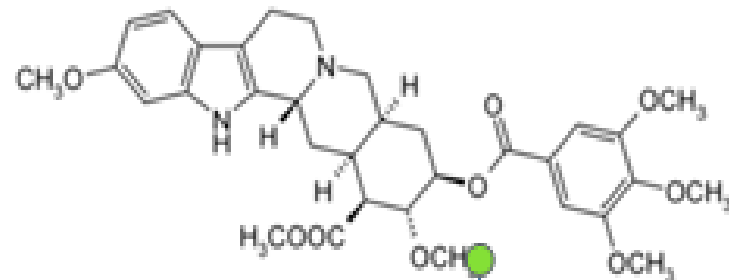


Pharmacognosy alkaloids

LEC4

Indole alkaloids



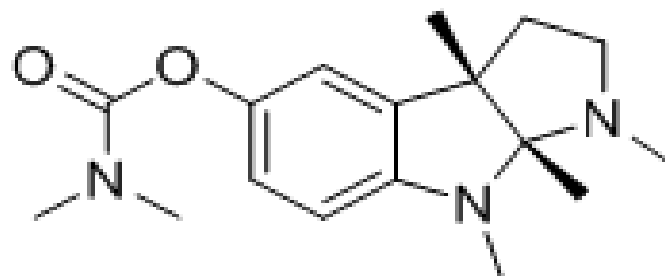
Reserpine from *Rauvolfia serpentina*, Apocynaceae

It has been used as a panacea in the Ayurvedic system of medicine

Reserpine was used as antihypertensive agent, but due to side effects it is now not the drug of choice

Physostigmine, Neostigmine and Pyridostigmine

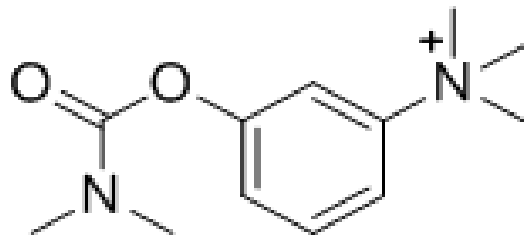
The alkoids from *Physostigma venenosum*, Fabaceae
Physostigmine is an inhibitor of acetylcholinesterase
resulting in an enhancement of the acetyl choline activity,
Used in Alzheimer s disease (low acetylcholine)



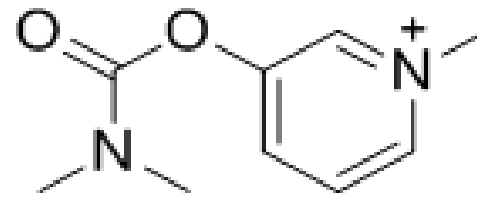
Physostigmine

Semisynthetic physostigmine

Based on physostigmine. Which are used to treat myasthenia gravis, a disease characterized by Severe muscle weakness



Neostigmine

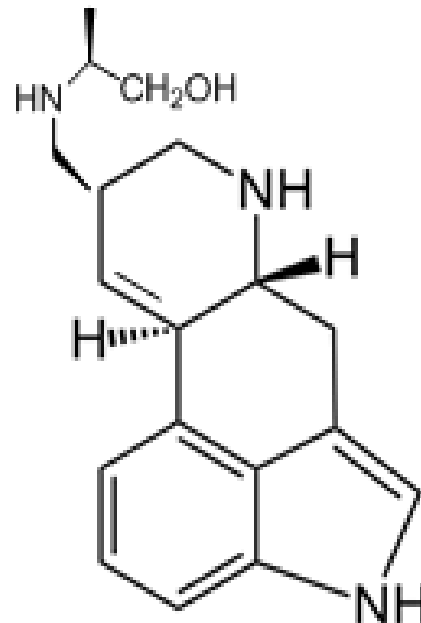
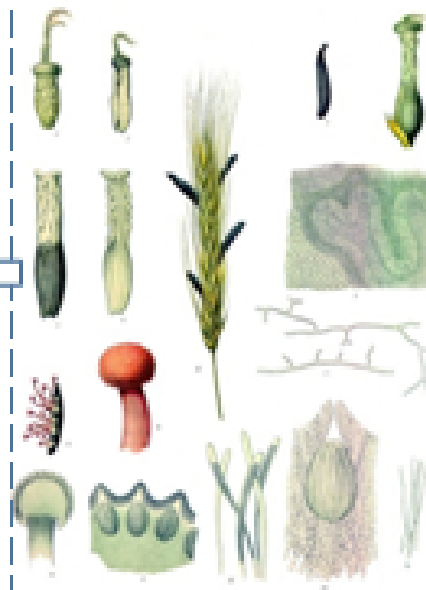


