

1 **Supplementary Information Table 1.** Quantitative RF Chromatography FRAP assay with  
 2 the 300 mM formate buffer. Limit of detection (LOD), limit of quantification (LOQ),  
 3 correlation coefficient ( $r^2$ ), precision (% RSD of 10 replicate injections at 100 mg/L) and the  
 4 linear range of the calibration curve. *ND* refers to not detected.

Peak no.	Antioxidants	LOD (mg/L)	LOQ (mg/L)	Correlation Coefficient ( $r^2$ )	Precision (% RSD)	Linear Range (mg/L)
1	Gallic acid	1.32	3.99	0.992	5.95	10-500
2	Catechin	0.15	0.44	0.993	4.56	5-350
3	Caffeic acid	0.15	0.45	1.000	2.74	5-200
4	<i>p</i> -Coumaric acid	<i>ND</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
5	Rosmarinic acid	1.13	3.41	0.999	2.86	2.5-200
6	Quercetin	0.51	1.56	0.997	6.15	10-350
7	Trolox	3.08	9.33	1.000	1.14	2.5-100
8	Chrysin	20.42	61.89	0.999	2.5	100-500
9	Ascorbic acid	0.25	0.76	0.998	5.52	25-500
10	Chlorogenic acid	0.34	1.02	0.991	7.58	5-500
11	Rutin	0.6	1.8	0.996	2.87	5-500
12	Cinnamic acid	<i>ND</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
13	Epicatechin	0.72	2.2	1.000	1.44	5-200
14	Hesperidin	<i>ND</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>	<i>ND</i>
15	Morin	2.14	6.5	0.994	2.42	5-500
16a,b	Naringenin	5.16	15.63	0.997	7.95	50-500

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7 **Supplementary Information Table 2.** Relative response factors for each of the antioxidants.

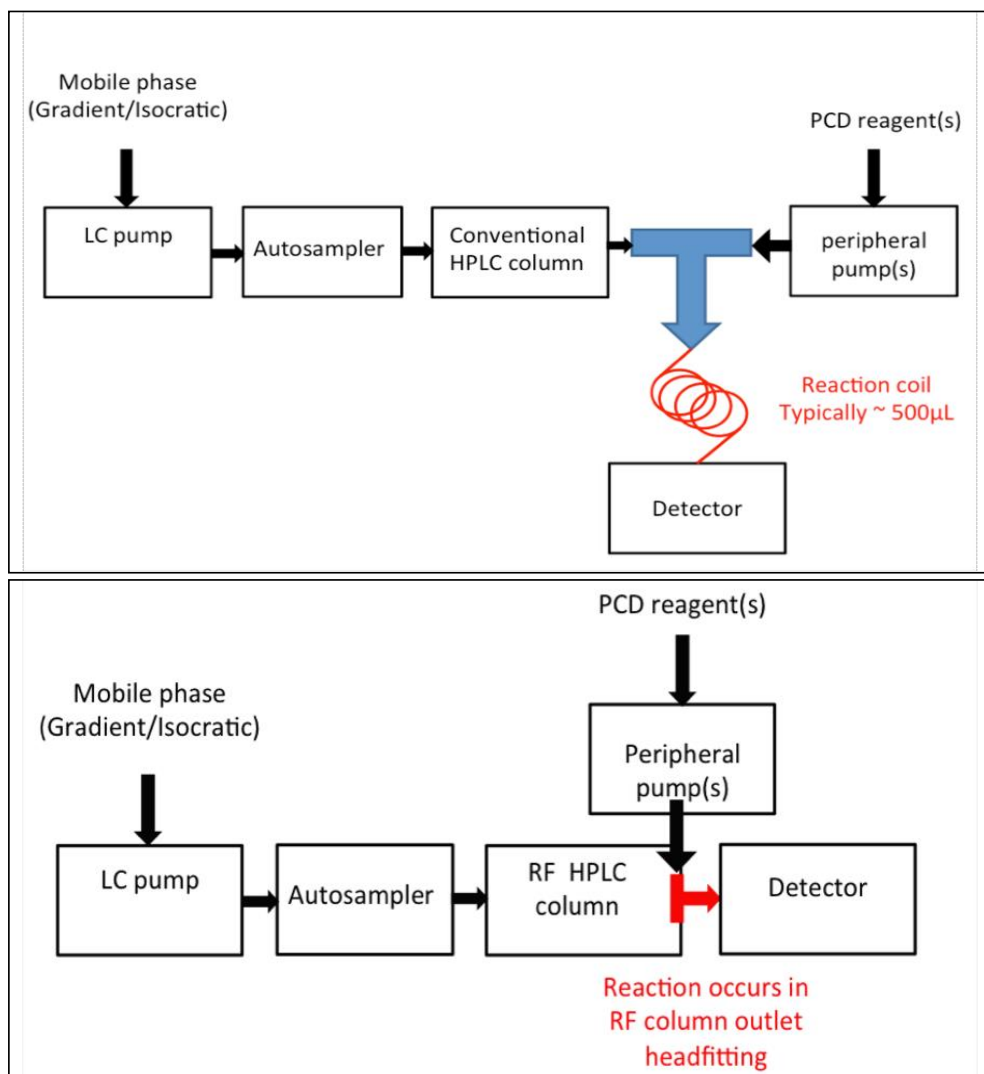
8 The response for each antioxidant had been made relative Trolox. *ND* refers to not detected.

