Title:	Synthesis of new class of cyclopropanes and their unusual synthetic transformations
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Abstract:	The cyclopropanes are valuable molecular subunits which are frequently encountered in many natural products and phermaceuticales. The impressive pharmacological activities and the industrial relevance of cyclopropanes have motivated several researchers to develop the inspirational strategies for the synthesis of cyclopropane derivatives. In the past few decades, multiple strategies have been established towards the synthesis of cyclopropane derivatives. Among them, the Corey-Chaykovsky cyclopropanation reaction is a metal free sulfur ylide-based strategy. Sulfur ylides have found widespread applications in the organic synthesis. Despite tremendous advancements in the sulfur ylide chemistry, still there remains lack of efficient strategies to achieve the complex molecular architectures. This thesis mainly focused on the development of new reactions promoted by sulfoxonium ylides for the synthesis of unusual cyclopropanoids. In this regard, the first section described the general introduction about cyclopropanoids. The second section demonstrated the unexpected reactions promoted by the Corey-Chaykovsky reagent towards the synthesis of unusual cyclopropanoids. The synthetic utility of this strategy was further established to access the privileged compounds such as tetralones, indenones, and fluorenones. The third section described desymmetrization reactions mediated by sulfur ylides for the synthesis of unusual cyclopropanoids. Further, the synthetic utility of this strategy was established to synthesize privilege scaffolds such as fluorenones and naphthaphenones. The forth section highlighted ring- opening/recyclization reactions of mono-activated cyclopropanes enabled by DMSO. Finally, the appendix part demonstrated the synthesis of cyclohepta[b]indoles, and indolotropones in a one- pot multi-catalytic process
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