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Spectral Study and Screening of 1-phenyl-3-substituted phenyl benzothiazolyl thiocarbamide for an antimicrobial activity

Kavita. M. Heda¹

¹Department of Chemistry,

Shri R. L. T. College of Science,

Akola – 444001(M.S.) India

kavitaheda25@gmail.com

Manjusha R Ugale²

Department of Chemistry

G.H.Raisoni Institute of Engineering and Technology

Nagpur-440016(M.S) India

manjusha.ugale@raisoni.net

Abstract-. The benzothiazole, and azo moieties are crucial functionalities because of their wide variety of biological activity and have wide range of therapeutic properties. Keeping in view the importance of these organic moieties, some new compounds were synthesized which contains benzothiazole, Benzothiazoles are bicyclic ring system with multiple applications. 2-aminobenzothiazoles, substituted benzothiazoles have found applications in several areas of chemistry. 2-aminobenzothiazoles are broadly found in bioorganic and medicinal chemistry with applications in drug discovery A number of 2-aminobenzothiazoles were intensively studied, as in

medicinal chemistry and reported cytotoxic on cancer cells. Several 1-phenyl, 3-substituted, phenyl benzothiazolyl thiocarbamide (3a-j) have been synthesized by the interaction of various substituted benzothiazoles (2a-j) with phenyl isothiocyanate. These compounds were screened for their antibacterial and antifungal activities against–E. coli, P. vulgaris, S. aureus, S. typhimurium, K. pneumoniae, Ps. aeruginosa, A. niger and C. albicans. The newly synthesized compounds have been characterized by analytical and IR, ¹HNMR and Mass spectral studies.

Key words- : phenyl isothiocyanate, substituted benzothiazoles, benzothiazolyl thiocarbamides.