ABSTRACT

This thesis embodies exploration of anionic benzannulations of various 1,4-dipolar synthons for the synthesis of 2-aminonaphthoquinones, naphthoxazoles, 2-benzazepinones and hydroxyindoles. As shown in eqn 1, an unprecedented one-step synthesis of naphthoxazoles has been developed on the basis of the annulations of 3-cyanophthalides with 2-amidoacrylates.

A fundamentally novel reaction of 2-azidoacrylates with phthalides has been discovered. It has resulted in a new synthesis of benzazepinones in regiospecific manner (eqn 2).

$$X \stackrel{||}{=} V \stackrel{||}{=$$

A new route for the regiospecific synthesis of hydroxyindoles has been developed by the implementation of benzannulations on pyrrole 1,4-dipolar synthons as shown in eqn 3.

All the developed reactions are free from regiochemical ambiguity of the products.