**Figure S2. Conversion of 9,9’-di-*cis*-ζ-carotene by daffodil chromoplasts.**

9,15,9’-tri-*cis*-ζ-carotene was purified from OsPDS-His6 assays (see Methods), photoisomerized to 9,9’-di-*cis*-ζ-carotene in day light and used as substrate with chromoplasts as described elsewhere [24]. The upper HPLC trace (HPLC system 4) represents a control assay incubated in the absence of the substrate showing background levels of prolycopene (1), proneurosporene (2) and of ζ-carotene isomers (3). The increased presence of (1) and (2) indicate the stereospecific identity of the 9,9’-di-*cis*-ζ-carotene added. The amount of ζ- (4) and β-carotene (5) present cannot change in aerobic assays [24] and therefore serve as an internal reference. The UV/VIS spectra of the substrate and the products are given as insets.