



Total phenolic content and antioxidant activity of coconut oil with some extracted curcuma species in Thailand

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Coconut oil enriched with phenolic compounds from some curcuma species can be used in cosmetic products or food supplement. The objectives of this work were to produce coconut oil with extracted some curcuma species including *Cucuma aeruginosa* Roxb, *Cucuma parviflora* Wall, *Curcuma Zedaria* Roscoe, *Curcuma aurantiaca* Van Zijip., and to determine the antioxidant activity and the total phenolic content in coconut oil enriched with some extracted. The antioxidant activity of resulting coconut oil was assayed with DPPH (2,2-diphenyl-1-prohydrozyl), and ABTS. Antioxidant activity with ABTS calculated in IC_{50} (the concentration of an antioxidant at with 50% inhibition of free radical activity), IC_{50} values at 30 min was found in the range of 0.36 to 20.40 mg/ml. %Inhibition at 30 min of 20 mg/ ml of coconut oil with some extracted curcuma species was assayed with DPPH, inhibition varied within the range of 10.70 - 91.38. The results showed that the coconut oil with extracted *Curcuma Zedaria* Roscoe had the highest antioxidant activity calculated in IC_{50} and %inhibition, 0.36 mg/ml and 91.38 for DPPH assay and ABTS radical scavenging assay, respectively. Based on the Folin-Ciocalteu method, the total phenolic content was found in the range of 2.95 to 132.42 mg/g oil. Coconut oil with extracted *Curcuma Zedaria* Roscoe had the highest the total phenolic content (132.42 mg/g oil) among other species.

Keywords: coconut oil; total phenolic content; antioxidant activity; curcuma species