polymers

MDPI

Supplementary Materials: Rendering Banana Plant Residues into a Potentially Commercial By-Product by Doping Cellulose Films with Phenolic Compounds

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Table S1. Samples preparation for DPPH Method.

	Dilution	$V_{extract}$ (mL)	$V_{methanol}$ (mL)	$V_{working\ solution}$ (mL)
White	-	-	0.5	3.5
Extract solution	1:1	0.5	-	3.5
	1:2	0.25	0.25	3.5
Control	1:1	0.5	3.5	-
	1:2	0.25	3.75	-

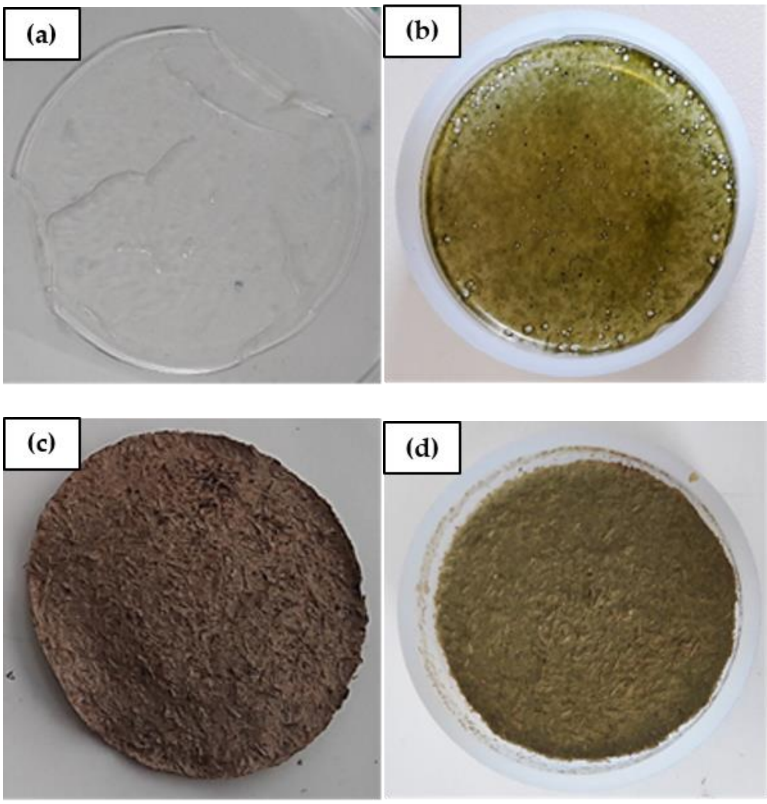
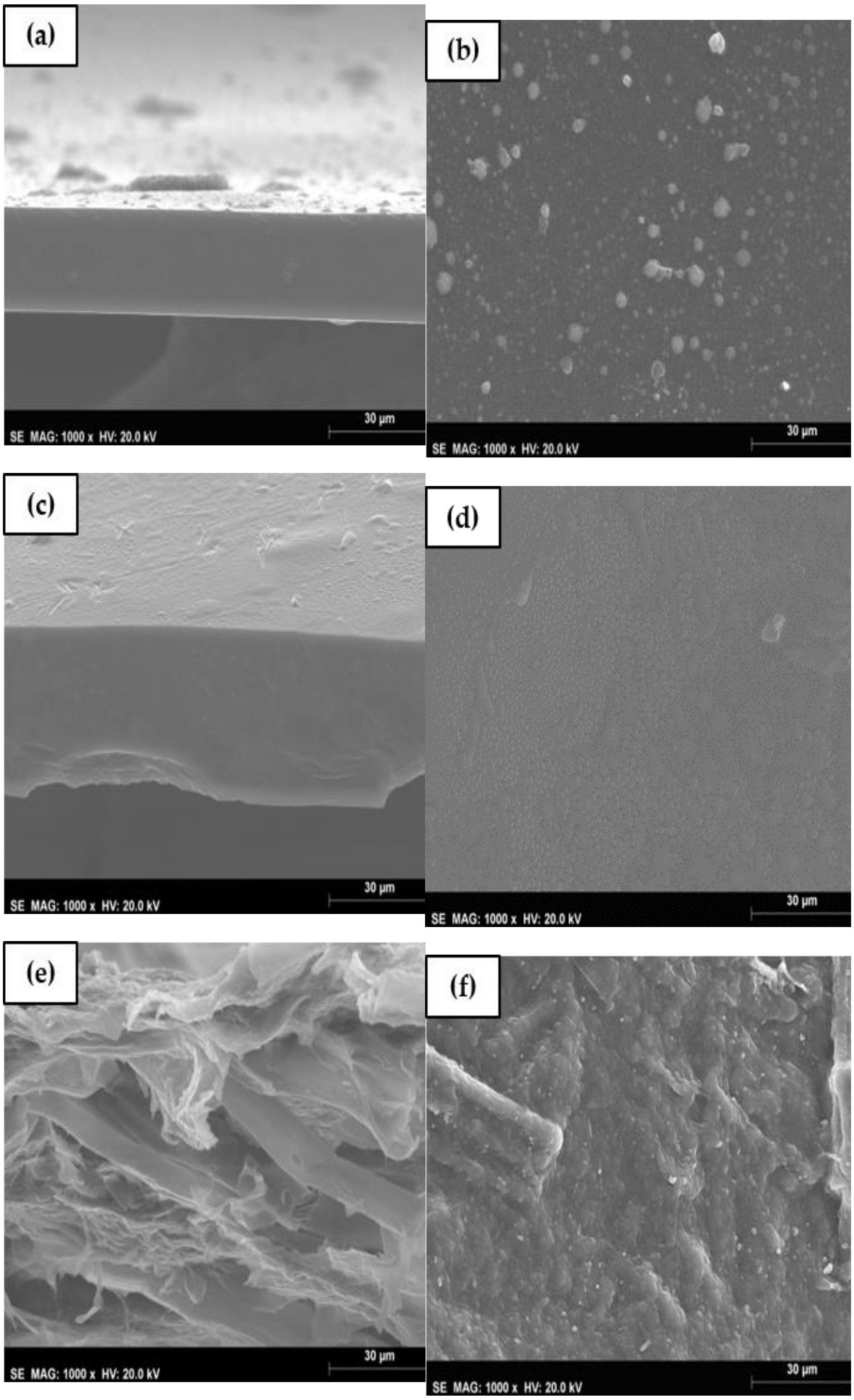


