TRANSITION METALS IN SYNTHESIS AND ALTERNATIVES

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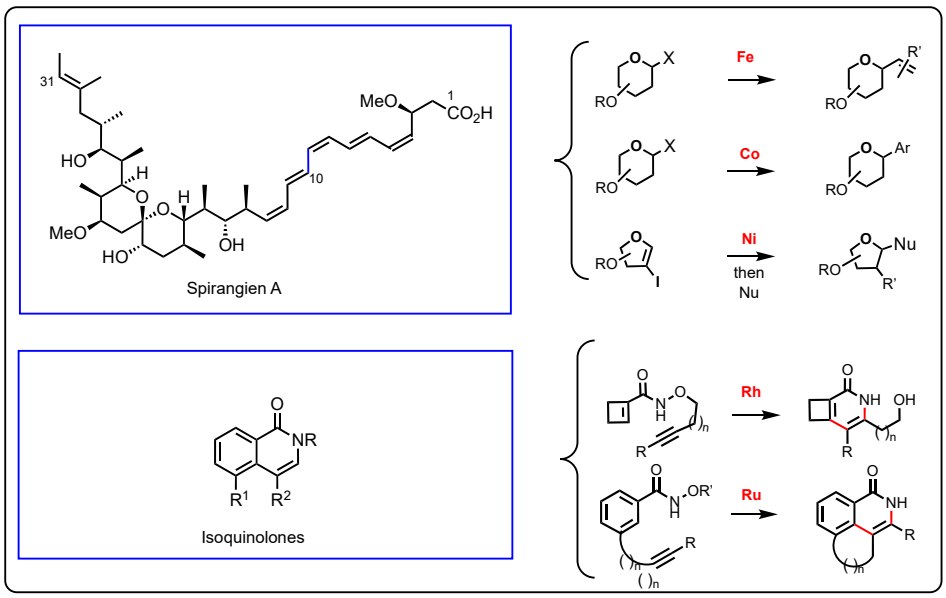
Natural products are complex molecules, that can have interesting biological properties but, unfortunately, they are produced in small quantities. One way to obtain these compounds in large quantities is to perform their synthesis or hemi-synthesis. However, the main challenge in the synthesis of biologically interesting molecules is the design of concise strategies and the development of efficient and selective methods.

Spirangien A, an antitumoral and antifungal agent, and isoquinolones, which possess antitumoral and immunosupressive activities, were good starting points to develop selective methods that subsequently allowed us to access highly functionalized *C*-glycosides and nucleosides, as well as compounds possessing strained rings and macrocycles. The methods that have been developed, to access these compounds, will show the power of transition metal catalysts (Scheme 1) and some alternatives to these catalysts will be presented.



Scheme 1: Development of methods using transition metal catalysts