



Lanthanum Triflate Anchored SBA-15 is an Effective Catalyst for the Nitration of Alkyl Aromatics

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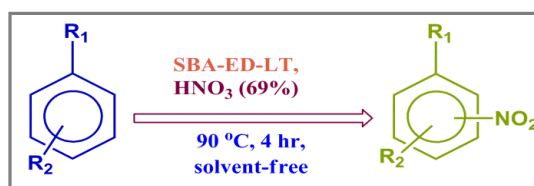
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ABSTRACT

Aiming to develop an atom economic processes for efficient nitration of alkyl aromatics with minimal environmental waste with water as only by-product is an emerging trend in view of green aspects. We sought to harness in the preparation of novel solid acid catalyst with water tolerant lewis acidity and the use of catalytic quantities of lanthanum (III) triflates are studied in the nitration of alkyl aromatics. A series of lanthanum triflate loadings are anchored on diamine functionalized SBA-15 catalysts are synthesized and are well characterized by XRD, N₂ sorption, FT-IR, TGA techniques etc. These catalysts exhibited high catalytic activity with good to excellent yields using a stoichiometric amount of 69% nitric acid. Furthermore the catalyst is readily recycled by an easy separating process.

Graphical Abstract



Nitration on SBA-ED-LT catalyst.

Keywords: Lanthanum (III) triflate, SBA-15, Aromatic nitration.