SEPTEMBER 23-27 2024
19BMOS
BRAZILIAN MEETING ON ORGANIC SYNTHESIS
BENTO GONÇALVES, RS - BRAZIL

Efficient *N*-arylation and *N*-alkylation of quinazolines using PEG-400 as green solvent

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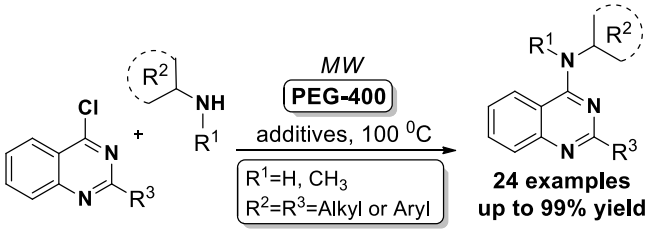
Keywords: *N-arylation, N-alkylation, PEG-400.*

ABSTRACT

Quinazolines represent a significant class of aromatic *N*-heterocycles.[1] Derivatives of 4-aminoquinazoline are particularly valuable due to their presence in numerous pharmaceuticals, including erlotinib, gefitinib, and prazosin, and their role as antagonists of human adenosine A3 receptors.[2-4] The extensive utilization of this structural motif in biologically active compounds underscores the necessity for developing selective protocols to access functionalized derivatives.[5] Thus, this study presents a green, cost-effective, and efficient method for *N*-arylation and *N*-alkylation employing PEG-400 in a microwave reactor (Scheme 1). This novel synthetic approach holds promise for future applications in multifunctional supramolecular nanosystems[6] and in the development of candidates for cancer therapies, exemplified by the successful synthesis of Verubulin and analogs in high yields.



Scheme 1. Protocol employed in microwave-assisted reaction.

ACKNOWLEDGEMENTS

The authors gratefully thank financial support for this work by the Brazilian foundations: Conselho Nacional de Desenvolvimento Científico e Tecnológico - CNPq (Grant number: 163350/2021-3); Fundação de Amparo à Pesquisa do Estado de São Paulo – FAPESP; and Coordenação de Aperfeiçoamento Pessoal de Nível Superior – CAPES.

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