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SYNTHESIS OF (HETERO)MACROCYCLES UNDER ENVIRONMENTALLY FRIENDLY CONDITIONS

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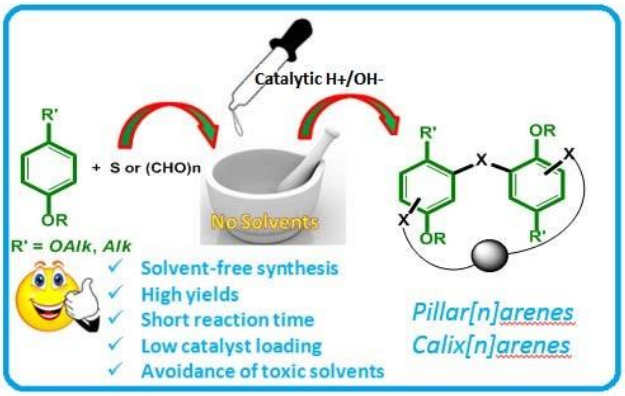
Abstract. Neat reaction technology has a number of advantages from the viewpoint of both academia and industry. Two of the twelve principles of "green chemistry" are to "use safer solvent and reaction conditions" and to "prevent waste".[1]These principles are both directly met by eliminating reaction media. The poisonous and volatile natures of many organic solvents particularly chlorinated hydrocarbons, which are commonly used in huge quantities for organic reactions, have created serious problems to the environment. Thus, the neat reactions have gained undisputed attention in recent times in the area of green synthesis. Such reactions are simpler to handle, comparatively economical to operate, especially important in industry and they reduce pollution.[2]

Herein, we report the solvent-free synthesis the various (hetero)macrocycles (pillararenes, (thia)calixarenes, etc.) *via* the one-pot condensation of substituted phenol derivatives with S_8 or $(CHO)_n$ in either acidic or alkaline conditions. The target macrocycles were isolated in good yields via simplier isolation procedures.



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