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Biologically active sulfonamides moiety: Synthesis, antimicrobial and antimalarial activity

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At present the incident of microbial diseases, especially in immunologically compromised patients is life-long and a growing health challenge. The increasing incidences of drug resistance has become a major concern for physicians. To deal with the problem of these microbial diseases, amalgamation therapy has gained much interest. A new series of sulfonamides hybrids **3a-g** have been synthesized by the reaction of 4-aminoacetophenone with benzenesulfonyl chlorides. They have been screened for their antimicrobial and antimalarial activity against four bacteria and against three fungal stains. Compounds **3d**, **3e** and **3c** have excellent antibacterial activities with MIC values of 25, 50 and 62.5 $\mu\text{g/mL}$ respectively. The derivatives **3a**, **3d**, **3e** and **3f** exhibited high anti-antimalarial activity with mean IC_{50} values of 0.70, 0.42, 0.74 and 0.82 $\mu\text{g/mL}$ respectively.

Keywords: Immunological, Multi-drug resistance, Antimicrobial, Antifungal, Antimalarial