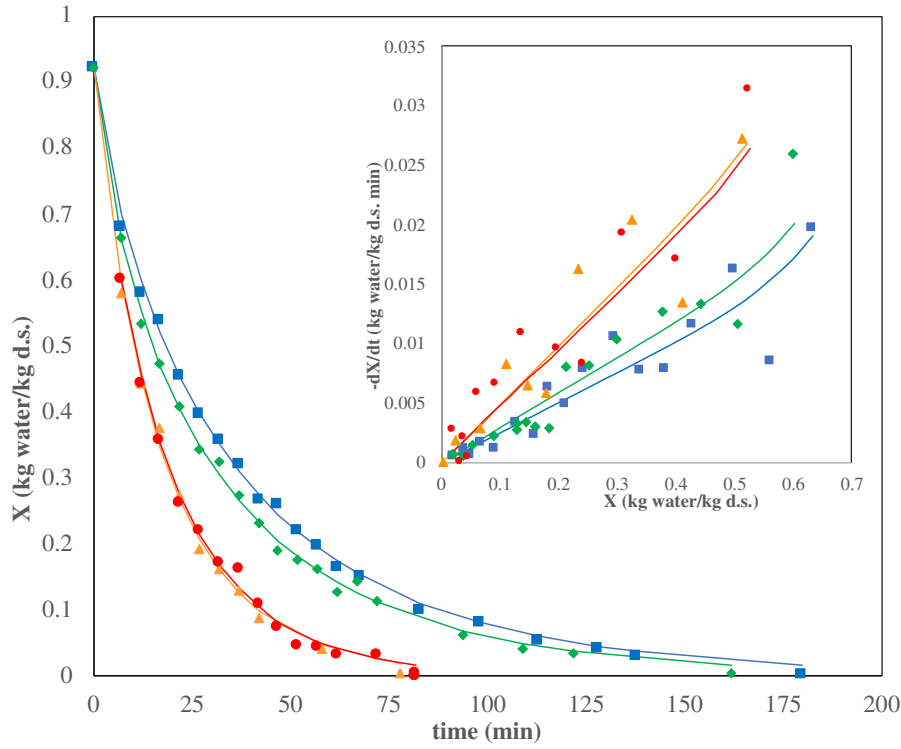


## **Supplementary Material**

### **Chitosan-Based Oleogels: Emulsion Drying Kinetics and Physical, Rheological, and Textural Characteristics of Olive Oil Oleogels**

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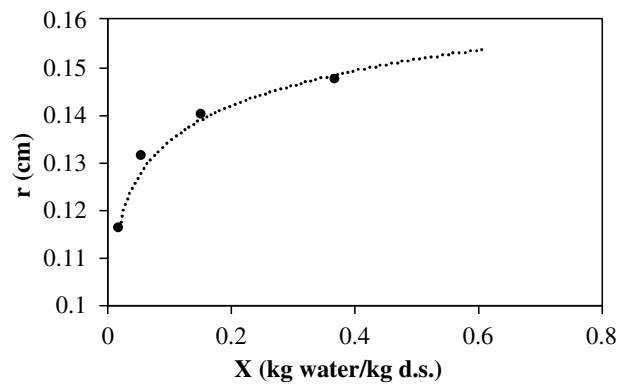
## 1. Drying kinetics of 0.7% w/w chitosan emulsions



**Figure S1.** Drying kinetics (main plot) and specific drying rates (subplot) at different air temperatures (°C): (50 ■, 60 ◆, 70 ▲, 80 ●) for the 0.7% w/w chitosan emulsions. Lines corresponded to the Page model prediction (main plot) and the diffusional model (subplot)

## 2. Thickness variation during drying

In Figure S.2, the shrinking of a system can be determined by a logarithmic relationship between thickness and moisture.



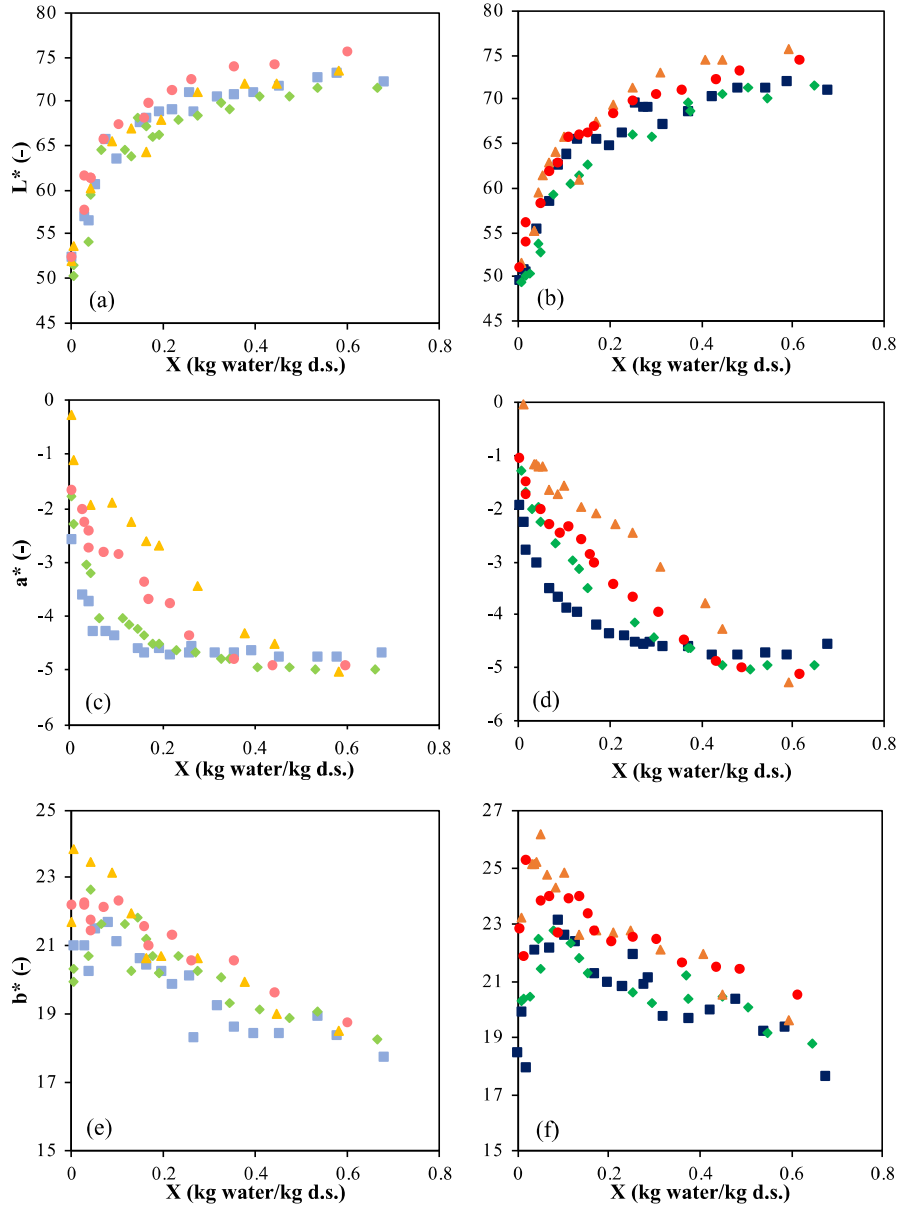
**Figure S2.** Logarithmic relationship thickness vs moisture for the system 0.7% chitosan and 70°C