Pyridostigmine

Ergot alkaloids

Contamination of rye grain by the fungi *Claviceps purpurea* caused poisoning

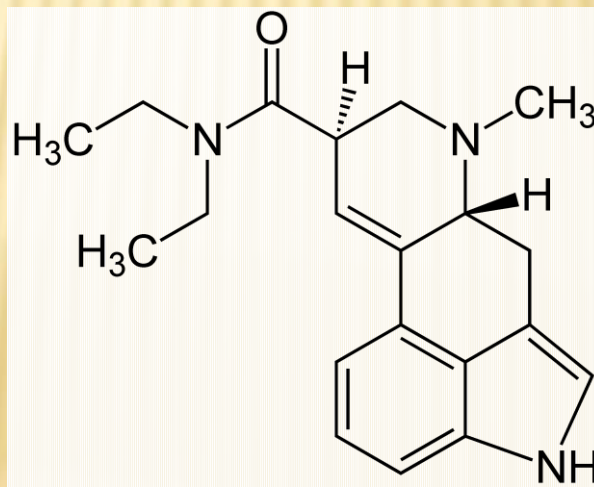
The fungus is called ergot



Sclerotia of the fungus

Ergometrine is used as an oxytocic (induce labour)

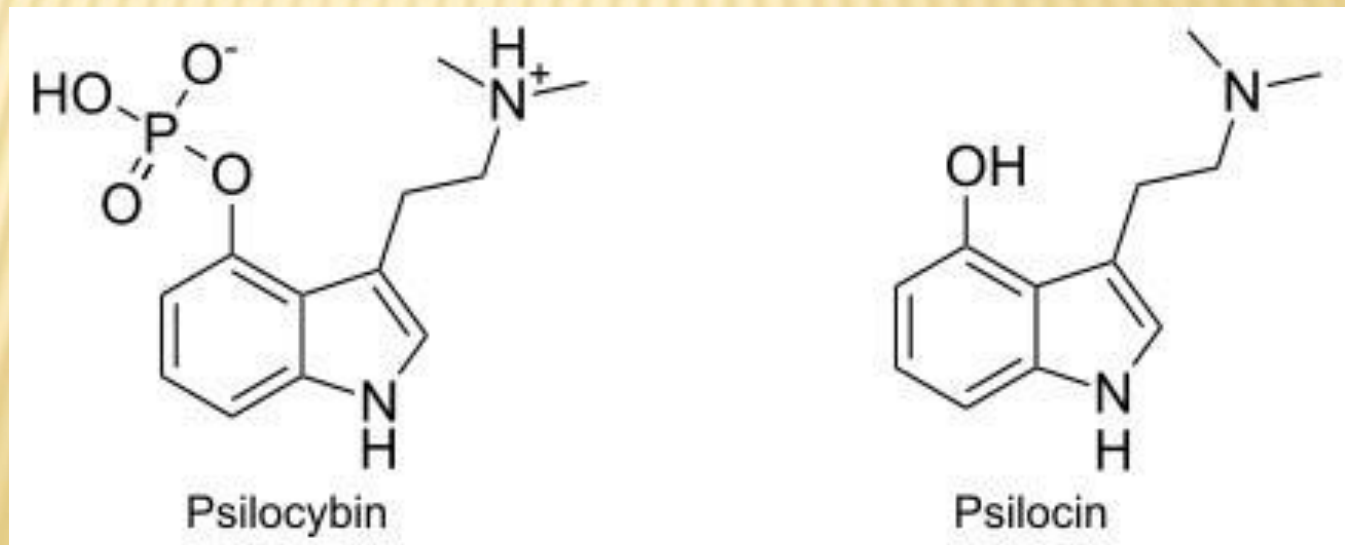
- ✘ The ergot alkaloid were used as a template for the semi-synthetic of bromocriptine, pergolide and cabergolide, which have use in neurological disorder such as Parkinson's disease.
- ✘ Ergot can cause hallucination and the hallucinogenic drug of abuse LSD(lysergic acid diethylamide) is structurally related to them.



