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Magnetic microspheres with polydopamine encapsulated ultra-small noble metal nanocrystals as mimetic enzyme toward colorimetric detection of H_2O_2 and glucose

Linfeng Bai[a], Wanquan Jiang[a,], Min Sang[a], Mei Liu[a], Shouhu Xuan[b]*, Sheng Wang[b], Ken Cham-Fai Leung[c], Xinglong Gong[b]**

[a]Department of Chemistry, University of Science and Technology of China (USTC), Hefei, Anhui 230026, PR China
[b]CAS Key Laboratory of Mechanical Behavior and Design of Materials, Department of Modern Mechanics, CAS Center for Excellence in Complex System Mechanics, University of Science and Technology of China, Hefei, Anhui 230027, China
[c] Department of Chemistry, Partner State Key Laboratory of Biological and Environmental Analysis, The Hong Kong Baptist University, Kowloon, Hong Kong SAR, P. R. China

Corresponding author: Tel: 86-551-63607605; Fax: 86-551-63600419.
E-mail: jiangwq@ustc.edu.cn (W. Q. Jiang)
gongxl@ustc.edu.cn (X. L. Gong)
xuansh@ustc.edu.cn (S. H. Xuan)

Table S1 the kinetic parameters of Fe_3O_4@RF-Pt@PDA.

Catalyst	Substance	K_m (mM)	V_{max} (10^{-8} M/s)
Fe_3O_4@RF-Pt@PDA	TMB	0.187	23.84
	H_2O_2	0.289	13.56

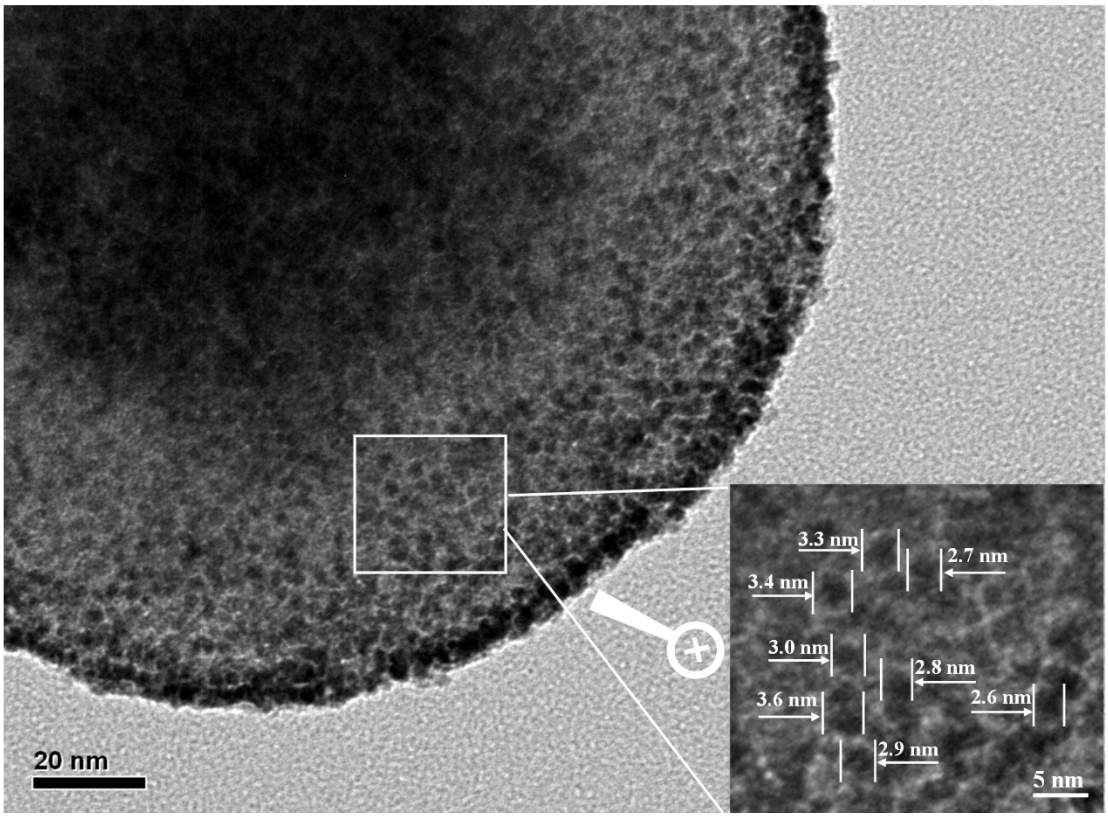

Fig. S1 High magnification TEM image of Fe_3O_4@RF-Pt (the inset is partial enlargement of TEM image which marked in rectangle area)

