Supplementary Information (SI) for RSC Advances.

Catalytic reduction of both aldehydic and nitro groups of nitro-benzaldehyde derivatives by silver nanoparticles containing smart alginate-poly(*N*-isopropylacrylamide-methacrylic acid) microgels

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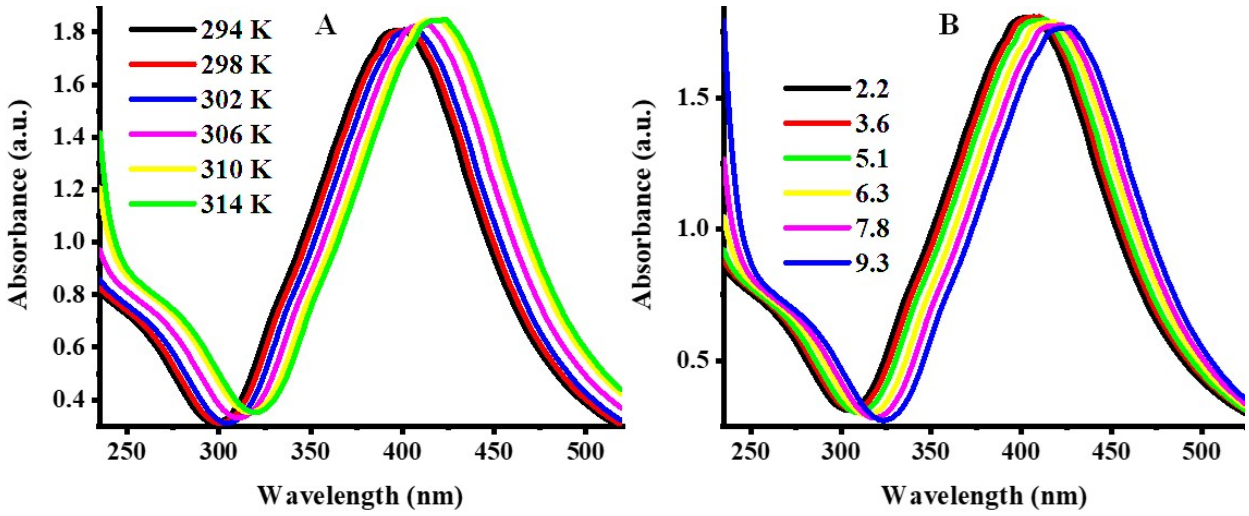

Fig. 1S. UV-vis spectra of Ag-AN-P(NM) at (**A**) various temperature (294 K – 314 K) and (**B**) different pH (2.2 – 9.3).

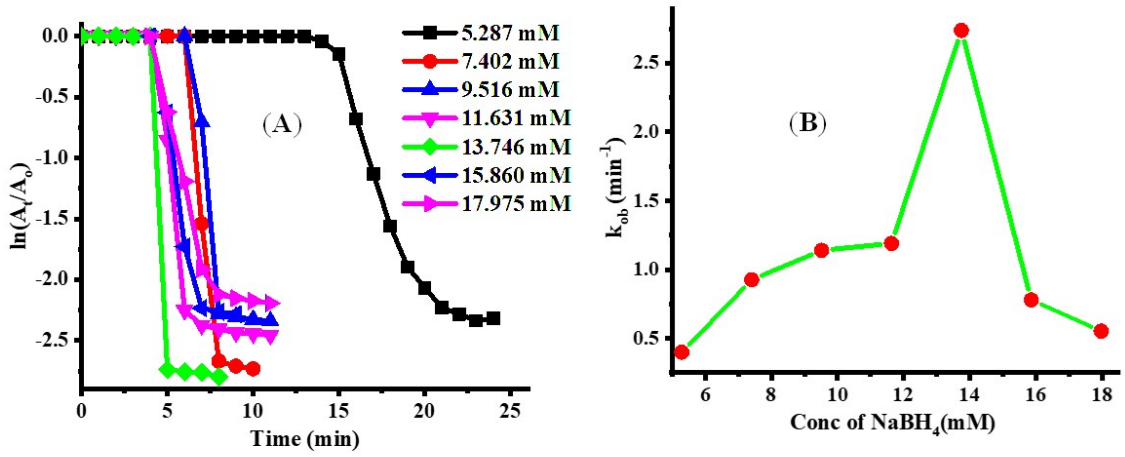

Fig. 2S: Catalytic reduction of 4NBA (**A**) effect of concentrations of $NaBH_4$ [conditions: [$NaBH_4$] = 1.973 mM - 6.705 mM, [4NBA] = 0.049 mM, Ag-AN-P(NM) = 1.48 µg/mL] (B) graph between k_{ob} and $NaBH_4$ concentration.

