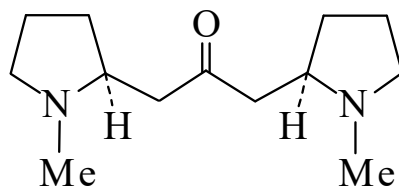




>>Entry Name: Cuscohygrine

Synonym(s): 1,3-Bis(1-methyl-2-pyrrolidinyl)-2-propanone, 9Cl. Cuskygrine. Bellaradine. Hellaradine



CAS Registry Number: 454-14-8

Related CAS Registry Numbers(s): 72407-34-2

Molecular Formula: C₁₃H₂₄N₂O

Molecular Weight: 224.345

Accurate Mass: 224.188863

Percentage Composition: C 69.60%; H 10.78%; N 12.49%; O 7.13%

General Statement: Stereochem. not fully established. Natural Cuscohygrine is either the *meso*-form (illus.) or a mixt. of *meso*- and (±)-forms. Like other related alkaloids it appears to racemise and epimerise readily. It is unknown in opt. active form but opt. active dihydrocuscohygrine (see Dihydrocuscohygrine [GPD55-V](#)) is known which suggests that the opt. active form may be present in the plant. The correct struct. was assigned by Liebermann in 1896 but for some years an incorrect alternative was put forward by Hess. Hellaradine appears to be a misprint in *CA* for Bellaradine

Biological Source: Alkaloid from *Atropa belladonna* (roots only), *Hyoscyamus niger*, *Datura* spp., *Erythroxylum coca* and other *Erythroxylum* spp., *Solanum*, *Cyphomandra*, *Hycianthes*, *Margaranthus*, *Acnistus*, *Salpichroa*, *Scopolia*, *Solandra*, *Convolvulus*, *Mandragora*, *Anthocercis* and *Lycianthes* spp. (Solanaceae)

Use/Importance: Inhibitor of 2,4-dinitrofluorobenzene-induced hypersensitivity in mice. Several cuscohygrine-contg. plants are used in folk medicine as sedatives or narcotics

Physical Description: Oil, cryst. + 3½ H₂O

Melting Point: Mp 40-41° (hydrate)

Density: d₄¹⁶ 0.978

Refractive Index: n_D^{18.4} 1.4845

>>Derivative: Methiodide

Melting Point: Mp 244°

>>Derivative: Oxime

Melting Point: Mp 53-54°

References:

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Anet, E. *et al.*, *Nature (London)*, 1949, **163**, 289, (*synth*)
Galinovsky, F. *et al.*, *Monatsh. Chem.*, 1951, **82**, 551; 1953, **84**, 798, (*synth, stereochem, bibl*)
El-Olemy, M.M. *et al.*, *J. Nat. Prod.*, 1966, **29**, 58, (*synth*)
McGraw, B.A. *et al.*, *Phytochemistry*, 1978, **17**, 257; 1979, **18**, 189, (*biosynth*)
Narasimhan, N.J. *et al.*, *CA*, 1980, **92**, 42185u, (*synth*)
Evans, W.C. *et al.*, *Phytochemistry*, 1980, **19**, 2351, (*occur*)
Turner, C.E. *et al.*, *Phytochemistry*, 1981, **20**, 1403, (*isol, stereochem, bibl*)
Leete, E., *J.A.C.S.*, 1982, **104**, 1403, (*biosynth*)
Leete, E. *et al.*, *Phytochemistry*, 1983, **22**, 699, (*biosynth*)
Ghani, A., *Indian J. Pharm. Sci.*, 1985, **47**, 127; *CA*, **104**, 3308q, (*occur*)