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Separation and identification of *Cis/Trans* β-carotene isomers of virgin olive oils

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Virgin olive oil (VOO) is a basic component of Mediterranean diet, due to their known effects on health. Also, it plays an important role in preventing various diseases. Its beneficial properties are due two factors: an adequate composition of fatty acids and others fundamental minority components and a particular organoleptic and colorimetric profile. Between all these components, we pay attention to β-carotene pigment. It has a high nutritional importance, being the precursor of vitamin A, besides exerting antioxidant effect in the VOO. The carotenoid profile of the VOO depends of different factors, such as olive variety, olive ripening stage and olive oil extraction and storage conditions. The first two factors only cause quantitative differences, since the carotenoide qualitative composition is basically the same in all the olive varieties. However, VOO carotenoide pigments profiles are easily degraded if the oil is subjected to a slight heat treatment. In nature, carotenoids are in the transconfiguration. But, due to a heat treatment, trans forms isomerize to cisforms. Nowadays, different chromatographic methods have been developed to separate and identify olive oil pigments, but they present two important disadvantages: firstly, β-carotene extract contains others components that can interfere in the subsequent identification and separation; secondly, the oil amount used is very low, so some cis isomers are not detected. We propose a new and quickly method to the qualitative and quantitative determination of VOO carotenoid profile.

Biography

Maria E Escuderos has completed his PhD in chemistry from Jaén University (Spain) in 2008 and Postdoctoral studies from Florence University (Italy). She's currently a researcher of IFAPA (Spain) investigation centre and her work is focused on E-nose, sensory and chemical quality. She has published more than 10 papers in reputed journals.

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