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New mononuclear palladium(II) complexes of bifunctionalized ylides containing five-membered chelate ring

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Phosphorus ylides are reactive compounds, which take part in many reactions of value in the synthesis of organic products. They are synthetic targets of interest, because of their value for a variety of industrial, biological and chemical synthetic uses. In this work, reaction of new bifunctionalized ylides, $\text{Ph}_2\text{PCH}_2\text{PPh}_2=\text{C}(\text{H})\text{C}(\text{O})\text{C}_6\text{H}_4\text{R}$ [$\text{R} = \text{Cl}$ (Y_1), Br (Y_2), NO_2 (Y_3), OCH_3 (Y_4)] with $[\text{PdCl}_2(\text{COD})]$ ($\text{COD} = 1,5\text{-cyclooctadiene}$) yielded the P,C-chelated complexes, $[\text{PdCl}_2(\text{Y})]$ ($\text{Y} = \text{Y}_1$ (1), Y_2 (2), Y_3 (3), Y_4 (4)) (Scheme 1). Characterization of the obtained compounds was also performed by elemental analysis, IR, ^1H , ^{31}P , and ^{13}C NMR. On the basis of the physicochemical and spectroscopic data we propose that ligands herein exhibit monodentate P, C-coordination to the palladium(II) centre.

Keywords: Bifunctionalized ylide, Palladium(II) complex, P,C-chelated complex

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Synthesis and Characterization of Two New Supramolecular Coordination Compounds Including Pyridin- 3,5-dicarboxylic acid Ligand and Co^{II} / Ni^{II} atoms In the Presence of 9-Aminoacridinium SpacerSomayeh Sanaei^{a,*}, Hossein Eshtiagh-Hosseini^b, Masoud Mirzaei^b, Mehrdad pourayoubi^b^aFaculty of Chemistry, Islamic Azad University shahr-e Rey Branch, Tehran, Iran^bDepartment of Chemistry, School of Sciences, Ferdowsi University of Mashhad, Mashhad, Iran
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Two new coordination compounds were obtained by the reaction of pyridine- 3,5-dicarboxylic acid ligand and Co^{II} / Ni^{II} in the presence of 9-amino acridinium spacer in the solution phase. The titled compounds were characterized by elemental analyses, IR and ^1H NMR spectroscopies. They are resulted from proton transfer between pyridine 3,5 dicarboxylic acid and 9-amino acridine and then adding of metallic salts such as cobalt^{II} acetate and nickel^{II} chloride lead to the formation of corresponding supramolecularly coordination compounds. The pyridin-3,5- dicarboxylic acid as a carboxylate function derivatives has attracted much interest in the coordination chemistry. Indeed, pyridine- 3,5- dicarboxylic acid and 9-amino acridine used here can form a good proton donor-acceptor system. Many aspects of these two compounds such as their solution phase studies and single crystal X-ray diffraction remains to be investigated as we intend to do in the near future.

Keywords: Nickel, Proton transfer mechanism, Nickel, Supramolecular compound