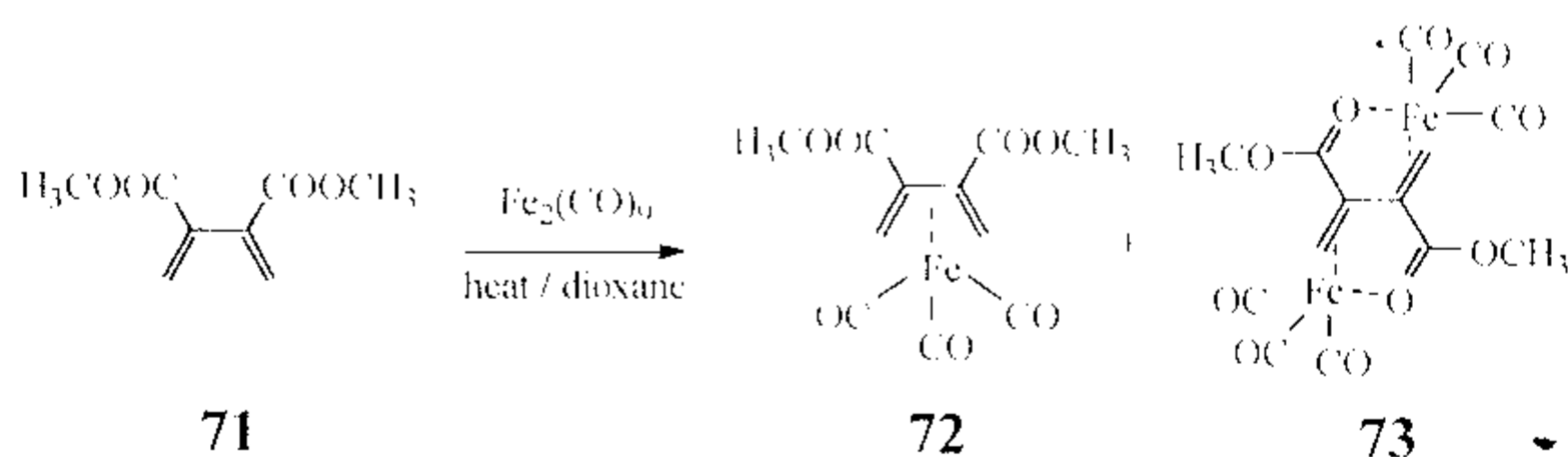


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The purpose of this research is to describes the preparation of diene ironcarbonyl complexes, tricarbonyl (η^4 -dimethyl 1,3-butadiene-2,3-dicarboxylato-*O*)-iron (**72**) and, μ -[(1, 2- η , κO^3 :3, 4- η , κO^2)-dimethyl 1,3-butadiene-2,3-dicarboxylato] bis(tricarbonyliron) (**73**) from the dimethyl bis(methylene)butanedioate (**71**) and ironnonacarbonyl, $Fe_2(CO)_9$.



The diene **71** and the complex **72**, but not the diiron complex **73**, undergo nucleophilic addition with lithium enolate. Benzylamine reacts with the diene **71** but not with the complexes **72** nor **73**. [4+2] Cycloaddition reactions of various dienophiles with the diene **71** are observed while the complexes **72** and **73** remain inert.