

Supplementary

Table S1. Concentrations of selected phenolic compounds and ascorbic acid derivatives [$\mu\text{g}/\text{mg}$ sample] in *Urtica dioica* L. uncooked (0 min) and after 20 min of cooking. Significant differences within one compound were calculated by ANOVA and Tukey HSD ($p \leq 0.05$). AsAD: ascorbic acid and its derivatives, CGA: coumaroylglucaric acid (isomer 1/isomer 2), diCQA: di-caffeoylquinic acid, CQA: 5-caffeoylquinic acid, CMA: caffeoylmalic acid.

	AsAD ¹	CGA ^{1,2}	CGA ^{2,2}	diCQA ²	CQA ²	CMA ²	Total	AsAD ^{*1}	CGA ^{1,2}	CGA ^{2,2}	diCQA ²	CQA ²	CMA ²	Total
	freeze-dried							oven-dried						
fresh 0 min	5.53 <i>a</i>	0.70 <i>ab</i>	0.54 <i>a</i>	0.63 <i>abc</i>	3.18 <i>a</i>	0.69 <i>ad</i>	11.27	13.25 <i>ab</i>	0.55 <i>a</i>	0.24 <i>ab</i>	0.61 <i>bcd</i>	3.46 <i>bcd</i>	0.60 <i>ac</i>	18.71
fresh 0 min + CQA	5.40 <i>a</i>	0.50 <i>ab</i>	0.18 <i>a</i>	0.30 <i>ab</i>	1.43 <i>a</i>	0.57 <i>ac</i>	8.38	11.36 <i>a</i>	0.41 <i>a</i>	0.36 <i>ab</i>	0.44 <i>ac</i>	1.92 <i>ab</i>	0.37 <i>ab</i>	14.86
fresh 20 min	12.01 <i>d</i>	2.38 <i>c</i>	1.86 <i>cd</i>	1.34 <i>cd</i>	10.30 <i>c</i>	0.94 <i>ad</i>	28.83	16.08 <i>ab</i>	0.71 <i>ab</i>	0.38 <i>ab</i>	0.25 <i>ab</i>	4.10 <i>d</i>	0.54 <i>ac</i>	22.06
fresh 20 min + CQA	8.19 <i>ac</i>	3.53 <i>d</i>	2.14 <i>d</i>	1.80 <i>d</i>	12.13 <i>c</i>	1.21 <i>d</i>	29.00	15.89 <i>ab</i>	1.84 <i>d</i>	0.92 <i>c</i>	1.08 <i>e</i>	4.20 <i>d</i>	0.61 <i>ac</i>	24.54
fridge 0 min	6.55 <i>ac</i>	0.32 <i>ab</i>	0.14 <i>a</i>	0.07 <i>a</i>	0.17 <i>a</i>	0.39 <i>ab</i>	7.64	17.03 <i>ab</i>	0.18 <i>a</i>	0.11 <i>a</i>	0.11 <i>a</i>	0.15 <i>a</i>	0.35 <i>a</i>	17.93
fridge 0 min + CQA	7.41 <i>ac</i>	0.21 <i>a</i>	0.00 <i>a</i>	0.13 <i>a</i>	0.13 <i>a</i>	0.35 <i>a</i>	8.23	18.52 <i>b</i>	0.34 <i>a</i>	0.11 <i>a</i>	0.11 <i>a</i>	0.14 <i>a</i>	0.42 <i>ab</i>	19.64
fridge 20 min	9.21 <i>cd</i>	1.19 <i>b</i>	2.94 <i>b</i>	0.51 <i>abc</i>	4.05 <i>ab</i>	0.77 <i>ad</i>	18.67	15.14 <i>ab</i>	0.99 <i>ad</i>	0.24 <i>ab</i>	0.21 <i>a</i>	2.67 <i>bcd</i>	0.50 <i>ac</i>	19.75
fridge 20 min + CQA	9.62 <i>cd</i>	2.25 <i>c</i>	1.30 <i>bc</i>	1.04 <i>bd</i>	8.92 <i>bc</i>	1.06 <i>cd</i>	24.19	17.15 <i>ab</i>	1.65 <i>cd</i>	0.85 <i>c</i>	0.76 <i>ce</i>	3.80 <i>cd</i>	0.83 <i>c</i>	25.04
freezer 0 min	5.67 <i>ab</i>	0.61 <i>ab</i>	0.12 <i>a</i>	0.15 <i>ab</i>	0.62 <i>a</i>	0.56 <i>ac</i>	7.73	13.11 <i>ab</i>	0.63 <i>ab</i>	0.36 <i>ab</i>	0.49 <i>acd</i>	1.97 <i>ac</i>	0.62 <i>ac</i>	17.18
freezer 0 min + CQA	5.75 <i>ab</i>	0.50 <i>ab</i>	0.12 <i>a</i>	0.20 <i>ab</i>	0.97 <i>a</i>	0.60 <i>ad</i>	8.14	14.21 <i>ab</i>	0.85 <i>abc</i>	0.25 <i>ab</i>	0.78 <i>de</i>	2.37 <i>bcd</i>	0.43 <i>ab</i>	18.89
freezer 20 min	8.89 <i>bcd</i>	2.18 <i>c</i>	1.80 <i>cd</i>	1.31 <i>cd</i>	9.30 <i>c</i>	1.0 <i>bcd</i>	24.48	16.77 <i>ab</i>	0.91 <i>abc</i>	0.58 <i>bc</i>	0.41 <i>ab</i>	3.95 <i>d</i>	0.72 <i>bc</i>	23.34
freezer 20 min + CQA	7.52 <i>ac</i>	2.64 <i>cd</i>	1.73 <i>cd</i>	1.37 <i>cd</i>	8.95 <i>bc</i>	1.04 <i>cd</i>	23.25	14.30 <i>ab</i>	1.50 <i>bd</i>	0.62 <i>bc</i>	0.76 <i>ce</i>	3.18 <i>bcd</i>	0.61 <i>ac</i>	20.97

