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Tetrahedron Letters Vol. 55, Issue 10, 2014

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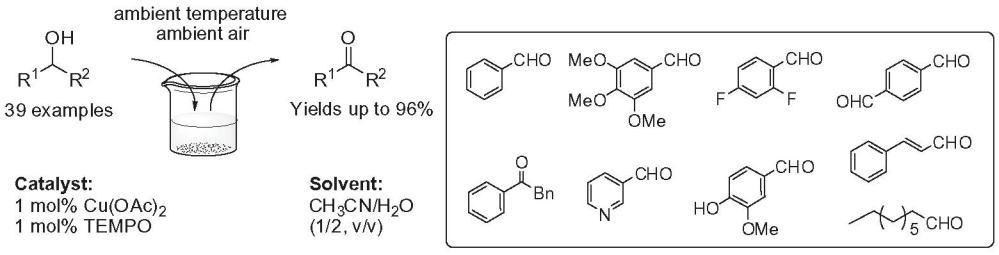
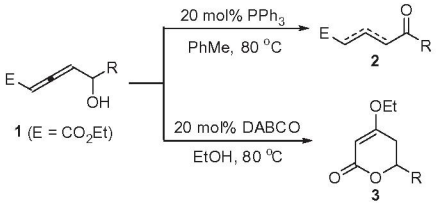
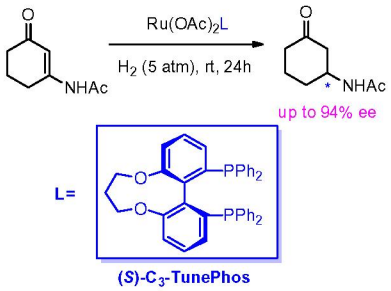
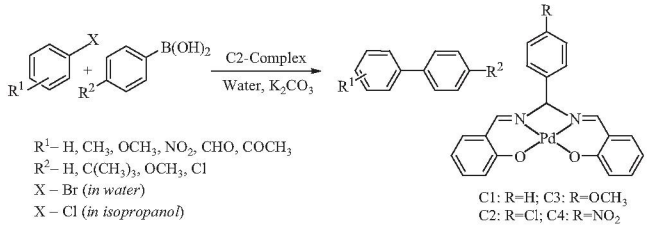
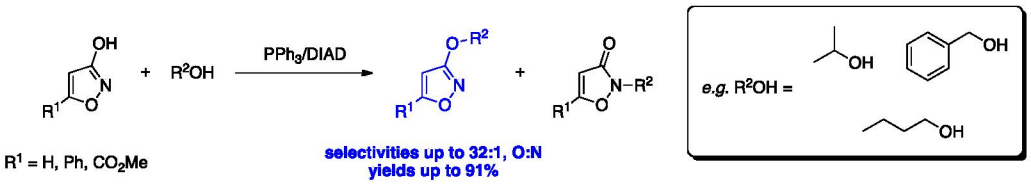
COMMUNICATIONS

