

Magnetite-reduced graphene oxide nanocomposite as an efficient heterogeneous Fenton catalyst for the degradation of tetracycline antibiotics

Supplementary data

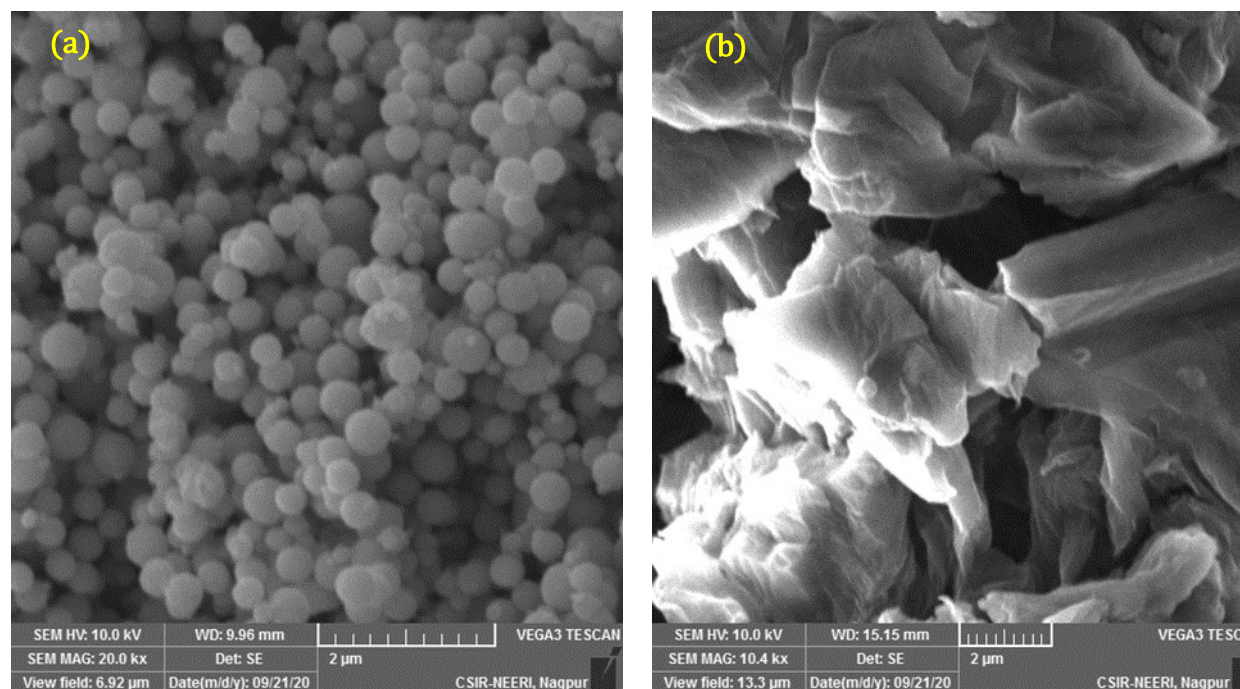


Fig. S1: SEM images of (a) magnetite and (b) GO

