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Solvent-free synthesis of functionalized pyrroles from the multicomponent reactions of primary amines

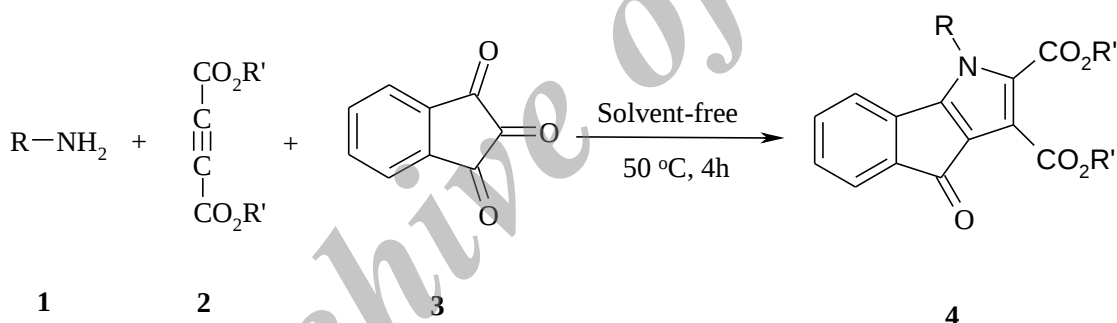
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The methods of green chemistry continue to grow in importance. Alternative processes help to conserve resources and can even reduce costs. The replacement of convention solvents with water or solvent-free conditions, which is harmless to health and is available in large quantities, is one of the most interesting basic approaches along these lines. Multicomponent reactions (MCRs) have been generally used by synthetic chemists as a basic means to generate molecular diversity from bifunctional substrates that react repeatedly in an intramolecular method [1-4]. Highly substituted pyrrole play an important role in organic chemistry, not only as key structural units in many natural products, common subunits in pharmaceuticals [5], fragrances [6], and flavors [7], but also as useful building blocks in synthetic chemistry.

Herein, we report an efficient synthesis of functionalized pyrroles **4** from the reaction of primary amines **1**, activated acetylenes **2** and activated carbonyl compounds such as ninhydrine **3** under solvent-free conditions at 50 °C in good yield.



References

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