

Studies on the Reactivity of Steroids as a Source of New Synthetic Methods

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Over the years steroids have focused intensive attention due to their wide spectrum of biological activity. The isolation of new bioactive compounds is continuously challenging the creativity of synthetic organic chemists that are prompted to set up synthetic protocols to prepare the new isolated bioactive compounds in amounts that allow systematic biological studies and even clinical trials, in a race that never ends.

The study on the reactivity of the different functional groups and assemblies that are present in the steroid skeleton and side chain, constitutes a infinite source of new synthetic methods. This lecture summarizes our work on the exploration of the reactivity of steroids bearing different oxygenated moieties that includes tetrahydrofuran rings, spiroketals and carbonyl compounds. The outcome of different rearrangements, aldol condensations and hypervalent iodine-induced transformations are discussed from the mechanistic point of view and some synthetic applications are shown.