

SYNTHESIS, EVALUATION AS HERBICIDES AND ECOTOXICITY OF NEW CYCLOPEPTIDES WITH INHIBITORY ACTIVITY ON CYANOBACTERIA

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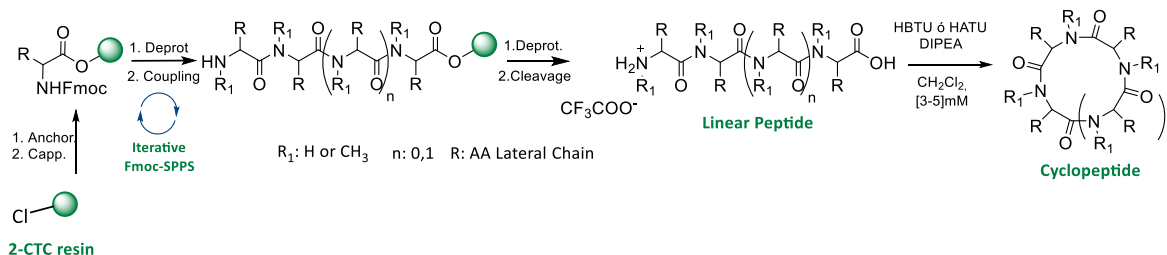
Abstract

The intensive use of synthetic herbicides during the last 50 years has led to environmental and ecological impact.¹ These agricultural practices, several hydrological alterations and the global warming promote cyanobacteria blooms, which have increased globally during recent years in intensity, frequency and duration.² In addition, as the effectiveness of the commercially available herbicides is decreasing, the development of new ones is of great importance. Products originated from living organisms and natural metabolites, have emerged as an alternative for sustainable agriculture. A significant number of natural products derived from amino acids, among them, cyclopeptides, have been described with herbicidal, fungicidal or insecticidal activity.

The objective of our investigations,³ is to develop cyclopeptides as potential ecofriendly herbicides and inhibitors of cyanobacteria.

In this work, we present the synthesis of peptides by Solid Phase Peptides Synthesis using Fmoc strategy and the solution macrocyclization to obtain tetra- and penta-cyclopeptides. In addition, the herbicidal evaluation in crops and their corresponding weeds, the activity against Cyanobacteria and eucariotic alga, and studies of ecotoxicity using *Daphnia* and Microtox® test will be presented.

Keywords: cyclopeptides, herbicides, ecofriendly, synthesis.



References

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