



# Correction to: Inter-transformation between silver nanoparticles and Ag<sup>+</sup> induced by humic acid under light or dark conditions

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Correction to: Ecotoxicology (2020)  
<https://doi.org/10.1007/s10646-020-02284-3>.

In the published version of this article, the separating method of AgNPs and Ag ions was not accurate enough and an improve procedure was developed. As a result, the following text and figures are supplemented here to amend or replace those in the published paper.

## Materials and methods

The original text in the second paragraph of the section “AgNPs and Ag<sup>+</sup> analysis” reads “The dissolved Ag was separated from AgNPs by ultracentrifugation at 5000 rpm for 20 min, and the dissolved Ag in the supernatant was measured using an inductively coupled plasma-mass spectrometry (ICP-MS, Optima 8300, Perkin Elmer) after mixing with 0.3 mL of 65% HNO<sub>3</sub>. The recovery of Ag<sup>+</sup> in the supernatant was over 95%.” shall be changed to “The dissolved Ag was separated from AgNPs using

Amicon ultrafilter devices (cellulose centrifugal filters with a cut-off of 3000 Da, Merck Millipore), subjected to centrifugation for 20 min at 5000 rpm. The concentration of dissolved Ag was measured using an inductively coupled plasma-mass spectrometry (ICP-MS, Optima 8300, Perkin Elmer) after mixing with 0.3 mL of 65% HNO<sub>3</sub>. The recovery of Ag<sup>+</sup> in the supernatant was over 95.7%.”

## Results and discussion

The original text in the section of “Oxidation of AgNPs under dark condition” reads as “indicating that AgNPs were oxidized in the presence of HA in darkness. A moderate increase in the Ag<sup>+</sup> concentrations was detected at the first sampling time (24 h) and, the increment continued until the 96th h.” shall be revised to “and the increment continued until the 96th h. After 72 h, a moderate increase in the Ag<sup>+</sup> concentrations was detected. It indicated that AgNPs were oxidized in the presence of HA in darkness.”

Because of the improved method used, there are slightly changes in some of the illustrations in the published paper and the revised ones by the improved procedure are provided in the followings (Figs. 2, 3, 5, 6):

The original article can be found online at <https://doi.org/10.1007/s10646-020-02284-3>.

