Turkish Journal of Chemistry

Turkish Journal

of

Chemistry

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Synthesis and Spectral Investigations of Some Platinum Metals Ions Coordination Compounds of 4[N-(Furan-2'-carboxalidene)Amino]Antipyrine Thiosemicarbazone and 4[N-(3',4',5'-Trimethoxybenzalidene)Amino]Antipyrine Thiosemicarbazone

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Abstract: The present work describes the synthesis and spectral properties of some platinum metals chlorides coordination compounds of 4[N-(-(furan-2'-carboxalidene)amino]antipyrine thiosemicarbazone (FFAAPTS) and 4[N-(3',4',5'-trimethoxybenzalidene)amino]antipyrine thiosemicarbazone (TMBAAPTS). All the compounds have the general composition $MCl_2(L)$ (M = Pd^{2+} or Pt^{2+} ; L = FFAAPTS or TMBAAPTS) or $MCl_3(L)$ (M = Ru^{3+} , Rh^{3+} or Ir^{3+} ; L = FFAAPTS or TMBAAPTS). All the complexes were characterized by elemental analyses, molar conductance, molecular weight, magnetic measurements, and infrared and electronic spectra. The infrared spectra suggest that both the thiosemicarbazones behave as neutral tridentate (N,N,S) ligands. The magnetic and electronic spectra suggest that Pd^{2+} and Pt^{2+} complexes are square planar, while Ru^{3+} , Rh^{3+} and Ir^{3+} complexes have octahedral geometry.

Key Words: Platinum metals, Thiosemicarbazones, Coordination compounds.

Turk. J. Chem., **29**, (2005), 289-298.
Full text: pdf
Other articles published in the same issue: Turk. J. Chem.,vol.29,iss.3.