

Recyclable and reusable nano-CuFe₂O₄ catalyzed C-O cross-coupling

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ABSTRACT

An efficient protocol was developed and validated for the synthesis of biaryl/aryl alkyl ethers using CuFe₂O₄ nano powder as a recyclable catalyst *via* the reaction between aryl halides and phenols/alcohols. Variety of aryl ethers were synthesized efficiently in the presence of catalytic amount of CuFe₂O₄, KOH as base, under ligand free conditions in nitrogen atmosphere with DMSO as solvent at 120 °C. The catalyst is air-stable, inexpensive, magnetically separable and recyclable up to four cycles.

Supplementary Materials

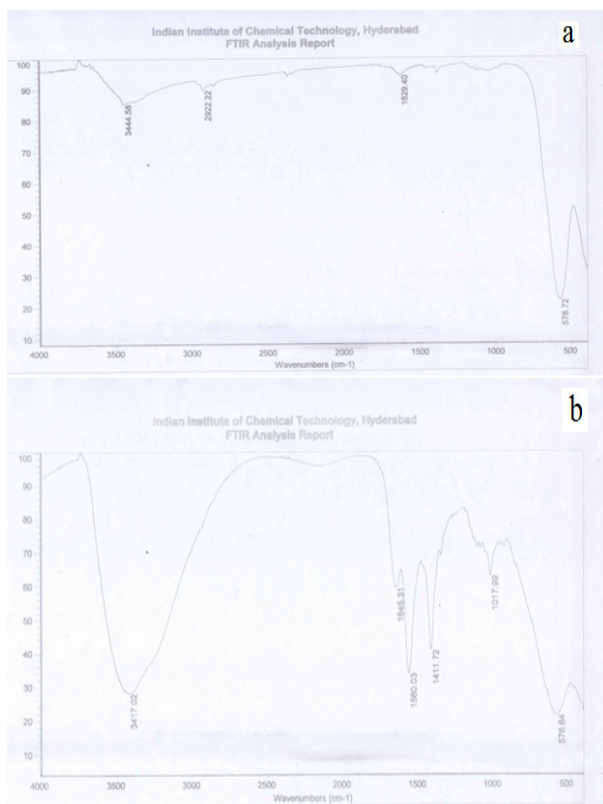


Figure S1. FT-IR analysis of (a) native CuFe₂O₄ catalyst and (b) reused catalyst after third cycle.