¹ calibration with ascorbic acid; ² calibration with 5-caffeoylquinic acid; NA = no peaks were detected.

Table S2. Concentrations of selected phenolic compounds and ascorbic acid derivatives [$\mu\text{g}/\text{mg}$ sample] in *Aegopodium podagraria* L. uncooked (0 min) and after 20 min of cooking. Significant differences within one compound were calculated by ANOVA and Tukey HSD ($p \leq 0.05$). AsAD: ascorbic acid derivatives, 3-CQA: 3-caffeoylquinic acid, CQA: 5-caffeoylquinic acid, CQAdim: caffeoylquinic acid dimer, diCQA: di-caffeoylquinic acid, K3G: kaempferol-3-glucosid.

	AsAD ¹	3-CQA ²	CQAdim ²	5-CQA ²	diCQA ²	K3G ³	Total	AsAD ¹	3-CQA ²	CQAdim ²	5-CQA ²	diCQA ²	K3G ³	Total
	freeze-dried							oven-dried						
fresh 0 min	5.03 <i>ac</i>	0.16 <i>a</i>	0.11 <i>a</i>	0.79 <i>a</i>	0.17 <i>a</i>	NA	6.26	5.63 <i>a</i>	0.33 <i>a</i>	0.23 <i>a</i>	7.21 <i>ab</i>	4.03 <i>b</i>	NA	17.43
fresh 0 min + CQA	4.23 <i>ab</i>	0.15 <i>a</i>	0.11 <i>a</i>	1.31 <i>a</i>	0.18 <i>a</i>	NA	5.98	5.62 <i>a</i>	0.28 <i>a</i>	0.35 <i>a</i>	10.01 <i>b</i>	3.6 <i>b</i>	NA	19.86
fresh 20 min	5.31 <i>ac</i>	1.72 <i>b</i>	2.60 <i>b</i>	12.07 <i>b</i>	5.35 <i>b</i>	10.41 <i>ab</i>	37.46	6.06 <i>a</i>	1.94 <i>b</i>	2.29 <i>b</i>	11.01 <i>b</i>	3.59 <i>b</i>	10.83 <i>b</i>	24.89
fresh 20 min + CQA	4.58 <i>ac</i>	1.46 <i>b</i>	2.49 <i>b</i>	15.63 <i>b</i>	5.61 <i>b</i>	8.00 <i>ab</i>	37.77	5.98 <i>a</i>	2.23 <i>b</i>	2.01 <i>b</i>	9.32 <i>b</i>	3.95 <i>b</i>	5.74 <i>ab</i>	29.23
fridge 0 min	4.85 <i>ac</i>	0.11 <i>a</i>	0.10 <i>a</i>	0.10 <i>a</i>	0.11 <i>a</i>	NA	5.27	5.59 <i>a</i>	0.13 <i>a</i>	0.11 <i>a</i>	0.17 <i>a</i>	0.15 <i>a</i>	NA	6.15
