

Thermal study and composition of edible oils combined by TG/DTG analysis through predictive statistical model

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The edible oils adulteration determination is a crucial issue in the control and quality of edible oils due to change in the physicochemical and organoleptic properties that it produces; however, the techniques are of qualitative type; in this work, a methodology was developed based on the thermal analysis (TG/DTG) of oil and a statistic model of deconvolution of peaks of the different oils was developed. The result showed that the use of variables such as temperature and percentage of decomposition of olive?avocado oil in this analysis elaborated five equations for the determination of percentage of the mixture on a graph of the estimated response surface. © 2020, Akadémiai Kiadó, Budapest, Hungary.

Oil adulteration

Oil blends

Pareto chart

TG/DTG analysis

Thermal analysis

Thermal stability

Physicochemical properties

Thermoanalysis

Organoleptic properties

Response surface

Statistic modeling

Statistical modeling

Thermal study

Quality control