

SUPPLEMENTARY MATERIAL

State of the Art of Anthocyanins: Antioxidant Activity, Sources, Bioavailability and Therapeutic Effect in Human Health

Noelia Tena ^{1,*}, Julia Martín ², Agustín G. Asuero ¹

¹ Departamento de Química Analítica, Facultad de Farmacia, Universidad de Sevilla, Prof. García González, 2, 41012, Sevilla, España; noelia.tena@us.es (N.T.); asuero@us.es (A.G.A.).

² Departamento de Química Analítica, Escuela Politécnica Superior, Universidad de Sevilla, C/ Virgen de África 7, E-41011 Sevilla, España; jbueno@us.es (J.M.)

* Correspondence: ntena@us.es

Table S1. Natural source, type of extraction, chromatographic method and antioxidant assay applied to identify and quantify delphinidin and its derivatives identified with codes.

Code	Delphinidin and its derivatives							Extraction, identification, quantification and antioxidant activity	References
	1	2	3	4	5	6	7		
Raspberry (mg/g)	-	-	-	-	-	-	-	Freeze dried fruit, 80% MeOH	
Bilberry (mg/g)	-	3.5	4.6	4.7	-	-	-	0.5% AcOH.	[63]
Blackberry (mg/g)	-	-	-	-	-	-	-	HPLC-ESI-MS/MS; HPLC-DAD.	
Blueberry (mg/g)	-	0.7	1.4	0.1	-	-	-	DPPH, ABTS, FRAP.	
Blueberry Wild (mg/100 g FW)	-	57.4 - 85.2	65.3 - 124.7	78.9 - 133.9	-	-	-	Ground fruit (85:15 v/v, MeOH:HCl) RP-HPLC-DAD.	[47]
Blueberry monocultivar (mg/100 g FW)	-	12.5 - 46.2	ND - 60.3	21.7 - 60.6	-	-	-	DPPH, ABTS, FRAP,ORAC.	
Cranberry (mg/g)	-	-	-	-	-	-	-	Freeze dried fruit, 80% MeOH	
Crowberry (mg/g)	-	1.4	8.6	0.4	-	-	-	0.5% AcOH. HPLC-ESI-MS/MS; HPLC-DAD.	[63]
Mulberry (mg/g)	-	-	-	-	-	-	-		
Blackcurrant (mg/g)	-	-	-	2.9	-	9.8	-	DPPH, ABTS, FRAP.	
Blackcurrant Commercial (%)	-	-	-	11.8 - 15.1	-	31.7 - 35.7	-	Fresh berries extracted with 95% (v/v) ethanol acidified with 0.1N HCl. HPLC-UV-MS	[50]
Redcurrant (mg/g)	-	-	-	-	-	-	-	Freeze dried fruit, 80% MeOH	
Strawberry (mg/g)	-	-	-	-	-	-	-	0.5% AcOH. HPLC-ESI-MS/MS; HPLC-DAD.	[63]
								DPPH, ABTS, FRAP.	
Pomegranate juice (mg/L)	-	-	-	138.2 - 147.4	85.5 - 93.0	-	-	Juice clarified 5 mL 15% gelatine HPLC, TEAC	[46]
Green rye grains (mg/Kg DW)	-	-	-	ND - <LOQ	-	<LOQ - 0.2	-	Dried and ground grain 70% EtOH and 1% (w/v) citric acid, purification, HPLC-ESI-MS	[64]
Violet rye grains (mg/Kg DW)	-	-	-	-	-	-	-		
Red Chicory (mg/100 g FW)	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS.	[42]
Red Onion (mg/100 g FW)	-	-	-	-	-	-	8.7	ABTS, CRUPAC, DPPH	
Red onion (mg/100 g DW)	ND	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Eggplant (mg/100 g FW)	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS.	[42]
								ABTS, CRUPAC, DPPH	
Eggplant Black Beauty (mg/100 g DW)	11.5 ± 0.8	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Purple sweet potato (mg/100 g FW)	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS.	[42]
								ABTS, CRUPAC, DPPH	

Purple potato (mg/100 g DW)	0.3 - 0.6	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Red potato (mg/100 g DW)	ND	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS. ABTS, CRUPAC, DPPH	[42]
Black carrot (mg/100 g FW)	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Purple carrot (mg/100 g DW)	ND - 0.3	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Red cabbage Gario (mg/100 g DW)	ND	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Purple cauliflower Graffitti (mg/100 g DW)	ND	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Purple asparagus Albenga (mg/100 g DW)	ND	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Begonia, light red (µg/g)	-	-	-	ND	-	-	-	Maceration of flower (1:10) (80% MeOH, 19% H ₂ O and 1% HCl, v/v/v).	[65]
Torenia, purple (µg/g)	-	-	-	210.9- 211.0	-	-	-	HPLC-DAD	[65]
Mini rose, dark red (µg/g)	-	-	-	ND	-	-	-	DPPH, FRAP, ORAC	[65]
Clitoria, blue (µg/g)	-	-	-	ND	-	-	-	DPPH, FRAP, ORAC	[65]
Mini daisy, white (µg/g)	-	-	-	11.1 - 11.2	-	-	-	DPPH, FRAP, ORAC	[65]
Tagete, orange (µg/g)	-	-	-	ND	-	-	-	DPPH, FRAP, ORAC	[65]
Cosmos, yellow (µg/g)	-	-	-	0.3	-	-	-	DPPH, FRAP, ORAC	[65]
Cravine, red wine (µg/g)	-	-	-	ND	-	-	-	DPPH, FRAP, ORAC	[65]

