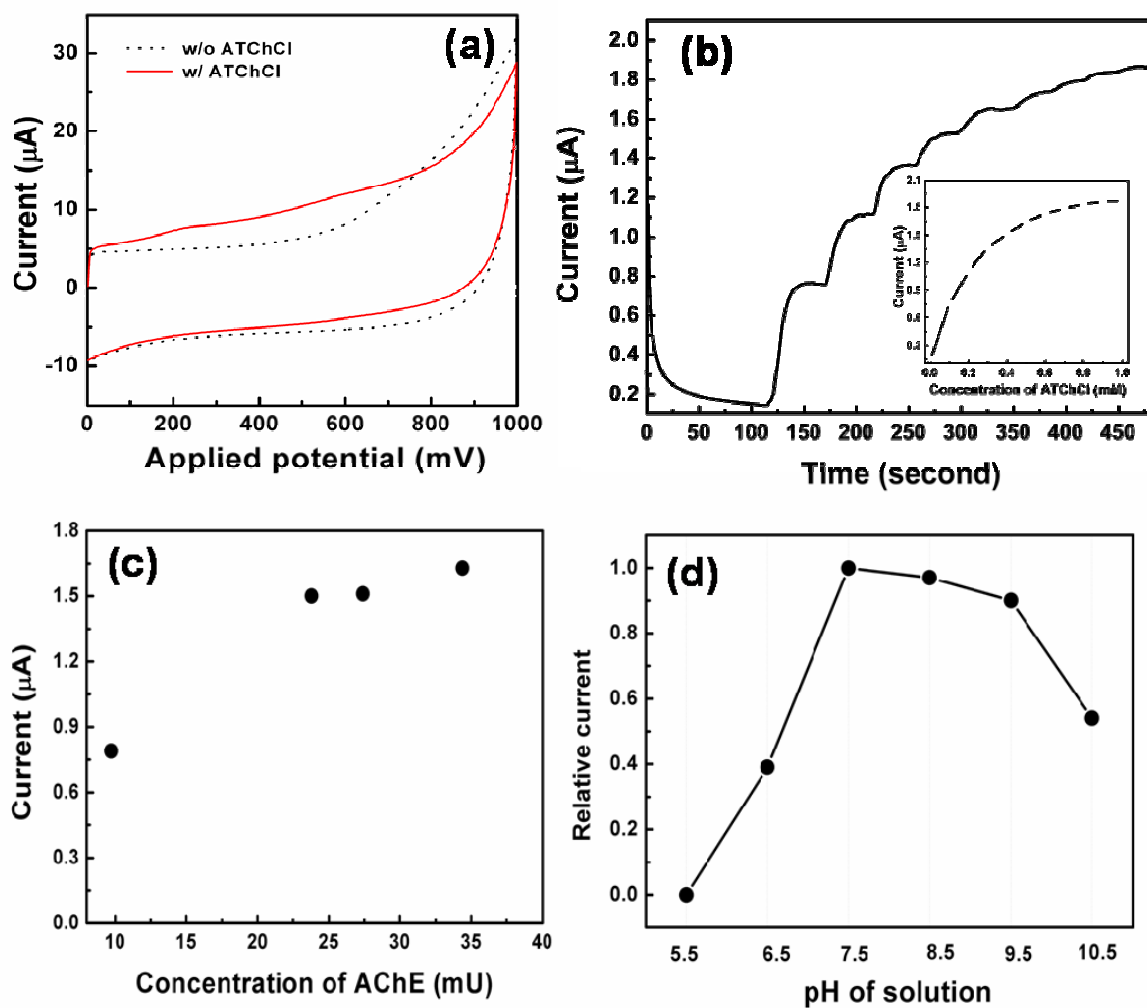


Fig. S3 (a) Cyclic voltammograms of the SPE with PEG-AChE- CaCO_3 -CdSe/ZnS/SiO₂ in PBS solution (pH 7.4) under scan rates of 100 mV/s, (b) calibration curve of the SPE, (c) effect of the AChE concentration, and (d) Effect of the pH of PBS solution on the current response of the SPE to 1.0 mM ATChCl.

Table S1. Comparison of performance of paraoxon biosensors

Type	Sensing matrix	Detection limit	Reference
Fluorescence spectroscopy	Carboxynaphthofluorescein (CNF)	2.5 μM	Ramanathan et al. (2007) ¹
	Coumarin 1	0.7 μM	Paliwal et al. (2007) ²
	Fluorophore-Au nanoparticles	20 μM	Simonian et al. (2005) ³
Chromatography	High-performance liquid chromatography (HPLC)	0.5 μM	Corcia et al. (1991) ⁴
Amperometry	Kappacarrageenan gel	5.0 nM	Campanella et al. (2007) ⁵
	$\text{CaCO}_3\text{-CdSe/ZnS/SiO}_2$	4.6 nM	This work

References

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