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


Synthesis of Spirooxindoles Using CuFe₂O₄ Nanoparticles

Significance: CuFe₂O₄ 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 (1st reuse: 90% yield, 2nd reuse: 89% yield, 3rd reuse: 88% yield, 4th reuse: 80% yield).

Selected examples:

- 90% yield
- 90% yield
- 88% yield
- 85% yield
- 94% yield
- 92% yield
- 96% yield
- 90% yield
- 97% yield
- 94% yield
- 92% yield
- 87% yield
- 92% yield
- 84% yield
- 96% yield

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