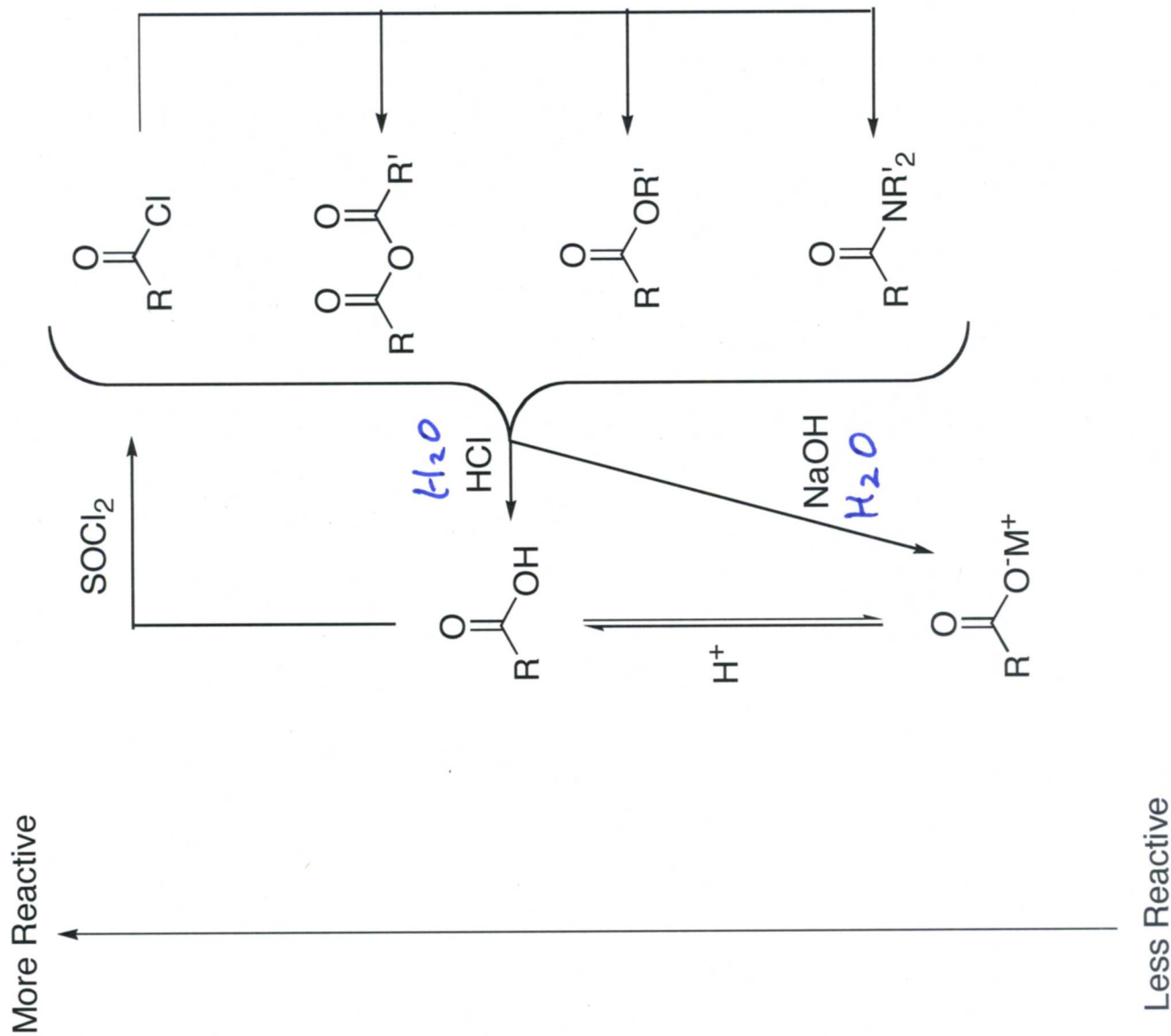


Reactivity of Carboxylic Acid Derivatives: General Scheme



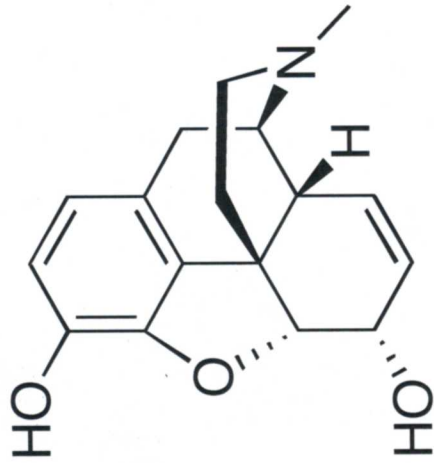
Less Reactive

Carboxylic Acid Derivatives: Applying the General Scheme

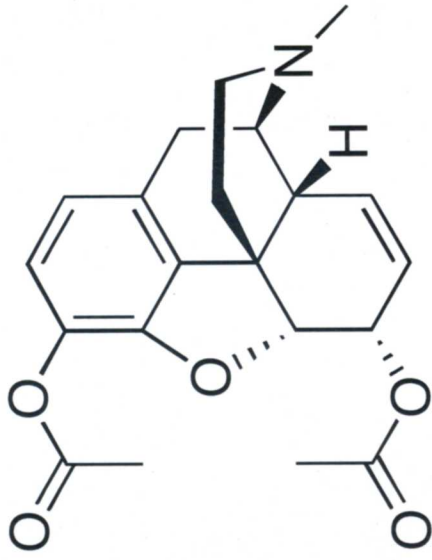
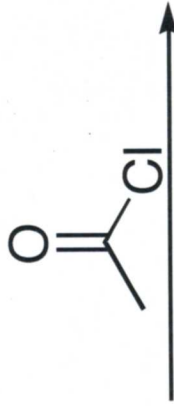


In each of the above examples, the reverse reaction will NOT proceed

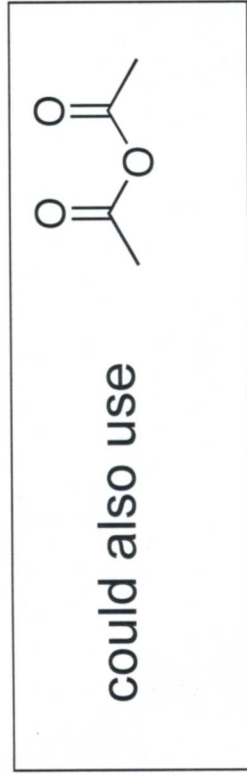
Carboxylic Acid Derivatives: Applying the General Scheme



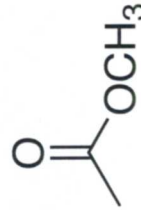
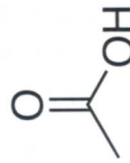
morphine



