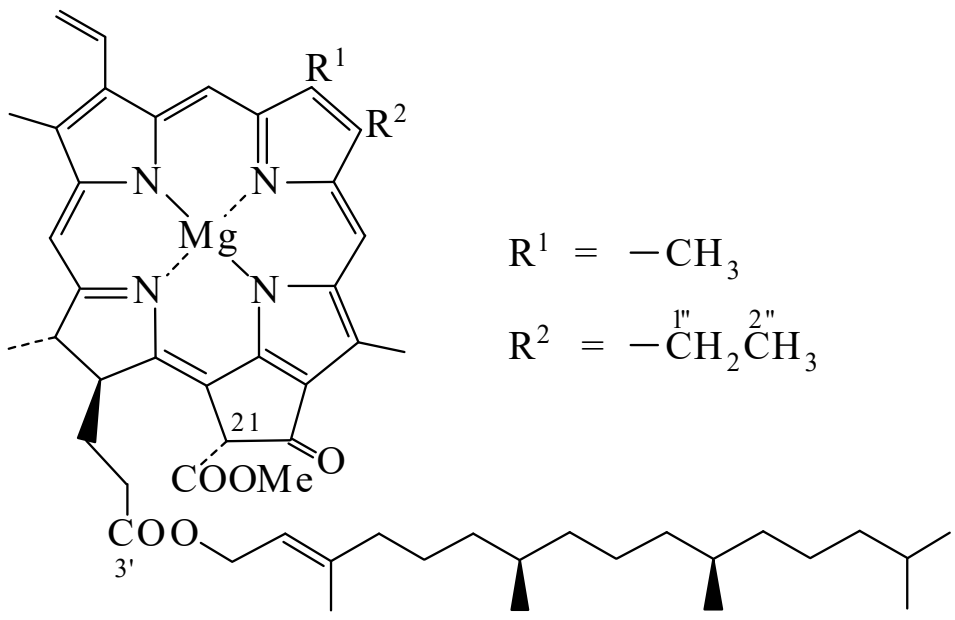
>>**Entry Name: Chlorophyll a**
ENTRY UNDER REVIEW
Synonym(s): [3,7,11,15-Tetramethyl-2-hexadecenyl 9-ethenyl-14-ethyl-21-(methoxycarbonyl)-4,8,13,18-tetramethyl-20-oxo-3-phorbinepropanoato(2–)-N^{23},N^{24},N^{25},N^{26}] magnesium, 9Cl



CAS Registry Number: 479-61-8
Related CAS Registry Numbers(s): 1406-65-1 117288-86-5 118626-30-5

Molecular Formula: $C_{55}H_{72}MgN_4O_5$
Molecular Weight: 893.503
Accurate Mass: 892.535313
Percentage Composition: C 73.93%; H 8.12%; Mg 2.72%; N 6.27%; O 8.95%
Biological Source: Green pigment of leaves of plants, occurring together with Chlorophyll b CRR29-E. Can be obt. readily in pure form from the blue-green alga *Anacystis nidulans*
Use/Importance: Photosynthetic pigment
Physical Description: Dark green greasy powder (petrol) or leaflets
Melting Point: Mp 117-120°
Optical Rotation: $[\alpha]_D^{20}$–262 (Me_2CO)
Solubility: BERDY SOL: Sol. EtOAc, Et_2O; fairly sol. MeOH; poorly sol. hexane
UV: [neutral] λ_{max} 409 (); 429 (); 498 (); 537 (); 577 (); 613 (); 660 () (EtOH) (Berdy)
Other Data: Dilute acid removes Mg to form Phaeophytin a CRS72-R. Hydrol. by Chlorophyllase (or warm acid) → Phaeophorbide a KCS76-E. Acid catalysed methanolysis → see Phaeophorbide a KCS76-E. Alkaline hydrol. → Chlorin e_6 CRS24-E. Other esters e.g. geranylgeranyl are found in various microorganisms

Aldrich: 25825-3
Fluka: 25730
Sigma: C5753

>>**Derivative:** 21-Epimer
Synonym(s): Chlorophyll a'

CAS Registry Number: 22309-13-3

Molecular Formula: $C_{55}H_{72}MgN_4O_5$
Molecular Weight: 893.503
Accurate Mass: 892.535313
Percentage Composition: C 73.93%; H 8.12%; Mg 2.72%; N 6.27%; O 8.95%
Biological Source: Isol. from chlorophyll extracts

>>**Derivative:** 3'-Free acid
Synonym(s): Chlorophyllide a

CAS Registry Number: 14897-06-4

Molecular Formula: $C_{35}H_{34}MgN_4O_5$
Molecular Weight: 614.982
Accurate Mass: 614.237963
Percentage Composition: C 68.36%; H 5.57%; Mg 3.95%; N 9.11%; O 13.01%
Biological Source: Pigment from various spp.
Use/Importance: Intermed. in chlorophyll biosynthesis