피부 in-vivo 마찰력 측정과 관능 평가를 통한 화장품 퍼발림성 연구

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Measurement of invivo friction coefficients of human skin by using multi-components load-cell

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Abstract

The frictional coefficients have been used to evaluate skin care and cosmetic products which aim at conferring smoothness to skin. Cosmetic products are thought to perform their function by depositing sufficient amounts of desirable ingredients leading to perceptible change in adhesion and frictional coefficients. We design the frictional coefficients measurement system which is assembled with multi-component load cell and linear motor. The multi-component load cell measures simultaneously the normal load(Fz), and the frictional forces(Fx, Fy) with strain gages while contactor is sliced on the cosmetic applied skin of arm fixed with the linear motor. Capacity and accuracy of load cell are less than 5 N and 0.1%. In vivo frictional coefficients of skin of arm is varied from 0.177 to 1.327 dependent on the cosmetic products, normal load, sliding speed and surface condition of contactor.

Keyword : *in-vivo, skin, frictional coefficient*