Supplementary Table S2. Carotenoid UPLC-PDA-MS method details

UPLC:	**Waters Acquity I-class**		
Column:	Thermo Accucore C30 2.6 µm 4.6x150 mm, thermostated at 8°C (to enhance geometric isomer separation)		
inj vol.:		10 µl	
Autosampler temperature:		6 °C	
Gradient conditions:		**A: MeOH:H2O:tert-butyl methyl ether (TBME) 70:30:30 v/v%**	**B: MeOH:TBME 50:50 v/v%**
Time (min)	Flow rate	A%	B%
0	0.65	75	25
2	0.65	70	30
12	0.75	55	45
24	1	0	100
26	1	0	100
27	0.75	75	25
28	0.65	75	25
32	0.65	75	25
Detector 1:	**PDA - 250-700 nm; 20 scans/sec, 1.2nm resolution**		
Detector 2:	**Xevo TQ-XS with Unispray source**		
Resolution:	Unit mass (+/- 0.8 Da)		
Impactor voltage:		2 kV	
Polarity:		UniSpray Positive	
Desolvation temperature:		450°C	
Nebulizer gas:		6.5 bar N_2	
Desolvation gas flow:		1000 L/h N_2	
Cone gas flow:		450 L/h N_2	
Collision gas flow:		0.15 ml/min Argon 5.0	
Collision energy:		4 eV	
Mode:		MS-scan, 280-2000 m/z	
Components evaluated in samples:			
Quant trace (nm)	Retention time (min)	name	
440	5.0	*trans*-violaxanthin	
436	5.2	*trans*-neoxhantin	
445	8.8	trans-lutein	
465	14.4	chlorophyll *b*	
430	17.2	chlorophyll *a*	
409	21.1	pheophytin *a*	
450	22.4	β-carotene	
450	22.8	9-*cis*-β-carotene	