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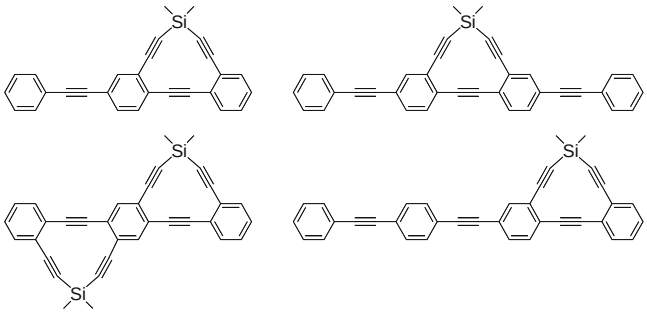
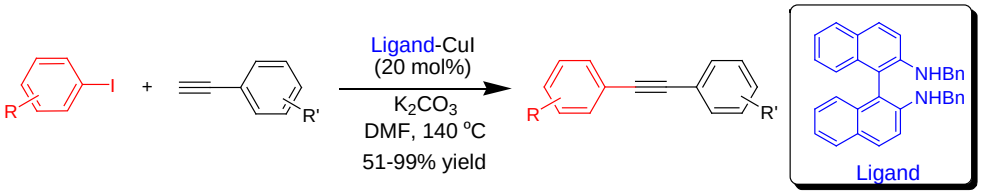
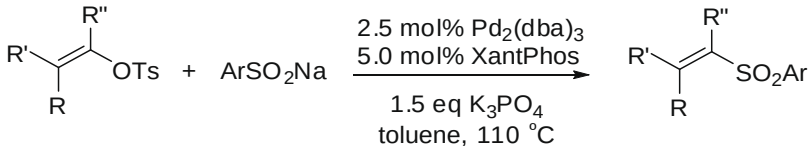
Contents

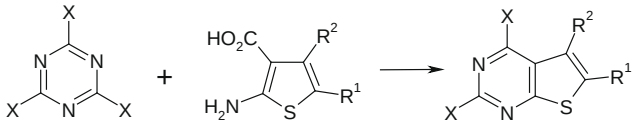
Communications

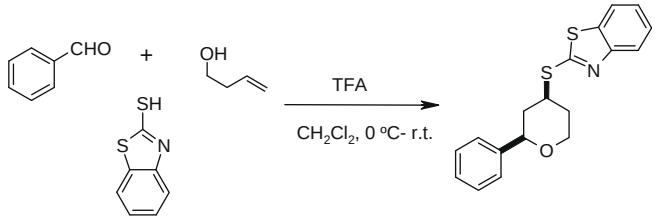


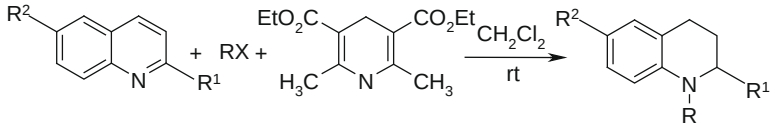


A wide range of arylated alkynes are synthesized from the corresponding aryl halides and terminal alkynes by Sonogashira type cross-coupling reactions through C(aryl)–C bond formation in the presence of a catalytic amount of *N,N′*-dibenzyl BINAM–CuI complex under mild reaction conditions.

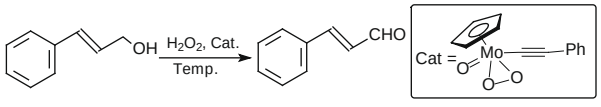




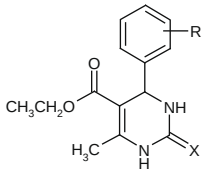




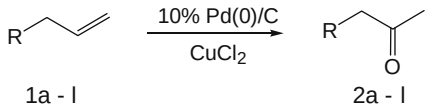
An uncatalyzed one-pot synthesis of N-substituted tetrahydroquinolines was achieved in good yields by the three-component reaction of quinoline and alkyl/acyl halides with Hantzsch dihydropyridine ester under mild reaction conditions.