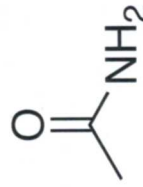
heroin



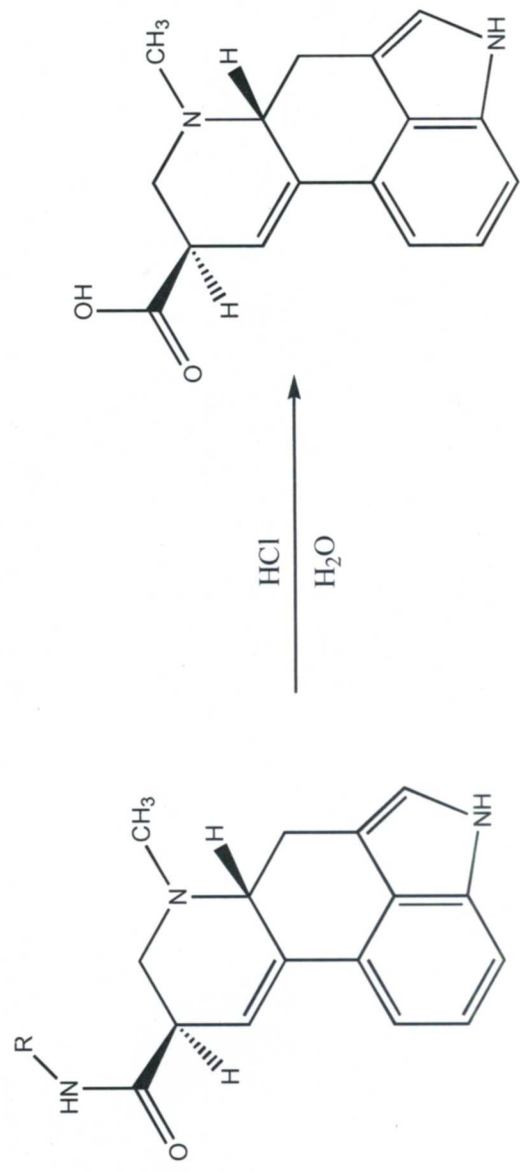
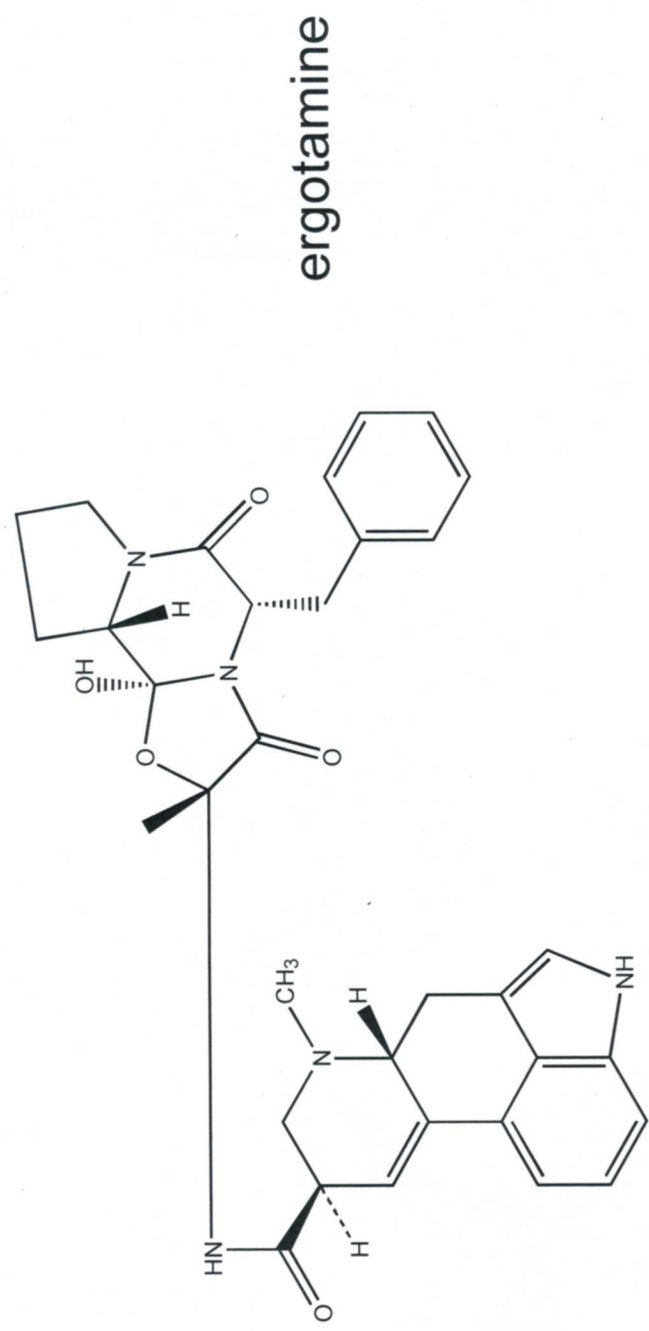
very slow -
do not really work



