Supplementary Materials

Possibility of Using Astaxanthin-Rich Dried Cell Powder from *Paracoccus carotinifaciens* to Improve Egg Yolk Pigmentation of Laying Hens

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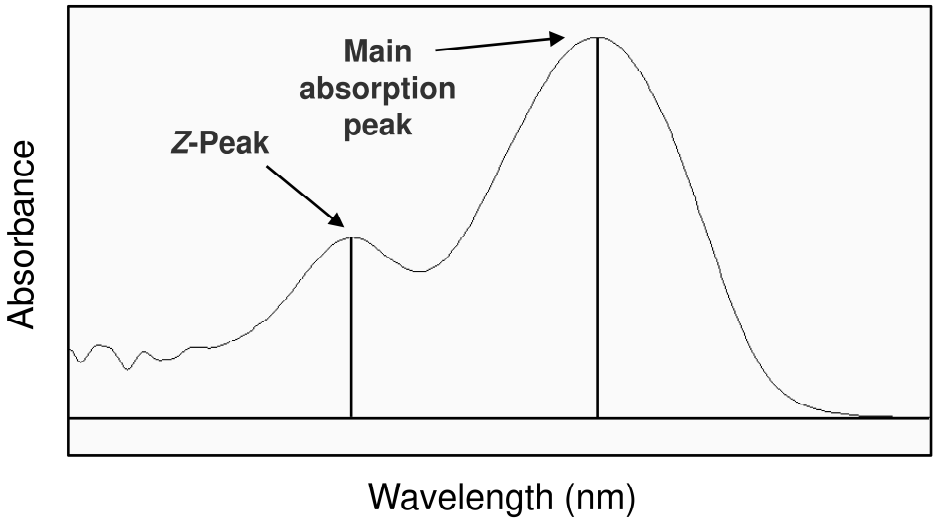

Figure S1. Calculation of *Q*-ratio (the height ratio of the *Z*-peak to the main absorption peak) as an indicator of *Z*-peak intensity.

Table S1. Absorption maxima (λ_{max}) and relative intensities of the *Z*-peaks (*Q*-ratio) for adonirubin, astaxanthin, and adonixanthin isomers separated and observed using normal-phase high-performance liquid chromatography.

		λ_{max} (nm)		*Q*-ratio	
Peak	Isomers[1]	Observed	Reported[1]	Observed	Reported[1]
1	(*Z*)-Adonirubin	467	–	nd	–
	(all-*E*)-Adonirubin	469	467	nd	nd
2	(*Z*)-Adonirubin	368, 459	–	0.36	–
3	(*Z*)-Astaxanthin	458	–	nd	–
4	(*Z*)-Astaxanthin	457	–	nd	–
	(all-*E*)- Astaxanthin	472	472	nd	nd
5	(9*Z*)-Astaxanthin	363, 466	365, 465	0.20	0.20
6	(13*Z* + 15*Z*)-Astaxanthin	365, 465	366, 465	0.46	0.52
7	(*Z*)-Adonixanthin	356, 444	–	0.30	–
	(all-*E*)-Adonixanthin	459	459	nd	nd
8	(*Z*)-Adonixanthin	354, 452	–	0.23	–
9	(*Z*)-Adonixanthin	354, 457	–	0.35	–
10	(*Z*)-Adonixanthin	354, 456	–	0.40	–

Values and peak designations were obtained from the chromatograms in Figure 2. –, not assigned. nd, not detected substantially.

[1]Tentatively assigned in the literatures [16,32−34].