

Supplementary Table S3 The carotenoids content of *Cucurbita maxima* peel

Compounds	T2DAP0 (µg/g)	T2DAP15 (µg/g)	T2DAP30 (µg/g)	T9DAP0 (µg/g)	T9DAP15 (µg/g)	T9DAP30 (µg/g)
α-Carotene	0.24	4.87	12.93	2.97	24.17	33.20
Lycopene	N/A	N/A	N/A	N/A	N/A	N/A
γ-Carotene	N/A	N/A	0.68	N/A	N/A	N/A
β-Carotene	4.17	31.43	95.73	50.30	187.67	216.67
Phytofluene	N/A	N/A	N/A	N/A	N/A	N/A
(E/Z)-Phytoene	1.12	7.64	7.28	N/A	N/A	7.60
ε-Carotene	N/A	N/A	N/A	N/A	N/A	N/A
Antheraxanthin dipalmitate	0.43	1.44	1.56	0.17	N/A	0.58
Lutein caprate	0.01	0.22	1.53	N/A	0.02	0.13
Lutein laurate	N/A	N/A	N/A	N/A	N/A	N/A
Lutein myristate	N/A	N/A	N/A	N/A	N/A	N/A
Lutein palmitate	1.01	13.43	40.83	0.34	1.99	3.20
Lutein stearate	N/A	N/A	N/A	N/A	0.06	0.15
5,6 epoxy-luttein dilaurate	N/A	N/A	N/A	N/A	N/A	N/A
Lutein dilaurate	1.87	17.37	27.83	0.41	1.86	3.66
5,6 epoxy-lutein-caprate-palmitate	N/A	N/A	N/A	N/A	N/A	N/A
Lutein dimyristate	11.36	111.13	171.67	2.65	15.03	40.90
Lutein dipalmitate	2.64	26.33	35.30	0.36	2.17	4.99
Lutein distearate	1.05	3.98	7.44	0.28	0.63	1.17
Lutein dioleate	0.28	1.03	1.40	0.04	0.14	0.32
Lutein oleate	0.03	0.56	1.94	0.02	0.12	0.26
Neochrome palmitate	N/A	N/A	N/A	N/A	N/A	N/A
Rubixanthin caprate	N/A	N/A	N/A	N/A	N/A	N/A
Rubixanthin laurate	0.03	0.27	0.72	0.02	0.06	0.22
Rubixanthin myristate	N/A	N/A	N/A	N/A	N/A	N/A
Rubixanthin palmitate	N/A	N/A	2.31	N/A	N/A	N/A
Violaxanthin dibutyrate	N/A	N/A	N/A	N/A	N/A	N/A
Violaxanthin laurate	0.06	0.32	N/A	0.03	0.16	0.37
Violaxanthin myristate	0.54	5.12	9.20	0.27	3.11	6.13
Violaxanthin palmitate	0.94	15.70	26.00	N/A	6.90	9.19
Violaxanthin palmitoleate	N/A	N/A	N/A	N/A	N/A	N/A
Violaxanthin dilaurate	0.46	1.14	1.29	0.23	0.60	0.99
Violaxanthin-myristate-caprate	N/A	0.90	1.15	N/A	0.65	0.98
Violaxanthin-myristate-laurate	4.05	14.57	15.07	1.73	5.80	11.23
Violaxanthin dimyristate	1.53	8.21	11.53	0.47	2.52	6.57
Violaxanthin-myristate-palmitate	1.59	7.05	8.26	0.45	1.96	3.66
Violaxanthin dipalmitate	0.87	2.99	3.39	0.31	1.16	1.40
Violaxanthin-myristate-oleate	0.07	0.10	0.14	0.03	0.05	N/A
Violaxanthin dioleate	N/A	N/A	N/A	N/A	N/A	N/A
Zeaxanthin myristoleate	N/A	N/A	N/A	N/A	N/A	N/A
Zeaxanthin palmitate	N/A	0.36	1.81	N/A	N/A	N/A
Zeaxanthin-caprate-laurate	N/A	0.01	0.03	N/A	N/A	0.01
Zeaxanthin dilaurate	0.01	0.06	0.21	N/A	N/A	0.02
Zeaxanthin-laurate-myristate	0.02	0.12	0.37	N/A	0.02	0.05
Zeaxanthin dimyristate	0.52	4.38	23.37	0.08	0.50	2.13
Zeaxanthin-laurate-palmitate	0.15	0.91	4.79	0.02	0.12	0.46

Zeaxanthin-myristate-palmitate	0.12	0.71	3.01	0.02	0.12	0.41
Zeaxanthin dipalmitate	2.30	8.34	10.79	0.37	0.95	1.47
Zeaxanthin-palmitate-stearate	0.07	0.14	0.46	0.01	0.03	0.07
Zeaxanthin-oleate-palmitate	0.03	0.07	0.24	N/A	0.02	0.04
β -cryptoxanthin laurate	0.04	0.54	1.24	0.02	0.06	0.14
β -cryptoxanthin myristate	0.42	5.78	8.44	0.07	0.47	1.18
β -cryptoxanthin palmitate	N/A	N/A	1.92	N/A	N/A	N/A
β -cryptoxanthin oleate	N/A	0.05	0.13	N/A	N/A	0.02
Antheraxanthin	11.91	24.30	N/A	4.94	7.32	N/A
Zeaxanthin	10.96	101.43	733.67	3.53	10.95	27.23
Violaxanthin	1.98	6.61	18.70	3.25	14.43	13.90
Neoxanthin	5.54	13.27	5.66	31.83	122.00	132.33
Lutein	261.33	1370.00	1953.33	413.67	1493.33	1700.00
β -Cryptoxanthin	0.24	2.21	7.03	1.22	2.89	3.26
Astaxanthin	N/A	N/A	N/A	N/A	N/A	N/A
Apocarotenal	N/A	0.02	0.05	0.01	0.03	0.04
Capsanthin	N/A	0.13	0.37	N/A	N/A	N/A
α -Cryptoxanthin	0.56	4.38	7.69	0.77	1.16	4.36
Capsorubin	N/A	N/A	N/A	N/A	N/A	N/A
Canthaxanthin	N/A	N/A	N/A	N/A	N/A	N/A
Echinenone	N/A	N/A	0.03	0.01	0.02	0.01
β -citraurin	N/A	0.05	0.16	N/A	N/A	0.05

Note: The chlorophyll and carotenoid content of fruit peel with fresh weight. T2 represents the red peel line ‘2013-12’, and T9 represents the gray peel line ‘9-6’. N/A indicates not applicable.