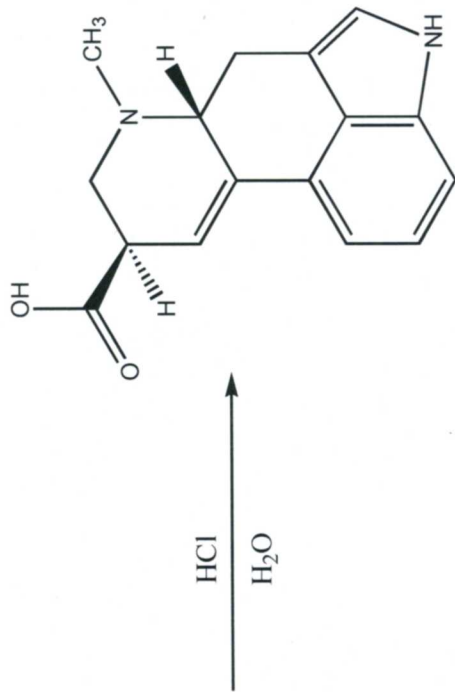
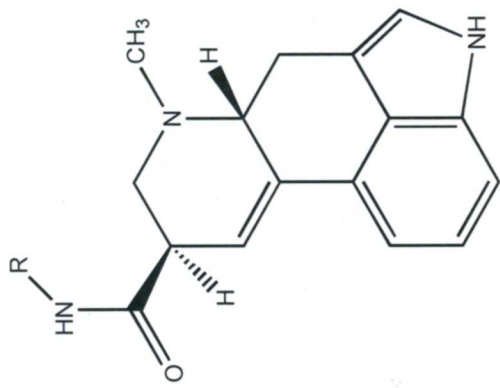
does not work



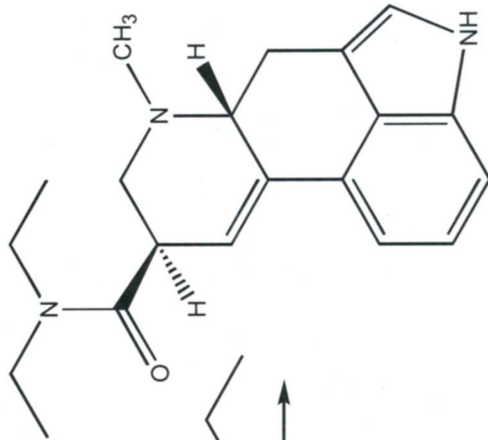
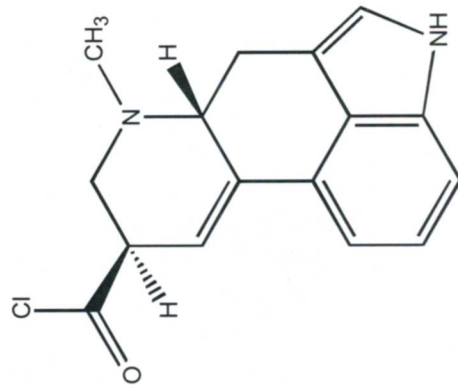
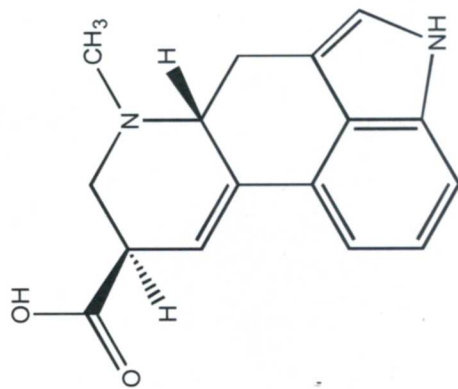
Carboxylic Acid Derivatives: Applying the General Scheme



