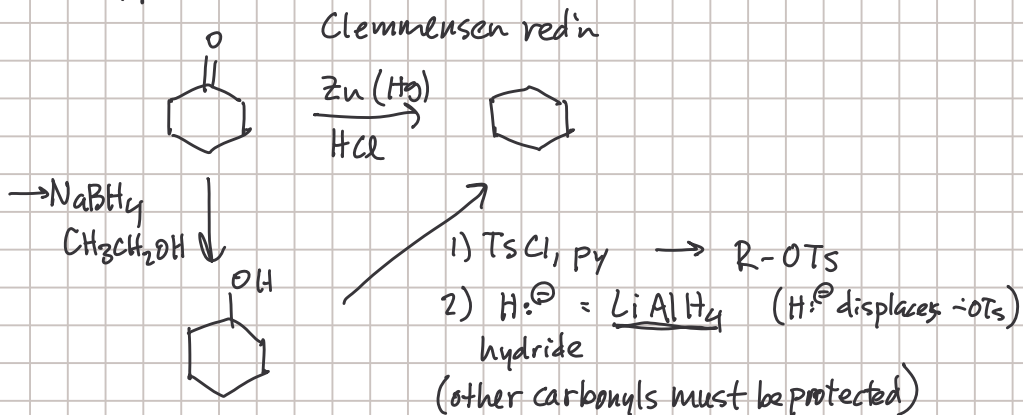


Ch 18 deoxygenation



Ch 19 Amines

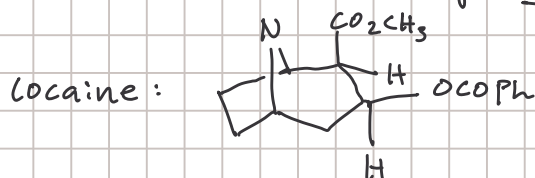
$\text{NH}_3 = \text{ammonia}$

amines = $\text{NH}_3 + 1$ or more alkyl/aryl groups on N

Strong biological activity

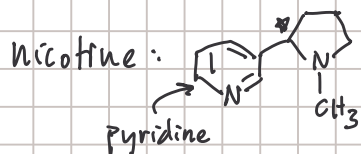
alkaloids: natural pharmacologically active amines

most alkaloids -- high toxicity

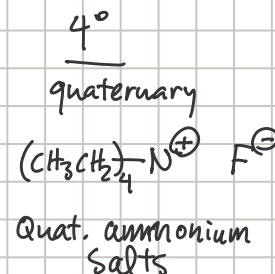
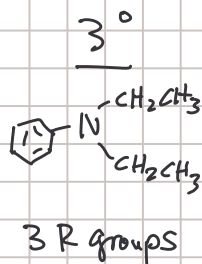
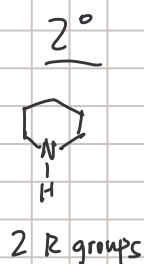
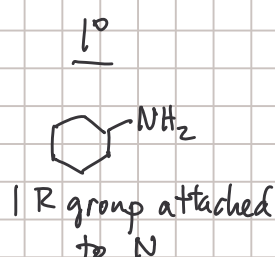


Opioids

- heroin
- Morphine
- Cocaine
- hydrocodone
- oxycodone



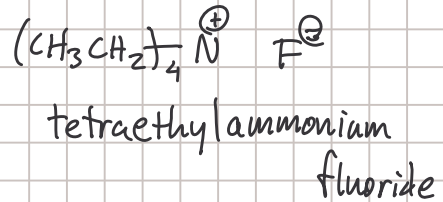
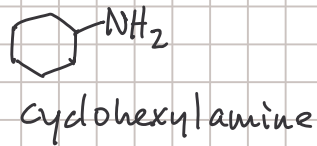
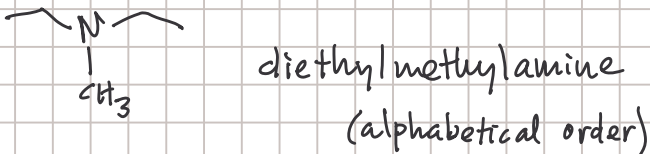
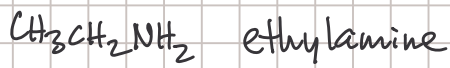
classification of amines



