Electronic Supplementary Material (ESI) for RSC Advances.

Supporting Information

Natural Iron Ore as a Novel Substrate to Biosynthesis of Bioactive Stable ZnO@CuO@Iron ore NCs: A magnetically Recyclable and Reusable Superior Nanocatalyst for Degradation of Organic Dyes, Reduction of Cr(VI) and Adsorption of Crude Oil Aromatic Compounds including PAHs

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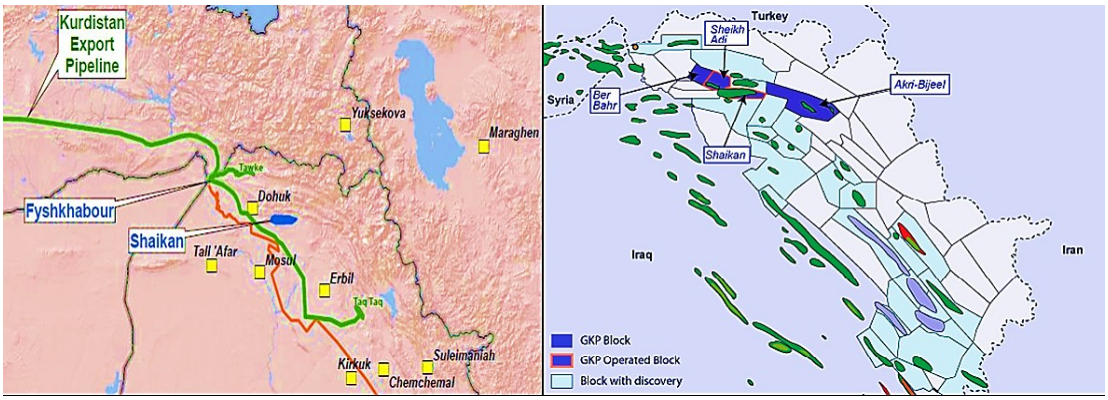


Figure1. Shaikhan oil field position in Iraqi Kurdistan region

Figure 2. Geographical image of Haji Umran by Google Earth and *Bryonia dioica* root image

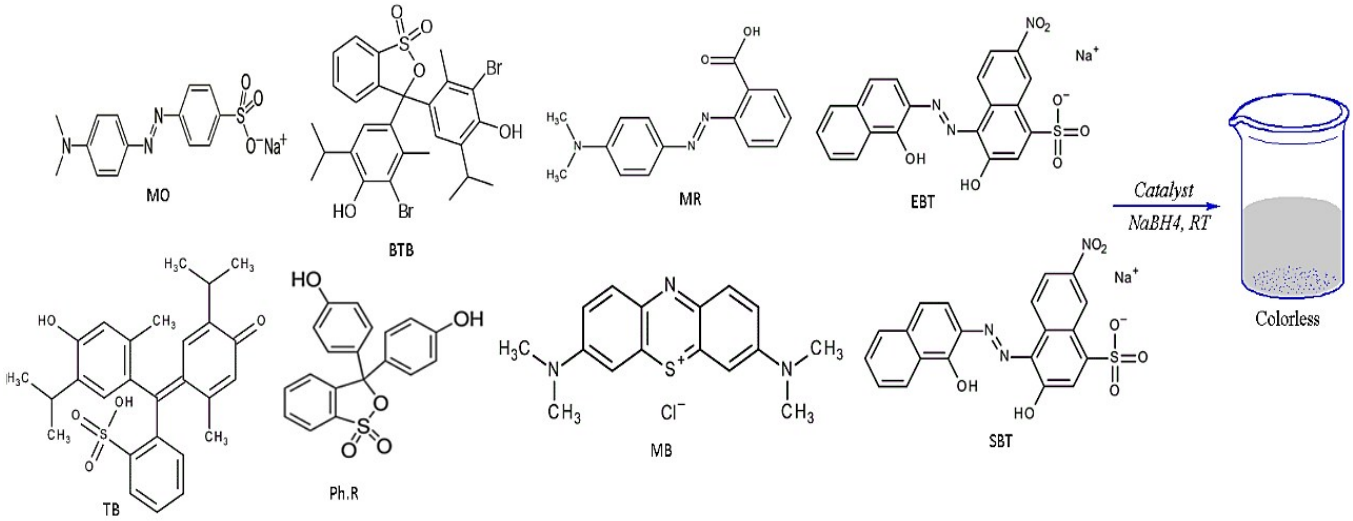
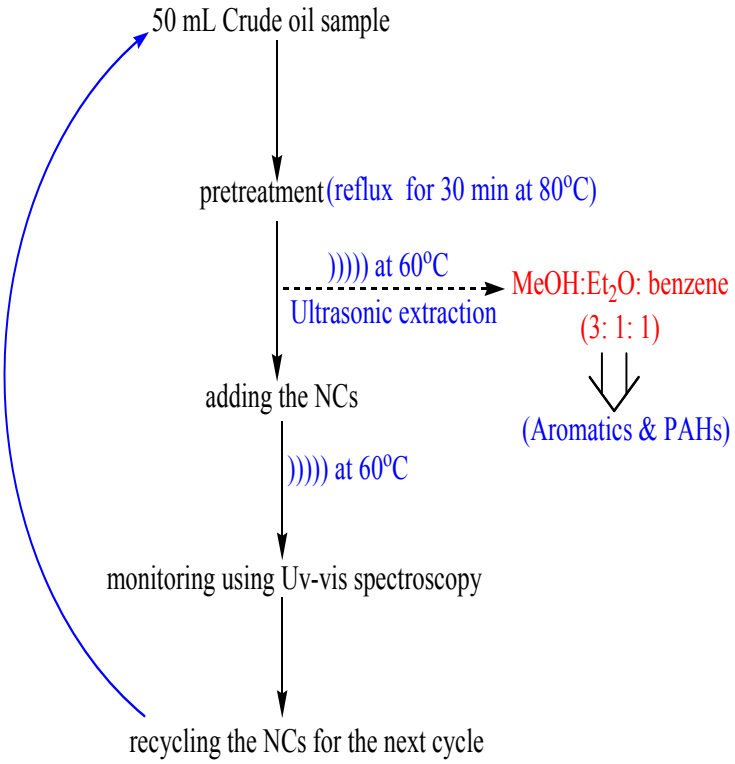


