Effects of nano-ZnO/nano-TiO$_2$ coexistence on nano-ZnO dissolution and toxicity

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Major findings

- Nano-TiO$_2$ determines the concentration of dissolved Zn during nano-ZnO dissolution.
- The nano-ZnO/nano-TiO$_2$ interaction is synergistically mediated by Zn (II) adsorption on nano-TiO$_2$ and further dissolution of remaining nano-ZnO as a Zn$^{2+}$ reservoir.
- A simple kinetic model is developed to predict the experimental data.
- Both nano-TiO$_2$ and nano-ZnO are photoactive, but their phototoxicity is not additive.