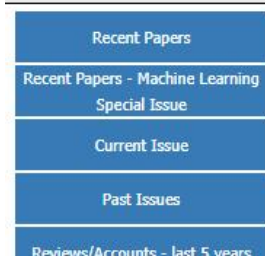
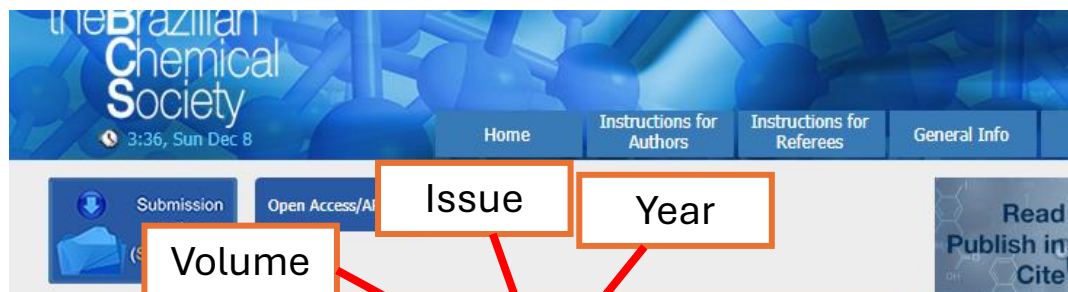


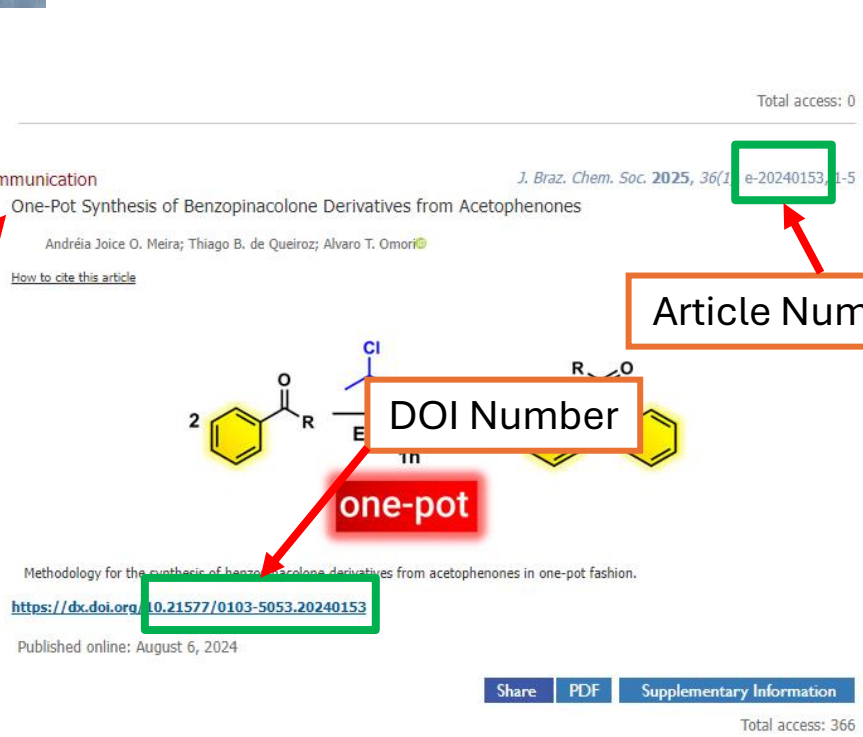
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One-Pot Synthesis of Benzopinacolone Derivatives from Acetophenones

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Pinacolone and benzopinacolone derivatives are an important class of organic compounds due to their uses in polymer synthesis and more recently as biologically active compounds. The conventional synthesis of such molecules is generally done in two steps, the pinacol coupling followed by the pinacol/pinacolone rearrangement. Aiming to prepare benzopinacolone derivatives in a greener fashion, we present here a one-step synthesis from acetophenones in the presence of zinc and *tert*-butyl chloride. To develop the methodology, conditions to prepare 3,3-diphenyl-2-butanone from acetophenone were optimized. To assess the scope, different substituted acetophenones were tested, resulting in the corresponding benzopinacolones at moderate yields (20-50%) with high purity. Structural elucidations were performed by ¹H and ¹³C NMR (nuclear magnetic resonance spectroscopy) and GC-MS (gas chromatography-mass spectrometry).

Keywords: pinacolones, benzopinacolones, acetophenones, one-pot synthesis

Introduction

or very hygroscopic reagents (AlCl₃ with zinc).⁹ Another report published by Salama *et al.*¹⁰ uses a mixture of acetophenone with zinc. In this case, acetophenone

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