

SUPPORTING INFORMATION to the article

“Potato and mushroom polyphenol oxidase activities are differently modulated by natural plant extracts”

by Kuijpers, TFM; van Herk, T; Vincken, J-P; Janssen, RH; Narh, DL; van Berkel, WJH;
Gruppen, H

Table S1. Solvents used in the production of Frutarom extracts.

Extract	Plant species	Extraction solvent
1 Green mate leaf	<i>Ilex paraguariensis</i>	15% ethanol
2 Oats herb	<i>Avena sativa</i>	Water
3 Olive leaf	<i>Olea europaea</i>	80% ethanol
4 Echninacea dry pressed juice	<i>Echinaceae purpurea</i>	Press juice, no solvent added
5 Echninacea purpurea root	<i>Echinaceae purpurea</i>	30% ethanol
6 Pumpkin seed	<i>Cucurbita pepo</i>	60% ethanol
7 Green tea leaf	<i>Camillia sinensis</i>	80% ethanol
8 Nettle leaf	<i>Urtica dioica , Urtica urens</i>	Water
9 Balm herb	<i>Melissa officinalis</i>	Water
10 Sage leaf	<i>Salvia officinalis</i>	Water
11 Rhubarb	<i>Rheum rhabarbarum</i>	25% ethanol
12 Red vine leaf	<i>Vitis vinifera</i>	Water
13 Peppermint leaf	<i>Mentha piperita</i>	Water
14 Dandelion herb and root	<i>Taraxum officinale</i>	Water
15 Thyme herb	<i>Thymus vulgaris</i>	Water
16 Pink rockrose herb	<i>Cistus incanus</i>	20% ethanol
17 Passion flower herb	<i>Passiflora incarnata</i>	60% ethanol
18 Damiana leaf	<i>Turnera diffusa</i>	Water
19 Goldenrod herb	<i>Solidago sp.</i>	50% ethanol
20 Artichoke leaf	<i>Cynara scolymus</i>	Water
21 Java tea	<i>Orthosiphon stamineus</i>	40% ethanol
22 Eyebright herb	<i>Euphrasia sp.</i>	Water
23 Ivy leaf	<i>Hedera helix</i>	40% ethanol
24 Marshmallow root	<i>Althea officinalis</i>	25 % ethanol
25 Bearberry leaf	<i>Arctostaphylos uva-ursi</i>	Water
26 Schisandra fruit	<i>Schisandra chinensis</i>	80% ethanol
27 Licorice root	<i>Glycyrrhiza glabra</i>	Ethyl acetate
28 Chasteberry	<i>Vitex agnus-castus</i>	50% ethanol
29 Juniper fruit	<i>Juniperus sp.</i>	Water

30	Rosemary leaf	<i>Rosmarinus officinalis</i>	Water
31	Devil's claw root	<i>Harpagophytum procumbens</i> and/or <i>H. Zeyheri</i>	30% ethanol
32	Pelargonium root	<i>Pelargonium sidoides</i>	50% ethanol
33	Chamomile flower	<i>Chamomilla recutita</i>	50% ethanol
34	Caraway seed	<i>Carum carvu</i>	Water
35	Puslane herb	<i>Potulaca oleracea</i>	60% ethanol
36	Rosehip	<i>Rosa canina</i>	Water
37	SoyLife 40	<i>Glycine max</i>	80% ethanol
38	LinumLife EXTRA	<i>Linum usitatissimum</i>	50% ethanol
39	Brocoraphanin 10% glucoraphanin	<i>Brassica oleracea</i> var. <i>italica</i>	Supercritical CO ₂
40	Biocurcumin	<i>Curcuma longa</i>	Ethyl acetate
41	Pomactiv AGE	<i>Malus sp.</i>	Undisclosed
42	SuperBerry 6000	blend of 7 berries	Water
43	Acai	<i>Euterpe oleracea</i>	Water
44	Blackcurrant 25% anthocyanins	<i>Ribes nigrum</i>	70% ethanol
45	Origanox WS-LB	<i>Origanum vulgare</i> and/or <i>Melissa officinalis</i>	Water
46	Origanox WS	<i>Origanum vulgare</i>	Water
47	Cranberry High PAC 25:1	<i>Vaccinium macrocarpon</i>	Water
48	OPC Grape Seed ActiVin	<i>Vitis vinifera</i>	water
49	Neohesperidine dihydrochalcone (NHDC)	isolated from citrus and chemically modified	<i>Pure compound</i>
50	Neohesperidine	isolated from citrus	<i>Pure compound</i>
51	Hesperidine	isolated from citrus	<i>Pure compound</i>
52	Black garlic	<i>Allium sativum</i>	100% ethanol
53	Horseradish	<i>Armoracia rusticana</i>	60% ethanol
54	Hibiscus	<i>Hibiscus sp.</i>	Water
55	Baobab	<i>Adansonia digitata</i>	20% ethanol
56	Coriander	<i>Coriandrum sativum</i>	Undisclosed
57	Cinnamon	<i>Cinnamomum sp.</i>	Undisclosed
58	Cinnamon 2	<i>Cinnamomum sp.</i>	Undisclosed
69	Pomactiv HFV	<i>Malus sp.</i>	Undisclosed
60	Pomactiv Shape	<i>Malus sp.</i>	Undisclosed

Table S2. Potato PPO purification scheme.

Step	Volume (mL)	Total activity (U)	Total protein (mg)	Specific activity (U/mg)	Activity yield (%)	Purification factor
CE	1460	1916	3510	0.55	100.0	1.0
AS	268	1428	1542	0.93	74.6	1.7
IEC	5	88	181	0.49	4.6	0.9
SEC	5	72	12	5.85	3.7	10.7