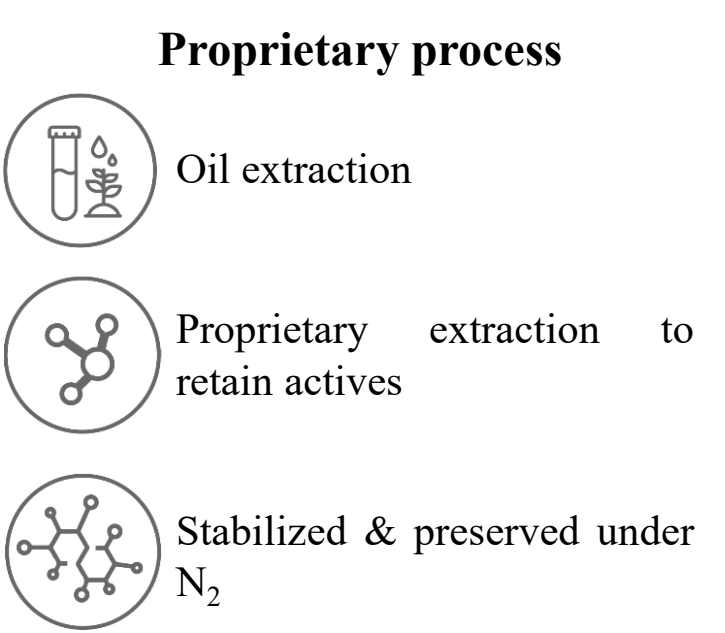
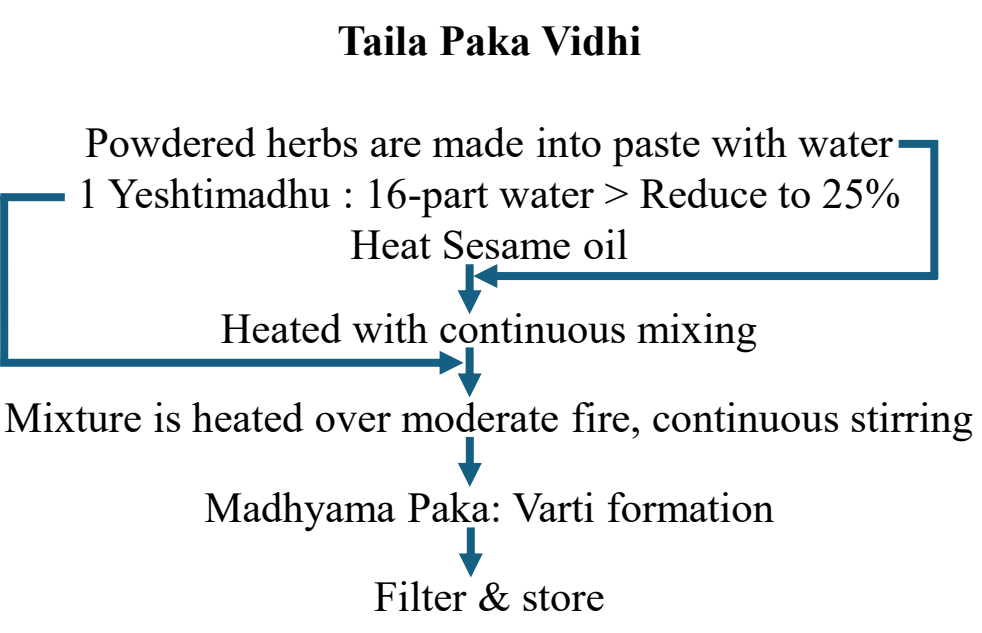