This relationship is defined by Eq. S.1:

$$r(X) = 0.0107 \ln(X) + 0.159$$

Where  $r$  is the thickness in m and  $X$  is the absolute moisture (kg water/kg d.s.). Fitting present an  $R^2=0.979$  and a RMSE of 0.00575.

### 3. Color



**Figure S3:** Color coordinates trend with drying time at different air temperatures (°C): (50 ■, 60 ◆, 70 ▲, 80 ●) for the 0.8% w/w chitosan emulsions (clearer colors for 0.7% w/w). (a), (b) Brightness coordinate ( $L^*$ ); (c), (d) red-green coordinate ( $a^*$ ); (e), (f) yellow-blue coordinate ( $b^*$ ).

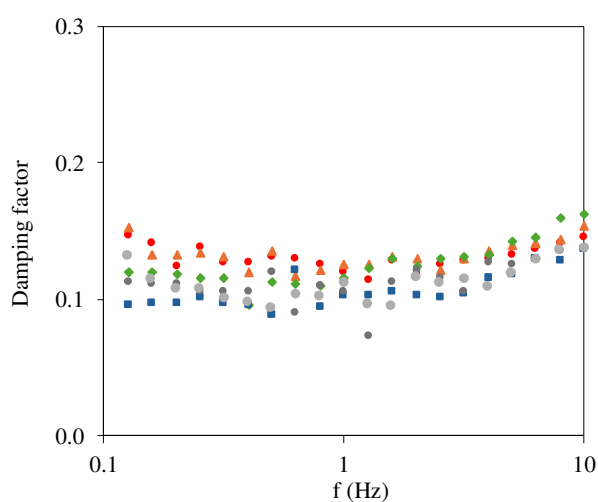
**Table S1.** Initial values of color coordinates ( $L^*$ ,  $a^*$ ,  $b^*$ ) for all the tested systems. FD (Freeze-drying)

Coordinate	$L^*$	$a^*$	$b^*$
Sample			
50°C – 0.7%	$72.38 \pm 0.94$	$-4.26 \pm 0.08$	$16.58 \pm 0.82$
50°C – 0.8%	$72.78 \pm 1.27$	$-4.11 \pm 0.09$	$16.57 \pm 0.69$
60°C – 0.7%	$71.12 \pm 1.05$	$-4.36 \pm 0.10$	$15.74 \pm 0.87$
60°C – 0.8%	$73.44 \pm 0.98$	$-4.48 \pm 0.05$	$17.15 \pm 0.56$
70°C – 0.7%	$74.15 \pm 2.74$	$-4.50 \pm 0.07$	$16.17 \pm 0.44$
70°C – 0.8%	$77.99 \pm 1.21$	$-4.75 \pm 0.09$	$16.97 \pm 0.70$
80°C – 0.7%	$76.68 \pm 1.13$	$-4.43 \pm 0.08$	$17.12 \pm 0.67$
80°C – 0.8%	$76.20 \pm 0.53$	$-4.66 \pm 0.04$	$19.18 \pm 0.36$
FD – 0.7%	$73.28 \pm 1.03$	$-4.35 \pm 1.03$	$17.26 \pm 0.52$
FD – 0.8%	$76.68 \pm 1.11$	$-4.43 \pm 1.11$	$17.12 \pm 0.68$



**Figure S4.** Freeze-dried sample with 0.7% chitosan after 48h storage.

#### 4. Rheological properties



**Figure S5.** Viscous-elastic moduli ratio ( $G''/G' =$  damping factor) with frequency of tested oleogels at different air temperatures ( $^{\circ}\text{C}$ ): (50  $\blacksquare$ , 60  $\blacklozenge$ , 70  $\blacktriangle$ , 80  $\bullet$ ) and freeze-dried ( $\bullet$ ) for the 0.8% w/w chitosan emulsions (clearer colors for 0.7% w/w).