Electronic Supplementary Material (ESI) for RSC Advances.

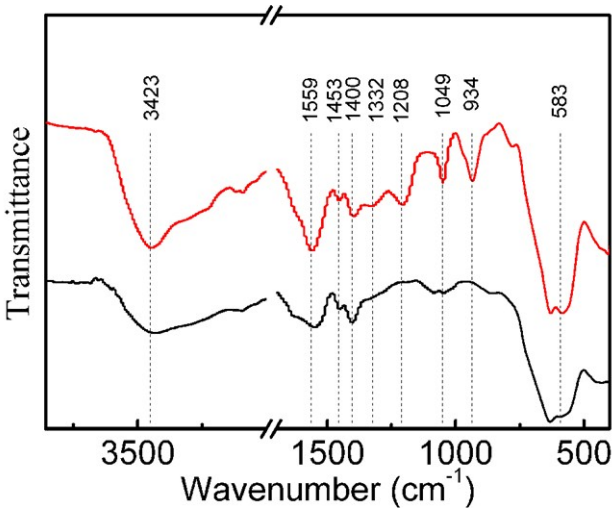

Fig. S1 FT-IR spectra of PAA-modified Fe_3O_4 nanoclusters (a) and Fe_3O_4@PPy/Pd nanocomposites (b).

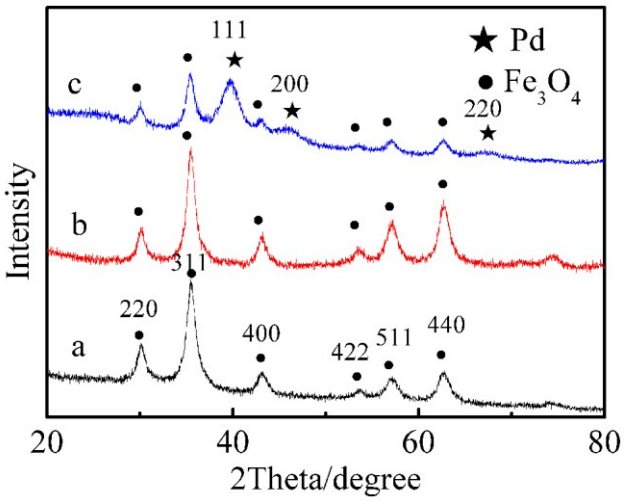

Fig. S2 XRD patterns of PAA-modified Fe_3O_4 nanoclusters (a) and Fe_3O_4@PPy/Pd nanocomposites synthesized in mixed solvent with the ethanol/water volume ratio at 1:1 (b) and pure water (c).

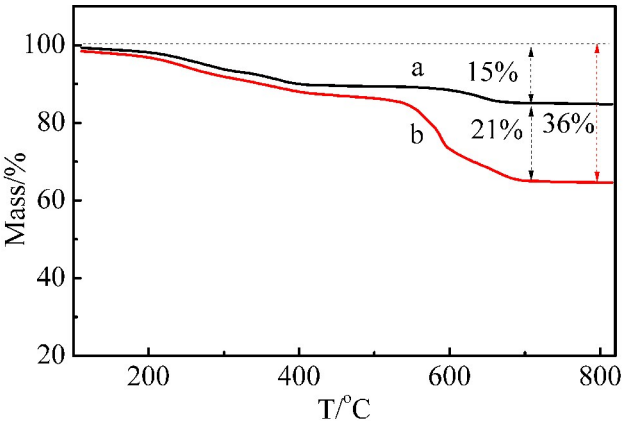

Fig. S3 TG curves of samples: PAA-modified Fe_3O_4 nanoclusters (a) and Fe_3O_4@PPy/Pd nanocomposites (b).

