

Phytochemical and antioxidant analysis of medicinal and food plants towards bioactive food and pharmaceutical resources

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Supplementary Information:

Table S1 Information of studied plants in the study.

Figure S1 Chromatographic profile (at 280 nm) of a hydro-methanolic extract from pomegranate leaves. (1) *punicalin*; (2) ellagic acid derivative I; (3) *galloy glucose*; (4) *ellagitannin I (castalagin derivative)*; (5) *granatin B*; (6) ellagic acid derivative II (rhamnoside); (7) *ellagitannin II*; (8) *ellagitannin III*; (9) ellagic acid; (10) *ellagitannin IV*; (11) *ellagitannin V*; (12) apigenin glycoside II (glucoside); (13) luteolin glycoside VI (glucoside); (14) luteolin glycoside VII (glucoside). The compounds in italics were identified by literature; others by standards.

Figure S2 Chromatographic profile (at 280 nm) of a hydro-methanolic extract of sage (*Salvia officinalis* L.) leaves. (1) galocatechin; (2) 2,3-hydroxybenzoic acid; (3) gallic acid derivative I; (4) catechin; (5) caffeic acid; (6) vanillic acid; (7) luteolin glycoside V; (8) apigenin glycoside III (rutinoside); (9) rosmarinic acid; (10) apigenin glycoside IV; (11) rosmanol; (12) epirosmanol; (13) *carosol*; (14) *carosic acid*. The compounds in italics were identified by literature; others by standards.

Figure S3 Chromatographic profile (at 280 nm) of a hydro-methanolic extract of rosemary (*Rosmarinus officinalis* L.) leaves. (1) galocatechin; (2) gallic acid derivative I; (3) tyrosol; (4) catechin; (5) caffeic acid; (6) luteolin glycoside III; (7) luteolin glycoside V; (8) *eriodictyol-7-O-rutinoside*; (9) apigenin glycoside III (rutinoside); (10) rosmarinic acid; (11) luteolin-3-O-glucuronide;

(12) rosmanol; (13) epirosmanol; (14) *carosol*; (15) *carosic acid*. The compounds in italics were identified by literature; others by standards.

Figure S4 Chromatographic profile (at 280 nm) of a hydro-methanolic extract of rue (*Ruta graveolens* L.) leaves and young stems. (1) gallic acid derivative I; (2) gallic acid derivative I; (3) neochlorogenic acid; (4) tyrosol; (5) coumaric acid; (6) chlorogenic acid; (7) vanillic acid; (8) rutin (quercetin-3-*O*-rutinoside); (9) quercetin glycoside I; (10) *psoralen*; (11) *8-methoxypsoralen*; (12) *5-methoxypsoralen*; (13) epicatechin gallate; (14) apigenin. The compounds in italics were identified by literature; others by standards.

Figure S5 Chromatographic profile (at 280 nm) of a hydro-methanolic extract of olive (*Olea europaea* L.) leaves. (1) gallic acid derivative I; (2) 2,3-hydroxybenzoic acid; (3) gallic acid; (4) neochlorogenic acid; (5) tyrosol; (6) catechin; (7) chlorogenic acid; (8) vanillic acid; (9) *verbascoside*; (10) rutin (quercetin-3-*O*-rutinoside); (11) luteolin-7-*O*-glucoside; (12) apigenin glycoside I; (13) apigenin glycoside II (glucoside); (14) oleuropein derivative I; (15) oleuropein derivative II; (16) oleuropein; (17) oleuropein derivative III; (18) luteolin; (19) quercetin; (20) epicatechin gallate. The compounds in italics were identified by literature; others by standards.

Figure S6 Chromatographic profile (at 280 nm) of a hydro-methanolic extract of peppermint (*Mentha piperita* L.) leaves and young stems. (1) gallic acid derivative I; (2) neochlorogenic acid; (3) catechin; (4) chlorogenic acid; (5) caffeic acid; (6) luteolin glycoside I; (7) *eriodictyol glycoside I (rutinoside)*; (8) rutin (quercetin-3-*O*-rutinoside); (9) luteolin glycoside II (rutinoside); (10) *eriodictyol glycoside II*; (11) luteolin glycoside IV (glucuronide); (12) *eriodictyol-7-O-rutinoside*; (13) rosmarinic acid; (14) apigenin glycoside IV; (15) luteolin; (16) epicatechin gallate. The compounds in italics were identified by literature; others by standards.

Figure S7 Chromatographic profile (at 280 nm) of a hydro-methanolic extract of parsley (*Petroselinum crispum* Mill.) leaves and young stems. (1) gallic acid derivative I; (2) 2,3-hydroxybenzoic acid; (3) Gallic acid derivative I; (4) neochlorogenic acid; (5) catechin; (5) caffeic acid; (6) myricetin-3-*O*-glucoside; (7) epicatechin; (8) apigenin-7-*O*-apiosylglucoside (apiin); (9) *diosmetin glycoside*; (10) *diosmetin glycoside isomer*; (11) apigenin glycoside IV; (12) quercetin; (13) *naringenin*; (14) hesperidin; (15) epicatechin gallate. The compounds in italics were identified by literature; others by standards.

