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Acid-catalyzed cyclocondensation of chromone-3-carboxaldehydes with indole: a convenient synthesis of chromone-containing indolo[3,2-b]carbazoles

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Abstract

The interaction of the chromone-3-carboxaldehydes with indole under acid catalysis was studied. It has been found that this reaction proceeds rapidly under mild conditions and leads to the formation of 3,3'-(5,6,11,12-tetrahydroindolo[3,2-*b*]carbazole-6,12-diyl)bis(4*H*-chromen-4-ones), representatives of the chromone-substituted indolo[3,2-*b*]carbazole ring system. Best yields of these indolo[3,2-*b*]carbazoles were obtained when triflic acid was used as a catalyst for the cyclocondensation.