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Supplementary Materials: Green Synthesis of Carbon Encapsulated Magnetic Fe3O4 Na-noparticles Using Hydrothermal Carbonization from Rattan Holocelluloses

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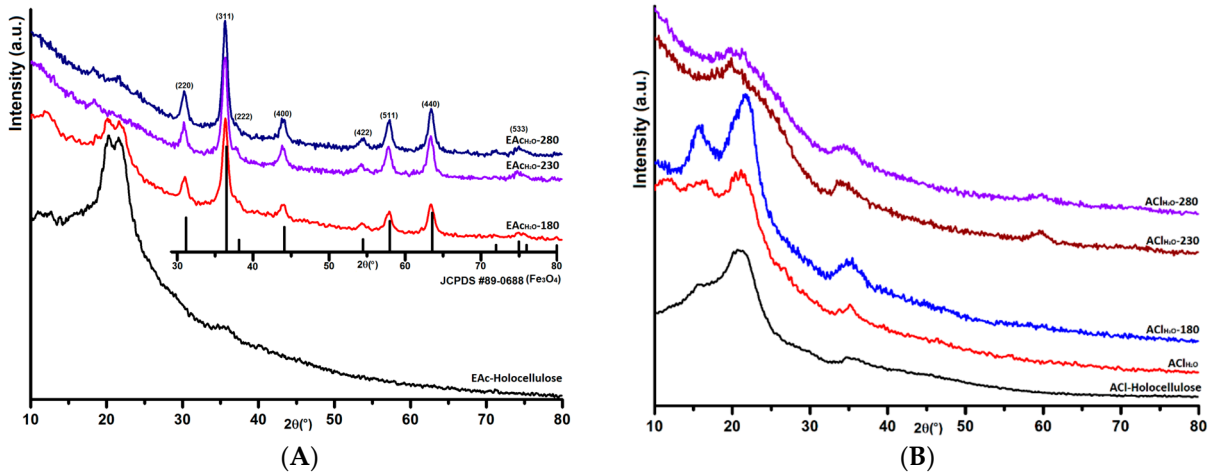

Figure S1. XRD patterns of the Fe_3O_4@C nanoparticles EAc_{H2O} (A) and ACl_{H2O} (B) hydrocarbonized at different temperatures.

