

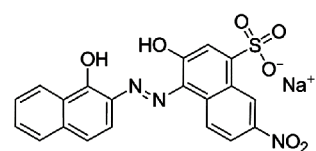
Supplementary Information

Seeded Growth of ZnO Nanowires in Dye-Containing Solution: The Submerged Plant Analogy and Its Application in Photodegradation of Dye Pollutants

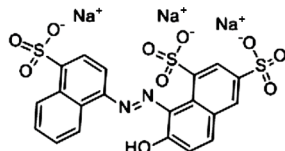
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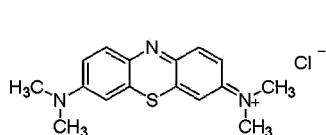
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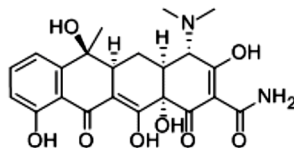
Eriochrome Black T (EBT)



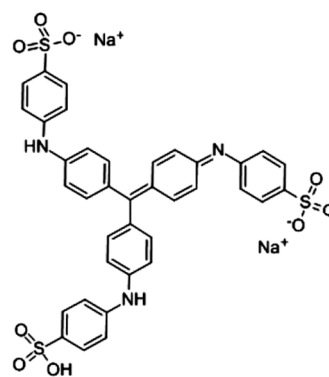
Acid Red 18 (AR18)



Methylene Blue (MB)



Tetracycline (TC)



Acid Blue 93 (AB93)

Scheme S1 Molecular structures of eriochrome black T (EBT), acid red 18 (AR18), acid blue 93 (AB93), methylene blue (MB), and tetracycline (TC).

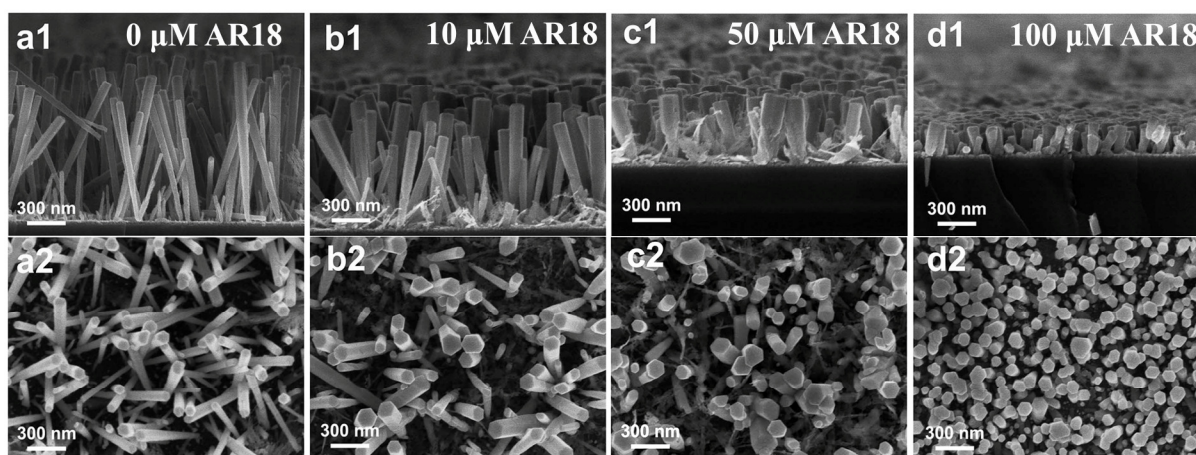


Fig. S1 Cross-sectional SEM images of ZnO nanowire arrays prepared *via* seeded solution growth by the addition of AR18 with different concentrations: (a) 0 μM, (b) 10 μM, (c) 50 μM, and (d) 100 μM. Corresponding top-view SEM images: (a1) 0 μM, (b1) 10 μM, (c1) 50 μM, and (d1) 100 μM. The concentration of each precursor (zinc nitrate and HMTA) was maintained constant at 5 mM in all the cases.

