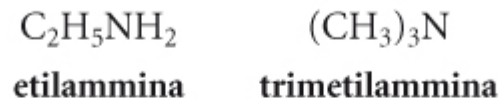
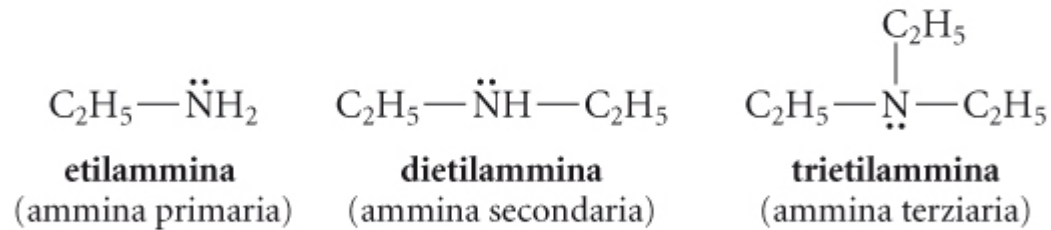
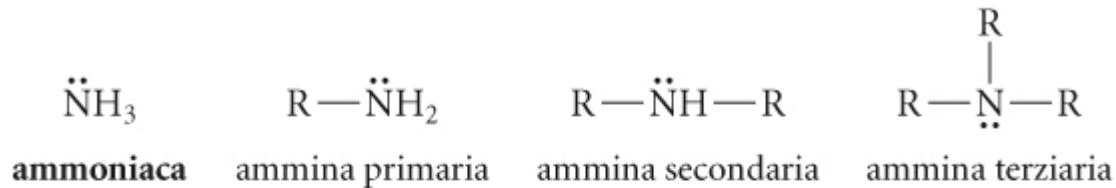
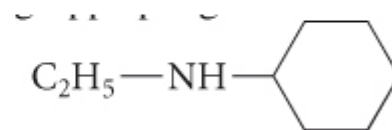


AMMINE (nomenclatura)

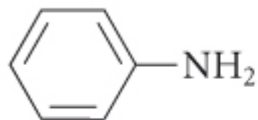


N,N-dimetilbutilammina

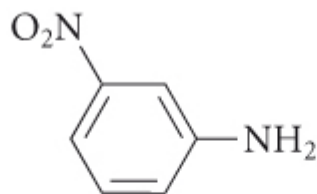


N-etilcicloesilammina

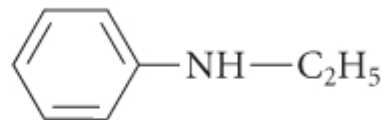




anilina



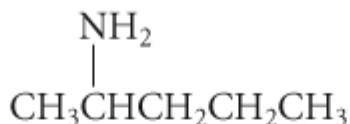
3-nitroanilina
(*m*-nitroanilina)



