

Paper No: PU-SOE- Chemistry - 01

Mixed Ligand Cobalt and Palladium Complexes Containing Triphenylphosphine and a Hydrazone: Synthesis and Application in Non-Linear Optics

Dr. Dileep Ramakrishna

Department of Chemistry, School of Engineering, Presidency University, Yelahanka, Bangalore, 560064, India

Abstract

Mixed ligand complexes of cobalt and palladium containing triphenylphosphine and a hydrazone derived from furfural and hydrazine hydrate have been designed, synthesized, evaluated, and characterized from their spectral properties, elemental analysis, and magnetic susceptibility measurements. The spectral techniques suggest that the complexes exhibit square planar geometry. The monomeric properties of the complexes are evaluated from their magnetic susceptibility values. The complexes were subjected to z-scan analysis for third-order non-linear optical measurements. Non-linear transmission measurements performed using laser pulses at 532 nm in nanosecond indicate that the complexes may show good potential as optical limiters.

Keywords:

Furfural, metal complexes, mixed ligands, non-linear optical, optical limiting, z-scan

Publication Details:

Journal Name	Vol.	Month & Year	Page No.	Publisher	Scimago Ranking
Journal of Chemical Research	NA	July, 2020	NA	SAGE	Q3