Note: ND, not detected; 1, Delphinidin; 2, Delphinidin 3-arabinoside; 3, Delphinidin 3-galactoside; 4, Delphinidin 3-glucoside; 5, Delphinidin 3,5-diglucoside; 6 Delphinidin 3-rutinoside; 7, Delphinidin 3-O-(6''-p-coumaroyl-glucoside)

Table S2. Natural source, type of extraction, chromatographic method and antioxidant assay applied to identify and quantify cyanidin and its derivatives identified with codes. Continue....

Code	Cyanidin and its derivatives part 1							Extraction, identification, quantification and antioxidant activity	References
	8	9	10	11	12	13	14		
Raspberry (mg/g)	-	-	-	1	-	0.3	-	Freeze dried fruit, 80% MeOH 0.5% AcOH.	[63]
Bilberry (mg/g)	-	2.5	3.7	4.1	-	-	-	HPLC-ESI-MS/MS; HPLC-DAD.	[63]
Blackberry (mg/g)	-	0.1	-	7.2	-	0.1	-	DPPH, ABTS, FRAP.	[63]
Blueberry (mg/g)	-	0.1	0.3	0.1	-	-	-	DPPH, ABTS, FRAP.	[63]
Blueberry Wild (mg/100 g FW)	-	-	33.7 - 101.8	37.2 - 107.5	-	-	-	Ground fruit (85:15 v/v, MeOH:HCl) RP-HPLC-DAD.	[47]
Blueberry monocultivar (mg/100 g FW)	-	-	ND - 11.8	0.1 - 3.7	-	-	-	DPPH, ABTS, FRAP,ORAC.	[47]
Cranberry (mg/g)	-	0.6	3.9	0.3	-	-	-	Freeze dried fruit, 80% MeOH 0.5% AcOH. HPLC-ESI-MS/MS;	[63]
Crowberry (mg/g)	-	2.3	8	0.6	-	-	-	HPLC-DAD.	[63]
Mulberry (mg/g)	-	-	-	9.6	-	4.2	-	DPPH, ABTS, FRAP.	[63]
Blackcurrant (mg/g)	-	-	-	1.1	-	7.1	-	DPPH, ABTS, FRAP.	[63]
Blackcurrant Commercial (%)	-	-	-	6.8 - 10.6	-	41.1-47.1	-	Fresh berries extracted with 95% (v/v) ethanol acidified with 0.1N HCl. HPLC-UV-MS	[50]
Redcurrant (mg/g)	-	-	-	-	-	0.4	-	Freeze dried fruit, 80% MeOH 0.5% AcOH. HPLC-ESI-MS/MS;	[63]
Strawberry (mg/g)	-	-	-	0.1	-	-	-	HPLC-DAD. DPPH, ABTS, FRAP.	[63]
Pomegranate juice (mg/L)	-	-	-	219.2 - 239.2	168.0 - 178.8	-	-	Juice clarified 5 mL 15% gelatine HPLC, TEAC	[46]
Green rye grains (mg/Kg DW)	-	-	-	-	-	<LOQ - 0.1	-	Dried and ground grain 70% EtOH and 1% (w/v) citric acid, purification, HPLC-ESI-MS	[64]
Violet rye grains (mg/Kg DW)	-	-	-	ND - 40.1	-	ND - 0.7	-	Dried and ground grain 70% EtOH and 1% (w/v) citric acid, purification, HPLC-ESI-MS	[64]
Red Chicory (mg/100 g FW)	-	-	-	30.9	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS.	[42]
Red Onion (mg/100 g FW)	-	-	-	4.4	-	-	-	ABTS, CRUPAC, DPPH	[42]
Red onion (mg/100 g DW)	3.0 - 5.9	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Eggplant (mg/100 g FW)	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS. ABTS, CRUPAC, DPPH	[42]

