

Optochemical and Electrochemical Method to Study of Vegetable Oil Deterioration

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Abstract : This research aimed to study the kinetic reaction of reused cooking oil and to find the optimum condition of its process. The feedstock was collected from the street sellers and also prepared at laboratory. From this research, it is found that the kinetic reaction of reused sunflower oil (auto-oxidation) is obtained in terms of variation of the absorption coefficient of unexposed sunflower oil as 0.05 which is very close to that of exposed sunflower oil 0.075. At room temperature, the optimum intensity obtained from optical absorption spectroscopy study is 0.267 for unexposed sunflower oil and 0.194 for exposed sunflower oil. However, results indicated that FTIR spectroscopy is accurate and precise enough for such determination. Free Fatty Acid (FFA% = 026), acid ~53% and saponification ~%192 get reduce in exposed oil was investigated.

Keywords : friction, oxidation, sunflower oil, vegetable oils

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