

*Title:* **Study on the role of lipids on the process of the hair ageing.**

*Student:* Andrea Prieto Moran

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*Supervisor/s:* Dra. Carme Sousa Romero

*Departament de Ciència de Materials I Química Física*

Dra. M<sup>a</sup> Luisa Coderch Negra

*IQAC-CSIC*

An obvious sign of ageing is the loss of hair colour or, commonly said, the appearance of grey hair. This loss of colour is due to the decrease or lack of melanin in the hair fibres. At the same time, the lipid composition of the hair can also be altered, which can lead to a modification of the fibres.

The samples were obtained from white and brown Caucasian hair of the same person and belonging to different people. The lipids were extracted with several organic solvents, making two different extractions to separate the external and internal lipids. Lipid analysis and quantification was performed using thin layer chromatography coupled to an automated flame ionization detector (TLC-FID). Lipid properties were also determined using a thermogravimetric analysis. Finally, liposomes were formed with capillary lipid extracts to determine the organization of these lipids by means of a Fourier transform infrared spectroscopy using attenuated total reflection (ATR-FTIR).

**Keywords:** Ageing, Hair, Lipid, Liposomes