Table S1 Information of studied medicinal and food plants.

Scientific name (Common name)	Family	Parts used	Sampling date	Representative phenolics of methanolic leaf extracts in literature
<i>Salvia officinalis</i> L. (Sage)	Lamiaceae	Leaf	2018-05-09	hydroxybenzoic acid, gallic acid derivative, caffeic acid, vanillic acid, rosmarinic acid and its derivatives; catechin, gallo catechin, luteolin glycosides, apigenin glycosides
<i>Rosmarinus officinalis</i> L. (Rosemary)	Lamiaceae	Leaf	2018-05-09	gallic acid derivative, caffeic acid, rosmarinic acid and its derivatives; catechin, gallo catechin, luteolin glycosides, apigenin glycosides; tyrosol
<i>Ruta graveolens</i> L. (Rue)	Rutaceae	Leaf and young stem	2018-05-18	gallic acid derivative, neochlorogenic acid, coumaric acid, chlorogenic acid, vanillic acid; gallo catechin, rutin, quercetin glycosides, epicatechin gallate, apigenin; tyrosol
<i>Olea europaea</i> L. (Olive)	Oleaceae	Leaf	2018-05-18	hydroxybenzoic acid, gallic acid, neochlorogenic acid, chlorogenic acid, vanillic acid; gallo catechin, catechin, rutin, luteolin glycosides, apigenin glycosides, luteolin, quercetin, epicatechin gallate; tyrosol, verbascoside, oleuropein and its derivatives
<i>Mentha piperita</i> L. (peppermint)	Lamiaceae	Leaf and young stem	2018-06-25	neochlorogenic acid, chlorogenic acid, caffeic acid, rosmarinic acid; gallo catechin, catechin, luteolin glycosides, diosmetin glycosides, apigenin glycosides, luteolin, flavanone glycosides, epicatechin
<i>Petroselinum crispum</i> Mill. (Parsley)	Apiaceae	Leaf and young stem	2018-09-27	hydroxybenzoic acid, gallic acid derivative, neochlorogenic acid; gallo catechin, catechin, myricitin glycoside, epicatechin, apigenin glycosides, diosmetin glycosides, quercetin, epicatechin gallate
<i>Punica granatum</i> L. (Pomegranate)	Lythraceae	Leaf	2018-06-18	ellagic acid and its derivatives, gallic acid; luteolin glycosides, apigenin glycosides, kaempferol derivatives, gossypin, pentagalloyl glucose, quercetin, rutin; ellagitannin and its derivatives

