Synthesis of Spirocyclic Benzo[*f*]quinoline Derivatives by Cascade Heterocyclization of Dimedone, 2-Naphthylamine, and Formaldehyde

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Abstract—The three-component condensation of dimedone, 2-naphthylamine, and formaldehyde in aliphatic alcohols under mild conditions gives in high yields the corresponding *N*-alkoxymethyl benzo[*f*]quinoline derivatives having a substituted 2-azaspiro[5.5]undecane fragment. The reaction involves formation of three new carbon–carbon bonds, two carbon–nitrogen bonds, and one carbon–oxygen bond, and the initial β-dicarbonyl system is conserved.

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