

〈原 著〉

皮膚の力学的特性に対する客観的評価法の検討

——保湿と収斂——

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Proposal of Objective Evaluation Method on Mechanical Properties of Human Skin

—Emollient and astringent—

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Abstract

The purpose of this study is to show the difference of effects of astringents and emollients with a new type tactile sensor. It is important for cosmetic chemists to evaluate the visco-elasticity of human skin. In recent years, we have developed a new type tactile sensor to assess the softness and hardness of materials. The instrument which was used in this experiment consists of a sensor made of piezoelectric element and a pulse moter to move the sensor. This paper concerns the application of two lotions which have different effects from each other on human skin, several experiments were carried out to determine basic characteristics. The results demonstrated that the sensor was able to sense a subtle difference in elasticity of skin, and it is most useful in a visco-elastic measurement. In particular, the hysteresis curve of the visco-elastic properties of soft tissue will be easily obtained by the new instrument.

Key words: emollient, astringent, tactile sensor, hysteresis curve, elastic property.