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Fluorescence spectroscopy to identify quality of coconut oil and sunflower oil

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Scientists pay much more attention towards fluorescence spectroscopy as it is more sensitive and selective than other spectroscopic methods. The fluorescence techniques are widely used to identify the quality of foods such as milk, fruits, and water. The objective of this research is to investigate the correlation between fluorescence intensity and thermal degradation of coconut oil (Saturated fatty acids) and sunflower oil (an unsaturated fat). Coconut oil and sunflower oil were thermally degraded at constant temperature for different time intervals. The fluorescence intensity of fresh sunflower oil (12347.09 a.u.) was higher than fresh coconut oil (11052.13a.u.). In both oils, the fluorescence intensity decreased with thermal degradation. Furthermore, according to the correlation obtained between fluorescence patterns and thermal degradation of oils, it is clear that it is possible to use this technique to develop useful sensors to detect quality of coconut oil and sunflower oil.

Key words: *Fluorescence intensity, coconut oil, sunflower oil, food industry, sensor*

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