The Polar Compound Measuring Tool Referred from the Frying Oils Viscosity

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The objective of this project was to develop the polar compounds measuring tool referred from the frying oils viscosity. The relationships between the polar compounds content in reused frying oils and their viscosity determined from the tool developed was investigated in order to indicate oil whose polar compounds exceed standard value. The tool developed was applied from the prototype of the Couette viscometer and use the torsion pendulum principle. The relationships between the tool developed and the Brookfield viscometer are tested with syrup to find the relationships between the viscosity values and the polar compounds content evaluated from the Department of Medical Sciences polar compounds test kits henceforth. Oil samples tested are from frying French fries with varying numbers of frying of 20, 40, 60, 70 and 80 times. The uncooked oil sample was used as a control. Viscosity values of the oil samples were also tested with the polar compounds content evaluated from the kits. The result revealed that the viscosity values fluctuate with the numbers of frying and samples which result more than 56.3° of the angular displacement referred from the tool developed is considered degraded.

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