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Efficient one-pot synthesis of 1,3-diaryl-3*H*-benzo[*f*]chromenes using ferric hydrogensulfate

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Abstract

An efficient and easy method for one-pot three-component synthesis of 1,3-disubstituted-3*H*-benzo[*f*]chromenes by the condensation of naphthol, aromatic aldehyde derivatives and phenylacetylene in the presence of ferric hydrogensulfate [Fe(HSO₄)₃], has been described. The catalyst displayed high activity which afforded the corresponding 1,3-disubstituted-3*H*-benzo[*f*]chromenes in satisfying yields. Alkyl-substituted phenols were examined and the corresponding benzopyran derivatives were synthesized in moderate yields. Heterogeneous nature of the using catalyst made it reusable for further chemical reactions.

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Keywords: 1,3-Disubstituted-3*H*-benzo[*f*]chromenes; Ferric hydrogensulfate; One-pot synthesis; Naphtopyran; Benzopyran

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