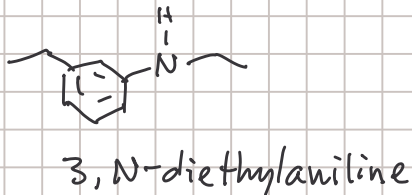
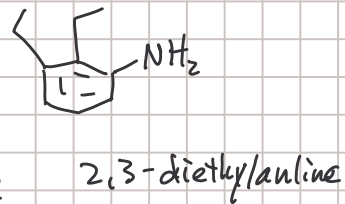
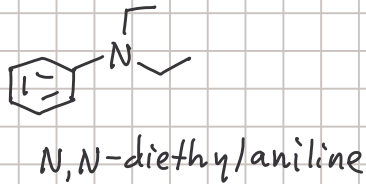
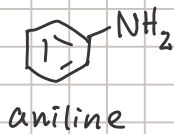
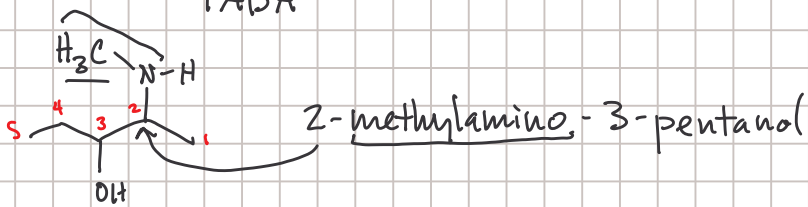
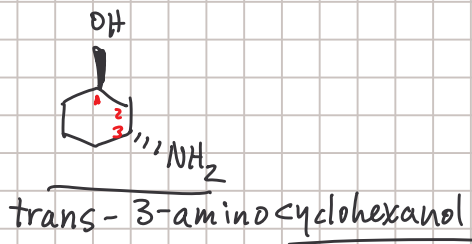
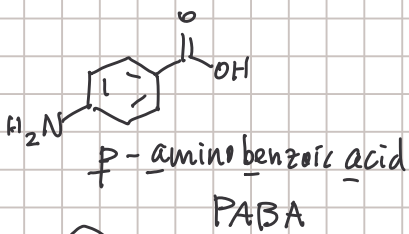
Nomenclature

common names frequently used

name of alkyl group(s) + amine



amino as substituent



heterocycles



pyrrole



pyridine

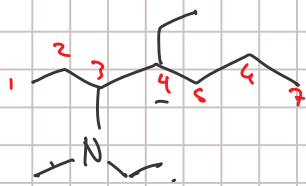


indole

IUPAC (not commonly used)

like alcohols, amine suffix

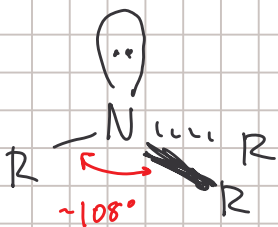
(hexanol \rightarrow hexanamine)



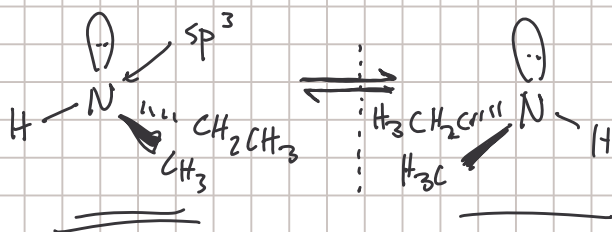
IUPAC: 4,N-diethyl-N-methyl-3-heptanamine

3-ethyl(methylamino)-4-ethylheptane

Structure

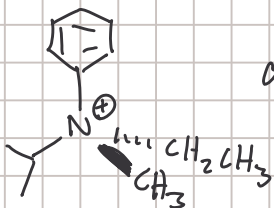
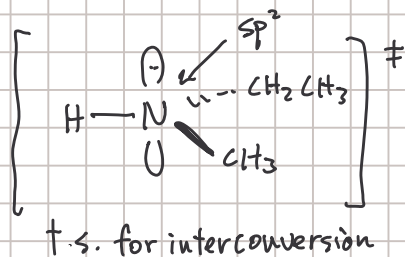


pyramidal shape



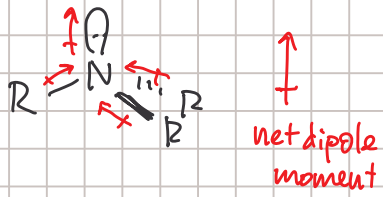
enantiomers,
in theory

two enantiomers easily
interconverted into each other

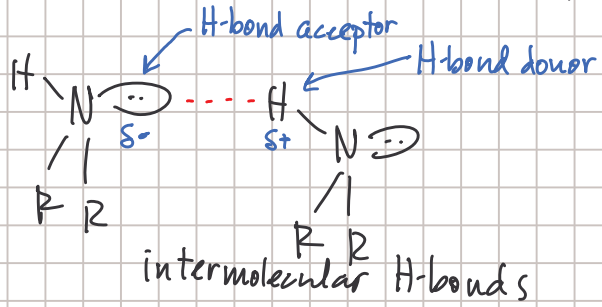


asymmetric quaternary nitrogens

can be resolved into enantiomers.



NH_3 , 1° , $\frac{1}{2}$ 2° amines
 have H-bond donors + acceptors



3° amines
 do not have intermolecular
 H-bonds

have H-bond acceptors only

