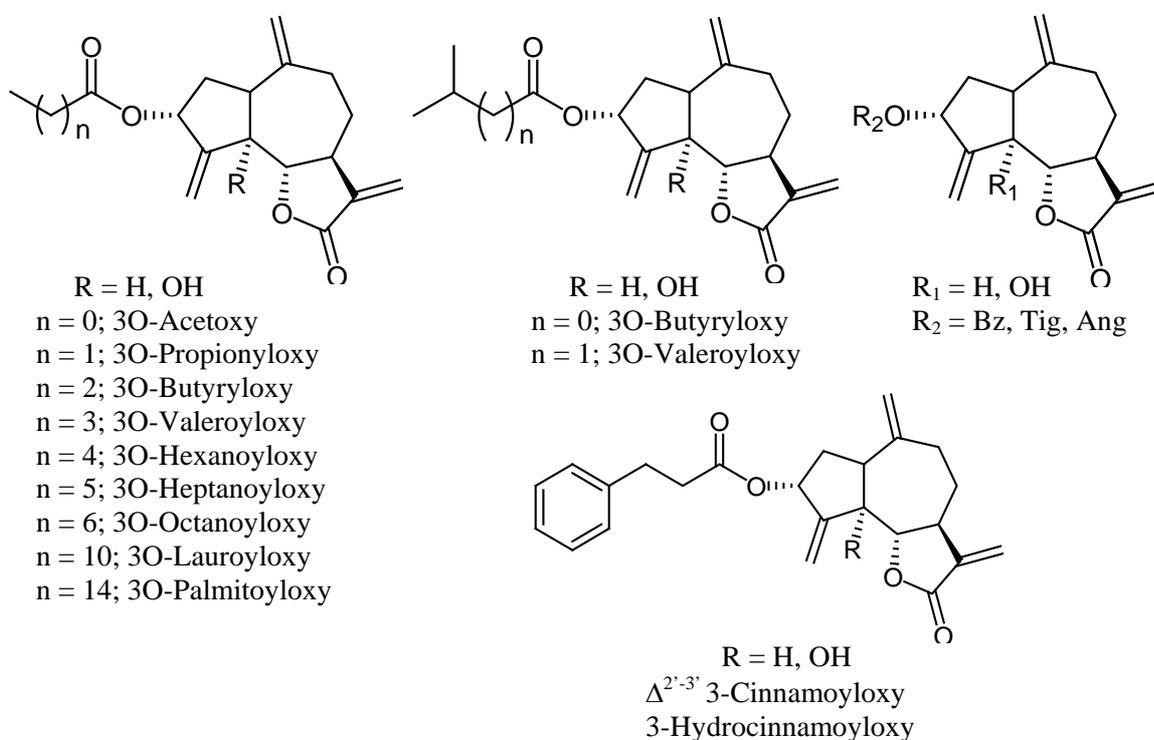


## LIPINSKI'S RULE OF FIVE: A PHARMACOLOGY RULE FOR HERBICIDE STUDIES.

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Pharmacology has dealt with bioactive products since the very beginning. Consequently, many rules and models with possible application in other fields have been developed through the years. Herein we present the results obtained in a SAR study carried out using etiolated wheat coleoptiles as biological material and sesquiterpenes lactones with guaianolide skeleton. Compounds tested are isozaluzanin C derivatives with alkylic side chains of different lengths, unsaturated side chains, and aromatic side chains.



Changes in the bioactivity adjust to Lipinski's rule of five (1): active compounds present molecular weights, logP values, and number of hydrogen donor and acceptors bonds within the limits proposed for drugs. Moreover, lineal side chains activities present a quadratic dependence of logP, adjusting the parabolic mathematical model proposed by Hansch (2) when lipophilia is the main factor governing the changes in the activity. Such results not only enhances the importance of lipofilia in the activity, but also the utility of wheat coleoptiles as simple plant material for membrane crossing studies, as the transportation effects through membranes are not masked by other organs or structures of the plant.

## REFERENCES

1. Lipinski, *Adv. Drug Delivery Rev.*, 23, 3-25, 1997
2. Hansch, *J. Am. Chem. Soc.*, 86, 1616-1626, 1964