LSD

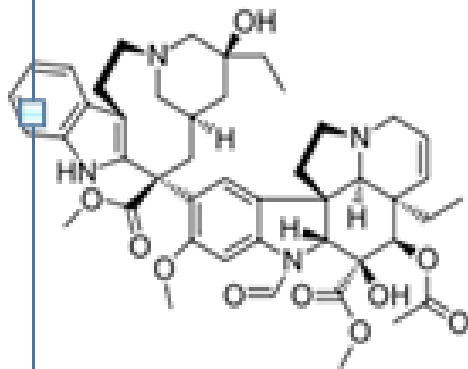
PSILOCYBIN

- ✘ Mushrooms of the genera *Psilocybe*, *Panaeolus*, *Conocybe* and *Stropharia* are known to produce psychoactive substance such as psilocybin, which is salt in the fungi and is converted into psilocin in vivo.

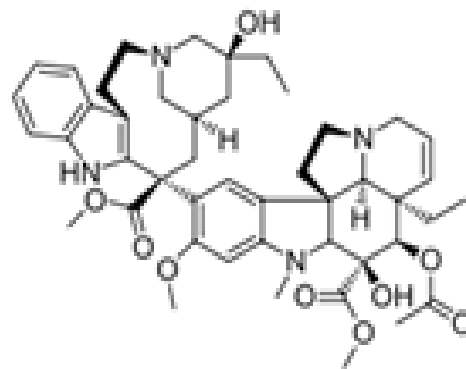


Vinca rosa

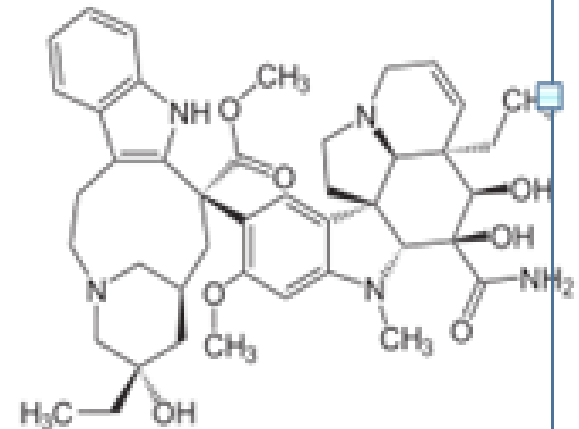
most important group of indole group are the anticancer agents from the Madagascar periwinkle Catharanthus roseus, Apocynaceae. These dimeric indole is difficult to synthesizes and found in low quantities in the plant, so it is very expensive. Treat leukaemia and solid tumours



Vincristine



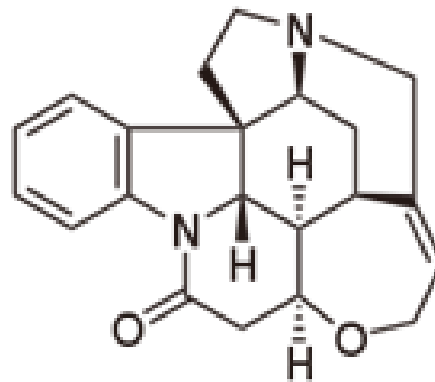
Vinblastine



Vindesine (semisynthetic)

Strychnine and Brucine (dimethoxy strychnine)

Are the bitter indole alkaloids from the seeds of Nux vomica.
These CNS stimulant alkaloids are highly toxic . Now it is used as rodenticides



Harimine and harmaline

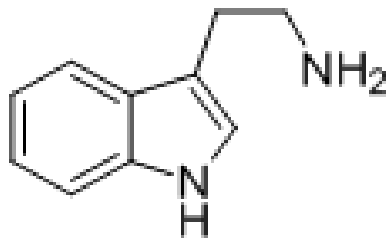
Are structurally related to tryptamine an alkaloids from .
Peaanum harmala

Flourescent under UV

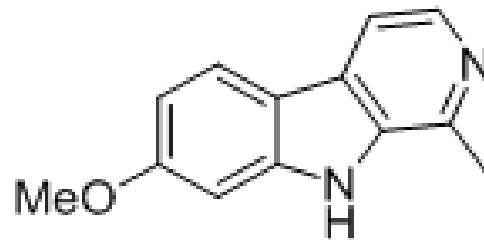


These alkaloids
are psychoactive used to treat heroin addiction

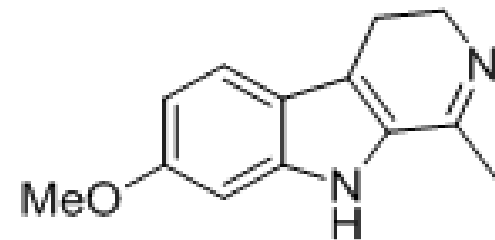
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Tryptamine



Harmine



Harmaline

THANK YOU FOR LISTENING