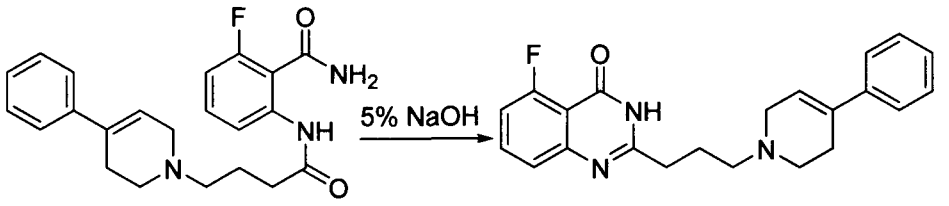
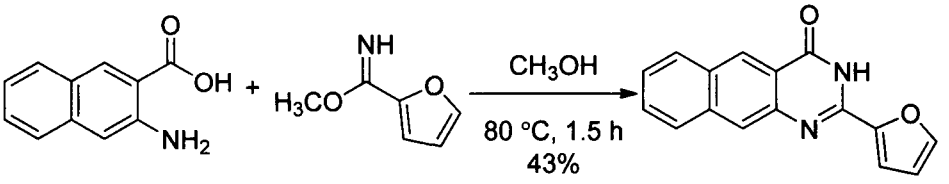


A significant number of variations on the Niementowski reaction have been developed over the years in an effort to improve reaction yields and product purity. The most common modifications involve the use of imidates, imidoylchlorides, dithiazoles, benzonitriles, or amidines. Select examples of these modifications are highlighted below.

Reid and co-workers prepared a number of napthanilic quinazolinones by condensing 3-amino-2-naphthoic acid with a furyl imidate in methanol under thermal conditions.[25] The desired product, 2-(furan-2-yl)benzo[g]quinazolin-4(3*H*)-one, was produced in 43% yield. Compounds of this class have been shown to have effective anti-cancer and antibacterial properties.



Langer and co-workers generated 2,2′-bis-quinazolin-4-ones by condensing substituted anthranilic esters with substituted bis(imidoyl)-chlorides.[26] These compounds, which are structurally similar to the quinazoline alkaloid febrifugine, have the potential to serve as anti-malarials. Treatment of methyl-2-amino-4,5-dimethoxybenzoate with bis(*p*-methoxyl-phenylimidoyl)chloride in the presence of two equivalents of TEA in refluxing toluene gave the desired product in 60% yield.