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XI CARBOHYDRATE SYMPOSIUM

Shikimic acid: a promising scaffold for new materials, drugs and catalysts

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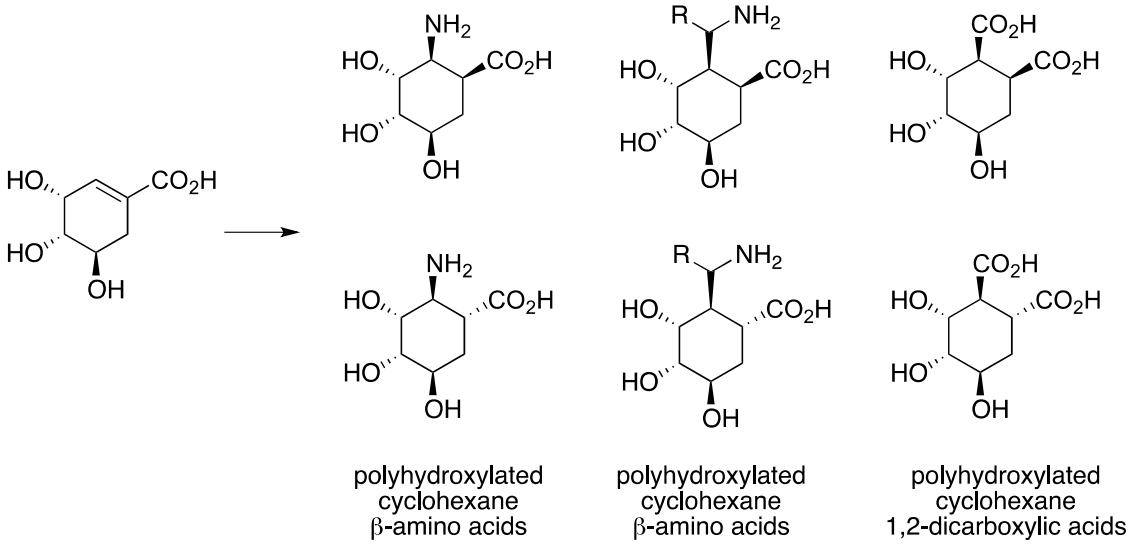
(-)-Shikimic acid is a natural compound that acts as a key intermediate in the biosynthesis of amino acids. Consequently, this derivative is widely present in many plants and has interesting biological properties. But besides the pharmacological relevance of shikimic acid itself, it is also an intermediate in the synthesis of many drugs, being the most relevant the antiviral agent oseltamivir (Tamiflu™).[1]

Shikimic acid includes several relevant structural subunits: a cyclohexane ring, an α,β-unsaturated ester moiety and three hydroxy groups attached in a defined spatial orientation. Accordingly, it offers an atractive alternative to sugars for the preparation of highly functionalized molecules.[2]

Our research group is involved on a project aimed at the exploration of new synthetic possibilities offered by this promising and attractive starting material. We will present our studies on polyhydroxylated cyclohexane β– and γ–amino acids, and polyhydroxylated cyclohexane 1,2-dicarboxylic acids.



[1] Amalia M. Estévez and Ramón J. Estévez. *Mini-Reviews in Medicinal Chemistry*, **2012**, *12*, 1443.
[2] Montserrat Carballido, Luis Castedo, and Concepción González-Bello. *Eur. J. Org. Chem.* **2004**, 3663.