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Effects of Catalysts on the Preparation and Properties of Organometallic Compounds

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Bromination of methyl dibenzofuran-4-carboxylate gives methyl 2-bromodibenzofuran-6-carboxylate (m.p., 166°-167°); and nitration gives heteronuclear substitution isomers, the nitro group going to the 2-position and to the 3-position to yield methyl 2-nitrodibenzofuran-6-carboxylate (m.p., 205.5°) and methyl 3-nitrodibenzofuran-6-carboxylate (m.p., 158°). Nitration of 4-methoxydibenzofuran gives 1-nitro-4-methoxydibenzofuran.

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EFFECTS OF CATALYSTS ON THE PREPARATION AND PROPERTIES OF ORGANOMETALLIC COMPOUNDS

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It has been shown that the formation of RM compounds can be accelerated photochemically and by the use of varying quantities of selected reagents. Also, the rates of reaction between RM compounds and various reactants can be accelerated by small quantities of catalysts like cuprous chloride. For example, the time required for complete interaction of benzonitrile and phenylmagnesium bromide is reduced significantly by the addition of small amounts of compounds like cuprous chloride. It appears that these particular catalysts function by first forming very unstable organometallic compounds like phenylcopper, in the case mentioned. Then the phenylcopper decomposes to give copper and diphenyl, probably *via* free phenyl radicals which then set up chain reactions.

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THE FRIEDEL-CRAFTS REACTION WITH FURANS

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2-Furoic acid, aluminum chloride and substituted benzenes give 6-substituted-1-naphthoic acids. For example, with chlorobenzene the product is 6-chloro-1-naphthoic acid; with anisole, 6-methoxy-1-naphthoic acid; with toluene, 6-methyl-1-naphthoic acid.