Manohar S.H., Avani Mainkar, Anuja Tabrej, Pranjali Dhawal, Kedar Vaze

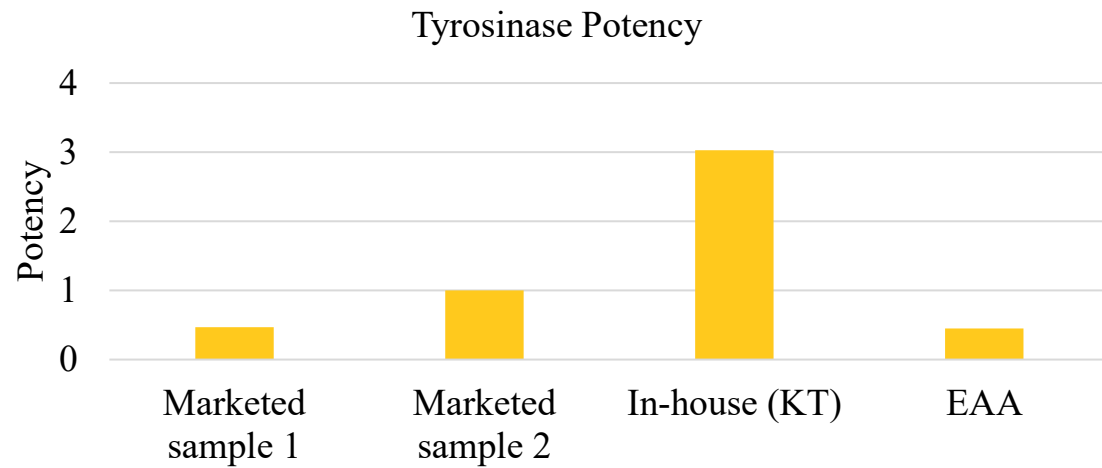
Keva Fragrances, Mumbai, India

- Ayurvedic oils such as *Kanaka* and *Kumkumadi Thailam* have long been revered for their skin health & complexion-enhancing properties.
- Ayurvedic formulations are complex mixtures, designed based on traditional principles, their natural composition and diverse ingredients make them prone to degradation, leading to challenges in standardization and shelf-life.
- Rancidity and reduced shelf life of oil: Moisture, Enzymes, oxygen, temperature
- Physicochemical analyses: conventionally prepared oils exhibited higher AV and PV leading to oxidative degradation and reduced stability.
- In this study, A formula was prepared using novel proprietary process and systematically compared with ayurvedic *Kanaka Thailam* (KT).

Ingredient	Botanical Name
Yeshtimadhu	<i>Glycyrrhiza glabra</i>
Priyangu	<i>Callicarpa macrophylla</i>
Manjistha	<i>Rubia cordifolia</i>
Vetiver	<i>Chrysopogon zizanioides</i>
Utpala	<i>Nymphaea stellata</i>
Kesara	<i>Mesua ferrea</i>
Sesame seed oil	<i>Sesamum indicum</i>

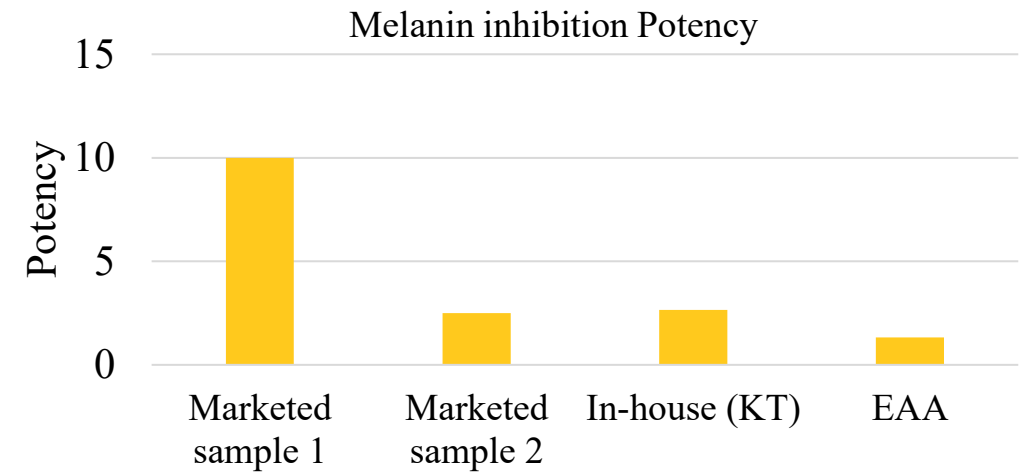


IN VITRO STUDIES- Skin brightening activity



3X In-house (KT) showed > 3X anti-tyrosinase activity when compared to market sample

