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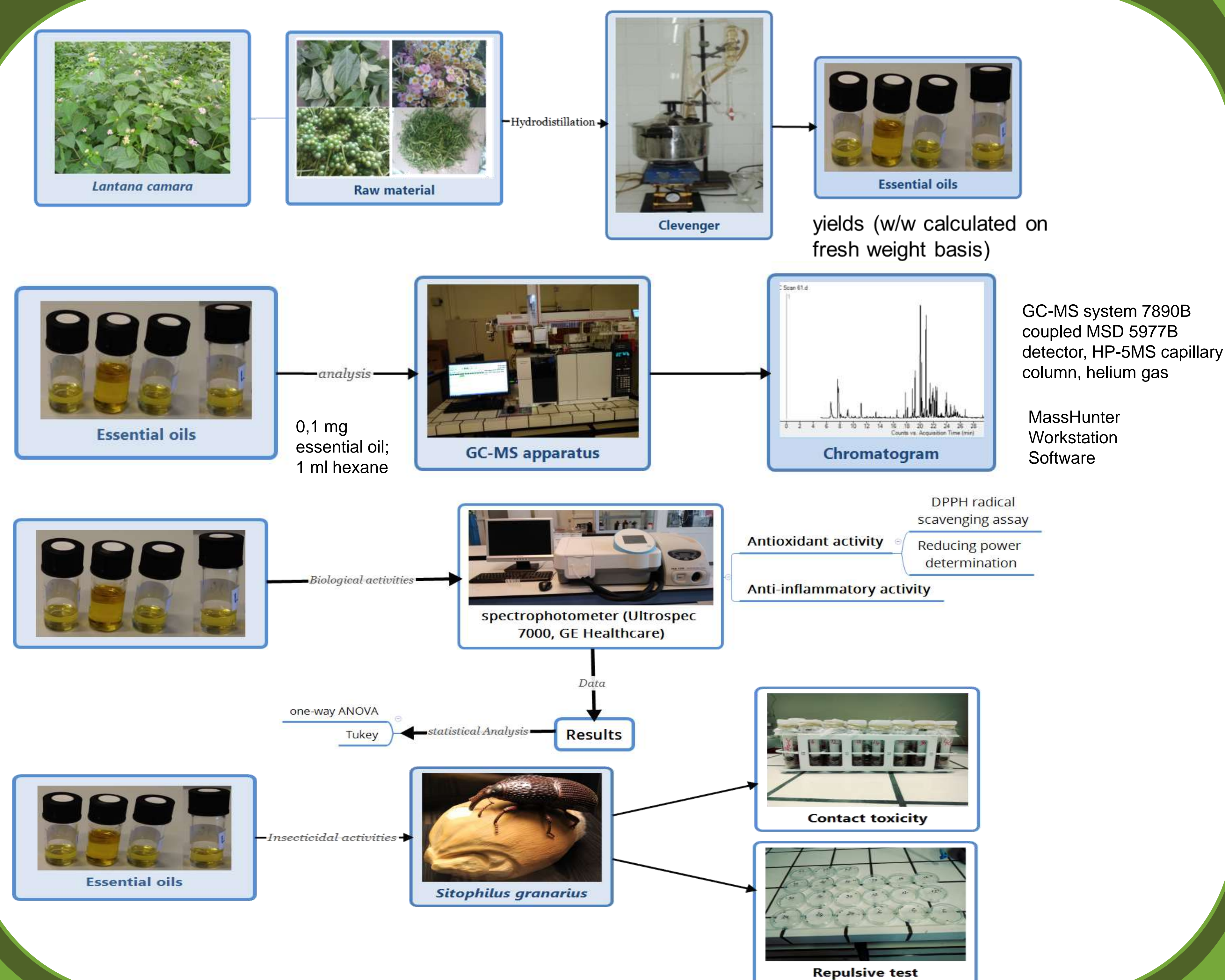
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Context & Objectives

Lantana camara Lin (*L. camara*) (Verbenaceae) is an invasive weed that can be found in many countries. It is a shrub thorny that goes from 2 to 5m high; Its ripe fruits are blackish and its flowers are various colors, the flowering and fruiting occurs almost year-round. *L. camara* plant is used as an ornamental plant and these woody twigs can be crafted to aesthetic furniture. It is used in traditional medicine to treat several diseases such as ulcer, malaria and rheumatism and has numerous properties that were chemically described such as antioxidant, antibacterial and cytotoxic activities.