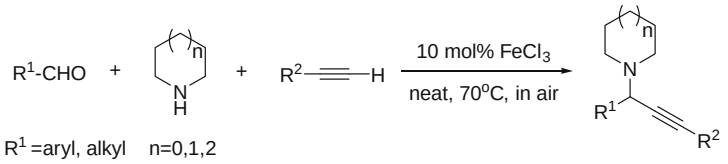


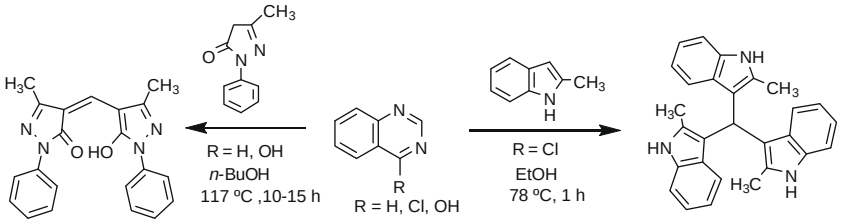
3,4-Dihydropyrimidin-2(1*H*)-one, 3,4-dihydropyrimidin-2(1*H*)-thione, and 3,4-dihydropyrimidin-2(1*H*)-imine derivatives were synthesized by modified Biginelli reaction from appropriately substituted aromatic aldehyde, β-ketoester and either urea, thiourea or guanidine using tetra-butyl ammonium bromide (TBAB) as catalyst for the first time in time-efficient manner and in near quantitative yields.

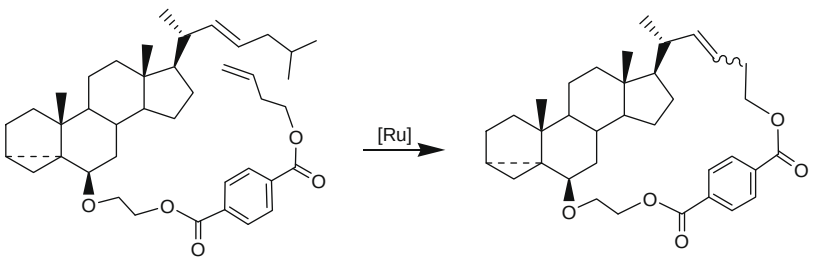


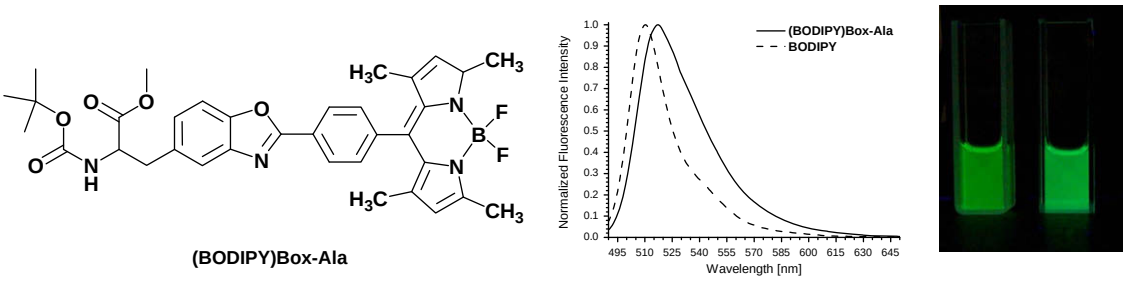
X= O ; R= H/n-NO_2/4-Cl/4-F
X= S ; R= [2-OH/OCH_3/n-Cl/ n-OCH_3/N-$N(CH_3)_2$]
X= NH ; R= [H/CH_3/n-(OCH_3)x2/ n-(OCH_3)x3 /N-$N(CH_3)_2$]

