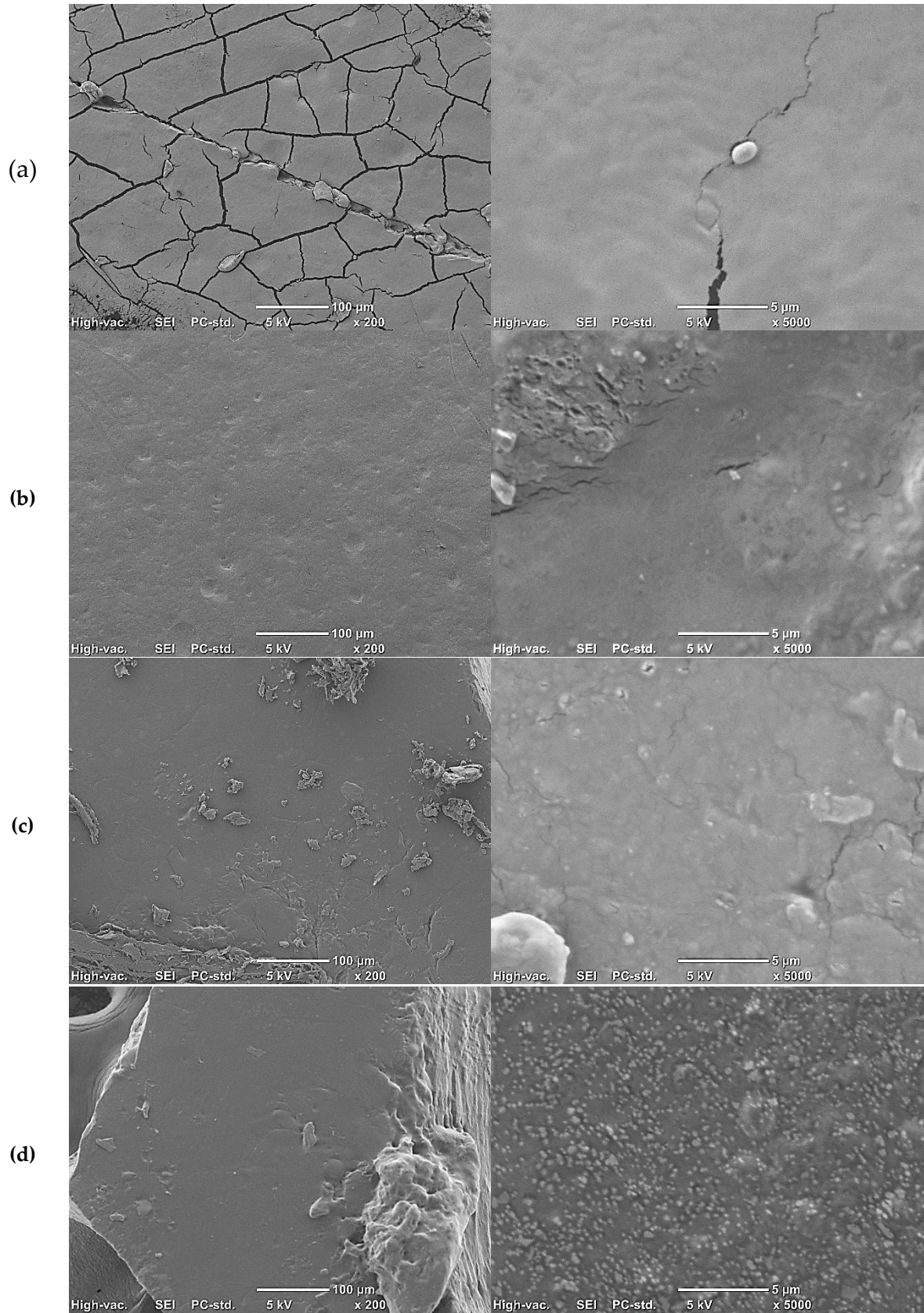
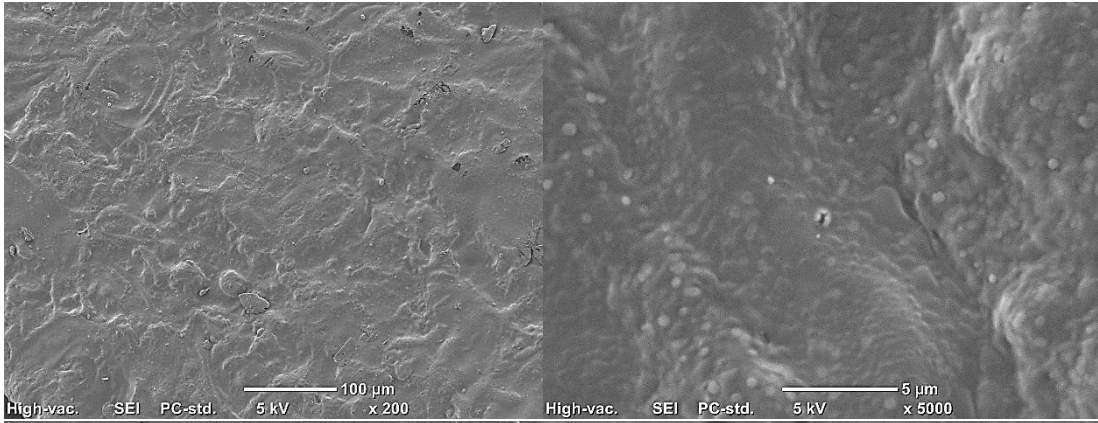


