Synthesis, Characterization and Crystal Structures of 1,2-Disubstituted Ferrocenyl Stibines

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New 1,2-disubstituted ferrocenyl stibines containing a -CH_2OR pendant arm were synthesized and characterized by various spectral and analytical methods. Nucleophilic substitution of *rac*-diphenyl[(2-trimethylammoniomethylferrocen-1-yl)]stibine iodide by methanol produces compound $Fc(CH_2OMe)SbPh_2$ (**1**). The acetylation of diphenyl(2-dimethylaminomethylferrocen-1-yl)stibine by acetic anhydride affords compound $Fc(CH_2OCOCH_3)SbPh_2$ (**2**), which on further reaction with sodium hydroxide affords the alcohol $Fc(CH_2OH)SbPh_2$ (**3**). The molecular structures of the stibines **1**, **2** and **3** were determined by X-ray crystallography. None of the heterobimetallic compounds containing a -CH_2OR arm shows hypervalent interactions in the solid state. By contrast, hypervalent interactions were found in ferrocenyl stibines with a -CH_2NR_2 pendant arm.

Key words: 1,2-Disubstituted Ferrocene, Organoantimony, Stibine, X-Ray Structures