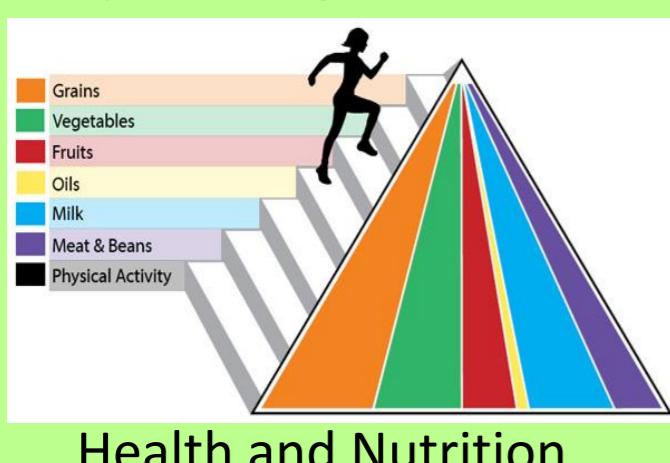


Master of Innovation in Food Safety and Technology

Food Safety and Technology are topics of global interest influenced by numerous factors. Food production and consumption are essential for every society and have **economic, health, social** and, in many cases, **environmental** repercussions being a current issue in all of this fields.

It is an important part in both **health** and **experimental science** areas, fostering their growth and development.

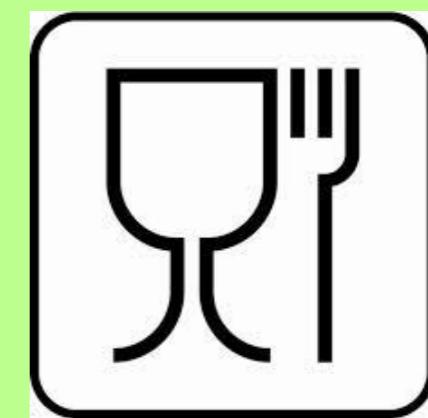
Quality training in:



Health and Nutrition



Food Safety and Technology



E.U. legislation regarding consumer health and food control

Research at Analytical Chemistry, Nutrition and Bromatology department



DEPARTAMENTO DE QUÍMICA ANALÍTICA,
NUTRICIÓN E BROMATOLOGÍA

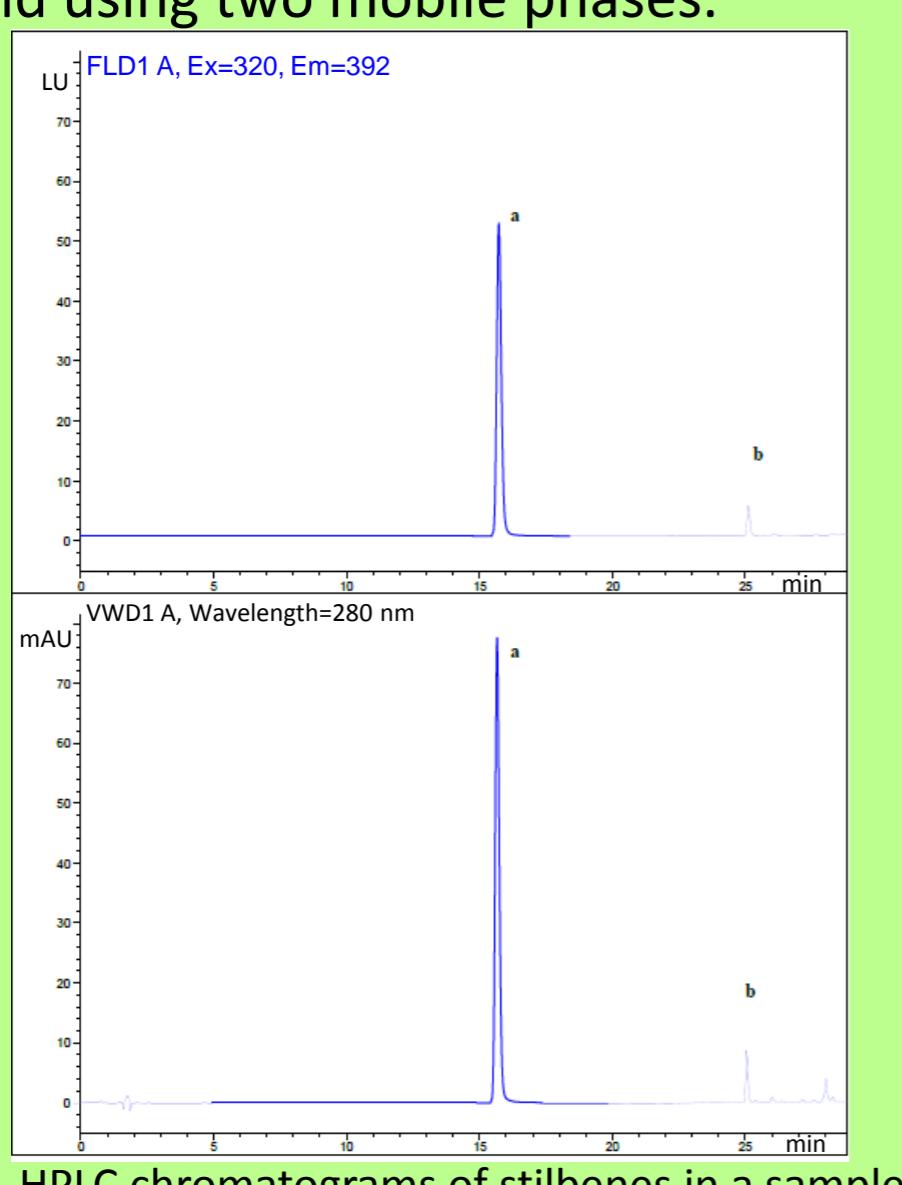
- Food Contact Materials and Food Quality
- New Technologies for Analys and Food Processing
- New Methods for Food Control

