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Evaluation of potentiality, quantification, and longevity of ten kinds of sunscreens

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PURPOSE OF THE ABSTRACT
The rise of the tourism industry parallels the blossoming of the economy, especially coastal tourism. The conditions, which would increase the use of sunscreens and cosmetics containing UV filters, would drive the global coastal areas to be susceptible to these cosmetics. Accordingly, this study focused on the correlation between the capacity of sunscreen quantitative analysis and anti-UV effect of commercial sunscreen (physical, chemical and physicochemical). Thermogravimetric analysis, differential scanning calorimetry, UV light box, and UV resistance were applied to discuss the mass loss of sunscreen and the variations of resistance under different UV wavelengths. There is still a lack of quantitative models for sunscreens. Therefore, this experiment featured the UV resistance sensor to test the sun protection ability and lifespan. The electric current flow could define the sunscreen impedance ability and life cycle. The results of thermal stability parameters would establish an evaluation model for the purpose of quantification.

FIGURES

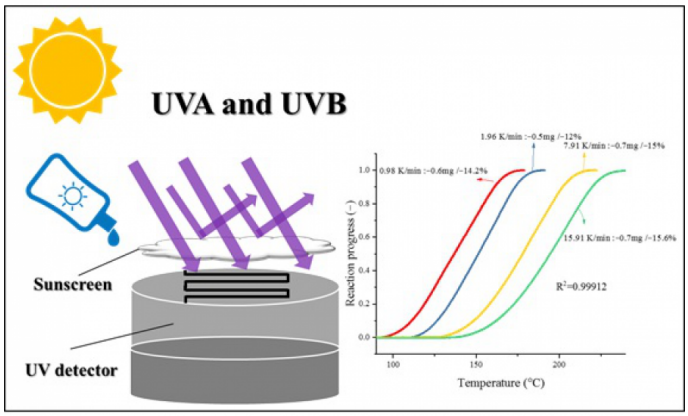

FIGURE 1

isgc

isgc

FIGURE 2

KEYWORDS

sunscreen quantitative | anti-UV effect | Thermogravimetric analysis | thermal stability parameters

BIBLIOGRAPHY