# ABSTRACT

Sulfonamide has enormous significance in therapeutic chemistry with unusual organic activities in biological sciences. In the undertaken research, the two step synthesis of a series of *N*-substituted derivatives of *N*-(4-methylpyridin-2-yl)benzenesulfonamide has been reported with potential antibacterial activity. First step includes the synthesis of *N*-(4-methylpyridin-2-yl)benzenesulfonamide (**3**) by the reaction of 2-amino-4-methylpyridine (**1**) and benzenesulfonyl chloride (**2**) in a slightly basic aqueous medium. The molecule **3** was converted to *N*-alkyl/aralkyl-*N*-(4-methylpyridin-2-yl)benzenesulfonamide derivatives, **5a-l**, on further treatment with alkyl/aralkyl halides, **4a-l**, using lithium hydride as activator in *N,N*-dimethylformamide. The synthesized molecules were well corroborated by $^{1}$H-NMR, IR and EI-MS spectral data and evaluated for antibacterial activity against four gram-negative and two gram-positive bacteria. The evaluation results rendered these compounds as moderately good inhibitors and may be employed as therapeutic agent for certain inflammatory ailments.