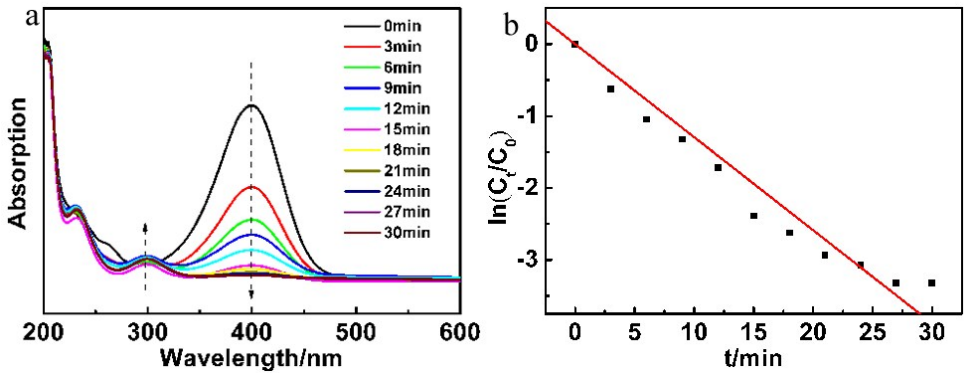

Fig. S4 Time-dependent UV/Vis spectra of 4-NP catalyzed by Fe_3O_4@PPy/Pd nanocomposite (a), The plot of $\ln(C_t/C_0)$ against the reaction time (t) for the reduction of 4-NP (b).

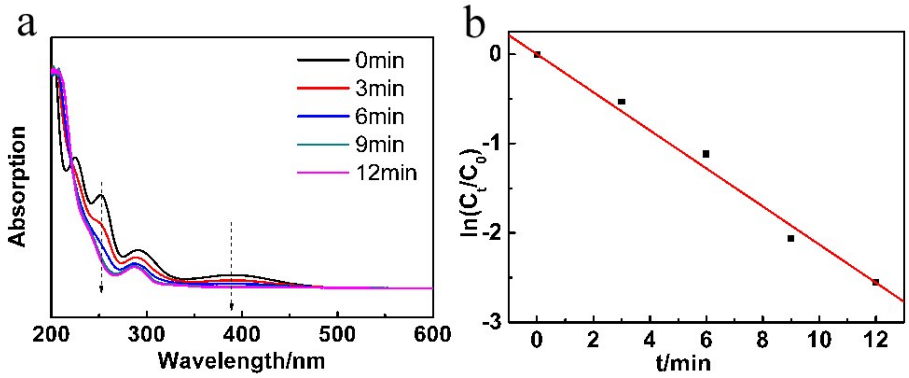

Fig. S5 Time-dependent UV/Vis spectra of 3-NP catalyzed by Fe_3O_4@PPy/Pd nanocomposite (a), The plot of $\ln(C_t/C_0)$ against the reaction time (t) for the reduction of 3-NP (b).

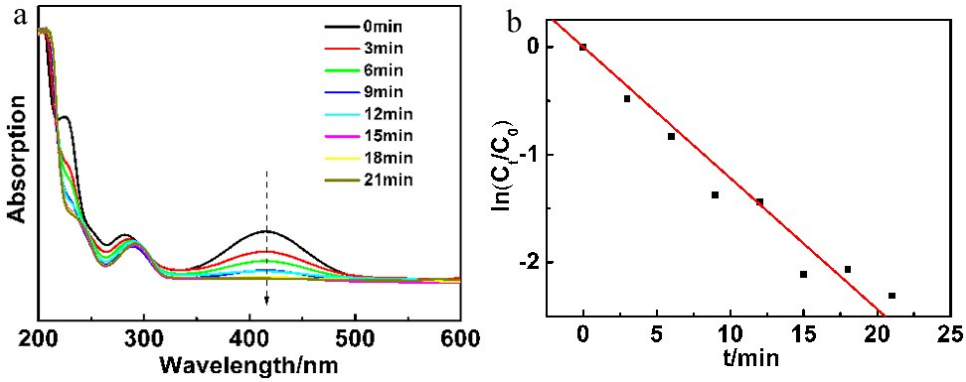

Fig. S6 Time-dependent UV/Vis spectra of 2-NP catalyzed by Fe_3O_4@PPy/Pd nanocomposite (a), The plot of $\ln(C_t/C_0)$ against the reaction time (t) for the reduction of 2-NP (b).

