Self-Assembling Aromatic di-Peptide Materials for Cosmetic Applications (Ramot)

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Technology

Organic, aromatic di-peptide self-assemble into close-caged structures of tubes, spheres and hydrogels. These exhibit excellent properties such as stability, solubility, transparency and rigidness alongside the basic peptide features utilized in cosmetics.
The materials can be prepared as powder or hydrogel and be easily mixed with common cosmetic foundations. In addition to these native characteristics, methods for filling and coating the structures have been developed. Cosmetically active silver and copper colloids and other active ingredients can be integrated for slow release.
These additives or delivery systems can provide cosmetic compositions with improvement of wear and adhesion properties and enhancement of treatment attributes.

The Need and Potential Application

"Cosmetics Peptides" are becoming standard for innovative top-tier cosmetic lines. Small amounts of peptides as active ingredients and/or carrier agents are found to improve the nutritional and treatment values of such products.
We see the following potential applications for our materials:

- Face creams
- Powders
- Eye shadows
- Eyeliners
- Mascaras
- Lipsticks
- Shampoo
- Hair Masks
- Nail Polish

Advantages

Properties

- High young modulus – highest organic material measurement of point stiffness, values compare to common metals used in reinforcement.
- Customizable with application specific active capping.
- Low-molecular-weight and density.
- Rigid hydrogels.

Fabrication and Incorporation

- Powdered material with ease of handling and incorporation. Fabrication-inline synthesis procedure possible.
- Soluble in cosmetic solvents including water (aqua) and oils.
- High yield, efficient, low-cost manufacturing under mild conditions in either water or common organic solutions. Readily available building blocks.

Stage of Development

The fabrication process is currently optimized for preparation of research-required quantities and for

feasibility testing amounts. There are known models for efficient scale up of manufacturing and potential partners for leading this effort.

Patents
Three granted patents and three additional patent applications in different stages.

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