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CHARACTERIZATION OF LUXURY ANIMAL FIBERS AND FUR THROUGH LC-QTOF ANALYSIS

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Luxury animal fibres have an important economic contribution fot the textile sector because they are widely used in the production of clothing fabrics: considering the extensive use of these materials it is frequent to come across adulterations or counterfeiting of materials in order to take economic benefits from the marketing of textile products. Traditional methods of identification are based on a microscopic analysis (optical microscopy or SEM) exploiting the morphological characteristics of the cuticles structure of the fibres. The proposed [1] and developed method of analysis is based on an extraction of proteins which are present in the cytoskeletal structure of animal fibres and subsequent identification of marker peptides by liquid chromatography coupled with high resolution mass spectrometry (LC-QTOF). High-resolution mass spectrometry analysis makes it possible to identify with more precision the marker peptides of various animal species (e.g. cashmere, wool and yak) and to study specific markers for the identification of animals from furs, also guaranteeing a intra-species classification of the animal (e.g. different types of foxes). The high efficiency of this analytical technique and its objectivity makes it the best assistboth for the identification of animal fibers in forensic sector and for the systematic determination in the product sector.

BIOGRAPHY

Riccardo Dall'Anese completed in 2010 the Bachelor's Degree in Industrial Chemistry at University of Padua and completed in 2012 the Master Degree in Chemistry for Clinical, Forensic and Sport at University of Turin. From 2013 to 2015 wor as Analytical Technician at Buzzi Lab (Prato, Italy) and from 2015 up to now work as Analytical Lab Manager at Buzzi Lab (Prato, Italy).

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