An Assessment of Pharmacological Properties of *Schinus* Essential Oils
A Soft Computing Approach

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ABSTRACT

Plants of genus *Schinus* are native South America and introduced in Mediterranean countries, a long time ago. Some *Schinus* species have been used in folk medicine, and *Essential Oi*ls of *Schinus* spp. (*EOs*) have been reported as having antimicrobial, anti-tumoural and anti-inflammatory properties. Such assets are related with the *EOs* chemical composition that depends largely on the species, the geographic and climatic region, and on the part of the plants used. Considering the difficulty to infer the pharmacological properties of *EOs* of *Schinus* species without a hard experimental setting, this work will focus on the development of an Artificial Intelligence grounded Decision Support System to predict pharmacological properties of *Schinus EOs*. The computational framework was built on top of a *Logic Programming Case Base* approach to knowledge representation and reasoning, which caters to the handling of incomplete, unknown, or even self-contradictory information. New clustering methods centered on an analysis of attribute's similarities were used to distinguish and aggregate historical data according to the context under which it was added to the Case Base, therefore enhancing the prediction process.