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(54) Title: SYNTHESIS OF SUBSTITUTED CYCLOPENTADIENE COMPOUNDS AND METALLOCENES

(57) Abstract: A method of synthesizing a substituted cyclopentadiene compound. The synthesis comprises a step of cyclizing, in the presence of a phosphorous pentoxide/methanesulfonic acid reagent, an alpha,beta-unsaturated carboxylic acid, cycloalkyl ester compound to make a substituted cyclopentenone compound, and converting the substituted cyclopentenone compound to the substituted cyclopentadiene compound. Also, a method of synthesizing a substituted metallocene compound comprising a metal-(substituted cyclopentadienyl ligand) complex, wherein the substituted cyclopentadienyl ligand is made from the substituted cyclopentadiene compound. A metal-(substituted cyclopentadienyl ligand) complex and substituted metallocene compound made by the method and a substituted metallocene catalyst made therefrom.



WO 2020/068420 A1