1,2-Hydroboration of Alkyn-1-yl(chloro)silanes: Alkenes Bearing Chlorosilyl and Dialkylboryl Groups in Geminal Positions

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The 1,2-hydroboration of various alkyn-1-yl(chloro)silanes (3 – 7), derived from 1-hexyne (a) and ethynylbenzene (b), using 9-borabicyclo[3.3.1]nonane, 9-BBN, affords selectively alkene derivatives in which the dialkylboryl and chlorosilyl groups are in geminal positions at the C=C bond. The molecular structure of (Z)-α-(9-borabicyclo[3.3.1]non-9-yl)-α-dichloro(phenyl)silyl-styrene (11b) was determined by X-ray diffraction. All alkenes were characterised by a consistent set of NMR spectroscopic data (1H, 11B, 13C, 29Si NMR).

Key words: Alkynes, Alkenes, Boranes, Silanes, Hydroboration, NMR