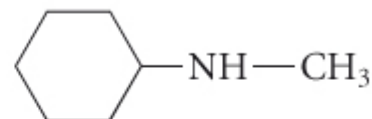
N-etilanilina



2-pentanol



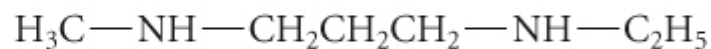
2-pentanamina



N-metilcicloesanammina

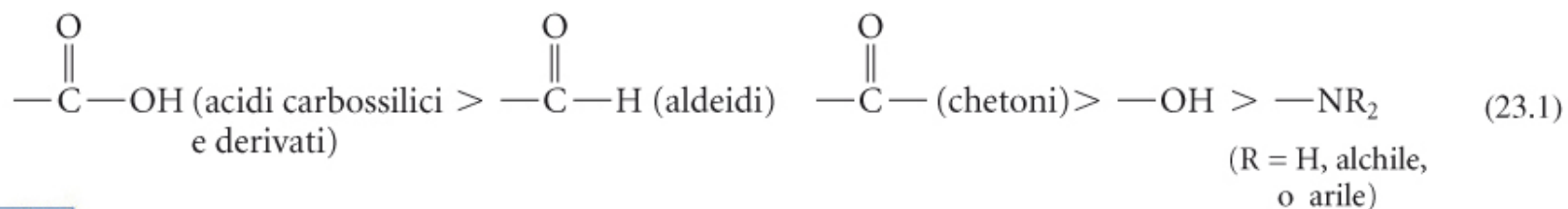


1,5-pentandiammina



N-etil-N'-metil-1,3-propandiammina

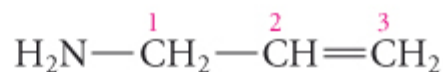
ORDINE PRIORITA' dei GRUPPI FUNZIONALI



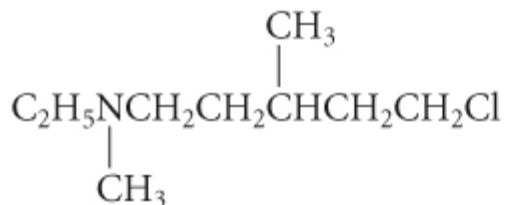
Loudon
Chimica Organica
Edises



2-amminoetanolo
(OH ha priorità maggiore)



2-propen-1-ammina
(NH₂ ha priorità maggiore)



5-cloro-N-etil-N,3-dimetil-1-pentanammina

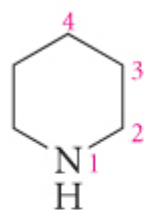


3-(dimetilammino)-1-propanolo

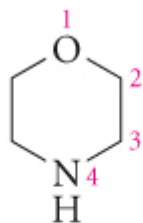


Loudon
Chimica Organica
Edises

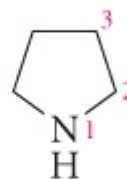
AMMINE CICLICHE (nomenclatura)



piperidina



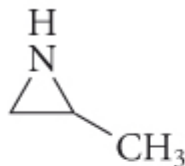
morfolina



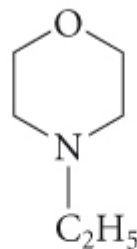
pirrolidina



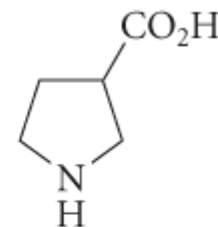
aziridina



2--metilaziridina



N-etilmorfolina
(4-etilmorfolina)



