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SYNTHESIS, CHARACTERIZATION AND PHOSPHONIUM COMPOUNDS BY 1 AND 3 BIS (CHLOROMETHYL) BENZENE AND BENZYL BROMIDE AND THEIR COMPLEXES WITH MERCURY

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Abstract Phosphonium salts have the general formula $R_4P^+X^-$ and are derived from the sub-ion phosphonium tetrahedral(pH_4^+), such as phosphonium iodide $[p(CH_3)_4^+]^-$. Generally, phosphonium is attributed to an organic derivative, such as tetra-phenyl phosphonium chloride and tetra tetra-methyl phosphonium iodide.

In this project, phosphonium compounds $[C_6H_5(CH_2pph_3Br)]$, $\{C_6H_4-1-(CH_2Cl)-3-(CH_2pph_3Cl)\}$ and mercury complexes, $[C_6H_5(CH_2pph_3)]_2[pd_2cl_2Br_2]$, $[C_6H_4-1-(CH_2Cl)-3-(CH_2pph_3)]_2[pd_2Cl_6]$ were prepared and characterized. phosphonium salts was prepared from the reaction of 1,3-bis (chloro-methyl)-*benzene* and tri-phenyl phosphine. Then, through the reaction between phosphonium compounds and $Na_2[pd_2Cl_6]$ final complexes were prepared. Next phosphonium salt was prepared from the reaction between benzyl bromide and tri-phenyl phosphine. Then, final complexes were prepared through a reaction between phosphonium compounds and $Na_2[pd_2Cl_6]$.

Keywords: phosphonium, mercury complexes, more phenyl phosphine, 1, 3-bis (chloro-methyl) benzene.).

1. INTRODUCTION

Preparation of the mercury complex

Preparation of the $[C_6H_4-1-(CH_2Cl)-3-(CH_2pph_3)]_2[Hg_2Cl_6]$

First, we shed 0.2 g (0/737 m mole) of mercury chloride in a 20 ml tube hose and then add 0.043 g (0/737 m mole) of sodium chloride to it. Then add 10 ml methanol solvent to it and be stirred for 18 hours at room temperature to obtain a transparent solution. The amount of 0/321 g (0/737 m mole) of phosphonium compound is added to the transparent solution, which is deposited immediately. (as shown below). The reaction mixture is stirred for 20 hours at room temperature. After that time we straightened deposits, then the resulting precipitate washed with methanol and diethyl ether And then dissolved in dichloromethane to be pure. This compound has a melting point of 172 ° C, weight of obtained sediment is 0.489 g and the reaction efficiency is 47%.