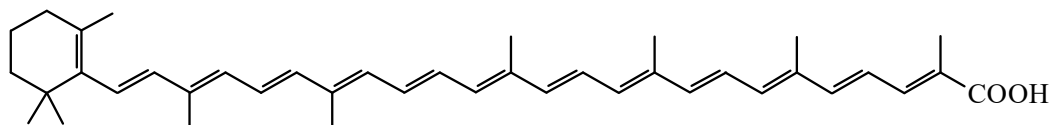




>>Entry Name: **Torularhodin**

Synonym(s): 3',4'-Didehydro- β,ψ -caroten-16'-oic acid, 9Cl. Torulene-16'-carboxylic acid. Rhodotorulene. β -Apo-2'-carotenoic acid. Lusomycin



CAS Registry Number: 514-92-1

Molecular Formula: C₄₀H₅₂O₂

Molecular Weight: 564.85

Accurate Mass: 564.39673

Percentage Composition: C 85.06%; H 9.28%; O 5.67%

Biological Source: Metab. of *Rhodotorula rubra* and *Rhodotorula sannieci*

Physical Description: Red cryst. (toluene/petrol)

Melting Point: Mp 202° (*in vacuo*)

Other Data: $\lambda_{\max}$ 483, 515 and 554 nm (CHCl₃)

>>Derivative: Me ester

Molecular Formula: C₄₁H₅₄O₂

Molecular Weight: 578.876

Percentage Composition: C 85.07%; H 9.40%; O 5.53%

Physical Description: Dark-red cryst. (C₆H₆/MeOH)

Melting Point: Mp 172-173°

>>Derivative: 16'-Aldehyde

Synonym(s): 3',4'-Didehydro- β,ψ -caroten-16'-al, 9Cl. **Torularhodinaldehyde.** 16'-Oxotorulene. Torulenal. 3,4-Dehydro-18'-oxo- γ -carotene

CAS Registry Number: 5999-29-1

Molecular Formula: C₄₀H₅₂O

Molecular Weight: 548.85

Accurate Mass: 548.401815

Percentage Composition: C 87.54%; H 9.55%; O 2.92%

Biological Source: Trace prod. of microorganisms. Isol. from an *Rhodotorula mucilaginosa* mutant

Use/Importance: Intermed. in Torularhodin biosynth.

Physical Description: Violet prisms. (EtOAc)

Melting Point: Mp 166-168°

>>Derivative: 16'-Alcohol

Synonym(s): 3',4'-Dihydro- β,ψ -caroten-16'-ol. 3',4'-Didehydro-18'-hydroxy- γ -carotene. 16-Hydroxytorulene

CAS Registry Number: 19359-96-7

Molecular Formula: C₄₀H₅₄O

Molecular Weight: 550.866

Accurate Mass: 550.417465

Percentage Composition: C 87.22%; H 9.88%; O 2.90%

Source/Synthesis: Isol. from *Rhodotorula* yeasts

Other Data: Prepared and fully characterised as acetate

References:

- Rüegg, R. *et al.*, *Helv. Chim. Acta*, 1959, **42**, 854, (*16-Hydroxytorulene*)
Isler, O. *et al.*, *Helv. Chim. Acta*, 1959, **42**, 864, (*synth*)
Winterstein, A. *et al.*, *Chem. Ber.*, 1960, **93**, 2951, (*Torularhodinaldehyde*)
Simpson, K.L. *et al.*, *Biochem. J.*, 1964, **92**, 508, (*biosynth*)
Bonaly, R. *et al.*, *C. R. Hebd. Seances Acad. Sci. Ser. C*, 1965, **261**, 4904, (*Torularhodinaldehyde*)
Schweiter, U. *et al.*, *Helv. Chim. Acta*, 1966, **49**, 369, (*synth*)
Bonaly, R. *et al.*, *Biochim. Biophys. Acta*, 1968, **164**, 306, (*16-Hydroxytorulene*)
Fischli, A. *et al.*, *Helv. Chim. Acta*, 1975, **58**, 149, (*isol*)