Protecting Group Free Enantiospecific Total Syntheses of Structurally Diverse Natural Products of Four Different Classes

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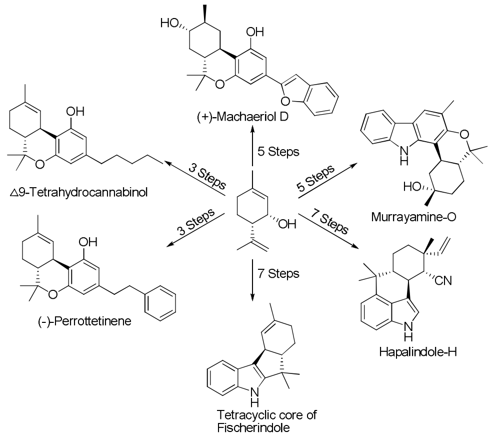
A simple, highly diastereoselective, *Lewis* acid catalyzed coupling of cyclic allylic alcohol with carbazole, resorcinol and indole derivatives has been developed. The method was applied for the enantiospecific total syntheses of structurally diverse natural products such as murrayamine-O, machaeriol-D, Δ^8-THC, Δ^9-THC, *epi*-perrottetinene and tetracyclic core of fischerindole and hapalindoles, having wide range of biological activities. Synthesis of both natural products and their enantiomers has been achieved with high atom economy, protecting group free manner and in less than 5 steps longest linear sequence in very good overall yield starting from *R*-(+) and *S*-(-)-limonene.



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