

Electronic Supplementary Information

**In-situ loading of well-dispersive silver nanoparticles on
nanocrystalline magnesium oxide for real-time monitoring of
catalytic reactions by surface enhancement Raman spectroscopy**

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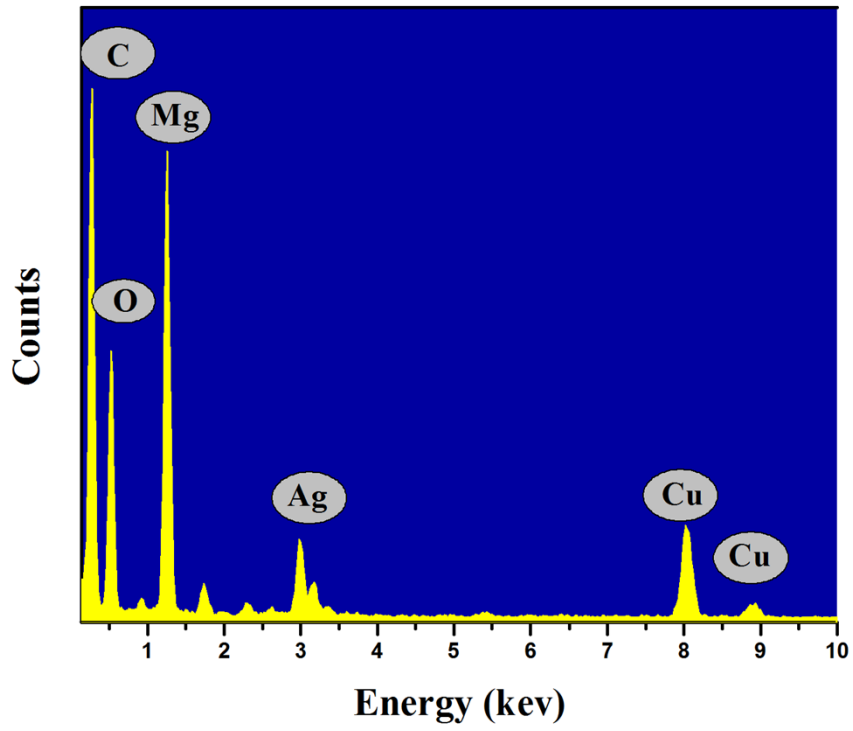
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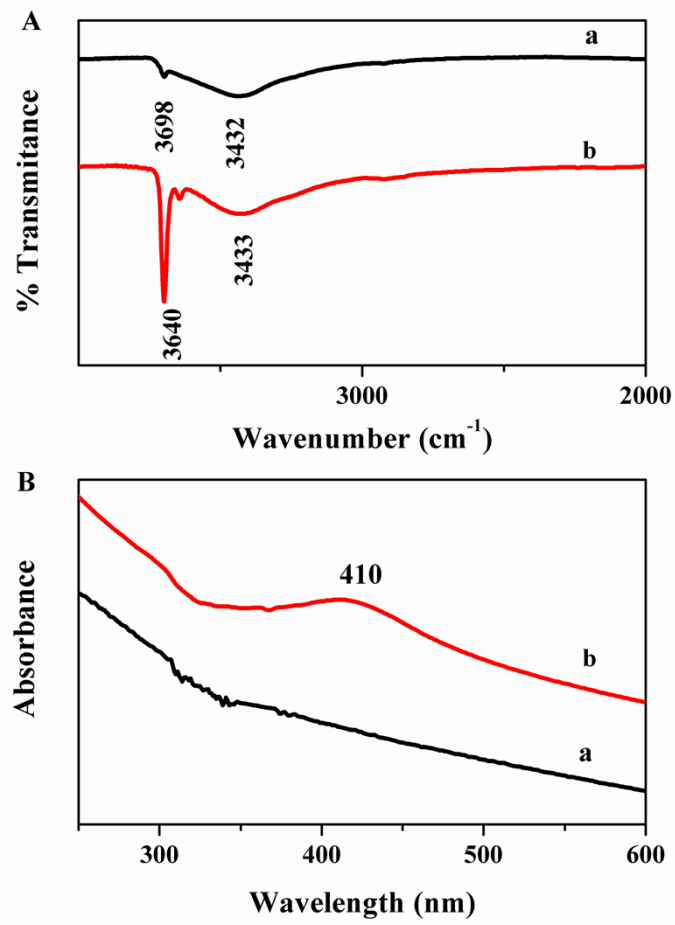
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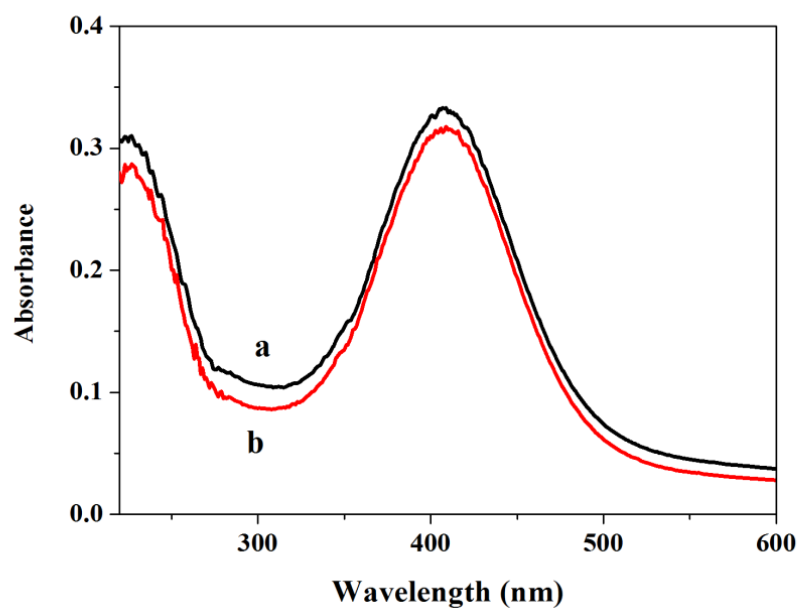
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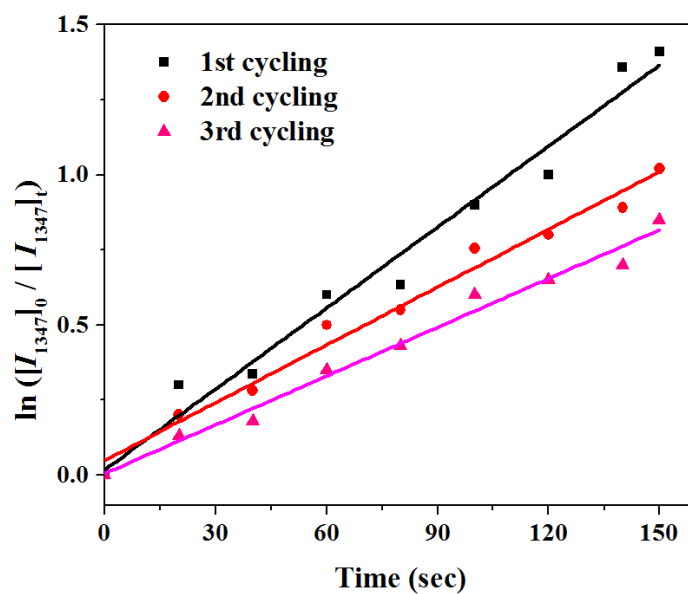
SI Fig.1 EDX micrograph of the nano MgO-Ag(0)



