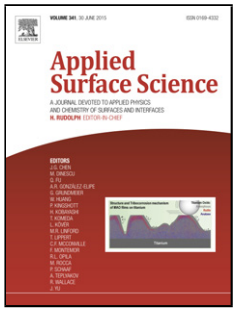

Title: Pyrrolic-N-doped graphene oxide/Fe_2O_3 mesocrystal nanocomposite: Efficient charge transfer and enhanced photo-Fenton catalytic activity

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Pyrrolic-N-doped graphene oxide / Fe_2O_3 mesocrystal nanocomposite: Efficient charge transfer and enhanced photo-Fenton catalytic activity

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HighlightsPyrrolic N doped graphene oxide / Fe_2O_3 mesocrystal nanocomposite (NG-Fe_2O_3) was prepared by adjusting the oxygen-containing groups on graphene oxide.

- The morphology of NG-Fe_2O_3 contributes to a relatively large BET surface area and an intimate contact between NG and Fe_2O_3.
- The excellent electro-conductivity of pyrrolic-N doped GO result in the efficient separation of electron-hole pairs and fast conversion of Fe(II)and Fe(III) in photo-Fenton synergistic reaction.

Abstract:

Though α-Fe_2O_3 has attracted much attention in photocatalytic or Fenton-catalytic degradation of organic contaminants, its performance is still unsatisfactory due to fast recombination of electrons and holes in photocatalytic process and the difficult conversion of