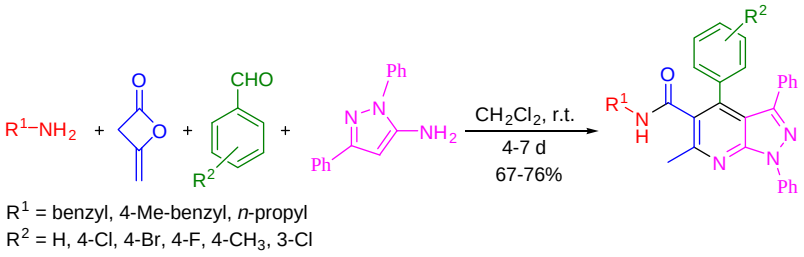


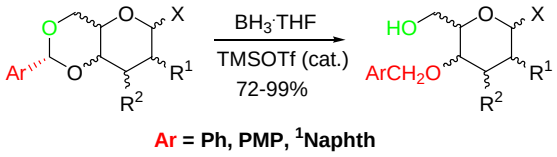




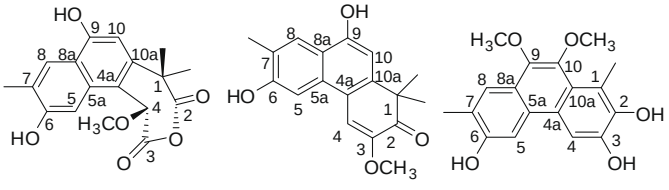


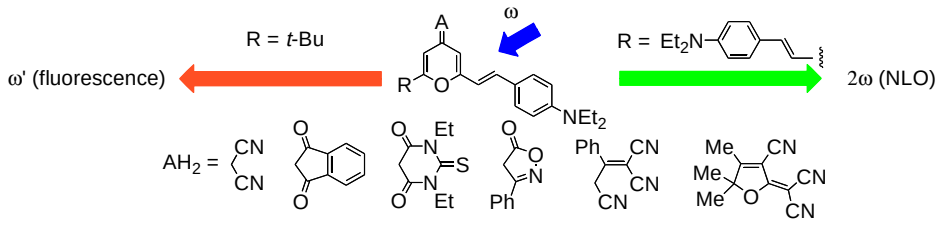


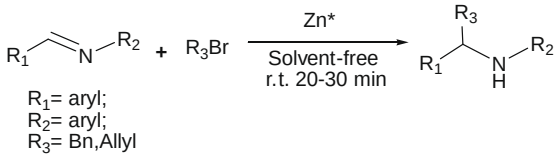


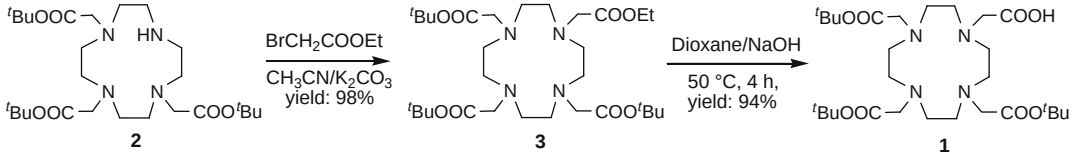


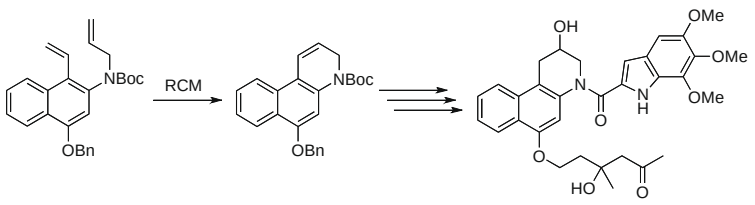
Benzylidene-type cyclic acetals of carbohydrates undergo efficient reductive ring opening using BH_3·THF and a catalytic amount of TMSOTf to give benzyl-type ethers regioselectively.



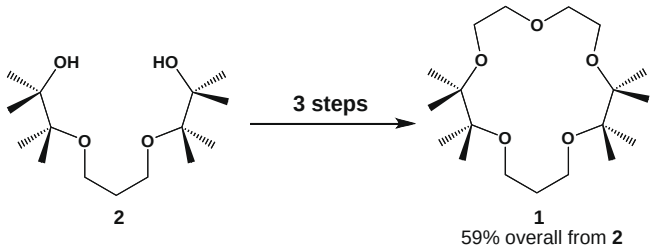


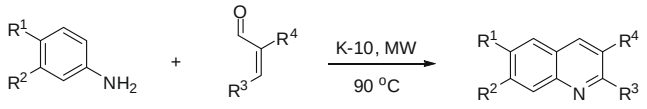




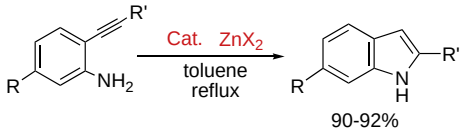


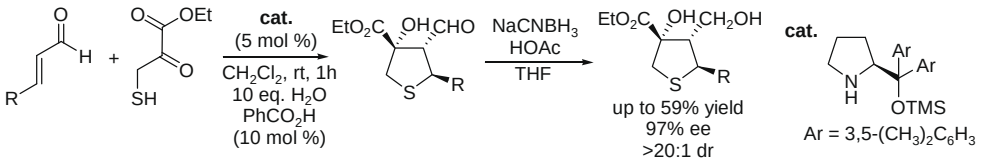
A tricyclic intermediate was prepared using the ring-closing metathesis approach, which serves as a precursor to the synthesis of CBI analogs and their prodrugs, including one designed for the aldolase Ab 38C2-catalyzed activation.

