Copper Ferrite Nanoparticles: An Efficient and Reusable Nanocatalyst for a Green One-Pot, Three-Component Synthesis of Spirooxindoles in Water


**Synthesis of Spirooxindoles Using CuFe$_2$O$_4$ Nanoparticles**

Significance: CuFe$_2$O$_4$ nanoparticles catalyzed the three-component coupling of cyclohexane-1,3-diones, activated acetonitriles and isatins to give the corresponding spirooxindoles (38 examples, 81–97% yield).

Comment: In the synthesis of product A, the catalyst was recovered magnetically and reused four times (1$^{\text{st}}$ reuse: 90% yield, 2$^{\text{nd}}$ reuse: 89% yield, 3$^{\text{rd}}$ reuse: 88% yield, 4$^{\text{th}}$ reuse: 80% yield).