

Electronic Supplementary Information

A cheap and efficient catalyst with ultra high activity for reduction of 4-nitrophenol

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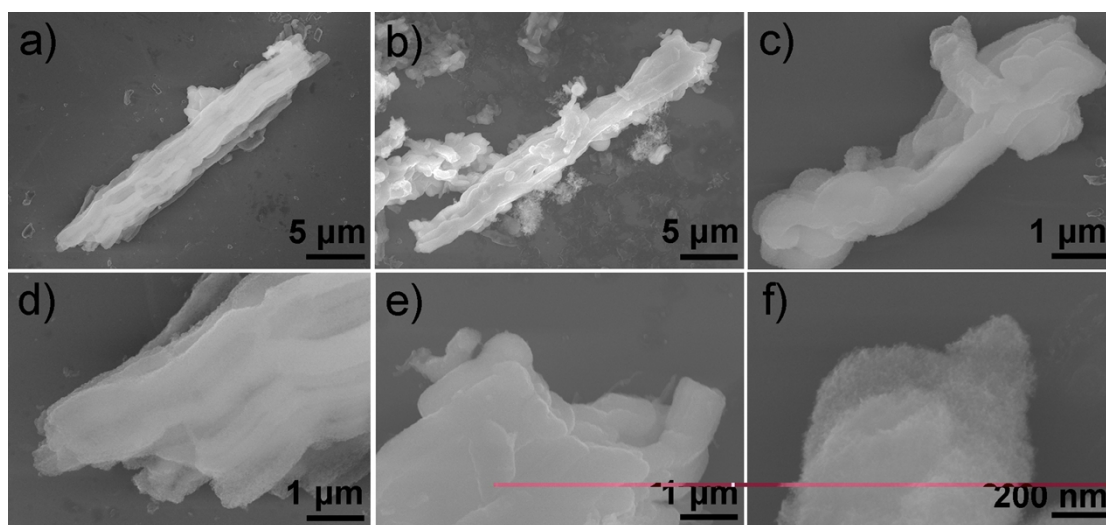


Fig. S1 a) Low-, d) high-magnification SEM images of SBA-15, b) Low-, e) high-magnification SEM images of NiSBA-15, c) Low-, f) high-magnification SEM images of Ni/SBA-15.

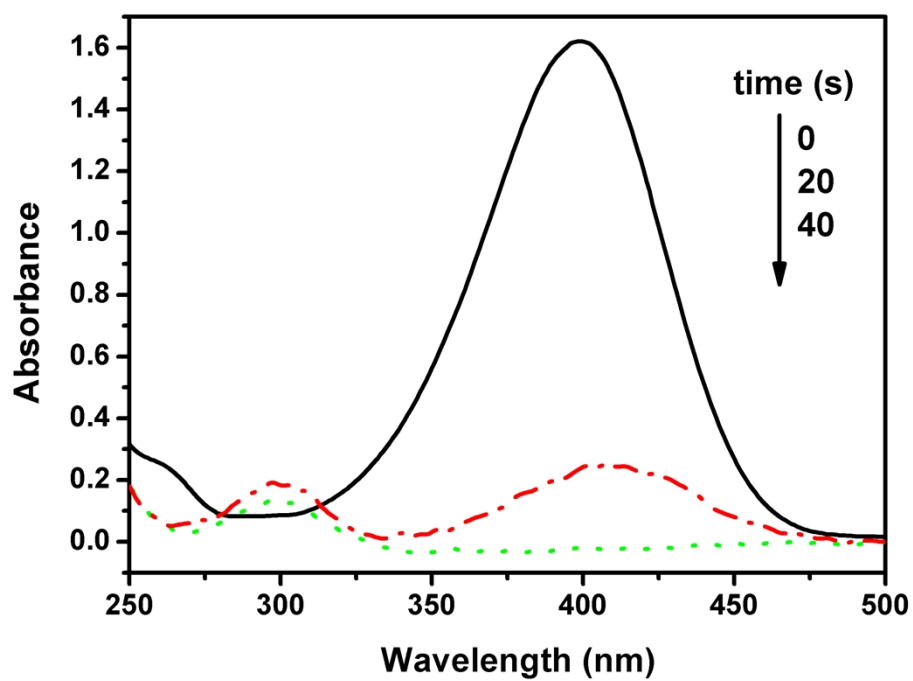


Fig. S2 UV-vis absorption spectra of successive reduction of 4-NP using 4 mg Ni/SBA-15 as catalyst.

Table S1 Comparison of the activity parameter κ of composite Ni catalysts and noble catalysts for the reduction of 4-nitrophenol

Catalyst	Type	$k (\times 10^{-3} \text{ s}^{-1})$	$\kappa (\text{ s}^{-1} \text{ g}^{-1})$	References
Ni/SBA-15	nanocomposite	3.0	30	This work
Ni/p (AMPS)	nanocomposite	0.9	0.15	54
Ni	nanoparticles	2.4	0.8	55
RANEY [®] Ni	nanoparticles	0.32	0.11	55
Ni@SiO ₂	nanoparticles	2.82	0.94	42
RGO/Ni	nanocomposite	0.25	0.04	37
Ni/Ag	core-shell	2.2	4.4	55
Ni	prickly structure	0.7	1.4	55
PVPh-Ni ₃ Co ₁	alloy nanochain	24.1	19	6
Au@SiO ₂	Core/shell	7	2.33	32
Au-Fe ₃ O ₄	heterrostructure	10.0	5.0	35
Au@Cs	yolk-shell	6.0	3.0	57
Fe ₃ O ₄ @SiO ₂ -Au	nanocomposite	14.2	28.4	58
Au-Ag-C	bimetallic composite	6.46	6.46	59

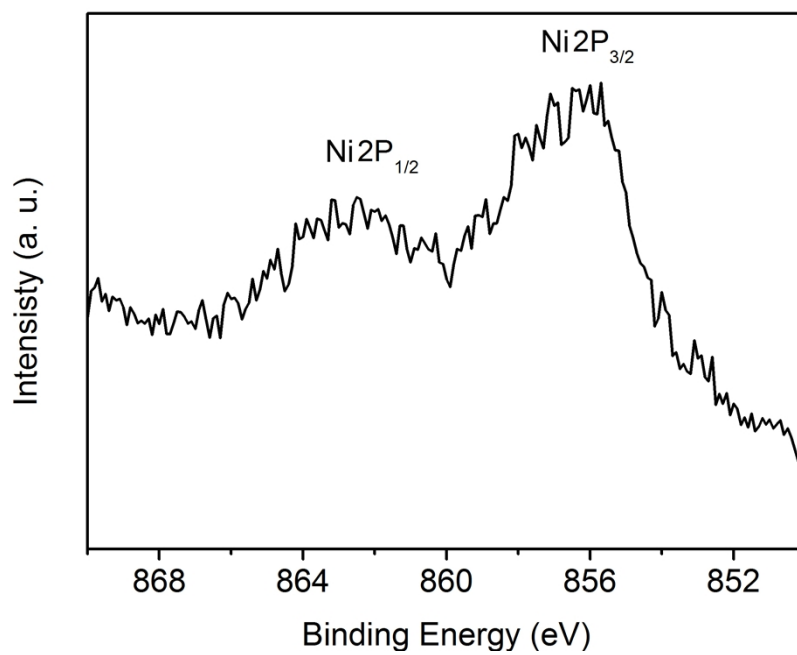


Fig. S3 XPS spectrm of Ni/SBA-15 sample.