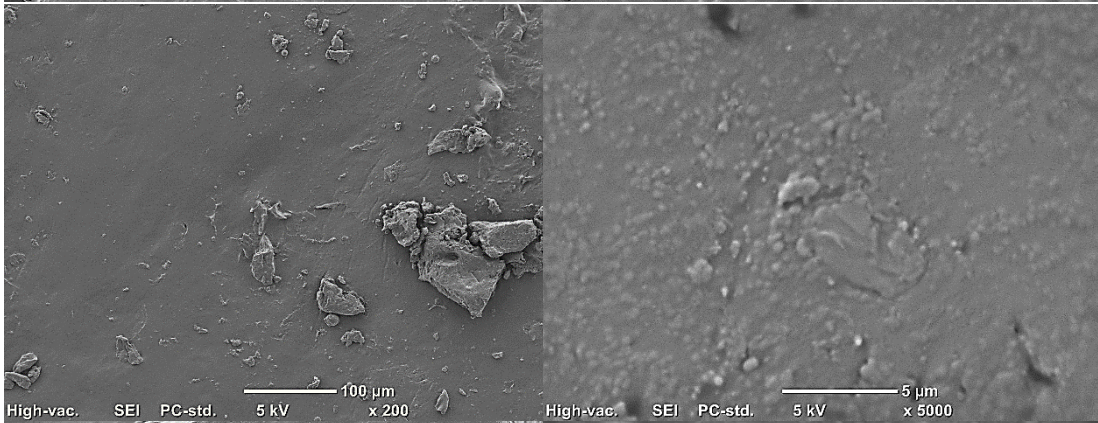
Supplementary materials



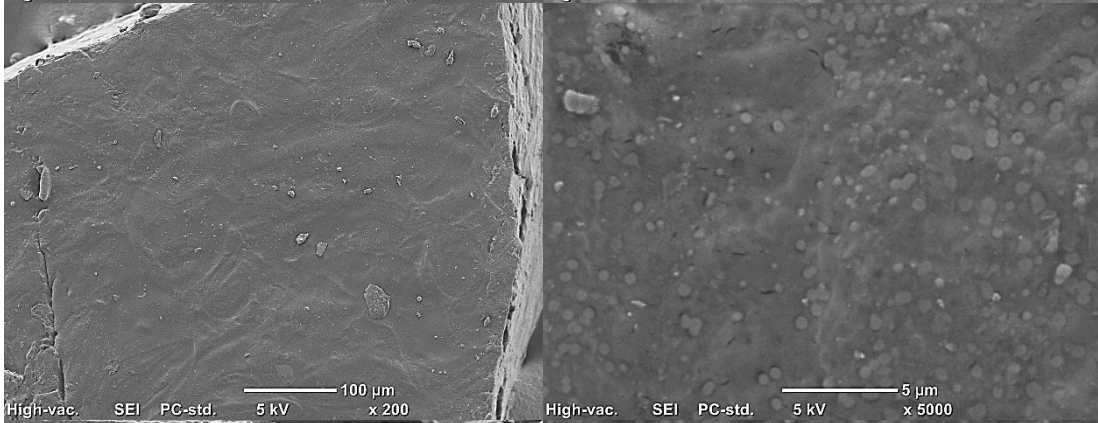
(e)



