Cosmeceuticals are considered skin care products that go beyond mere beautification and claim to have medicinal or drug-like benefits [1]. Natural ingredients used in cosmeceutical formulations originate from a variety of different sources, as the possibilities are limitless when it comes to plant species. As Greece is one of the biodiversity hotspots, its endemic flora could be expected to provide new promising agents [2]. Thus, the aim of this study was the evaluation of different plant materials towards their cosmeceutical related properties. More than 50 plant species were collected and extracted using Accelerated Solvent Extraction (ASE) as well as Supercritical Fluid Extraction (SFE-CO_2). The derived extracts were subjected to phytochemical (LC-HRMS/MS and HPTLC) and biological screening. Specifically, they were evaluated for possible tyrosinase, elastase and collagenase inhibitory activity as well as cytotoxic and anti-ageing properties. Furthermore, the antioxidant and photoprotective properties in cellular models were assessed together with anti-melanogenesis profile in zebrafish model. Based on the responses to the different targets, the extracts were compared, prioritised and correlated with their chemical compositions. Amongst others *Juniperus turbinata*, *Achillea millefolium* and *Citrus medica* are rich in compounds such as gallotannins, flavonoid glycosides and phenolic acids, and revealed to be promising leads for cosmeceuticals development.

Conflict of Interest The authors declare no conflict of interest.
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P-219 Determination of the anti-aging and skin-protective potential of Greek plants

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Natural extracts are enriched repositories for identification of novel bioactive compounds or Natural Products (NPs) with cosmeceutical, pharmacological or disease treating properties. During the CosmAGE project we are performing an extensive high-throughput screening of extracts from various plants of the Greek flora, aiming to identify novel NPs with potential anti-aging and/or cosmeceutical properties. Specifically, 52 plant species and organs from different genus including *Abies sp.*, *Achillea sp.*, *Arbutus sp.*, *Cistus sp.*, *Epilobium sp.*, *Pistacia sp.*, and *Juniperus sp.*, were extracted (ASE and SFE-CO_2) and evaluated against different biological targets. In parallel LC-HRMS-based profiling was performed to reveal their chemical composition. Obtained extracts were screened in cell-free systems and in normal human skin cells for their antioxidant capacity and for their ability to activate cytoprotective modules of the proteostasis network, as well as for their potential skin protective effects as evidenced by effective inhibition of the skin aging-related enzymes, collagenase, elastase and tyrosinase. Further, they were tested in zebrafish embryos, which allow *in vivo* monitoring of complex cell behaviour and physiological parameters, for their capacity to inhibit melanogenesis and/or promote wound healing. Our findings (on-going screening) have revealed promising extracts (IC_{50} values in the range of 1-10 ug/mL) that could be a potential repository of novel NPs with anti-aging and/or skin-protective properties.

P-220 Côa Valley's medicinal plants as potential cosmetic ingredients: cytotoxic and antioxidant screening

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Côa Valley is a Northeast region of Portugal, classified as a UNESCO World Heritage Site since 1998, and recognised as "the most important open-air Paleolithic rock art site". So far, little is known about the natural endogenous resources of this territory, namely medicinal plants. According to a preliminary ethnobotanical survey in this region, several medicinal plants were mentioned to have skin-beneficial effects. However, many of them still lacking scientific validation. Taking into account the results gathered during the survey carried in the CôaMedPlants project, the main goal of this investigation is to assess the cytotoxicity and antioxidant activity of selected species to incorporate them into scientific-validated plant- based cosmetic formulations and create an exclusive cosmetic brand for Côa Valley. Therefore, nine species were selected and their hydroalcoholic extracts (EtOH 80 %) were prepared. Their non-cytotoxic concentrations were determined in vitro using the Normal Human Dermal Fibroblasts (NHDF) cell line, by the evaluation of metabolic activity through the Alamar Blue assay, and cell mass estimation according to the sulforhodamine B (SRB) assay.

Most of the extracts revealed non-toxic concentrations ≤ 0.2 mg/mL using the NHDF cell model. Afterwards, non-cellular techniques were used to screen the antioxidant activity of these ethanolic extracts, through DPPH, ABTS, CUPRAC and FRAP assays. From the 9 species studied, the most promising so far are: *Arbutus unedo* L., *Cistus albidus* L., *Cistus salviifolius* L., *Lavandula pedunculata* (Mill.) Cav. *and Pistacia terebinthus* L., which will be further investigated in-depth, to characterise their antioxidant potential using in vitro cell models.