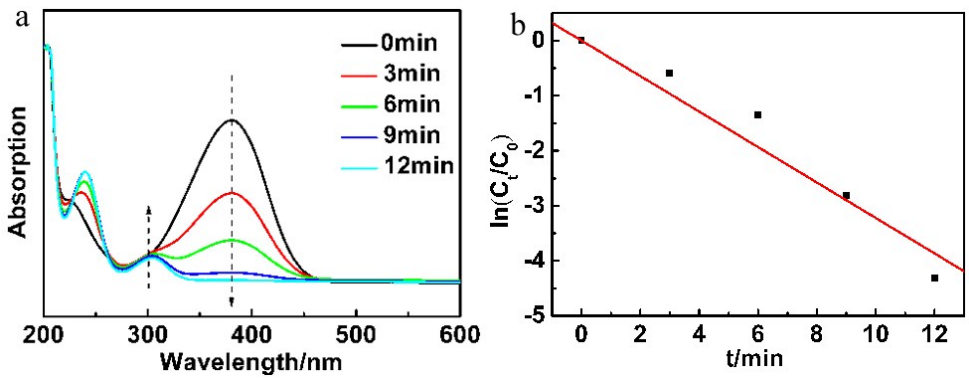

Fig. S7 Time-dependent UV/Vis spectra of 4-NA catalyzed by Fe_3O_4@PPy/Pd nanocomposite (a), The plot of $\ln(C_t/C_0)$ against the reaction time (t) for the reduction of 4-NA (b).

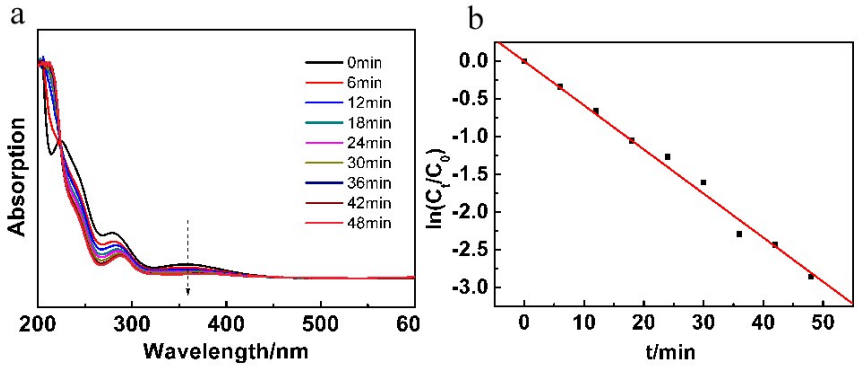

Fig. S8 Time-dependent UV/Vis spectra of 3-NA catalyzed by Fe_3O_4@PPy/Pd nanocomposite (a), The plot of $\ln(C_t/C_0)$ against the reaction time (t) for the reduction of 3-NA (b).

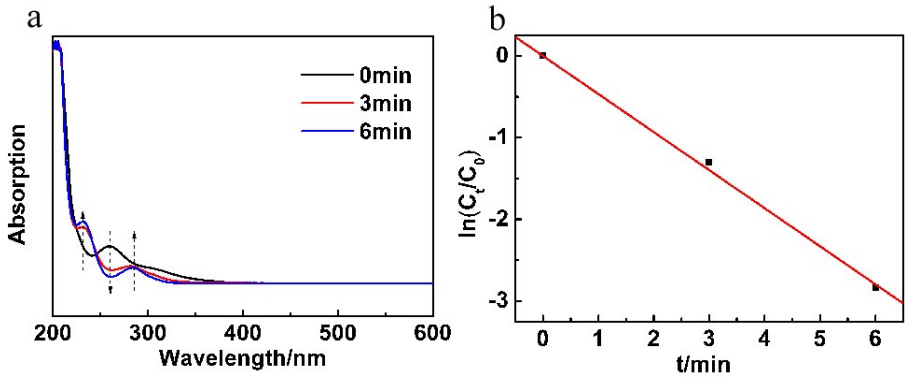

Fig. S9 Time-dependent UV/Vis spectra of 1-Chloro-2-nitrobenzene catalyzed by Fe_3O_4@PPy/Pd nanocomposite (a), The plot of $\ln(C_t/C_0)$ against the reaction time (t) for the reduction of 1-Chloro-2-nitrobenzene (b).

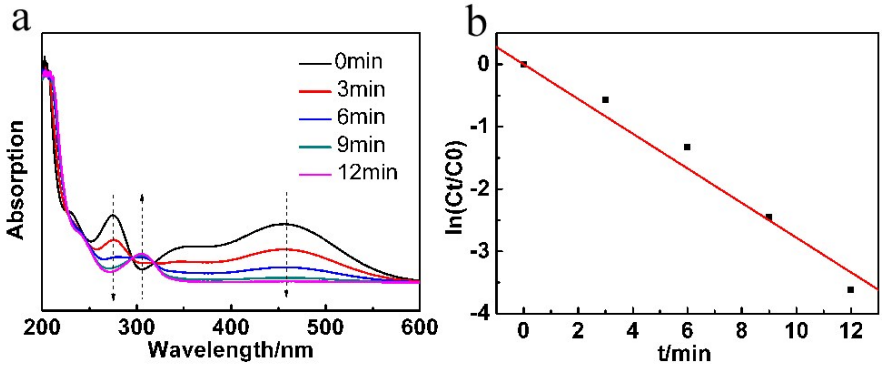

Fig. S10 Time-dependent UV/Vis spectra of 2-Amino-5-nitrophenol catalyzed by Fe_3O_4@PPy/Pd nanocomposite (a), The plot of $\ln(C_t/C_0)$ against the reaction time (t) for the reduction of 2-Amino-5-nitrophenol (b).