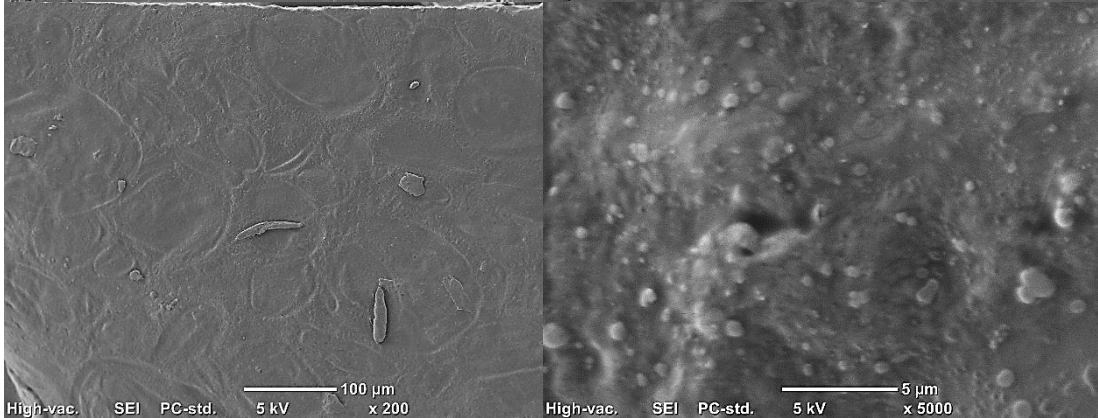
(f)



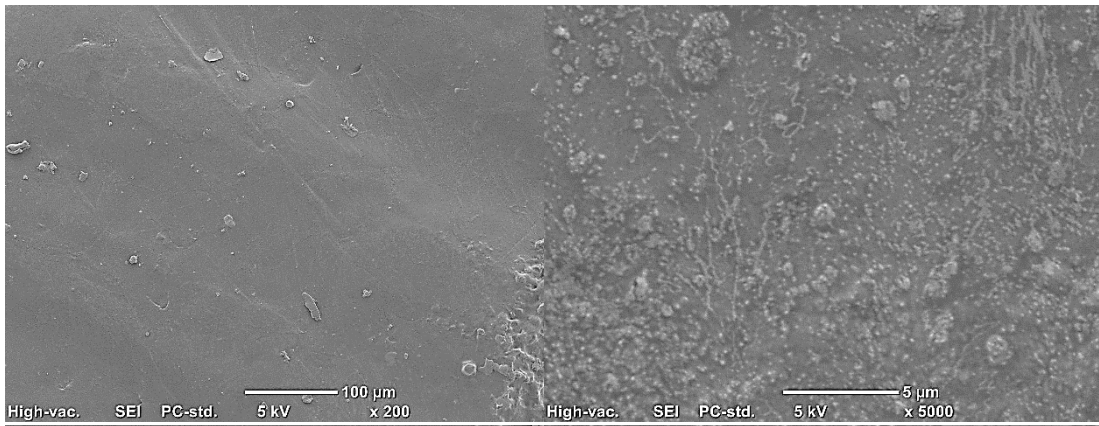
(g)



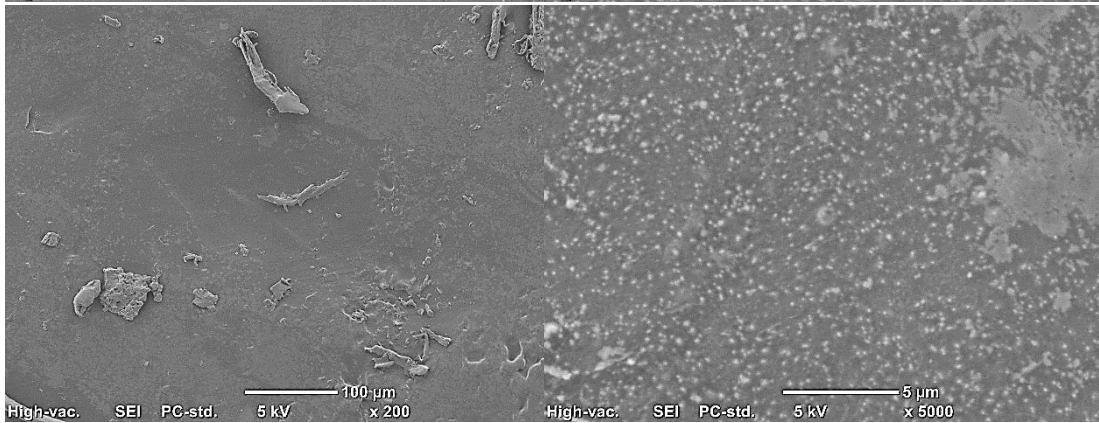
(h)