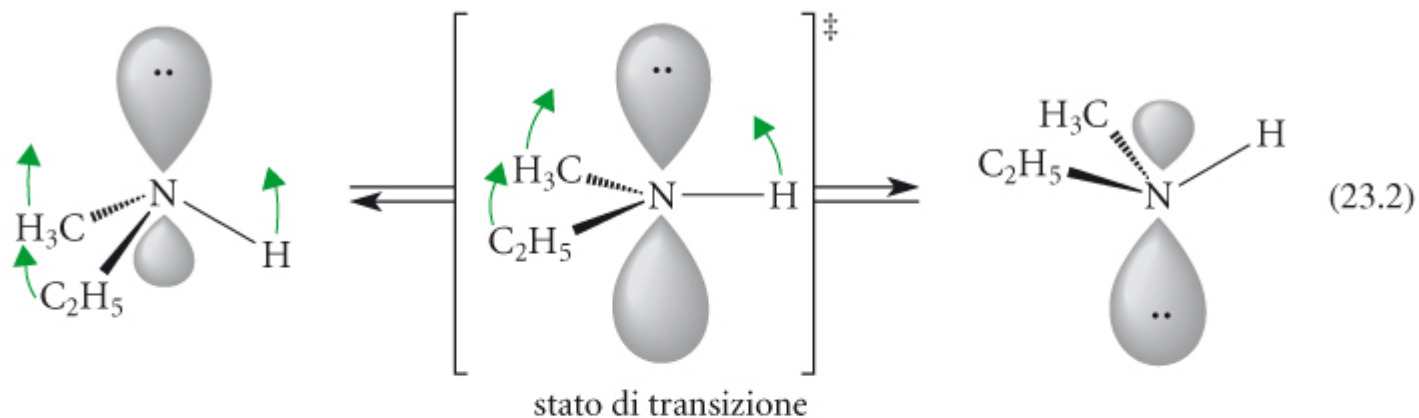
acido 3-pirrolidincarbossilico

PROPRIETA' CHIMICHE e FISICHE

legame:	C—C	C—N	C—O	C—F
lunghezza media:	1.54 Å	1.47 Å	1.43 Å	1.39 Å



Loudon
Chimica Organica
Edises



Loudon
Chimica Organica
Edises

	$\begin{array}{c} \text{CH}_3 \\ \\ \text{CH}_3\text{CH}_2\text{CHCH}_3 \end{array}$	$\text{CH}_3\text{CH}_2\text{N}(\text{CH}_3)_2$	$(\text{CH}_3\text{CH}_2)_2\text{NH}$	$\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}_2$
	isopentano	etildimetilammina	dietilammina	butilammina
Punto di ebollizione:	27.8°C	37.5°C	56.3°C	77.8°C
Momento dipolare:	0 D	0.6 D	1.2–1.3 D	1.4 D

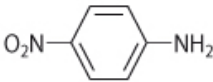
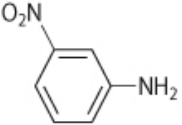
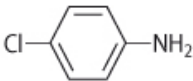
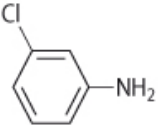
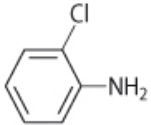

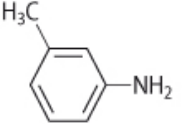
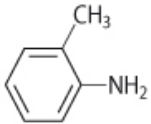
Legame idrogeno e polarità crescenti

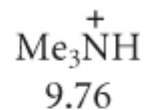
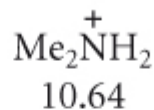
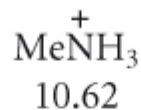
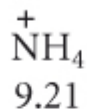



Loudon
Chimica Organica
EdiSES

TABELLA 23.1 Basicità di alcune ammine

(Ciascun valore di pK_a è riferito alla dissociazione del corrispondente acido coniugato, lo ione ammonio)

Ammina	pK_a	Ammina	pK_a	Ammina	pK_a
CH_3NH_2	10.62	$(CH_3)_2NH$	10.64	$(CH_3)_3N$	9.76
$C_2H_5NH_2$	10.63	$(C_2H_5)_2NH$	10.98	$(C_2H_5)_3N$	10.65
$PhCH_2NH_2$	9.34				
$PhNH_2$	4.62	$PhNHCH_3$	4.85	$PhN(CH_3)_2$	5.06
	≈ 1.0		2.45		
	3.81		3.32		2.62
	5.07		4.67		4.38