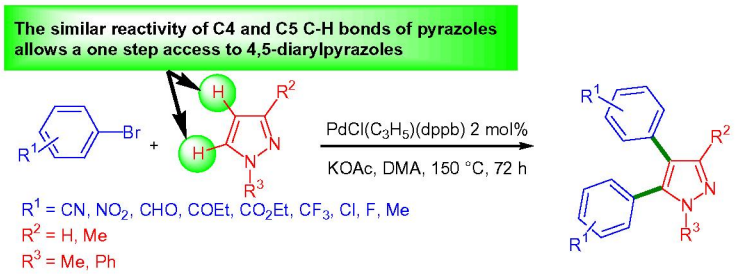


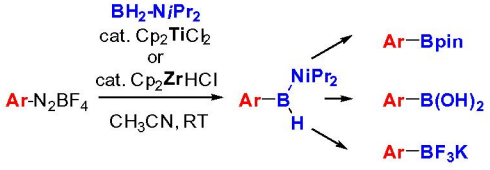


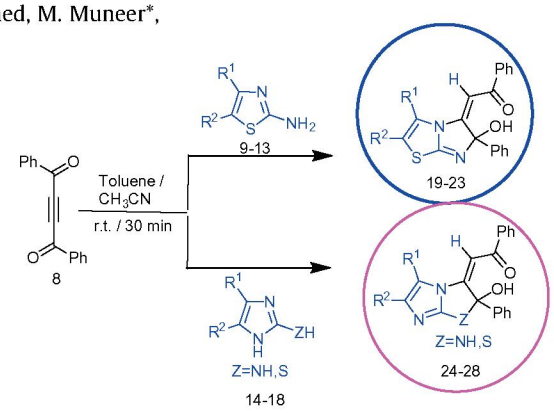


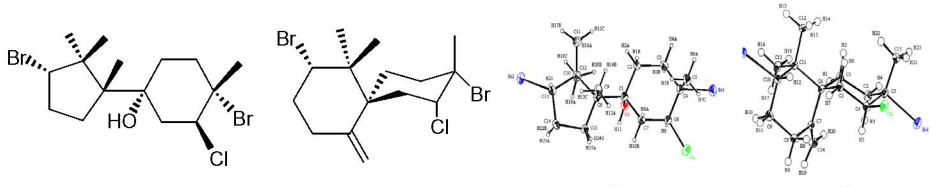


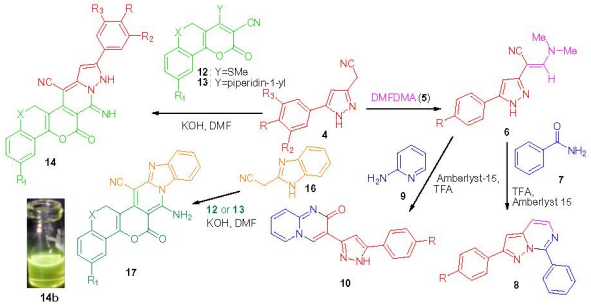




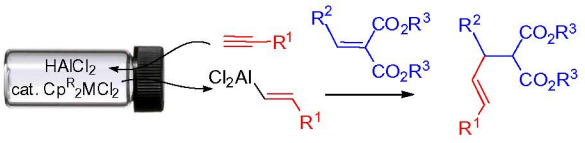


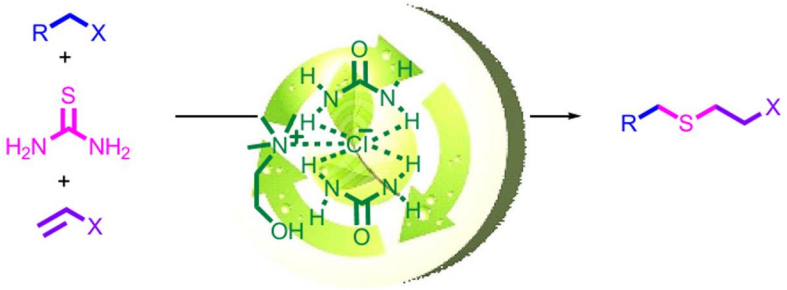




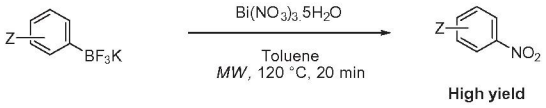


An efficient approach to the synthesis of highly congested di, penta and hexacyclic pyrazoles as well as imidazole fragment containing novel heterocyclic molecule has been developed through a carbanion induced transformation of suitably functionalized 2*H*-pyran-2-ones, benzo[*h*]chromene and thiochromeno[4,3-*b*]pyrans. Due to the presence of fluorescence, we report their prime application as metal sensor.

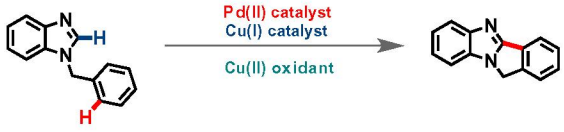


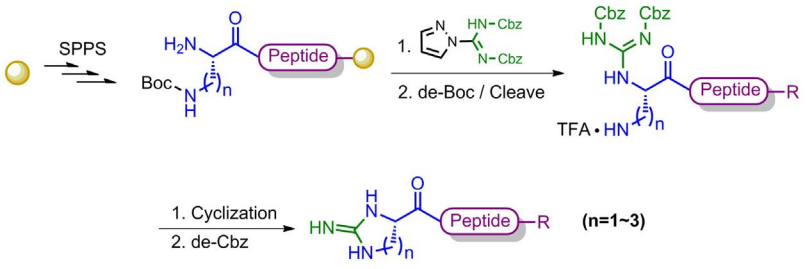


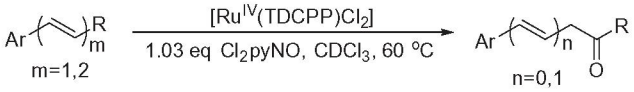
The first 100% atom-efficient and odorless protocol for carbon–sulfur bond formation in a deep eutectic solvent (DES) as both the reaction medium and catalyst is reported.

