

Effective Photodegradation of Tetracycline by a Heteropoly Acid/Graphene Oxide Nanocomposite Based on UiO-66

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Abstract : Heteropoly acid nanoparticles anchored on graphene oxide based on UiO-66 were synthesized via in-situ growth hydrothermal method and tested for photodegradation of a tetracycline as critical pollutant. Results showed that presence of graphene oxide and UiO-66 with high specific surface area, great electron mobility and various functional groups make an excellent support for heteropoly acid and improve photocatalytic efficiency up to 95% for tetracycline. Furthermore, total organic carbon (TOC) analysis verified 79% mineralization of this pollutant under optimum condition.

Keywords : heteropoly acid, graphene oxide, MOF, tetracycline

Conference Title : ICIMC 2020 : International Conference on Inorganic Materials Chemistry

Conference Location : Amsterdam, Netherlands

Conference Dates : January 20-21, 2020