pK_a in soluzione acquosa



Loudon
Chimica Organica
EdiSES

Ordine basicità

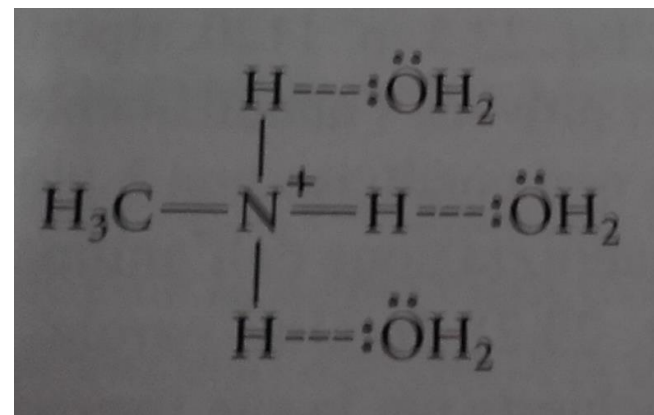
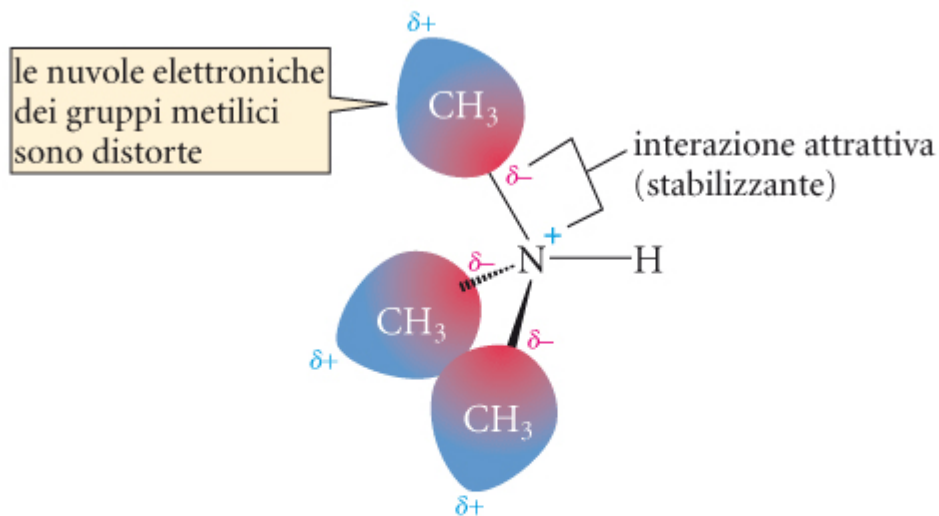
Ammina secondaria > ammina primaria > ammina terziaria > ammoniacca

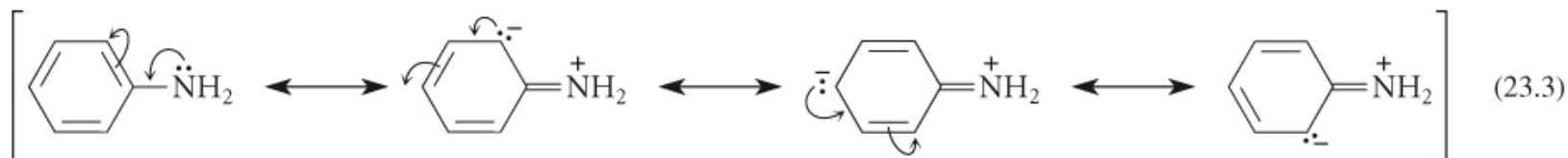
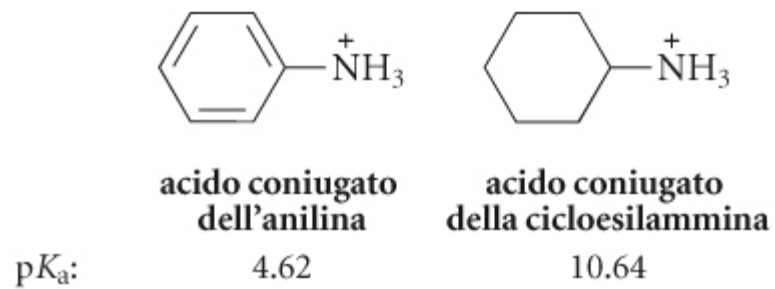
Ordine basicità

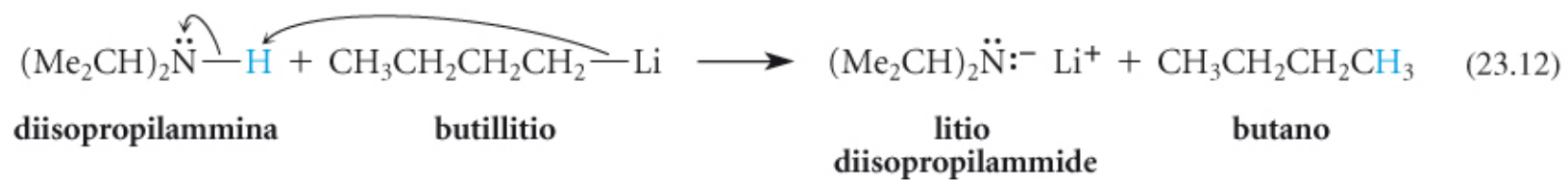
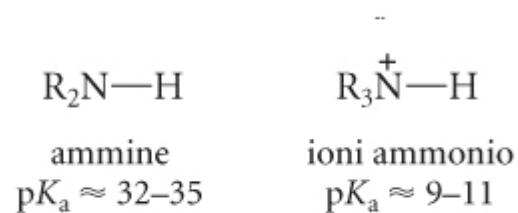
In acqua: Ammina secondaria > ammina primaria > ammina terziaria > ammoniacale

