SYNTHESIS OF MACROCYCLIC COMPOUNDS *VIA* CONSECUTIVE SONOGASHIRA-UGI-SONOGASHIRA REACTIONS

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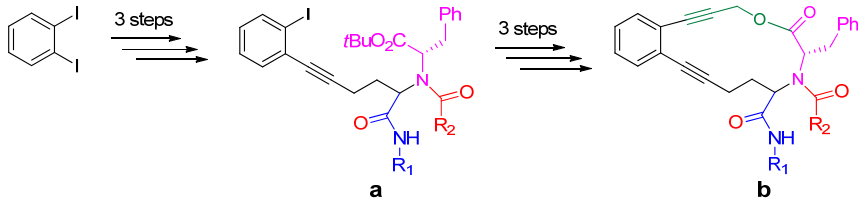
Multicomponent reactions (MCRs) are among the most important reactions in organic synthesis [1,2]. The main advantages of MCRs are rapid, cost-effective and sustainable access to chemical diverse small–molecule libraries from relatively simple and inexpensive components. The Ugi reaction is the most utilized isocyanide-based multicomponent reactions (IMCRs) which provides a rapid coupling of an aldehyde, an amine, a carboxylic acid and an isocyanide affording α-acylaminoamides [3].

Compounds with enediyne structural motif were isolated from natural products and showed strong anticancer activity [4]. Apart from their biological profile, enediyne compounds are widely utilized as structural motifs in material chemistry, catalysts design [5], and in metal complexation studies [6].

Our aim was to exploit enediyne structural rigidity in the synthesis of conformationally pre-defined macrocyclic compounds. Our strategy relies on functionalization of 1,2-diiodobenzene [7] and subsequent Sonogashira reaction to yield different Ugi compounds **a**. The second Sonogashira reaction followed by the intramolecular cyclisation afforded highly decorated macrocyclic compounds **b**.



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