

Abstract of Master Thesis

We present an organophosphine catalyzed MBH-type reaction of activated ynone and the outcome is the hydroacylation of α, β -ynone, which leads to the formation of cyclopentadione-fused arenes and heteroarenes. In addition, we also present an organophosphine catalyzed intramolecular aldol reaction of keto-ynone, which is actually an organophosphine catalyzed δ [C(sp₃)-H]-functionalization of α, β -ynone, leading to the formation of 3-ethynyl-3-hydroxyindanones. Both the methodology occurs at mild conditions and is tolerant to a variety of functional groups and hence we are able to synthesize a series of compound having different type of functional groups with good to excellent yield.