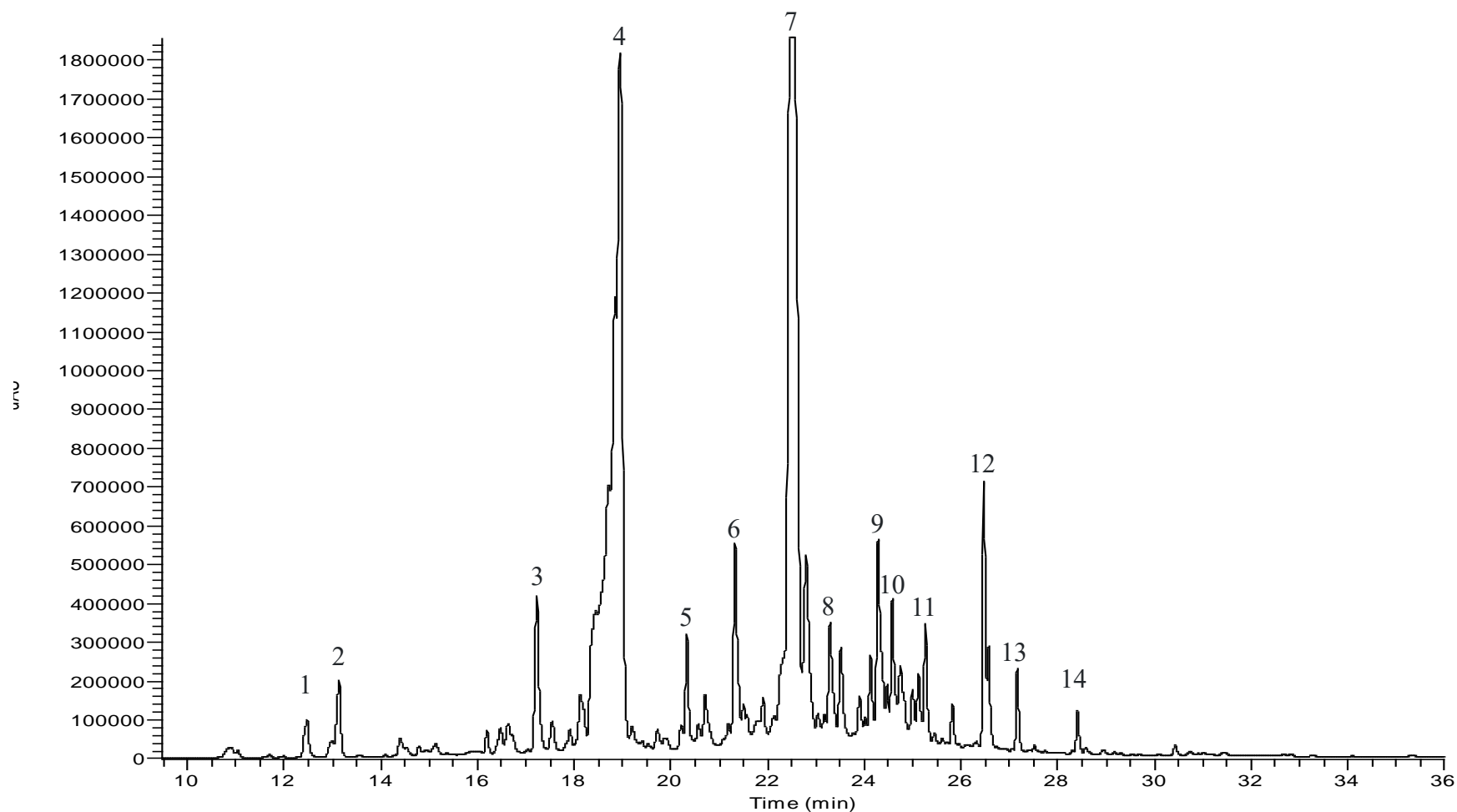


Figure S1 Chromatographic profile (at 280 nm) of a hydro-methanolic extract of pomegranate (*Punica granatum* L.) leaves. (1) *punicalin*; (2) ellagic acid derivative I; (3) *galloy glucose*; (4) *ellagitannin I (castalagin derivative)*; (5) *granatin B*; (6) ellagic acid derivative II (rhamnoside); (7) *ellagitannin II*; (8) *ellagitannin III*; (9) ellagic acid; (10) *ellagitannin IV*; (11) *ellagitannin V*; (12) apigenin glycoside II (glucoside); (13) luteolin glycoside VI (glucoside); (14) luteolin glycoside VII (glucoside). The compounds in italics were identified by literature; others by standards.