fridge 0 min + CQA	5.94 <i>ac</i>	0.10 <i>a</i>	0.10 <i>a</i>	0.17 <i>a</i>	0.17 <i>a</i>	NA	6.48	5.85 <i>a</i>	0.12 <i>a</i>	0.10 <i>a</i>	0.25 <i>a</i>	0.2 <i>a</i>	NA	6.52
fridge 20 min	7.22 <i>c</i>	1.96 <i>b</i>	3.12 <i>b</i>	14.35 <i>b</i>	5.5 <i>b</i>	10.07 <i>ab</i>	42.22	6.42 <i>a</i>	1.93 <i>b</i>	2.37 <i>b</i>	9.24 <i>b</i>	3.42 <i>b</i>	6.22 <i>ab</i>	29.60
fridge 20 min + CQA	7.77 <i>c</i>	2.03 <i>b</i>	3.04 <i>b</i>	18.89 <i>b</i>	7.51 <i>b</i>	10.07 <i>ab</i>	49.31	6.37 <i>a</i>	2.54 <i>b</i>	2.39 <i>b</i>	11.22 <i>b</i>	4.07 <i>b</i>	6.23 <i>ab</i>	32.82
freezer 0 min	3.93 <i>ab</i>	0.17 <i>a</i>	0.11 <i>a</i>	0.83 <i>a</i>	0.16 <i>a</i>	NA	5.20	5.47 <i>a</i>	0.34 <i>a</i>	0.28 <i>a</i>	6.96 <i>ab</i>	3.48 <i>b</i>	NA	16.53
freezer 0 min + CQA	3.42 <i>a</i>	0.13 <i>a</i>	0.11 <i>a</i>	0.95 <i>a</i>	0.14 <i>a</i>	NA	4.75	5.30 <i>a</i>	0.26 <i>a</i>	0.25 <i>a</i>	7.69 <i>ab</i>	1.71 <i>ab</i>	NA	15.21
freezer 20 min	6.82 <i>bc</i>	2.34 <i>b</i>	3.57 <i>b</i>	19.82 <i>b</i>	6.78 <i>b</i>	13.23 <i>b</i>	52.56	6.00 <i>a</i>	2.37 <i>b</i>	2.23 <i>b</i>	9.69 <i>b</i>	3.56 <i>b</i>	6.94 <i>ab</i>	30.79
freezer 20 min + CQA	4.29 <i>ac</i>	1.72 <i>b</i>	1.96 <i>b</i>	14.00 <i>b</i>	5.62 <i>b</i>	2.05 <i>a</i>	29.64	5.93 <i>a</i>	1.97 <i>b</i>	1.90 <i>b</i>	7.61 <i>ab</i>	2.92 <i>ab</i>	5.55 <i>a</i>	25.88

¹ calibration with ascorbic acid; ² calibration with 5-caffeoylquinic acid; ³ calibration with quercetin-3-rutinosid; NA = no peaks were detected.

Table S3. Mass spectra, retention times, and absorbance maxima of phenolic compounds and ascorbic acid derivatives tentatively identified in *Urtica dioica* L., by HPLC-QQQ and HPLC-DAD.

