

## ABSTRACT

The pyrazolines synthesized in this study can be classified into three groups. The first category has phenyl substituted azole ring. The second group contain acetate group attached to nitrogen in the ring. The last group consists of pyrazoline derivatives containing a non-substituted heterocyclic azole ring. The pyrazoline derivatives with phenyl ring substituted were obtained by reacting different chalcones with phenyl hydrazine in ethanol and products 2-(4, 5-dihydro-1,5-diphenyl-1H-pyrazol-3-yl)-3,5- dimethoxyphenol (5), 4-(4,5-dihydro-1,5-diphenyl-1H-pyrazol-3-yl)-2,5- dimethoxybenzene-1,3-diol (6), 2-(4,5-dihydro-1,5-diphenyl-1H-pyrazol-3-yl)-3,5-dimethoxybenzene-1,4-diol (7) and 2-(4,5-dihydro-1,5-diphenyl-1H-pyrazol-3-yl)-5-methoxybenzene-1,3-diol (8) were realized. The reaction of chalcones with hydrazine hydrate and acetic acid afforded acetate substituted azole ring pyrazolines 1-(4,5- dihydro-3-(2-hydroxy-4,6-dimthoxyphenyl)-5-phenylpyrazol-1-yl)ethanone (9), 1- (4,5-dihydro-3-(2,4-dihydroxy-3,6-dimethoxyphenyl)-5-phenylpyrazol-1-yl)ethanone (10), 1-(4,5-dihydro-3-(3,6-dihydroxy-2,4-dimethoxyphenyl)-5-phenylpyrazol-1- yl)ethanone (11) and 1-(4,5-dihydro-3-(2,6-dihydroxy-4-methoxyphenyl)-5- phenylprazol-1-yl)ethanone (12). The non-substituted azole ring pyrazolines, 2-(4,5- dihydro-5-phenyl-1H-pyrazol-3-yl)-3,5-dimethoxyphenol (9), 2-(4,5-dihydro-5- phenyl-1H-pyrazol-3-yl)-3,5-dimethoxybenzene-1,4-diol (13) and 2-(4,5-dihydro-5- phenyl-1H-pyrazol-3-yl)-5-methoxybenzene-1,3-diol (14), were synthesized by reacting the chalcones with hydrazine hydrate in DMSO. The structures of the newly synthesized compounds were confirmed by the  $^{13}\text{C}$ -NMR and  $^1\text{H}$ -NMR spectral data. All the synthesized compounds showed weak anti-malarial, anti-leishmanial, antifungal and anti-bacterial activity.