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Application of Anthocyanins from Fruit Waste in Cosmetics

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Blackcurrant, aronia and cherries are rich sources of anthocyanins, and these pigments are predominantly present in the berries' epicarp. The fruits are used in the food industry to produce various juices, jams and other preparations. Waste skins are obtained in large quantities from these products, representing a sustainable, food-grade raw material. However, anthocyanins from fruit sources have moderate stability in aqueous environments, they are also pH sensitive and overall present application limitations. Over the past years, Keracol Ltd has developed scalable processes for the extraction and purification of anthocyanins. Our studies on the extraction processes as well as the applications in formulation allow us to gain a better understanding of anthocyanin chemistry. For instance, the preservation of glycosylation in the extraction process and purification steps is of utmost importance as it enables advantageous formulation and stability. Our research efforts aim at the use of these extracts in consumer products, and in particular colour cosmetics as a natural and sustainable source of pigments and colour. We exploit biomimetic approaches for the design of our formulations that are now available under the brand Dr. Craft. Herein we will present the technology developed and used in Dr. Craft's Natural Purple Berry Brightening serum, a hair care product that neutralises yellow and brassy tones in blonde, silver and grey hair by depositing blue pigments onto the hair. Other products on the market use synthetic dyes, such as Acid Violet 43 and HC Blue No. 2, but the Dr. Craft product uses blue pigments result from delphinidin and cyanidin derivatives present in our blackcurrant extract and actually provides superior technical performance in comparison with the synthetic alternative.