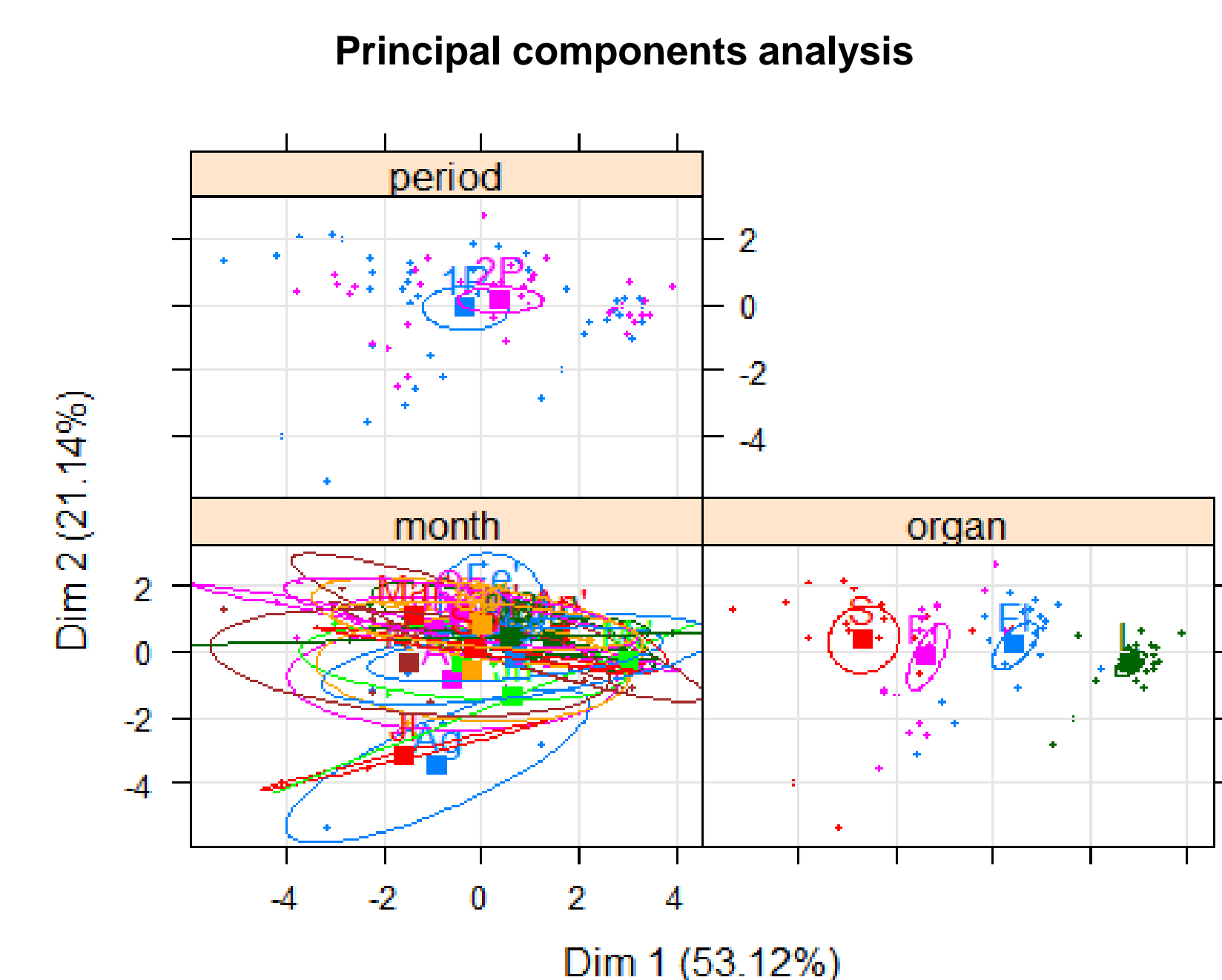
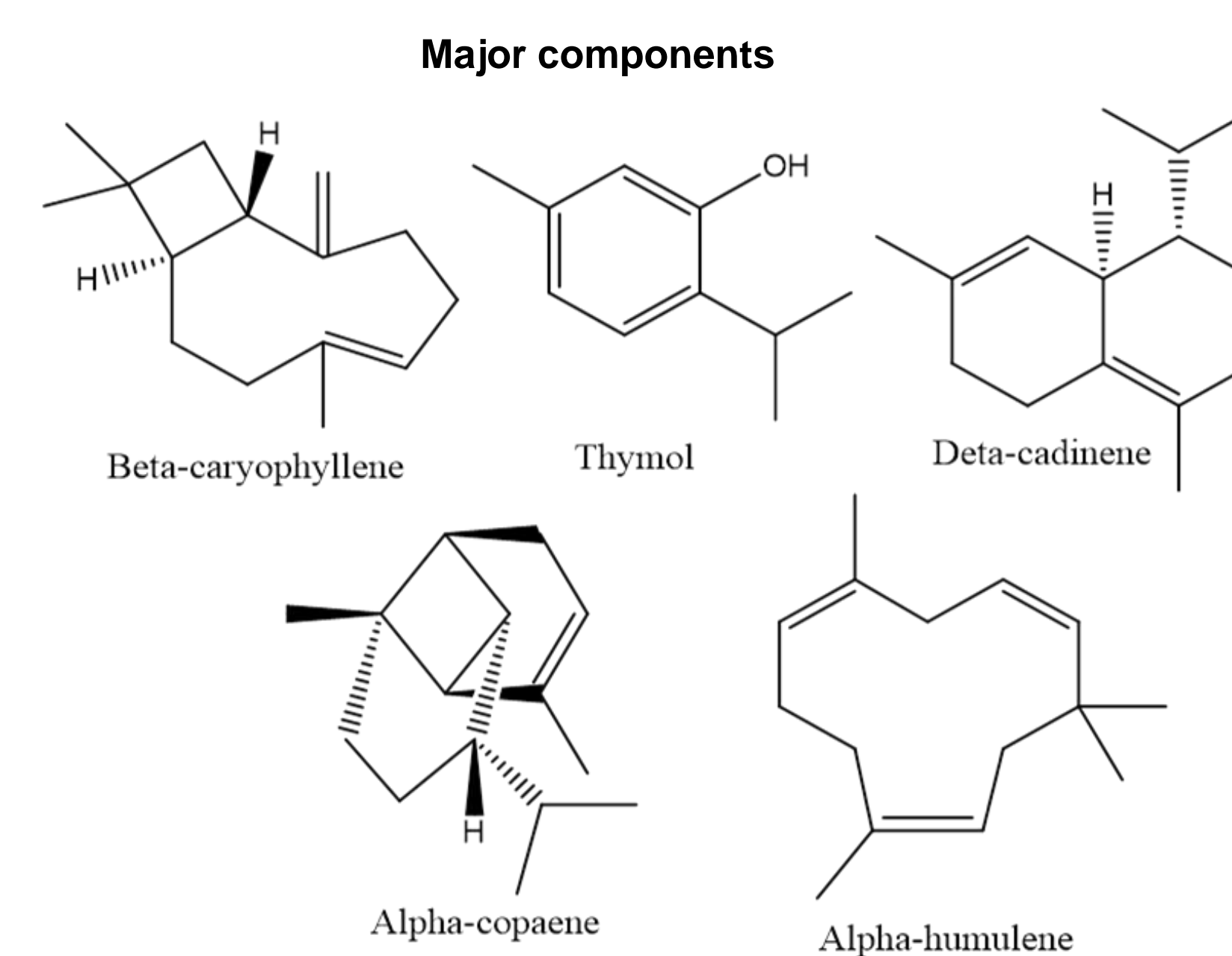
The aim of this work was to study the variations in *L. camara* essential oils composition during the vegetative cycle. Leaves, flowers, fruits and stems of *L. camara* were harvested in Bingerville (East Côte d'Ivoire) each month from June 2015 to June 2017. The essential oil was produced by hydrodistillation and then analyzed by GC-MS and RMN. The antioxidant, anti-inflammatory and insecticidal activities of leaf and flowers essential oils were also determined.