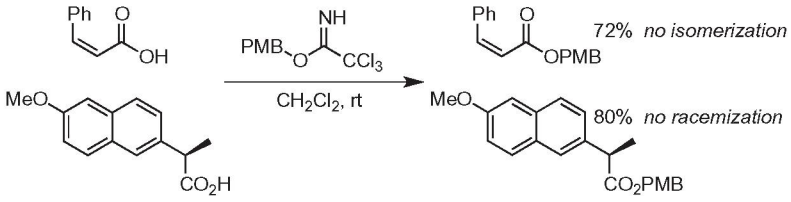


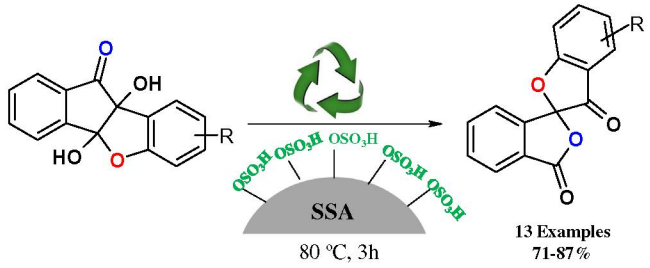
When a mixture of equimolar amount of potassium aryltrifluoroborate and bismuth nitrate pentahydrate in toluene is microwaved without adding any metal catalyst or base at 120 °C for 20 min, aryl nitrite is formed in high yield.

