July 2019
Shiseido Company, Limited

SHISEIDO

Press Release

Shiseido Succeeds in Developing Ingredient That is Rich in Texture and Smooth in Application

-Almost six years in development! A comfortable texture that you want to keep using-

Shiseido Company, Limited ("Shiseido") has been promoting the research and development of cosmetics that realize a comfortable feeling. This time, Shiseido has succeeded in the development of a component (new water-soluble polymer) that achieves an unprecedented comfortable feeling with the feature of "being rich and thick in texture but blending smoothly into the skin during use, with a non-sticky feeling after application".

Polymers, whose wide-ranging applications include adjusting the feel of cosmetics, etc., can be created in various sizes by bonding single molecules (polymerization). In general, larger and longer polymers create a rich, thick texture. However, the conventional polymerization method involves mixing molecules of various lengths, resulting in a slimy, sticky texture, which is problematic for cosmetics. Now, by applying a special new polymerization method, it has become possible to prepare the length of a polymer to the suitable extent of creating a rich texture that blends smoothly into the skin.

It has also been quantitatively confirmed that this polymer blend base provides a comfortable feeling based on sensory engineering and neuroscience.

These research results were presented at the 84th SCCJ Research Discussion Meeting (held in Osaka, Japan on July 18, 2019).

Development of new water-soluble polymer

In order to achieve the feature of "being rich and thick in texture but blending smoothly into the skin during use, with a non-sticky feeling after application", importance was placed on controlling the presence of super high molecular weight polymers, which hinder desired usability. The presence of super high molecular weight polymers is due to the fact that the conventional method cannot control the speed of polymerization. Hence, a specific polymerization control agent to control the polymerization rate was added, allowing preparation of the length of the polymer. (Figure 1)

As a result, Shiseido has succeeded in developing a new water-soluble polymer that has a large molecular weight but contains few super high molecular weight polymers, and enabling the creation of a texture that feels comfortable, being rich in texture but blending smoothly into the skin during use, with a non-sticky feeling after application. (Figure 2)

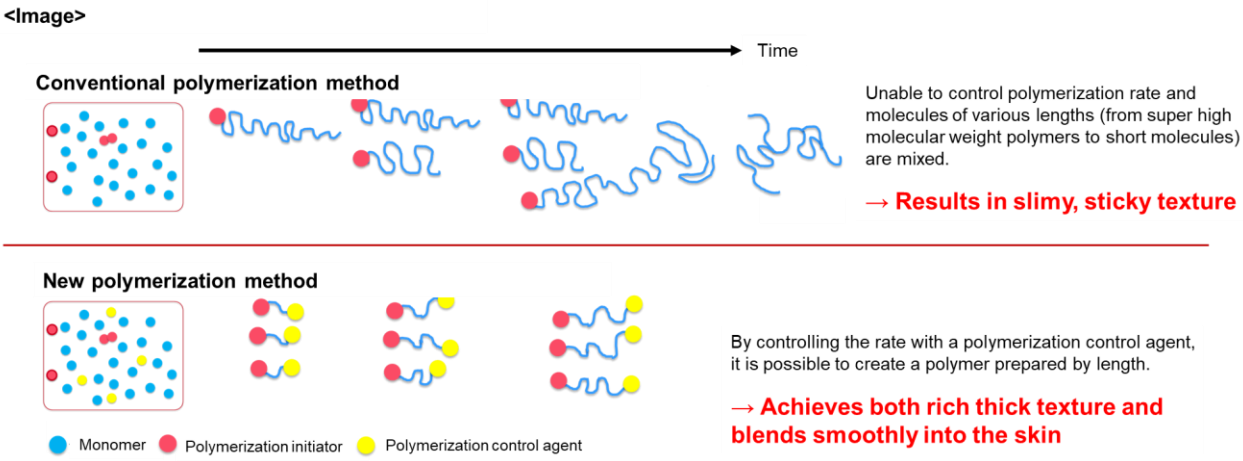

Figure 1. Difference between conventional polymerization method and new polymerization method

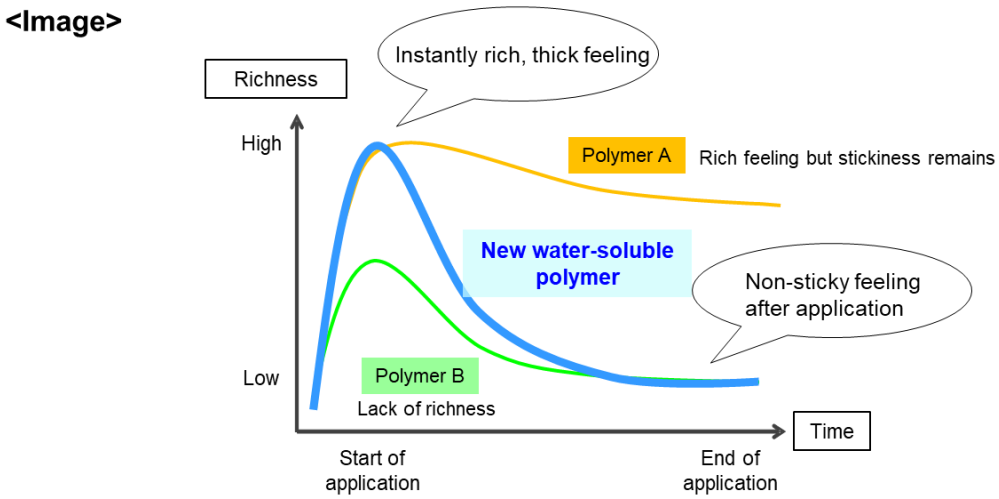

Figure 2. Image of texture of new water-soluble polymer

About polymers

The term polymer refers to a chain- or net-like compound in which a large number of molecules called monomers are bonded, and realizes various functions depending on its chemical and physical structure. In cosmetics, polymers are widely used for many purposes such as a thickener to thicken the base and adjust the feeling, an auxiliary agent to help uniform dispersion of emulsified particles and powders, and a coating agent to protect hair and keep one's hairstyle in place.

Measurement of comfort

Shiseido has successfully conducted quantitative evaluation of the degree of comfort when applying lipstick and foundation by applying sensory engineering and neuroscience.* Using this evaluation method, it is confirmed that the lotion, whose texture is optimized by blending the newly developed water-soluble polymer, not only realizes its intended comfortable feeling but also that its use provides a higher degree of comfort in the brain.

Shiseido will continue to apply these findings in the development of better products and services.

* Reference: M. Tanida et al., Adv. Exp. Med. Biol., 977, 215~220 (2017)