**Scandium Triflate**

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**Abstracts**

A) Friedel-Crafts alkyl- and acylation reactions usually require a stoichiometric amount of Lewis acid to facilitate complete reaction. However, a catalytic amount of Sc(OTf)$_3$ is sufficient to facilitate the same transformation.1,5

B) Sc(OTf)$_3$ catalysed three-component couplings can be carried out affording amino esters 3 and γ-acyl-δ-lactam derivatives 4 stereoselectively in high yields.6 This is a powerful tool for the preparation of libraries of δ-lactam derivatives. Similar four-component couplings have also been carried out.7

C) Sc(OTf)$_3$ is a useful Lewis acid catalyst for acylation of alcohols with acid anhydrides and esterification between alcohols and carboxylic acids.8

D) Allylation reactions of carbonyl compounds with tetraallyltin (6) occur smoothly under the influence of a catalytic amount of Sc(OTf)$_3$.9 Three component reactions of aldehydes, amines and allyltributyltin (8) also proceed smoothly.10 No direct reaction with aldehyde is observed.

**References and Notes**