**Diversity-oriented sustainable synthesis of antimicrobialspiropyrrolidine/thiapyrrolizidine oxindole derivatives**

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A simple, environmentally benign and highly proficient microwave assisted one-pot approach for the synthesis of antimicrobial spiropyrrolidine/thiapyrrolizidine oxindole derivatives is reported assembling two pharmacophoric moieties in a single molecular framework *via* three-component 1,3-dipolar cycloaddition reaction of substituted isatin, sarcosine and Knoevenagel adduct in 2,2,2-trifluoroethanol as a reusable green solvent. Good functional group tolerance and broad scope of usable substrates are other prominent features of the present methodology with high degree of chemo-, regio- and stereoselectivity. The stereochemistry of synthesized compounds was confirmed by single crystal X-ray analysis. All the synthetic compounds were examined for their antimicrobial potential. The synthesized compounds having pyrrolothiazole moiety showed excellent activity against *K. pneumoniae* as compared to others and even more inhibitory activity than the mentioned drugs. Additionally, the docking studies suggested that one of the compound effectively attached with NDM-1. Detailed synthetic procedure and anti microbial study of these compounds will be presented in conference.

**Reference:**

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