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TRANSITION METAL COMPLEXES WITH FLUORINATED AND SF_5-SUBSTITUTED CARBON LIGANDS

W. Schulze* and K. Seppelt

Institut für anorganische und analytische Chemie, Freie Universität Berlin, Fabeckstrasse 34–36, 1000 Berlin 33 (F.R.G.)

The reactions of various cyclopentadienyl-carbonyl-metal anions, cp $M(CO)_n^-$, and carbonyl-metal anions, $M(CO)_m^-$, with perfluorinated and SF_5-substituted mono- and bifunctional acidchlorides (ClOC-CF_2-COCl, SF_5-CH_2-COCl and the new compound SF_5-CF_2-COCl) has been studied. The stability of the different products L_n-M-CO-R and L_n-M-R depends on the nature of the metal framework and the substituent R. In the case of $(CO)_4Co(-\mu\text{-}CO\text{-}CF_2\text{-}CO)Co(CO)_4$ CO extrusion takes place in several steps and $(CO)_3Co(-\mu\text{-}CF_2)(-\mu\text{-}CO)Co(CO)_3$ is formed in high yield. In contrast to the behaviour of the cobalt compound, $(Co)_5Mn(-\mu\text{-}CO\text{-}CF_2)Mn(CO)_5$ does not eliminate a second CO molecule.