Material and Methods

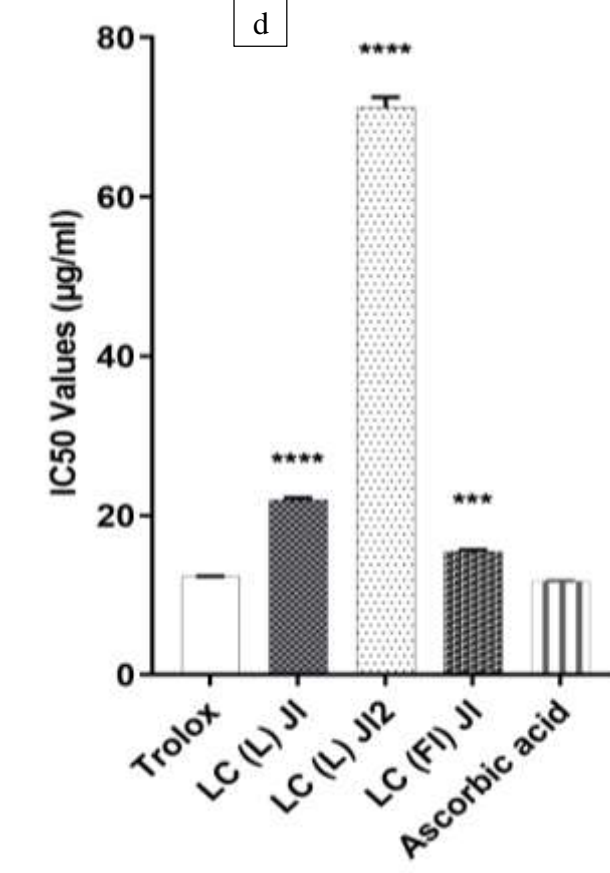
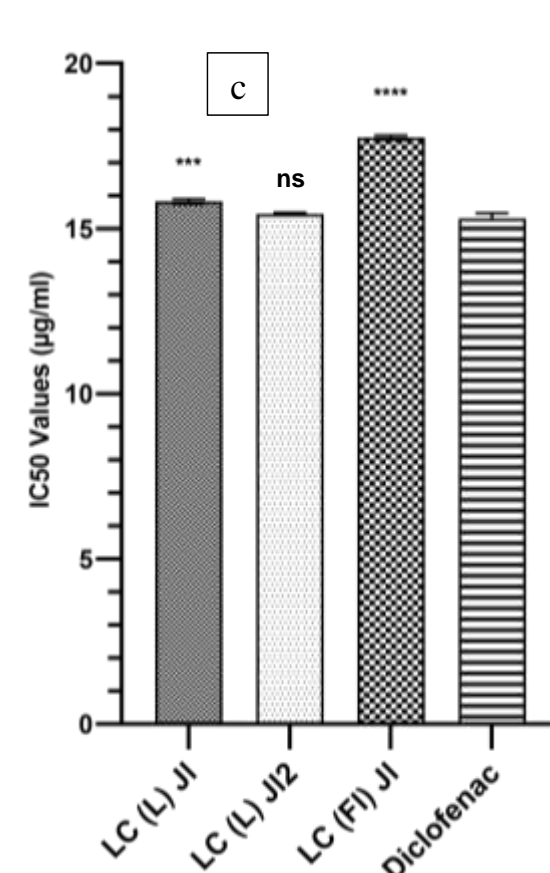
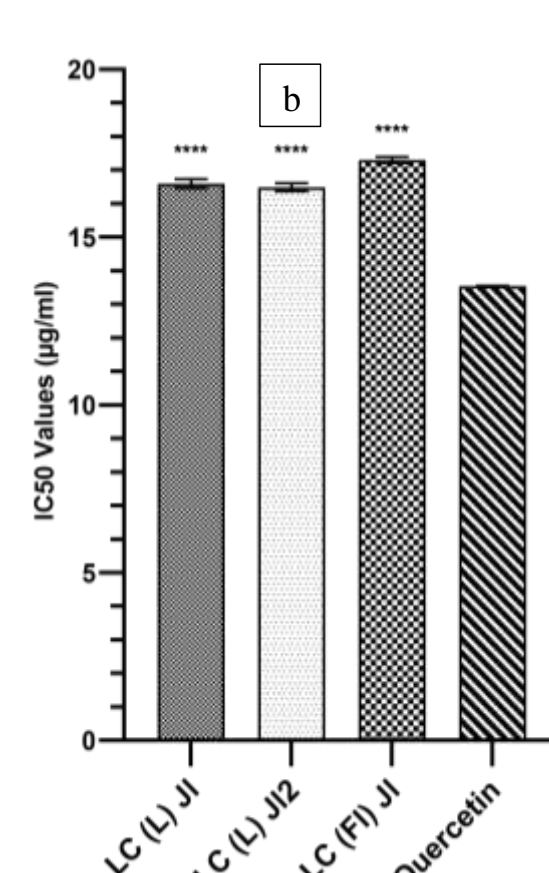
