

# Raman spectroscopy and Excitation Emission Matrix for analyzing adulteration in coconut oil

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**Abstract:** - Oils are mainly complex mixture of triacylglycerol with other compounds such as monoband diacylglycerol, free fatty acids, phosphatides, sterols, fatty alcohols, fat-soluble vitamins, chlorophylls, and other substances. Adulteration of oils severely affects the quality of the oil, the palm kernel oil is the most widely used adulterant in the industry, it severely affects the human health. In this experiment different concentration of palm kernel oil was added to adulterate the coconut oil and different brands of commercially available coconut oils were used in the experiment. In this study Raman spectroscopic method and excitation emission matrix method was employed to understand the changes in adulterated oil at different concentrations and in commercially available oils in the market.