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Salicylaldehydes as privileged synthons in multicomponent reactions

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Abstract

Salicylaldehyde (2-hydroxybenzaldehyde) bearing two different active functional groups, namely, a hydroxy group and an aldehyde group, finds wide application as a key chemical in a variety of industrial processes, especially in the large-scale production of pharmaceuticals. Salicylaldehyde and most of its derivatives are commercially available or readily accessible, and hence are ideal starting materials for multicomponent reactions (MCRs), mostly in pseudo-three and four-component ones, giving rise to a plethora of heterocyclic systems. The importance of salicylaldehyde and an impressive amount of studies concerning its applications in MCRs prompted us to highlight in this review the important role of this compound as a privileged synthon in the synthesis of heterocycles.