

## Supporting Information

### **Fruit mesocarp of the Brazil-native Licuri palm (*Syagrus coronata*) as a dual and sustainable source of oil and lipase for biorefinery applications**

French title : Nouvelle source d'huile et d'activité lipase dans le mesocarpe du Licuri (*Syagrus coronata* (Mart.) Becc.), un palmier indigène du Brésil, pour des applications en bioraffinage.

Milena Chagas Lisboa<sup>a,b\*‡</sup>, César de Almeida Rodrigues<sup>a,b‡</sup>, Moulay Sahaka<sup>b</sup>, Hélène Launay<sup>b</sup>, Ranyere Lucena de Souza<sup>a,c</sup>, Frédéric Carrière<sup>b\*</sup>, Álvaro Silva Lima<sup>d</sup> and Cleide Mara Faria Soares<sup>a,c\*</sup>

<sup>a</sup>UNIT, Universidade Tiradentes, Av. Murilo Dantas, 300, Farolândia, Aracaju, SE, Brazil;

<sup>b</sup>Aix-Marseille Université, CNRS, UMR7281 BIP, 13402 Marseille cedex 09, France

<sup>c</sup>ITP, Instituto de Tecnologia e Pesquisa, Av. Murilo Dantas, 300, Bloco ITP, Farolândia, Aracaju, SE, Brazil

<sup>d</sup>UFBA, Federal University of Bahia, Department of Chemical Engineering, Rua Aristides Novis 2, Federation, Salvador, BA, Brazil

## Contents

**Figure S1.** Original Picture from **Figure 3 (A)**. Left: Kernel runs, Middle: Calibration curves with TAG + FFA + DAG + MAG; Right: Mesocarp. Used in edition: 1 lane from kernel, 1 lane from mesocarp, and one lane of the calibration curve.

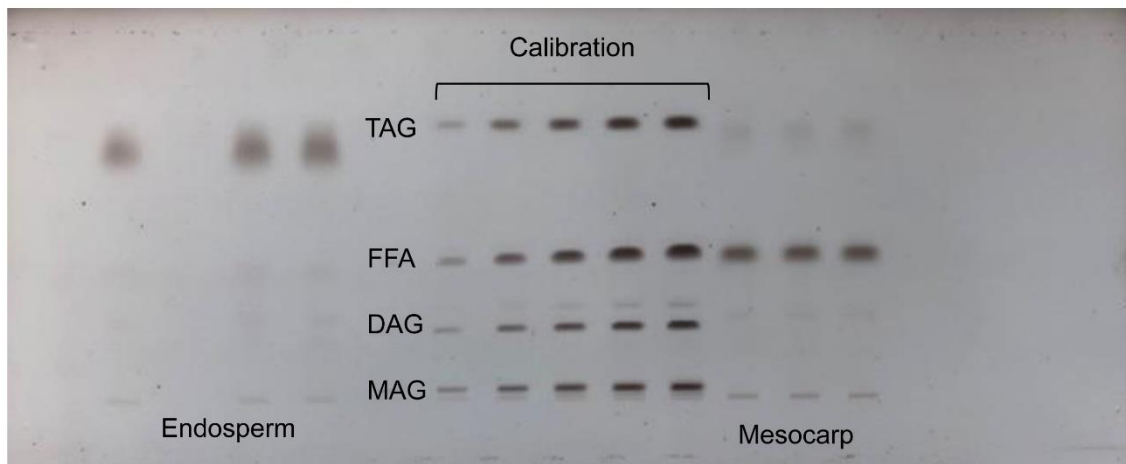
**Figure S2.** Original Picture from **Figure 3 (B)**. Left: Kernel runs (Cold-Oven-Desiccator-Folch); Right: Standards MGDG; MGMG; DGDG; DGMG. Used in edition: 1 lane Folch, standards.

