# C-H ACTIVATION ENABLES A CONCISE AND STEREOSELECTIVE TOTAL SYNTHESIS OF QUININE AND ANALOGUES

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Quinine is undoubtedly one of the most famous molecules in organic synthesis [1]. Besides its application as last resort drug in the treatment of malaria [2], it is a privileged structure in asymmetric catalysis with excellent asymmetric induction [3].

Previously reported stereoselective total syntheses of Quinine share as common feature the late-stage construction of the quinuclidine moiety, which represents the central core of this natural product [4]. In this presentation, we will discuss how the use of catalytic C-H activation leads to a fundamentally different approach to this classic target [5-6], allowing the synthesis of this legendary natural product in only 10 steps [7]. Our strategy leads not only to Quinine itself but also enables the preparation of novel C-3 arylated analogues, one of which possesses significantly improved antimalarial activity when compared to the natural product *in vivo*.

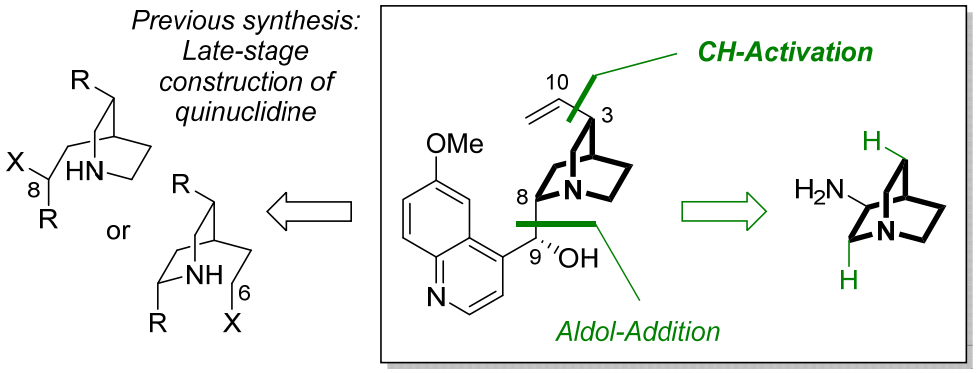


Figure 1. Synthesis of Quinine by C-H activation of an aminoquinoline precursor.

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