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The development of antioxidant peel-off facial masks from cinnamon bark extract (*Cinnamomum burmannii*)

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ABSTRACT

The bark of cinnamon (*Cinnamomum burmannii*) contains cinnamaldehyde and other active substances with potent antioxidant properties. Antioxidants are effective at preventing and reducing UV-induced skin damages and skin aging. This study was intended to formulate and characterize the antioxidant peel-off facial masks containing cinnamon bark extract and the combination of polyvinyl alcohol (PVA) and hydroxypropyl methylcellulose (HPMC) as gelling agents. The ethanol extract of cinnamon bark and the developed peel-off mask were evaluated for their antioxidant activities by the α,α-diphenyl-β-picrylhydrazyl (DPPH) free radical scavenging method and for their physical characteristics. The cinnamon bark extract exhibited a very strong antioxidant activity, as evidenced by IC_{50}= 10.04 ± 0.08 ppm. As for the formulated peel-off mask, it had excellent physical characteristics, which were identified during organoleptic observations and pH, viscosity, spreadability, and film drying time evaluations. Similar to its constituent extract, this mask produced significantly potent antioxidant effects, with IC_{50}= 47.31 ± 1.47 ppm. For these reasons, peel-off facial masks containing cinnamon bark extract have not only excellent physical characteristics but also powerful antioxidant properties.

Keywords: peel-off mask, cinnamon bark, ethanol extract, antioxidant

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