Tuning the Energy of the NIR Absorption of Dinuclear Triphos-Cobalt-Complexes

Katja Heinze, Gottfried Huttner*, and Laszlo Zsolnai

Department of Inorganic Chemistry, University of Heidelberg,
Im Neuenheimer Feld 270, D-69120 Heidelberg, Germany

* Reprint requests to Prof. Dr. G. Huttner. Fax: (+49) 6221 545707.
E-mail: g.huttner@indi.aci.uni-heidelberg.de

Z. Naturforsch. **54 b,** 1147–1154 (1999); received June 2, 1999

Dinuclear Complexes, NIR Dyes, Cobalt, Tripodal Ligands, Bridging Ligands

Dinuclear Co(III) complexes of the type $[(\text{triphos})\text{Co}(C_6X_2Z^1Z^2Z^3Z^4)\text{Co}(\text{triphos})]^{2+}$ (Z^{1-4} = O, NR, S; R = H, Me; X = H, Cl, Br, I; **1** - **6**$^{2+}$) have been prepared and characterized by MS, IR, NMR, cyclovoltammetric and UV/VIS/NIR measurements and by X-ray analyses (**1**$^{2+}$, **3a**$^{2+}$ and **4**$^{2+}$). Their redox behaviour and the energy of their low energy LMCT bands was studied and compared to the properties of the mononuclear complexes $[(\text{triphos})\text{Co}(C_6H_4Z^1Z^2)]^+$ (Z^{1-2} = O, NH, S).