

A new and convenient method for the preparation of 2,7-dihydro-111dibenzo[c,e]tellurepin: reactions and ligand properties

Abstract

Treatment of 2,2'-bis(bromomethyl)biphenyl with potassium tellurocyanate in dry DMSO gave 1,7-dihydro-111-dibenzo[c,e]tellurepin (I) in 60% yield as an unexpected product. The following new derivatives of I have been prepared: $\text{C}_{10}\text{H}_8\text{TeCl}_2$ (2), $\text{C}_{10}\text{H}_8\text{TeBr}_2$ (3), CrH_2TeI (4), $\text{CrH}_2\text{Te}(\text{CH}_3)_2$ (5) and $\text{C}_{10}\text{H}_8\text{Te}(\text{CrH}_2)_2\text{I}$ (6). Mononuclear and dinuclear palladium complexes i.e. $\text{CrH}_2\text{Te}(\text{PdCl}_2)_2$ (7) and $[(\text{C}_{10}\text{H}_8\text{Te})\text{PdCl}_2]_2$ (8) were prepared by the reaction of I with $\text{PdCl}_2(\text{PhCN})$, and Na_2PdCl_4 , respectively. Reaction of $\text{RhCl}_3 \cdot 3\text{H}_2\text{O}$ with an excess of I gave the monomeric Rh(I) complex, $(\text{CrH}_2\text{Te})_2\text{RhCl}$ (9). Compound I readily forms a 1 : 1 charge-transfer complex with TCNE while it reduces the carbonyl groups in DDQ and TCQ to hydroxyl groups. Conductivity, UV-Vis, IR and ^1H - and ^{13}C -NMR data for the new compounds are presented and discussed.