

## Application of the concept of plant refining in the saffron of morocco for the valuation integrated by the aromatic and coloring potential

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For a few years, typical products from morocco generated a great interest at both national and international levels. Among the abundance of studies, our interest went to Taliouine's saffron, traditionally grown in the region of Taliouine (Souss Massa Draa Morocco). The objective of this research is to contribute to a better understanding of potential molecular co-products of the culture of the saffron flower, leaf and bulb to propose new valuations, particularly in the field of flavors and dyes.

Saffron is a high-value spice obtained from dried *Crocus sativus* Linnaeus stigmas. It is widely used as condiment for its delicate flavor and intense color. Although the production of 1 Kg of saffron requires more than 160 000 flowers, only few studies have been carried out on *Crocus sativus* L; flowers. Especially the aroma potential of the flower has not yet been subject of detailed investigation. During the saffron harvesting season in October 2012; flowers from morocco have been collected. After removing the stigmas, fresh flowers have been extracted by two different methods: hexane maceration was applied, leading to extracts called 'concrete' and 'absolute'. The essential oil and the aromatic water were obtained by steam distillation. The volatiles of these products were analyzed by GC/MS.

Essential oil was analyzed by a gas chromatograph coupled to a mass spectrometer and performed with a DB5ms column (30 m, 0.25 mm i.d., 0.25  $\mu$ m f.t.). the conditions were as follows: helium carrier gas flow rate 1.3 ml.min<sup>-1</sup>, temperature program; 40°C, 2°C .min<sup>-1</sup>, 100°C, 4°C.min<sup>-1</sup>, 250°C, 20 min; split 10 ml.min<sup>-1</sup>; detector 250°C, injector 200 °C.

n-alkanes (C5-C 18, 0.1  $\mu$ L) were injected into the same chromatographic conditions (split 100 mL/min). The identification was performed using retention indices.

### Biography

El Madani Nadia is a second year doctoral student in the laboratory plant chemistry and organic synthesis and Bio-organic, active member of the slow food association, Morocco and is interested in medicinal aromatic plant and medicinal chemistry.

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