**Incrementing MCT Character of Coconut Oil Using Enzyme Catalyzed Interesterification**

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Supplementary Table 1. Retention times of fatty acid methyl esters in standard mixture.

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| Fatty acid symbol | Fatty acid trivial name  | Retention time (min) |
| C8 | Caprylic acid | 2.95 |
| C10 | Capric acid | 5.58 |
| C12 | Lauric acid | 10.09 |
| C14 | Myristic acid | 13.18 |
| C16:0 | Palmitic acid | 15.83 |
| C16:1 | Palmitoleic | 15.54 |
| C18:0 | Stearic acid | 18.78 |
| C18:1 | Oleic acid | 18.18 |
| C18:2 | Linoleic acid | 17.74 |
| C18:3 | Linolenic acid | 17.54 |
| C20:0 | Arachidic acid | 19.33 |

Supplementary Table 2. Fatty acid composition of coconut oil (Naturel brand) determined by gas chromatography.

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| --- | --- |
| **Analysis Items** | **Specifications (%)** |
| **Medium chain fatty acid** |  |
| Caprylic acid (C8:0) | 8.20 |
| Capric acid (C10:0) | 6.30 |
| **Long chain fatty acid** |  |
|  Lauric acid (C12:0) | 48.50 |
|  Myristic acid (C14:0) | 17.80 |
|  (C16:0) | 8.60 |
|  (C18:2) | 2.40 |
|  (C18:1) | 6.60 |
|  (C18:0) | 1.60 |
|  Other | - |

Supplementary Table 3. Lack of fit parameters for the RSM model.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **Sum of squares** | **F Value** | **p-value** | **Significance** |
| Lack of fit | 0.46 | 7.97 | 0.1152 | Not significant |

Supplementary Table 4. Fatty acid composition of modified coconut oil obtained after modification at 1 g scale using optimized reaction conditions determined by gas chromatography.

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| --- | --- |
| **Analysis Items** | **Specifications (%)** |
| **Medium chain fatty acid** |  |
| Caprylic acid (C8:0) | 41.26 |
| Capric acid (C10:0) | 2.78 |
| **Long chain fatty acid** |  |
|  Lauric acid (C12:0) | 29.84 |
|  Myristic acid (C14:0) | 11.69 |
|  (C16:0) | 6.43 |
|  (C18:2) | 2.02 |
|  (C18:1) | 5.21 |
|  (C18:0) | 0.77 |
|  Other | - |

Supplementary Table 5. Fatty acid composition of modified coconut oil obtained after modification at 20 g scale using optimized reaction conditions determined by gas chromatography.

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| **Analysis Items** | **Specifications (%)** |
| **Medium chain fatty acid** |  |
| Caprylic acid (C8:0) | 38.04 |
| Capric acid (C10:0) | 2.81 |
| **Long chain fatty acid** |  |
|  Lauric acid (C12:0) | 30.93 |
|  Myristic acid (C14:0) | 11.94 |
|  (C16:0) | 6.27 |
|  (C18:2) | 2.52 |
|  (C18:1) | 6.18 |
|  (C18:0) | 1.31 |
|  Other | - |

Supplementary Table 6. Fatty acid composition of modified coconut oil obtained after modification at 1 g scale using optimized reaction conditions and methyl esters sourced from fatty acid distillate determined by gas chromatography.

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| --- | --- |
| **Analysis Items** | **Specifications (%)** |
| **Medium chain fatty acid** |  |
| Caprylic acid (C8:0) | 24.93 |
| Capric acid (C10:0) | 14.21 |
| **Long chain fatty acid** |  |
|  Lauric acid (C12:0) | 33.50 |
|  Myristic acid (C14:0) | 15.26 |
|  (C16:0) | 6.82 |
|  (C18:2) | 2.13 |
|  (C18:1) | 5.36 |
|  (C18:0) | 0.79 |
|  Other | - |