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Benzylation of Phenol Catalyzed by Diphenyl Ditelluride

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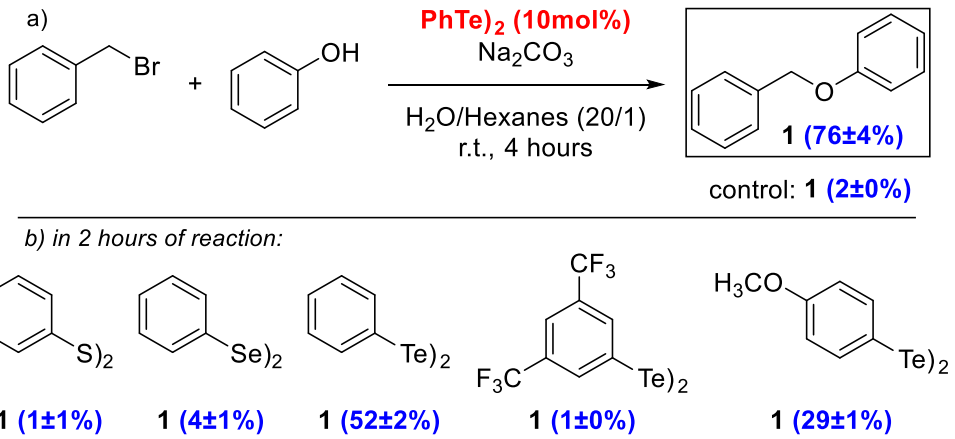
ABSTRACT

In this work, we disclose our initial findings on the benzylation of phenols under a biphasic system catalyzed by ditellurides. Benzyl phenol ether **1** has been prepared using benzyl bromide, Na_2CO_3, and 10 mol% of PhTeTePh in a water/hexanes mixture (Scheme 1a). The reaction involves the *in situ* activation of benzyl bromide, resulting in an active species that transfers the benzyl group to the phenolate.[1-3] We optimized the reaction by varying the base, organic cosolvent, and catalyst. The results using different catalysts are described in Scheme 1b.



Scheme 1. Alkylation reactions catalyzed by $PhTe)_2$.

Currently, we are exploring the scope of substrates (phenols and bromides) that are suitable for this transformation and conducting control experiments to shed light on the reaction mechanism.

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