MS		MS ²	Ret. time (Fig. 1)	λ_{max} (nm)	Peak no. (Fig. 1)	Compound	Reference
MW	[M-H] ⁻	[M-H] ⁻					
176	175	**	2.9; 3.3; 3.6	210, 245	1-3	ascorbic acid derivates	standard
316	315	153, 109			*	protocatechuic acid glucoside	[58]
356	355	209, 191, 85			4	coumaroylglucaric acid isomer	
356	355	209, 191, 85	6.6	323, 222, 410, 471	5	coumaroylglucaric acid isomer	
516	515	353, 191	13.5	221, 324, 471	6	di-caffeoylquinic acid	[58]
254	353	191, 179, 173, 135, **	14.6	221, 324, 409	7	5-caffeoylquinic acid	standard
296	295	151, 133	16.4	210, 324, 243	8	caffeoylmalic acid	[28,59]
592	591	295, 133	21.3	313, 223, 410, 471	*	caffeoylmalate	[28]
164	163	119			*	<i>p</i> -coumaric acid	[58,28,60]
194	193	179, 149, 135, 119			*	ferulic acid	[28,60]
610	609	301, **			*	quercetin-3-rutinoside	standard, [28]
744	743	209, 371			*	caffeoylglucaric acid (dimer)	[61]
310	309	291, 171			*	feruloyl malate	[28]

* Peaks were tentatively identified in the MS-experiment only and were not part of the quantitative analysis by HPLC-DAD. ** Identified only by spiking the sample with standards.

Table S4. Mass spectra, retention times, and absorbance maxima of phenolic compounds and ascorbic acid derivatives tentatively identified in *Aegopodium podagraria* L., by HPLC-QQQ and HPLC-DAD.

MS		MS ²	Ret. time	λ_{max} (nm)	Peak no. (Fig. 2)	Compound	Reference
MW	[M-H] ⁻	[M-H] ⁻					
176	175	**	2.9; 3.3; 3.6	210, 245	1-3	ascorbic acid derivatives	standard
354	353	191, 179, 135, **	14.6	210, 324, 243	6	5-caffeoylquinic acid	standard, [2]
354	353	191, 179, 135, **	6.7	324, 221, 523, 471	4	3-caffeoylquinic acid	standard, [2,58]
354	353	191, 179, 135, **			*	4-caffeoylquinic acid	standard, [2]
338	337	191			*	coumaroylquinic acid	[2,30]
706	705	513, 339			*	caffeoylquinic acid dehydro (dimer)	[2,61]
516	515	353, 191, 179, 155	31.5	325, 243, 224	7	di-caffeoylquinic acid	[2,58]
708	707	353, 191	12.8	325, 222, 241, 524	5	caffeoylquinic acid (dimer)	[61]
506	505	301			*	quercetin-3-acetyl-glucoside	[61]
494	493	447, 101	34.7	327, 243, 223, 471	8	kaempferol-3-glucoside	[2]

* Peaks were tentatively identified in the MS-experiment only and were not part of the quantitative analysis by HPLC-DAD. ** Identified only by spiking the sample with standards.