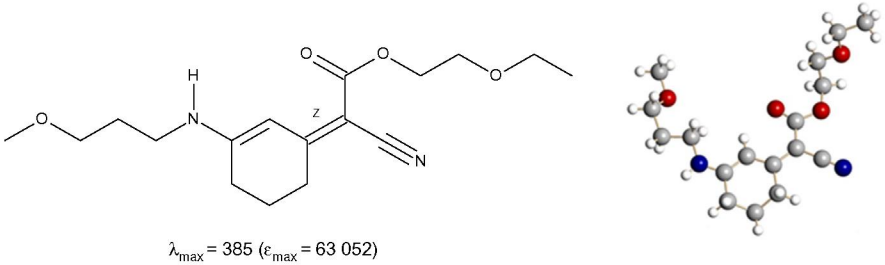


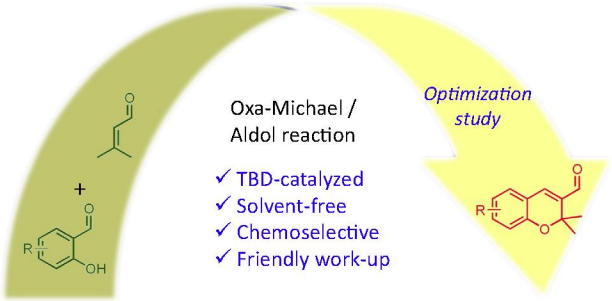


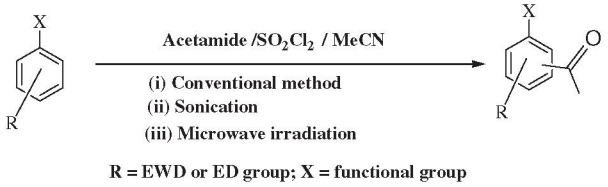


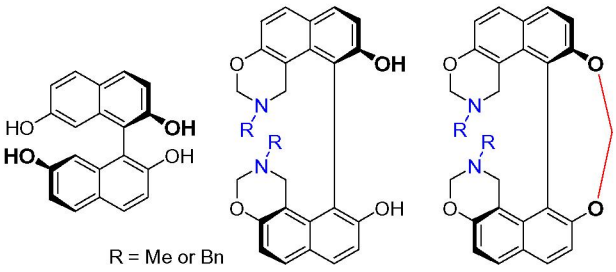


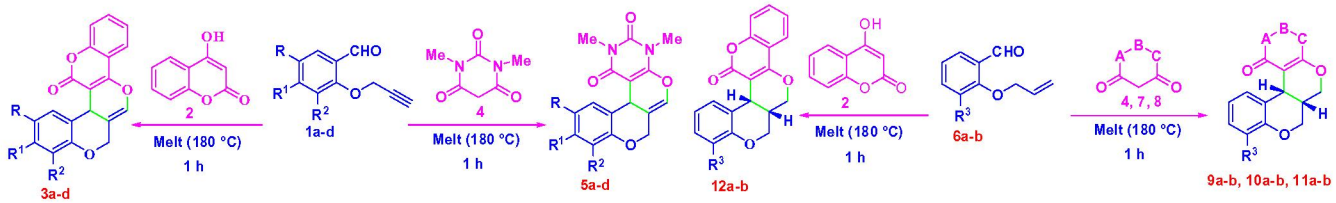




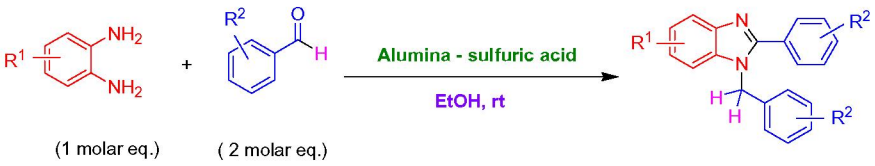


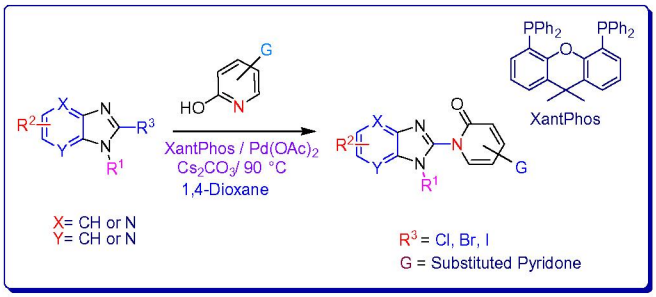


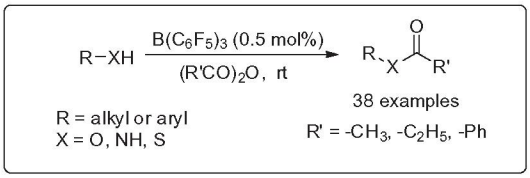


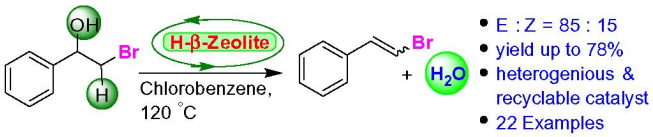


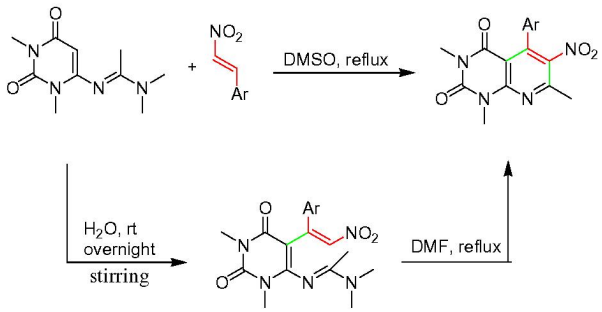
Benzopyran fused tetra and pentacyclic frameworks have been synthesized by the domino Knoevenagel hetero Diels–Alder (DKHDA) reaction using various 1,3-diones with *O*-allylated salicylaldehydes and *O*-propargylated salicylaldehydes in a solvent and catalyst free condition via Solid-State Melt Reaction (SSMR). The reaction requires only a single step operation thus providing potentially bioactive polycyclic heterocycles in high yields.

