

Supporting Information

Ultrafine Pd Nanoparticles Encapsulated in Microporous Co₃O₄ Hollow Nanospheres for In Situ Molecular Detection of Living Cells

Jiangbo Xi,^{†,⊥} Yan Zhang,^{†,⊥} Ning Wang,[‡] Lin Wang,[‡] Zheyue Zhang,[†] Fei Xiao,^{†,}
Shuai Wang^{†,*}*

[†]School of Chemistry and Chemical Engineering, Huazhong University of Science and Technology, Wuhan, 430074, P. R. China.

[‡]Center for Tissue Engineering and Regenerative Medicine, Union Hospital, Tongji Medical College, Huazhong University of Science and Technology, Wuhan, 430022, P. R. China.

Corresponding Authors

*Address correspondence to chmsamuel@mail.hust.edu.cn (S. Wang);
xiaofei@hust.edu.cn (F. Xiao).

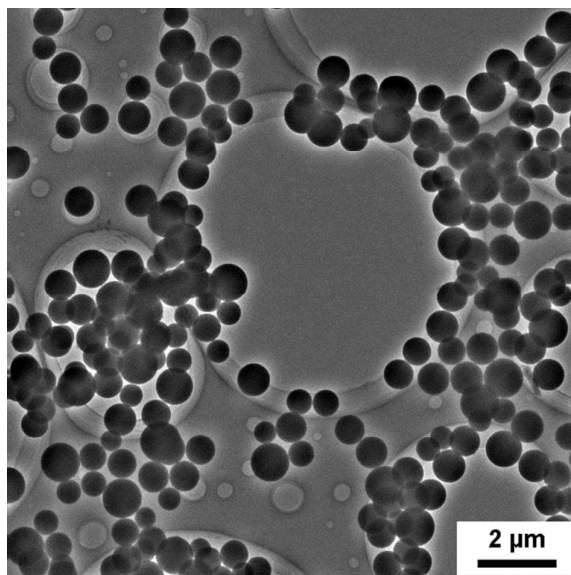


Figure S1 Low-magnification TEM images of SiO₂ spheres.

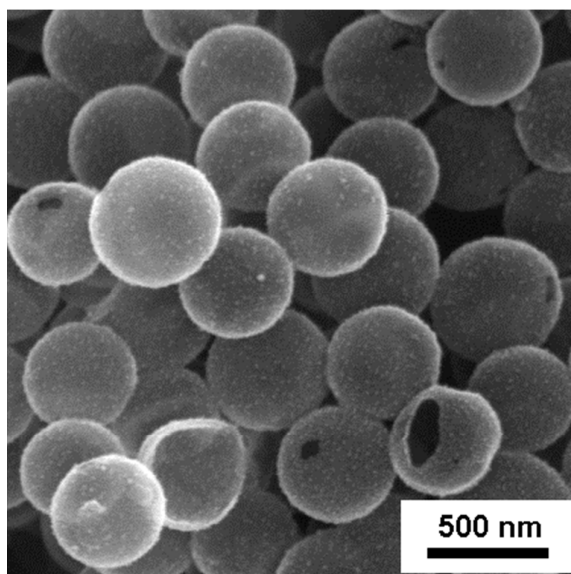


Figure S2 Low-magnification SEM image of C@Pd hollow spheres.

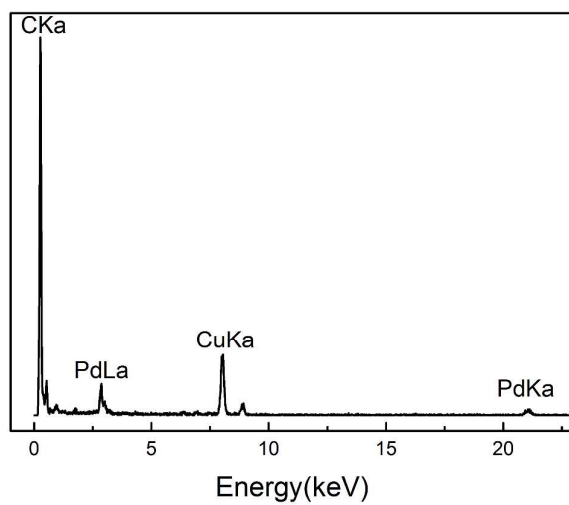


Figure S3 EDX image of C@Pd hollow spheres.

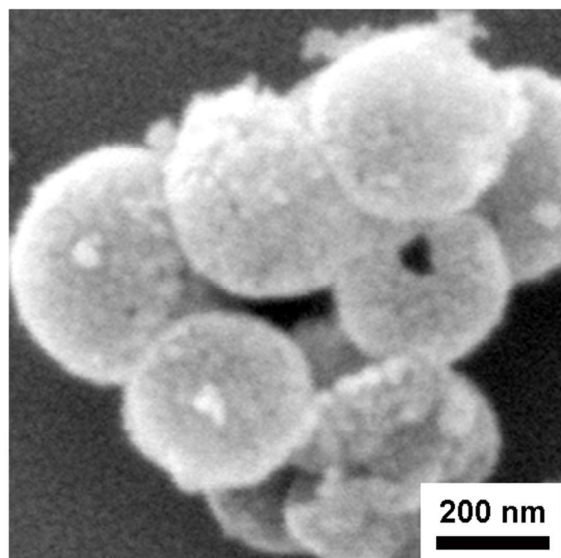


Figure S4 SEM image of Pd@Co₃O₄ hollow spheres.

