

Supplementary Information (SI)

Pressurized hot water extraction and capillary electrophoresis for green and fast analysis of useful metabolites in plants

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Table S1. Quantities of plant sample extracted by PHWE

Sample (dried)	quantities (g \pm 0.01 g)	targeted metabolite/s
<i>Tasmannia lanceolata</i> (leaf)	15	polygodial
<i>Cinnamomum cassia</i> (bark)	20	cinnamaldehyde and coumarin
<i>Illicium verum</i> (fruit and seed)	20	shikimic acid
<i>Correa backhouseana</i> (leaf)	8	shikimic acid
<i>Tasmannia lanceolata</i> (pepperberry)	18.3	shikimic acid
<i>Tasmannia lanceolata</i> (leaf)	20	shikimic acid
<i>Backhousia citriodora</i> (leaf)	13.4	shikimic acid
<i>Dodonea viscosa</i> (leaf)	8.4	shikimic acid
<i>Glycyrrhiza glabra</i> (root)	15	shikimic acid

Table S2. Concentration range, linearity, and repeatability of the CE methods for the analysis of the targeted metabolites.

	linear range ($\mu\text{g/mL}$)	linear equation $y = ax + b$	linearity (R^2) corrected peak area	LOD ($\mu\text{g/mL}$)
polygodial	10 - 250	$y = 0.048x + 0.722$	0.990	3
shikimic acid	5 - 100	$y = 0.254x + 6.534$	0.996	2
cinnamaldehyde	1 - 100	$y = 0.129x - 0.012$	0.997	0.3
coumarin	1 - 50	$y = 0.062x + 0.142$	0.998	2
	intraday %RSD (n=8) migration / retention time		interday %RSD (n=8) migration / retention time	
		corrected peak area		corrected peak area
polygodial	1.3	13.2	3.5	10.5
shikimic acid	0.7	8.9	0.6	8.6
cinnamaldehyde	2.3	4.2	2.3	5.6
coumarin	0.9	1.7	1.8	10.3

MEKC and CZE methods are described in the main text.

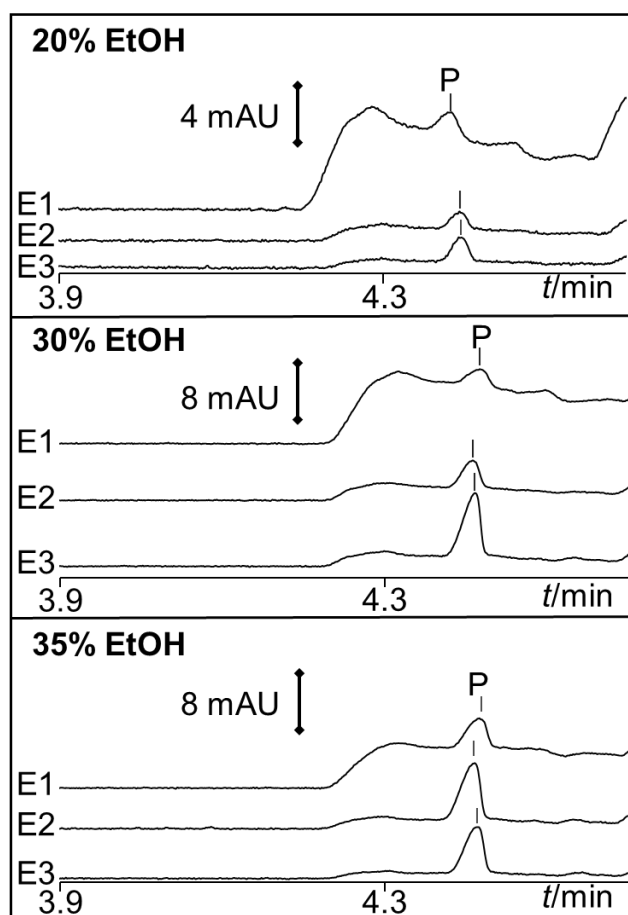


Figure S1. MEKC profiles of the successive PHWE extracts 1, 2, and 3 (E1, E2, and E3, respectively) using 20, 30, and 35% EtOH of *Tasmannia lanceolata* leaf. The intensity of the baseline shift that started <4.3 min was highest with the first extract (E1) using all extraction solutions. The intensity of polygodial peak was higher in the second and third extracts using $\geq 30\%$ EtOH, indicating the improved extraction of polygodial after the first extraction using higher concentrations of EtOH. Analysis was by MEKC as described in the Materials and methods section.