Synthetic transformations of biomass derived building blocks under flow conditions

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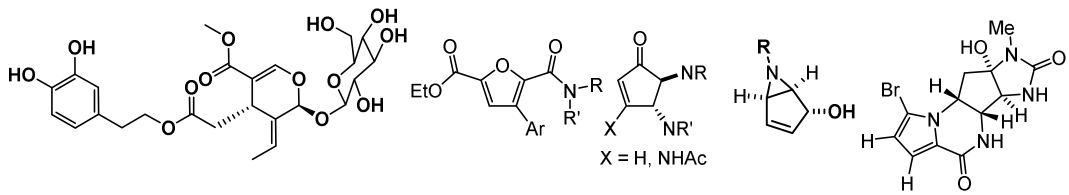
The development of biorenewable chemical building blocks for chemical based commodities is an important issue for a more sustainable synthetic organic chemistry. In addition, performing reactions under continuous processes, using either high scale or microflow devices, provides valuable benefits in terms of productivity, purity and safety derived from efficient reagent mixing, heat transfer and pressure control, when compared to batch processes.[1] This laboratory has been involved on the development of some synthetic methodologies based on functional groups transformations under batch conditions. In this line, will be presented some advances on the application of flow chemistry to some transformations of biomass derived platforms under batch conditions such as enzymatic resolution, oleuropein methanolysis,[2] chemoselective modification of 5-hydroxymethylfurfural (HMF) derivatives (**1**),[3], lupanine and dehydroabietic acid, catalyzed transformation of furfural and 3-acetamido-5-furfuryl aldehyde (3A5F) to *trans*-4,5-diaminocyclopent-2-enones (**2**),[4] and sequential photochemical rearrangement and hydration of *N*-alkyl pyridinium salts to bicyclic aziridines (**3**) as the starting building block to the total synthesis of (-)-Agelastatin A.[5]



Oleuropein **1** **2** **3** **(-)-Agelastatin A**

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