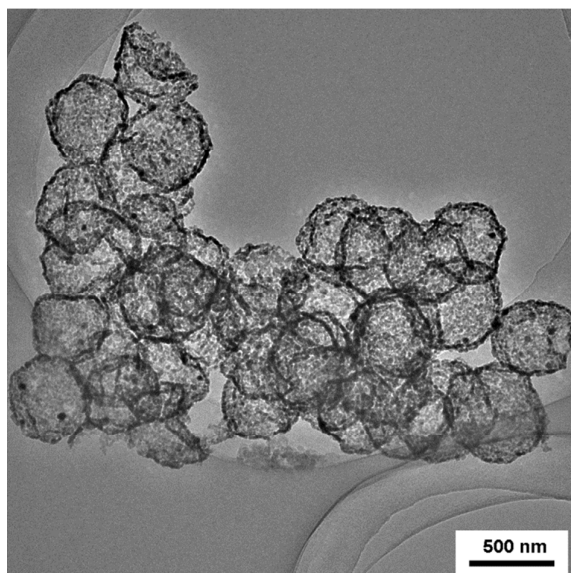


Figure S5 Low-magnification TEM images of Pd@Co₃O₄ hollow spheres.

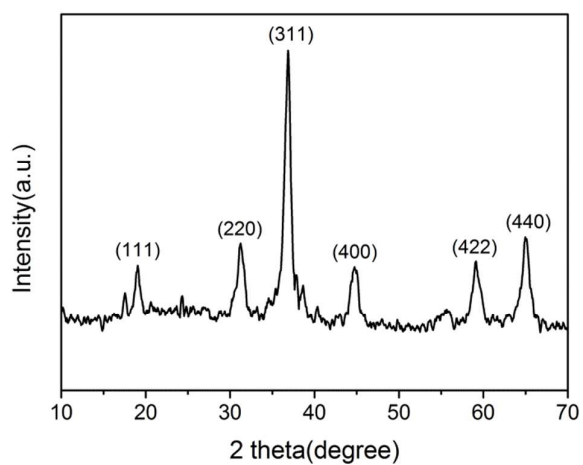


Figure S6 XRD pattern of Pd@Co₃O₄ hollow nanospheres.

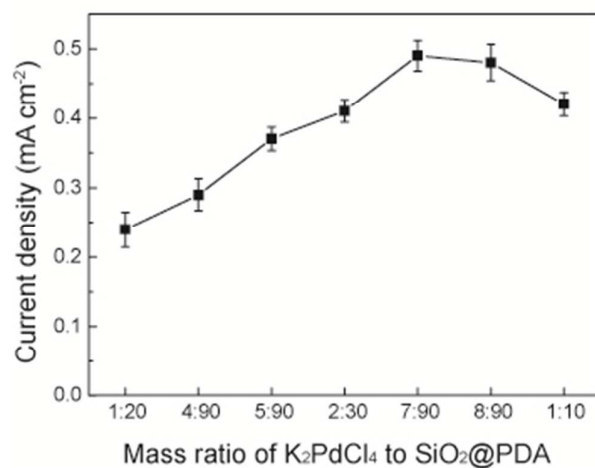


Figure S7 The relationship between the amperometric current responses of Pd@Co₃O₄/GCE towards 2.0 mM H₂O₂ and mass ratio of K₂PdCl₄ to SiO₂@PDA.

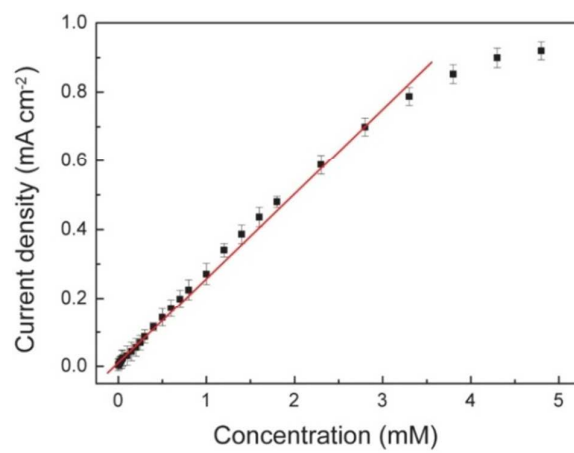


Figure S8 Calibration curves of the amperometric response of Pd@Co₃O₄/GCE to successive addition of H₂O₂ in stirring PBS buffer (pH 7.4).

Table S1 Influence of foreign species on the determination of 1.0 mM H₂O₂.

Foreign species	Concentration spiked (mM)	Change of amperometric response (%)	RSD (%) (<i>n</i> =10)
AA	1.0	8.4	3.8
UA	1.0	7.9	3.3
DA	1.0	8.5	2.4
cysteine	1.0	6.5	3.2
glutamic acid	1.0	7.6	4.5
glycine	1.0	6.8	4.2
glutathione	1.0	7.4	3.2
Na ⁺	5.0	1.5	3.2
K ⁺	5.0	2.1	2.5
Mg ²⁺	5.0	1.3	2.6
Ca ²⁺	5.0	2.8	1.9
H ⁺	5.0	3.4	2.7
Cl ⁻	5.0	1.7	2.8