Eggplant Black Beauty (mg/100 g DW)	ND	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Purple sweet potato (mg/100 g FW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS. ABTS, CRUPAC, DPPH	[42]
Purple potato (mg/100 g DW)	0.1 - 0.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Red potato (mg/100 g DW)	0.5 - 0.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS. ABTS, CRUPAC, DPPH	[42]
Black carrot (mg/100 g FW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Purple carrot (mg/100 g DW)	13.1 - 18.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Red cabbage Gario (mg/100 g DW)	52.1 ± 64.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Purple cauliflower Graffiti (mg/100 g DW)	61.5 - 65.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Purple asparagus Albenga (mg/100 g DW)	8.0 - 8.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Begonia, light red (µg/g)	-	-	-	-	-	ND	ND	-	-	-	-	-	-	-	-	-	-	Maceration of flower (1:10) (80% MeOH, 19% H ₂ O and 1% HCl, v/v/v). HPLC-DAD	[65]
Torenia, purple (µg/g)	-	-	-	-	-	ND	ND	-	-	-	-	-	-	-	-	-	-	DPPH, FRAP, ORAC	[65]
Mini rose, dark red (µg/g)	-	-	-	-	-	ND	ND	-	-	-	-	-	-	-	-	-	-	DPPH, FRAP, ORAC	[65]
Clitoria, blue (µg/g)	-	-	-	-	-	4.7 - 4.8	3.2 - 3.3	-	-	-	-	-	-	-	-	-	-	DPPH, FRAP, ORAC	[65]
Mini daisy, white (µg/g)	-	-	-	-	-	ND	ND	-	-	-	-	-	-	-	-	-	-	DPPH, FRAP, ORAC	[65]
Tagete, orange (µg/g)	-	-	-	-	-	ND	ND	-	-	-	-	-	-	-	-	-	-	DPPH, FRAP, ORAC	[65]
Cosmos, yellow (µg/g)	-	-	-	-	-	ND	ND	-	-	-	-	-	-	-	-	-	-	DPPH, FRAP, ORAC	[65]
Cravine, red wine (µg/g)	-	-	-	-	-	17.3 - 17.5	ND	-	-	-	-	-	-	-	-	-	-	DPPH, FRAP, ORAC	[65]

Note: ND, not detected; 8, Cyanidin; 9, Cyanidin 3-arabidoside; 10, Cyanidin 3-galactoside; 11, Cyanidin 3-glucoside; 12, Cyanidin 3,5-diglucoside; 13, Cyanidin 3-rutinoside; 14, Cyanidin 3-(6'-malonylglucoside).

Table S2. Natural source, type of extraction, chromatographic method and antioxidant assay applied to identify and quantify cyanidin and its derivatives identified with codes.

Code	Cyanidin and its derivatives part 2														Extraction, identification, quantification and antioxidant activity	References			
	15	16	17	18	19	20	21	22	23	24	25	26	27	28					
Raspberry (mg/g)	-	-	-	-	-	6.3	1.2	-	0.5	-	-	-	-	-	-	-	-	Freeze dried fruit, 80% MeOH 0.5% AcOH.	[63]
Bilberry (mg/g)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	HPLC-ESI-MS/MS; HPLC-DAD.	[63]
Blackberry (mg/g)	-	0.5	-	2.1	-	-	-	-	-	-	-	-	-	-	-	-	-	DPPH, ABTS, FRAP.	[63]
Blueberry (mg/g)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	DPPH, ABTS, FRAP.	[63]
Blueberry Wild (mg/100 g FW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ground fruit (85:15 v/v, MeOH:HCl) RP-HPLC-DAD.	[47]
Blueberry monocultivar (mg/100 g FW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	DPPH, ABTS, FRAP,ORAC.	[47]
Cranberry (mg/g)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Freeze dried fruit, 80% MeOH 0.5% AcOH. HPLC-ESI-MS/MS; HPLC-DAD.	[63]
Crowberry (mg/g)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	HPLC-ESI-MS/MS; HPLC-DAD.	[63]
Mulberry (mg/g)	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	DPPH, ABTS, FRAP.	[63]
Blackcurrant (mg/g)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	DPPH, ABTS, FRAP.	[63]
Blackcurrant Commercial (%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Fresh berries extracted with 95% (v/v) ethanol acidified with 0.1N HCl. HPLC-UV-MS	[50]
Redcurrant (mg/g)	-	-	1.8	-	-	-	-	0.3	-	-	-	-	-	-	-	-	-	Freeze dried fruit, 80% MeOH 0.5% AcOH. HPLC-ESI-MS/MS; HPLC-DAD.	[63]
Strawberry (mg/g)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	DPPH, ABTS, FRAP.	[63]
Pomegranate juice (mg/L)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Juice clarified 5 mL 15% gelatine HPLC, TEAC	[46]
Green rye grains (mg/Kg DW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Dried and ground grain 70% EtOH and 1% (w/v) citric acid, purification, HPLC-ESI-MS	[64]
Violet rye grains (mg/Kg DW)	ND - 9.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	HPLC-ESI-MS	[64]
Red Chicory (mg/100 g FW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS. ABTS, CRUPAC, DPPH	[42]
Red Onion (mg/100 g FW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Red onion (mg/100 g DW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]