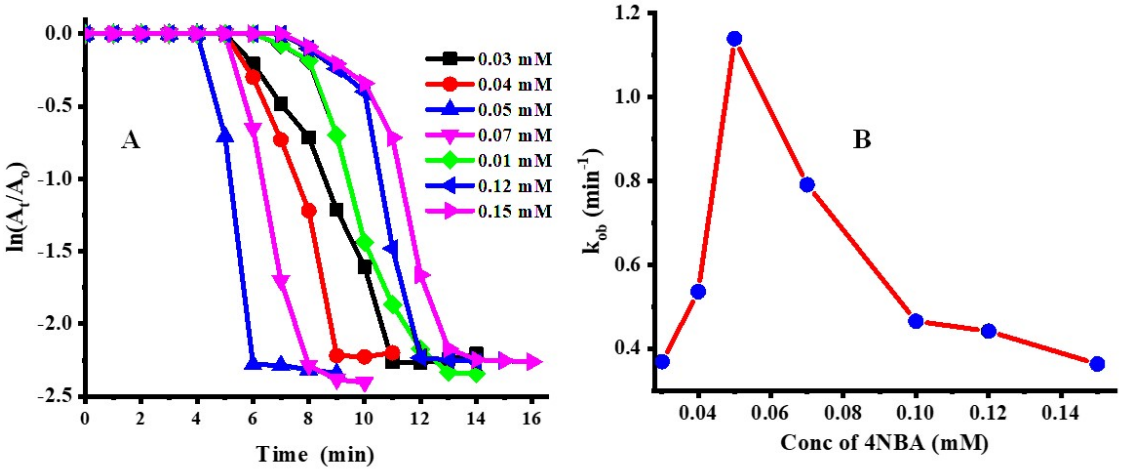

Fig. 3S: Catalytic reduction of 4NBA at (**A**) effect of concentrations of 4NBA [conditions: [4NBA] = 0.03 mM - 0.15 mM, [$NaBH_4$] = 3.55 mM, Ag-AN-P(NM) = 1.48 µg/mL] (**B**) graph between k_{ob} and 4NBA concentration.

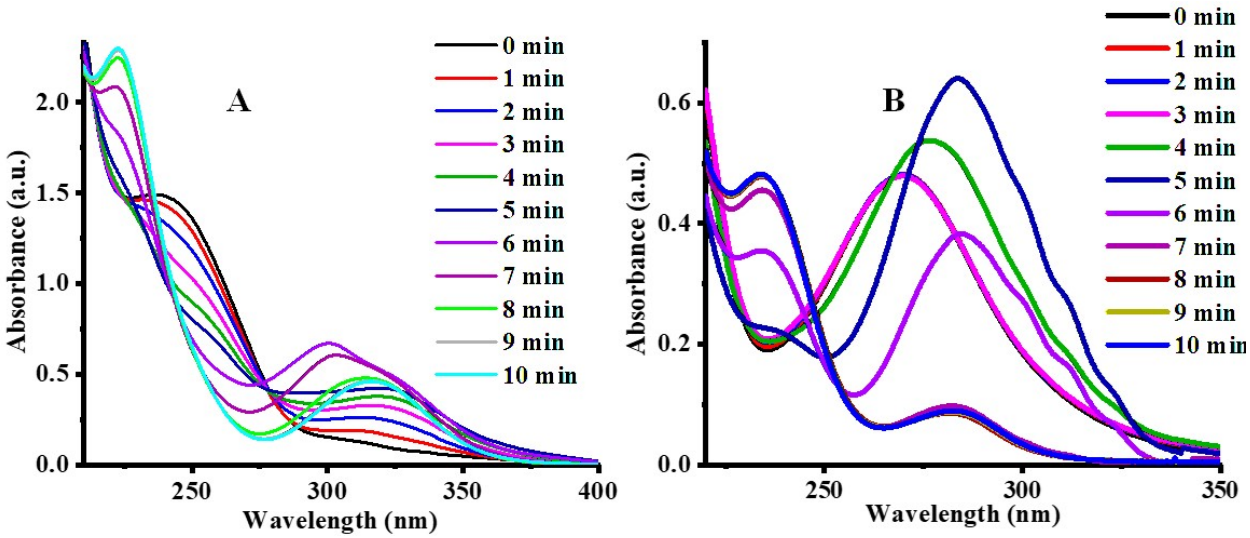

Fig. 4S: Catalytic reduction of (**A**) 3,5-DNBA and (**B**) 3NBA.

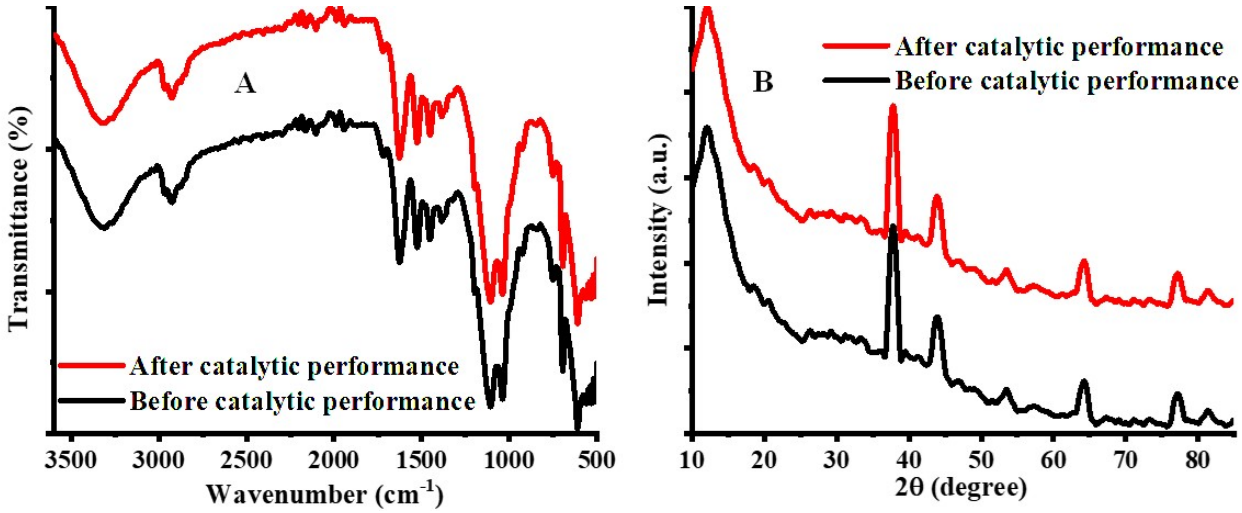

Fig. 5S: (**A**) FTIR and (**B**) XRD spectra of Ag-AN-P(NM) before and after catalytic recycling.