**Figure S3.** Original Picture from **Figure 3 (C)**. TLC\_analysis of reference standards (MGDG, DGDG) before and after incubation with pancreatic lipase-related protein 2 (PLRP2).

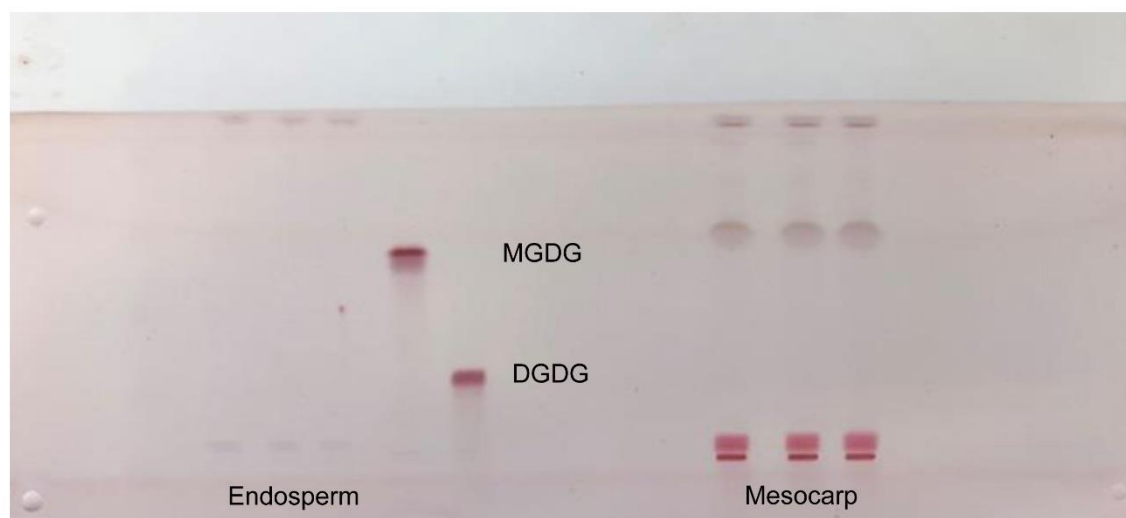
**Figure S4.** Original Picture from **Figure 4 (A)**. Left: Mesocarp without blanching (50 $\mu$ L- 50 $\mu$ L- 100 $\mu$ L - 100 $\mu$ L); Middle: Standards (MGDG and DGDG); Right: Mesocarp with blanching (50 $\mu$ L- 50 $\mu$ L- 100 $\mu$ L - 100 $\mu$ L). Used in edition: Standards, 1 lane with, 1 lane without blanching.

**Figure S5.** Original Picture from **Figure 4 (B)**. Left: Mesocarp without blanching (50 $\mu$ L- 50 $\mu$ L- 100 $\mu$ L - 100 $\mu$ L); Middle: Standards (MGDG and DGDG); Right: Mesocarp with blanching (50 $\mu$ L- 50 $\mu$ L- 100 $\mu$ L - 100 $\mu$ L). Used in edition: Standards, 1 lane with, 1 lane without blanching.

