

**Text 1:** The materials that were used in the preparation of the FeS/MIL-88A@Cit-gCN composite.

Thiourea ( $\text{SC}(\text{NH}_2)_2$ ) and ferric chloride hexahydrate ( $\text{FeCl}_3 \cdot 6\text{H}_2\text{O}$ ) were brought from Rankem (India). t-butanol (t-BuOH), ethanol (absolute; 99%) and sodium hydroxide (NaOH) were provided from Aladdin Reagent Co., Ltd. (China). Trichloromethane (TCM), fumaric acid (Fu. acid), and ethylene glycol (EG) were purchased from Alpha Chemika (India).

**Text S2:** The characterization instruments in analyzing the FeS/MIL-88A@Cit-gCN composite.

The composition, morphology, and surface charge of the FeS/MIL-88A@Cit-gCN composite and its components were assessed by utilizing Zeta Potential (ZP., Malvern), X-Ray Diffraction (XRD., PANalytical), Fourier Transform Infrared (FTIR., Frontier, PerkinElmer), Scanning Electron Microscope (SEM., JEOL 7500F), and X-Ray Photoelectron Spectroscopy (XPS., ESCALAB 250XI). The produced compounds from decomposing the Dox molecules were deduced by Gas chromatography–mass spectrometry (GC-MS., SHIMADZU, GCMS-QP 2010 Ultra).

**Figure S1.** GC-MS of degradation product of Dox with FeS<sub>0.5</sub>/MIL-88A<sub>0.5</sub>@Cit-gCN.

