



Synthesis and Biological Evaluation of Sulfonamide 1,3-Thiazole Azo Dyes and Their Textile Printing Application

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Abstract: 1,3-Thiazoles and sulphonamides have received considerable attention, because they are widely employed as promising chromophores as well as their biological activities as anti-microbial, antiviral, anti-tumor agents. The synthetic potency of sulfonamide hydrazonyl chlorides, were used as a key precursor in the synthesis of some new 1,3-thiazoles, in this study the synthesis of 4-[(2-amino-4-methylthiazol-5-yl)diazenyl]benzene sulfonamides were used as a synthone for the synthesis of 1,3-thiazoles. All the compounds have effective antibacterial properties against Gram positive bacteria such as *Bacillus Subtilis*, *Staphylococcus Aureus* and Gram negative bacteria as *Esherichia Coli*, *Pseudomonea Aeuruginous*. The ability of the synthesized sulphonamide 1,3 thiazole compounds to be used in textile printing with two different techniques have been investigated. All the prepared compounds have been successfully applied in printing of polyester and polyamide fabrics with high colour strength and good fastness properties using silk screen printing technique. In another hand only few of these dyes have been succeed in transfer printing technique due to its low sublimation properties.

Keywords: *1,3-Thiazole, Disperse dyes, Polyester, Polyamide, Textile Printing, Antibacterial dyes.*

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