



Stability of blended oil between fish oil from *Barbodes altus* and coconut oil with extracted ginger

Benjamad Khunrang*, Wacharaphon Srijanya, Tarit Na Songkhla , Nutthawadee Prabtan and Pensri Penprapai

Faculty of Science and Technology, Rajamangala University of Technology Srivijaya, Nakhon Sri Thammarat, 80110, Thailand

*e-mail: piw199555@gmail.com

Fish oil from *Barbodes altus* contains unsaturated fatty acid including omega 3 fatty acid. It is susceptible to oxidation. Medium chain saturated fatty acid and antioxidant is often used to protect and inhibit oxidation of oil with high unsaturated fatty acid composition. Coconut oil contained high medium chain saturated fatty acid such as lauric acid (C12) has high in oxidative stability. Rhizome of fresh Ginger has phenolic compound as powerful antioxidant. The objective of this work was to study stability to oxidation of blended oil between fish oil from *Barbodes altus* and coconut oil with extracted ginger. Blended oil between fish oil from *Barbodes altus* and coconut oil with extracted ginger was produced for 3 hr at 50 °C. Fatty acid composition, total phenolic content and induction time from rancimate technique was determined to investigate the stability to oxidation of blended oil between fish oil and coconut oil with extracted ginger. Fatty acid composition was determined by gas chromatography. Saturated/unsaturated fatty acid ratio of blended oil is nearly 1 which was optimally stable composition. Based on the Folin-Ciocalteu method, the total phenolic content in blends oil was found to be 48.80 mg/1 g oil (expressed as gallic acid). Induction time of fish oil from *Barbodes altus* and blended oil is 2 and > 48 hr., respectively. The result clearly showed blended oil with high total phenolic compound and optimally saturated/unsaturated fatty acid ratio has higher oxidative stability than fish oil. Moreover, The blended oil has proper fatty acid composition for nutrition.

Keywords: blended oil; fish oil; coconut oil; oxidative stability