



Phytochemical investigation of *Cadaba Natalensis* roots

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Mozambique

Area: 801.590 km²

Population: ~ 24 million

5500 plant species recorded
- 10% are used for medicinal
purposes



Cadaba Natalensis Sond.

- **Family:** *Capparaceae*
- **Genus:** *Cadaba* (southern Africa, India, Malaysia, and Australia) comprises 30 species
- **C. natalensis** - dry forests and on the savannah in southern Mozambique, South Africa, and Swaziland
- Shrub 1-3 m



C. natalensis

Medicinal uses

- Tuberculosis
- *Induce vomiting* and treat chest pains

Part used: roots and leaves

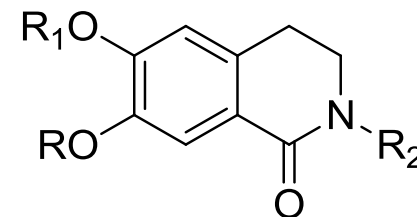
- **No previous reports on phytochemical investigation**

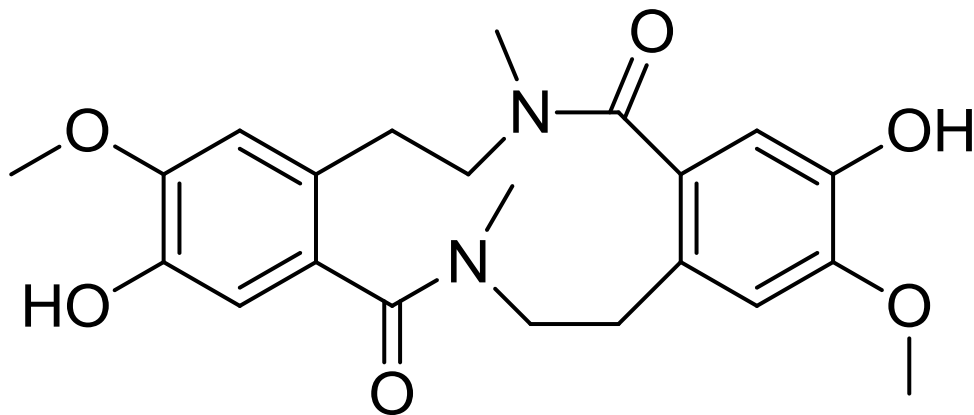


Isolated Metabolites

- **Isoquinolone alkaloids**

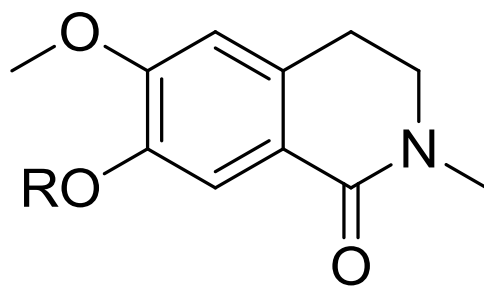
- Minor constituents in plants
- Found mostly in *Ranunculaceae* family
(*Thalictrum* species)
- May be originated in plants by oxidative degradation of benzyloisoquinolines alkaloids
- Vasorelaxant and antibacterial activities





$[M+H]^+ = 415.1864$

Similar NMR data to Thalifoline



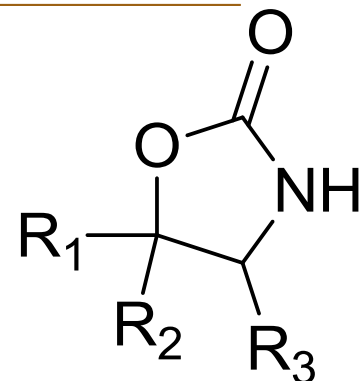
R= H Thalifoline

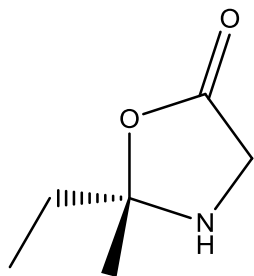
R = CH₃ N-methylcorydaldine



Oxazolidinones

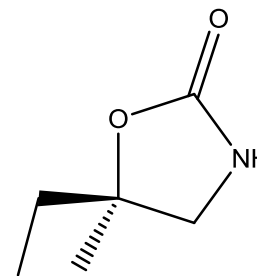
- Heterocyclic compounds with O and N in a 5- membered ring
- Rare as natural compounds
 - Oxazolidin-2-ones: marine sponges
2 compounds have been isolated
 - Oxazolidin-5-ones: *Streptomyces venezuelae*,
mostly jadomycines have been isolated





(S)-2-ethyl-2-methyloxazolidin-5-one

Absolute configuration determined by Mosher's method



(R)-5-ethyl-5-methyloxazolidin-2-one

Reported as the synthetic product of halohydrin dehalogenase catalysed opening of the corresponding racemic terminal epoxide in the presence of cyanate

Oxazolidinones have a variety of biological activities, which include anticancer and antibacterial activities

First time → isolated from plants

The antibacterial activities of the novel metabolites will be evaluated



Thank You



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