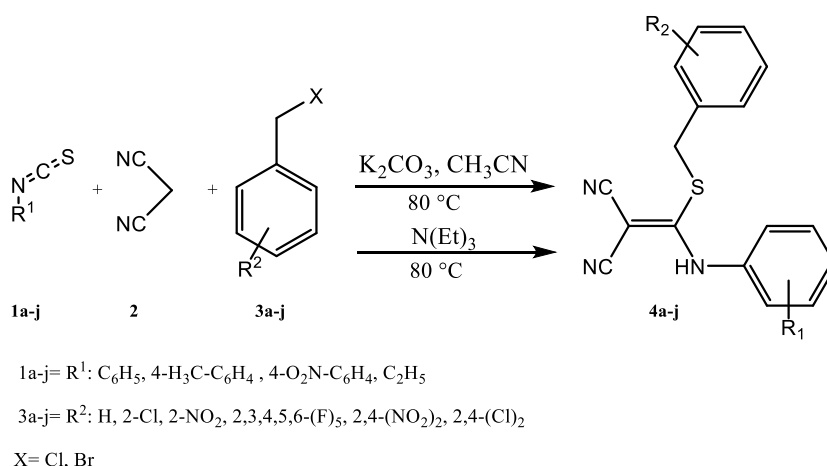


Abstract

2-(Alkylsulfonyl-phenylamino-methylene)malononitrile is used as the intermediate or final product in the synthesis of heterocyclic compounds such as 1,4-thiazepines, thiazoles and thiophenes. Antimicrobial properties of 1,4-thiazepines, thiazoles and thiophanes have been studied. In addition, several reports have been published on pharmaceutical and biochemical applications of these derivatives. But, the antimicrobial properties of 2-(alkylsulfonyl-phenylamino-methylene)malononitrile derivatives have not been considered. In this research, some new 2-(alkylsulfonyl-phenylamino-methylene)malononitrile derivatives were synthesized *via* a novel and green method. Short reaction time, high efficiency and environmentally friendly process are significant features of applied method. Finally, the antimicrobial properties of the compounds were evaluated on several bacterial and fungal pathogens. The effects of substituent changes on their inhibitory activity were also investigated.



Keywords: 2-(Alkylsulfonyl-phenylamino-methylene)malononitrile, Isothiocyanate, Malononitrile, Benzyl halide, Solvent-free conditions



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