

Aisha Zainab,¹ Fasiha Ghouri,¹ Farzana Naz¹ and Najma Rasool Mughal¹

¹Department of Chemistry, Jinnah University for Women, 5-C Nazimabad-74600, Karachi, Pakistan
(e-mail:fasiha.ghouri16@gmail.com and khalidhassannehakhalid@gmail.com)

Abstract

Essential oils are volatile phytochemicals that exhibit aromatic essences and are extracted from natural sources. In concentrated form, they can be used in pharmaceutical, food applications, perfumery, sanitary and beauty products. Essential oils have been recognized as common food additives which can discover valuable applications in conservation of food commodities. Essential oils, due to their better potencies and no side effects on human and environment, can be utilized as substitutes to artificially synthesized chemical preservatives. Plant essential oils are known to demonstrate repellent activities and therefore find valuable application in bug control. Essential oils can be consolidated into or coated onto edible films due to their antibacterial activities against contaminating microorganisms.

Introduction

Essential oils are biochemical products or a combination of similar products, which are generated in cytoplasmic fluid and are located in intercellular space in the form of minute droplets. They are highly odorous and volatile in nature.

The essential oils have been used for centuries for different purposes and regarded with great conspiracy, since very beginning of mankind people have been extracting them from fragrant plants. Indeed, through the ages, humans have utilized essential oils for different purposes, including religious uses, production of scents or for curing purposes against deadly ailments.

Essential oils are normally produced as secondary metabolites. Regarding their localization, essential oils can be produced in all parts of the plant, including the aerial organs, commonly comprised of leaves, blooms and stems (chamomile, peppermint, lavender); fruits (anise); bark (cinnamon); seeds (nutmeg); and in addition, in the rhizomes and radix (ginger and curcuma) [1,3].

Methodology

- ❖ Essential oils can be extracted by methods of steam distillation, steam and water distillation, or by steam distillation alone. Other forms for acquiring essential oils incorporate enflourage and maceration with the recent systems employing extraction with supercritical liquids or solvents. Maceration can be utilized when the yield from distillation is low, while enflourage and solvent extraction is reasonable for sensitive, costly and thermally unstable materials.
- ❖ Herb infusion oil method is also an effective way to draw out the beneficial compounds from the plant and offer a safer and far more sustainable alternative to essential oils. The shelf life of infused essential oil depends upon the shelf life of carrier oil.
- ❖ In this study, Maceration and Herb infusion methods have been adapted for the isolation of essential oil.