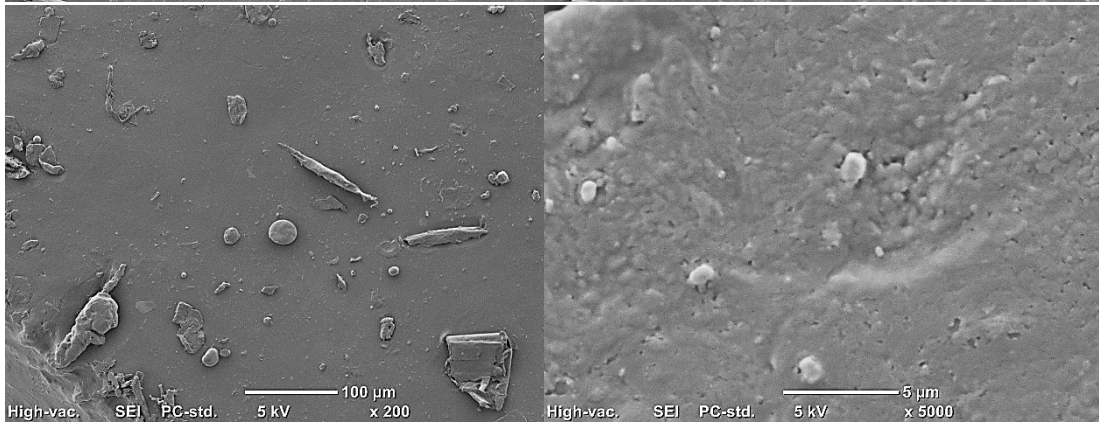
(i)



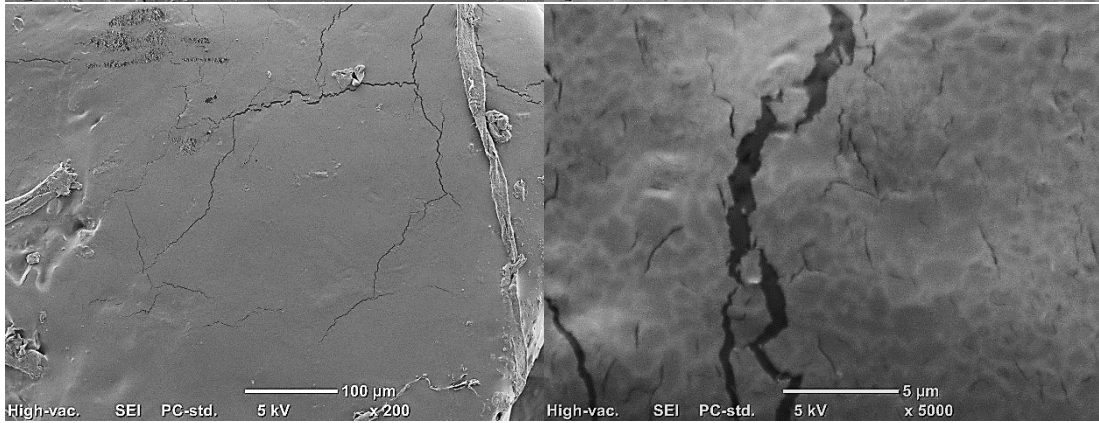
(j)



(k)



(l)