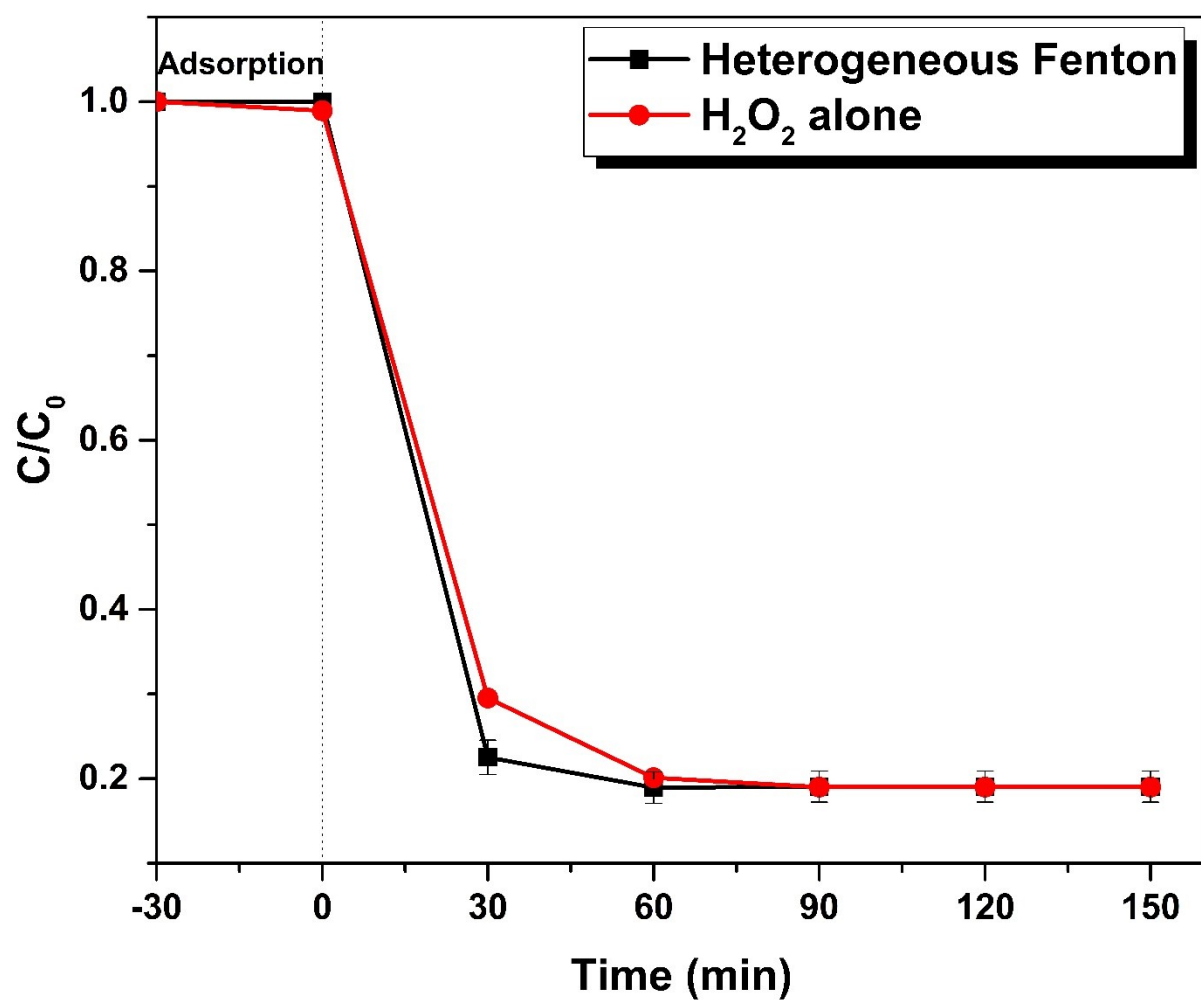


Fig.S2: TC removal at pH 10

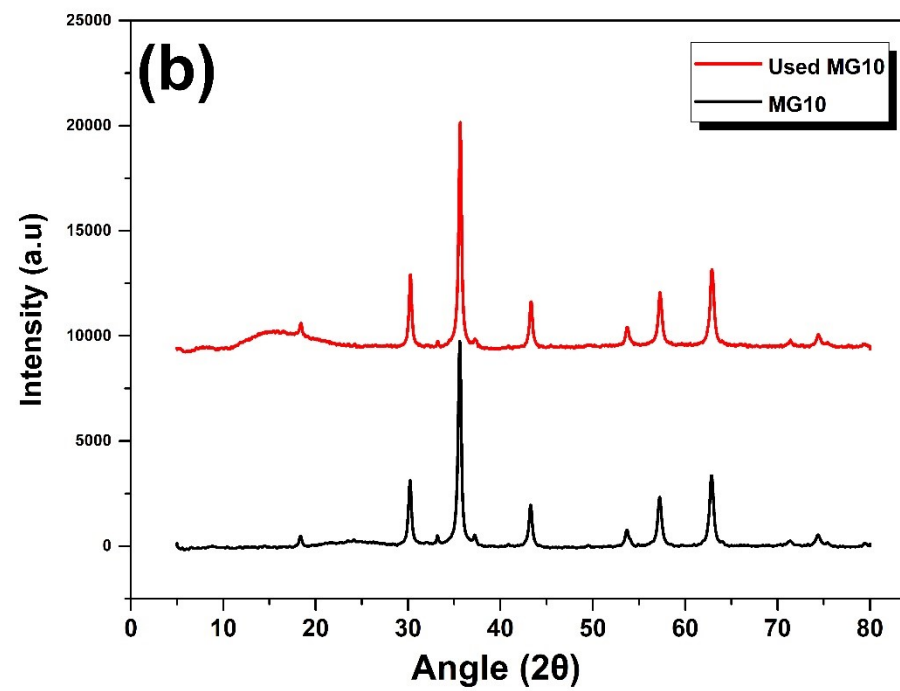
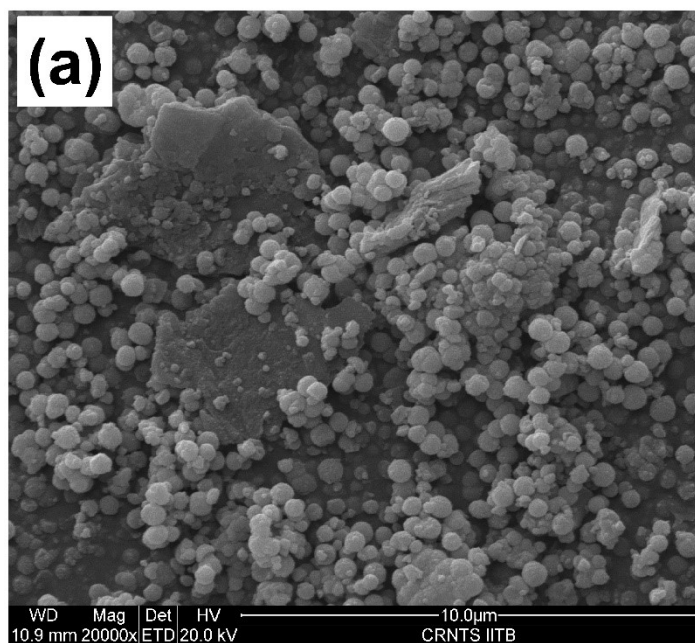


