Synthesis and spectroscopic studies of some new metal carbonyl derivatives of 1-(2-pyridylazo)-2-naphthol

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Abstract

Interaction of 1-(2-pyridylazo)-2-naphthol (PAN) with [Mo(CO)₆] in air resulted in formation of the tricarbonyl oxo-complex [Mo(O)(CO)₃(PAN)], 1. The dicarbonyl complex [Ru(CO)₂(PAN)], 3, was obtained from the reaction of [Ru₃(CO)₁₂] with PAN. In presence of triphenyl phosphine (PPh₃), the reaction of PAN with either Mo(CO)₆ or Ru₃(CO)₁₂ gave [Mo(CO)₃(PAN)(PPh₃)], 2, and [Ru(CO)₂(PAN)(PPh₃)], 4. All the complexes were characterized by elemental analysis, mass spectrometry, IR, and NMR spectroscopy. The thermal properties of the complexes were also investigated by thermogravimetry.