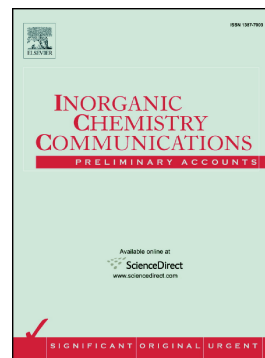


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## Synthesis of diiron sulfur clusters containing thiolato-1,8-naphthalene imide ligand

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**Abstract:** Three diiron sulfur clusters containing thiolato-1,8-naphthalene imide ligand,  $[\text{Cp}^*\text{Fe}(\mu\text{-}4,5\text{-S}_2\text{-}^n\text{Bu-NMI})(\mu\text{-CO})\text{FeCp}^*]$  (**3a**),  $[\text{Cp}'\text{Fe}(\mu\text{-}4,5\text{-S}_2\text{-}^n\text{Bu-NMI})(\mu\text{-CO})\text{FeCp}']$  (**3b**),  $[\text{CpFe}(\text{}^n\text{Bu-NMI-S})]_2$  (**4**) (**3a**:  $\text{Cp}^* = \eta^5\text{-C}_5\text{Me}_5$ ; **3b**:  $\text{Cp}' = \eta^5\text{-C}_5\text{HMe}_4$ ; **4**:  $\text{Cp} = \eta^5\text{-C}_5\text{H}_5$ ;  $^n\text{Bu-NMI} = N\text{-butyl-1,8-naphthalene imide}$ ) were synthesized *via* the reaction of *N*-butyl-4,5-disulfide-1,8-naphthalene imide and  $[\text{Cp}^\dagger\text{Fe}(\mu\text{-CO})\text{CO}]_2$  ( $\text{Cp}^\dagger = \text{Cp}^*, \text{Cp}', \text{Cp}$ ). A partially desulfurated product  $[\text{CpFe}(\text{}^n\text{Bu-NMI-S})]_2$  was determined in the reaction of  $[\text{CpFe}(\mu\text{-CO})\text{CO}]_2$  with  $^n\text{Bu-NMI}$  4,5-dithiolate. The new complexes were structurally characterized by X-ray analysis.

**Key words:** Iron-sulfur cluster; Cyclopentadienyl ligands; 1,8-Naphthalene imide; Desulfurization; CO-Bridged complex.

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