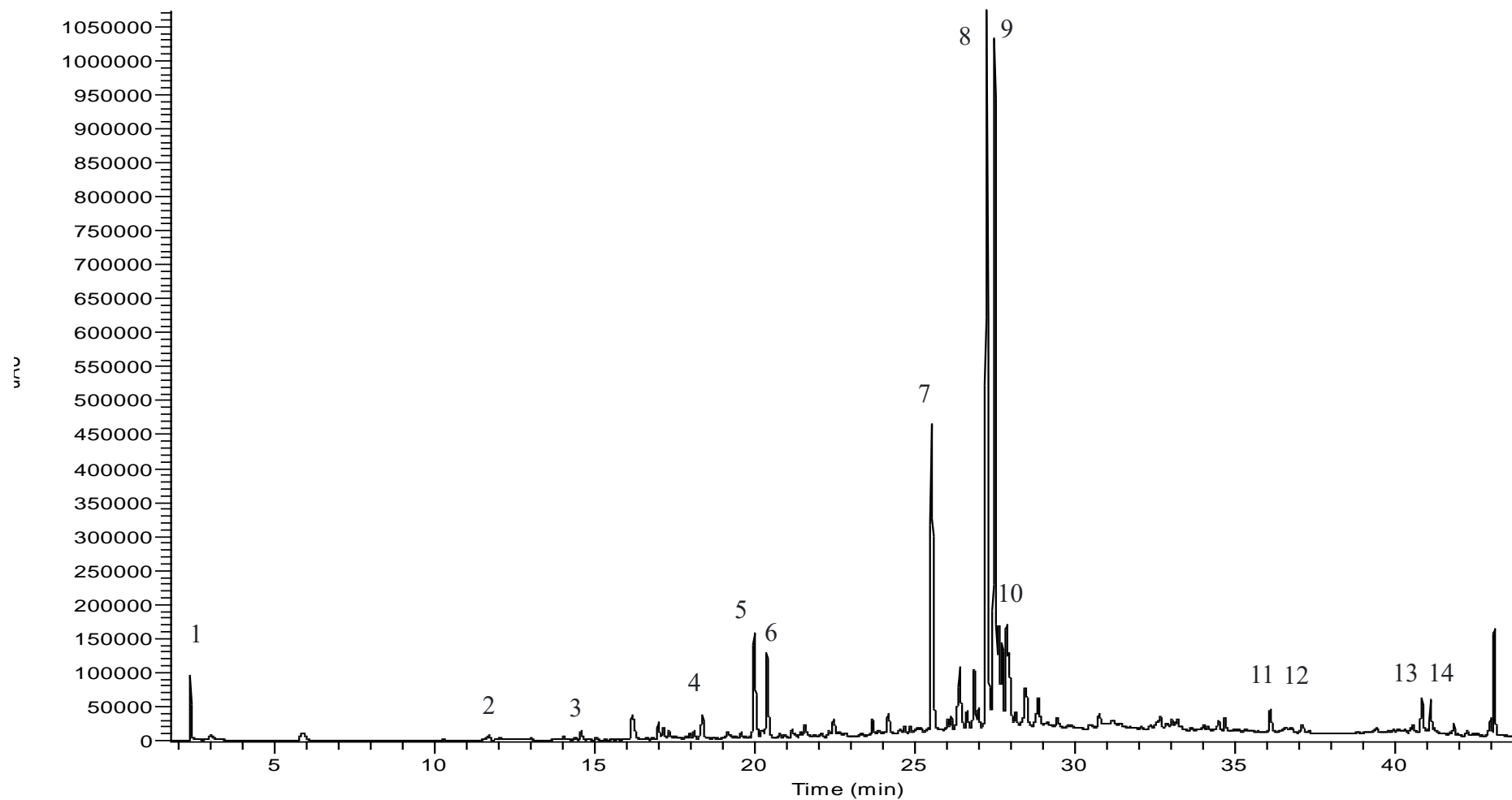


Figure S2 Chromatographic profile (at 280 nm) of a hydro-methanolic extract of sage (*Salvia officinalis* L.) leaves. (1) galocatechin; (2) 2,3-hydroxybenzoic acid; (3) gallic acid derivative I; (4) catechin; (5) caffeic acid; (6) vanillic acid; (7) luteolin glycoside V; (8) apigenin glycoside III (rutinoside); (9) rosmarinic acid; (10) apigenin glycoside IV; (11) rosmanol; (12) epirosmanol; (13) *carnosol*; (14) *carnosic acid*. The compounds in italics were identified by literature; others by standards.