Comparison of Methods for the Determination of Vegetal Bioactive Compounds

The aim of the study is to compare two different methods for the determination of various polyphenols from vegetal sources.

HPLC method

Samples are analysed using a chromatography system with a variable wavelength detector and a fluorescence detector and using two mobile phases.

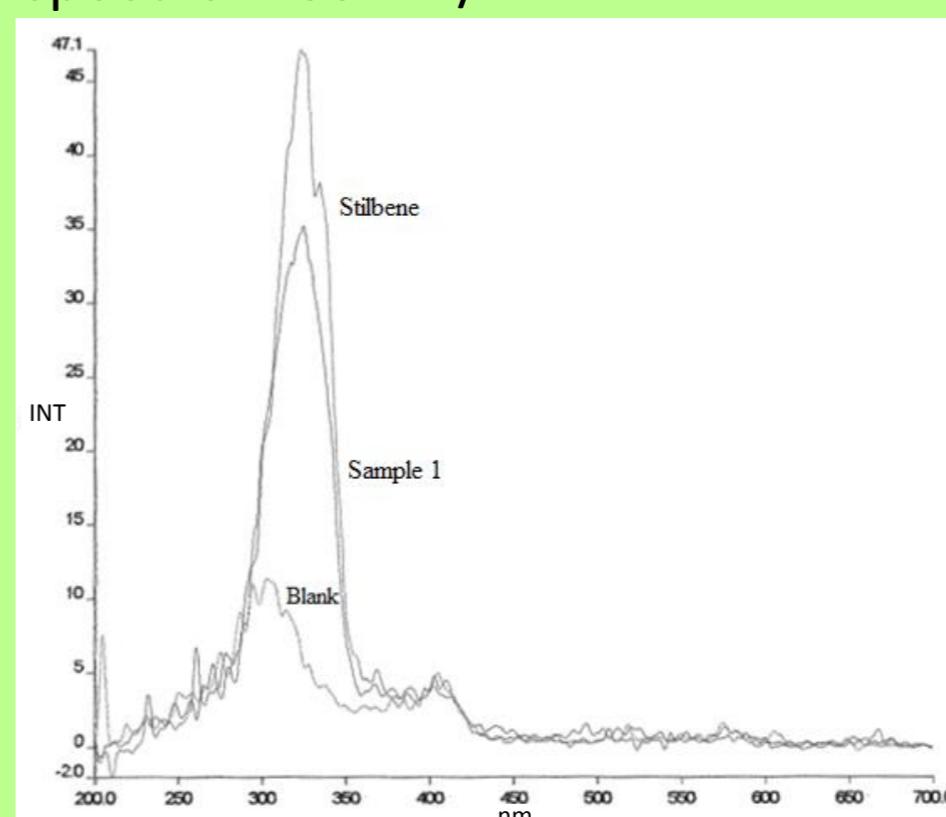


HPLC chromatograms of stilbenes in a sample

Constant-wavelength synchronous spectrofluorimetry.

Optimum excitation-emission wavelength difference for the analysis of the solutions between 200 nm and 700 nm.

Optimum excitation-emission wavelength interval at 378 nm and a scan speed of 480 nm/min.



Spectrofluorimetry spectra of a standard and a sample comparing to blank.

HPLC-PDA-MS/MS as a confirmatory technique

To confirm the identification of the polyphenols in the samples. Polyphenols are characterized by its retention time relative to an external standard obtaining precursor and fragmentation ions.

HPLC is a very **sensitive** and **precise** technique with a great **linearity**. It can be used for **quantitative analysis of complex samples**.

Constant-wavelength Synchronous Spectrofluorimetry is a **simple, fast** and **inexpensive** technique also with a good sensitivity, but some **interferences** can be shown in the analysis of complex samples.

Results shows that both methods are **valid** and present a **strong correlation** between them.