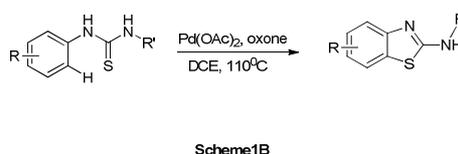
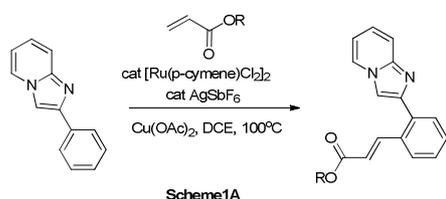


## Exploration of new synthetic methodologies for the synthesis of heterocyclic scaffolds

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Heterocyclic compounds are an important class of chemical compounds and are present in wide variety of drugs, photo-luminescent substances, agrochemical products, natural products etc.; thus play vital role in medicine, industry and life<sup>1</sup>. Recent upsurge in the field of synthetic organic chemistry has brought into light many techniques, such as C-H activation,<sup>2</sup> transition metal-catalysed cross coupling reactions, multicomponent reactions<sup>3</sup> etc., which expanded the horizons in the field of heterocycles, a feat that was never envisaged before. The main aim of our research is to focus our attention on the application of these methodologies for the construction of diversified and complex heterocyclic molecules. Recently, we published Ruthenium catalyzed C-H activation of the nitrogen containing heterocycles, wherein the innate reactivity of the heterocycle can be exploited for regioselective demonstrated C-2' alkenylation of 2-phenylimidazo[1,2-a]pyridine (Scheme 1A).<sup>4</sup> Presently we are exploring synthesis of 2-aminobenzothiazoles from N-phenyl thiourea by palladium catalysed C-H functionalization/ C-S bond formation (Scheme1B). Salient features and mechanistic aspects will be presented.



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