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Synthesis of novel pyrido[2,3-*d*]pyrimidine derivatives with pharmacological properties

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In search for new anti-microbial and anti-mycobacterial agents with novel mechanism of action and enhanced biological profile, a combinatorial library of Schiff bases (**7a-e**), 2,3-disubstituted-4-thiazolidinone (**8a-e**) and 2,3-disubstituted-5-methyl-4-thiazolidinone (**9a-e**) derivatives have been synthesized as new pharmacophores under standard Vilsmeier-Haack reaction conditions. The structures of all the newly synthesised compounds have been confirmed from their FT-IR, ¹H and ¹³C NMR, mass spectral as well as elemental analysis data. All the newly synthesized compounds have been screened for non-automated *in vitro* antimicrobial and anti-mycobacterial activity against selected pathogens. Some of the newly synthesized compounds exhibit excellent antimicrobial activity and found to be the most proficient members of the series compared to standard drugs and hold promise as future drugs.

Keywords: 4-Amino-2,6-dimoxypyrimidine, Schiff base, 4-Thiazolidinone, Vilsmeier-Haack reaction, Antimicrobial activity