

Synthesis and reactivity of new heterodinuclear iron/rhenium C_x complexes of the formula (η⁵-C₅Me₅)Re(NO)(PPh₃)(C≡C)_n(η²-dppe)Fe(η⁵-C₅Me₅)(n=3,4) : redox properties and a dicobalt hexacarbonyl adduct.

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Streszczenie

We report in this communication the synthesis and characterization of two Fe/Re heterodinuclear complexes **3_n** of formula (η⁵-C₅Me₅)Re(NO)(PPh₃)(CC)_n(η²-dppe)Fe(η⁵-C₅Me₅) (n = 3, 4) as well as the hexacarbonyl dicobalt adduct (**4**) of the hexatriynediyl complex **3₃**. We show by cyclic voltammetry that the “electronic communication” between the organometallic endgroups and thereby the thermodynamic stability of the corresponding mixed-valent (MV) parent **3_n⁺** is strongly influenced by bridge extension or by complexation of the [Co₂(CO)₆] fragment. In the case of the hexatriynediyl complex, the MV complex **3₃⁺** or **4** can be isolated by performing the chemical oxidation of **3₃** at low temperature. Spectroscopic studies of this compound and of other stable oxidized redox congeners should now help us to unravel how bridge extension modifies the electronic communication between the different redox-active endgroups in this family of unsymmetrically-substituted polyyynediyl compounds.

Słowa kluczowe

Dimetalla-polyne, Iron/rhenium-complexes,
Dicobalthexacarbonyl-adduct, Synthesis, Cyclic voltammetry

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