



A Metabolic Residue of *Bombyx mori* L. as a New Source of Amino Acids for Application in Hair Care Products

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SUMMARY. Silk amino acids are widely used in cosmetics, particularly in hair care products. The silkworm *Bombyx mori* L. produces a liquid residue which is rich in amino acids. However it shows an uncommon use and it is entirely disposed of. The aim of this study was to characterize this metabolic residue and assess its application for hair care and treatment. The results obtained showed a total amount of amino acids of 242.76 µg/mL. The principal amino acid was glutamine. Scanning electron microscopy and atomic force microscopy showed a more closed cuticular surface of the treated hair fiber (n = 10) when compared with the control fiber. In the tensile strength test, the fiber (n = 20) that was treated with the sample of the metabolic residue of *B. mori* proved to be more resistant to a break regarding the control fiber. It could be concluded that the material obtained from this species of silkworm offers suitable properties for use in cosmetic products for hair care.

KEY WORDS: Hair products, Liquid metabolic residue, Silk amino acids.

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