

## Effects of Collection Time on Chemical Composition of Leaf Essential Oils of *Hoslundia opposita*

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**Abstract :** An essential oil is any concentrated, hydrophobic liquid containing volatile aroma compounds produced by plants. It has been established that several factors affect the component of the plants such as the texture of the soil, relative humidity, wind, and collection time. This study is aimed at investigating the effect of collection time on the chemical composition of this essential oil. Pulverized leaves (500 g) of *Hoslundia opposita* harvested in the morning (7 am) and afternoon (2 pm) of the same day were separately hydrodistilled using Clevenger apparatus to obtain the essential oils from the leaves. The leaf oils collected in the morning (7 am) and afternoon (2 pm) harvests yielded 0.54 and 0.65 %w/w respectively. Analysis of the leaf oil obtained in the morning, using gas chromatography (GC) and gas chromatography combined mass spectrometry (GC-MS) revealed the presence of twenty-three (23) compounds which made up 81.8% of the total oil while nineteen (19) compounds (93.2%) were identified in the afternoon leaf essential oil. The most abundant components of the leaf oil collected in the morning (7 am) harvest were p-cymene (28.7%), sabinene (7.1%) and 1,8-cineole (6.6%) Meanwhile the major components of leaf oil in the afternoon (2 pm) harvest were p-cymene (26.4%), thymol (15.3%), 1,8-cineole (15.0%) and g-terpinene (10.4%). The composition pattern of leaf oil obtained in the morning and afternoon harvests of *Hoslundia opposita* revealed significant differences in qualitative and quantitative.

**Keywords :** essential oil, *Hoslundia opposita*, para cymene, 1, 8-cineole

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