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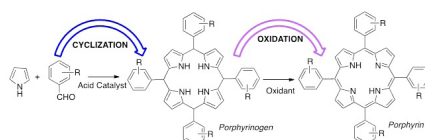
Mechanochemistry for two-step synthesis of porphyrins

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The remarkable versatility of porphyrins and their derivatives, clearly demonstrated by the large number of applications, relies in a great length on the development and improvement of synthetic strategies that, over the years, made possible the huge availability of these compounds. The synthesis of meso-substituted porphyrins from pyrrole and aldehyde involves the cyclization to obtain the porphyrinogen and the oxidation to aromatize it to porphyrin. With the awakening for the environmental issues and the establishment of green chemistry began the search for new synthetic methodologies often using new tools such as, microwave or mechanochemistry. In this communication, we report the synthesis of porphyrins using mechanochemistry. The influence of the ball milling process in the cyclization and oxidation step, the acid catalyst, the oxidant, the substitution at the aldehyde and the presence and type of solvent will be discussed.



Biography

Carla Gomes has achieved her Master's in Chemistry from the University of Coimbra, Portugal, in 2017 and since January of 2018, she has been enrolled in the CATSUS PhD program. Her research interests are in the area of sustainable synthesis, microwave-assisted organic synthesis and mechanochemistry specially related to the synthesis of heterocycles. She has presented three oral communications and three posters with two of them winning the best poster prize.

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