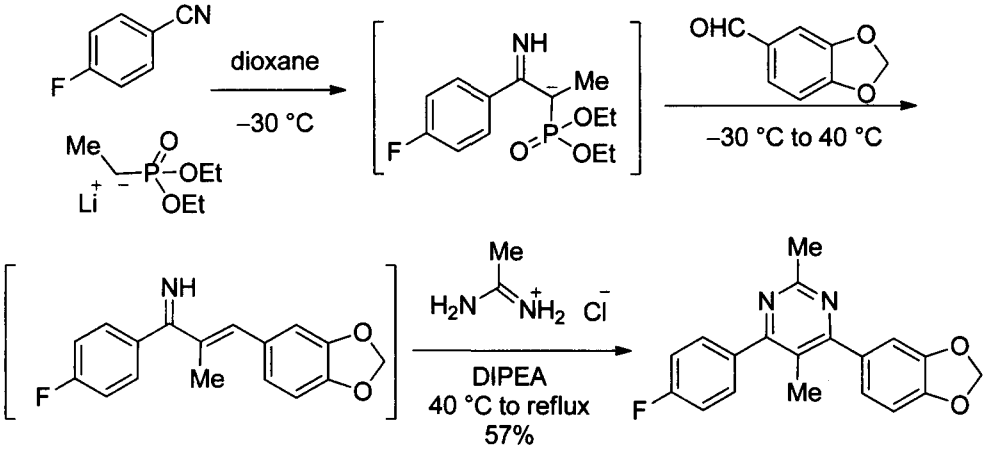
electron-poor (hetero)aryl halide and a terminal propargyl alcohol followed by a cyclocondensation of amidinium salts with chalcones (1,3-diaryl propenones).[11] Mechanistically, this isomerization occurring after the cross-coupling reaction is base catalyzed. The mild reaction conditions for the Sonogashira coupling reaction are compatible with many functional groups.

Polysubstituted pyrimidines were synthesized from *in situ* generated α,β-unsaturated imines and the corresponding amidine or guanidine derivatives in a convenient one-pot procedure.[12] It was proposed that the described transformations proceed *via* the initial formation of α,β-unsaturated imine that undergo nucleophilic attack by a bidentate nucleophile (amidine or guanidine). This step is then followed by elimination of ammonia and aromatization to yield the observed polysubstituted pyrimidine.



Diacetylenic ketones were found to react smoothly with amidines to yield a range of densely functionalized pyrimidines in high yields.[13] It is worth noting that the primidine product was obtained as a single regio-isomer, attributed to the acetylenic carbon bearing the ester group being the most electron deficient, making this the preferential site for nucleophilic attack of the amidines, for instance, methyl carbamimidothioate.