

Phytochemical Composition and *Invitro* α -amylase Inhibition of Methanol leaf extracts of *Anarcadium occidentales*, *Huntaria umbellata*, *parkia biglobosa*, *psidium guajava* and *Vitellaria paradoxa*

BY

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ABSTRACT

This study investigated both qualitative and quantitative phytoconstituents of the methanol leaf extracts of *Anarcadium occidentales*, *Huntaria umbellata*, *parkia biglobosa*, *psidium guajava* and *vitellaria paradoxa* and their inhibitory effect on α -amylase enzyme. Dinitrosalicylic (DNS) method was adopted for α -amylase inhibition assay while phytochemical screening was carried out on the extracts by standard methods. Preliminary qualitative phytochemical screening showed the presence of Anthraquinones, Flavonoids, Tannins, Steroids, Alkaloids, phenols, and Saponins in all the plant extracts, as well as reducing sugars with the exception of *Hunteria umbellata* extracts. Phlobatannins was not detected in all the plants extracts. The concentration of phenols ranges from 184.368 ± 0.23 mg/g to 120.241 ± 0.01 mg/g in *Anarcadium occidentales* extract and *Hunteria umbellata* extract respectively. However, among the selected plants, *Hunteria umbellata* extract had the highest concentration of Alkaloids (76.76 ± 0.01 mg/g) *Parkia biglobosa* extract had the highest tanins content (137.55 ± 0.05 mg/g) and *Vitellaria paradoxa* extract contains more saponins (188.50 ± 0.01 mg/g) as compared to other plant extracts Flavonoids concentration was higher in *Parkia biglobosa* extract (458.06 ± 0.06 mg/g) while *Psidium guajava* extracts had (84.28 ± 0.02 mg/g). The ability to inhibit α - amylase activity by the standard drug (Acarbose) and all the selected plant extracts increased as their concentration increases. Acarbose had a significant ($p < 0.05$) higher activity than all the extracts with IC₅₀ of (76.34 ± 0.12 ug/ml). *Anarcadium occidentales* extract had a better activity and thus a lower IC₅₀ of (171.1 ± 0.13 ug/ml) among all the plants while *Hunteria umbellata* extract had the least activity with IC₅₀ of (191.0 ± 0.12) However no significant ($p < 0.05$) was observed when compared to the remaining extracts. This result suggests that the methanol leaf extract of the studied plants possesses some hypoglycemic potentials.

Key words: phytoconstituents *Invitro*, α -amylase, Acarbose *Anarcadium occidentales*, *Huntaria umbellata*, *parkia biglobosa*, *psidium guajava* and *vitellaria paradoxa*