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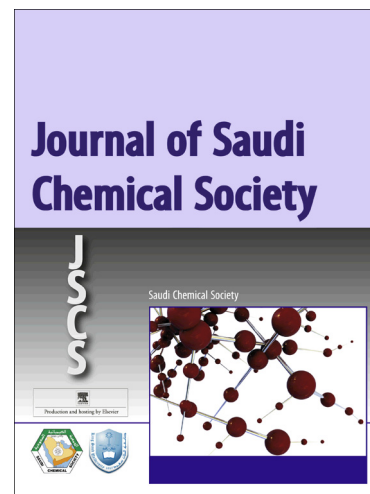
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Synthesis, characterization and antimicrobial activity of some novel 4-(4-(arylamino)-6-(piperidin-1-yl)-1,3,5-triazine-2-ylamino)-*N*-(pyrimidin-2-yl)benzenesulfonamides

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Abstract As a part of our quest for the synthesis of new bioactive heterocyclic compounds, in our present work we have synthesized a series of 4-(4-(arylamino)-6-(piperidin-1-yl)-1,3,5-triazine-2-ylamino)-*N*-(pyrimidin-2-yl)benzenesulfonamide (**3a-o**) derivatives. The newly synthesized compounds were screened for their *in vitro* antimicrobial activity. Compounds **3c**, **3n** and **3o** exhibited significant antimicrobial activity on several strains of microbes. The structures of newly synthesized compounds were elucidated by IR, ¹H-NMR, ¹³C-NMR and Mass spectral analysis.

Keywords: Antimicrobial activity, Benzenesulfonamide, Cyanuric chloride, Piperidine, Pyrimidine, 1,3,5-Triazine.

1. Introduction

Globally, researchers are trying to synthesize new drugs with better pharmacokinetic and pharmacodynamic properties with fewer adverse effects. In the recent decades due to rapid development in drug resistance, tolerance and side effects, there is a need for the evolution of a new generation of antimicrobial agents that exhibit improved pharmacological properties and drug-resistance profile. Recently, a number of clinical reports indicated that the multi-drug resistant microorganisms have reached an alarming level in many countries around the globe. Infections caused by these microorganisms pose a serious challenge to the medical community and the need for an effective therapy has led to the search for novel antimicrobial agents [1-3]. In this aspect, substituted s-triazine, sulfonamide and piperidine derivatives have received attention due to their significant antimicrobial [4], antibacterial [5], antifungal [6], anti-HIV [7], anticancer [8], anti-tubercular [9], antitumor [10], anti-inflammatory [11] and other biological activities [12-13].

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