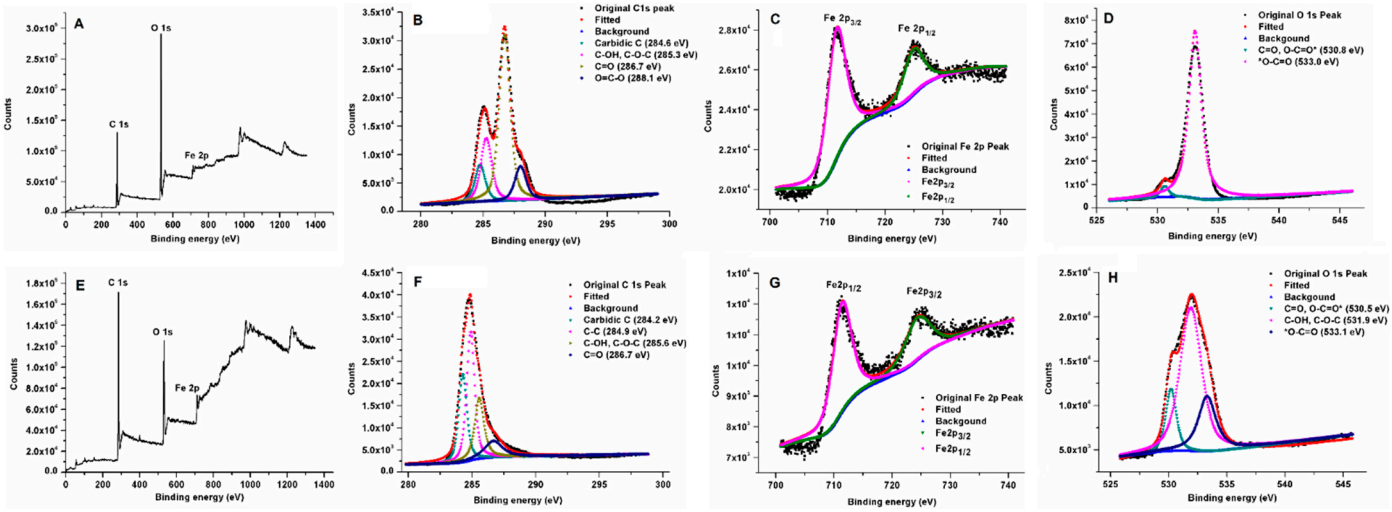

Figure S2. XPS spectra of the Fe_3O_4@C nanoparticles EAc_{NH3} hydrocarbonized at 180 °C (A-D) and 230 °C (E-H), respectively.

