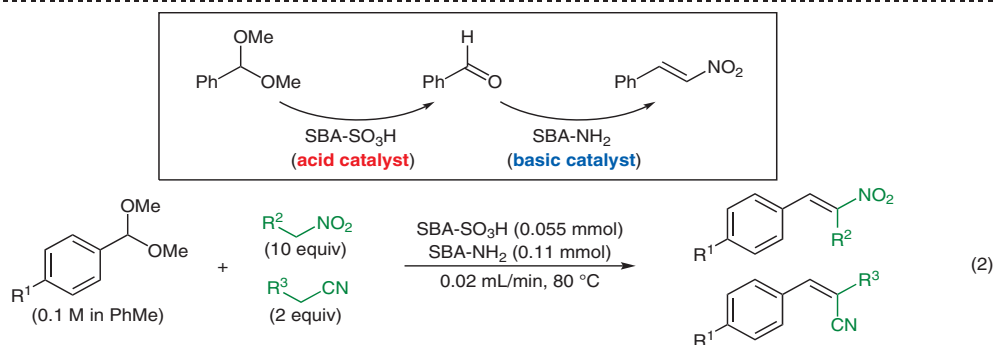
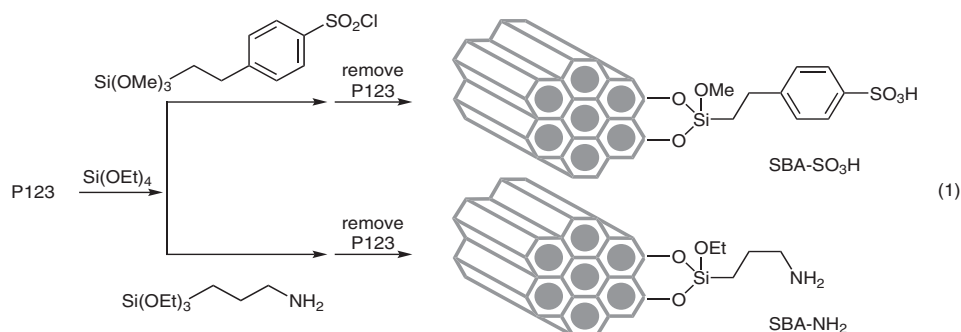
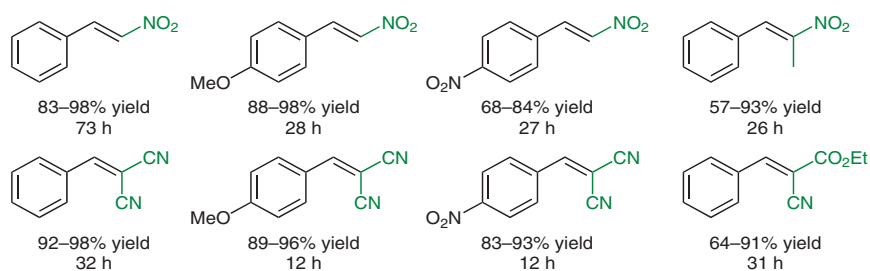


Single-Flow System for Acid Hydrolysis and Base Condensation



Selected results:



Significance: Two types of SBA-15-based mesoporous silica bearing sulfonic acid groups (SBA-SO₃H) and amine groups (SBA-NH₂), respectively, were prepared according to equation 1. Acid hydrolysis of acetals and subsequent C–C bond-forming condensation (i.e., a Henry reaction and a Knoevenagel reaction) were achieved in a flow system using a single packed-bed reactor charged with SBA-SO₃H and SBA-NH₂ (eq. 2).

Comment: SBA-SO₃H and SBA-NH₂ were characterized by TEM, FT-IR, N₂ adsorption and desorption, BET, TGA, and TPD analyses. The authors also prepared a catalyst functionalized with both SO₃H and NH₂ groups, SBA-SO₃H/NH₂, but its catalytic activity was inferior to that of a physical mixture of SBA-SO₃H and SBA-NH₂.