**SYNTHESIS, CHARACTERIZATION AND BIOLOGICAL EVALUATION OF NOVEL HETEROCYCLIC COMPOUNDS**

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The main objective of the medicinal chemistry is to synthesize compounds that show promising activity as therapeutic agents with lower toxicity. In the current research work, we have synthesized some novel heterocyclic compounds from 2-napthol. 2-napthol was treated with acrylonitrile and Triton B to get the nitrile compound. This nitrile was further treated with *o*-phenylenediamine, 2-aminophenol, ethylenediamine and sodium azide to yield benzimidazole, benzoxazole, imidazole and tetrazole respectively. The identification and characterization of all the synthesized compounds were done by elemental analysis, thin layer chromatography, FT-IR, 1H NMR and mass spectral data. All the compounds were screened for antimicrobial, antioxidant and cytotoxic activity. All the tested compounds exhibit good antimicrobial activity. Some of the tested compounds showed very good cytotoxicity and antioxidant activity. The results of the study are dealt with in detail.

Keywords: Synthesis, Characterization, Antimicrobial, Antioxidant, Cytotoxic activities Benzimidazole, Benzoxazole, Imidazole and Tetrazole