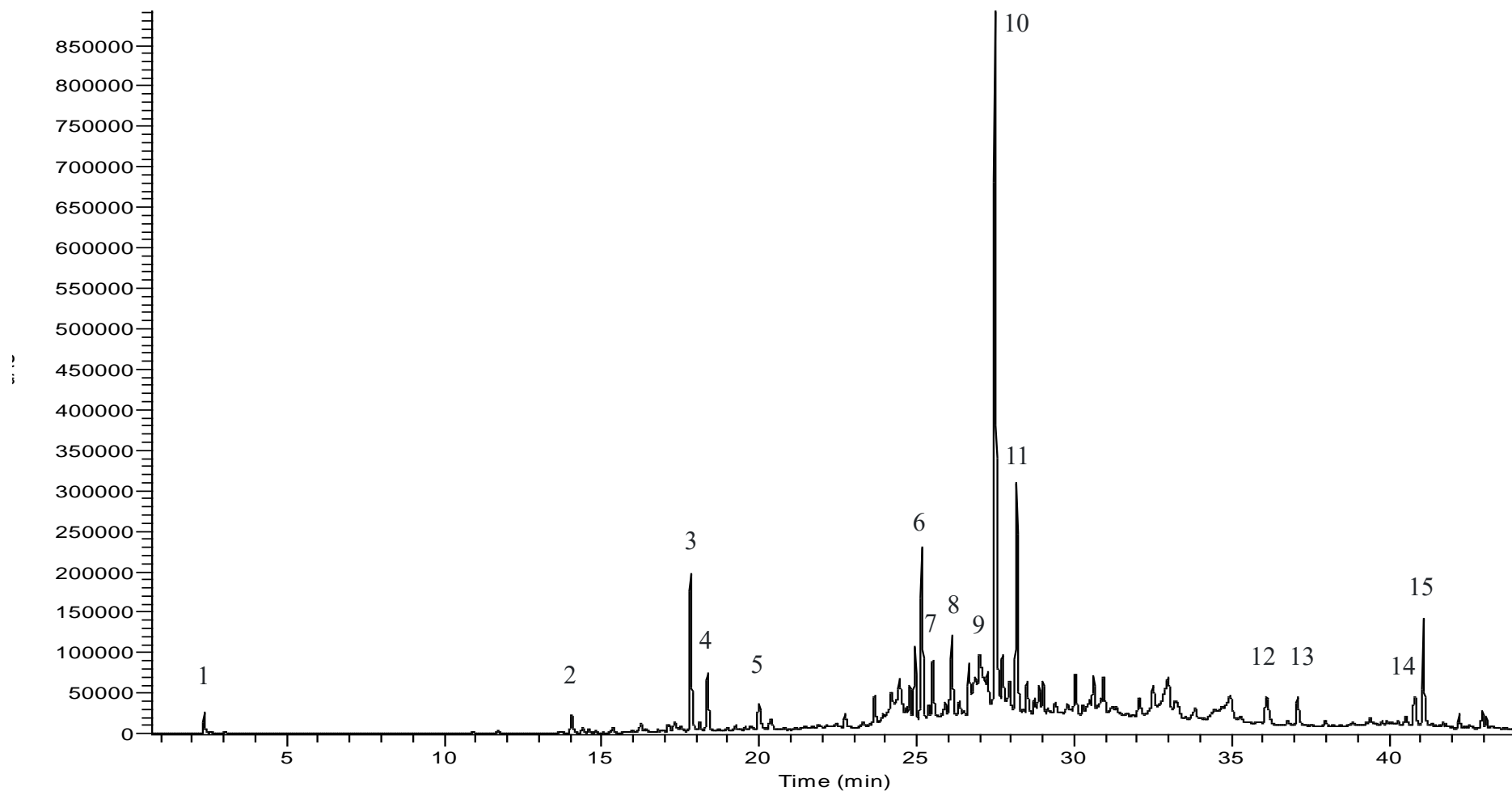


Figure S3 Chromatographic profile (at 280 nm) of a hydro-methanolic extract of rosemary (*Rosmarinus officinalis* L.) leaves. (1) galocatechin; (2) gallic acid derivative I; (3) tyrosol; (4) catechin; (5) caffeic acid; (6) luteolin glycoside III; (7) luteolin glycoside V; (8) *eriodictyol-7-O-rutinoside*; (9) apigenin glycoside III (rutinoside); (10) rosmarinic acid; (11) luteolin-3-*O*-glucuronide; (12) rosmanol; (13) epirosmanol; (14) *carosol*; (15) *carosic acid*. The compounds in italics were identified by literature; others by standards.

