

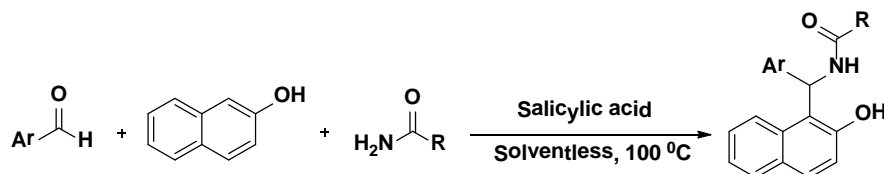
Three-Component Reaction of β -Naphthol with Aryl Aldehydes and Amides Promoted by Salicylic Acid under Solvent-Free Conditions

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The multicomponent reactions (MCRs) play a pivotal role in the achievement of many useful organic compounds such as Betti bases with economic viability. In 1900, Mario Betti synthesized Betti bases (α -aminomethyl-2-naphthols) for the first time. Betti bases were obtained via the three-component reaction between an aldehyde, ammonia/urea, and β -naphthol known as the Betti reaction. Products of the Betti reaction are employed in the various fields including asymmetric synthesis, catalytic organic transformations (for example, Mizoroki-Heck and Ullmann coupling reactions), and pharmaceutical chemistry. Numerous approaches have been reported for the synthesis of these compounds. In these methods Lewis or Bronsted acids, nanomaterials, and carbohydrates have been applied to catalyse this transformation [1-4]. In this work, after optimization of the reaction conditions, a series of Betti bases were prepared using numerous aryl aldehydes, 2-naphthol and urea or amides. The reaction was conducted under solvent-free reaction conditions (SFRCs) at 100 °C in the presence of salicylic acid as a catalyst. The products are formed in short reaction times and greater yields.



Scheme 1: Synthesis of 1-amidoalkyl-2-naphthols

References

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