Figure 3. Catalytic reduction of MO, MB, TB, BTB, Ph.R, MR, SBT and EBT



Scheme 1. Catalytic adsorption of the aromatic compounds of Shaikhan crude oil sample by ZnO@CuO@Iron ore NCs

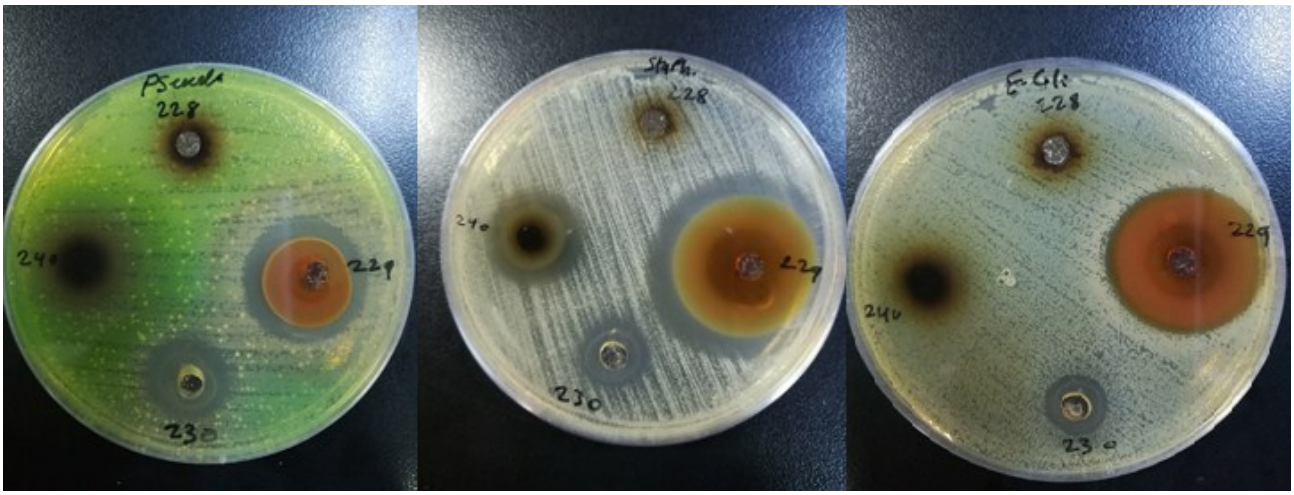


Figure 4. antibacterial activity of 2% NCs (229), 1% NCs (240), Plant extract (230) and Chloramphenicol (228) as positive control

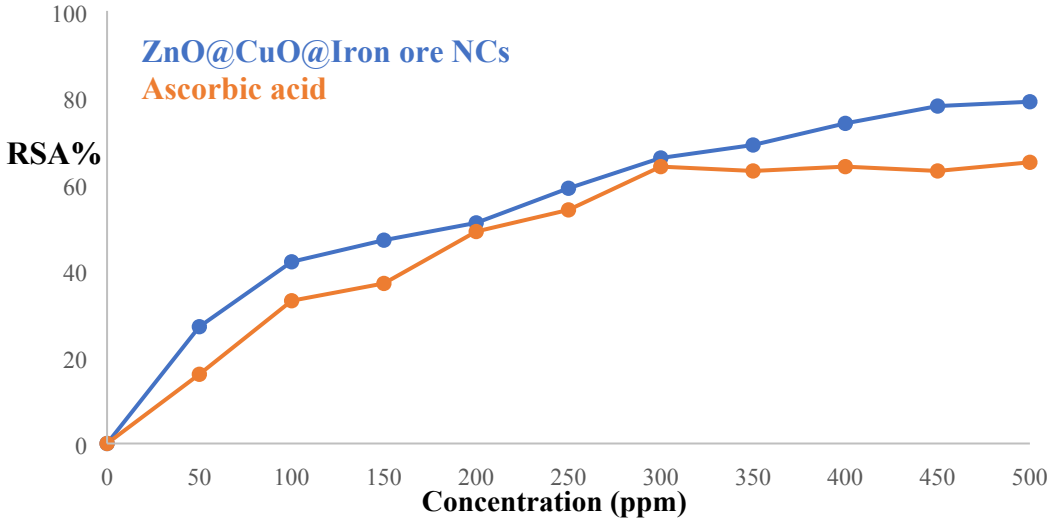


Figure 5. The radical scavenging ability of the green synthesized nanocomposite in comparison with ascorbic acid.