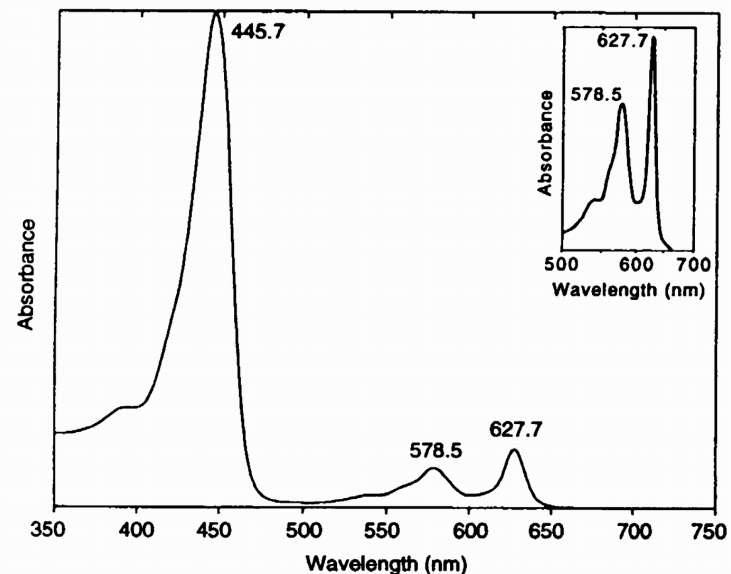


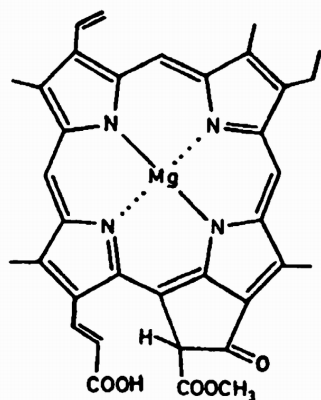
Chlorophyll *c*₁

Polyethylene HPLC*

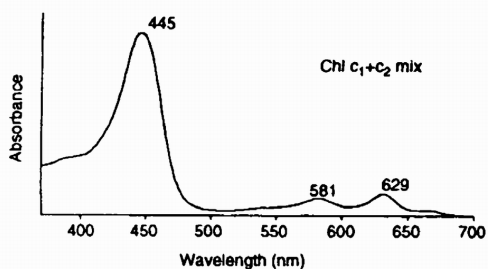
Standard spectrum in reference solvent: diethyl ether



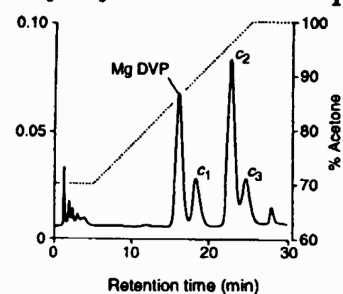
Molecular structure



Diode array spectrum in SCOR eluant



Polyethylene HPLC: Chl *c*₁*



Chlorophyll *c*₁

Property

Data

Name: (Trivial) **Chlorophyll *c*₁**
(IUPAC) **3¹,3²,17¹,17²-tetrahydro-13²-methoxycarbonyl-phytylporphyrinato-Mg(II); see Hynninen (1991)**

SCOR abbreviation: Chl *c*₁

Occurrence: Chromophyte algae, brown seaweeds (Jeffrey, 1976, 1989)

Colour: Light green on TLC; emerald green (concentrated solution)

Molecular formula: C₃₅H₃₀N₄O₅Mg

Molecular weight: 610.95

Specific extinction coefficient: † 318 (at 443.2 nm in 90% acetone + 1% pyridine)
α (l g⁻¹ cm⁻¹) 44.8 (at 630.6 nm in 90% acetone + 1% pyridine)
39.2 (at 629.1 nm in 100% acetone + 1% pyridine)
Jeffrey (1972)

† Where chlorophylls *c*₁ & *c*₂ are not resolved, the mean of the extinction coefficients was used. In 90% acetone, α = (44.8 + 42.4)/2 = 42.6 l g⁻¹ cm⁻¹

Molar extinction coefficient: 194.3x10³ (at 443.2 nm in 90% acetone + 1% pyridine)
ε (l mol⁻¹ cm⁻¹) 27.4x10³ (at 630.6 nm in 90% acetone + 1% pyridine)
23.9x10³ (at 629.1 nm in 100% acetone + 1% pyridine)
Calculated from α above

UV-vis spectra:

Solvent	Absorbance maxima (nm)	Band ratio*	Reference
100% Acetone	446.1 577.9 629.1	8.88	Jeffrey (1972)
Diethyl ether	445.7 578.5 627.7	8.62	Jeffrey (1969)
HPLC Eluant (<i>c</i> ₁ + <i>c</i> ₂ mix)	445 581 629	7.50	SCOR WG 78: Wright <i>et al.</i> (1991) method

Fluorescence spectra:

*Soret (blue maximum): red ratio

Solvent	Excitation (nm)	Emission (nm)	Reference
100% Acetone	450	633, 694	Jeffrey (1972)

Alteration products: Corresponding phytylporphyrin

Culture from which SCOR data were obtained: *Lauderia annulata* (diatom)

Additional reference(s): Jeffrey (1989); Scheer (1991)

* No resolution by the Wright *et al.* (1991) method; separated by