In fase gas: Ammina terziaria > secondaria > primaria > ammoniacale

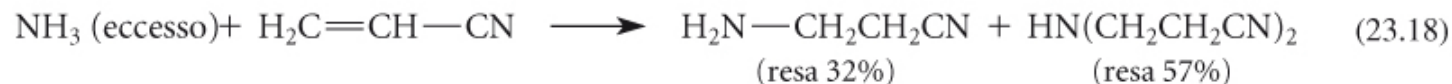
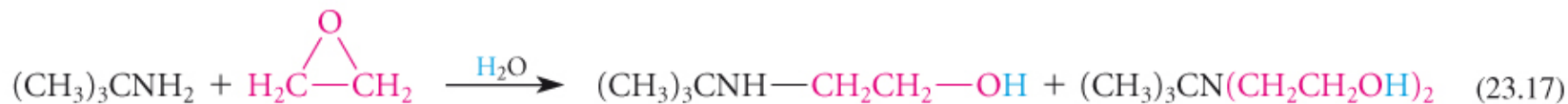
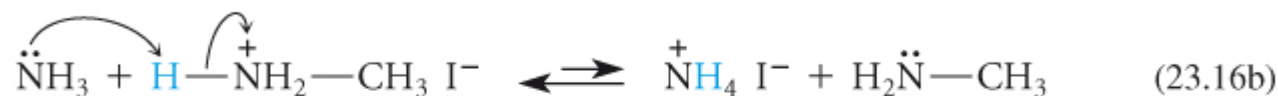
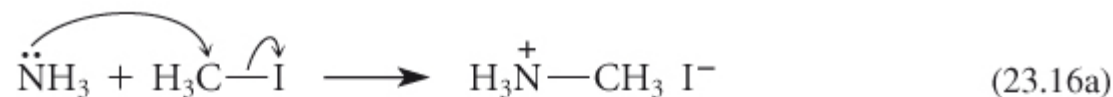
Fattori stabilizzanti:



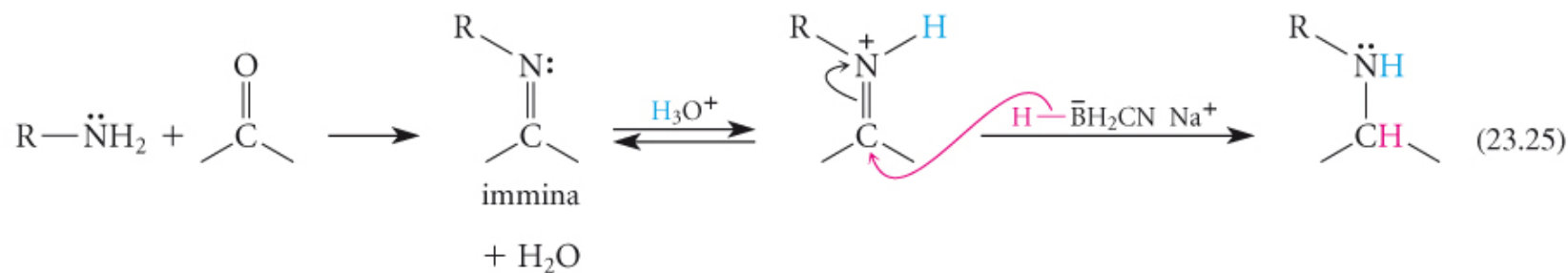
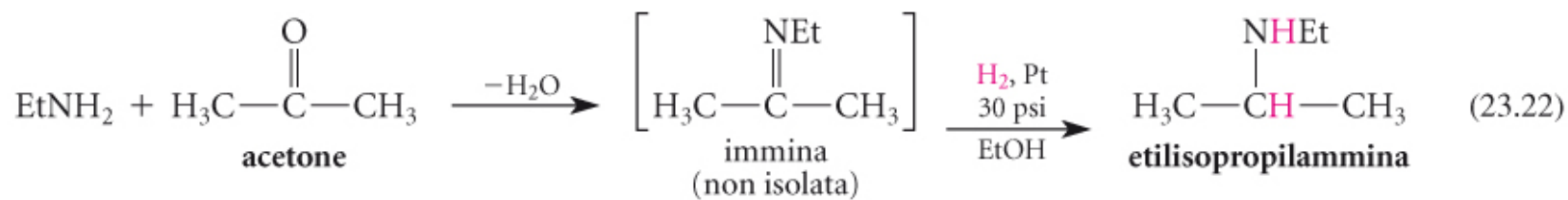


