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Synthesis and *invitro* antibacterial activity of some novel Sulfonamide derivatives bearing 1,4-disbstituted-1,2,4-oxadiazole Moiety

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ABSTRACT

*A strategic synthesis of 1-[(2,5-dimethoxyphenyl)sulfonyl]-4-{5-[substituted]-1,2,4-oxadiazol-3-yl}piperazine, involves construction of 1,2,4-oxadiazole ring by intermolecular condensation of tert-butyl-4-(N-hydroxycarbamimidoyl)piperazine-1-carboxylate with 3-(trifluromethoxy)benzoic acid. Structures of the newly synthesized compounds were established by IR, ^{1}H NMR, ^{13}C NMR, LC-MS and CHNS spectroscopic evidences. All the newly synthesized compounds were tested for their invitro antibacterial activity against Escherichia coli, Pseudomonas aeruginosa, Staphylococcus aureus and Bacillus cereus. Tested compounds showed good antibacterial activities when compared to the reference ciprofloxacin. Compounds **10e, 10f, 10g, 10h** and **10j** showed good activity against tested organisms.*

Keywords: Sulfonamide, 1,2,4-oxadiazole, *invitro* antibacterial activity, propylphosphonic anhydride.