

SUPPORTING INFORMATION

Transparent ZnO-coated polydimethylsiloxane based material for photocatalytic purification applications

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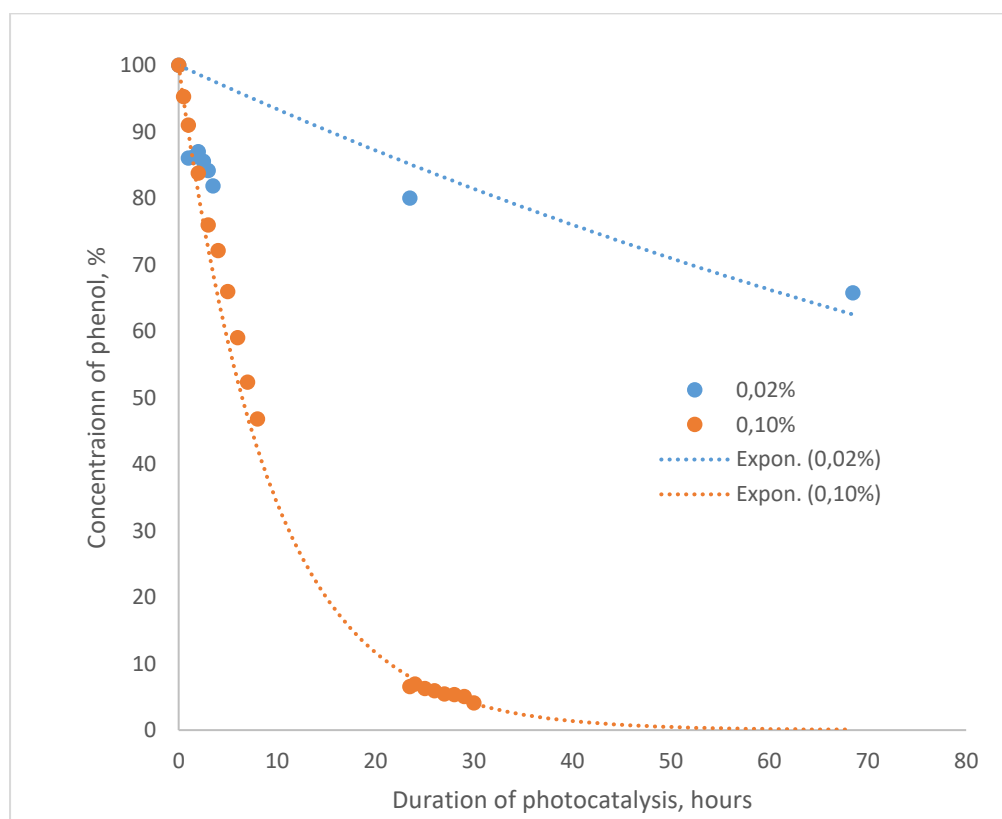


Figure S1. Effect of amount of ZnO particles (% by weight) fixed on PDMS on the photocatalytic activity under UV light.