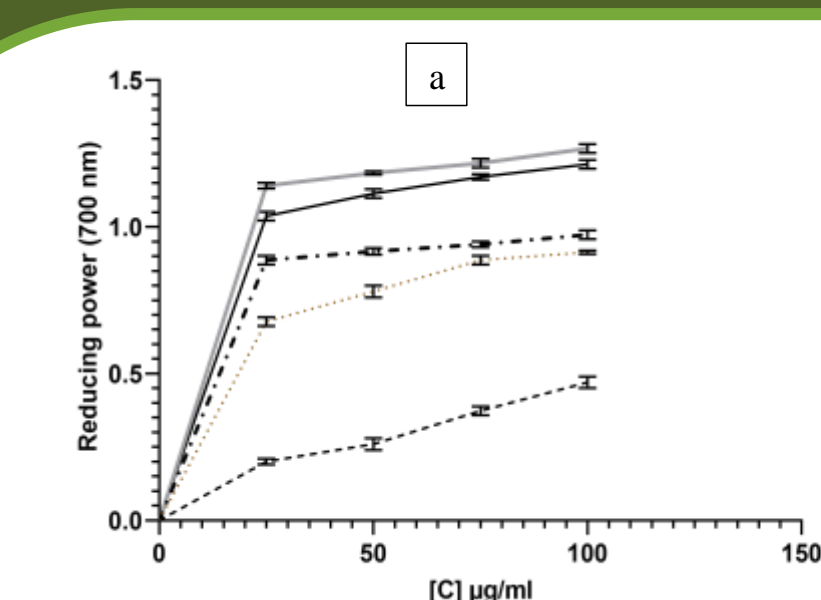


Results

Seventy-five to eighty-seven compounds have been identified accounting for 84 to 99,1%