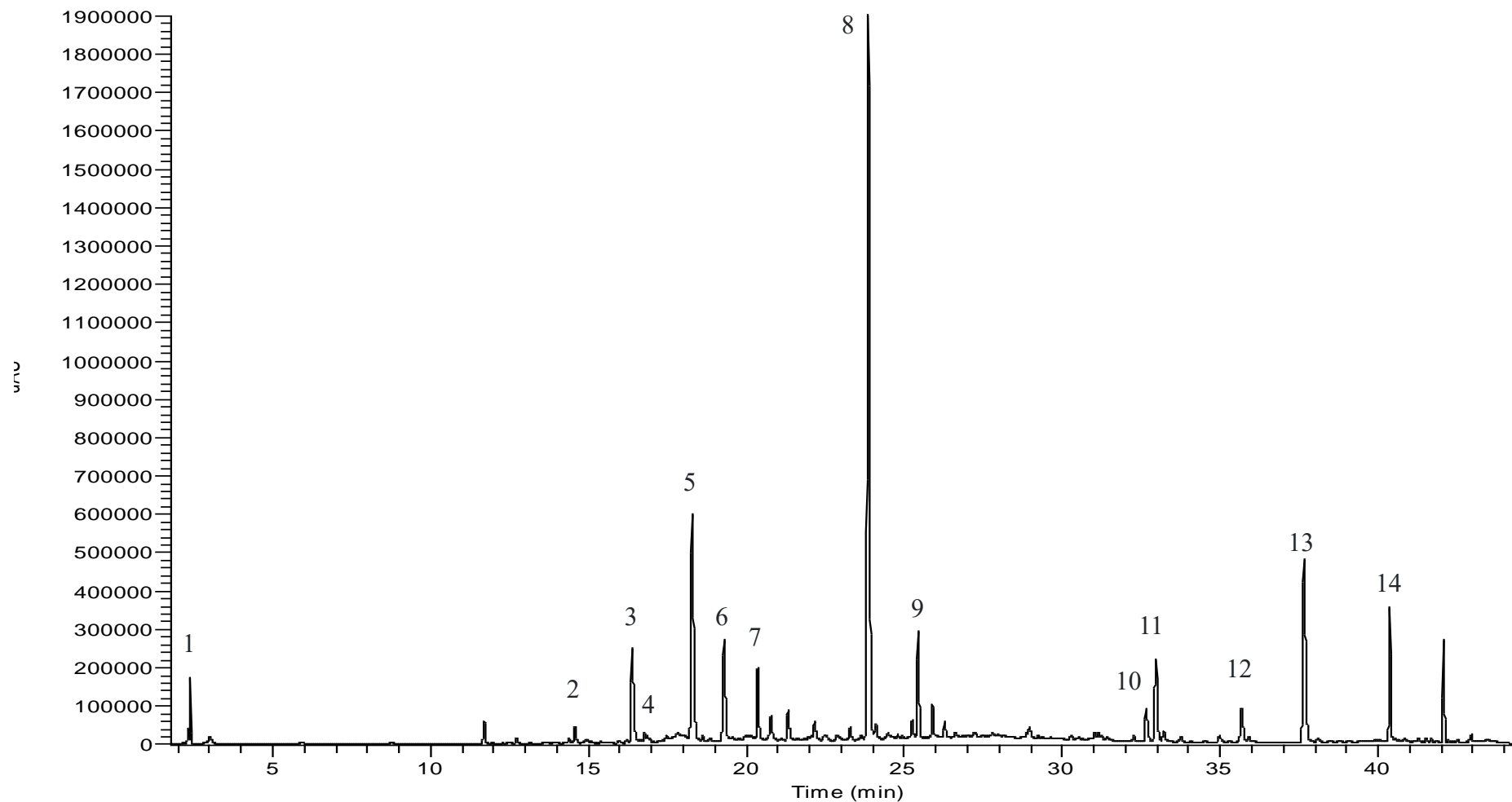


Figure S4 Chromatographic profile (at 280 nm) of a hydro-methanolic extract of rue (*Ruta graveolens* L.) leaves and young stems. (1) gallic acid derivative I; (2) gallic acid derivative I; (3) neochlorogenic acid; (4) tyrosol; (5) coumaric acid; (6) chlorogenic acid; (7) vanillic acid; (8) rutin (quercetin-3-*O*-rutinoside); (9) quercetin glycoside I; (10) *psoralen*; (11) *8-methoxypsoralen*; (12) *5-methoxypsoralen*; (13) epicatechin gallate; (14) apigenin. The compounds in italics were identified by literature; others by standards.

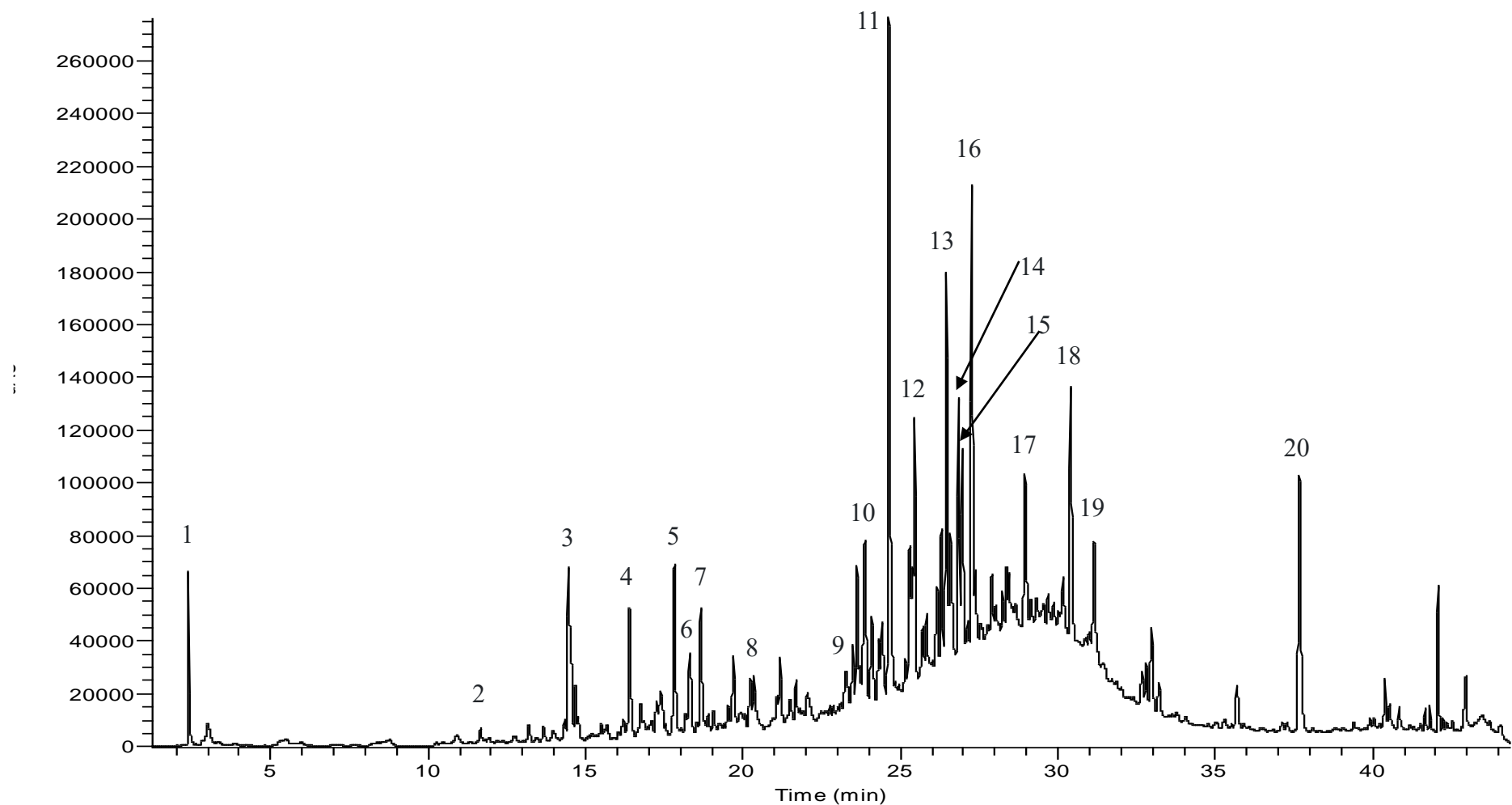


Figure S5 Chromatographic profile (at 280 nm) of a hydro-methanolic extract of olive (*Olea europaea* L.) leaves. (1) galocatechin; (2) 2,3-hydroxybenzoic acid; (3) gallic acid; (4) neochlorogenic acid; (5) tyrosol; (6) catechin; (7) chlorogenic acid; (8) vanillic acid; (9) *verbascoside*; (10) rutin (quercetin-3-*O*-rutinoside); (11) luteolin-7-*O*-glucoside; (12) apigenin glycoside I; (13) apigenin glycoside II (glucoside); (14) oleuropein derivative I; (15) oleuropein derivative II; (16) oleuropein; (17) oleuropein derivative III; (18) luteolin; (19) quercetin; (10) epicatechin gallate. The compounds in italics were identified by literature; others by standards.