Eggplant (mg/100 g FW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS. ABTS, CRUPAC, DPPH	[42]
Eggplant Black Beauty (mg/100 g DW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Purple sweet potato (mg/100 g FW)	-	-	-	-	-	-	-	-	-	1.0	0.4	2.4	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS. ABTS, CRUPAC, DPPH	[42]
Purple potato (mg/100 g DW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Red potato (mg/100 g DW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Black carrot (mg/100 g FW)	-	-	-	-	-	-	-	-	-	-	-	-	21.2	0.7	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS. ABTS, CRUPAC, DPPH	[42]
Purple carrot (mg/100 g DW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Red cabbage Gario (mg/100 g DW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Purple cauliflower Graffiti (mg/100 g DW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Purple asparagus Albenga (mg/100 g DW)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Begonia, light red (µg/g)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Torenia, purple (µg/g)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Mini rose, dark red (µg/g)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Maceration of flower (1:10) (80% MeOH, 19% H ₂ O and 1% HCl, v/v/v).	[65]
Clitoria, blue (µg/g)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	HPLC-DAD	
Mini daisy, white (µg/g)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	DPPH, FRAP, ORAC	
Tagete, orange (µg/g)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Cosmos, yellow (µg/g)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Cravine, red wine (µg/g)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Note: ND, not detected; 15, Cyanidin 3-(3",6"-dimalonylglucoside); 16, Cyanidin 3-xyloside; 17, Cyanidin 3-xylosylrutinoside; 18, Cyanidin 3-dioxaloylglucoside; 19, Cyanidin 3-halavtoside; 20, Cyanidin 3-O-sophoroside; 21, Cyanidin 3-sophoroside-5-rhamnoside; 22, Cyanidin 3-sambubioside; 23, Cyanidin 3-sambubioside-5-rhamnoside; 24, Cyanidin-3-p-hydroxybenzoylsophoroside-5-glucoside; 25, Cyanidin-3-caffeoylsophoroside-5-glucoside; 26, Cyanidin-3-caffeoyl-p-hydroxybenzoylsophoroside-5-glucoside; 27, Cyanidin 3-(p-coumaroyl)-diglucoside-5-glucoside; 28, Cyanidin 3-(p-coumaroyl)-diglucoside-5-glucoside.

Table S3. Natural source, type of extraction, chromatographic method and antioxidant assay applied to identify and quantify petunidin and its derivatives identified with codes.

Code	Petunidin and its derivatives						Extraction, identification, quantification and antioxidant activity	References
	29	30	31	32	33	34		
Raspberry (mg/g)	-	-	-	-	-	-	Freeze dried fruit, 80% MeOH 0.5% AcOH.	
Bilberry (mg/g)	-	0.8	-	2.9	1.5	-	HPLC-ESI-MS/MS; HPLC-DAD.	[63]
Blackberry (mg/g)	-	-	-	-	-	-	DPPH, ABTS, FRAP.	
Blueberry (mg/g)	-	0.5	1.1	0.1	-	-	Ground fruit (85:15 v/v, MeOH:HCl) RP-HPLC-DAD.	[47]
Blueberry Wild (mg/100 g FW)	-	8.4 - 14.7	16.6 - 33.2	77.4 - 165.3	-	-	DPPH, ABTS, FRAP,ORAC.	
Blueberry monocultivar (mg/100 g FW)	-	ND - 14.6	ND - 26.0	7.3 - 27.6	-	-	Freeze dried fruit, 80% MeOH 0.5% AcOH. HPLC-ESI-MS/MS; HPLC-DAD.	[63]
Cranberry (mg/g)	-	-	-	-	-	-	DPPH, ABTS, FRAP.	
Crowberry (mg/g)	-	0.5	3.8	0.2	-	-	Fresh berries extracted with 95% (v/v) ethanol acidified with 0.1N HCl. HPLC-UV-MS	[50]
Mulberry (mg/g)	-	-	-	-	-	-	Freeze dried fruit, 80% MeOH 0.5% AcOH. HPLC-ESI-MS/MS; HPLC-DAD.	[63]
Blackcurrant (mg/g)	-	-	-	-	-	0.18	DPPH, ABTS, FRAP.	
Blackcurrant Commercial (%)	-	-	-	-	-	-	Juice clarified 5 mL 15% gelatine HPLC, TEAC	[46]
Redcurrant (mg/g)	-	-	-	-	-	-	Dried and ground grain 70% EtOH and 1% (w/v) citric acid, purification, HPLC-ESI-MS	[64]
Strawberry (mg/g)	-	-	-	-	-	-		
Pomegranate juice (mg/L)	-	-	-	-	-	-		
Green rye grains (mg/Kg DW)	-	-	-	-	-	-		
Violet rye grains (mg/Kg DW)	-	-	-	-	-	-		

Red Chicory (mg/100 g FW)	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS.	[42]
Red Onion (mg/100 g FW)	-	-	-	-	-	-	-	ABTS, CRUPAC, DPPH	
Red onion (mg/100 g DW)	ND	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Eggplant (mg/100 g FW)	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS.	[42]
Eggplant Black Beauty (mg/100 g DW)	0.5 - 0.6	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Purple sweet potato (mg/100 g FW)	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS.	[42]
Purple potato (mg/100 g DW)	13.1 - 31.0	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Red potato (mg/100 g DW)	-	-	-	-	-	-	-	MS. DPPH, FRAP, ORAC	
Black carrot (mg/100 g FW)	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS.	[42]
Purple carrot (mg/100 g DW)	ND - 0.3	-	-	-	-	-	-	ABTS, CRUPAC, DPPH	
Red cabbage Gario (mg/100 g DW)	ND	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Purple cauliflower Graffitti (mg/100 g DW)	ND	-	-	-	-	-	-	MS. DPPH, FRAP, ORAC	
Purple asparagus Albenga (mg/100 g DW)	ND	-	-	-	-	-	-		
Begonia, light red (µg/g)	-	-	-	ND	-	-	-		
Torenia, purple (µg/g)	-	-	-	ND	-	-	-		
Mini rose, dark red (µg/g)	-	-	-	ND	-	-	-		
Clitoria, blue (µg/g)	-	-	-	27.5 - 27-6	-	-	-	Maceration of flower (1:10) (80% MeOH, 19% H ₂ O and 1% HCl, v/v/v).	[65]
Mini daisy, white (µg/g)	-	-	-	ND	-	-	-	HPLC-DAD	
Tagete, orange (µg/g)	-	-	-	ND	-	-	-	DPPH, FRAP, ORAC	
Cosmos, yellow (µg/g)	-	-	-	ND	-	-	-		
Cravine, red wine (µg/g)	-	-	-	ND	-	-	-		

