The reaction of the 1,2-dihalodiborane(4) \( \text{B}_2(\text{NMe}_2)_2\text{Cl}_2 \) with the lithium tungsten salts \( \text{Li}[\eta^5-\text{C}_5\text{H}_5](\text{R}_3\text{P})(\text{OC})_2\text{W}] \) \( [\text{R} = \text{Me} (3a), \text{Ph} (3b)] \) yields via alkali salt elimination the phosphine-substituted diborane(4)yl tungsten complexes \( [\eta^5-\text{C}_5\text{H}_5](\text{R}_3\text{P})(\text{OC})_2\text{W-}\{\text{B}(\text{NMe}_2)-\text{B}(\text{NMe}_2)\text{Cl}\}] \) \( [\text{R} = \text{Me} (4a), \text{Ph} (4b)] \). Both compounds have been fully characterized in solution by NMR and IR spectroscopy and \( 4a \) additionally by X-ray diffraction analysis.

Key words: Half-Sandwich Tungsten Complexes, Boranes, Diboranes(4), Boryl Complexes