Reactions of lithiated 2,5-dimethylazaferrocene with selected electrophiles.

Autorzy

K. Kowalski

J. Zakrzewski

Lucjan B. Jerzykiewicz

Rok wydania

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Lithiation of 2,5-dimethylazaferrocene **1** with *sec*-BuLi/TMEDA in THF at −78 °C proceeds (as shown by quenching with D_2O) to comparable extent on the methyl groups and the Cp ring. However, the outcome of the reaction of the lithiated **1** with an electrophile depends on the nature of this electrophile. In the reaction with 4-methoxybenzaldehyde only the product originated from the lateral lithiation is formed, whereas the reaction with 4-methoxyacetophenone and 4,4′-dimethoxybenzophenone afforded mixtures of the products resulting from lateral and ring-lithiation. Similar results were also obtained in the reaction of lithiated **1** with chlorodiphenylphosphine and diphenyl diselenide. On the other hand, the exclusive formation of the Cp-substituted product was observed in the reaction of lithiated **1** with *N*,*N*-dimethylformamide. The structures of selected products (oily compounds were transformed into the corresponding crystalline $W(CO)_5$-complexes) were confirmed by X-ray diffraction. The presented reactions open a novel entry to specifically substituted azaferrocenes (especially those containing heteroatom substituents) with potential applications as ligands for the homogenous catalysis.

Słowa kluczowe

Azaferrocene, Lithiation, Selectivity, X-ray diffraction

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