Research & Reviews: Journal of Pharmacognosy and Phytochemistry

A Brief Note on Terpenes

Pravallika Bhukya*

Department of Biotechnology, Amity University, Dehradun, Uttar Pradesh, India

Short Communication

Received: 11-Jan-2022, Manuscript No. JPRPC- 61805; **Editor assigned:** 13-Jan-2022, PreQC No. JPRPC- 22-61805 (PQ); **Reviewed:** 27-Jan-2022, QC No JPRPC-22- 61805; **Revised:** 1-March-2022, Manuscript No. JPRPC-22-61805 (R); **Published:** 7-Mar-2022, DOI: 10.4172/ 2321-6182.10.1.001

***For Correspondence:**
Pravallika Bhukya, Department of Biotechnology, Amity University, Dehradun, Uttar Pradesh, India.
E-mail: bhukyap@gmail.com

Keywords: Terpenes; Aromatherapy; Perspectives; Glycosides

ABSTRACT

Terpenes are important biosynthetic building blocks as well. Steroids, for example are triterpene squalene derivatives. Terpenes and terpenoids are also important components of the essential oils of many plants and flowers. Terpenes and terpenoids are important mediators of ecological interactions in plants. They, for example, aid in plant defence against herbivory, disease resistance, the attraction of mutualists such as pollinators and possibly plant-plant communication. They appear to function as antifeedants. Terpenoids also modulate cell growth and plant elongation, as well as light harvesting and photo protection and membrane permeability and fluidity control.

INTRODUCTION

Terpenes are released in greater quantities by trees in warmer weather, where they may function as a natural mechanism of cloud seeding. The clouds reflect sunlight, allowing the temperature of the forest to regulate. Terpenes are used as a form of defence by some insects. For example, termites of the subfamily *Nasutitermitinae* defend themselves against predatory insects by employing a specialised mechanism known as a fontanellar gun, which ejects a resinous mixture of terpenes [1].

Natural rubber is one terpene that has a wide range of applications. Other terpenes have been investigated as potential precursors for the production of synthetic polymers as an alternative to petroleum-based feedstocks. However, only a small number of these applications have been commercialised. Many other terpenes, on the other hand, have commercial and industrial applications on a smaller scale. Turpentine, for example, is an organic solvent and a chemical feedstock made from a mixture of terpenes derived from the distillation of pine tree resin

(mainly for the production of other terpenoids). Rosin, yet another by-product of conifer tree resin, is widely used as an ingredient in a wide range of industrial products, including inks, varnishes and adhesives [2].

Terpenes are widely used as fragrances and flavours in consumer products such as perfumes, cosmetics, and cleaning products, as well as food and beverage products. For example, sesquiterpenes contribute to the aroma and flavour of hops, which affect beer quality. Some form hydro peroxides, which are valuable as catalysts in the production of polymers. Many terpenes have been shown to have pharmacological effects, though most studies are from laboratory research and clinical research in humans is still in its early stages. Terpenes are also found in some traditional medicines, such as aromatherapy. Terpenes are abundant in *Cannabis* (marijuana) and have been proposed to modulate the medicinal or psychological effects of cannabinoids [3].

Terpenes are colourless but impure samples are frequently yellow. The boiling points of terpenes, sesquiterpenes and diterpenes are 110°C, 160°C and 220°C, respectively. They are insoluble in water because they are highly non-polar. They are highly flammable and have a low specific gravity because they are hydrocarbons (float on water). Terpenoids have similar physical properties to terpenes but are more polar and thus slightly more soluble in water and slightly less volatile [4,5].

CONCLUSION

The glycosides which are sugar-linked terpenoids are highly polar derivatives of terpenoids. They are soluble in water. They are tactilely light oils with viscosities ranging from 1 cP (ala water) to 6 cP, significantly less viscous than familiar vegetable oils like corn oil (28 cP). The number of isoprene units in the molecule can be used to classify terpenes; a prefix in the name indicates the number of isoprene pairs required to assemble the molecule. Terpenes typically contain 2, 3, 4 or 6 isoprene units; tetraterpenes (8 isoprene units) form a separate class of compounds known as carotenoids; and the others are uncommon. Hemiterpenes are made up of a single isoprene unit. The only hemiterpene is isoprene but oxygen-containing derivatives such as prenol and isovaleric acids are hemiterpenoids.

Monoterpenes have the molecular formula $C_{10}H_{16}$ and are made up of two isoprene units. Geraniol, terpineol (found in lilacs), limonene (found in citrus fruits), myrcene (found in hops) and linalool are examples of monoterpenes and monoterpenoids.

REFERENCES

1. Gao, Lei, et al. “Efficacy and Safety of Percutaneous Ozone Injection Around Gasserian Ganglion for the Treatment of Trigeminal Neuralgia: A Multicenter Retrospective Study.” J Pain Res. (2020): 13: 927-936.
2. Oliveira Magalhães, et al. “Effects of Ozone Applied by Spinal Endoscopy in Patients with Chronic Pain Related to Failed Back Surgery Syndrome: A Pilot Study.” Neuropsychiatr Dis Treat . (2013): 9: 1759-1766.
3. Matthew, et al. “Ozone-augmented Percutaneous Discectomy: A Novel Treatment Option for Refractory Discogenic Sciatica.” Clin Radiol .(2014) :69: 1280-1286.
4. Bonetti, et al. “CT-guided Oxygen-ozone Treatment for First Degree Spondylolisthesis and Spondylolysis.” Acta Neurochir Suppl . (2005): 92: 87-92.
5. Wasser, Gerhard ,et al. “Ischemic Stroke Penumbra and Extracorporeal Ozone Treatment.” Neuroradiol J . (2013) :26: 243-251.