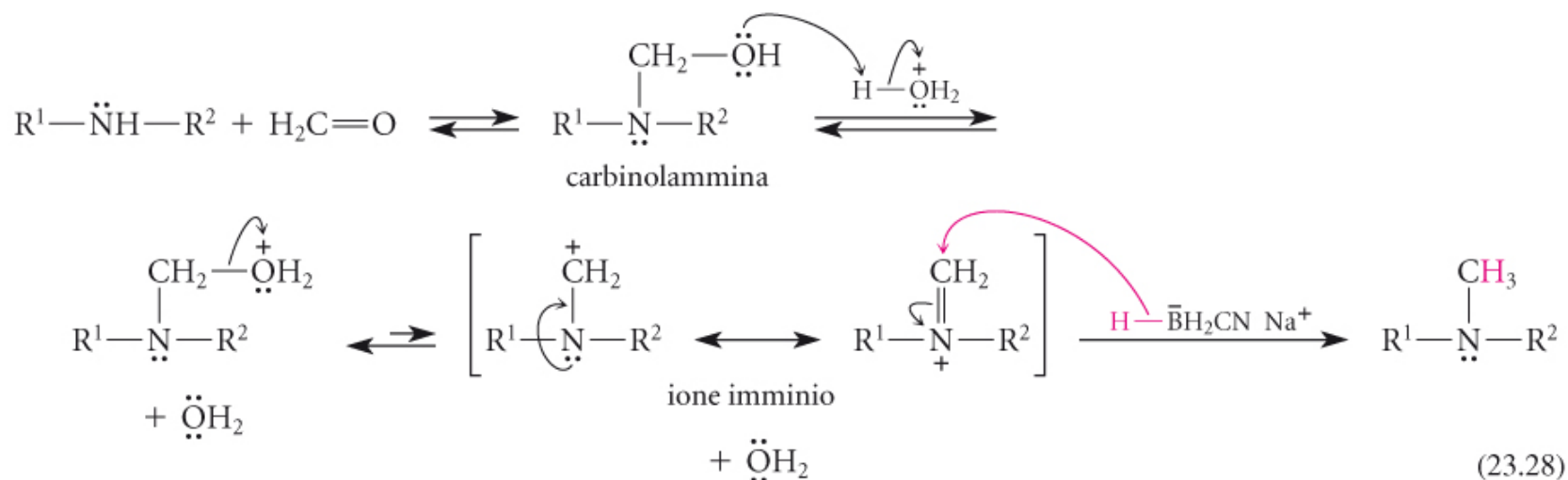
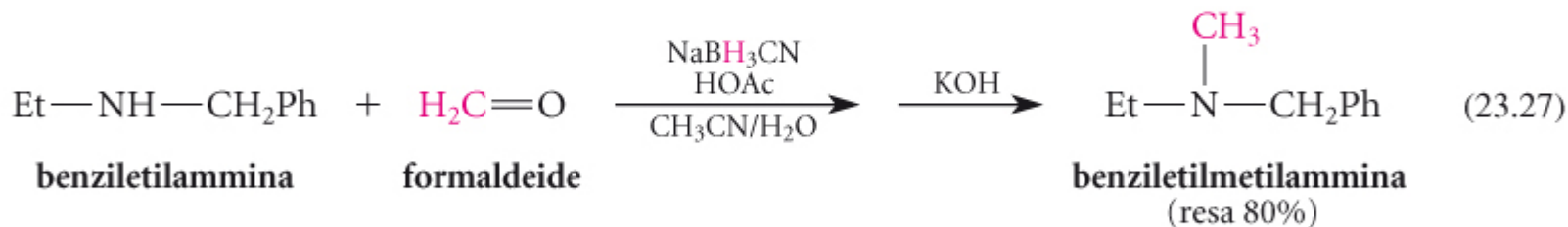
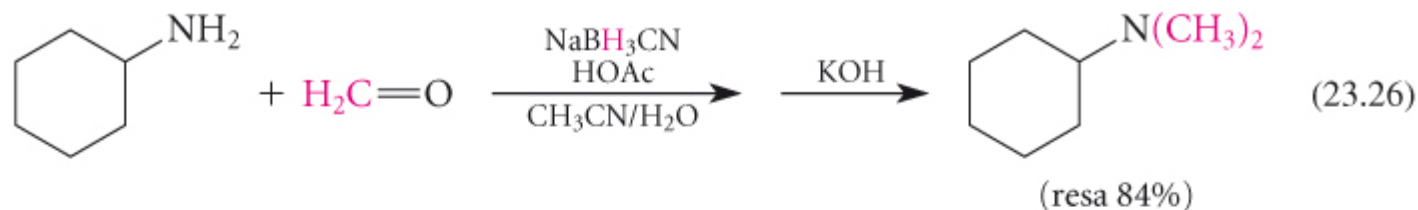


