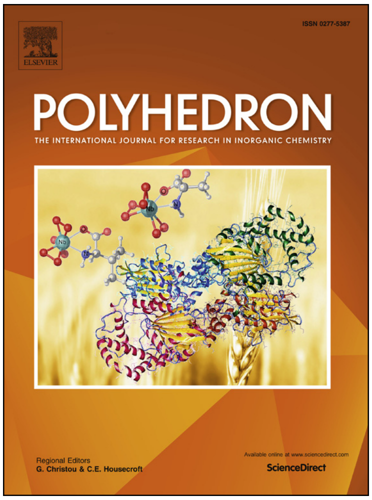

Desulfurization of dibenzothiophene and dibenzothiophene sulfone via Suzuki-Miyaura type reaction: Direct access to *o*-terphenyls and polyphenyl derivatives

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Desulfurization of dibenzothiophene and dibenzothiophene sulfone via Suzuki-Miyaura type reaction: Direct access to *o*-terphenyls and polyphenyl derivatives[†]

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Abstract

The reactivity of dibenzothiophene (DBT) or dibenzothiophene sulfone ($DBTO_2$) with a variety of phenylboronic acids was mediated by the nickel precursor [Ni(dippe)Cl_2] in the presence of a base. The reaction was performed under relatively mild conditions (70 to 100 °C), in aqueous media. The study of the reactivity revealed the role of water as a hydrogen source and showed a competition between the desulfurization of the corresponding substrates via a hydrodesulfurization (HDS) or by a hydrodesulfurative cross-coupling (HDSCC) reaction. Furthermore, in the absence of water sulfur-free poly-phenylic compounds were obtained in good yields as a result of a Suzuki-Miyaura type reaction, being the main product in most of the cases the corresponding *o*-terphenyl derivative, these products are valuable building blocks in the synthesis of more complex materials.

Key words: Desulfurization; dibenzothiophene; dibenzothiophene sulfone; phenylboronic acids; cross-coupling; nickel.