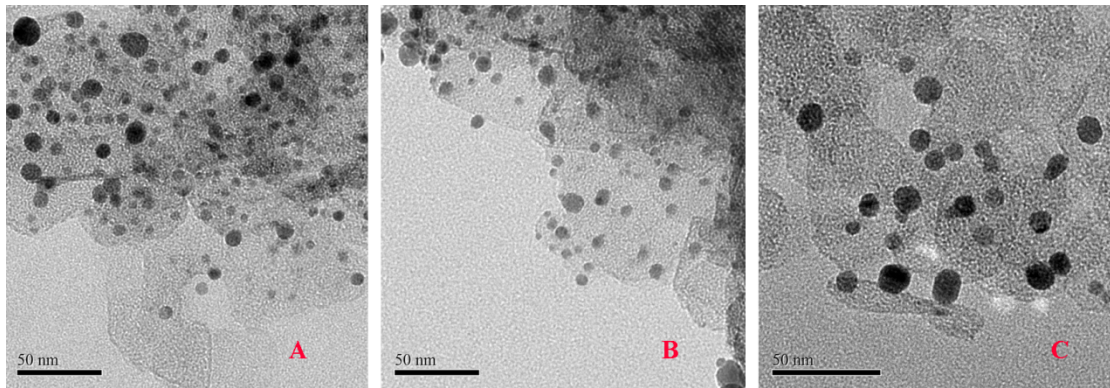
SI Fig. 2 (A) IR and (B) UV-vis spectra of (a) nano-MgO and (b) nano MgO-Ag(0)