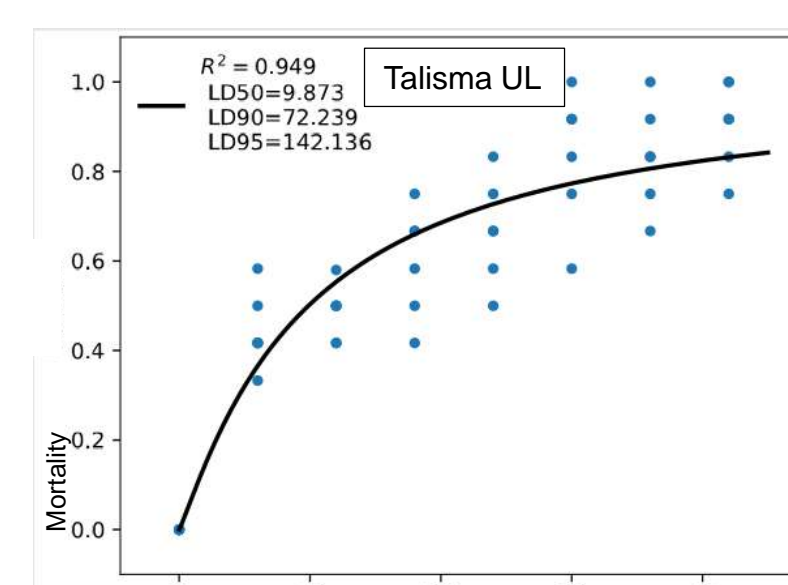
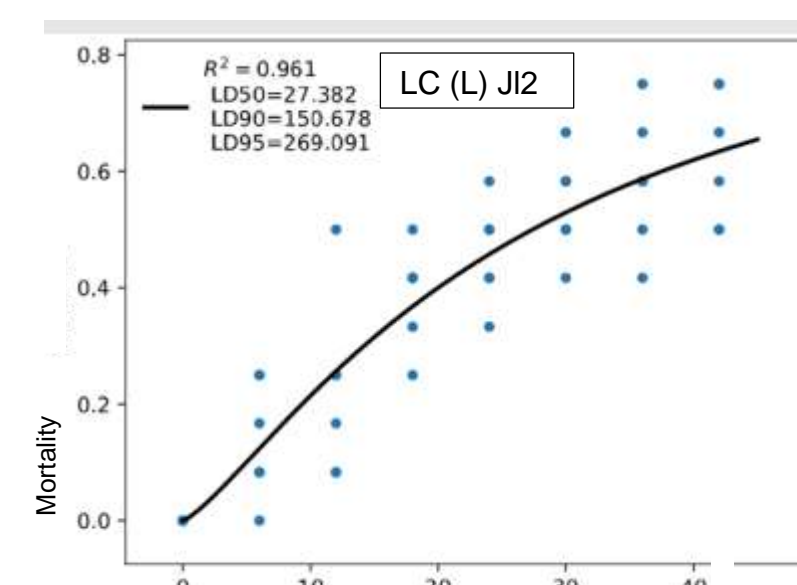