Note: ND, not detected; 29, Petunidin; 30, Petunidin 3-arabinoside; 31, Petunidin 3-galactoside; 32, Petunidin 3-glucoside; 33, Petunidin 3-halactoside; 34, Petunidin 3-rutinoside.

Table S4. Natural source, type of extraction, chromatographic method and antioxidant assay applied to identify and quantify peonidin and its derivatives identified with codes. Continue....

Code	Peonidin and derivatives part 1							Extraction, identification, quantification and antioxidant activity	References
	35	36	37	38	39	40	41		
Raspberry (mg/g)	-	-	-	-	-	-	-	Freeze dried fruit, 80% MeOH	
Bilberry (mg/g)	-	0.5	-	-	-	-	3.5	0.5% AcOH.	[63]
Blackberry (mg/g)	-	-	-	-	-	-	-	HPLC-ESI-MS/MS; HPLC-DAD.	
Blueberry (mg/g)	-	0.2	-	-	-	-	3.7	DPPH, ABTS, FRAP.	
Blueberry Wild (mg/100 g FW)	-	ND - 10.0	26.9 - 120.8	-	-	-	-	Ground fruit (85:15 v/v, MeOH:HCl) RP-HPLC-DAD.	[47]
Blueberry monocultivar (mg/100 g FW)	-	ND - 137.8	11.2 - 61.9	-	-	-	-	DPPH, ABTS, FRAP,ORAC.	
Cranberry (mg/g)	-	-	0.1	-	-	-	-	Freeze dried fruit, 80% MeOH	
Crowberry (mg/g)	-	-	-	-	-	-	-	0.5% AcOH. HPLC-ESI-MS/MS;	[63]
Mulberry (mg/g)	-	-	-	-	-	-	-	HPLC-DAD.	
Blackcurrant (mg/g)	-	-	-	-	-	-	-	DPPH, ABTS, FRAP.	
Blackcurrant Commercial (%)	-	-	-	-	-	-	-	Fresh berries extracted with 95% (v/v) ethanol acidified with 0.1N HCl. HPLC-UV-MS	[50]
Redcurrant (mg/g)	-	-	-	-	-	-	-	Freeze dried fruit, 80% MeOH	
Strawberry (mg/g)	-	-	-	-	-	-	-	0.5% AcOH. HPLC-ESI-MS/MS; HPLC-DAD.	[63]
								DPPH, ABTS, FRAP.	

Pomegranate juice (mg/L)	-	-	-	-	-	-	-	Juice clarified 5 mL 15% gelatine HPLC, TEAC	[46]
Green rye grains (mg/Kg DW)	-	-	-	-	-	-	-	Dried and ground grain 70% EtOH and 1% (w/v) citric acid, purification, HPLC-ESI-MS	[64]
Violet rye grains (mg/Kg DW)	-	-	0.1- 34.0	ND - 0.7	ND - 26.1	ND - 5.9	-		
Red Chicory (mg/100 g FW)	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS. ABTS, CRUPAC, DPPH	[42]
Red Onion (mg/100 g FW)	-	-	-	-	-	-	-		
Red onion (mg/100 g DW)	ND	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI- MS. DPPH, FRAP, ORAC	[39]
Eggplant (mg/100 g FW)	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS. ABTS, CRUPAC, DPPH	[42]
Eggplant Black Beauty (mg/100 g DW)	ND	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI- MS. DPPH, FRAP, ORAC	[39]
Purple sweet potato (mg/100 g FW)	-	-	0.5	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS. ABTS, CRUPAC, DPPH	[42]
Purple potato (mg/100 g DW)	0.3 - 0.9	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI- MS. DPPH, FRAP, ORAC	[39]
Red potato (mg/100 g DW)	1.3 - 2.5	-	-	-	-	-	-		
Black carrot (mg/100 g FW)	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS. ABTS, CRUPAC, DPPH	[42]
Purple carrot (mg/100 g DW)	0.3 - 0.5	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI- MS. DPPH, FRAP, ORAC	[39]
Red cabbage Gario (mg/100 g DW)	0.6 - 0.7	-	-	-	-	-	-		
Purple cauliflower Graffitti (mg/100 g DW)	ND	-	-	-	-	-	-		
Purple asparagus Albenga (mg/100 g DW)	ND	-	-	-	-	-	-		
Begonia, light red (µg/g)	-	-	-	-	-	-	-		
Torenia, purple (µg/g)	-	-	-	-	-	-	-	Maceration of flower (1:10) (80% MeOH, 19% H ₂ O and 1% HCl, v/v/v). HPLC-DAD DPPH, FRAP, ORAC	[65]
Mini rose, dark red (µg/g)	-	-	-	-	-	-	-		
Clitoria, blue (µg/g)	-	-	-	-	-	-	-		
Mini daisy, white (µg/g)	-	-	-	-	-	-	-		
Tagete, orange (µg/g)	-	-	-	-	-	-	-		
Cosmos, yellow (µg/g)	-	-	-	-	-	-	-		
Cravine, red wine (µg/g)	-	-	-	-	-	-	-		