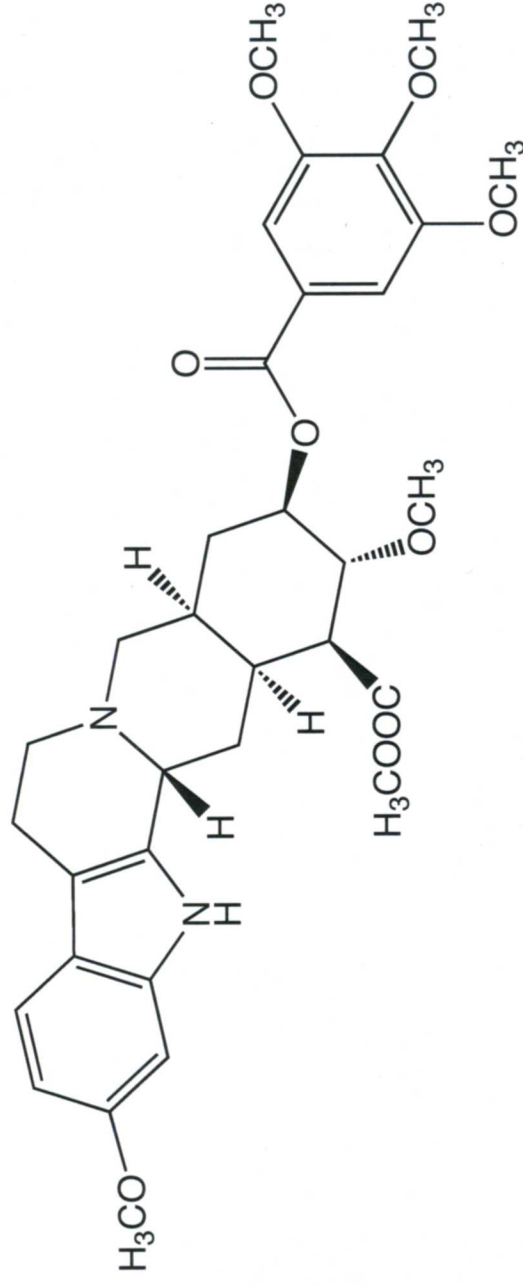
Carboxylic Acid Derivatives: Applying the General Scheme



