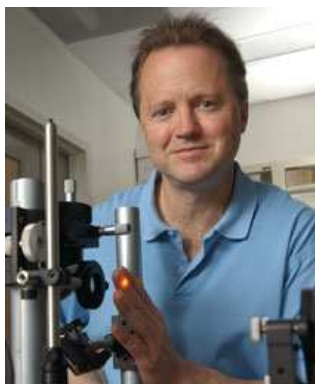


Photochromic Materials Suitable for Cosmetic and Sunblocking Effects



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Invention

Photochromic materials can be designed on the molecular level to maintain a particular cosmetic look as ambient lighting changes. It would be advantageous to design a class of materials where ambient or directed light could be utilized to fashion a certain predictable cosmetic look. The material must have a strong absorption spectrum and be nontoxic for cosmetic applications. This invention describes metal oxides and metal bronzes, and protein-based photochromic systems that combine novel cosmetic properties with sunblocking.

Technology

Oxides are incorporated into a suitable cosmetic formulation and applied to the skin as a cream or liquid. Upon exposure to light, the oxides undergo photoinduced and thermoenhanced loss of gas phase O_2 to produce valence oxides, causing a shift in coloration.

Applications

- Tunable cosmetic coloration
- Actinometer/dosimeter to measure exposure to light

Advantages

- Coloration can be manipulated by light, allowing greater control and range of effect than for a single color application
- Facile monitoring of exposure to bright sunlight or other tanning/burning settings



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