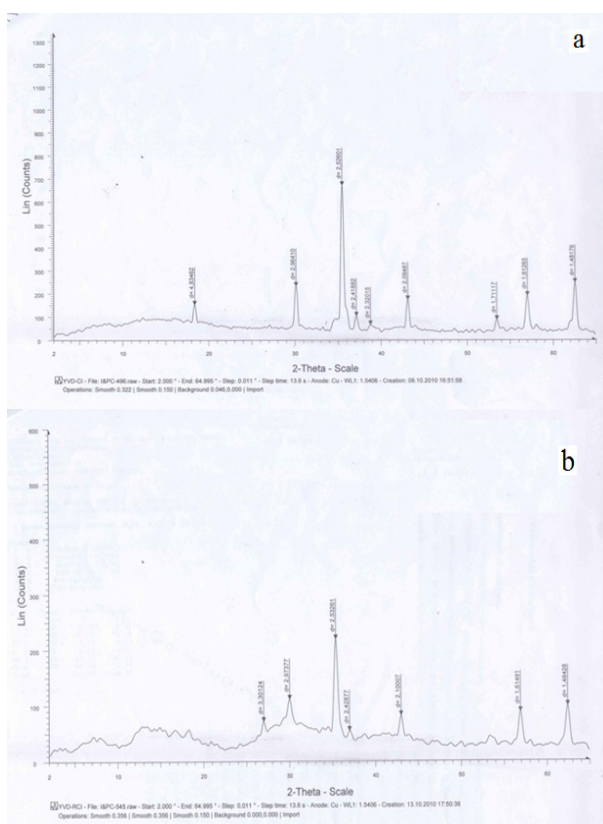
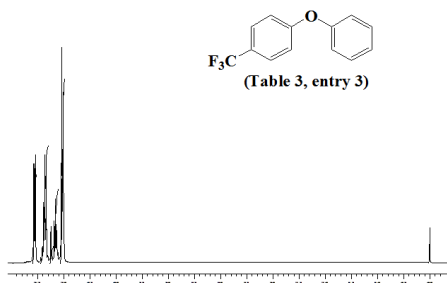
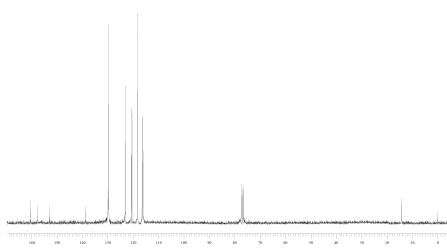
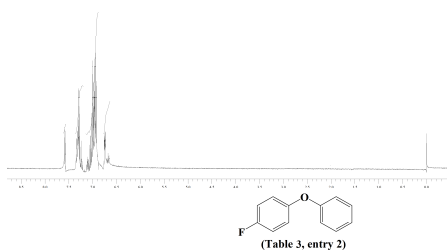
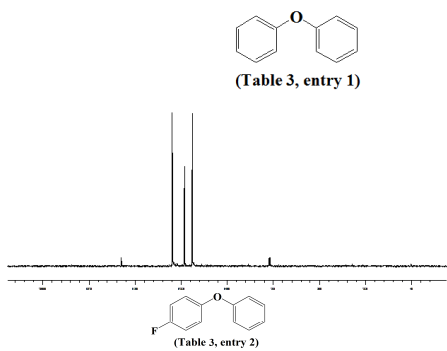
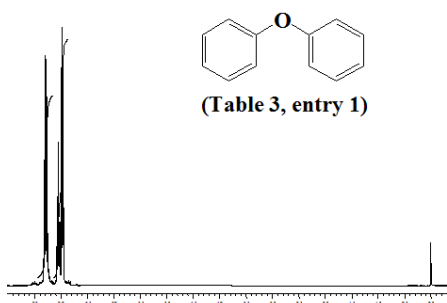
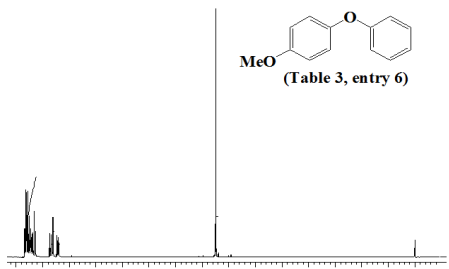
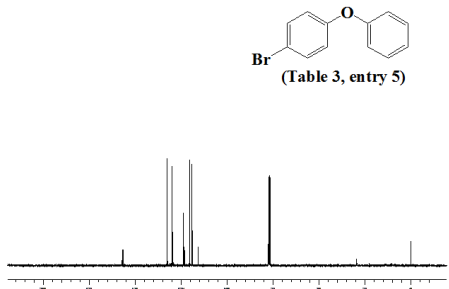
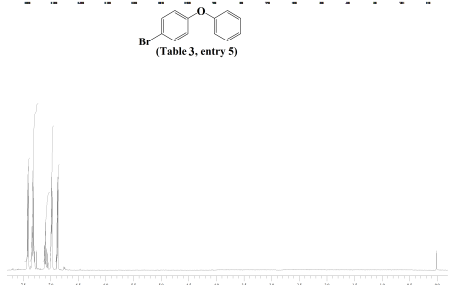
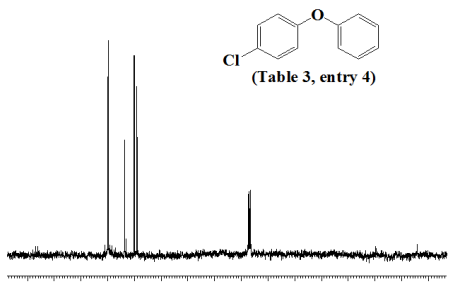
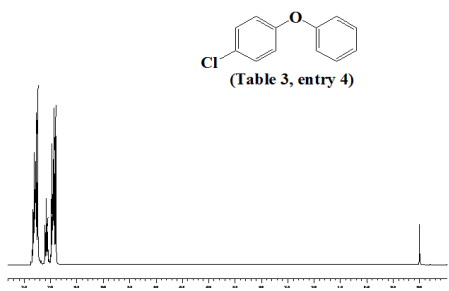
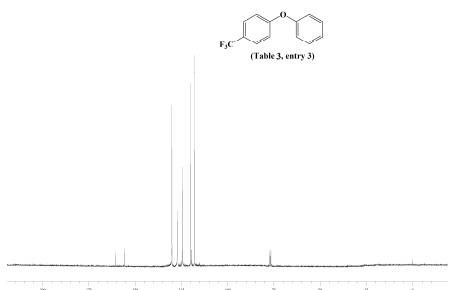
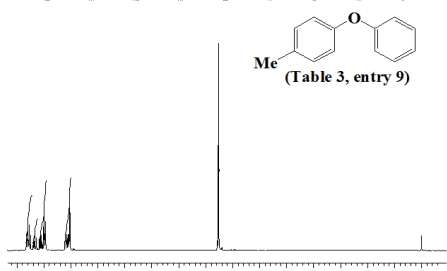
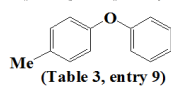
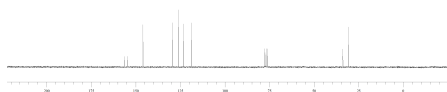