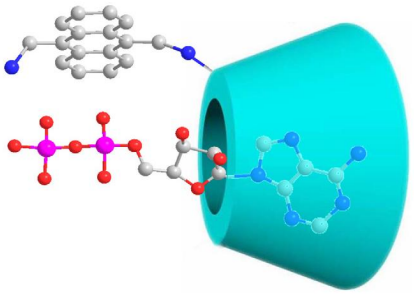




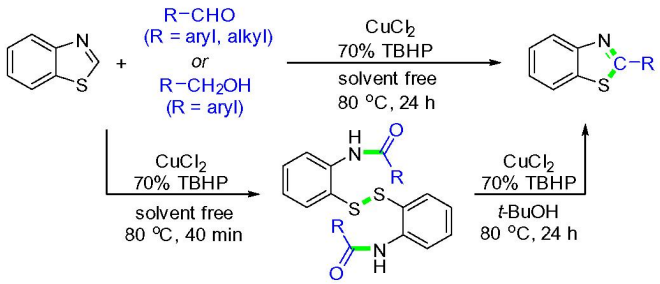


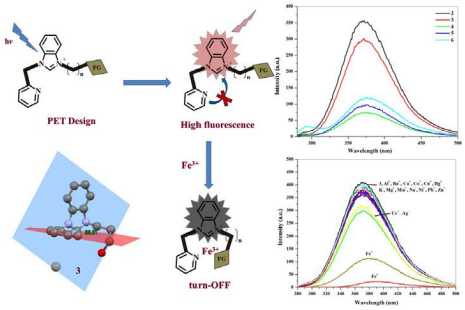


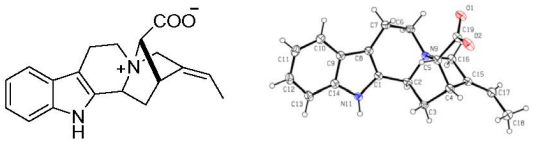


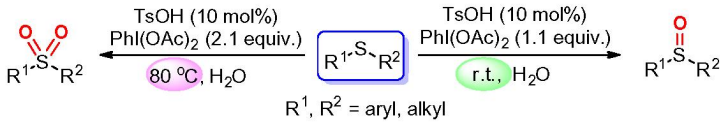


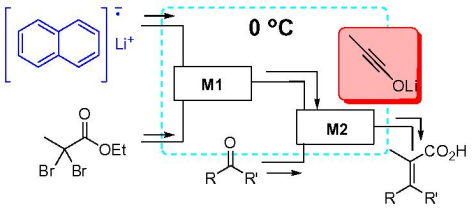
A β-cyclodextrin derivative (**AnCD**) with the diamino anthracene moiety can distinguish AMP from ADP and ATP via fluorescence titration.

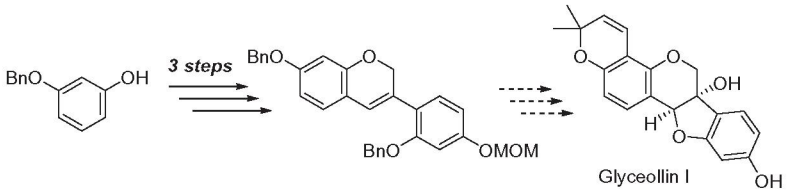


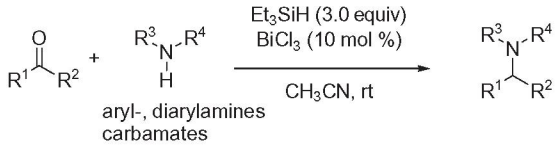


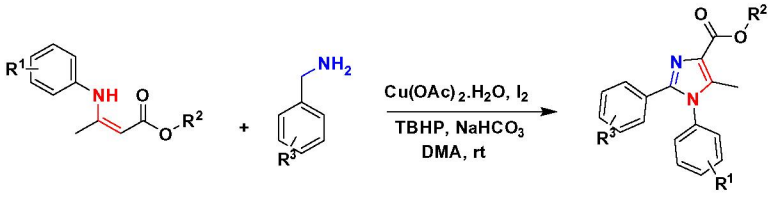


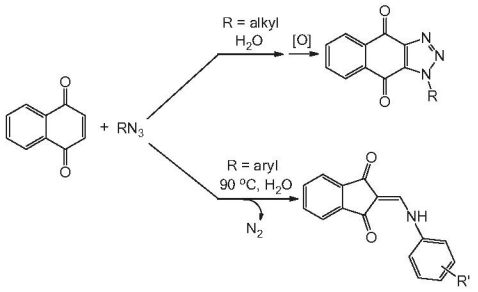


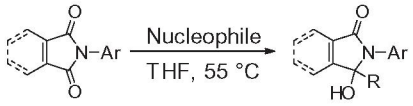




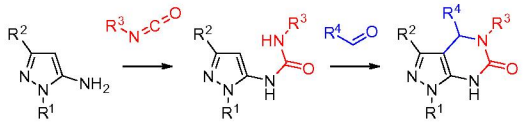


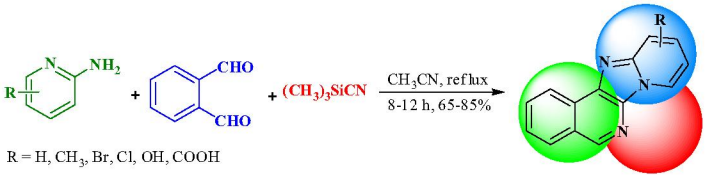






>75% yield for Ar = heterocycles





*Corresponding author
Supplementary data available via ScienceDirect

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