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Synthesis and antimicrobial activity of novel 4-(1*H*-benzo[*d*]imidazol-2-yl)-4,5-dihydro-benzo[*f*][1,4]-oxazepin-3(2*H*) ones

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A novel series of 4-(1*H*-benzo[*d*]imidazol-2-yl)-4,5-dihydro-benzo[*f*][1,4]-oxazepin-3(2*H*)-ones (**4**) have been synthesized by a simple reaction sequence. The reaction of 2-amino benzimidazole (**1**) with salicylaldehydes, followed by reduction with $NaBH_4$, and *in situ* chloroacetylation and cyclization with chloroacetyl chloride and triethyl amine affords the title compounds. The structures of the newly synthesized compounds (**2-4**) have been characterized by IR, ^1H and ^{13}C NMR and mass spectral data. The title compounds (**4**) have been screened for their *in vitro* antimicrobial activity against bacterial and fungal strains by broth dilution method and agar cup bioassay methods, respectively. Some of the compounds exhibit good antimicrobial activity, when compared to the standard drugs.

Keywords: Benzimidazolyl benzo[*f*][1,4]oxazepines, *In situ* cyclization, Simple synthetic sequence, Antimicrobial activity, Minimum inhibitory concentration