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Synthesis of new aminocoumarin derivatives and investigation of antioxidant activity.

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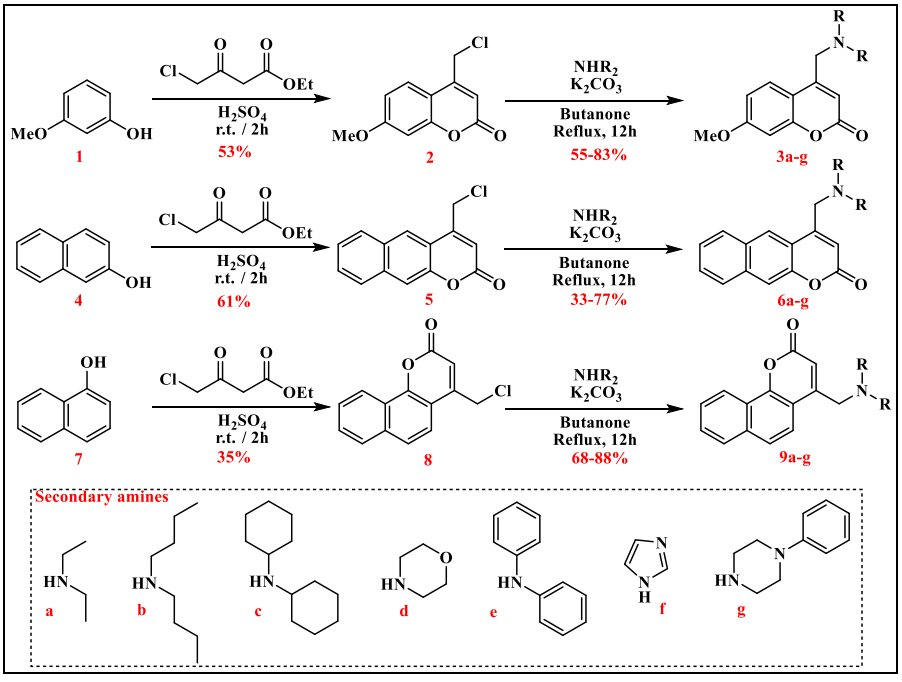
ABSTRACT

Coumarin derivatives are widely explored due to their diversity of applications in the pharmacological field. The synthetic methodologies remain an efficient strategy to access the coumarin moiety, considering the low coast, and time of reaction. It is important to highlight the structural modification of coumarins employing easy organic synthesis, which allows obtaining new compounds[1,2].

In this work, 3-methoxyphenol (**1**), β-naphthol (**4**) and α-naphthol (**7**) were the substrates to obtain 4-chloromethylenecoumarins (**2**, **5**, and **8**), through Pechmann cyclization[3]. Then, secondary amines (**a-g**) were employed to promote N-alkylation on the halogenated carbon of coumarins[4]. The three series of analogue products, 4-aminomethylenecoumarins (**3a-g**, **6a-g**, and **9a-g**), were obtained with yields ranging between 33 and 88%. After spectrometric characterization, the products were evaluated on the antioxidant activity, against the DPPH radical. However, in comparison with gallic acid standard, the compound **3a** showed a slight activity, which not exceeded 25 % under 250 µg.mL^{-1} concentration.



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