**Figure S1.** The optimized molecular structures of morpholine (a) and triethanolamine (b). Note: The quantum chemical parameters (such as the highest occupied molecule orbital (HOMO), the lowest unoccupied molecule orbital (LUMO), energy difference and Mulliken charges) were calculated by Gaussian 98 program with B3LYP/6-311 G(d,p) theoretical model according to reported procedure in gaseous state. The vibration analysis and structure optimization were performed in order to determine whether they corresponded to a minimum energy state.

**Figure S2.** Visual image of FeCO$_3$@Fe$_3$O$_4$ nanoparticles (left) and flower-like assemblies (right) in water. Note: 0.005 g FeCO$_3$@Fe$_3$O$_4$ nanoparticles and flower-like assemblies were dispersed in 10 mL water, respectively.

**Figure S3.** Visual image of FeCO$_3$@Fe$_3$O$_4$ nanoparticles (left) and flower-like assemblies (right) when an external magnet was applied.