Cyanide as a versatile Lewis base ligand at a dinitrogen-binding iron(II) centre: mono- and heteronuclear adducts.

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Streszczenie

The ligated cyanide in *trans*-$[FeH(CN)(dppe)_2]$ is activated towards aroylation, alkylation and addition of various transition metal Lewis acids, in particular $[WCl_4(PPh_3)_2]$, $[ReOCl_3(PPh_3)_2]$, $[PdCl_2(PPh_3)_2]$ and $[PtCl(Ph)(PPh_3)_2]$, to give, in the former case, mononuclear isocyanide complexes and, in the latter case, heteronuclear adducts with bridging cyanide. Their syntheses and spectroscopic characterisation are presented, as well as results of the X-ray diffraction analyses of a trinuclear complex with the {*Fe*□Cڨ N□*W*□Nڨ C□*Fe*} unit and of the parent cyano *trans*-$[FeH(CN)(dppe)_2]$ complex. The cyanide bridge allows the electronic communication between the metal centres as indicated by a cyclic voltammetric study. The ligated cyanide in *trans*-$[FeH(CN)(dppe)_2]$ undergoes electrophilic addition at the N atom by a variety of organic or transition metal Lewis acid electrophiles to give isocyanide complexes or heteronuclear adducts with bridging cyanide.

Słowa kluczowe

Cyanide, Bridging cyanide, Isocyanide, Transition metal Lewis acid, Heteronuclear complexes

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