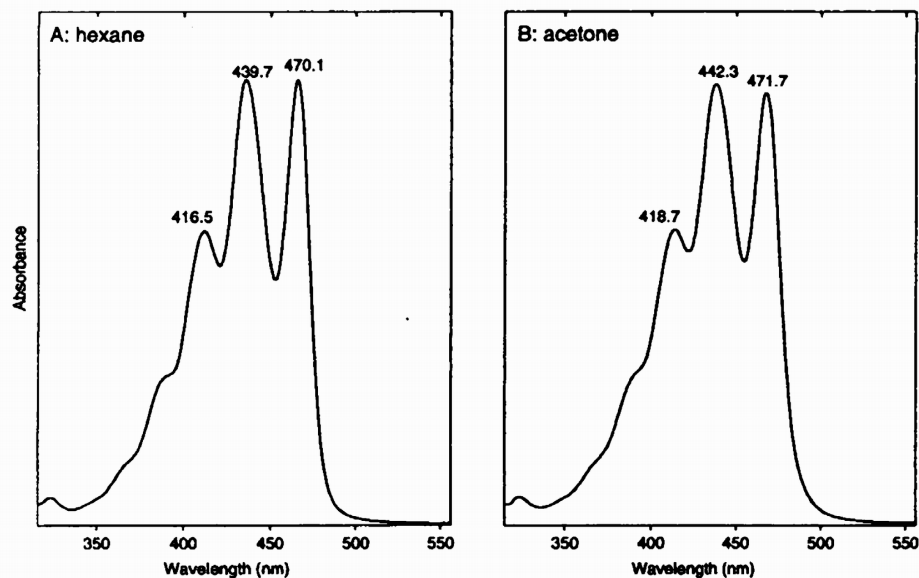
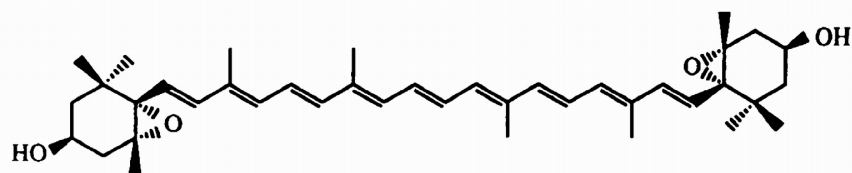


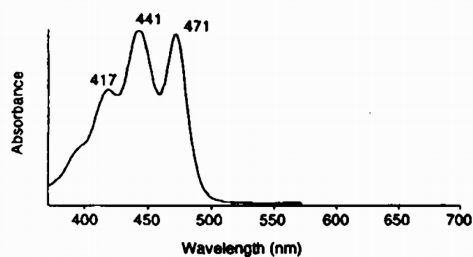
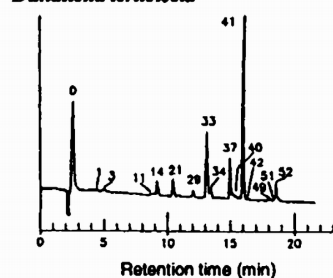
## Standard spectrum in reference solvents



## Molecular structure



## Diode array spectrum in SCOR eluant

HPLC: Violaxanthin, peak 21  
*Dunaliella tertiolecta*

## Property

## Data

|   |                      |  |
|---|----------------------|--|
| <b>Name:</b>                            | (Trivial)<br>(IUPAC) | <b>Violaxanthin</b><br>(3 <i>S</i> ,5 <i>R</i> ,6 <i>S</i> ,3' <i>S</i> ,5' <i>R</i> ,6' <i>S</i> )-5,6,5',6'-Diepoxy-5,6,5',6'-tetrahydro- $\beta$ , $\beta$ -carotene-3,3'-diol                                      |
| <b>SCOR abbreviation:</b>               |                      | Viola  |
| <b>Occurrence:</b>                      |                      | Major pigment in higher plants, green algae, eustigmatophytes, brown seaweeds  |
| <b>Colour:</b>                          |                      | Yellow   |
| <b>Molecular formula:</b>               |                      | C <sub>40</sub> H <sub>56</sub> O <sub>4</sub>   |
| <b>Molecular weight:</b>                |                      | 600.88   |
| <b>Specific extinction coefficient:</b> |                      | 2550 (at 443 nm in ethanol) Davies (1965)<br>2400 (at 442 nm in acetone) Jensen (1966b)<br>E <sub>1</sub> <sup>1%</sup> <sub>cm</sub> (100 ml g <sup>-1</sup> cm <sup>-1</sup> )                                       |
| <b>Molar extinction coefficient:</b>    |                      | 153 x 10 <sup>3</sup> (at 443 nm in ethanol)<br>144 x 10 <sup>3</sup> (at 442 nm in acetone)<br>$\epsilon$ (l mol <sup>-1</sup> cm <sup>-1</sup> )<br>Calculated from E <sub>1</sub> <sup>1%</sup> <sub>cm</sub> above |

## UV-vis spectra:

| Solvent          | Maxima (nm) |     |     | Band ratio<br>%III:II | Reference                                      |
|------------------|-------------|-----|-----|-----------------------|--|
|                  | I           | II  | III |                       |  |
| Acetone          | 419         | 442 | 472 | 95                    | SCOR WG 78 data                                |
| Acetone          | 417         | 440 | 470 | 76                    | Renstrom <i>et al.</i> (1981)                  |
| Ethanol          | 417         | 440 | 470 | 96                    | SCOR WG 78 data                                |
| Ethanol          | 417         | 440 | 469 | 93                    | Stransky & Hager (1970a)                       |
| <i>n</i> -Hexane | 417         | 440 | 470 | 100                   | SCOR WG 78 data                                |
| Methanol         | 415         | 440 | 469 |                       | Karrer & Jucker (1948)                         |
| HPLC Eluant      | 417         | 440 | 469 | 96                    | SCOR WG 78: Mantoura & Llewellyn (1983) method |
| HPLC Eluant      | 417         | 441 | 471 | 93                    | SCOR WG 78: Wright <i>et al.</i> (1991) method |

## Alteration products:

*Cis*-isomers; furanoids (luteoxanthins and auroxanthins)

## Culture from which SCOR data were obtained:

*Dunaliella tertiolecta* (green flagellate)

## Additional reference(s):

Davies (1965); Isler (1971); Foppen (1971)