ergotamine



LSD

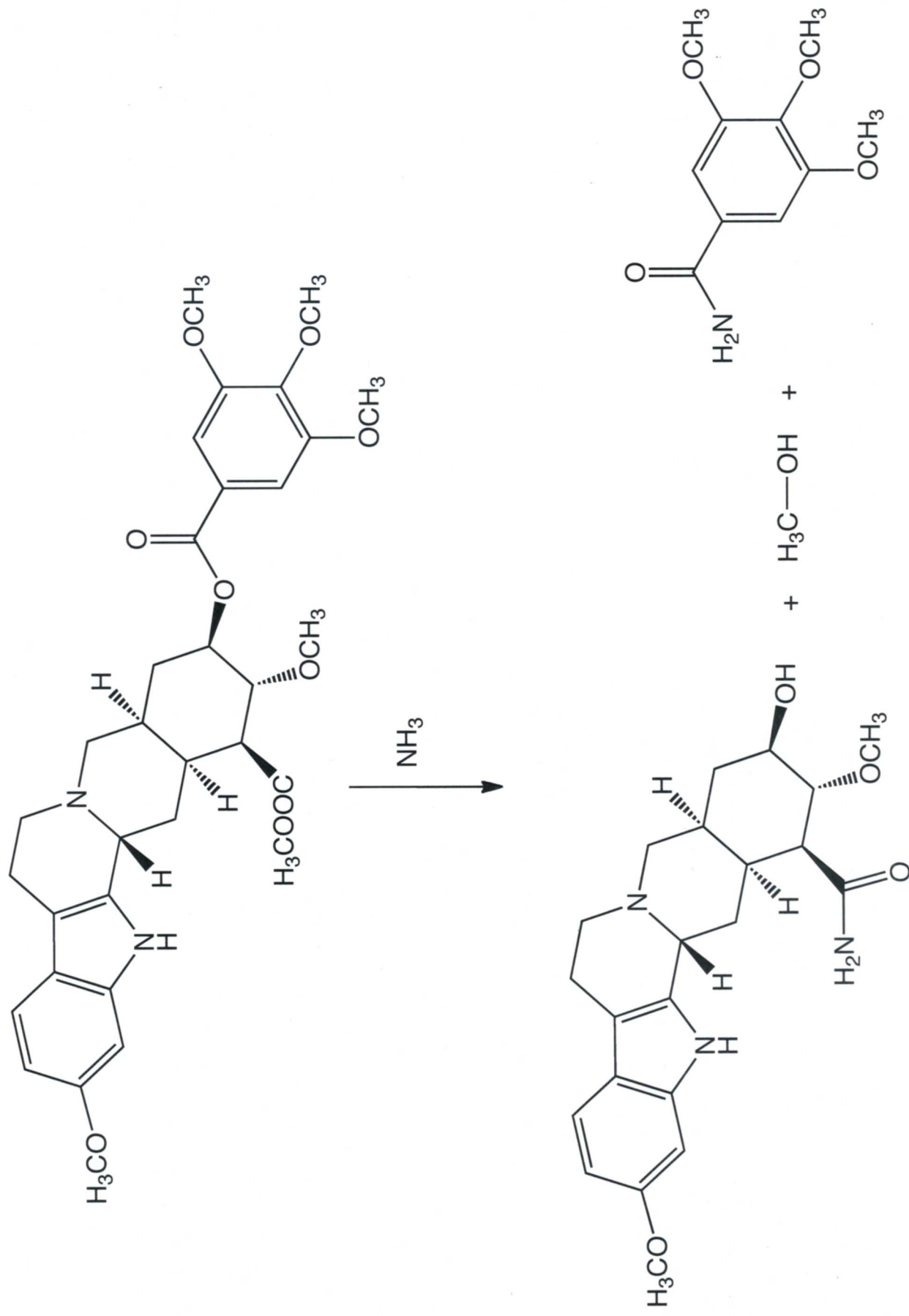


Reserpine: isolated from Indian snake root (*Rauwolfia serpentina*)