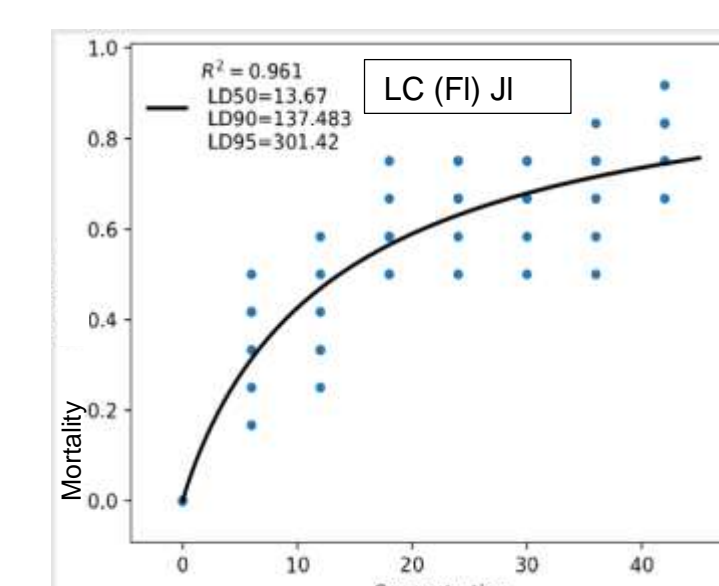
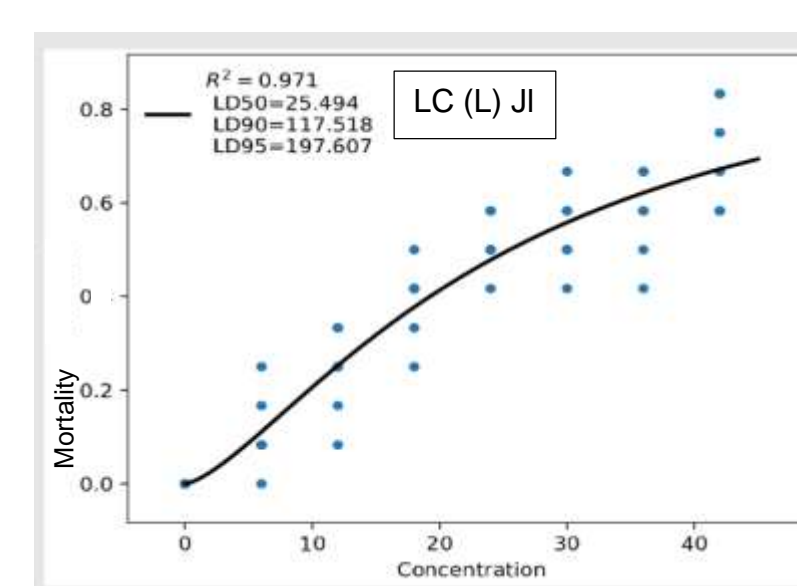