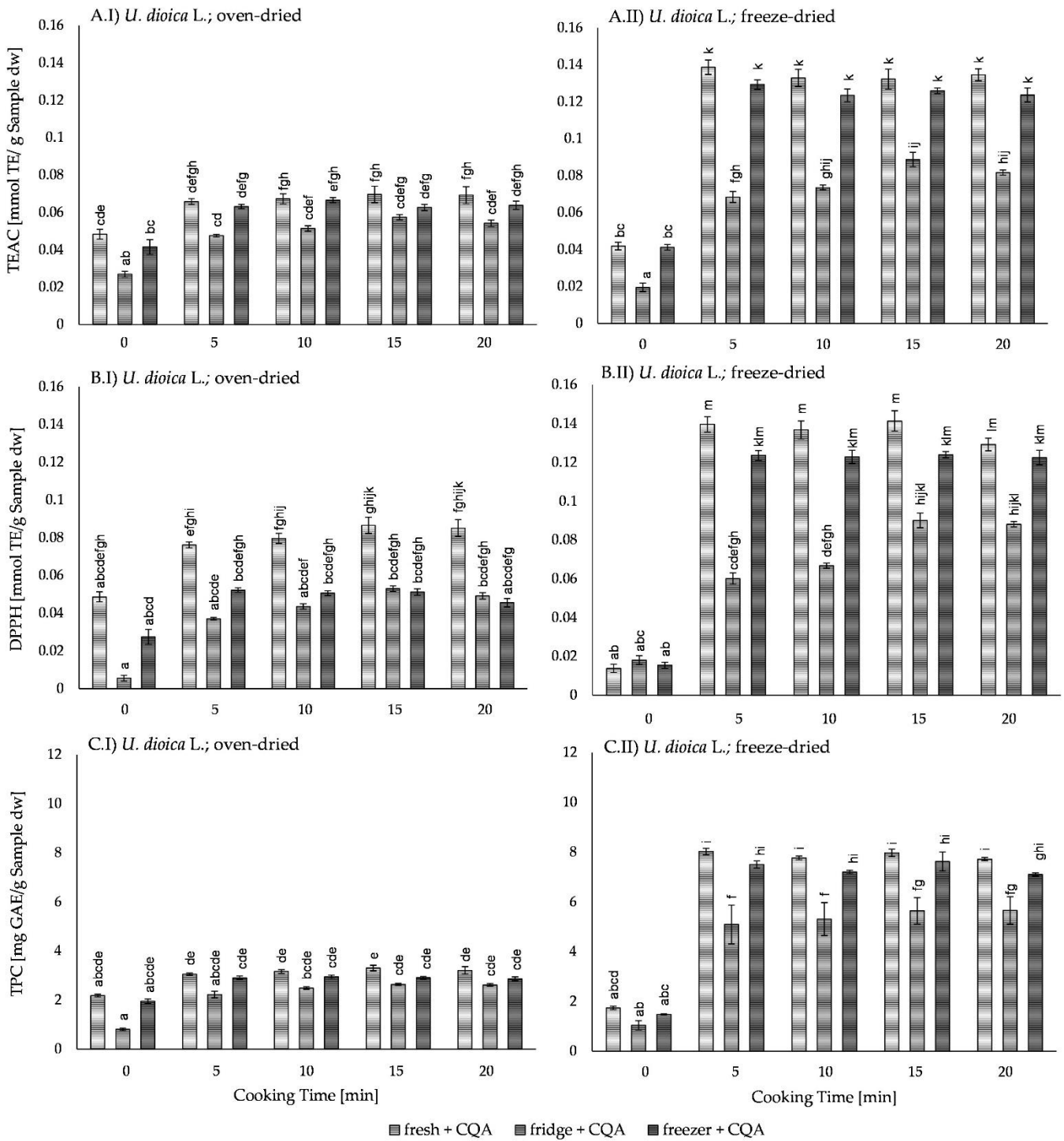


Figure S1. Antioxidant activity of (I) oven-dried and (II) freeze dried uncooked (0 min) and cooked (5, 10, 15, and 20 min) from *Urtica dioica* L. samples with added 5-caffeoylquinic acid (CQA) measured by (A) TEAC-, (B) DPPH- and (C) TPC assay. Fresh samples (light grey), samples stored after cooking in the fridge (7°C for 3 days; medium grey) and samples stored in the freezer (-20°C for 30 days; dark grey) were compared. Bars represent mean \pm standard error (SE). Significant differences ($p \leq 0.05$ by Tukey's HSD test) marked with lower case letters.