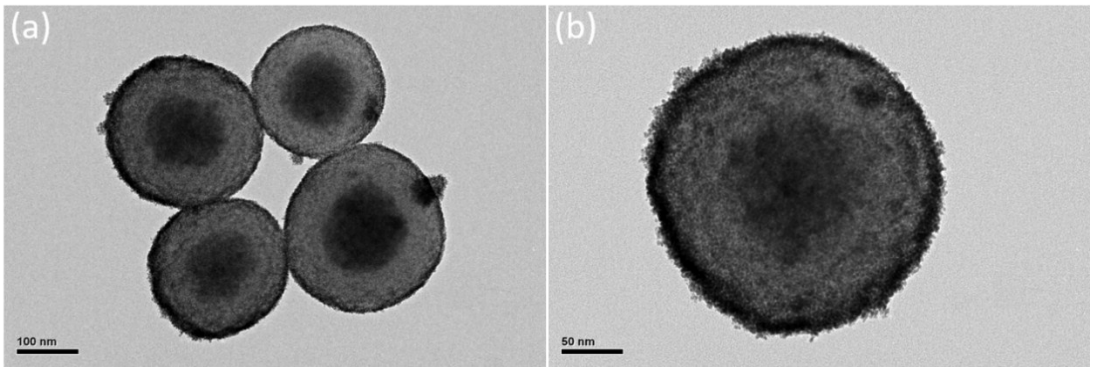

Fig. S2 TEM image of Fe_3O_4@RF-Pt with different magnification

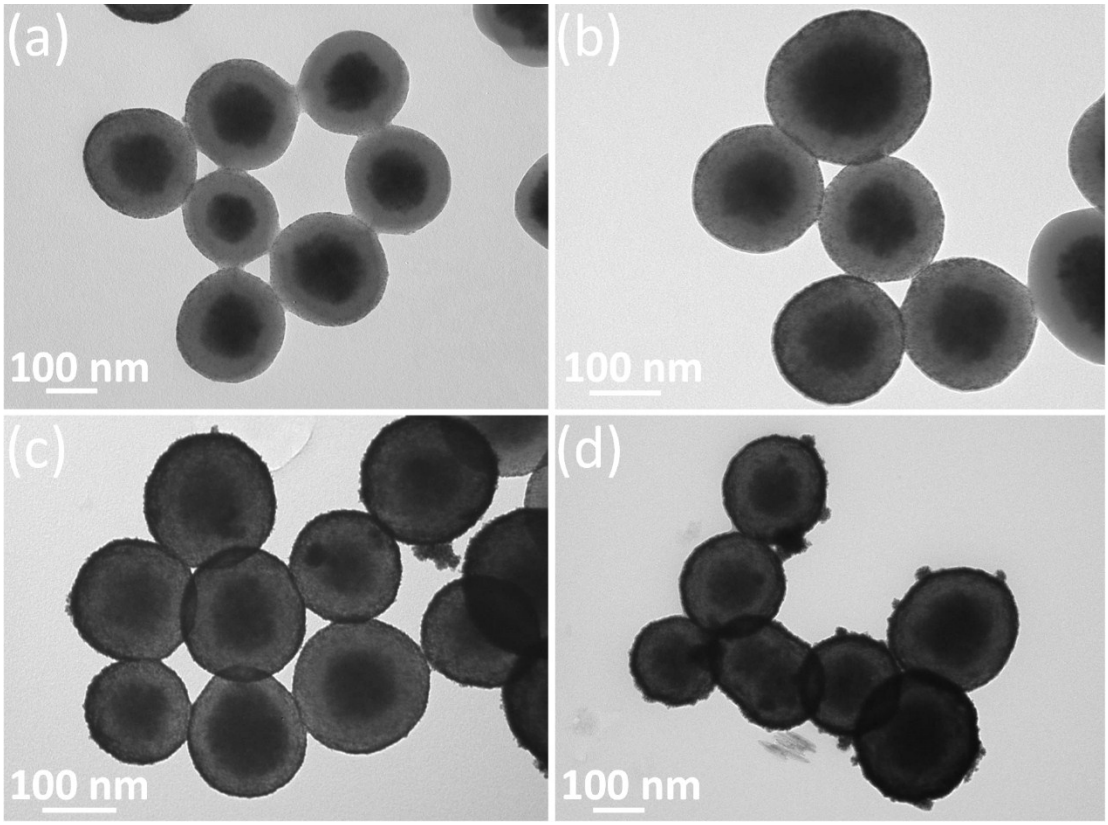

Fig. S3 TEM images of Fe_3O_4@RF-Pt prepared with different concentration of $PtCl_6^{2+}$: 9.6 μM (a), 19.2 μM (b), 28.8 μM (c), 38.4 μM (d).

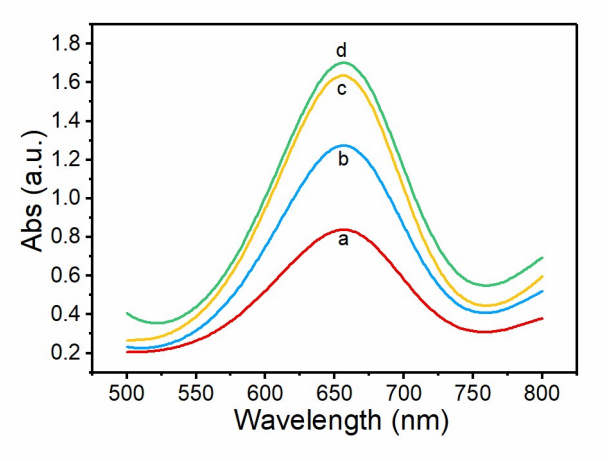

Fig. S4 the adsorption spectra of TMB oxidation product catalyzed by Fe_3O_4@RF-Pt@PDA that prepared with different concentration of $PtCl_6^{2+}$: 9.6 μM (a), 19.2 μM (b), 28.8 μM (c), 38.4 μM (d).

