A Facile One-Pot Three-Component Reaction for the Synthesis of Fused Phosphorus Compound with Bioactive Phthalazinones Derivatives

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Phthalazin-1(2H)-one and their analogues represent an important class of nitrogen-containing heterocycles compounds, which exhibit useful biological activities. Particularly, in the recent years, stilbene-related heterocyclic compounds comprising benzalphtaldehyde, phthalazinone, imidazoiindole and pyrimidoisoindole derivatives were tested for their anti-HIV activity [1]. Some phthalazin-1-ones and derivatives to their pharmacological interest have been shown to possess as vasorelaxant [2], polymerase inhibitors [3] and anxiolytic [4]. The present study showed that phosphorus ylides could be prepare by a simple, effective, one-pot three-component domino reaction of acetylenic esters, NH acids (phthalazin-1(2H)-one) and triphenylphosphine. Excellent yields of the products and relatively short reaction times are the main advantages of this method. The present method carries the advantage that not only is the reactions were performed under neutral and mild conditions but also that the starting materials and reagents can be mixed without any activation or modification. In view of widespread biological activities of phthalazinones derivatives, the fused phosphoranes with bioactive phthalazinones derivatives prepared in the present study may find useful applications in synthetic organic and bioorganic chemistry.

REFERENCES