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NEW BIO-BASED DENDRIMERS FOR ENCASPULATION OF COSMETIC AGENTS

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PURPOSE OF THE ABSTRACT

Vectorization of active compounds is a very promising approach in the medical, cosmetic and food industries for the delivery of active substances with low bioavailability and/or chemical instability. Many active compounds used in cosmetic compositions are unstable. They are subjected to the oxidation and degradation by the effects of air, light, pH and/or heat.[1]
In this context, symmetrical and branched macromolecules (dendrimers) seem to be the most attractive vectorization solutions. Indeed, these structures can effectively combine high stability in biological media with a capacity of encapsulation of the active compounds thanks to their well-defined architecture.[2] This has raised the interest of researchers for their use in the therapeutic and cosmetic fields.

In the present work, we have developed the synthesis of biobased dendrimers [3], [4] to use them as encapsulation matrices for cosmetic actives. The synthesis of dendrimers and the encapsulation of vitamin C (an antioxidant agent) will be presented (Figure 1).

The interactions of dendrimers and dendrimers containing vitamin C, with a membrane mimicking the skin, were also studied using biophysical techniques to determine the most effective structure for cosmetic uses. This study will also be presented.

FIGURES

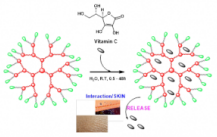

FIGURE 1

Encapsulation of vitamin C in bio-based dendrimers and interactions with the skin

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FIGURE 2

KEYWORDS

Dendrimers | Encapsulation | Vitamin C | membrane interactions

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