CORRECTION

Check for updates

Correction: Ultrafast conversion of carcinogenic 4-nitrophenol into 4-aminophenol in the dark catalyzed by surface interaction on BiPO$_4$/g-C$_3$N$_4$ nanostructures in the presence of NaBH$_4$

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 BiPO$_4$/g-C$_3$N$_4$ nanostructures in the presence of NaBH$_4$' 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.

[a]*Faculty of Science, Chemistry Department, Helwan University, Ain Helwan, Cairo 11795, Egypt. E-mail: ahmed_azzam2000@hotmail.com; Tel: +201285259709*

[b]*Università degli Studi di Milano, Dip. Chimica and INSTM-UdR Milano, Via Golgi, 19, 20133 Milano, Italy*

[c]*Department of Inorganic Chemistry, National Research Centre, 33, El-Behouth St., Dokki, Giza 12622, Egypt*

[d]*Nanomaterials and Nanotechnology Department, Advanced Materials Division, Central Metallurgical R & D Institute (CMRDI), P. O. Box, 87 Helwan, 11421 Cairo, Egypt*
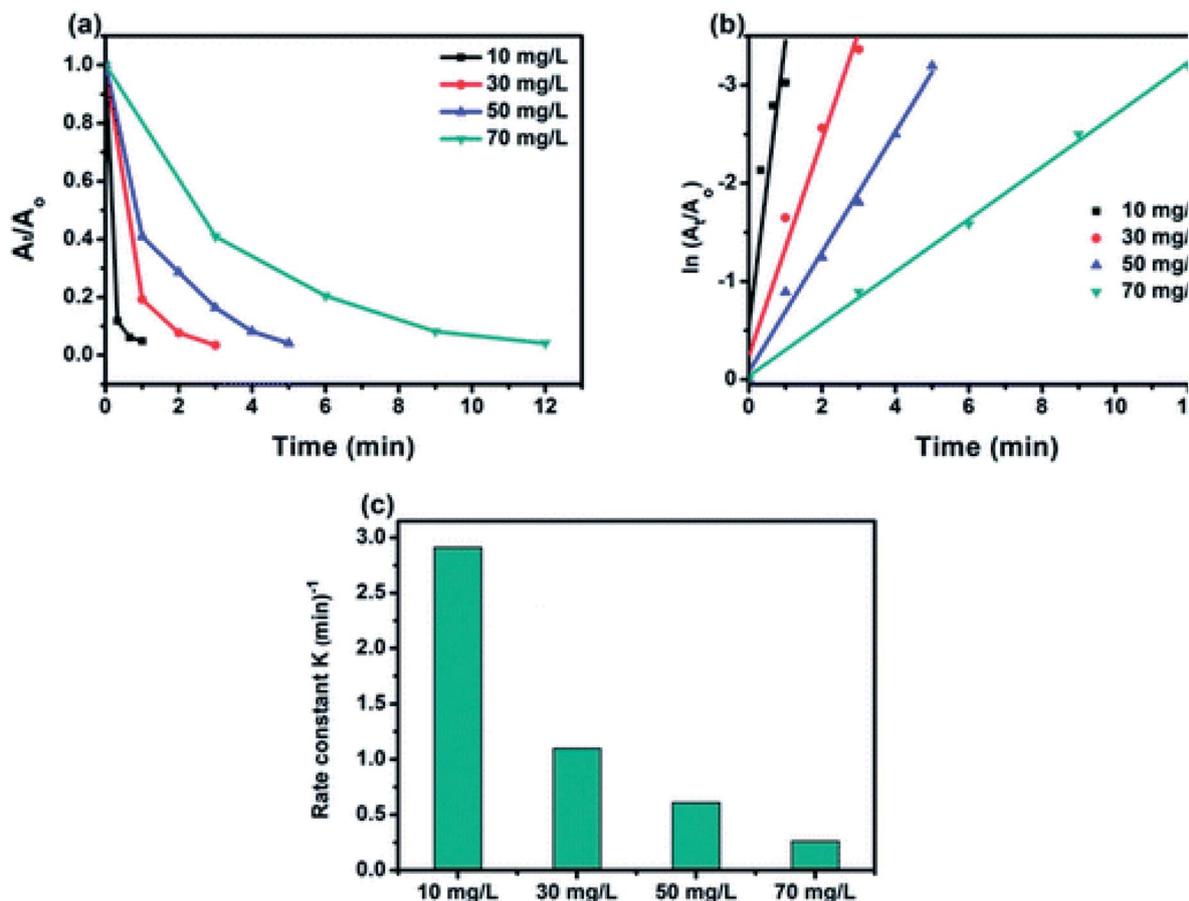
Fig. 8 Effect of initial concentration on reduction rate of 4-NP (a); corresponding linear transform $\ln(A_t/A_0) = f(t)$ of the 4-NP reduction kinetics curves (b); comparison of the rate constant value for the reduction of the 4-NP over initial different concentration (c). ([4-NP] = 10–70 mg L^{-1}, [catalyst] = 0.5 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% BiPO$_4$/g-C$_3$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% BiPO$_4$/g-C$_3$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 BiPO$_4$/g-C$_3$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 BiPO$_4$/ g-C$_3$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.