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Monolithic carbon foam-supported Au nanoparticles with excellent catalytic performance in a fixed-bed system

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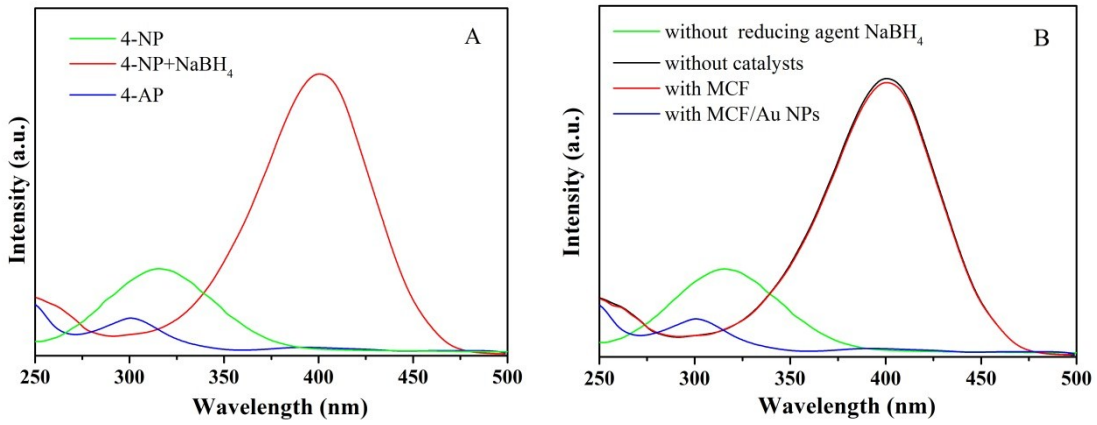

Fig. S1 (A) UV-Vis spectra of 4-NP (green line) and after (red line) adding $NaBH_4$ solution and 4-AP (blue line) solution; (B) UV-Vis spectra of 4-NP (green line) without $NaBH_4$ in the presence of MCF/Au NPs as catalyst, 4-NP (black line) with $NaBH_4$ in the absence of MCF/Au NPs as catalyst, 4-NP (red line) with $NaBH_4$ in the presence of MCF as catalyst and 4-NP (blue line) with $NaBH_4$ in the presence of MCF/Au NPs as catalyst.

Table S1 The reaction rate at different flow rates			
Au content (wt. %)	Flow rates (mL/min)	Conversion %	TOF (min^{-1})
0.32	2	98.9	0.122
0.32	4	69.3	0.171
0.32	6	40.1	0.256
0.32	8	6.3	0.031

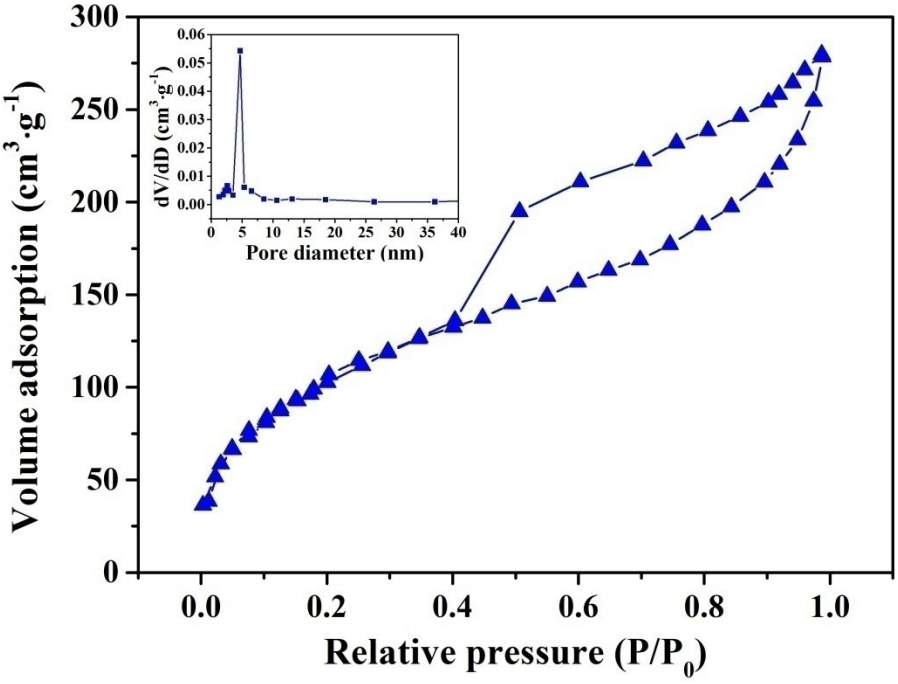

Fig. S2 Nitrogen adsorption-desorption isotherms and the corresponding BJH pore size distributions of MCF/AuNPs composites.

Table S2. Comparison of the catalytic performance in the reduction of 4-NP as reported in the literature				
Catalysts	C_{NaHB4} (M)	$C_{4\text{-}NP}$ (mM)	K_{app} (min^{-1})	Ref.
MCF/Au nanoparticles	0.3	0.5	0.12	This work
Au nanoparticles/GO	0.16	7	0.18	1
Au/graphene	0.1	0.1	0.19	2
Au nanowires /glass fibers	0.25	2.5	0.39	3
CNDs/Au NPs	0.08	3.5	0.0943	4

References

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