Note: ND, not detected; 35, Peonidin; 36, Peonidin 3-galactoside; 37, Peonidin 3-glucoside; 38 Peonidin 3-rutinoside; 39, Peonidin 3-(6'-malonylglucoside); 40, Peonidin 3-(3',6"-dimalonylglucoside); 41, Peonidin 3-glucoside/malvidin 3-galactoside.

Table S4. Natural source, type of extraction, chromatographic method and antioxidant assay applied to identify and quantify peonidin and its derivatives identified with codes.

Code	Peonidin and derivatives part 2							Extraction, identification, quantification and antioxidant activity	References
	42	43	44	45	46	47	48		
Raspberry (mg/g)	-	-	-	-	-	-	-	Freeze dried fruit, 80% MeOH 0.5% AcOH. HPLC-ESI-MS/MS; HPLC-DAD. DPPH, ABTS, FRAP.	[63]
Bilberry (mg/g)	3.6	-	-	-	-	-	-		
Blackberry (mg/g)	-	-	-	-	-	-	-		
Blueberry (mg/g)	0.4	-	-	-	-	-	-	Ground fruit (85:15 v/v, MeOH:HCl) RP-HPLC- DAD. DPPH, ABTS, FRAP,ORAC.	[47]
Blueberry Wild (mg/100 g FW)	-	-	-	-	-	-	-		
Blueberry monocoltivar (mg/100 g FW)	-	-	-	-	-	-	-	Freeze dried fruit, 80% MeOH 0.5% AcOH. HPLC-ESI-MS/MS; HPLC- DAD. DPPH, ABTS, FRAP.	[63]
Cranberry (mg/g)	-	-	-	-	-	-	-		
Crowberry (mg/g)	1.6	-	-	-	-	-	-		
Mulberry (mg/g)	-	-	-	-	-	-	-		
Blackcurrant (mg/g)	-	-	-	-	-	-	-	Fresh berries extracted with 95%	[50]
Blackcurrant Commercial (%)	-	-	-	-	-	-	-		

									(v/v) ethanol acidified with 0.1N HCl. HPLC–UV–MS
Redcurrant (mg/g)	-	-	-	-	-	-	-	-	Freeze dried fruit, 80% MeOH 0.5% AcOH. HPLC-ESI-MS/MS; HPLC-DAD.
Strawberry (mg/g)	-	-	-	-	-	-	-	-	DPPH, ABTS, FRAP.
Pomegranate juice (mg/L)	-	-	-	-	-	-	-	-	Juice clarify 5 mL 15% gelatine HPLC, TEAC
Green rye grains (mg/Kg DW)	-	-	-	-	-	-	-	-	Dried and ground grain 70% EtOH and 1% (w/v) citric acid, purification, HPLC-ESI-MS
Violet rye grains (mg/Kg DW)	-	-	-	-	-	-	-	-	
Red Chicory (mg/100 g FW)	-	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS. ABTS, CRUPAC, DPPH
Red Onion (mg/100 g FW)	-	-	-	-	-	-	-	-	
Red onion (mg/100 g DW)	-	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC–DAD–ESI–MS. DPPH, FRAP, ORAC
Eggplant (mg/100 g FW)	-	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS. ABTS, CRUPAC, DPPH
Eggplant Black Beauty (mg/100 g DW)	-	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC–DAD–ESI–MS. DPPH, FRAP, ORAC
Purple sweet potato (mg/100 g FW)	-	0.8	3.4	3.9	10.2	15.2	4.5	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS. ABTS, CRUPAC, DPPH
Purple potato (mg/100 g DW)	-	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC–DAD–ESI–MS. DPPH, FRAP, ORAC
Red potato (mg/100 g DW)	-	-	-	-	-	-	-	-	
Black carrot (mg/100 g FW)	-	-	-	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS. ABTS, CRUPAC, DPPH
Purple carrot (mg/100 g DW)	-	-	-	-	-	-	-	-	
Red cabbage Gario (mg/100 g DW)	-	-	-	-	-	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC–DAD–ESI–MS. DPPH, FRAP, ORAC
Purple cauliflower Graffiti (mg/100 g DW)	-	-	-	-	-	-	-	-	
Purple asparagus Albenga (mg/100 g DW)	-	-	-	-	-	-	-	-	
Begonia, light red (µg/g)	-	-	-	-	-	-	-	-	
Torenia, purple (µg/g)	-	-	-	-	-	-	-	-	
Mini rose, dark red (µg/g)	-	-	-	-	-	-	-	-	Maceration of flower (1:10) (80% MeOH, 19% H ₂ O and 1% HCl, v/v/v).
Clitoria, blue (µg/g)	-	-	-	-	-	-	-	-	HPLC-DAD
Mini daisy, white (µg/g)	-	-	-	-	-	-	-	-	DPPH, FRAP, ORAC
Tagete, orange (µg/g)	-	-	-	-	-	-	-	-	
Cosmos, yellow (µg/g)	-	-	-	-	-	-	-	-	
Cravine, red wine (µg/g)	-	-	-	-	-	-	-	-	