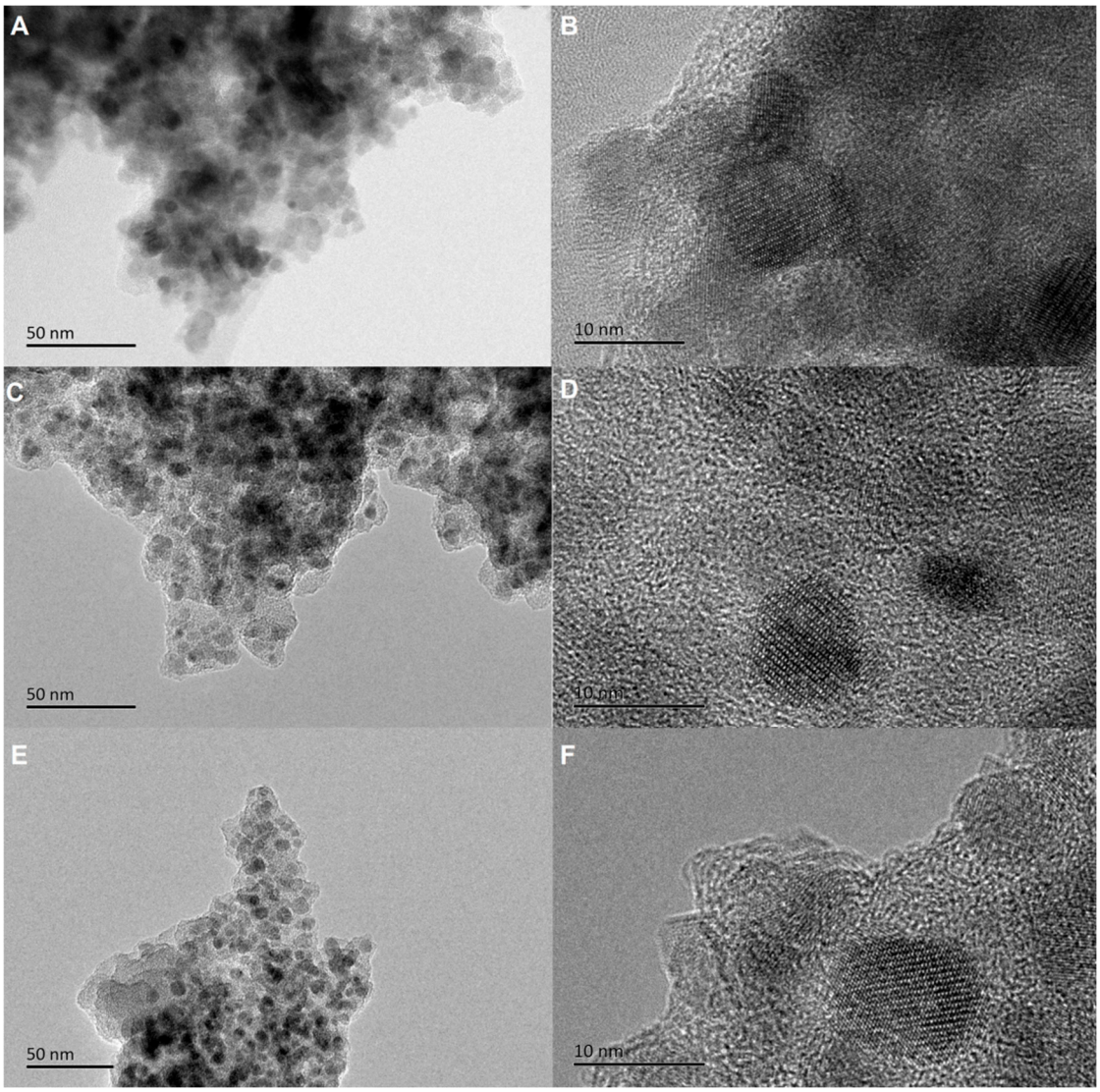

Figure S3. TEM and HRTEM images of the Fe_3O_4@C nanoparticles EAc_{NH3}-230 (A, B), ACl_{NH3}-230 (C, D), and ACl_{NH3}-280 (E, F).

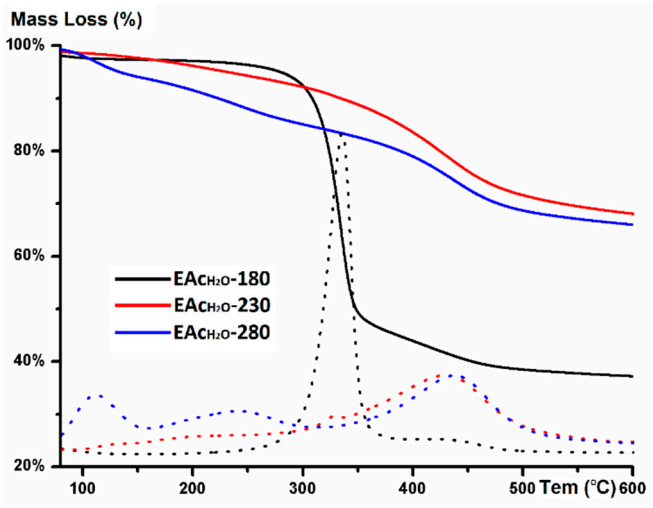

Figure S4. TGA analysis EmimAc dissolved holocelluloses regenerated by hot water.

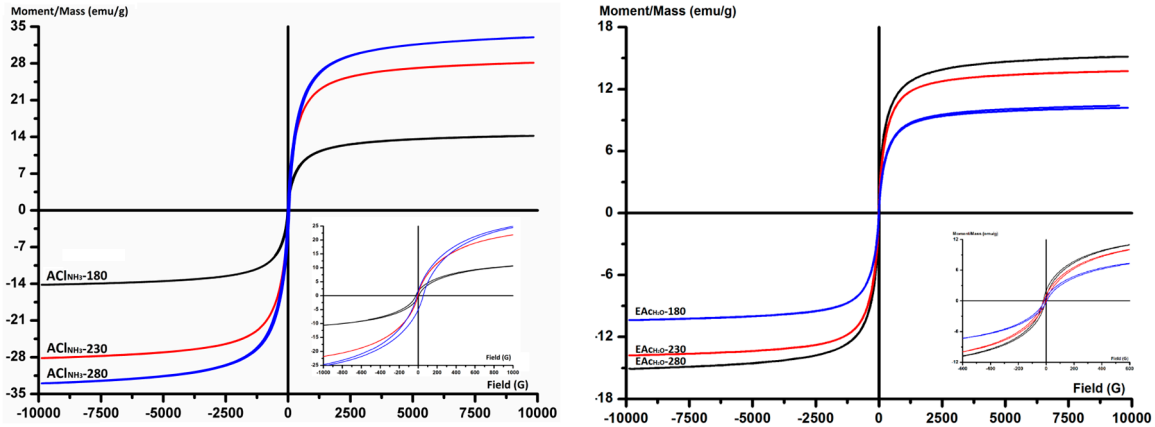

Figure S5. VSM magnification curves of Fe_3O_4@C nanoparticles derived from AmimCl dissolved holocelluloses regenerated by $NH_3 \cdot H_2O$ (A) and EmimAc dissolved holocelluloses regenerated by hot water (B).