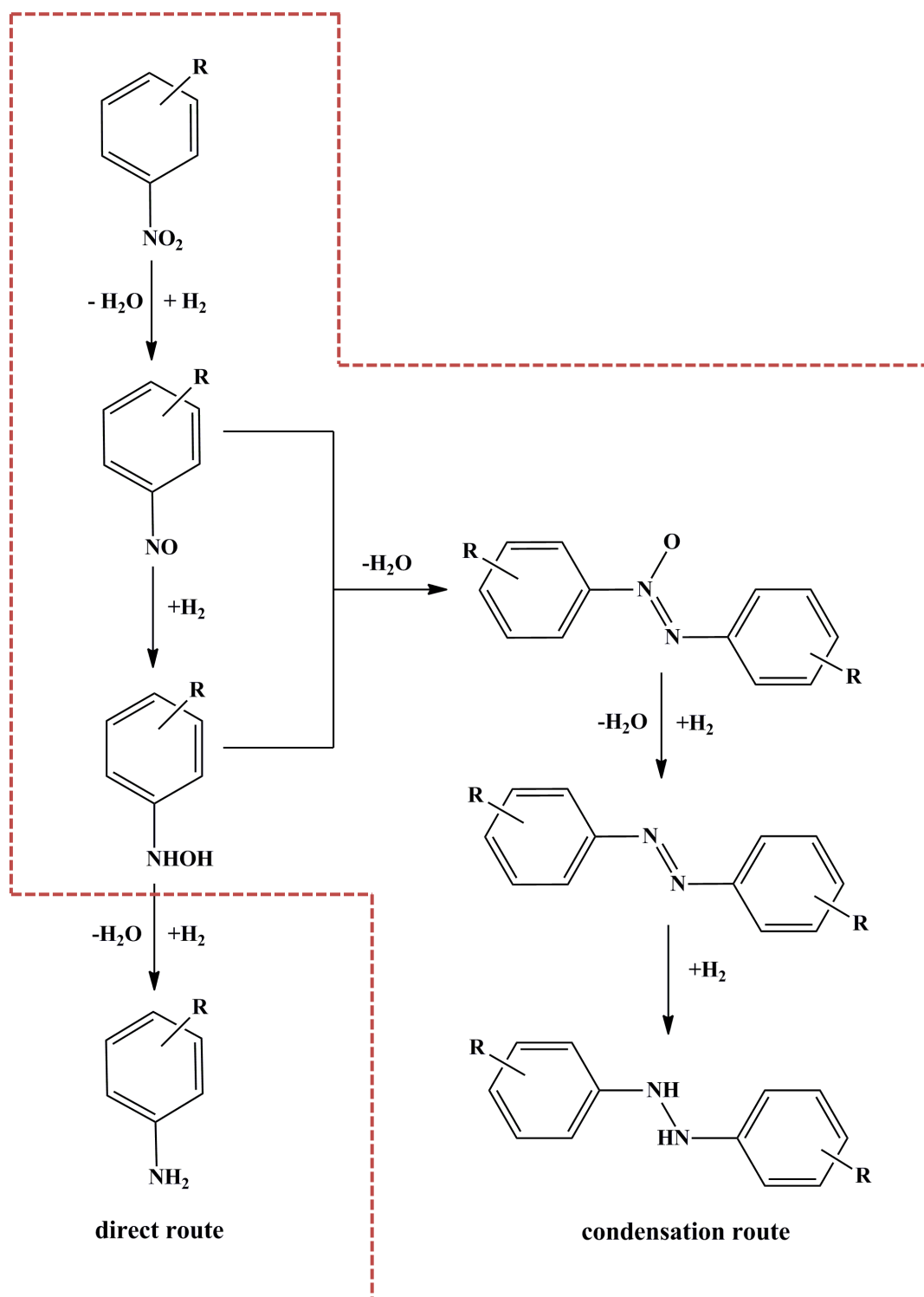
SI Fig. 3 UV-vis absorption spectra of the reduction of 4-NTP by NaBH₄ without (a) or with (b) nano-MgO as catalyst



SI Fig. 4 Three cycles of catalytic activity of the nano MgO-Ag(0) nanostructures hybrids in decomposing 4-NTP. The solid lines are linear fits to the measured data points (symbols).



SI Fig. 5 TEM images of nano MgO-Ag(0) nanostructures after (A) one, (B) two, and (c) three cycles.



SI Fig. 6 Proposed reaction pathways for the reduction of aromatic nitro group to amino group¹

References

- 1 H. F. Gradual, *Z. Elektrochem.*, 1898, **4**, 506-513.