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Abstract
Many heterocyclic compounds have been known for special physiological activity. Therefore, sydnonyl-substituted pyrazolines, thiazolines and thiazolidines were synthesized in this study. The text is divided into two parts: In the first part, the sydnonyl-substituted pyrazoline derivatives were prepared successfully through the reactions of sydnonyl-substituted α, β-unsaturated ketones and hydrazine hydrate. The new series of sydnonyl-substituted pyrazolines were evaluated for their antimicrobial activity. The results indicated that the antifungal activity of these compounds exhibited more potence then antibacterial activity. In the second part, 3-aryl-4-formylsydnone thiosemicarbazones reacted with cyclic reagents, such as ethyl chloroacetate, ethyl 2-chloroacetoacetate and 2-bromoacetophenone to give heterocyclic substituted sydnones that possess 4-oxo-thiazolidine, thiazoline groups. The synthesized compounds were evaluated for the antioxidant activities. The results indicated that almost all the newly synthesized compounds exhibit significant scavenging effects on DPPH (α,α-diphenyl-β-picrylhydrazyl) free redical. Among these compounds, 4-phenyl-2-[(3-arylsydnon-4-yl-methylene)hydrazono]-2,3-dihydrothiazoles possess the potent radical scavenging activities comparable with that of vitamin E.
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