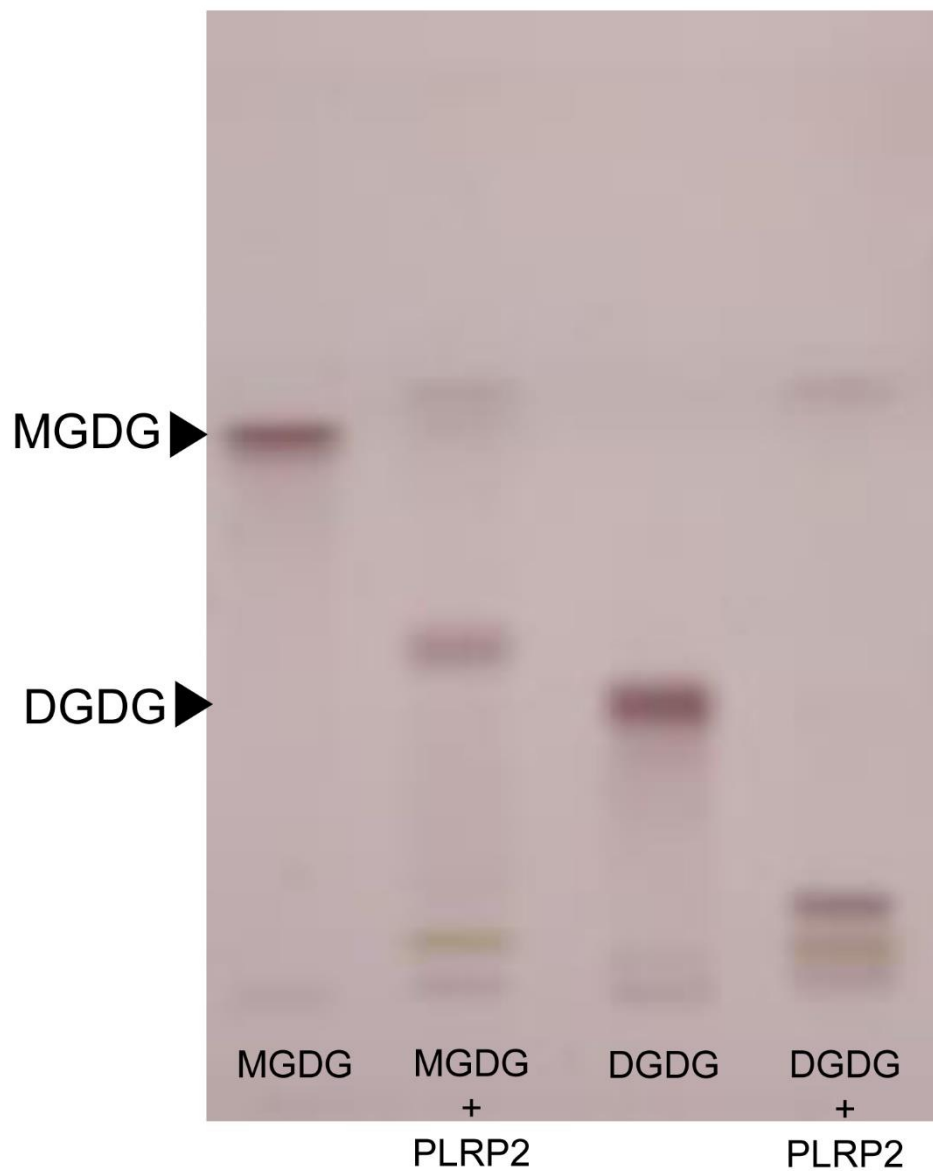
**Figure S6.** FTIR spectrum of the fractions obtained from the lipid extracts of Licuri Kernel oil (A) and mesocarp (B).



