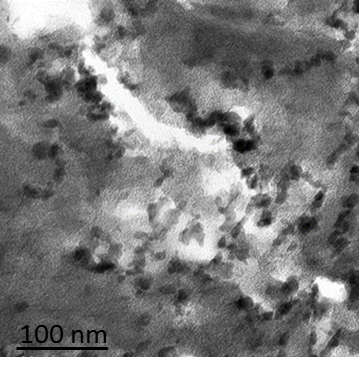
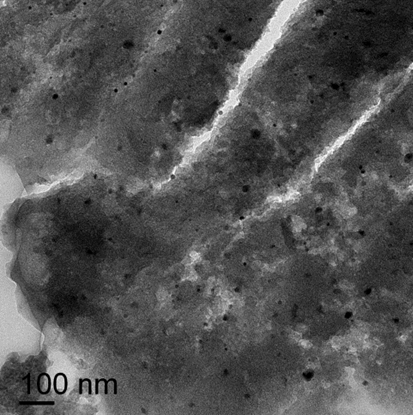
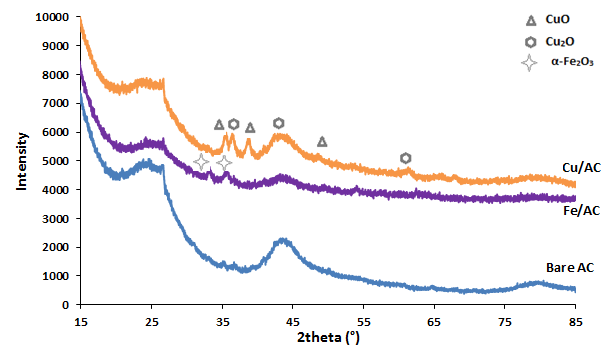
**Supplementary Information**

1. **(b)**

**Figure S1.** TEM micrographs of fresh catalysts (reprinted from [20]): (a) Fe/AC and (b) Cu/AC.



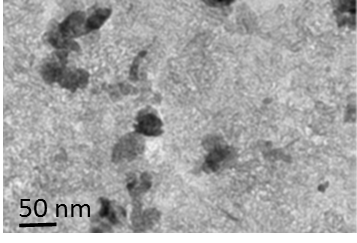
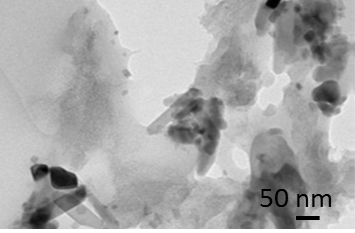
**Figure S2.** X-ray diffractograms of bare and metal loaded ACs.

F:\Figure 6b.tif

**Figure S3.** Evolution of TOC in solution during first and third peroxide-promoted oxidations on Fe/AC (large symbols) and during third peroxide-promoted oxidation on bare AC (lines with small symbols). See Figure 5 for corresponding operating conditions.

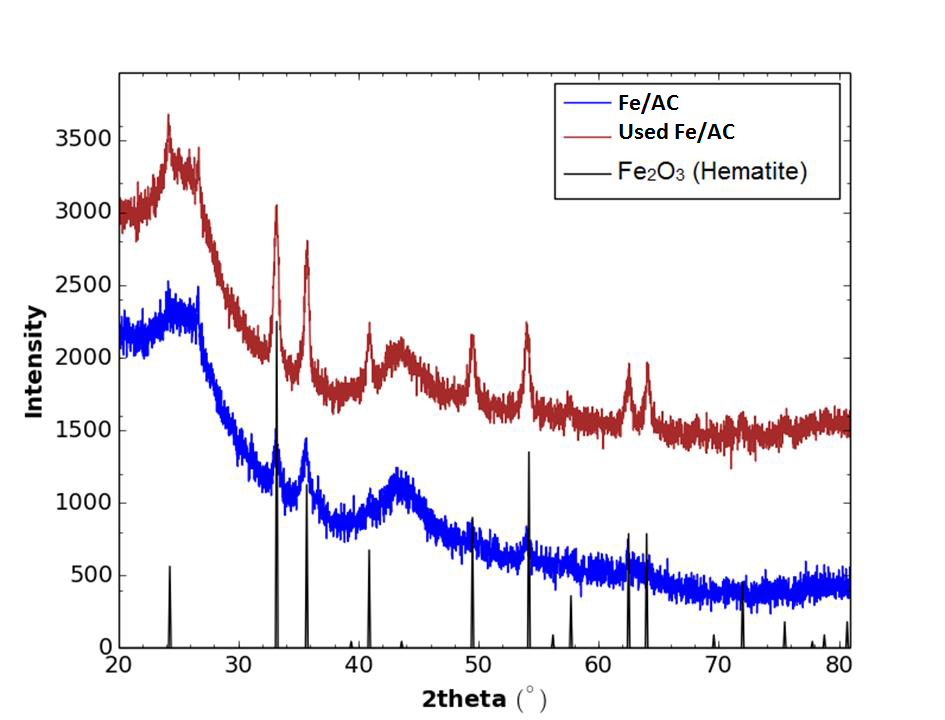
F:\Figure 7b.tif

**Figure S4.** Evolution of TOC in solution during first and third peroxide-promoted oxidations on Cu/AC (large symbols) and during third peroxide-promoted oxidation on bare AC (lines with small symbols). See Figure 6 for corresponding operating conditions.

1. **(b)**

**Figure S5.** TEM micrographs of used catalysts: (a) Fe/AC and (b) Cu/AC.



**Figure S6.** X-ray diffractograms of fresh and used Fe/AC.

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**Figure S7.** Residual COD in solution after 4 h of CWAO in batch autoclave (reprinted from [20]): C0 = 1 g/L (prior to adsorption step), mcat = 1 g, VL = 200 mL, T = 150°C, PO2 = 3.3 bar, Qair = 30 NL/h.