A facile synthesis of sulfonate esters from phenols using catalytic KF/NFSI and K_2CO_3

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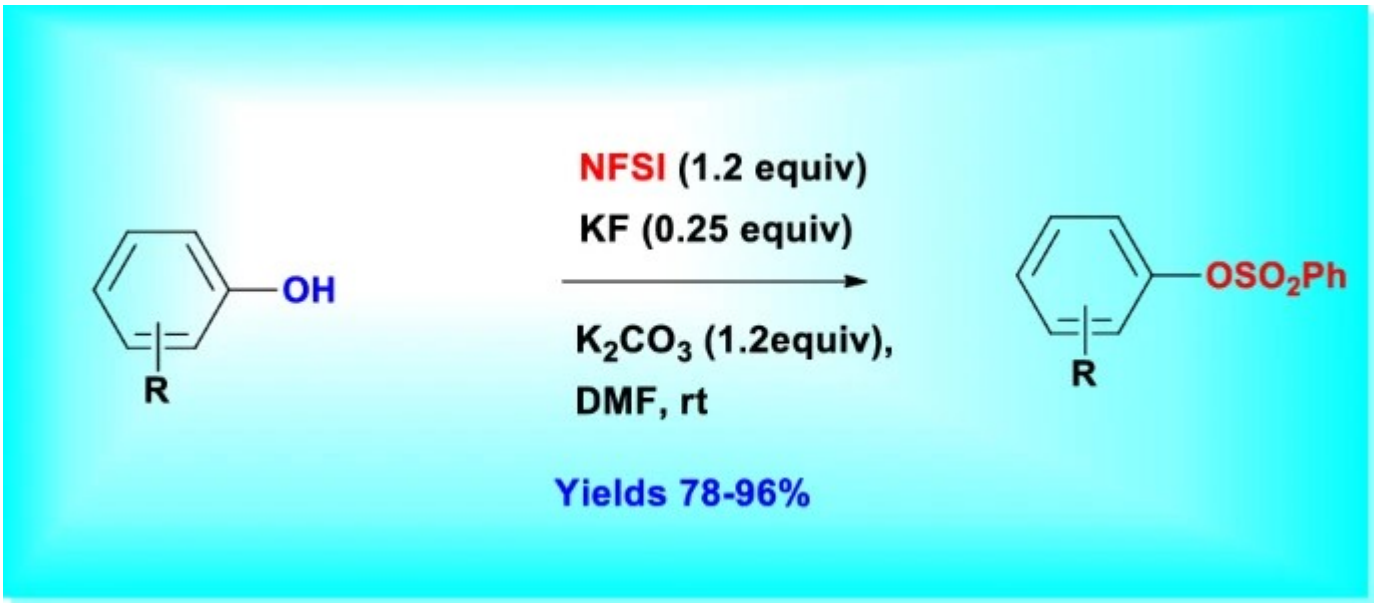
Abstract

An effective approach toward conversion of phenols to their benzene sulfonate esters by using N-fluorobenzenesufonimide (NFSI) and catalytic potassium fluoride is demonstrated. Mild reaction conditions, shorter reaction time, excellent yield and easy-to-handle reagents are the key features of the methodology. Mild reaction conditions have conferred wide substrate tolerability and sensitive substrates are well preserved during the reaction. Sulfonate ester formation is governed by benzenesulfonyl fluoride which is in situ generated after addition of KF to NFSI and KF is regenerated after sulfonylation when potassium carbonate is used as a base.

Graphical Abstract



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Ethics declarations

Conflict of interest

There are no conflicts to declare.

Additional information

Publisher's Note

Supplementary Information

Below is the link to the electronic supplementary material.

Supplementary file1 (DOCX 7935 KB)

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