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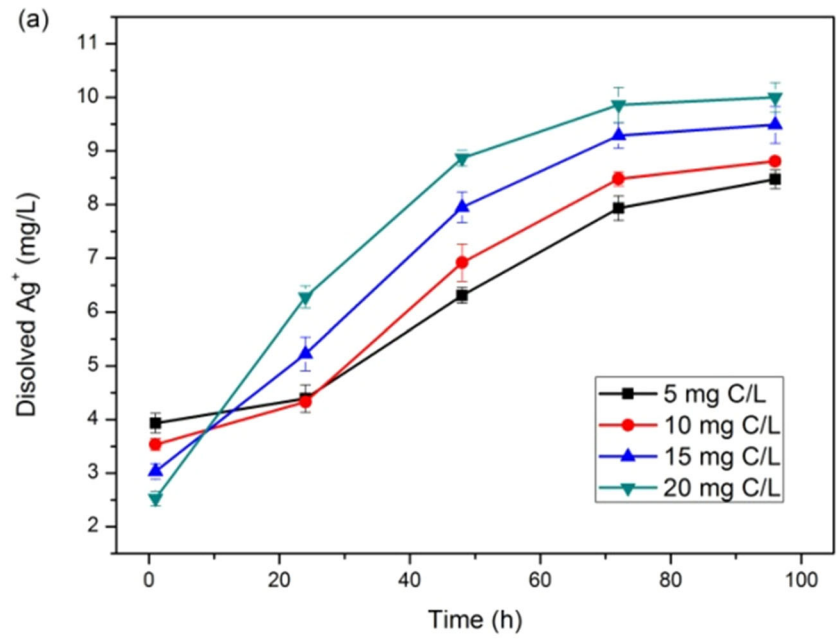
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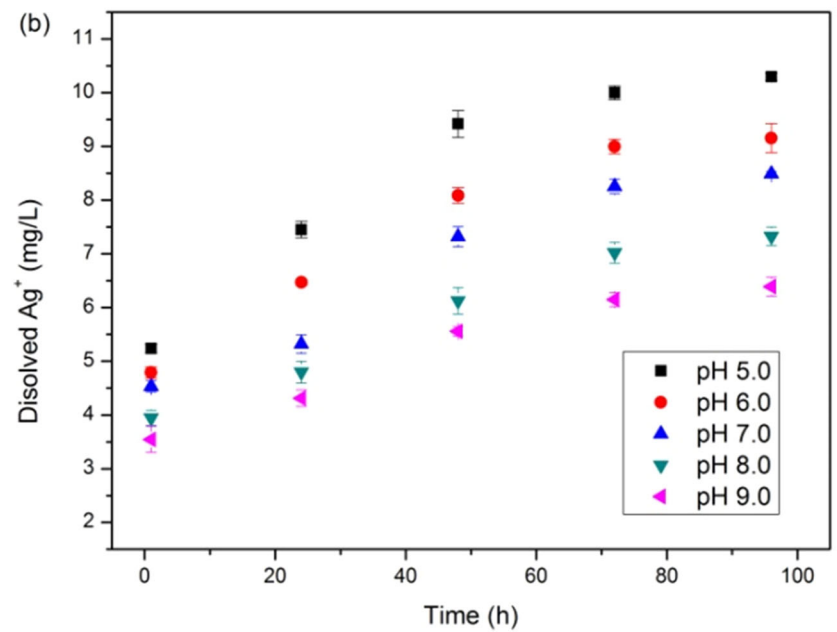
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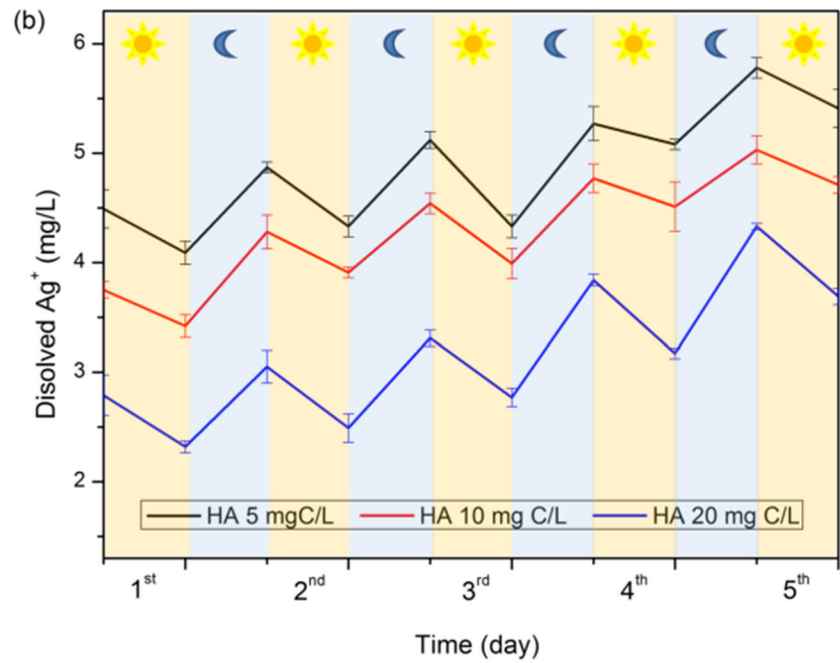
**Fig. 2 a** AgNPs were generated from 20 mg/L AgNO<sub>3</sub> and various concentrations of HA



**Fig. 3 b** Oxidative dissolution of AgNPs (ion release) after 96 h of exposure at different pH values



**Fig. 5** Changes in concentration of AgNPs (a) and dissolved  $\text{Ag}^+$  (b) in the presence of AgNPs (prepared as the light irradiation experiment) and different concentration of HA during the day-night cycles



**Fig. 6** Changes in concentration of AgNPs (a) and dissolved  $\text{Ag}^+$  (b) in the presence of 20 mg/L  $\text{Ag}^+$  and different concentration of HA during the day-night cycles