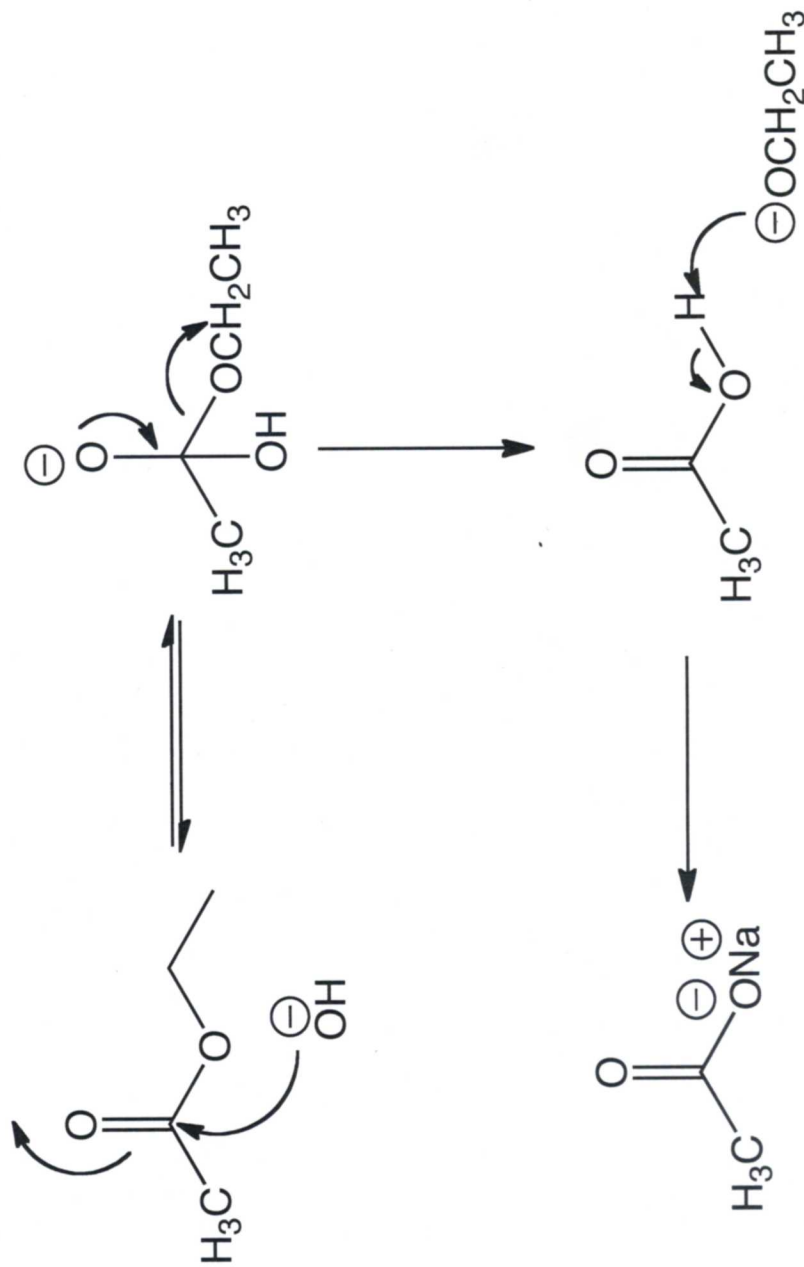
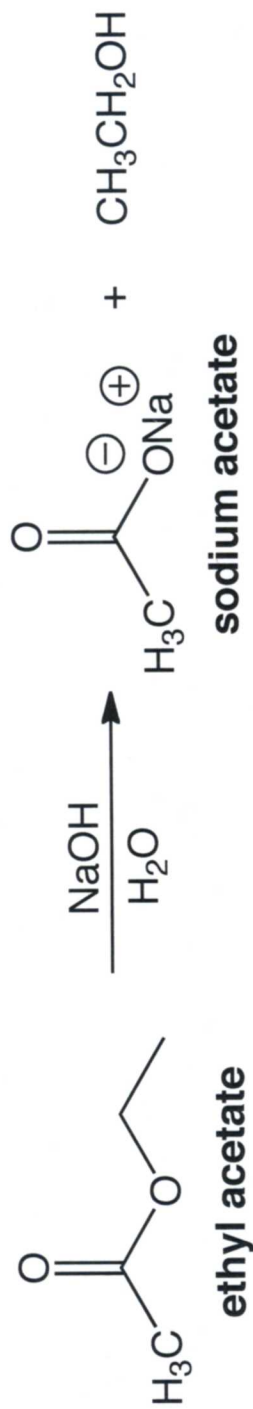
Identify functional groups, stereogenic centres, determine molecular formula

What happens when reserpine reacts with ammonia (NH_3)?

