

Performance of polyunsaturated oils during frying of potatoes in fast food shops:
Formation of new compounds and correlations between analytical methods
Comportamiento de aceites poliinsaturados en la preparación de patatas fritas
para consumo inmediato:

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In this study, different analytical methods, i.e. polar compounds, polar compound distribution, free fatty acids, peroxide value, conjugated dienes and trienes, oxidized fatty acids, viscosity and oxifrit-test, are applied to samples of both initial polyunsaturated oils and their counterparts after being used in the frying of potatoes in fast food shops. Two main objectives were established: the study of formation of new compounds during the frying process and the evaluation of possibilities to substitute complex methodologies for simpler and more rapid techniques. Results indicated that, although new compounds coming from oxidation and polymerization stand out, 20% of the samples contained very high amounts of hydrolytic products i.e. diglycerides and fatty acids, whose formation is difficult to explain. From the analysis of correlation coefficients between analytical methods, the utility of free fatty acids and conjugated dienes (or viscosity) to predict the amount of the main group