Synthesis of a Derivative for Metal Salen

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Abstract

This three step procedure outlines the synthesis of 5-(2-sulfhydrylethyl)salicylaldehyde. First the intermediate, 4-(2-iodoethyl)phenol ~~is~~ was made by combining hydriodic acid and 4-methoxyphenethyl. ~~Then we treat the~~The iodinated product was converted into a ~~intermediate with a~~ Grignard reagent and treated with~~,~~ paraformaldehyde~~,~~ and triethylamine to make 5-(2-iodoethyl)salicylaldehyde. Lastly, 5-(2-sulfhydrylethyl)salicylaldehyde was obtained by reacting 5-(2-iodoethyl)salicylaldehyde with thiourea. Benzene is a known carcinogenic compound. Here, it is replaced by toluene because it has similar physical properties but is less carcinogenic. The product of this synthesis can be used to form derivatives of metal salens which could play a valuable role in medical technology and engineering.