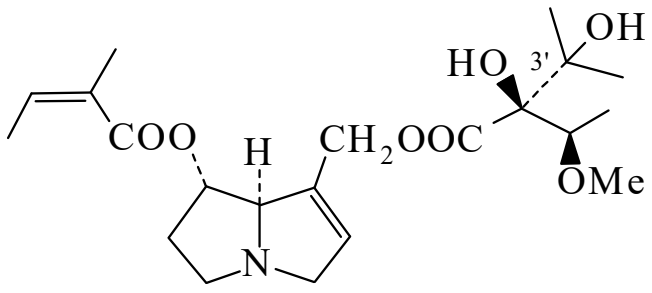
>>**Entry Name: Lasiocarpine**



CAS Registry Number: 303-34-4

Molecular Formula: $C_{21}H_{33}NO_7$
Molecular Weight: 411.494
Accurate Mass: 411.225704
Percentage Composition: C 61.30%; H 8.08%; N 3.40%; O 27.22%

Biological Source: Major alkaloid from *Heliotropium europaeum, Heliotropium lasiocarpum, Heliotropium arbainense, Heliotropium curassavicum, Heliotropium eichwaldii, Heliotropium indicum* and other *Heliotropium* spp. (Boraginaceae)
Use/Importance: Antineoplastic agent. Hepatotoxin, causes liver damage in grazing animals. Shows activity against hepatoma and sarcoma 45
Physical Description: Plates (petrol)
Melting Point: Mp 95.5-97°
Optical Rotation: $[\alpha]_D^{16}$–3.5 (c, 2.0 in EtOH). $[\alpha]_D^{16}$+0.9 (c, 6.3 in $CHCl_3$)
Calculated Log P Data: Log P 0.46 (calc)
Hazard & Toxicity: Carcinogenic. Highly toxic

>>**Derivative:** *N*-Oxide
Synonym(s): Lasiocarpine *N*-oxide

CAS Registry Number: 127-30-0

Molecular Formula: $C_{21}H_{33}NO_8$
Molecular Weight: 427.494
Accurate Mass: 427.220619
Percentage Composition: C 59.00%; H 7.78%; N 3.28%; O 29.94%
Biological Source: From *Heliotropium europaeum* (Boraginaceae)
Physical Description: Prisms or needles
Melting Point: Mp 134-135 dec.° (variable)
Optical Rotation: $[\alpha]_D^{17}$+13.1 (c, 4.97 in EtOH)

>>**Derivative:** $O^{3'}$-Ac
Synonym(s): Acetyllasiocarpine

CAS Registry Number: 57538-10-0

Molecular Formula: $C_{23}H_{35}NO_8$
Molecular Weight: 453.531
Accurate Mass: 453.236269
Percentage Composition: C 60.91%; H 7.78%; N 3.09%; O 28.22%
Biological Source: From *Heliotropium europaeum* (Boraginaceae)
Physical Description: Noncryst.
Optical Rotation: $[\alpha]_D^{20}$–0.9 (c, 2 in EtOH)

>>**Derivative:** $O^{3'}$-Ac, *N*-oxide
Synonym(s): 3'-Acetyllasiocarpine *N*-oxide

Molecular Formula: $C_{23}H_{35}NO_9$
Molecular Weight: 469.531
Accurate Mass: 469.231184
Percentage Composition: C 58.84%; H 7.51%; N 2.98%; O 30.67%
Biological Source: Alkaloid from aerial parts of *Heliotropium hirsutissimum* (Boraginaceae)
Physical Description: Gummy solid
Optical Rotation: $[\alpha]_D^{20}$+10 (c, 0.27 in $CHCl_3$)
Other Data: Named 4'-Acetyllasiocarpine *N*-oxide in the lit.

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