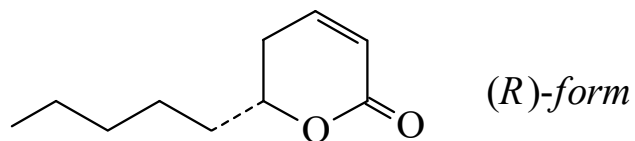




>>Entry Name: 5,6-Dihydro-6-pentyl-2H-pyran-2-one, 9CI

ENTRY UNDER REVIEW

Synonym(s): 2-Decen-5-olide. Massoia lactone. Massoy lactone. Massoilactone. *S*-Hydroxy-2-decenoic acid δ -lactone. FEMA 3744



CAS Registry Number: 54814-64-1

Molecular Formula: C₁₀H₁₆O₂

Molecular Weight: 168.235

Accurate Mass: 168.11503

Percentage Composition: C 71.39%; H 9.59%; O 19.02%

Hazard & Toxicity: Skin irritant

>>Variant: (*R*)-form

CAS Registry Number: 51154-96-2

Molecular Formula: C₁₀H₁₆O₂

Molecular Weight: 168.235

Accurate Mass: 168.11503

Percentage Composition: C 71.39%; H 9.59%; O 19.02%

Biological Source: Constit. of *Cryptocarya massoia* and of formicine ants

Biological Use/Importance: Phytotoxic. Antifungal agent

Physical Description: Oil

Boiling Point: Bp_{0.5} 103-104°

Optical Rotation: $[\alpha]_D^{20}$ -99.4 (c, 1 in CHCl₃)

>>Variant: ($\pm$)-form

CAS Registry Number: 501-23-5

Molecular Formula: C₁₀H₁₆O₂

Molecular Weight: 168.235

Accurate Mass: 168.11503

Percentage Composition: C 71.39%; H 9.59%; O 19.02%

Boiling Point: Bp_{0.07} 85-86°

References:

- Crombie, L., *J.C.S.*, 1955, 2535, (*synth*)
Hashizume, T. *et al.*, *Agric. Biol. Chem.*, 1968, **32**, 1306, (*isol*)
Cavill, G.W.K. *et al.*, *Aust. J. Chem.*, 1968, **21**, 2819, (*isol*)
Crombie, L. *et al.*, *J.C.S.(C)*, 1968, 2852, (*config*)
Urbach, G. *et al.*, *Agric. Biol. Chem.*, 1972, **36**, 1217, (*ms*)
Fehr, C. *et al.*, *Helv. Chim. Acta*, 1981, **64**, 1247, (*synth*)
Hoffmann, R.W. *et al.*, *Tet. Lett.*, 1983, **24**, 3209, (*synth*)
Stevenson, R. *et al.*, *J. Nat. Prod.*, 1988, **51**, 1215, (*synth*)
Bennett, F. *et al.*, *Heterocycles*, 1989, **29**, 639, (*synth*)
Romeyke, Y. *et al.*, *Tetrahedron*, 1991, **47**, 3335, (*synth*)
Takano, S. *et al.*, *Tetrahedron: Asymmetry*, 1992, **3**, 533
Yu, L. *et al.*, *Chin. Chem. Lett.*, 1993, **4**, 1, (*synth*)
Fenaroli's Handbook of Flavor Ingredients, 3rd edn., (ed. Burdock, G.A.), CRC Press, 1995, **2**, 361
Zhang, C. *et al.*, *Chin. Chem. Lett.*, 1997, **8**, 13-14, (*synth*)
Encyclopedia of Food and Color Additives, (ed. Burdock, G.A.), CRC Press, 1997, 1367-1368
Parker, S.R. *et al.*, *J. Agric. Food Chem.*, 1997, **45**, 2774-2776, (*activity*)
Pais, G.C. *et al.*, *Tetrahedron*, 1999, **55**, 13445-13450, (*synth*)
Ramachandran, P.V. *et al.*, *Tet. Lett.*, 2000, **41**, 583-586, (*synth*)