<b>Antioxidant</b>	<b>Relative Response Factor to Trolox</b>
Gallic acid	1.54
Catechin	0.52
Caffeic acid	1.47
<i>p</i> -Coumaric acid	<i>ND</i>
Rosmarinic acid	1.14
Quercetin	0.85
Trolox	1.000
Chryrin	0.017
Ascorbic acid	0.47
Chlorogenic acid	0.55
Rutin	0.31
Cinnamic acid	<i>ND</i>
Epicatechin	0.83
Hesperidin	<i>ND</i>
Morin	0.55
Naringenin	0.031

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11 **Supplementary Figure SF1.** Schematic diagram of the conventional HPLC-PCD approach  
12 (top insert) and the RF-PCD approach (bottom insert).



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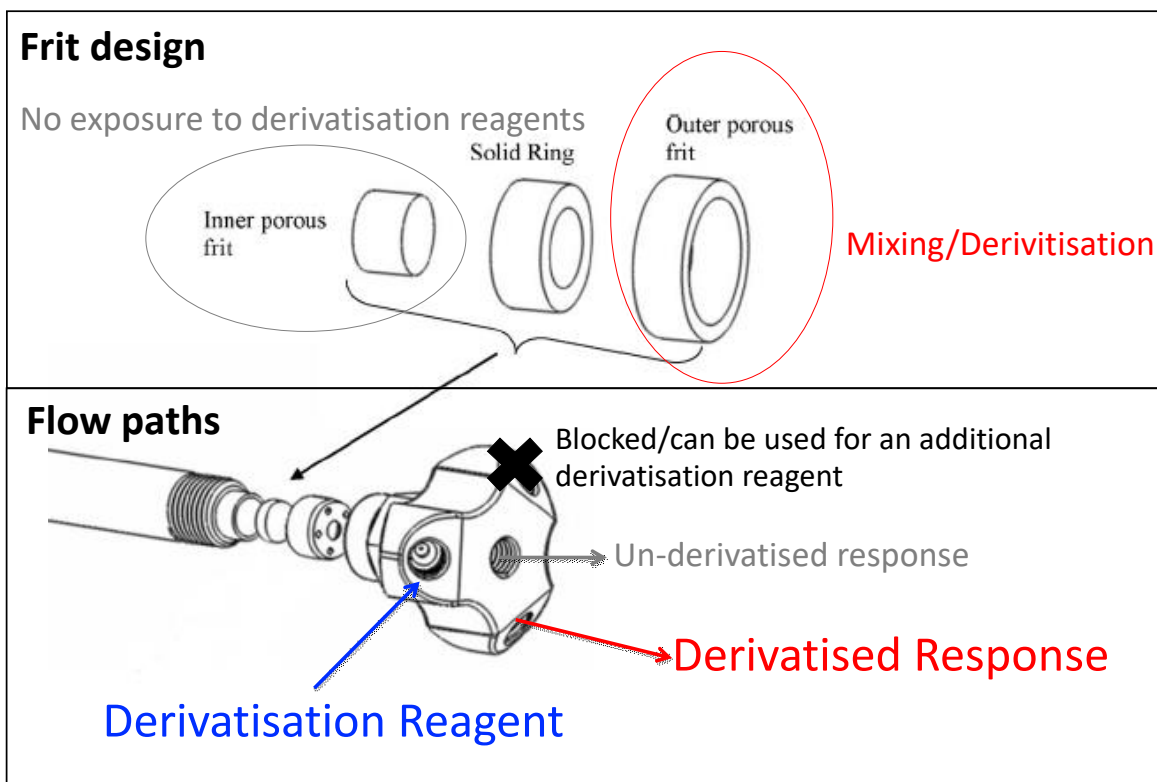
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31 **Supplementary Figure SF2.** Diagram of the RF HPLC column: frit design (top insert) and flow  
32 paths in the peripheral and central outlet ports (bottom insert).



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