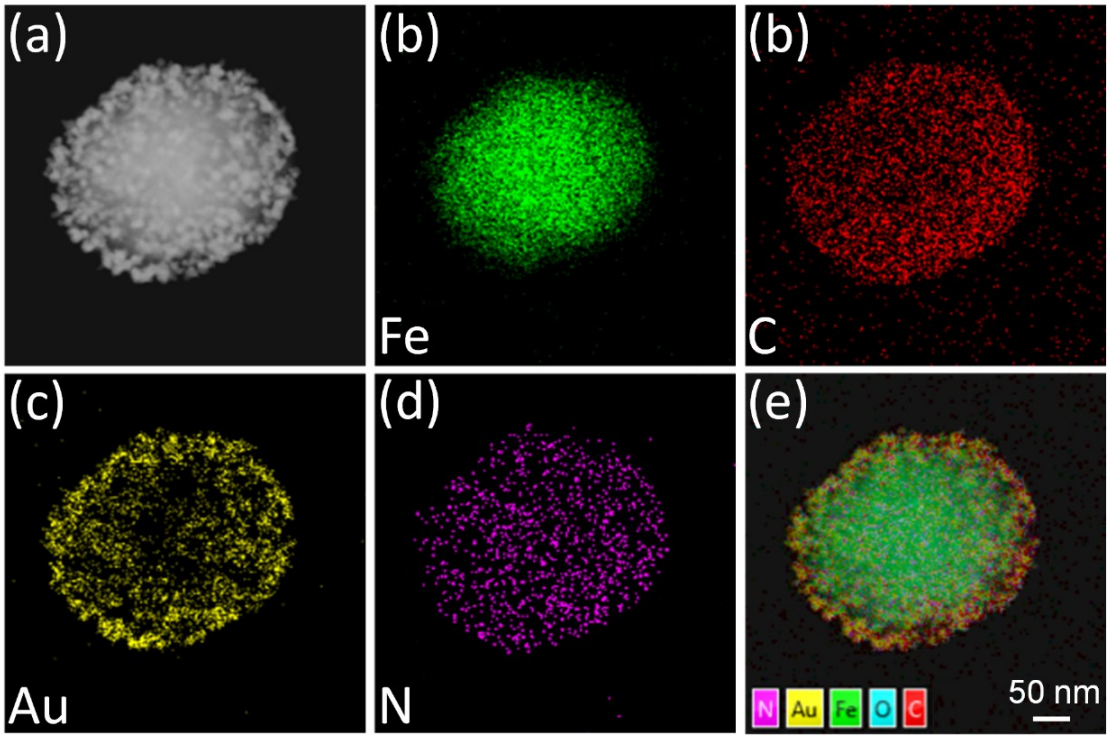

Fig. S5 HAADF STEM image of Fe_3O_4@RF-Au@PDA (a) and corresponding elemental mapping images (b-f)

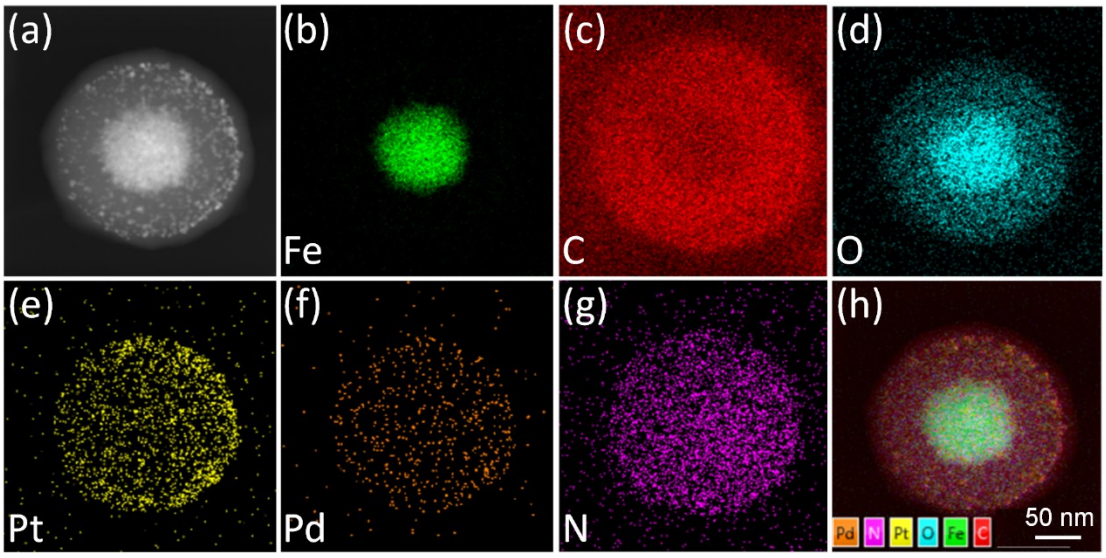

Fig. S6 HAADF STEM image of Fe_3O_4@RF-PtPd@PDA (a) and corresponding elemental mapping images (b-f)

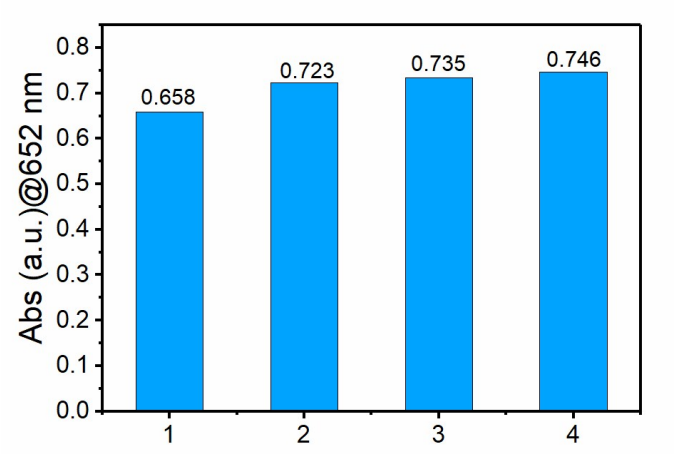

Fig. S7 absorbance at 652 nm for different samples after incubation with GOx 1: fresh grape juice; 2: grape beverage; 3: fresh litchi juice; 4: freshly prepared 0.2 M glucose solution