1P: First period (June 2015-June 2016), 2P: Second period (July 2016-June 2017), S: Stems, Fl: Flowers, Fr: Fruits, L: Leaves



a. Reducing power of *L. camara* essential oil, Trolox and Ascorbic acid; b. Anti-inflammatory by LOX inhibitory activity of *L. camara* essential oil; c. Anti-inflammatory activity by denaturation of bovine albumin of *L. camara* essential oil; d. DPPH assay

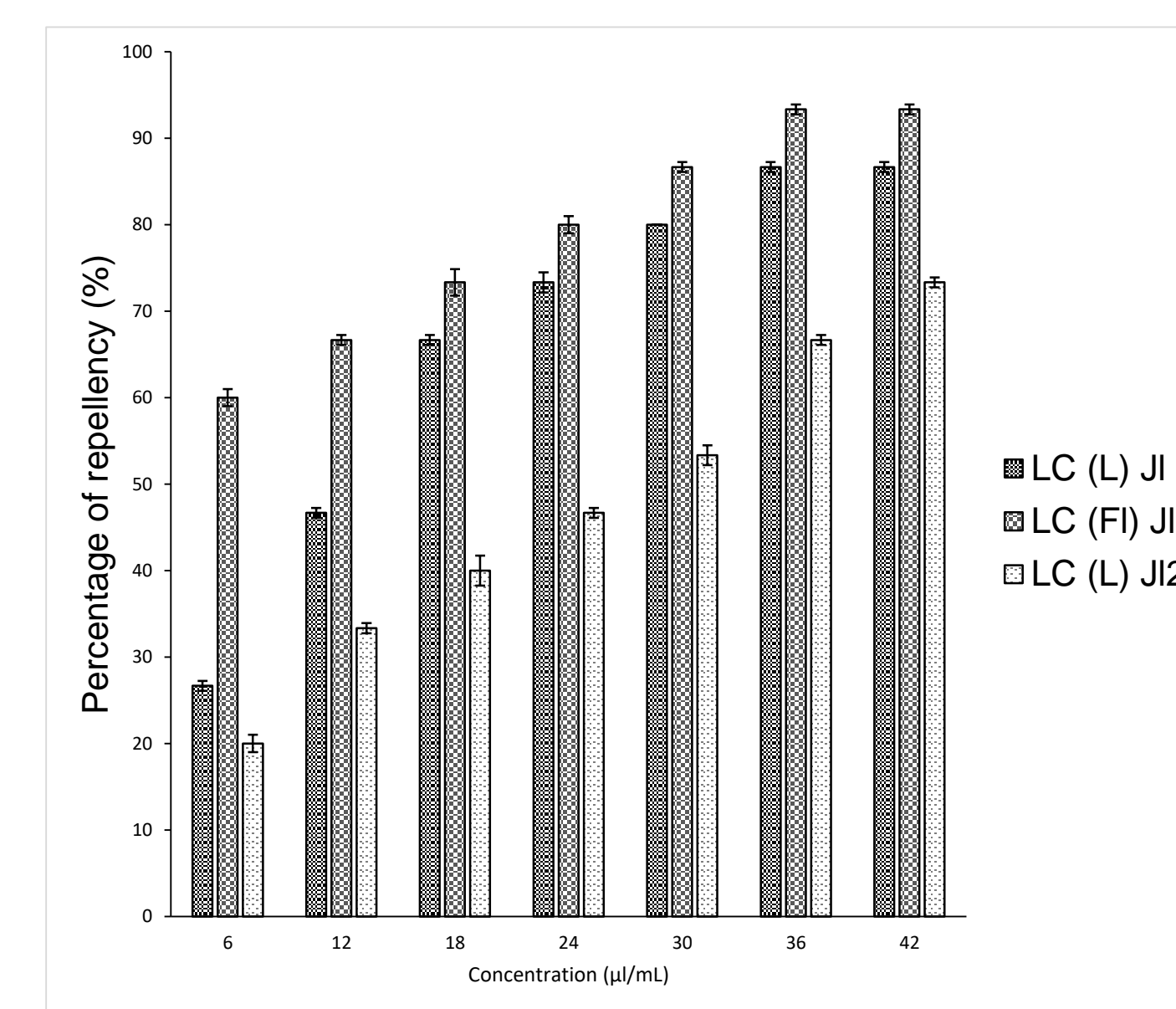
Contact toxicity



Insecticidal activities of the essential oils isolated from *L. camara*

LC: *L. camara*, L: Leaves, Fl: Flowers, J1: July 2015, J2: July 2016

Percentage of repellency of *L. camara* oils



Conclusion

In the present study, it was found that the essential oil yields extracted from the leaves, flowers, fruits and stems of *L. camara* were higher during the flowering and fruiting periods. The statistical analysis on the chemical composition of *L. camara* essential oils hydrodistilled from organs harvested during two years on a same site showed that the chemical variability between the different organs was higher than the seasonal variability. In addition it was observed that the essential oil of the leaves and flowers had high antioxidant and anti-inflammatory activities. The antioxidant activity was high in the sample oil who had a high thymol content. The toxicity of the leave oils against *Sitophilus granarius* was lower than the flowers oils. The insect mortality was found to increase as the essential oil concentration increases.

References

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For further informations

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Acknowledgments

The financial assistance of Ministère de l'Enseignement Supérieur de Côte d'Ivoire by a research grant (N° 981/MESRS/DB/SD-BHCI/SD/CBK) and the support of the Education, Audiovisual and Culture Executive Agency (EACEA), through EOHUB project 600873EPP-1-2018-1ES-EPPKA2-KA were gratefully acknowledged.