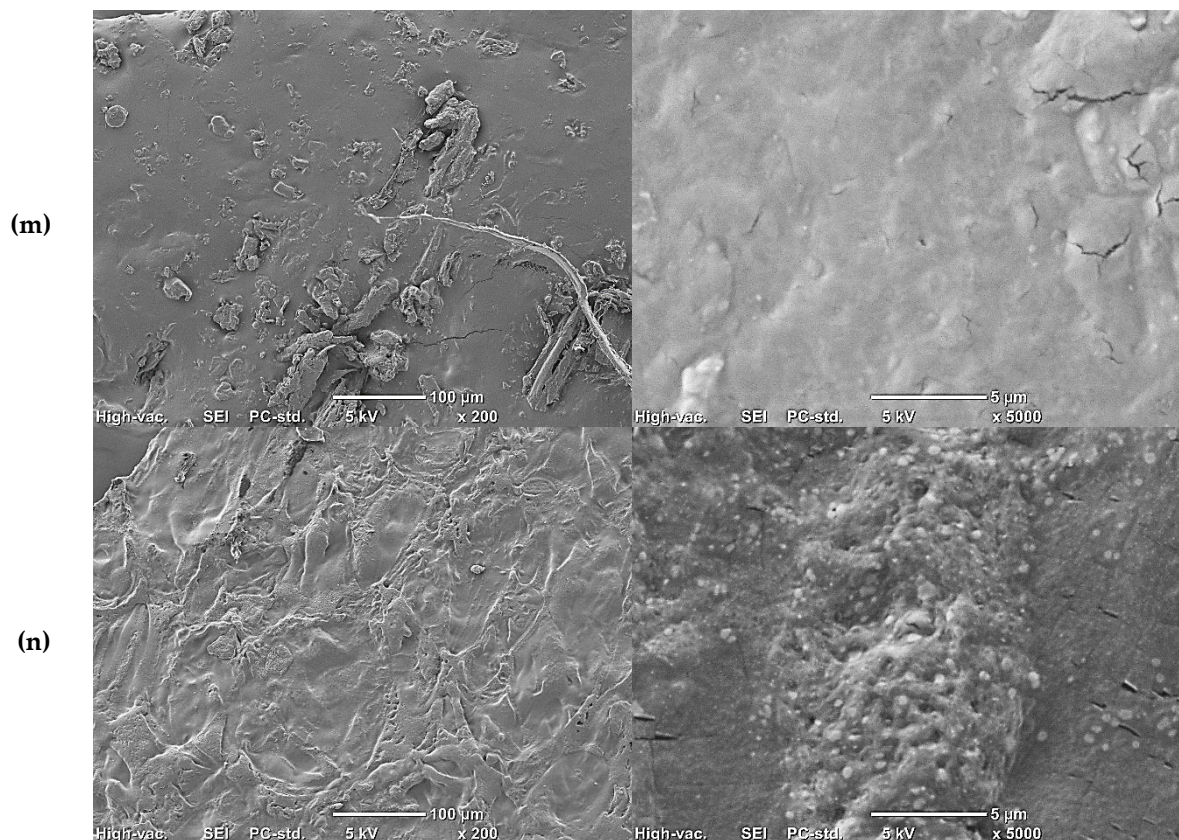


Figure S1. Representative images showing the structure of foil using a scanning electron microscope (SEM): (a) control; (b) with phytic acid; (c) with phytic acid + chicory root water extract 1%; (d) with phytic acid + chicory root water extract 2%; (e) with phytic acid + chicory root water extract 5%; (f) with phytic acid + chicory root water-methanol 70:30 extract 1%; (g) with phytic acid + chicory root water-methanol 70:30 extract 2%; (h) with phytic acid + chicory root water-methanol 70:30 extract 5%; (i) with phytic acid + chicory root water-methanol 50:50 extract 1%; (j) with phytic acid + chicory root water-methanol 50:50 extract 2%; (k) with phytic acid + chicory root water-methanol 50:50 extract 5%; (l) with phytic acid + chicory root water-phytase extract 1%; (m) with phytic acid + chicory root water-phytase extract 2%; (n) with phytic acid + chicory root water-phytase extract 5%.

Table S1. Thickness spread for one film measured at 5 locations

Concentration of the extract	Place	Film ¹			
		FW	FWM70/30	FWM50/50	FWE
		Thickness (mm)			
Control	1	0.108			
	2	0.130			
	3	0.075			
	4	0.089			
	5	0.126			
	mean	0.106			
	SD	0.021			
0%	1	0.121			
	2	0.147			
	3	0.142			
	4	0.149			
	5	0.176			
	mean	0.147			
	SD	0.018			

1%	1	0.158	0.146	0.139	0.176
	2	0.152	0.141	0.127	0.178
	3	0.155	0.127	0.131	0.129
	4	0.150	0.118	0.129	0.174
	5	0.133	0.151	0.148	0.169
	mean	0.150	0.137	0.135	0.166
	SD	0.009	0.012	0.008	0.018
2%	1	0.183	0.168	0.14	0.171
	2	0.148	0.167	0.179	0.189
	3	0.157	0.152	0.132	0.176
	4	0.183	0.137	0.135	0.166
	5	0.182	0.167	0.122	0.130
	mean	0.171	0.158	0.142	0.167
	SD	0.015	0.011	0.020	0.020
5%	1	0.242	0.198	0.162	0.221
	2	0.201	0.225	0.178	0.249
	3	0.221	0.228	0.148	0.201
	4	0.212	0.189	0.162	0.173
	5	0.187	0.181	0.148	0.199
	mean	0.213	0.200	0.160	0.209
	SD	0.019	0.017	0.011	0.025

¹FW - film with water extract; FWM70/30 film with water-methanol (70/30, *v/v*) extract; FWM50/50 - film with water-methanol (50/50, *v/v*) extract; FWE – film with water-enzyme extract; control - without phytic acid and chicory root extract.