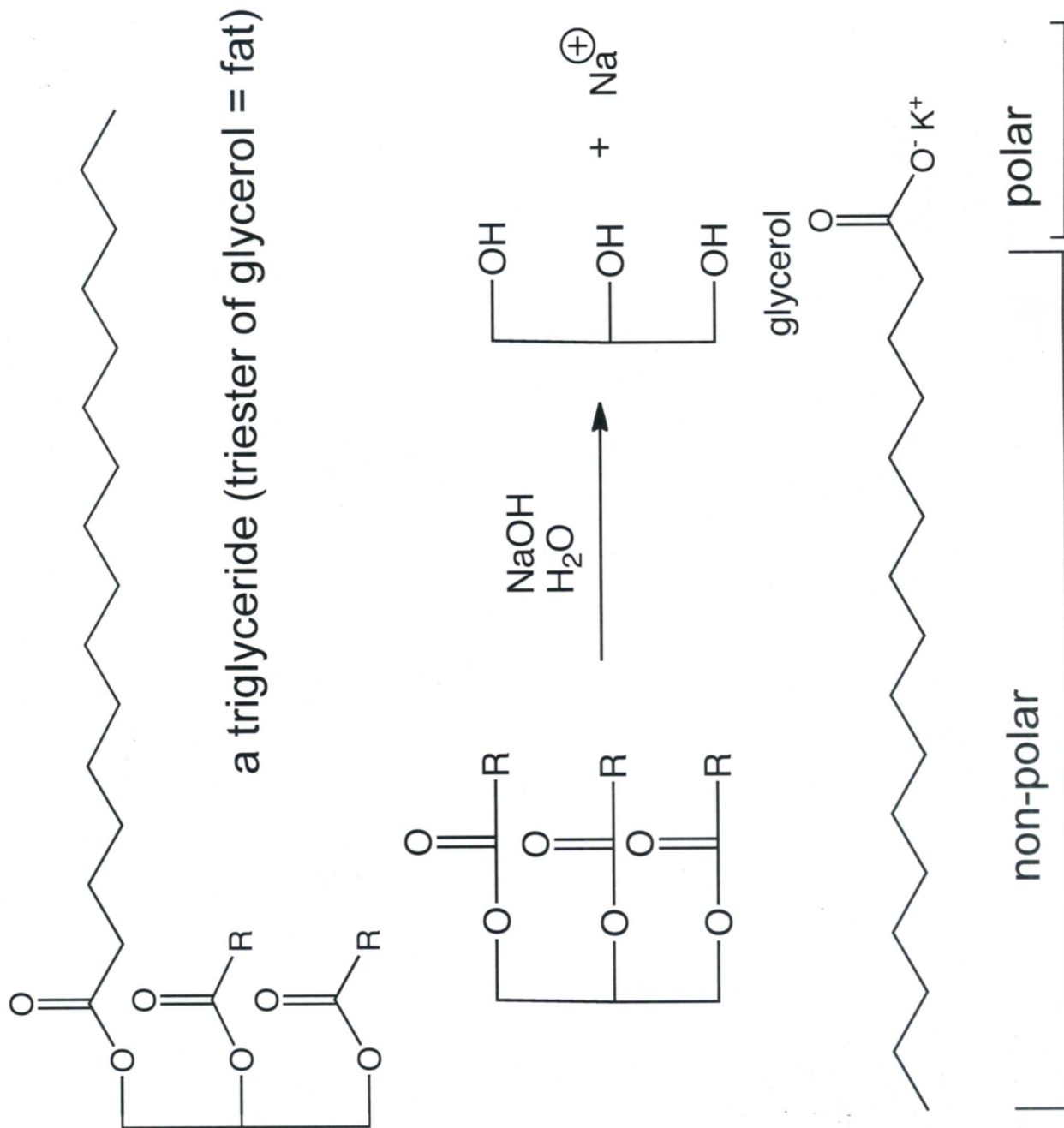
Carboxylic Acid Derivatives: Applying the General Scheme



Hydrolysis of Esters (under basic conditions = saponification)



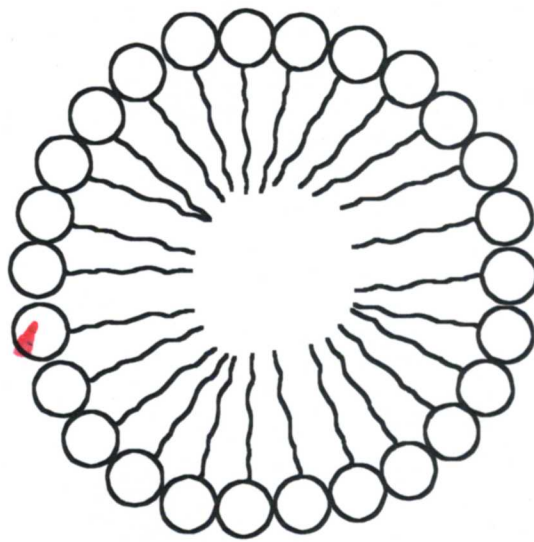
Hydrolysis of Esters (under basic conditions = saponification)



Hydrolysis of Esters (under basic conditions = saponification)



non-polar polar



micelle has polar head groups to water

interior is non-polar (dissolves grease)