AMMINE come NUCLEOFILI: Reazioni di alchilazione

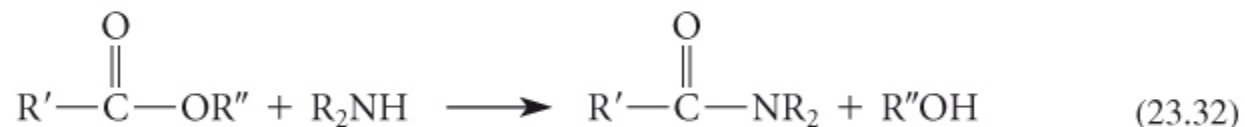
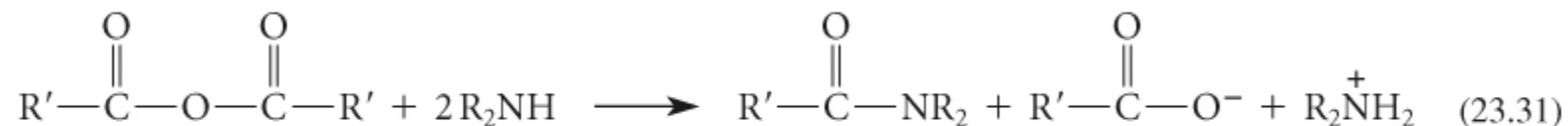
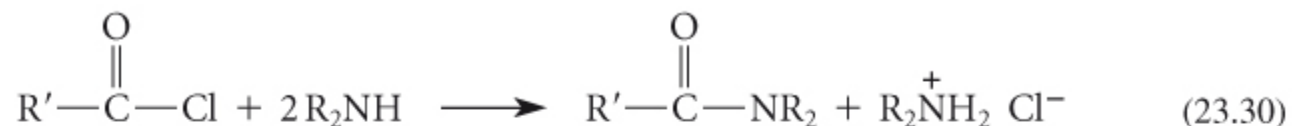


