

Supplementary Table S1. Total phenolic compounds (TPC) on simulant media expressed in mg/L gallic acid equivalent.

Filme	Simulant	1d	3d	6d	9d	15d	<i>p</i>
SA + LLE 1%	Water	466.19 ±15.10 ^{de}					
	Eth. 10%	458.70 ±41.87 ^{de}					
	Eth. 95%	41.30 ±2.23 ^g	63.69 ±6.86 ^b	48.64 ±6.9 ^c	39.12 ±6.74 ^e	126.70 ±103.67 ^c	n.s.
SA + LLE 2%	Water	1028.47 ±97.92 ^a					
	Eth. 10%	832.80 ±65.07 ^b					
	Eth. 95%	318.48 ±43.56 ^{ef}	371.91 ±26.79 ^a	429.45 ±128.06 ^{ab}	436.158 ±78.973 ^{bc}	471.13 ±80.91 ^{ab}	n.s.
SA + OLE 1%	Water	365.68 ±39.82 ^{ef}					
	Eth. 10%	495.90 ±47.23 ^e					
	Eth. 95%	245.23 ±6.04 ^{fg C}	421.48 ±19.48 ^{aA}	336.07 ±24.34 ^{b B}	319.15 ±39.39 ^{cd B}	348.45 ±33.57 ^{bc AB}	***
SA + OLE 2%	Water	666.22 ±65.38 ^c					
	Eth. 10%	565.98 ±45.24 ^{cd}					
	Eth. 95%	316.95 ±40.42 ^{ef B}	461.05 ±70.68 ^{a AB}	513.43 ±21.39 ^{a AB}	556.70 ±100.79 ^{ab AB}	695.15 ±151.11 ^{a A}	*
SA + LLE 0.5% + OLE 0.5%	Water	408.45 ±15.25 ^{de}					
	Eth. 10%	418.26 ±44.4 ^{de}					
	Eth. 95%	108.14 ±22.90 ^g	133.90 ±23.54 ^b	153.53 ±32.12 ^c	175.03 ±33.83 ^{de}	181.22 ±42.11 ^c	n.s.
SA + LLE 1% + OLE 1%	Water	876.72 ±17.04 ^b					
	Eth. 10%	898.42 ±94.61 ^{ab}					
	Eth. 95%	348.53 ±23.87 ^{ef D}	449.92 ±15.26 ^{a C}	548.53 ±12.69 ^{a B}	616.27 ±40.15 ^{a AB}	642.71 ±56.86 ^{a A}	***
<i>p</i>		***	***	***	***	***	

SA – sodium alginate films; OLE – olive leaf extract; LLE – laurel leaf extract. For storage time (rows), means with small letters differ significantly, *P < 0.5, ***P < 0.001. For films (columns), means with capital letters differ significantly, *P < 0.5, ***P < 0.001. n.s. – non-significant.

Supplementary Table S2. Antioxidant activity in simulant media expressed in mmol Trolox equivalent/L simulant.

Filme	Simulant	1d	3d	6d	9d	15d	<i>p</i>
SA + LLE 1%	Water	3.40 ±0.22 ^{cde}					
	Eth. 10%	3.13 ±0.45 ^{de}					
	Eth. 95%	0.63 ±0.10 ^{g A}	0.64 ±0.12 ^{b A}	0.23 ±0.07 ^{b B}	0.38 ±0.08 ^{b AB}	0.56 ±0.03 ^{b A}	**
SA + LLE 2%	Water	8.07 ±1.80 ^a					
	Eth. 10%	5.23 ±0.33 ^b					
	Eth. 95%	3.04 ±0.47 ^{def B}	3.41 ±0.75 ^a	3.15 ±0.50 ^a	3.06 ±0.30 ^a	3.61 ±0.38 ^a	n.s.
SA + OLE 1%	Water	1.96 ±0.50 ^{defg}					
	Eth. 10%	2.47±0.33 ^{defg}					
	Eth. 95%	1.36 ±0.01 ^{fg C}	2.42 ±0.12 ^{a B}	1.81 ±0.16 ^{cd C}	1.80 ±0.10 ^{c C}	3.30 ±0.31 ^{a A}	***
SA + OLE 2%	Water	3.51 ±0.36 ^{bcd}					
	Eth. 10%	2.77±1.13 ^{def}					
	Eth. 95%	1.79 ±0.22 ^{efg B}	2.83 ±0.74 ^{a AB}	3.11 ±0.77 ^{a AB}	3.35±0.62 ^{a AB}	4.20 ±1.12 ^{a A}	*
SA + LLE 0.5% + OLE 0.5%	Water	2.69 ±0.28 ^{def}					
	Eth. 10%	3.04 ±0.37 ^{def}					
	Eth. 95%	0.59 ±0.15 ^{g B}	0.96 ±0.10 ^{b AB}	1.19 ±0.11 ^{bc AB}	1.58 ±0.47 ^{bc A}	1.42 ±0.08 ^{b A}	**
SA + LLE 1% + OLE 1%	Water	4.50 ±0.14 ^{bc}					
	Eth. 10%	5.16 ±0.25 ^b					
	Eth. 95%	2.16 ±0.22 ^{defg C}	2.88 ±0.09 ^{a B}	2.95 ±0.14 ^{ad B}	3.22 ±0.10 ^{a AB}	3.40 ±0.13 ^{a A}	***
<i>p</i>		***	***	***	***	***	

SA – sodium alginate films; OLE – olive leaf extract; LLE – laurel leaf extract. For storage time (rows), means with small letters differ significantly, *P < 0.5, **P < 0.01, ***P < 0.001. For films (columns), means with capital letters differ significantly, *P < 0.5, **P < 0.01, ***P < 0.001. n.s. – non-significant.