Figure S1. Films prepared: **(a)** HEC at 0.577, 0.753 and 0.843 a_w; **(b)** HEC+L at 0.577 and 0.753 a_w; **(c)** PS at 0.577, 0.753 and 0.843 a_w; **(d)** PS+L at 0.577 and 0.753 a_w.

Film	**Cross-section**	**Surface**
HEC		
HEC+L		
PS		



PS+L

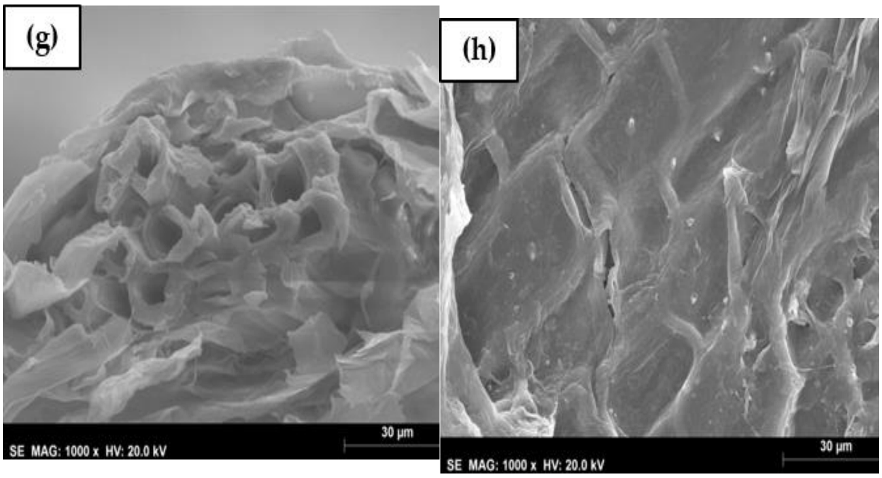


Figure S2. Scanning Electron Microscopy (SEM) analysis results for HEC (**a–d**) and PS (**e–h**) films exposed to 0.753 aw, with 1000 × magnification.

