

Title: **Authentication of spices by chromatographic techniques**

Student: Maria Gascó Orgillés

Date: January 2020

Supervisor/s: Dra. Núria Serrano Plana

Department of Chemical Engineering and Analytical Chemistry

Dr. José Manuel Díaz Cruz

Department of Chemical Engineering and Analytical Chemistry

Nowadays, the authenticity of foods and the detection of adulterations have become a major concern for all parties involved in the food industry. With this imperative to the protection of consumers and food safety, food researchers have been involved in the investigation and development of fast and efficient analytical techniques for the detection of adulteration and food fraud. Herbs and spices are one of the foods widely investigated due to their multiple uses, mainly in the culinary area, but also for its use in medicine and cosmetics industry. These products are especially susceptible to adulteration due, among other reasons, to their possible Protected Designation of Origin (PDO) and therefore, to their high market price. Among the analytical techniques used for food authentication, chromatographic techniques assisted by chemometrics are especially important since they can provide faster and more accurate results in authentication and detection of adulterations.

The main goal of this work is to carry out a bibliographic research about the chromatographic techniques used for the authentication of herbs and spices. Although the research is not really exhaustive, it gives a general idea of which herbs and species are the most investigated and which techniques are the most used.

Keywords: Herbs, spices, food authentication, adulterations, chromatographic techniques, detectors, chemometrics.