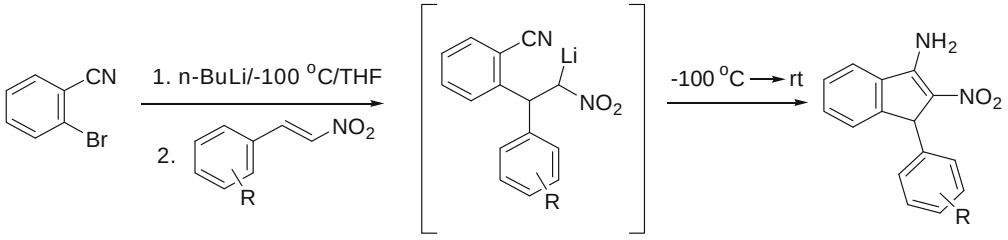


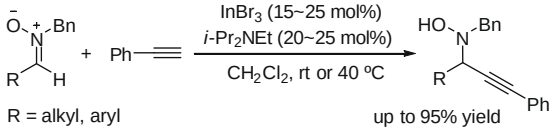


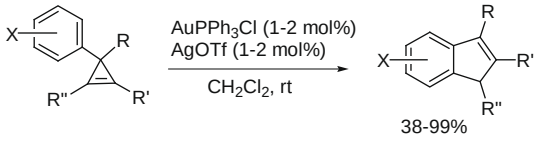
R^1 = H, CH_3, CH_3CH_2, F, Cl, Br, CH_3O
R^2 = H, CH_3, Cl
R^3 = C_6H_5, 2-NO_2-C_6H_4, 2-CH_3O-C_6H_4, 4-CH_3O-C_6H_4, 4-NO_2-C_6H_4
R^4 = H, CH_3

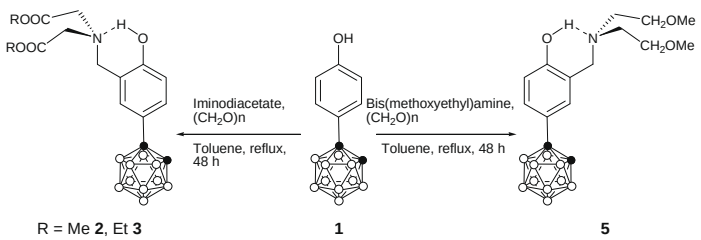


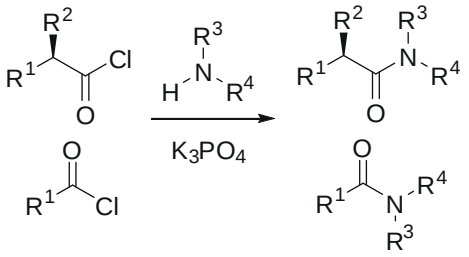




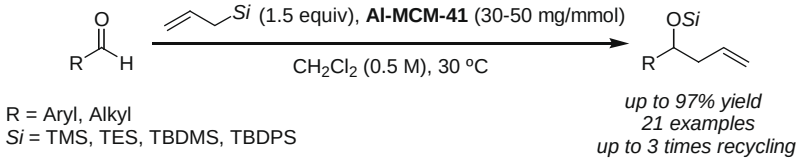




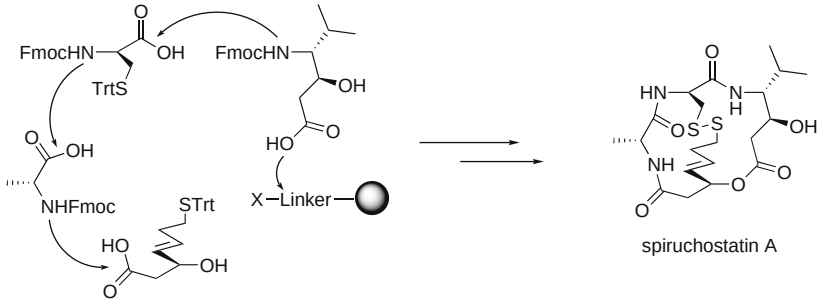


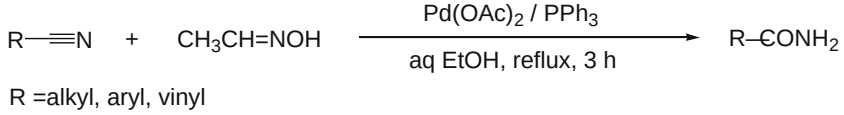


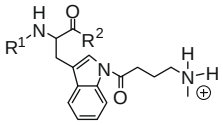
A simple, mild, and highly efficient condition for amide synthesis from acyl chlorides has been developed to minimize hydrolysis, racemization, and other side reactions. This method should expand capabilities in the peptide coupling area.



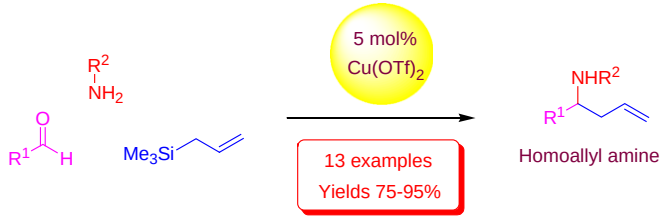
The allylation of both aromatic and aliphatic aldehydes with allylsilanes was promoted by mesoporous aluminosilicate (Al-MCM-41) under mild reaction conditions.







A new side-chain protecting group for tryptophan in Fmoc solid-phase peptide synthesis is reported which increases the solubility of synthetic peptides during the purification step. After purification, the protecting group is cleaved via an intramolecular cyclization reaction at slightly alkaline pH.



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