Di-, Hexa- und Deca-substituierte Decaphenylferrocene

Di-, Hexa- and Deca-Substituted Decaphenylferrocenes

Herbert Schumann und Klaudia Sühring

Institut für Chemie, Technische Universität Berlin, Straße des 17. Juni 135,
D-10623 Berlin, Germany

Sonderdruckanforderungen an Prof. Dr. H. Schumann. E-mail: Schumann@chem.tu-berlin.de

Z. Naturforsch. **60b,** 383 – 388 (2005); eingegangen am 20. Dezember 2004

5-Bromo-1,2,3,4-tetraphenyl-5-*p*-tolyl-1,3-cyclopentadiene (**1a**), 5-Bromo-1,4-di-phenyl-2,3,5-tri-*p*-tolyl-1,3-cyclopentadiene (**1b**), 5-Bromo-1,2,3,4,5-penta-*p*-tolyl-1,3-cyclopentadiene (**1c**), 5-Bromo-1,2,3,4-tetraphenyl-5-*p*-bromophenyl-1,3-cyclopentadiene (**1d**), and 5-Bromo-1,2,3,4-tetraphenyl-5-*p*-anisyl-1,3-cyclopentadiene (**1e**) react with ironpentacarbonyl in *m*-xylene to yield the corresponding ferrocenes **2a** – **2e**. In the course of the purification procedure, reactions with HCl and the solvent *m*-xylene are observed which yield the mixed ionic sandwich complexes $[(C_5Ph_4C_6H_4Me)Fe(C_6H_4Me_2)]^+Cl^-$ (**3a**), $[(C_5Ph_2(C_6H_4Me)_3)Fe(C_6H_4Me_2)]^+Cl^-$ (**3b**), $[(C_5(C_6H_4Me)_5)Fe(C_6H_4Me_2)]^+Cl^-$ (**3c**), $[(C_5Ph_4C_6H_4Br)Fe(C_6H_4Me_2)]^+Cl^-$ (**3d**), and $[(C_5Ph_4C_6H_4OMe)Fe(C_6H_4Me_2)]^+Cl^-$ (**3e**), respectively, along with the corresponding cyclopentadienes 1,2,3,4-tetraphenyl-5-*p*-tolyl-1,3-cyclopentadiene (**4a**), 1,4-diphenyl-2,3,5-tri-*p*-tolyl-1,3-cyclopentadiene (**4b**), 1,2,3,4,5-penta-*p*-tolyl-1,3-cyclopentadiene (**4c**), 1,2,3,4-tetraphenyl-5-*p*-bromphenyl-1,3-cyclopentadiene (**4d**), and 1,2,3,4-tetraphenyl-5-*p*-anisyl-1,3-cyclopentadiene (**4e**). The compounds have been characterized by elemental analysis, IR, NMR, and mass spectra, and, in the case of **2c**, by ^{13}C-CPMAS spectroscopy and X-ray powder diffractometry.

Key words: Cyclopentadiene, Ferrocene, Xylene Complex, Tetraphenylferrocene Derivatives, Octaphenylferrocene Derivatives