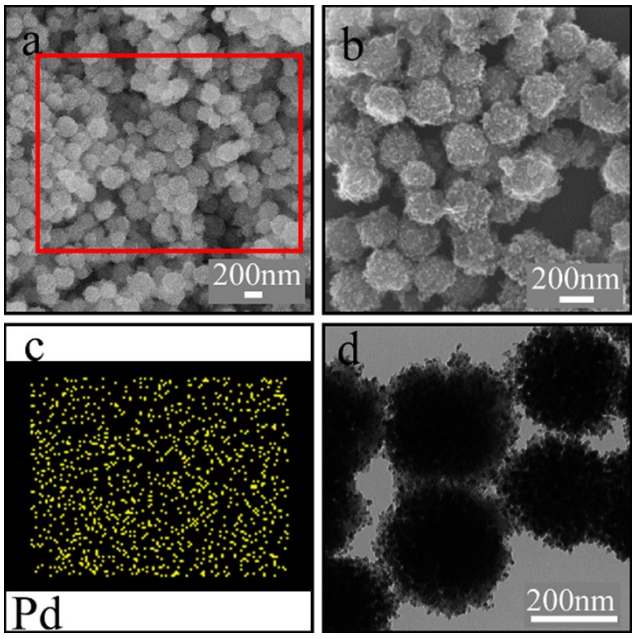

Fig. S11 SEM images (a, b), Pd element EDS mapping image (c) and TEM image (d) of the recovered Fe_3O_4@PPy/Pd nanocomposites after ten cycles for catalytic reduction of 2-NA.

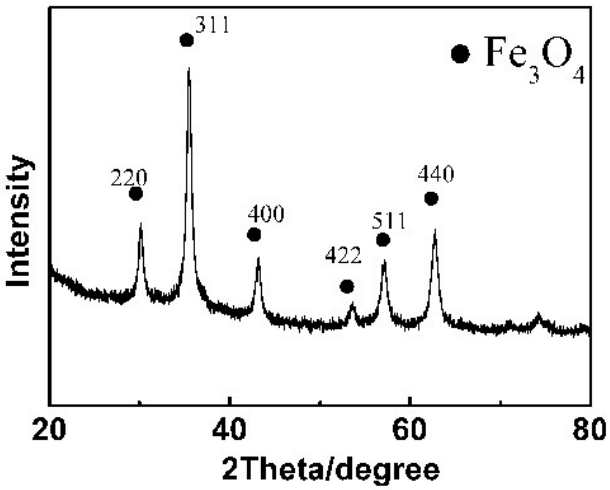

Fig. S12 XRD spectrum of the recovered Fe_3O_4@PPy/Pd nanocomposites after ten cycles for catalytic reduction of 2-NA.

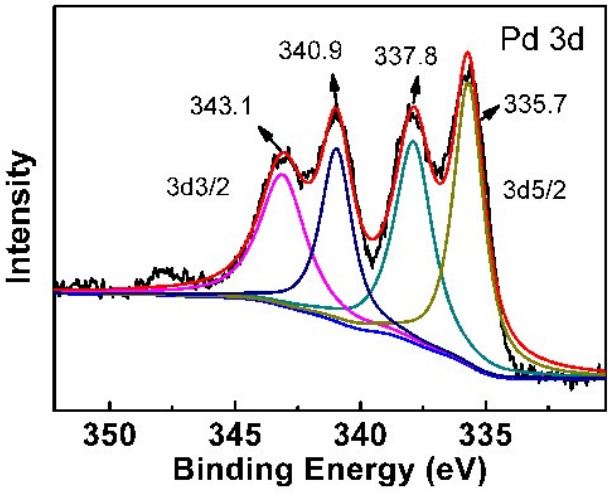

Fig. S13 XPS spectra of Pd 3d core electrons in the recovered Fe_3O_4@PPy/Pd nanocomposites after ten cycles for catalytic reduction of 2-NA.