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Synthesis of new derivatives of salicylic acid with potential bioactivity

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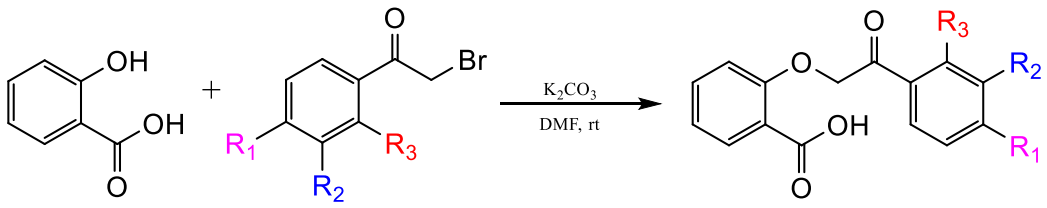
ABSTRACT

The synthesis of derivatives of natural products offers the possibility of generating unprecedented molecules through low-complexity reactions that provide an excellent platform of the introduction of new functional groups, allowing the creation of libraries of compounds with structural diversity. Derivatives of salicylic acid are used for the treatment of various diseases; currently the best known is acetylsalicylic acid, one of the most widely used anti-inflamatory drug.[1] Other derivatives, as methyl salicylate, salol and salicylanilide, are known for their analgesic, antipyretic, antimicrobial, antiproliferate and cytotoxic activities.[2] In this study, ten new series of ether analogues of salicylic acid were prepared via the Williamson reaction, as the side chain of the salicylic ethers can influence their biological capacities.[3] The chemical structures were determined by NMR, and some of their crystallographic structures are determined by X-ray crystallography. This approach will allow us to evaluate the structure-activity relationship and improve pharmacological activities.

GRAPHICAL ABSTRACT



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