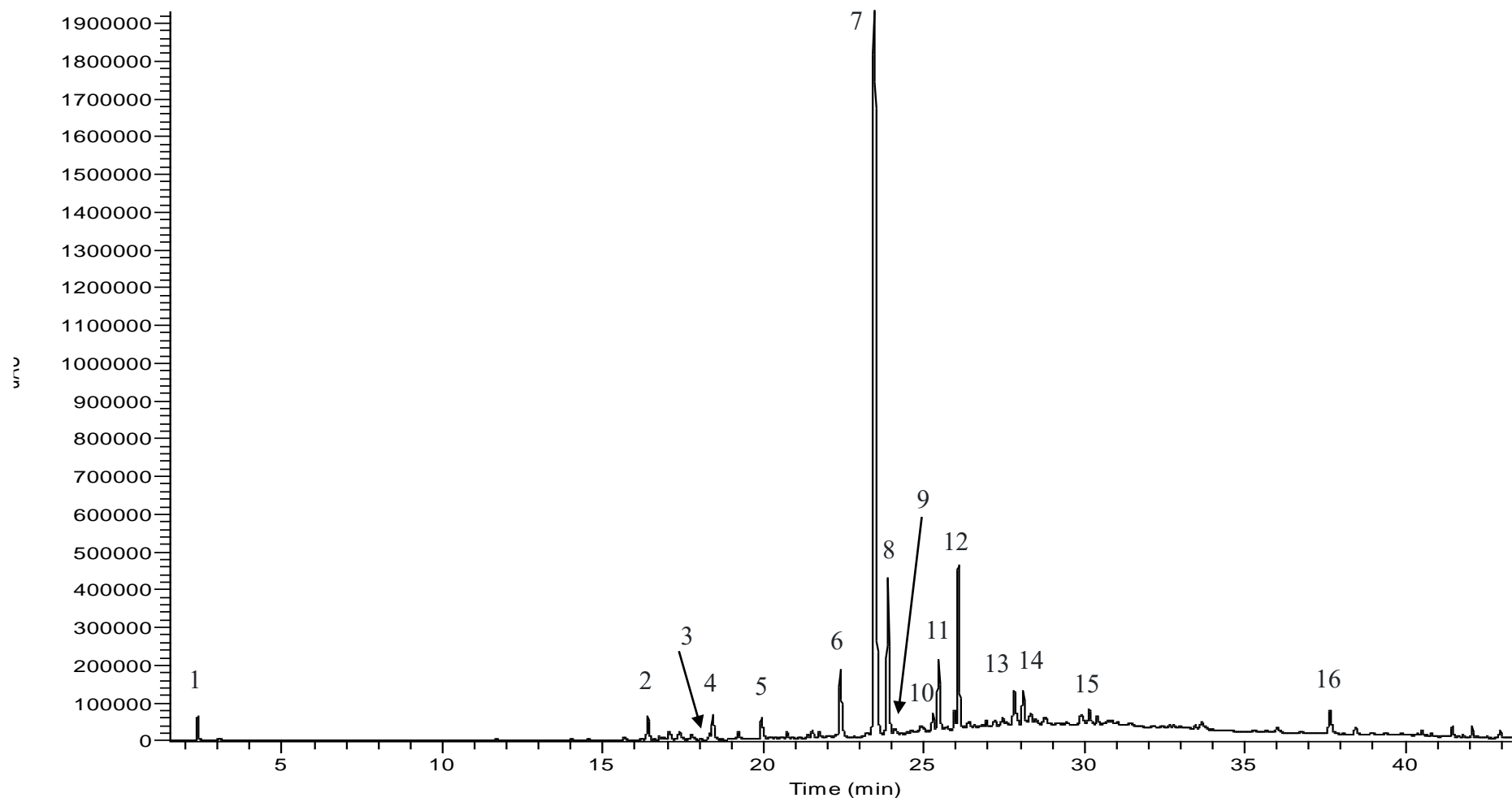


Figure S6 Chromatographic profile (at 280 nm) of a hydro-methanolic extract of peppermint (*Mentha piperita* L.) leaves and young stems. (1) gallic acid; (2) neochlorogenic acid; (3) catechin; (4) chlorogenic acid; (5) caffeic acid; (6) luteolin glycoside I; (7) *eriodictyol glycoside I (rutinoside)*; (8) rutin (quercetin-3-*O*-rutinoside); (9) luteolin glycoside II (rutinoside); (10) *eriodictyol glycoside II*; (11) luteolin glycoside IV (glucuronide); (12) *eriodictyol-7-*O*-rutinoside*; (13) rosmarinic acid; (14) apigenin glycoside IV; (15) luteolin; (16) epicatechin gallate. The compounds in italics were identified by literature; others by standards.