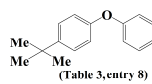
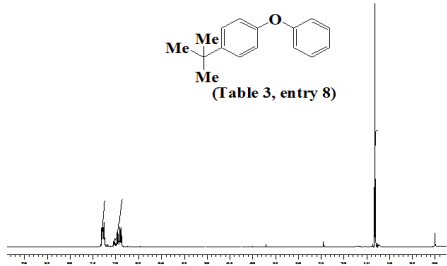
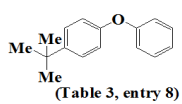
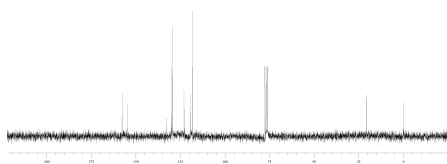
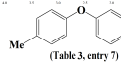
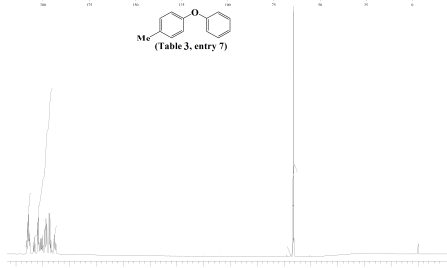
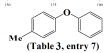
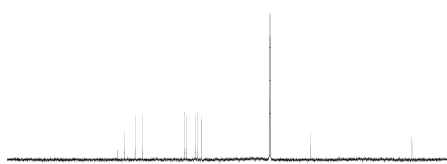
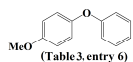
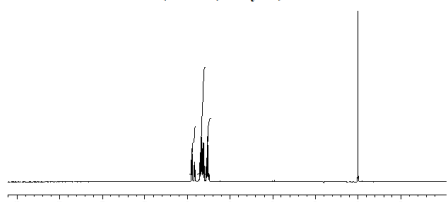
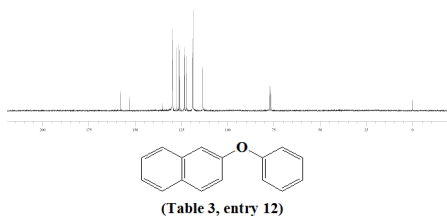
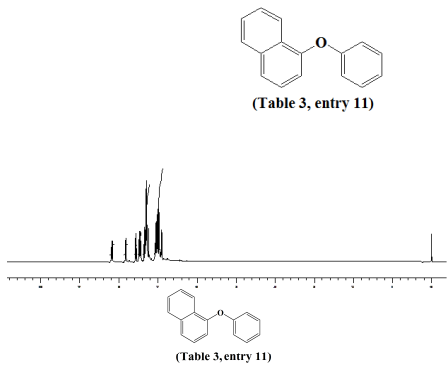
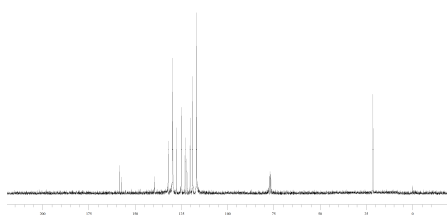
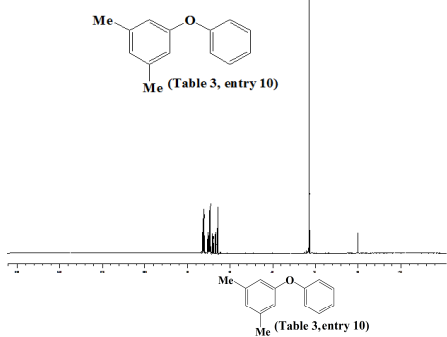
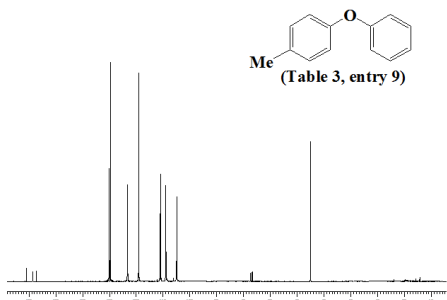


