



Cite this: *RSC Adv.*, 2021, **11**, 30701

DOI: 10.1039/d1ra90144c

rsc.li/rsc-advances

Correction: Ultrafast conversion of carcinogenic 4-nitrophenol into 4-aminophenol in the dark catalyzed by surface interaction on BiPO₄/g-C₃N₄ nanostructures in the presence of NaBH₄

Ahmed B. Azzam,^{*a} Ridha Djellabi,^b Sheta M. Sheta^c and S. M. El-Sheikh^d

Correction for 'Ultrafast conversion of carcinogenic 4-nitrophenol into 4-aminophenol in the dark catalyzed by surface interaction on BiPO₄/g-C₃N₄ nanostructures in the presence of NaBH₄' by Ahmed B. Azzam *et al.*, *RSC Adv.*, 2021, **11**, 18797–18808. DOI: 10.1039/D1RA02852A.

The authors regret that some misleading statements were included in section 3.2.1 'Effect of initial concentration on 4-NP'. The corrected version of section 3.2.1 is presented below. There are no changes to Fig. 8 or its caption.

^aFaculty of Science, Chemistry Department, Helwan University, Ain Helwan, Cairo 11795, Egypt. E-mail: ahmed_azzam2000@hotmail.com; Tel: +201285259709

^bUniversità degli Studi di Milano, Dip. Chimica and INSTM-UdR Milano, Via Golgi, 19, 20133 Milano, Italy

^cDepartment of Inorganic Chemistry, National Research Centre, 33, El-Behouth St., Dokki, Giza 12622, Egypt

^dNanomaterials and Nanotechnology Department, Advanced Materials Division, Central Metallurgical R & D Institute (CMRDI), P. O. Box, 87 Helwan, 11421 Cairo, Egypt



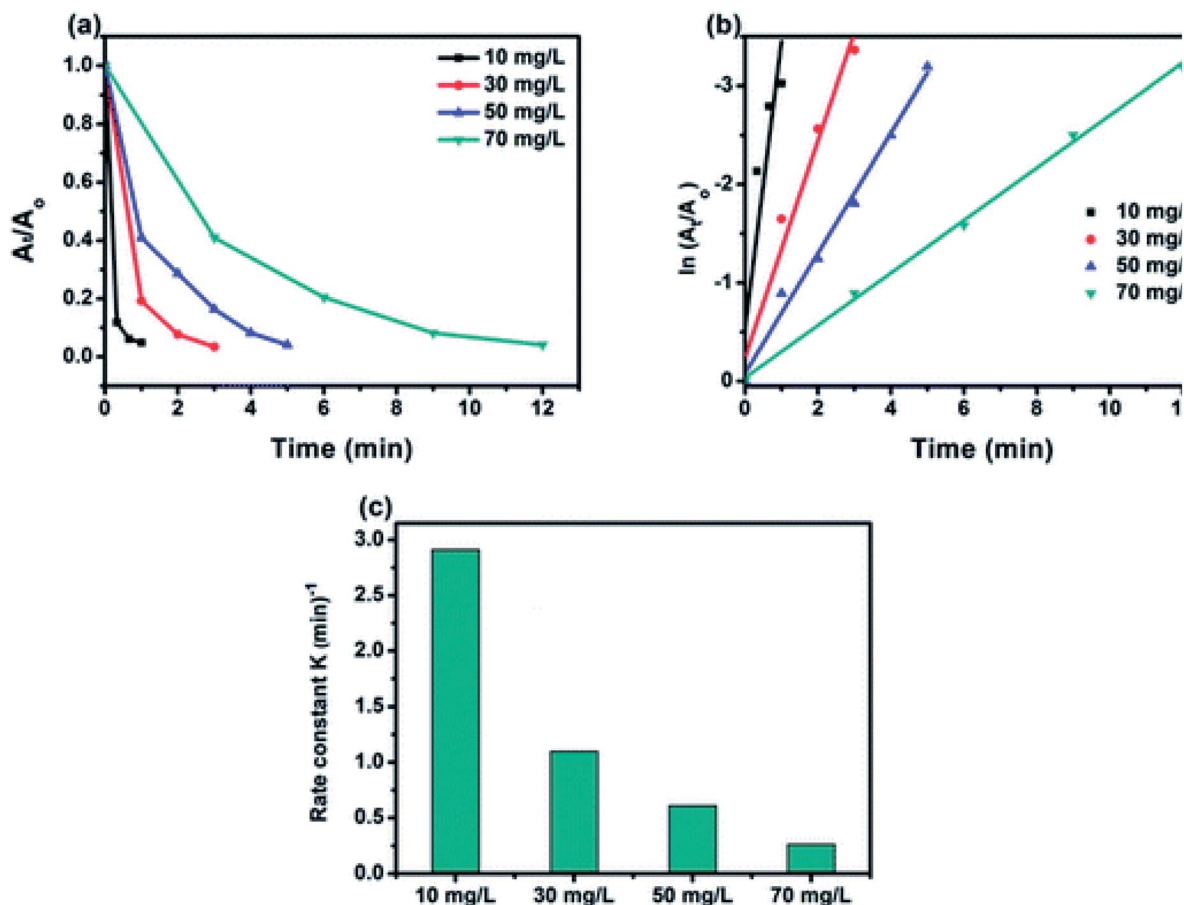


Fig. 8 Effect of initial concentration on reduction rate of 4-NP (a); corresponding linear transform $\ln(A_t/A_0) = f(t)$ of the 4-NP reduction kinetics curves (b); comparison of the rate constant value for the reduction of the 4-NP over initial different concentration (c). ($[4\text{-NP}] = 10\text{--}70 \text{ mg L}^{-1}$, $[\text{catalyst}] = 0.5 \text{ g L}^{-1}$).

3.2.1 Effect of initial concentration of 4-NP

The effect of the initial concentration of 4-NP on the catalytic efficiency rate using 50% $\text{BiPO}_4/\text{g-C}_3\text{N}_4$ catalyst was carried out by varying the concentration from 10 to 70 mg L^{-1} , and the obtained results are shown in Fig. 8a. Interestingly, 50% $\text{BiPO}_4/\text{g-C}_3\text{N}_4$ was able to reduce all 4-NP solutions at concentrations from 10 to 70 mg L^{-1} , reflecting the high efficiency of such a catalyst towards this 4-NP reduction. At lower concentrations, a superior constant rate was recorded due to the availability of a large number of catalytic sites per given amount of 4-NP moles. And *vice versa*, the higher the concentration, the lower the rate constant (Fig. 8b), due to the high competition of 4-NP molecules on the limited sites. In addition, the number of molecules adsorbed at the surface of the $\text{BiPO}_4/\text{g-C}_3\text{N}_4$ heterojunction increases with the increase in concentration of 4-nitrophenol and hence, the surface becomes saturated by 4-nitrophenol molecules. This leads to a decrease in concentration of BH_4^- ions approaching the surface of the $\text{BiPO}_4/\text{g-C}_3\text{N}_4$ heterojunction, hence lowering the rate of hydrogen transfer from BH_4^- ion to the 4-nitrophenol molecule.

The Royal Society of Chemistry apologises for these errors and any consequent inconvenience to authors and readers.

