

Title: Molybdenum-and tungsten(II) monometallic 3-(2-pyridyl)pyrazole and bimetallic 3-(2-pyridyl)pyrazolate complexes

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Abstract: Molybdenum and tungsten complexes containing the pypzH (3-(2-pyridyl)pyrazole) ligand as a chelating bidentate are prepared: [Mo(CO)(4)(pypzH)], cis-[MoBr(eta(3)-allyl)(CO)(2)(pypzH)], cis-[MoCl(eta(3)-methallyl)(CO)(2)(pypzH)], [M₂(CO)(3)(pypzH)] (M = Mo, W) from [Mo(CO)(4)(NBD)] or the adequate bis(acetonitrile) complexes. The deprotonation of the molybdenum allyl or methallyl complexes affords the bimetallic complexes [cis-{Mo(eta(3)-allyl)(CO)(2)(mu(2)-pypz)}]₂ or [cis-{Mo(eta(3)-methallyl)(CO)(2)(mu(2)-pypz)}]₂ (mu(2)-pypz = mu(2)-3-(2-pyridyl-kappa N-1) pyrazolate-2 kappa N-1). The allyl complex was subjected to an electrochemical study, which shows a marked connection between both metallic centres through the bridging pyridylpyrazolates.

KeyWords Plus: Pyrazole-Derived Ligands; Metal.Metal Interactions Spectroscopic Properties; Crystal-Structure; Coordination Chemistry; Dynamic-Behavior; Hydrogen-Bond; Solid-State; Tetranuclear; Dinuclear

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