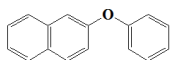
Figure S2. XRD-analysis of (a) native CuFe_2O_4 catalyst and (b) reused catalyst after third cycle.

Copies of ^1H NMR and ^{13}C NMR of Compounds

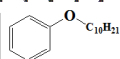
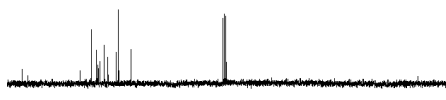




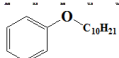
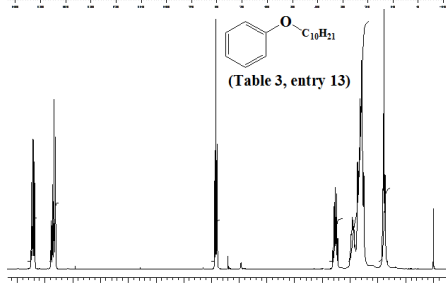




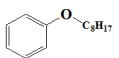
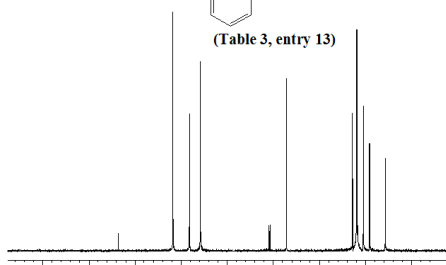
(Table 3, entry 12)



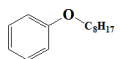
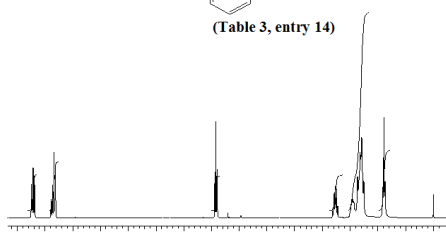
(Table 3, entry 13)



(Table 3, entry 13)



(Table 3, entry 14)



(Table 3, entry 14)

