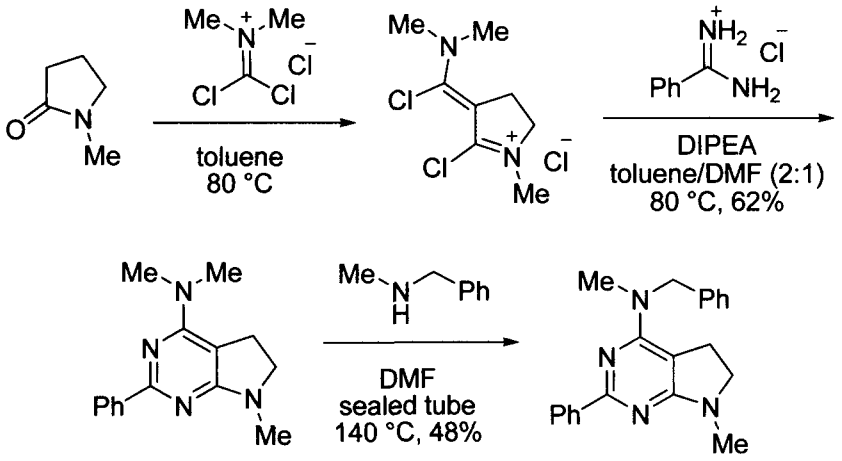
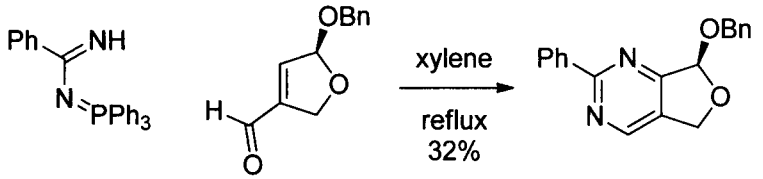
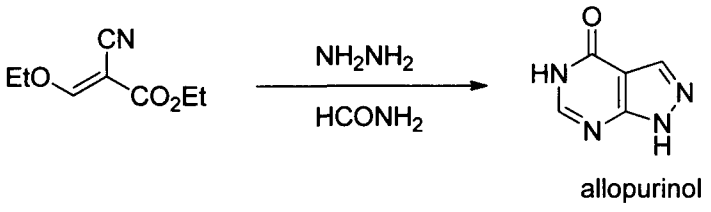


The condensation of *N*-triphenylphosphoraniliden-benzamidine with acyclic α,β-unsaturated aldehydes produces dihydropyrimidines in good to high yields.[37] The reaction mechanism probably involves an aza-Wittig reaction followed by a 6e-π-electrocyclic ring closure of the azatriene intermediate to give dihydropyrimidines, which is oxidized to the corresponding pyrimidines.



13.3 Synthesis of Pyrimidine-Containing Drugs

13.3.1 Allopurinol



allopurinol

Allopurinol is a drug used primarily to treat hyperuricemia, which means excess uric acid in blood plasma and its complications, including chronic gout. It should be noted that allopurinol is not a uricosuric which means that it does not increase the excretion of uric acid in the urine so it can be used in patients with poor kidney function. Allopurinol has been marketed in the United States since 1966 under the trade name of Zyloprim. After it becomes