Supporting information

Ionic liquid-assisted synthesis of 3D nanoporous gold and its superior catalytic properties

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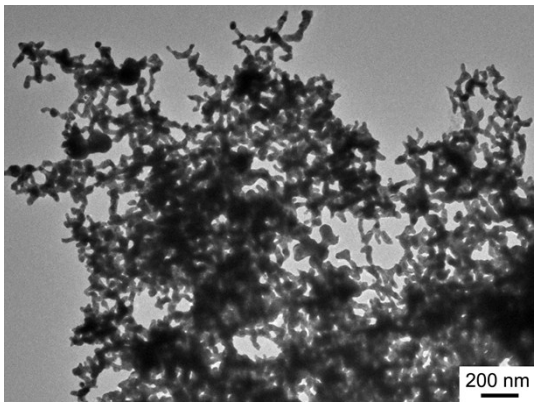

Fig. S1 TEM image at low magnification of NPG

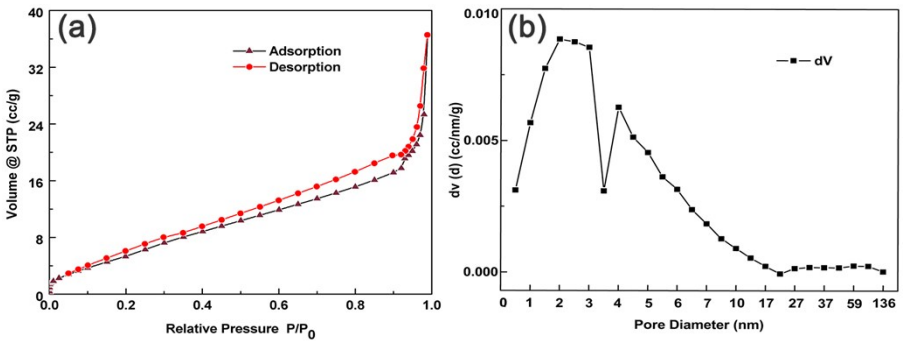

Fig. S2 N_2 adsorption-desorption isotherms (a) and pore size distribution (b) of 3D NPG.

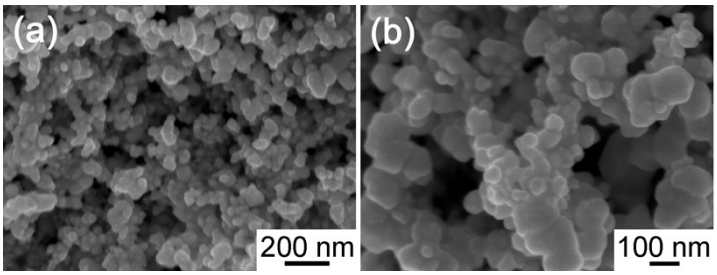

Fig. S3 The differently magnified FESEM images of Au products prepared in the presence of [HEmim]Br.

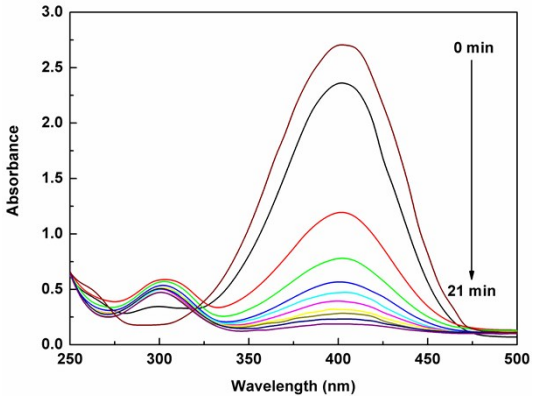

Fig. S4 Time-dependent absorption spectra of the reduction of *p*-NP using Au elongated particles as catalyst at 25 ℃.

Table S1 Comparison of catalytic activity among several gold nanocrystals for *p*-NP reduction.

Morphology	Catalytic time (min)	Rate constant (min^{-1})	Ref.
NPG	14	0.1903	This work
Au nanospheres	64	-	[S1]
Au nanorods	30	0.0740	[S2]

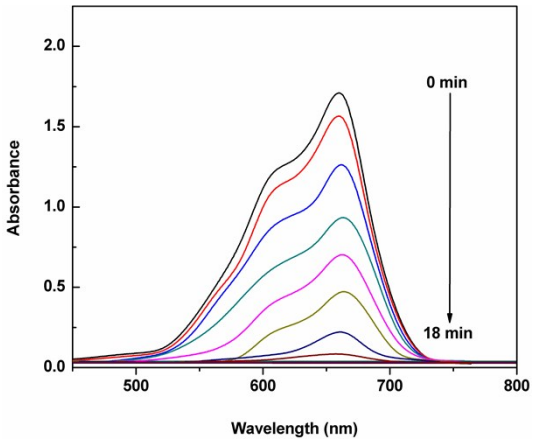

Fig. S5 Time-dependent absorption spectra of the degradation of MB using Au elongated particles as catalyst at 25 ℃.

References

S1 S. Kundu, S. Lau and H. Liang, *J. Phys. Chem. C*, 2009, **113**, 5150-5156.

S2 X. Bai, Y. Gao, H. G. Liu and L. Zheng, *J. Phys. Chem. C*, 2009, **113**, 17730-17736.