Note: ND, not detected; 42, Peonidin 3-arabinoside/malvidin 3-glucoside; 43, Peonidin 3-O-sophoroside-5-O-glucoside; 44, Peonidin 3-p-hydroxybenzoylsophoroside-5-glucoside; 45, Peonidin 3-caffeoylsophoroside-5-glucoside; 46, Peonidin 3-dicaffeoylsophoroside-5-glucoside; 47, Peonidin 3-caffeoyl-p-hydroxybenzoylsophoroside-5-glucoside; 48, Peonidin 3-caffeoyl-feruloylsophoroside-5-glucoside.

Table S5. Natural source, type of extraction, chromatographic method and antioxidant assay applied to identify and quantify malvidin and its derivatives identified with codes.

Code	Malvidin and its derivatives					Extraction, identification, quantification and antioxidant activity	References
	49	50	51	52	53		
Raspberry (mg/g)	-	-	-	-	-	Freeze dried fruit, 80% MeOH 0.5% AcOH.	[63]
Bilberry (mg/g)	-	0.8	-	-	-	HPLC-ESI-MS/MS; HPLC-DAD.	
Blackberry (mg/g)	-	-	-	-	-	DPPH, ABTS, FRAP.	
Blueberry (mg/g)	-	-	-	-	-		
Blueberry Wild (mg/100 g FW)	-	-	34.7 - 131.5	4.9 - 20.7	-	Ground fruit (85:15 v/v, MeOH:HCl) RP-HPLC-DAD.	[47]
Blueberry monocultivar (mg/100 g FW)	-	-	25.1- 76.5	ND - 37.2	-	DPPH, ABTS, FRAP,ORAC.	

Cranberry (mg/g)	-	-	-	-	-	Freeze dried fruit, 80% MeOH	
Crowberry (mg/g)	-	1.4	-	-	-	0.5% AcOH. HPLC-ESI-MS/MS;	[63]
Mulberry (mg/g)	-	-	-	-	-	HPLC-DAD.	
Blackcurrant (mg/g)	-	-	-	-	-	DPPH, ABTS, FRAP.	
Blackcurrant Commercial (%)	-	-	-	-	-	Fresh berries extracted with 95% (v/v) ethanol acidified with 0.1N HCl. HPLC-UV-MS	[50]
Redcurrant (mg/g)	-	-	-	-	-	Freeze dried fruit, 80% MeOH	
Strawberry (mg/g)	-	-	-	-	-	0.5% AcOH. HPLC-ESI-MS/MS; HPLC-DAD.	[63]
						DPPH, ABTS, FRAP.	
Pomegranate juice (mg/L)	-	-	-	-	-	Juice clarified 5 mL 15% gelatine	[46]
						HPLC, TEAC	
Green rye grains (mg/Kg DW)	-	-	-	-	-	Dried and ground grain 70% EtOH and 1% (w/v) citric acid,	[64]
Violet rye grains (mg/Kg DW)	-	-	-	-	-	purification, HPLC-ESI-MS	
Red Chicory (mg/100 g FW)	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS.	[42]
Red Onion (mg/100 g FW)	-	-	-	-	-	ABTS, CRUPAC, DPPH	
Red onion (mg/100 g DW)	0.1 - 0.4	-	-	-	-	Freeze powder sample MeOH	[39]
						0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	
Eggplant (mg/100 g FW)	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS.	[42]
						ABTS, CRUPAC, DPPH	
Eggplant Black Beauty (mg/100 g DW)	ND	-	-	-	-	Freeze powder sample MeOH	[39]
						0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	
Purple sweet potato (mg/100 g FW)	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS.	[42]
						ABTS, CRUPAC, DPPH	
Purple potato (mg/100 g DW)	2.7 - 4.9	-	-	-	-	Freeze powder sample MeOH	[39]
Red potato (mg/100 g DW)	ND	-	-	-	-	0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	
Black carrot (mg/100 g FW)	-	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS.	[42]
						ABTS, CRUPAC, DPPH	
Purple carrot (mg/100 g DW)	0.8 - 3.5	-	-	-	-		
Red cabbage Gario (mg/100 g DW)	8.2 - 8.3	-	-	-	-	Freeze powder sample MeOH	[39]
Purple cauliflower Graffitti (mg/100 g DW)	6.8 - 7.0	-	-	-	-	0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	
Purple asparagus Albenga (mg/100 g DW)	ND	-	-	-	-		
Begonia, light red (µg/g)	-	-	-	ND	759.0 - 759.1		
Torenia, purple (µg/g)	-	-	-	ND	ND		
Mini rose, dark red (µg/g)	-	-	-	ND	ND	Maceration of flower (1:10) (80% MeOH, 19% H ₂ O and 1% HCl,	[65]
Clitoria, blue (µg/g)	-	-	-	ND	16.5 -16.6	v/v/v).	
Mini daisy, white (µg/g)	-	-	-	ND	ND	HPLC-DAD	
Tagete, orange (µg/g)	-	-	-	ND	ND	DPPH, FRAP, ORAC	
Cosmos, yellow (µg/g)	-	-	-	3.0 - 3.1	ND		
Cravine, red wine (µg/g)	-	-	-	2274.3 - 2274.4	ND		

