

POSTER PRESENTATIONS

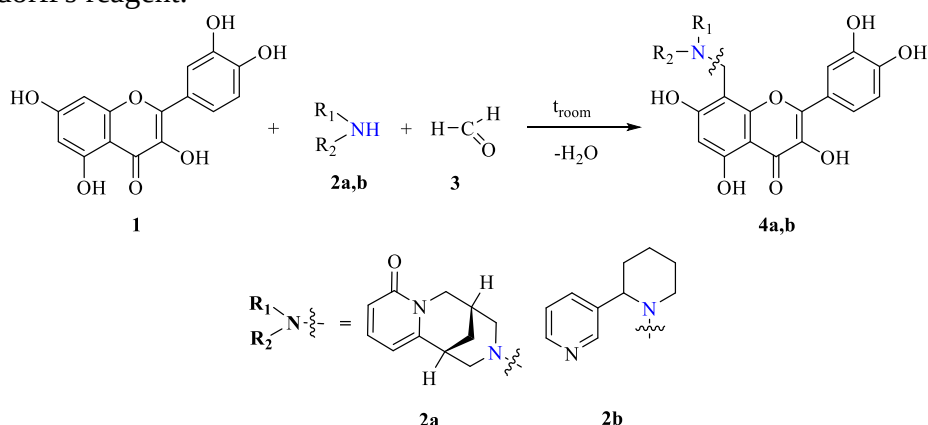
MANNICH AMINOMETHYLATION OF QUERCETIN WITH CYTISINE AND ANABASINE

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Currently, the development of novel therapeutic agents with high biological activity and low toxicity based on natural compounds is one of the most pressing challenges in organic chemistry. From this perspective, the synthesis of hybrid molecules through the chemical modification of plant-derived flavonoids and alkaloids remains a promising direction in medicinal chemistry. The introduction of pharmacophoric aminomethyl groups into the quercetin molecule via the Mannich reaction makes it possible to enhance its biological activity. In this study, cytisine and anabasine - widely used amine-containing compounds in medicine - were selected, and their hybrid derivatives were investigated.

Quercetin was dissolved in isopropyl alcohol in a round-bottom flask. Equimolar amounts of the corresponding alkaloids (**2a,b**) and formalin were then added sequentially to the resulting solution. The reaction mixture was stirred at room temperature for 6 h using a magnetic stirrer and subsequently left overnight to ensure complete precipitation. The yellow precipitate formed at the bottom of the flask was collected by filtration through a Schott funnel and washed with isopropyl alcohol. The filtrate was dried under vacuum to afford the target products as yellow powders. The reaction progress and purity of the synthesized compounds were monitored by TLC using Sigma-Aldrich Silufol L/W plates (10 × 20 cm, 254 nm, Germany) with a chloroform (4:1) solvent system. Visualization was carried out using iodine vapor and Dragendorff's reagent.



The molecular weights of the purified compounds were determined using a Waters ACQUITY QDa system coupled with TLC–MS analysis. The results showed m/z values of 505.4453 $[\text{M}+\text{H}]^+$ and 477.3482 $[\text{M}+\text{H}]^+$ for compounds **2a** and **2b**, respectively.

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