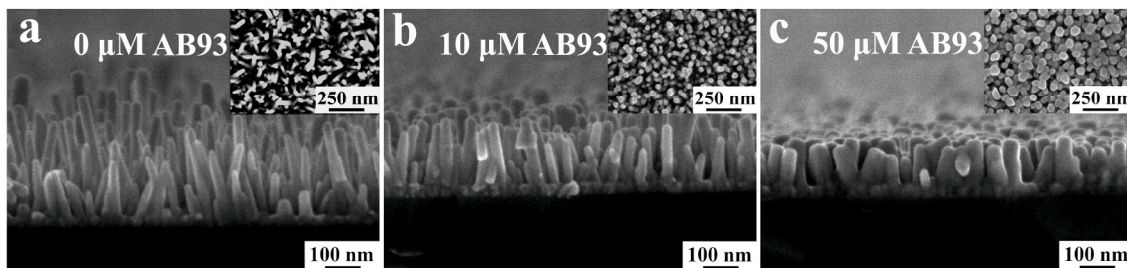


Fig. S2 Cross-sectional SEM images of ZnO nanowire arrays prepared *via* seeded solution growth by the addition of AB93 with different concentrations: (a) 0 μM , (b) 10 μM , and (c) 50 μM . Insets are corresponding top-view SEM image. The concentration of each precursor (zinc nitrate and HMTA) was maintained constant at 5 mM in all the cases.

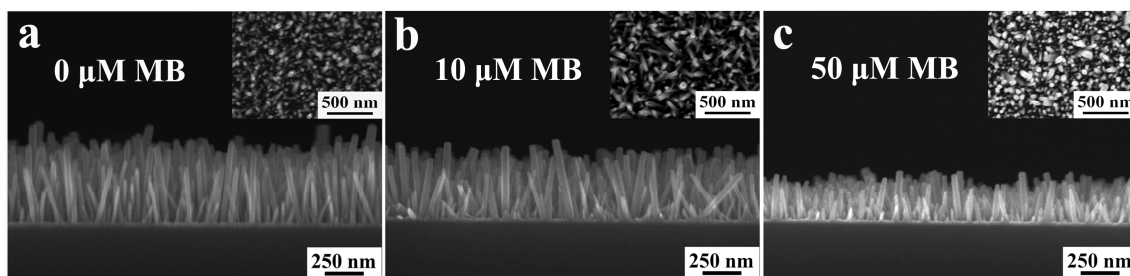


Fig. S3 Cross-sectional SEM images of ZnO nanowire arrays prepared *via* seeded solution growth by the addition of MB with different concentrations: (a) 0 μM , (b) 10 μM , and (c) 50 μM . Insets are corresponding top-view SEM image. The concentration of each precursor (zinc nitrate and HMTA) was maintained constant at 5 mM in all the cases.