Note: ND, not detected; 49, Malvidin; 50, Malvidin 3-arabinoside; 51, Malvidin 3-galactoside; 52, Malvidin 3-glucoside; 53, Malvidin 3,5-diglucoside

Table S6. Natural source, type of extraction, chromatographic method and antioxidant assay applied to identify and quantify pelargonidin and its derivatives identified with codes.

Code	Pelargonidin and its derivatives				Extraction, identification, quantification and antioxidant activity	References
	54	55	56	57		
Raspberry (mg/g)	-	0.7	-	-	Freeze dried fruit, 80% MeOH	
Bilberry (mg/g)	-	-	-	-	0.5% AcOH.	[63]
Blackberry (mg/g)	-	-	-	-	HPLC-ESI-MS/MS; HPLC-DAD.	
Blueberry (mg/g)	-	-	-	-	DPPH, ABTS, FRAP.	

Blueberry Wild (mg/100 g FW)	-	-	-	-	Ground fruit (85:15 v/v, MeOH:HCl) RP-HPLC-DAD.	[47]
Blueberry monocultivar (mg/100 g FW)	-	-	-	-	DPPH, ABTS, FRAP, ORAC.	
Cranberry (mg/g)	-	-	-	-	Freeze dried fruit, 80% MeOH	
Crowberry (mg/g)	-	-	-	-	0.5% AcOH. HPLC-ESI-MS/MS;	[63]
Mulberry (mg/g)	-	1.7	0.54	-	HPLC-DAD.	
Blackcurrant (mg/g)	-	-	-	-	DPPH, ABTS, FRAP.	
Blackcurrant Commercial (%)	-	-	-	-	Fresh berries extracted with 95% (v/v) ethanol acidified with 0.1N HCl. HPLC-UV-MS	[50]
Redcurrant (mg/g)	-	-	-	-	Freeze dried fruit, 80% MeOH	
Strawberry (mg/g)	-	5.1	-	-	0.5% AcOH. HPLC-ESI-MS/MS; HPLC-DAD.	[63]
					DPPH, ABTS, FRAP.	
Pomegranate juice (mg/L)	-	10.2 - 11.0	-	10.7- 12.0	Juice clarified 5 mL 15% gelatine HPLC, TEAC	[46]
Green rye grains (mg/Kg DW)	-	-	-	-	Dried and ground grain 70% EtOH and 1% (w/v) citric acid,	[64]
Violet rye grains (mg/Kg DW)	-	-	-	-	purification, HPLC-ESI-MS	
Red Chicory (mg/100 g FW)	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS.	[42]
Red Onion (mg/100 g FW)	-	-	-	-	ABTS, CRUPAC, DPPH	
Red onion (mg/100 g DW)	ND	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Eggplant (mg/100 g FW)	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS.	[42]
					ABTS, CRUPAC, DPPH	
Eggplant Black Beauty (mg/100 g DW)	ND	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Purple sweet potato (mg/100 g FW)	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS.	[42]
					ABTS, CRUPAC, DPPH	
Purple potato (mg/100 g DW)	ND	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Red potato (mg/100 g DW)	16.0 - 32.7	-	-	-		
Black carrot (mg/100 g FW)	-	-	-	-	Ground sample MeOH and 0.03% HCl) HPLC-PDA/-ESI+-MS.	[42]
					ABTS, CRUPAC, DPPH	
Purple carrot (mg/100 g DW)	0.4 - 0.6	-	-	-		
Red cabbage Gario (mg/100 g DW)	ND	-	-	-	Freeze powder sample MeOH 0.1% HCl, UPLC, LC-DAD-ESI-MS. DPPH, FRAP, ORAC	[39]
Purple cauliflower Graffiti (mg/100 g DW)	ND	-	-	-		
Purple asparagus Albenga (mg/100 g DW)	ND	-	-	-		
Begonia, light red (µg/g)	-	ND	-	ND		
Torenia, purple (µg/g)	-	ND	-	ND		
Mini rose, dark red (µg/g)	-	ND	-	1631.0 - 1631.2	Maceration of flower (1:10) (80% MeOH, 19% H ₂ O and 1% HCl, v/v/v).	[65]
Clitoria, blue (µg/g)	-	ND	-	ND	HPLC-DAD	
Mini daisy, white (µg/g)	-	ND	-	ND	DPPH, FRAP, ORAC	
Tagete, orange (µg/g)	-	3.7-3.8	-	ND		
Cosmos, yellow (µg/g)	-	ND	-	ND		
Cravine, red wine (µg/g)	-	ND	-	ND		

Note: ND, not detected; 54, Pelargonidin; 55, Pelargonidin 3-glucoside; 56, Pelargonidin 3-rutinoside; 57, Pelargonidin 3,5-diglucoside.

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