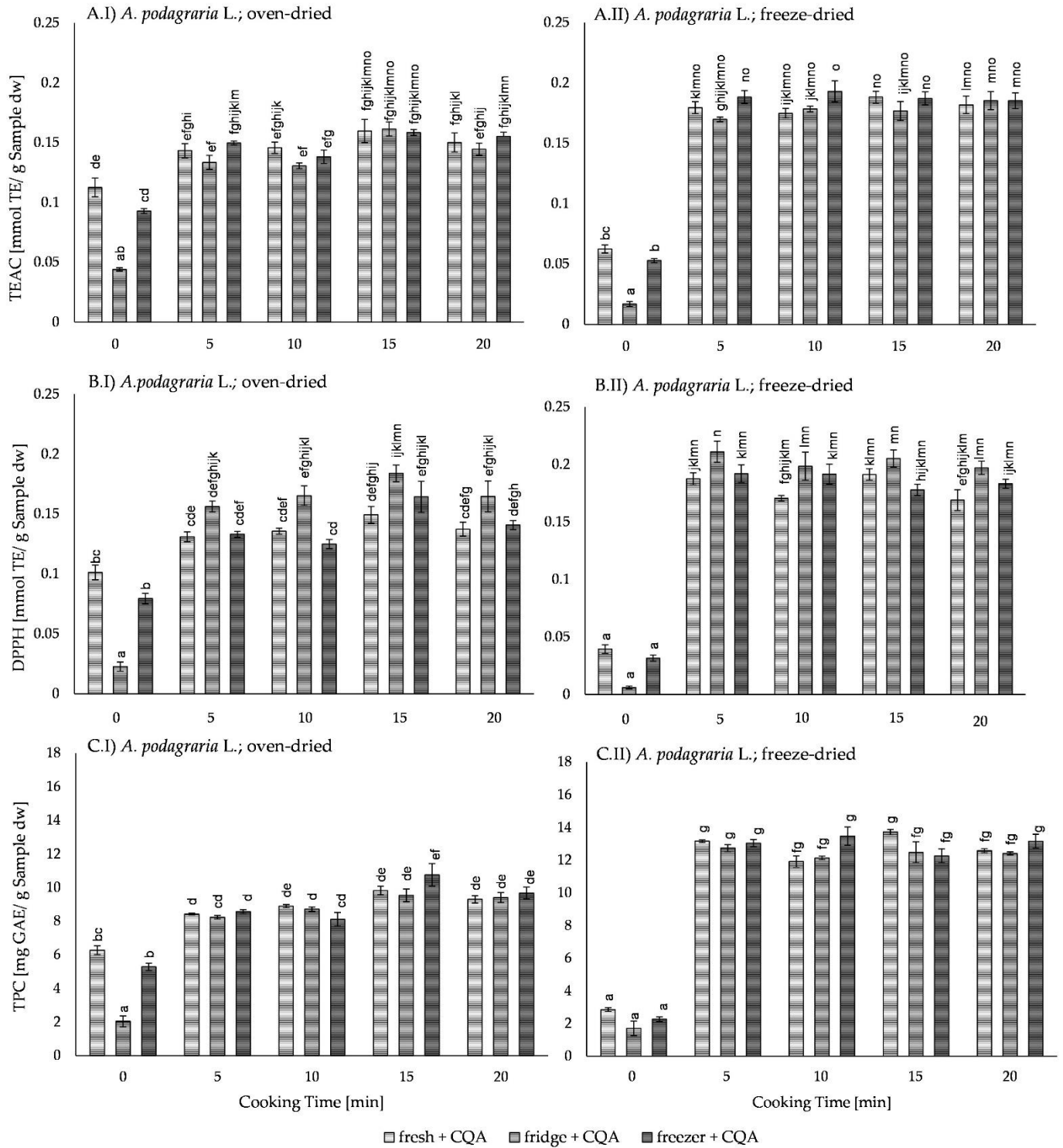


Figure S2. Antioxidant activity of (I) oven-dried and (II) freeze dried uncooked (0 min) and cooked (5, 10, 15, and 20 min) from *Aegopodium podagraria* L. samples with added 5-caffeoylquinic acid (CQA) measured by (A) TEAC-, (B) DPPH- and (C) TPC assay. Fresh samples (light grey), samples stored after cooking in the fridge (7°C for 3 days; medium grey) and samples stored in the freezer (-20°C for 30 days; dark grey) were compared. Bars represent mean \pm standard error (SE). Significant differences ($p \leq 0.05$ by Tukey's HSD test) marked with lower case letters.