

eta(5) and eta(6) - cyclic pi-perimeter hydrocarbon platinum group metal complexes of 3-(2-pyridyl)pyrazole derived ligands with a pendant nitrile group: Syntheses, spectral and structural studies

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Abstract: Reaction of two equivalents 4-{(3-(pyridine-2-yl) 1H-pyrazole-1-yl) methyl benzonitrile (L1) and 3-{(3-(pyridine-2-yl)1H-pyrazole-1-yl)methyl benzonitrile (L2) with one equivalent of [(eta(6)-arene)Ru(mu-Cl)Cl](2) and [Cp*M(mu-Cl)Cl](2) in methanol yielded mononuclear complexes of the formulae [(eta(6)-arene)Ru(L1/L2)Cl]BF4 {arene =C6H6 (1, 6); C10H14 (2, 7); C6Me6 (3, 8)} and [CP*M(L1/L2)Cl]PF6/BF4 {Cp*=eta(5)-C5Me5, M=Rh (4, 8); Ir (5, 10)}. These complexes are characterized by IR, H-1 NMR and identities of the structure are established by single crystal XRD studies of some of the representative complexes. It is confirmed from the spectral studies that the nitrile group is not taking part in complexation; instead it remains as a free pendant group only.

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