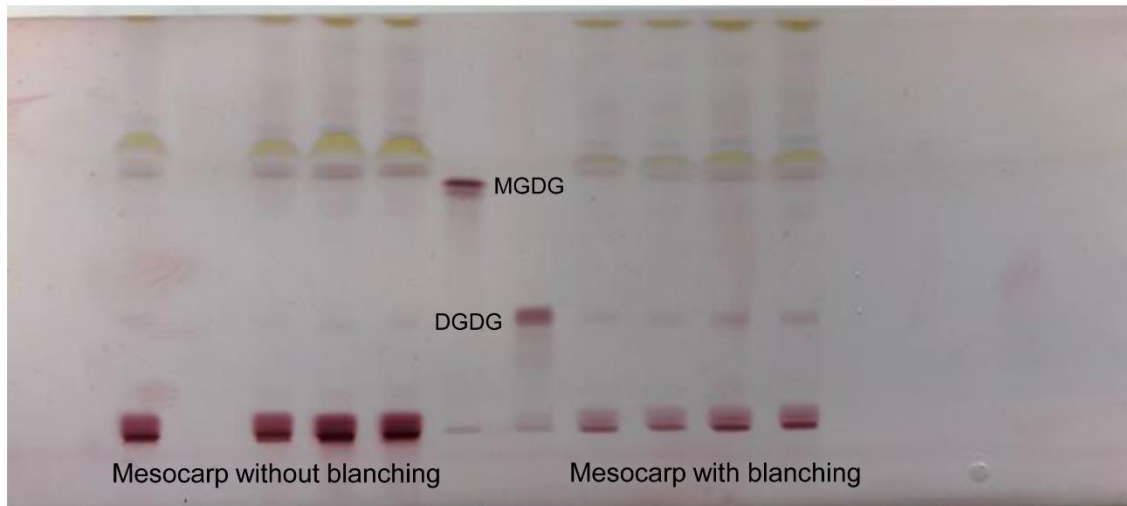
**Figure S1.** Original Picture for **Figure 2 (A)**. Left: Endosperm (Kernel) runs, Middle: Calibration curves with TAG + FFA + DAG + MAG; Right: Mesocarp. Used in edition: 1 lane from endosperm (kernel), 1 lane from mesocarp



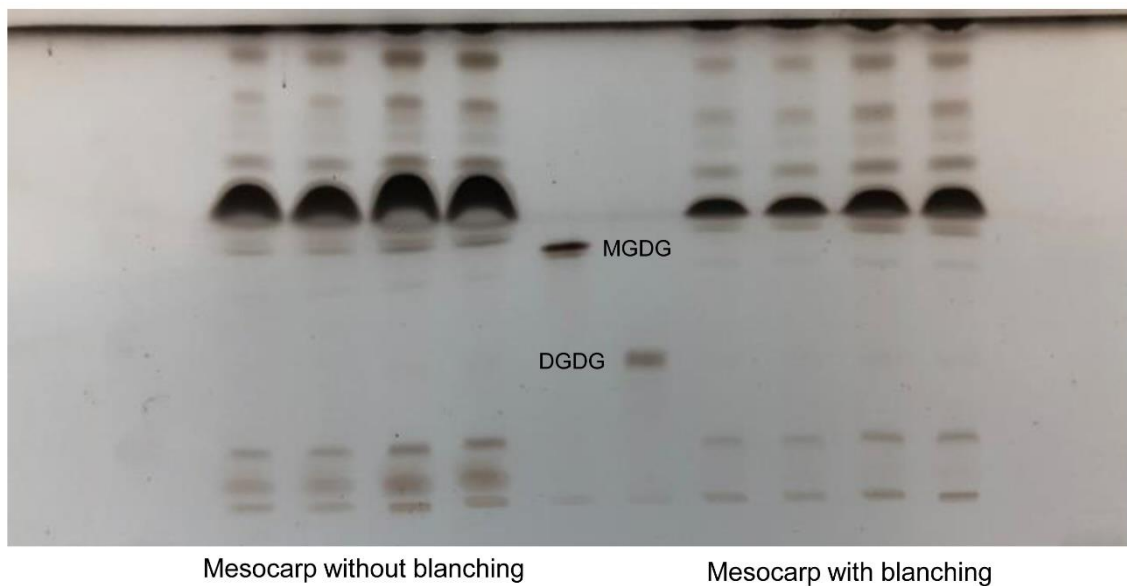
**Figure S2.** Original Picture for **Figure 2 (B)**. Left: Kernel runs; Middle: Standards (MGDG and DGDG); Right: Mesocarp runs. Used in edition: 1 lane kernel, 2 lanes standard and 1 lane mesocarp.