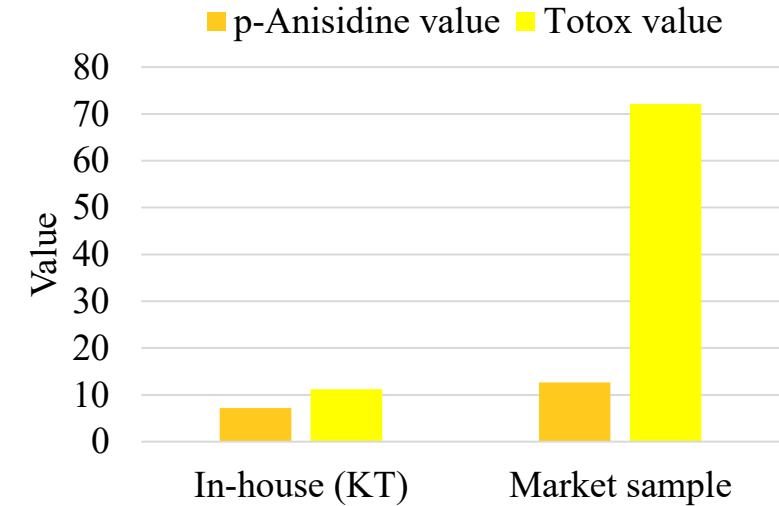
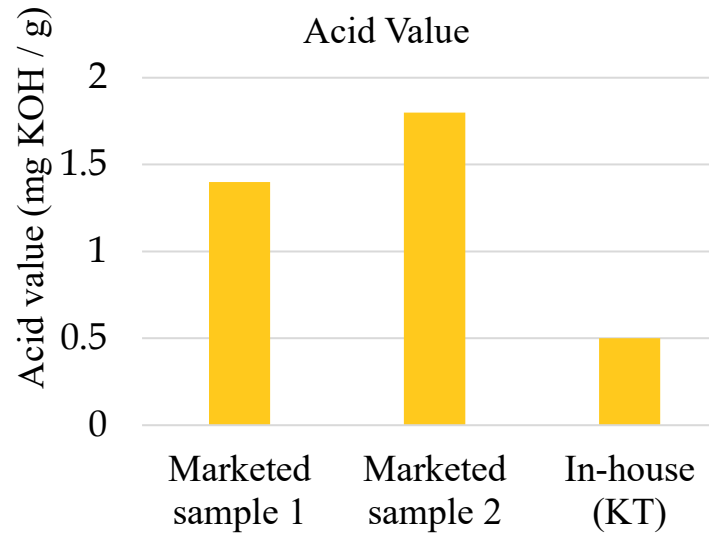
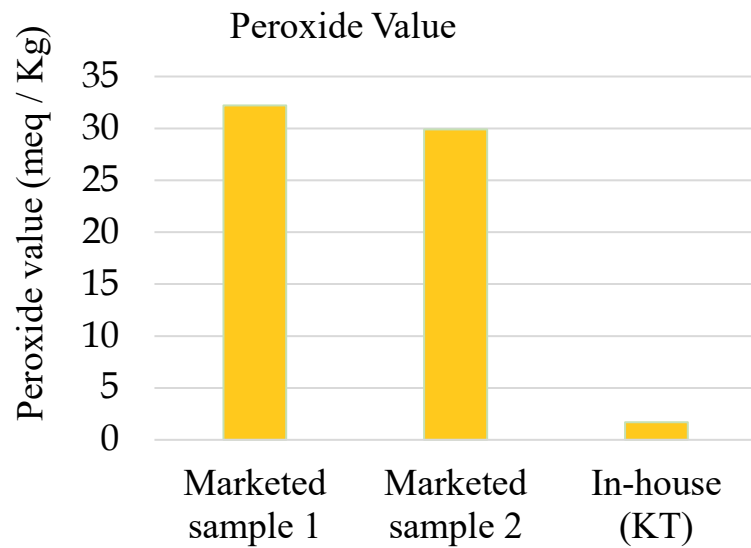
- Enzymatic Assay
- Mushroom Tyrosinase Enzyme
- In-house (KT) showed potent anti-tyrosinase ability
- Highly Potent as compared to market samples and Ascorbic acid



2X In-house (KT) showed 2X melanin synthesis reduction as compared to Ascorbic acid

- In vitro Assay
- B16F10 Melanoma cells
- In-house (KT) is a potent melanin inhibition in the cells
- In-house (KT) is 2X more potent than Ascorbic acid

Stability studies



- Peroxide value of In-house (KT) is 17.5 fold lower than the market sample
- Acid value of In-house (KT) is 2.8 fold lower than the market sample
- Higher AV and PV of oil is detrimental to cosmetic formulae and an irritant to skin.
- p-Anisidine value of In-house (KT) is 1.7 folds lower than the market sample
- Totox value of In-house (KT) is 6.4 folds lower than the market sample

Conclusion: This work illustrates careful integration of traditional Ayurvedic wisdom with scientific innovation to generate globally relevant, efficacious, and stable formulations for contemporary therapeutic and cosmetic applications.