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| Title | An efficient synthesis of chromene derivatives through a tandem michael addition-cyclization reaction | | |
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| Abstract |  |
| The racemic synthesis of ethyl esters of 2-amino-5-oxo-4-aryl-5, 6, 7, 8-tetrahydro-4*H*-chromene-3-carboxylic acid **3a-d** was achieved through a tandem Michael addition-cyclization reaction of easily available cyclohexane-1,3-dione **2a**, 5, 5-dimethyl-1,3-cyclohexanedione **2b** and ethyl esters of 2-cyano-3-arylacrylic acid **1a-d**. The reaction of **1b** with **2a** yielded 2,5-dioxo-4-phenyl-3,4,5,6,7,8-hexahydro- 2*H*-chromene-3-carbonitrile **4e** resulting from a different mode of cyclization. High addition-cyclization efficiency was observed with good yields (up to 93%) using alcoholic sodium ethoxide as a base catalyst, which provides a competitive method for the synthesis of chromene derivatives under a simple efficient way. | |