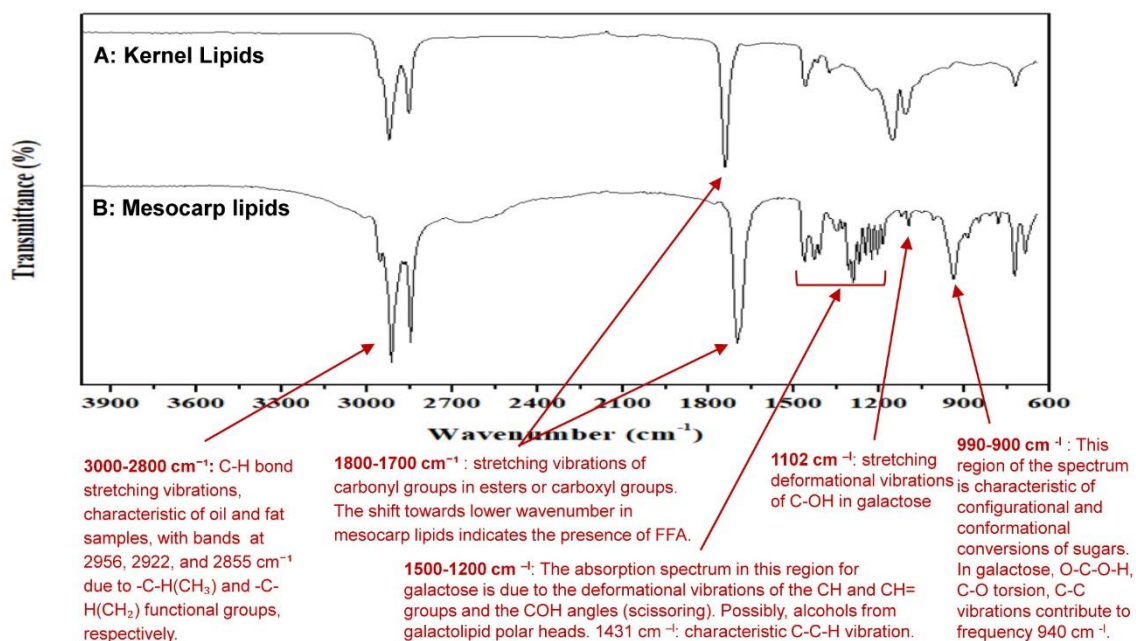
**Figure S3.** Original Picture for **Figure 2 (C)**. Figure S3. TLC analysis of reference standards (MGDG, lane 1 from the left; DGDG, lane 2) before and after incubation with pancreatic lipase-related protein 2 (PLRP2), lanes 2 and 4, respectively.



**Figure S2.** Original Picture for **Figure 3 (A)**. Left: Mesocarp without blanching (50 $\mu$ L- 50 $\mu$ L- 100 $\mu$ L - 100 $\mu$ L); Middle: Standards (MGDG and DGDG); Right: Mesocarp with blanching (50 $\mu$ L- 50 $\mu$ L- 100 $\mu$ L - 100 $\mu$ L). Used in edition: Standars, 1 lane with, 1 lane without blanching.



**Figure S3.** Original Picture for **Figure 3 (B)**. Left: Mesocarp without blanching (50 $\mu$ L- 50 $\mu$ L- 100 $\mu$ L - 100 $\mu$ L); Middle: Standards (MGDG and DGDG); Right: Mesocarp with blanching (50 $\mu$ L- 50 $\mu$ L- 100 $\mu$ L - 100 $\mu$ L). Used in edition: Standars, 1 lane with, 1 lane without blanching.



**Figure S6.** FTIR spectrum of the fractions obtained from the lipid extracts of Licuri Kernel oil (A) and mesocarp (B). All fractions obtained in the process were previously lyophilized and analyzed by Fourier transform infrared spectroscopy (FTIR), in an Agilent Cary 630 FTIR spectrometer at 25 °C, using the transmission method in the wavenumber range between 4000 and 500  $\text{cm}^{-1}$ , with 32 scans and a resolution of 4  $\text{cm}^{-1}$  in triplicate.