Film **Cross-section** **Surface**

HEC

PS

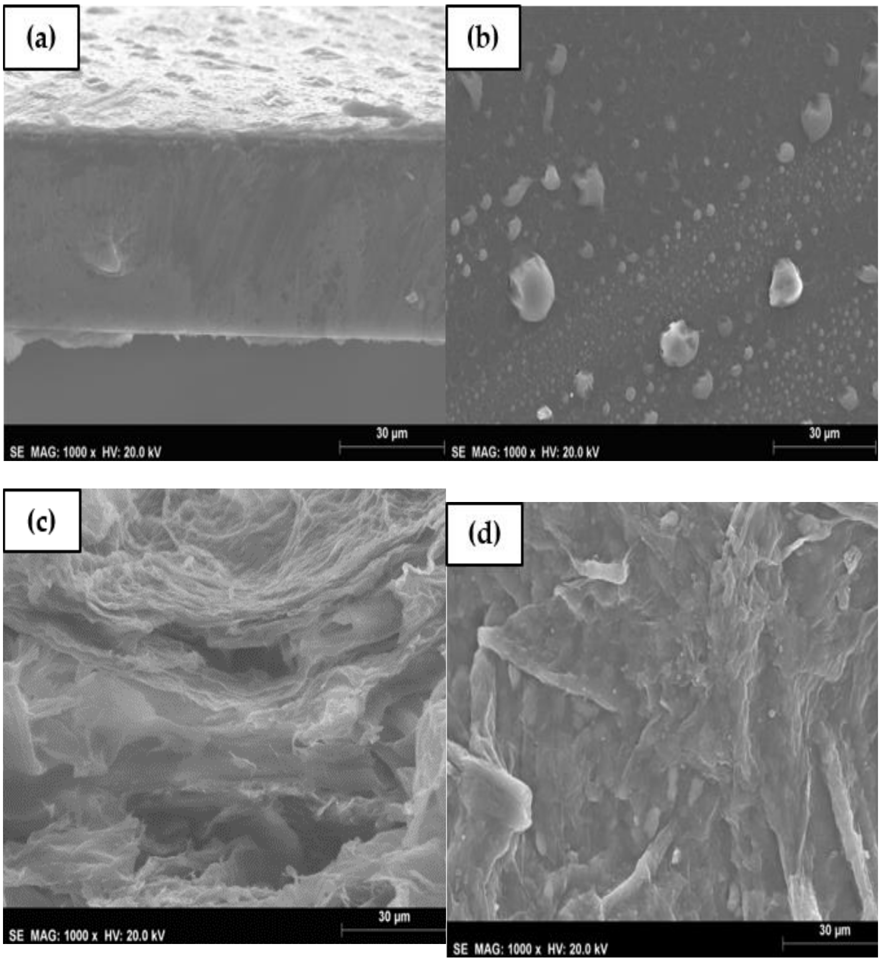


Figure S3. SEM analysis results for HEC(**a, b)** and PS (**c, d)** films exposed to 0.843 a_w, with 1000 × magnification.

Table S2. Weight loss and respective temperature range, resultant from thermogravimetric analysis (TGA) of the films exposed to 0.577, 0.753 and 0.843 a_w.

Film 0.577 a_w	Total weight loss (%)	Temperature range (°C)	Film 0.753 a_w	Total weight loss (%)	Temperature range (°C)	Film 0.843 a_w	Total weight loss (%)	Temperature range (°C)
HEC	1.14 70.06	49.72–115.95 176.26–466.04	HEC	71.69	46.37–443.42	HEC	2.09 67.49	46.90–132.06 172.42–464.33
HEC +L	2.72 70.9	32.16–126.29 126.39–456.38	HEC +L	7.22 73.47	32.55–139.54 140.19–455.15	-	- -	- -
PS	4.03 68.17	35.29–164.38 192.6–463.86	PS	3.45 66.32	33.05–180.96 181.42–462.35	PS	4.32 66.93	47.88–176.97 176.97–472.71
PS+L	2.09 71.37	47.35–152.38 152.64–463.66	PS+L	2.41 68.85	49.67–151.13 150.08–466.91	-	- -	- -