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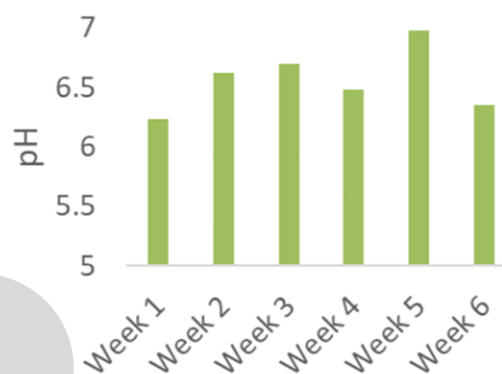
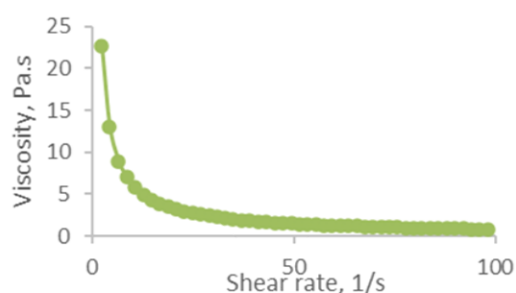
The rapid growth experienced by the cosmetic industry in past decades is driven by the increasing demand to enhance beauty, improve skin health and promote well-being. However, cosmetic formulations contain synthetic ingredients that act as preservatives, fragrances and additives to increase product stability, scent and overall performance. The wide use of synthetic chemicals in cosmetic products has raised concern as it could trigger the potential risk associated with long-term exposure. Consumers are actively seeking products that are sustainable, healthy and environmentally friendly. Thus, to address this issue, a natural-based lotion was formulated from *Centella Asiatic* extract, free from harsh chemicals, less harmful, and delicate to the skin.

Centella Asiatica, also known as pegaga, has been recognized as one of the top 10 herbs in Malaysia. The presence of bioactive compounds in *Centella Asiatica*, such as triterpenes and triterpenoids, has an injury recovery effect and anticancer and antimicrobial properties. Due to these benefits, *Centella asiatica* extract is a promising natural additive that can be incorporated into cosmetic formulations. In this study, the formulated lotion from the blend of *Centella Asiatica* extract with glycerine, xanthan gum, coconut oil, shea butter, emulsifying wax, beeswax and vitamin E was quickly absorbed, with a smooth texture and good scent. The pH of the lotion was in the range of 6 to 7, which indicates that it is gentle to apply on the skin.

After 6 weeks of storage at room temperature, the white colour of the lotion did not change, proving that the lotion is in good condition with no contamination. The odour and appearance of the lotion remain unchanged, with no oil-water separation after 6 weeks of storage, showing good stability. The viscosity of the lotion shows a decreasing trend with an increasing shear rate, indicating a non-Newtonian fluid, which is a suitable flow behaviour for lotion. The antimicrobial activity against *Escherichia coli* shows no growth of bacteria, proving that the lotion was not easily contaminated and has a long shelf life. The lotion is likely free from bacteria that could cause infections and irritations. This study provides valuable insight into formulating a new natural-based cosmetic, establishing scientific evidence supporting the benefits of plant-based extract, increasing confidence in natural cosmetics and driving the growth of the natural beauty industry.

Centella Asiatica Natural Based Lotion

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