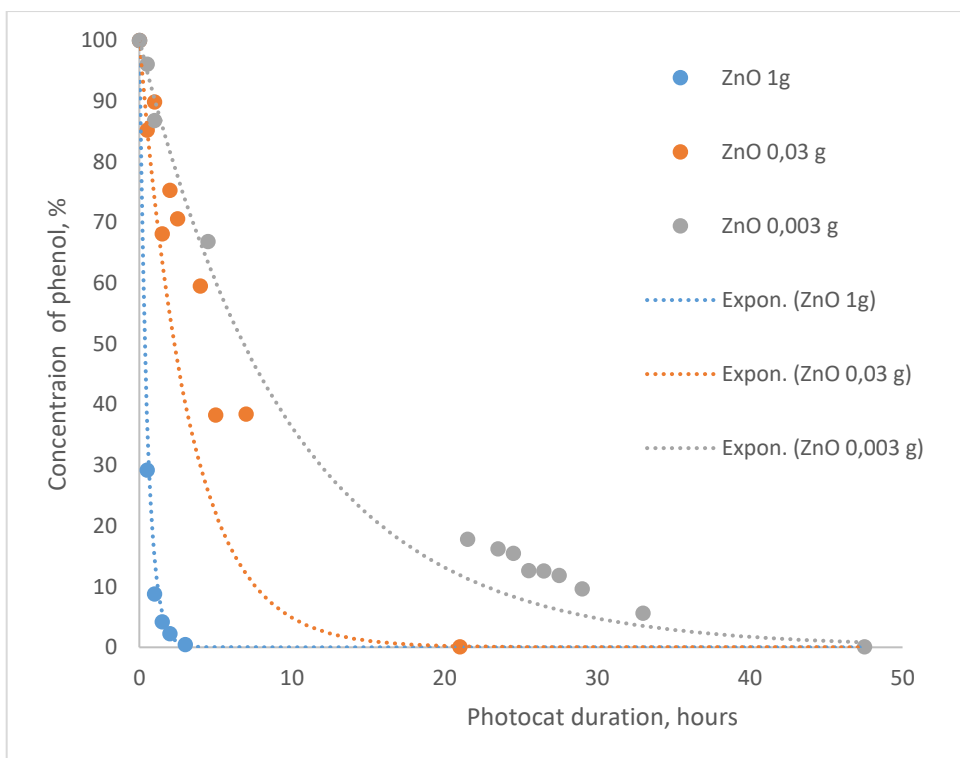


Figure S2. Effect of amount of ZnO particles in form of powder on the photocatalytic activity under UV light. The measured oxidation rate constants were 1.996 h^{-1} , 0.320 h^{-1} and 0.101 h^{-1} for ZnO concentrations of 1 g/L, 0.03 g/L and 0.003 g/L respectively.

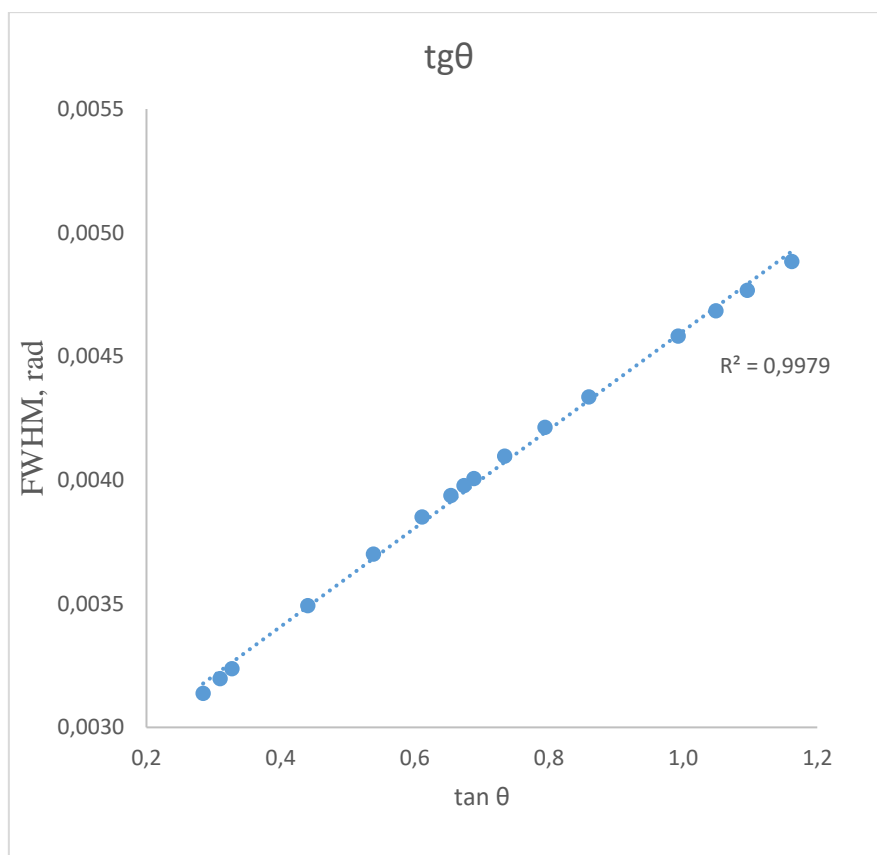


Figure S3. Correlation of tangent of Bragg angle and full width at half maximum of x-ray peaks.