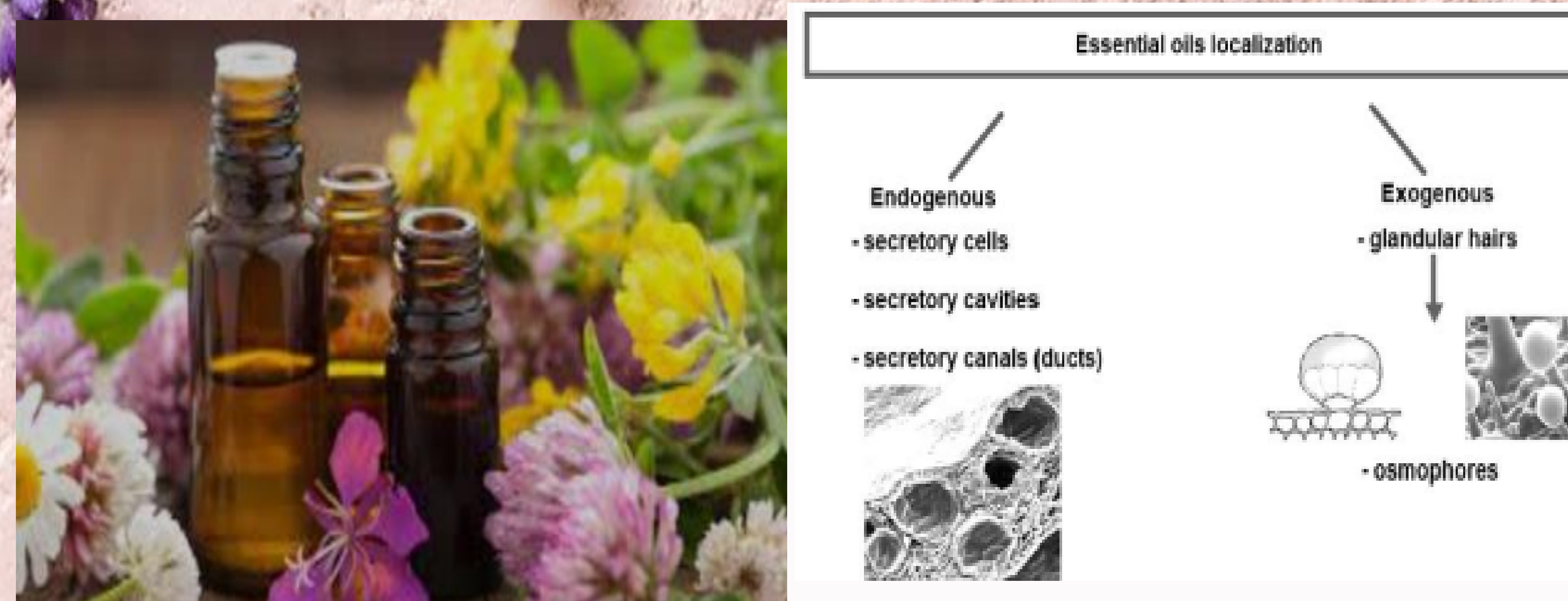


Figure-1: Presence of Essential oils in plant organs

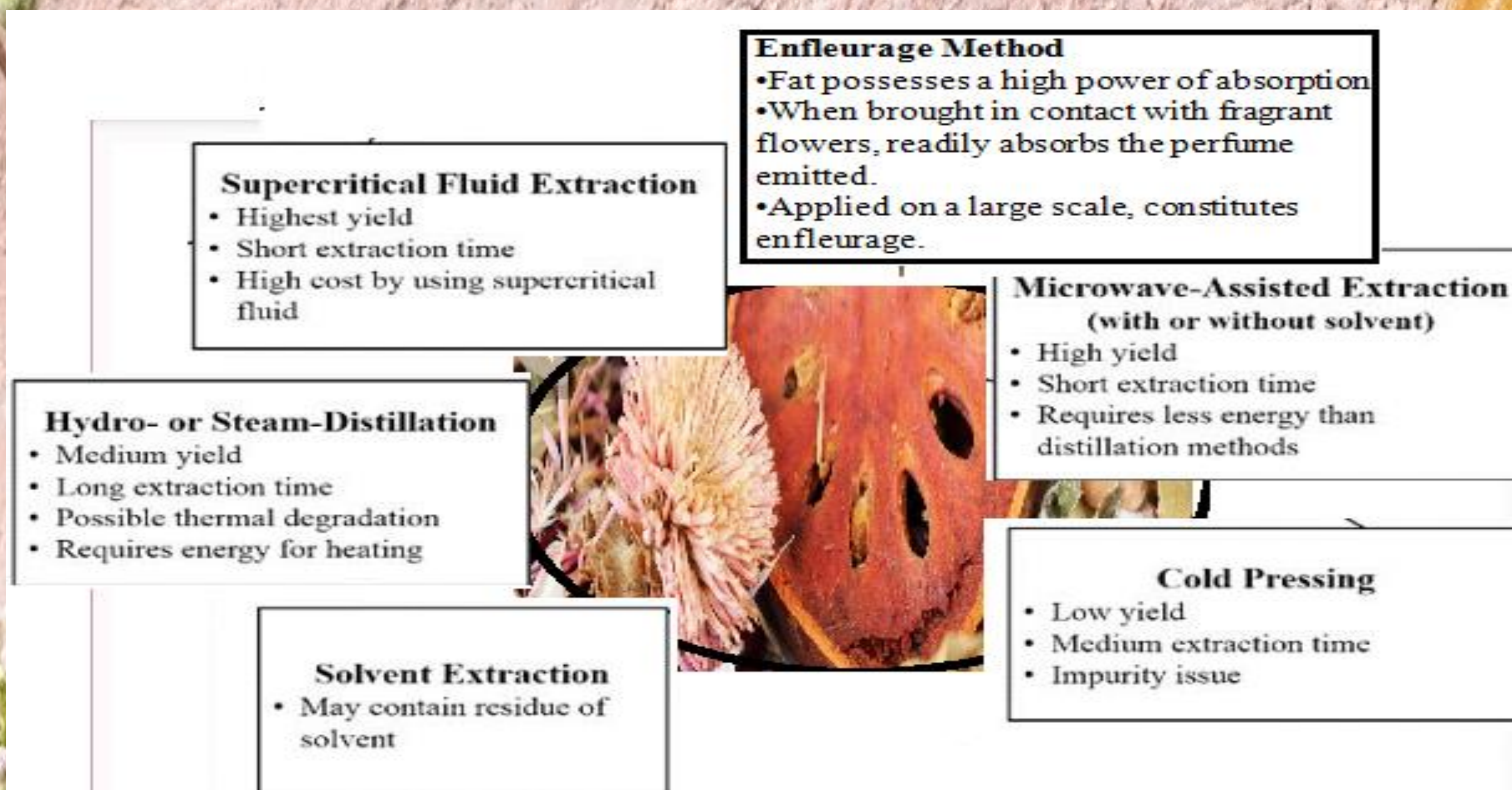
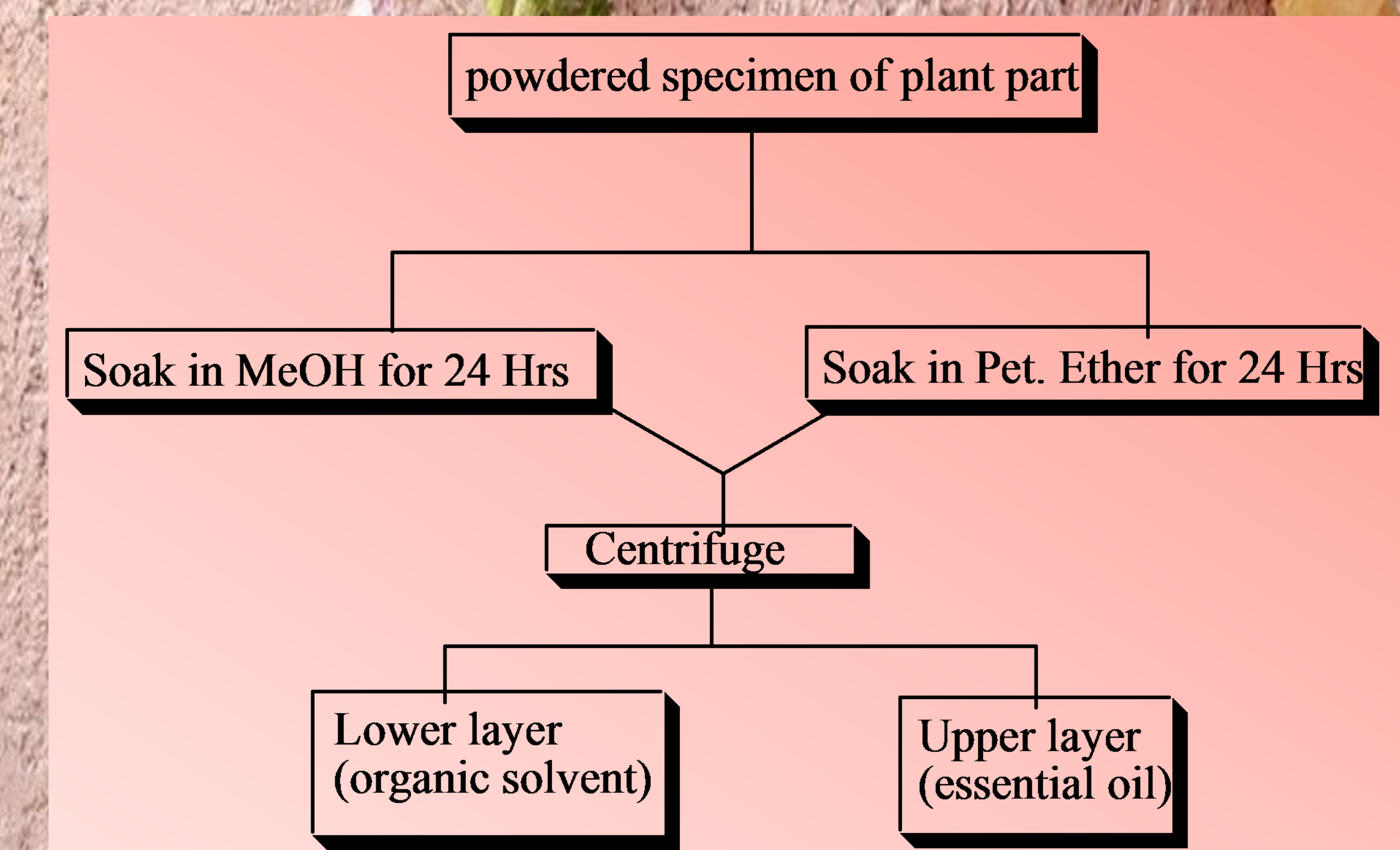
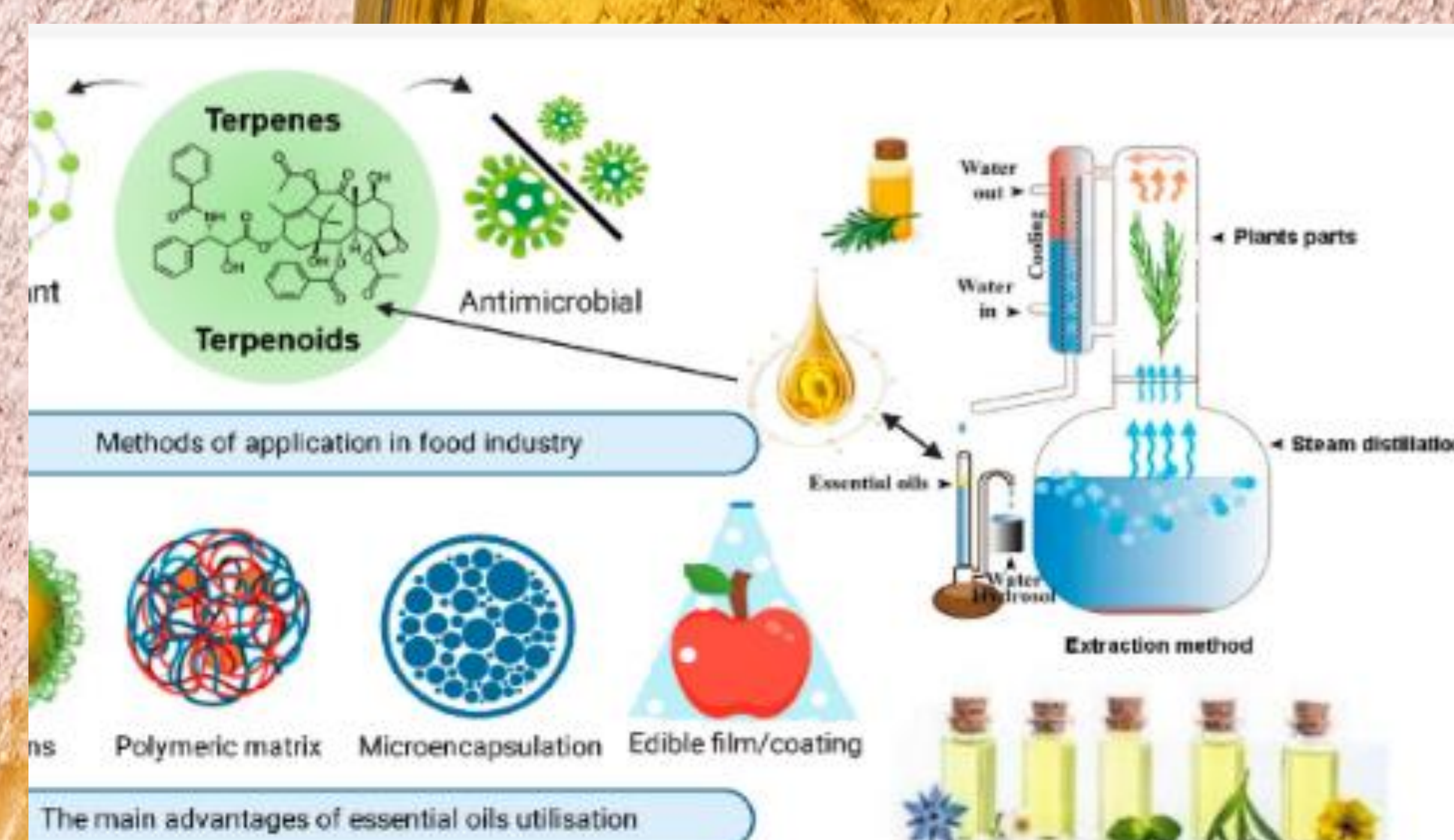


Figure-1: Different methods for extraction of oils

Enflourage method



Oil Infusion Method



Conclusion

This is a cheap method counseled to isolate the essential oil in sufficient yield with cheap methods.

References

1. Hyldgaard M, Mygind T, Meyer RL. "Essential oils in food preservation: mode of action, synergies, and interactions with food matrix components." *Front Microbiol.*; Vol. 3(12), 2012.
2. Turek C, Stintzing FC. "Stability of essential oils:" A review. *Comprehensive Reviews in Food Science and Food Safety.* Vol. 12(1), 40-53, 2013.
3. Burt S. Essential oils: their antibacterial properties and potential applications in foods-a review. *Int J Food Microbiol.*; Vol. 94(3), 223-53, 2004.