Fig.S3: SEM image of MG10H after first cycle (b) XRD comparison of used MG10

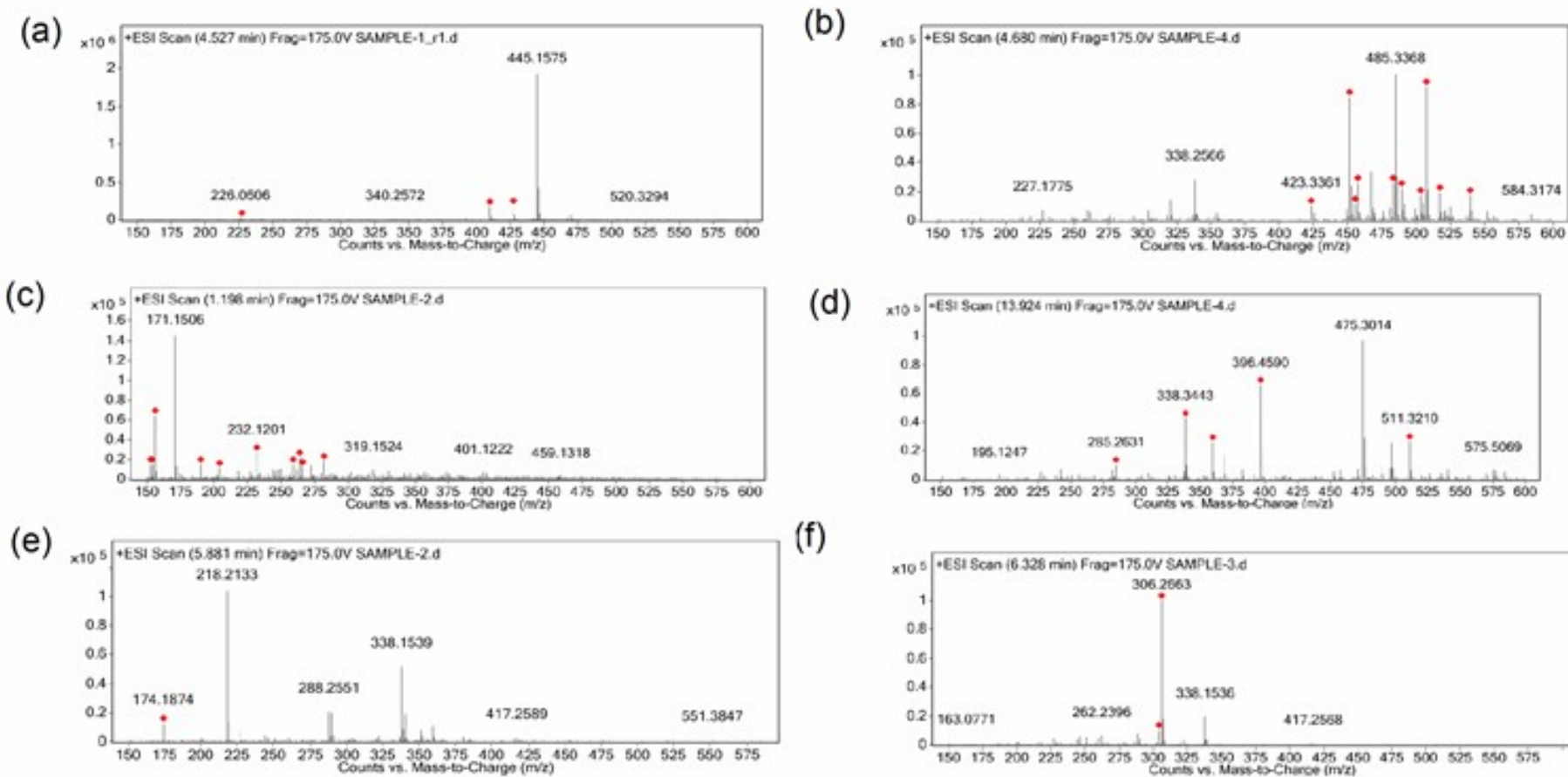


Fig.S4: HR-LC-MS spectra of (a) tetracycline and (b)-(f) its degradation products.

Table S1: Gradient elution programme used for HR-LC-MS

Time	A	B
1.00 min	95.00 %	5.00 %
15.00 min	0.00 %	100.00 %
20.00 min	0.00 %	100.00 %
21.00 min	90.00 %	10.00%
25.0 min	90.00%	10.00%

Table S2: The concentration of total Fe, Fe²⁺, and carbon in filtered sample

Time (min)	Total Fe (mg L⁻¹)	Fe²⁺ (mg L⁻¹)	Carbon (mg L⁻¹)
-30	0	0	6.235
0	0	0	6.235
30	0.015	0.01174	5.645
60	0.064	0.01174	4.488
90	0.07	0.02348	7.691
120	0.069	0.02935	10.49
150	0.119	0.03816	9.807

Table S3: Characteristics of domestic wastewater spiked with TC

Parameter	Value
pH	7.46
Electrical conductivity	555 μScm^{-1}
TDS	278 mgL^{-1}
COD	188.8 mgL^{-1}
chloride	40.98 mgL^{-1}
Sulphate	0.87 mgL^{-1}
TOC	57 mgL^{-1}