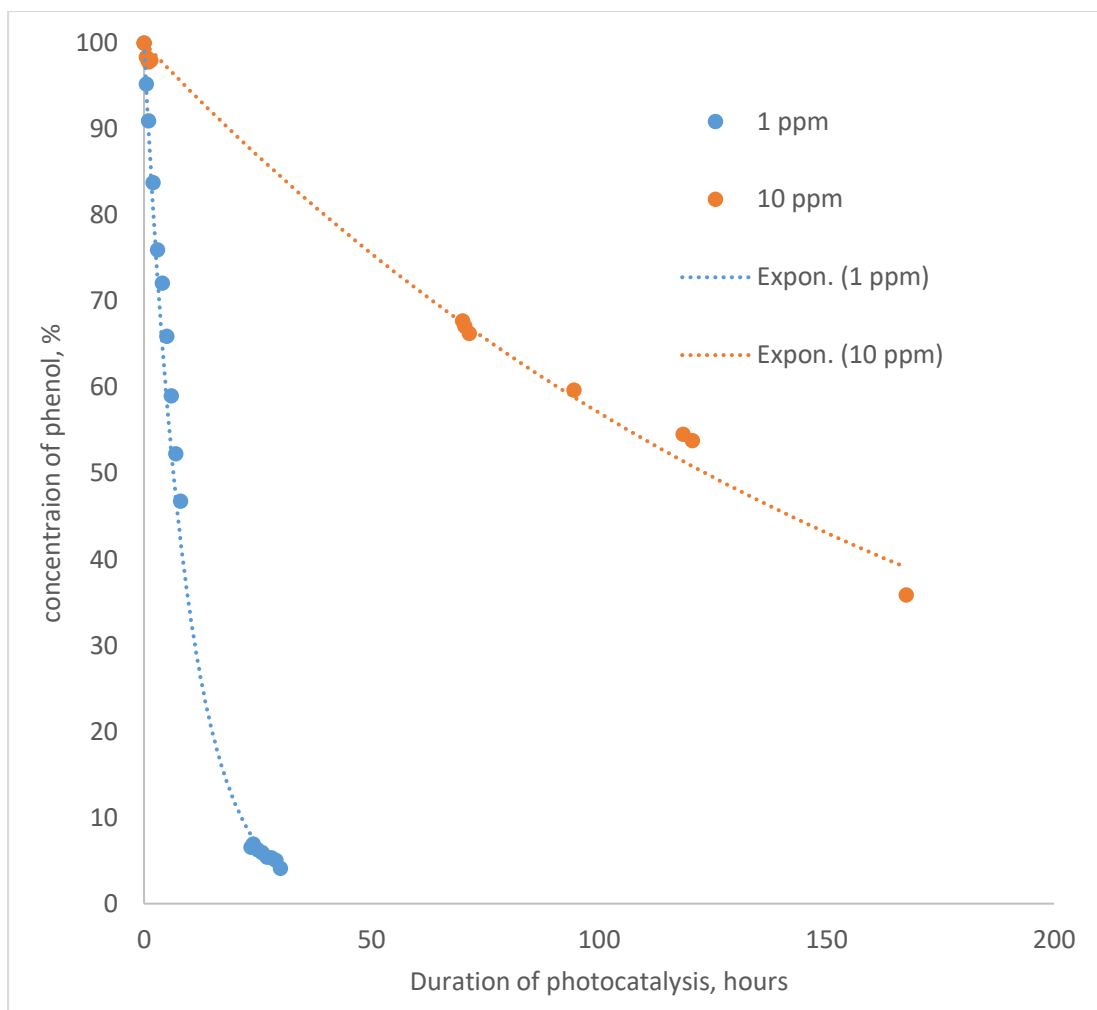


Figure S4. Effect of phenol concentration on rate of photocatalytic degradation under UV light in the presence of PDMS-ZnO composite with 0.1% of ZnO by weight.

Note on the other coating applications

ZnO powders have long been used as an essential component of anticorrosive coatings for metals, especially for galvanized iron that is difficult to protect with organic coatings as it leads to brittleness and lack of adhesion due to chemical interaction between iron and coating. ZnO-containing coatings retain their flexibility and adherence on metal surfaces for years. Therefore, the semi-embedding of the ZnO nanoparticles can contribute to a new generation of coating technology in protection of materials against corrosion and as well as fluid organic contaminants.