

## SUPPLEMENTARY MATERIAL

### **Ecofriendly preparation of rosmarinic acid-poly(vinyl alcohol) biofilms using NADES, ultrasounds and optimization *via* a mixture-process design strategy**

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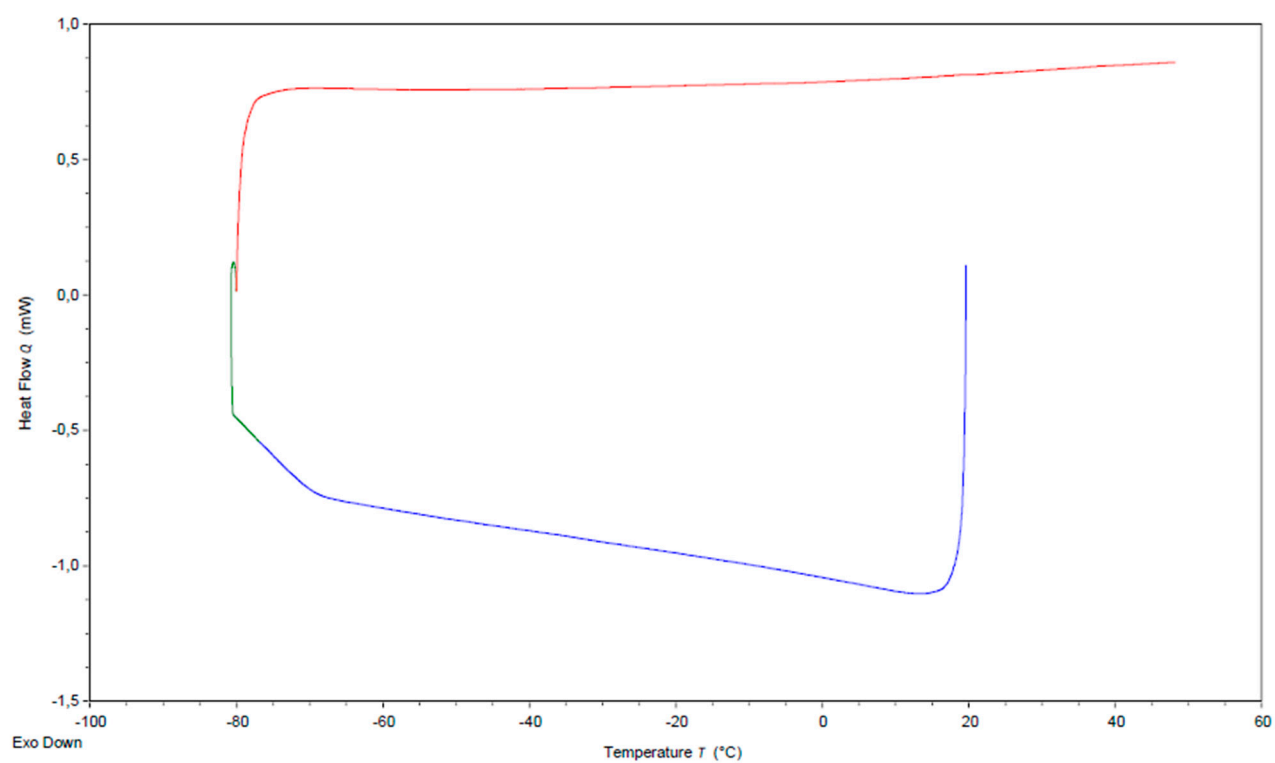
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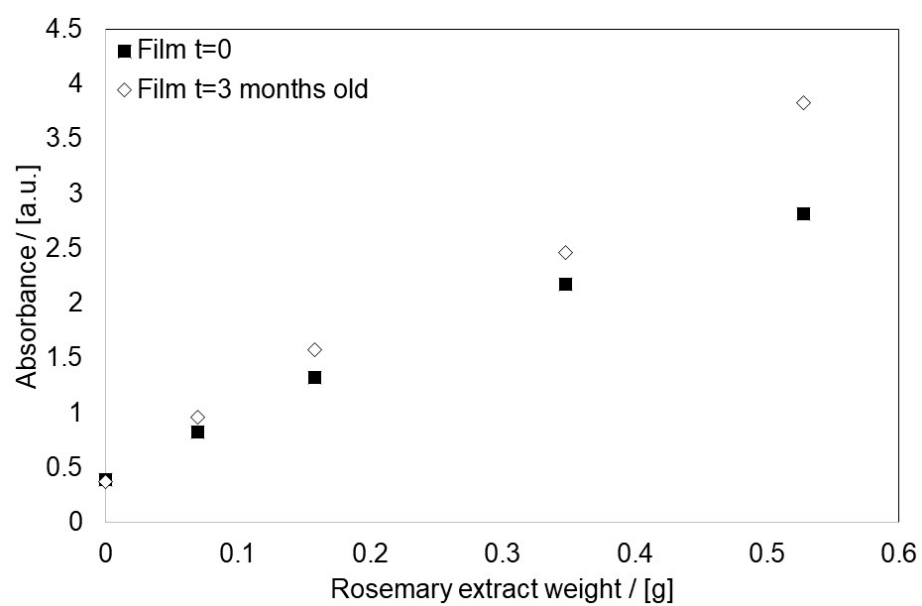
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**Table S1.** Experimental plan of the mixture-process design.

<b>exp</b>	<b>PC1</b>	<b>PC2</b>	<b>PC3</b>	<b>X1</b>	<b>X2</b>
#1	1	0	0	-1	-1
#2	0.333	0.333	0.333	-1	-1
#3	0	0.5	0.5	-1	-1
#4	1	0	0	0	-1
#5	0	1	0	0	-1
#6	0	0	1	1	-1
#7	0.5	0	0.5	1	-1
#8	0.5	0.5	0	1	-1
#9	1	0	0	-1	0
#10	0.333	0.333	0.333	-1	0
#11	0.5	0.5	0	0	0
#12	0	0	1	0	0
#13	0	0.5	0.5	1	0
#14	0.5	0	0.5	-1	1
#15	0.333	0.333	0.333	-1	1
#16	0	0.5	0.5	-1	1
#17	0.5	0	0.5	0	1
#18	0.5	0.5	0	0	1
#19	0	1	0	1	1
#20	0	0	1	1	1



**Figure S1.** DSC analysis of the LA:EG 1:1 mixture. Blue line: cooling down; green line: isotherm; red line: heating.



**Figure S2.** Calibration curve at 330 nm of fresh and 3 months old PVA films containing increasing quantities (from 75  $\mu$ L to 500  $\mu$ L) of rosemary extract.