

ABSTRACT

The contemporary research project was initiated by the preparation of target compound 5-((4-chlorophenoxy) methyl)-4-phenyl-4*H*-1,2,4-triazole-3-thiol [**3.4(d)**] through the reaction of 2-(4-chlorophenoxy) acetohydrazide [**3.4(a)**] and Phenyl-isothiocyanate [**3.4(b)**]. This compound was further treated with 2-bromo-*N*-(2,4-dimethylphenyl) acetamide [**3.5(e)**] in the presence of lithium hydride which act as aprotic solvent in the reaction which also work as activator to achieve triazole 2-((5-((4-chlorophenoxy) methyl)-4-phenyl-4*H*-1,2,4, triazole-3-yl) thio)-*N*-(2,4-dimethylphenyl) acetamide [**3.6(f)**]. The structure of novel molecule was elucidated by IR, ¹H-NMR, and ¹³C-NMR spectral techniques. Triazoles expose a lot of pharmacological application which include anti-bacterial, anti-cancer, anti-inflammatory, anticonvulsant, antioxidant, antimicrobial, antifungal and also work as inhibitors of various enzymes.