Title:	Access to Flavonoid Derivatives vis PCCP-Catalyzed Nucleophilic Addition to 2-Hydroxy Chalcones
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Abstract:	Pentacarbalkoxycyclopentadienes (PCCP) catalysts are a new emerging field of Brønsted acid organocatalysts. They have proven to be good alternatives to BINOL- based Phosphoric acid catalysts. Many recent literature reports have shown the use of these catalysts to access enantiomerically enriched products. The primary advantage that these PCCP catalyst over the traditional Brønsted acid catalysts, is that they are much easier to synthesize as compared to phosphoric acids and provide easy access to their chiral variants. After the pioneering work of Lambert group in 2016, many recent literature reports by various groups have shown the use of these catalysts for enantiomeric reactions. Flavonoids form an important class of natural products with vastly varied biological activities such as anticarcinogenic and anti-inflammatory activities. However, their enantioselective synthesis is still a major challenge, especially as one attempts to do metal-free synthesis. This thesis work explains the synthesis of flavonoid derivatives from 2-hydroxy chalcones using PCCP catalysts. While this thesis explains the achiral component of the reaction, further studies into enantioenriched form of this reaction is being currently explored.
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