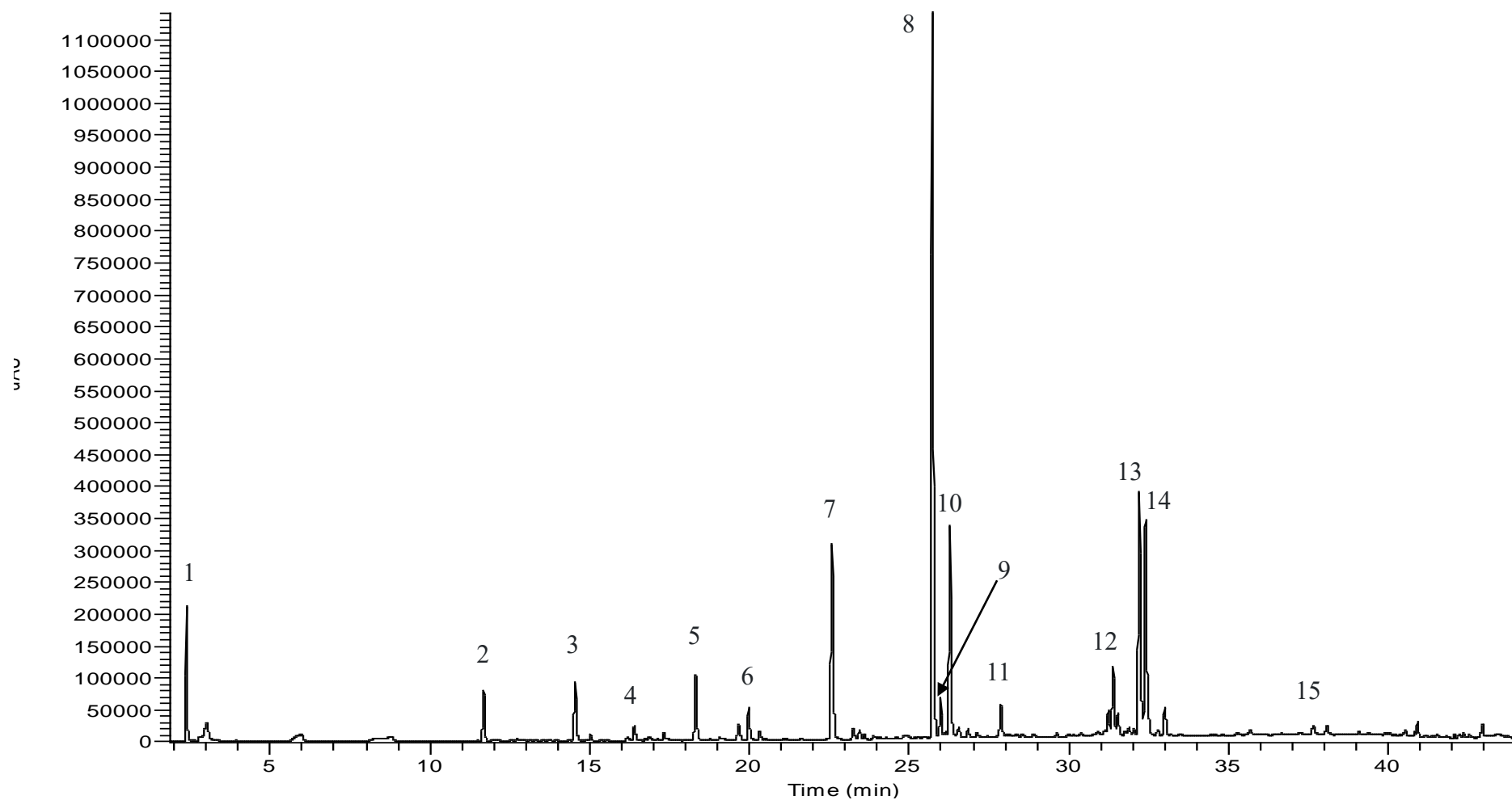


Figure S7 Chromatographic profile (at 280 nm) of a hydro-methanolic extract of parsley (*Petroselinum crispum* Mill.) leaves and young stems. (1) gallic catechin; (2) 2,3-hydroxybenzoic acid; (3) Gallic acid derivative I; (4) neochlorogenic acid; (5) catechin; (5) caffeic acid; (6) myricitin-3-O-glucoside; (7) epicatechin; (8) apigenin-7-O-apiosylglucoside (apiin); (9) *diosmetin glycoside*; (10) *diosmetin glycoside isomer*; (11) apigenin glycoside IV; (12) quercetin; (13) naringenin; (14) hesperidin; (15) epicatechin gallate. The compounds in italics were identified by literature; others by standards.