

ANALISIS KADAR DAN POSISI ASAM LAURAT DALAM TRIGLISERIDA VIRGIN COCONUT OIL DENGAN METODE SAPONIFIKASI

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INTISARI

Analisis kadar dan posisi asam laurat dalam trigliserida *virgin coconut oil* (VCO) dengan metode saponifikasi telah dilakukan. Tujuan dari penelitian ini adalah melakukan saponifikasi dengan variasi konsentrasi NaOH pada VCO untuk mendapat kadar dan posisi asam laurat dalam trigliserida VCO. Saponifikasi menggunakan NaOH sebesar setengah bilangan penyabunan agar masih tersisa minyak tak tersabunkan dari VCO dan melalui cold process selama 2 minggu agar asam lemak dalam sabun dan minyak tak tersabunkan tidak rusak. Analisis pada penelitian ini menggunakan instrumen *Gas Chromatography* (GC).

Hasil penelitian menunjukkan bahwa seluruh asam lemak penyusun VCO pada minyak tak tersabunkan dan sabun masih terbaca dalam kromatogram yang dianalisis dengan instrumen GC. Kadar asam lemak pada minyak tak tersabunkan dan sabun VCO mengalami perubahan, asam laurat pada minyak tak tersabunkan mengalami penurunan, dengan variasi konsentrasi NaOH 8 M; 8,5 M; 9 M; dan 9,5 M, kadar asam laurat pada minyak tak tersabunkan secara berturut-turut menjadi 51,41%; 51,85%; 49,67%; dan 51,72%, sedangkan kadar asam laurat pada sabun VCO menjadi 49,45%; 47,95%; 7,27%; dan 51,20%. Kadar asam laurat pada sabun VCO yang disaponifikasi dengan NaOH 9 M mengalami penurunan yang signifikan membuktikan bahwa asam laurat berada di posisi sn-2 pada trigliserida sehingga asam laurat sulit dihidrolisis saat saponifikasi.

Kata kunci: asam laurat, asam lemak, trigliserida, saponifikasi, virgin coconut oil

ANALYSIS OF LAURIC ACID LEVELS AND POSITIONS IN VIRGIN COCONUT OIL TRIGLYCERIDES WITH SAPONIFICATION METHOD

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ABSTRACT

Analysis of lauric acid levels and positions in virgin coconut oil (VCO) triglycerides using the saponification method has been carried out. The purpose of this study was to perform saponification with various concentrations of NaOH in VCO to obtain the levels and positions of lauric acid in VCO triglycerides. Saponification using NaOH equal to half the amount of saponification so that the unsaponifiable oil remains from the VCO and through a cold process for 2 weeks so that the fatty acids in the soap and unsaponifiable oil are not damaged. The analysis in this study used a Gas Chromatography (GC) instrument.

The results showed that all the fatty acids that make up the VCO in the unsaponifiable oil and soap were still legible in the chromatogram which was analyzed with the GC instrument. Fatty acid levels in unsaponifiable oil and VCO soap changed, lauric acid in unsaponifiable oil decreased, with variations in the concentration of NaOH 8 M; 8.5 M; 9 m; and 9.5M, the lauric acid content in the unsaponifiable oil was 51.41%; 51.85%; 49.67%; and 51.72% respectively, while the lauric acid content in VCO soap was 49.45%; 47.95%; 7.27%; and 51.20%. Lauric acid levels in VCO soap saponified with 9 M NaOH experienced a significant decrease, proving that lauric acid was in the sn-2 position on triglycerides so that lauric acid was difficult to hydrolyze during saponification.

Keywords: lauric acid, fatty acids, triglycerides, saponification, virgin coconut oil.