Electronic Supplementary Material (ESI) for RSC Advances.

In situ synthesis of silver nanostructures on magnetic Fe_3O_4@organosilicon microparticles for rapid hydrogenation catalysis

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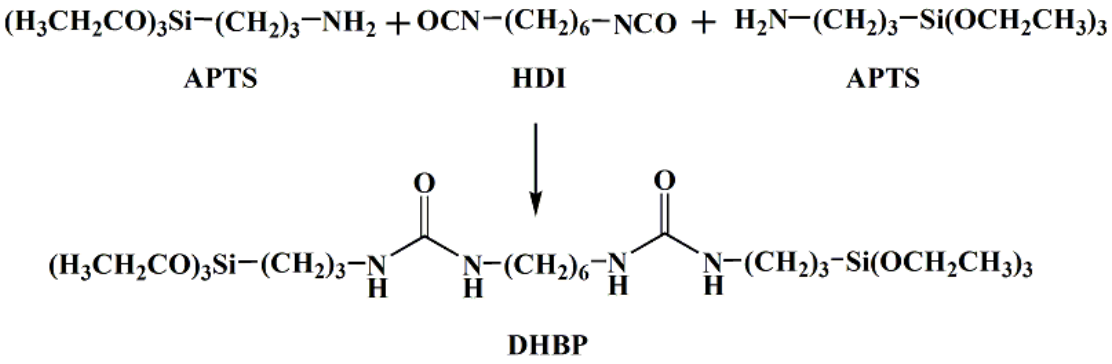

Scheme S1. Synthetic procedure of disilylated hexamethylene-bridged precursor.

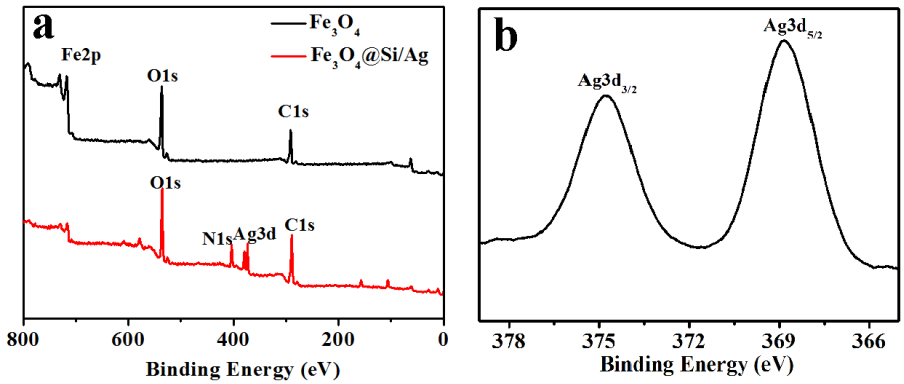

Fig S1. (a) XPS fully scanned spectra of Fe_3O_4 and Fe_3O_4@Si/Ag, (b) XPS spectra of Ag 3d.

Table S1. Surfaces properties of samples Fe_3O_4, Fe_3O_4@Si and Fe_3O_4@Si/Ag

	Structural parameters		
Sample	BET surface area ($m^2\ g^{-1}$)	Pore volume ($cm^3\ g^{-1}$)	Average pore size (nm)
Fe_3O_4	20.13	0.036	9.95
Fe_3O_4@Si	9.57	0.048	24.7
Fe_3O_4@Si/Ag	10.77	0.047	21.31

Table S2. Magnetization of Fe_3O_4, Fe_3O_4@Si and Fe_3O_4@Si/Ag

Sample	Ms (emu/g)	Mr (emu/g)	Hc (Oe)	Sr
Fe_3O_4	81.1	5.5	34.9	0.067
Fe_3O_4@Si	15.3	0.84	43.8	0.047
Fe_3O_4@Si/Ag	11.6	0.63	47.9	0.048

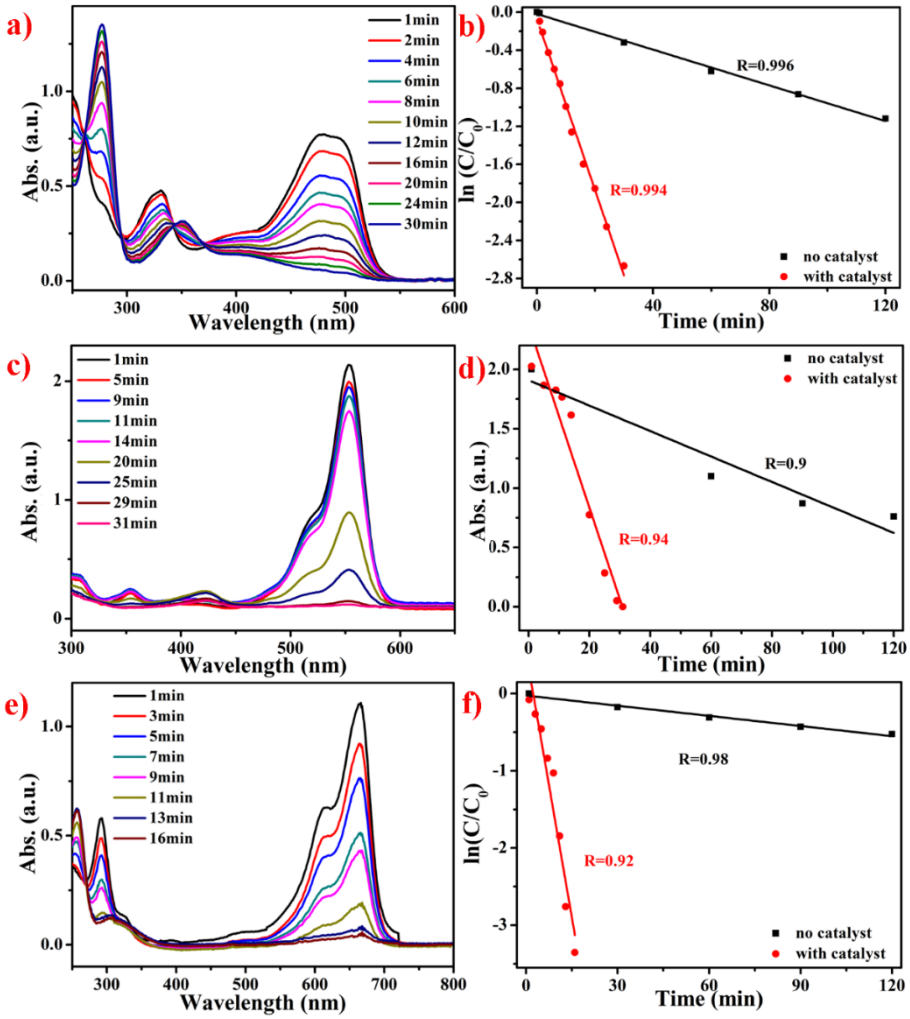

Fig. S2. UV-vis absorption spectra of catalytic degradation of (a) OG, (c) RhB, (e) MB by $NaBH_4$ with Fe_3O_4@Si/Ag catalyst; Plots of ln(C/C_0) vs. reaction time t for (b) OG, (f) MB, and plots of C/C_0 vs. reaction time t for (d) RhB.