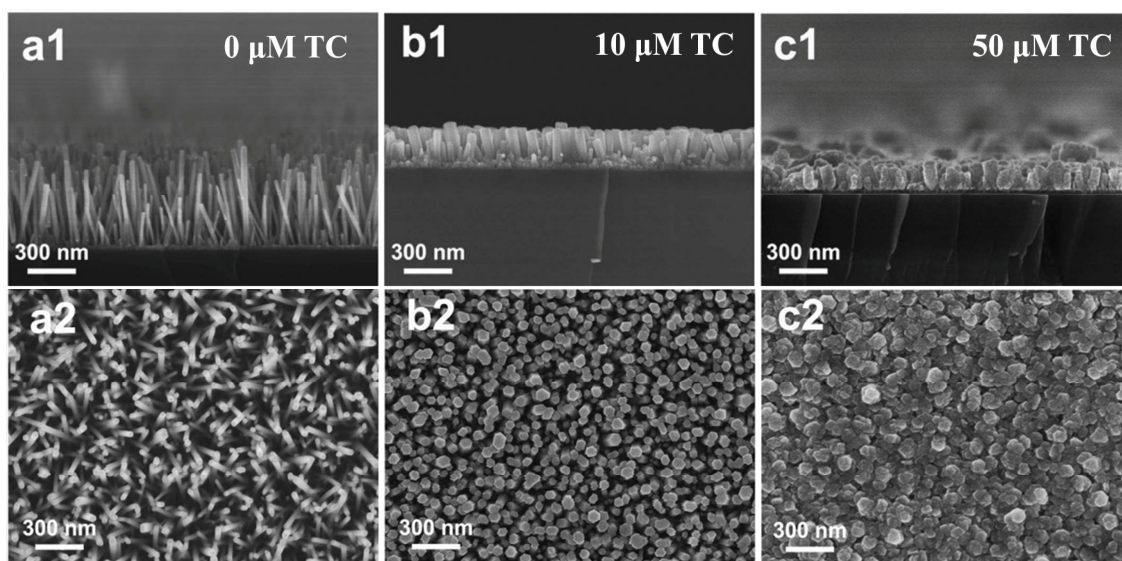


Fig. S4 Cross-sectional SEM images of ZnO nanowire arrays prepared *via* seeded solution growth by the addition of TC with different concentrations: (a) 0 μM , (b) 10 μM , and (c) 50 μM . Corresponding top-view SEM images: (a1) 0 μM , (b1) 10 μM , and (c1) 50 μM . The concentration of each precursor (zinc nitrate and HMTA) was maintained constant at 5 mM in all the cases.

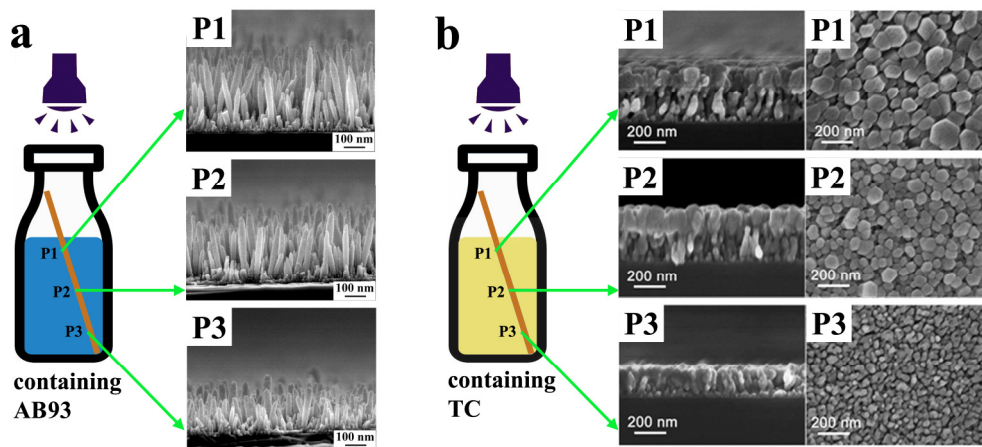


Fig. S5 Schematic illustration of seeded growth of ZnO nanowire arrays with the addition of AB93 (a) and TC (b) under vectored light irradiation in the water bath at 90 $^{\circ}\text{C}$ for 5 h; P1, P2 and P3 are the SEM images of ZnO nanowire arrays (side-views) grown at different locations of the substrate as labeled on the diagram of the reaction vessel.

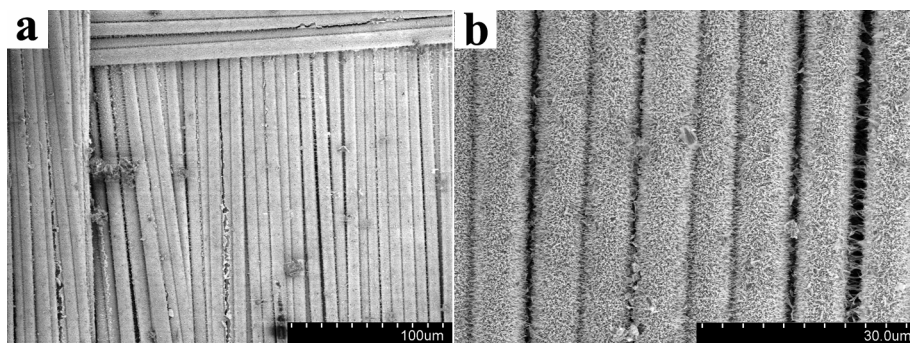


Fig. S6 Low-magnification SEM images of ZnO nanowire arrays grown on glass fiber cloth without the addition of EBT.