AMMINAZIONE RIDUTTIVA





ACILAZIONE di una AMMINA



ALCALOIDI = ammine alifatiche o eterocicliche

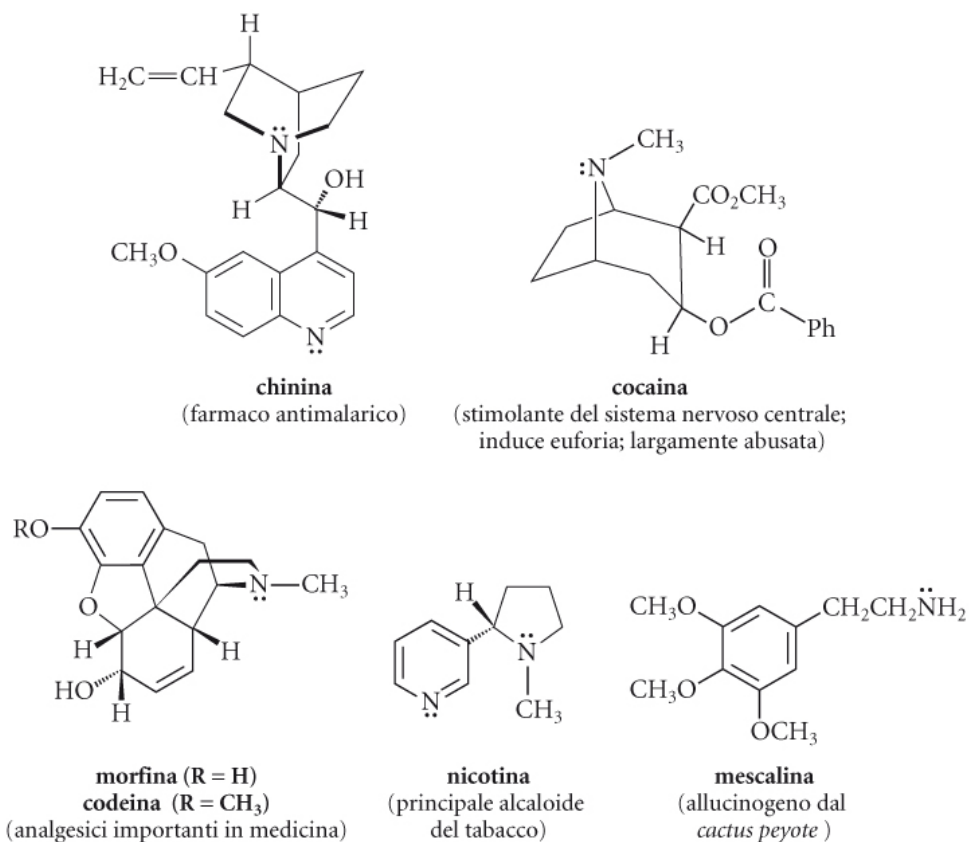
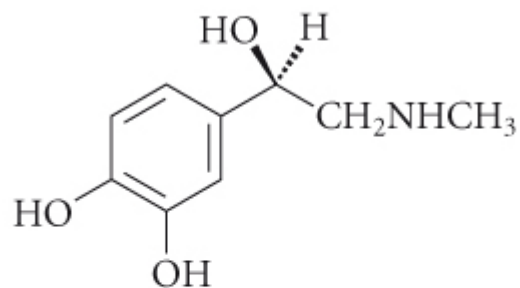


Figura 23.4 Struttura di alcuni alcaloidi. Ciascun composto contiene almeno un gruppo basico.

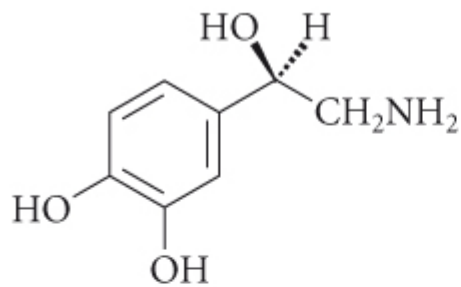
ORMONI e NEUROTRASMETTITORI



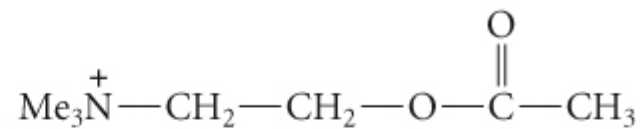
epinefrina



Loudon
Chimica Organica
EdiSES



norepinefrina



acetilcolina