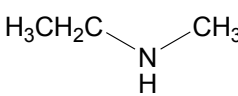
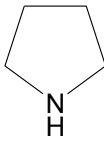
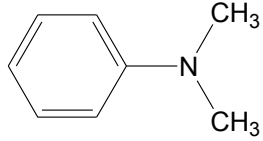
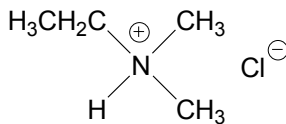
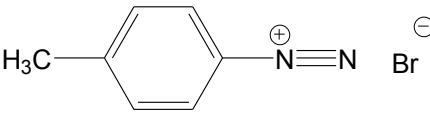
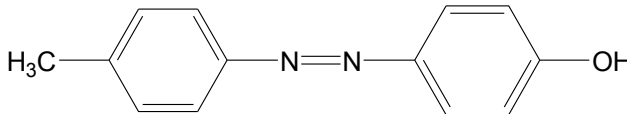
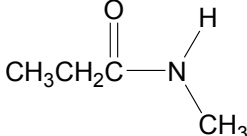
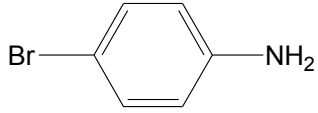
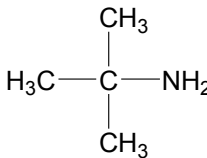
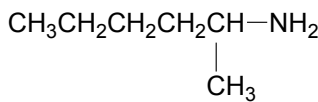
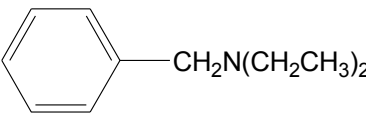
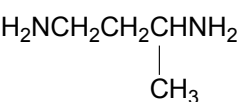
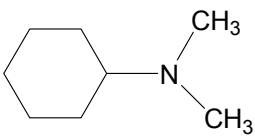
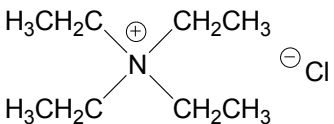
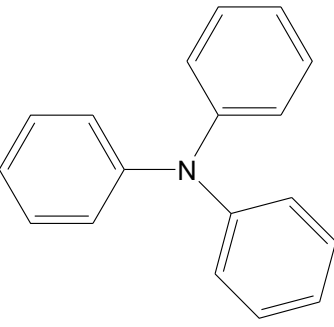
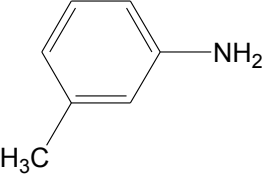


CAPITOLO 11

1. a)  b)  c) 
- d)  e) 
- f)  g) 
2. a)  b) 
- c)  d) 
- e)  f) 
- g)  h) 
- i) 

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3. a) *p*-clorotoluidina

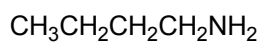
b) *N*-metil-1-propanammina

c) *N*-etil-*N*-metiletanamina

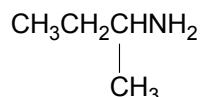
d) cloruro di tetrametilammonio

d) 3-ammino-2-butanolo

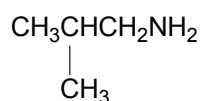
4.



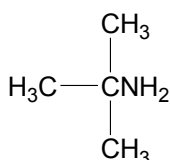
primaria; *n*-butilammina (1-butanammina)



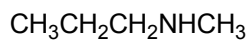
primaria; *sec*-butilammina (2-butanammina)



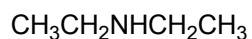
primaria; isobutilammina (2-metil-1-propanammina)



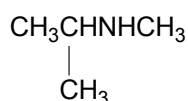
primaria; *terz*-butilammina (2-metil-2-propanammina)



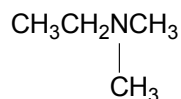
secondaria; *N*-metil-1-propanammina



secondaria; dietilammina



secondaria; *N*-metil-2-propanammina

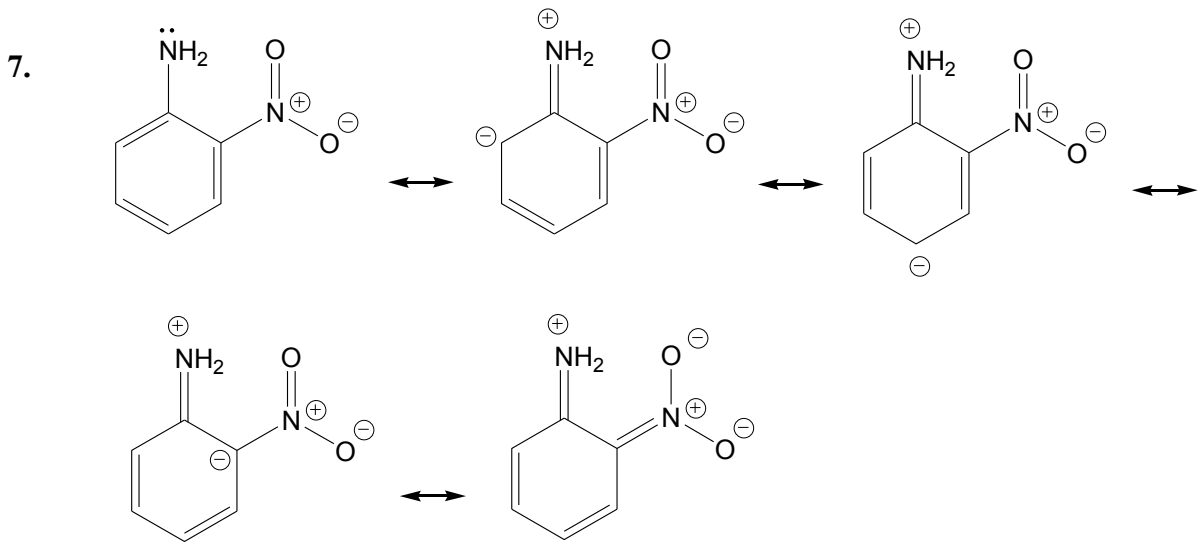


terziaria; *N,N*-dimiletanamina

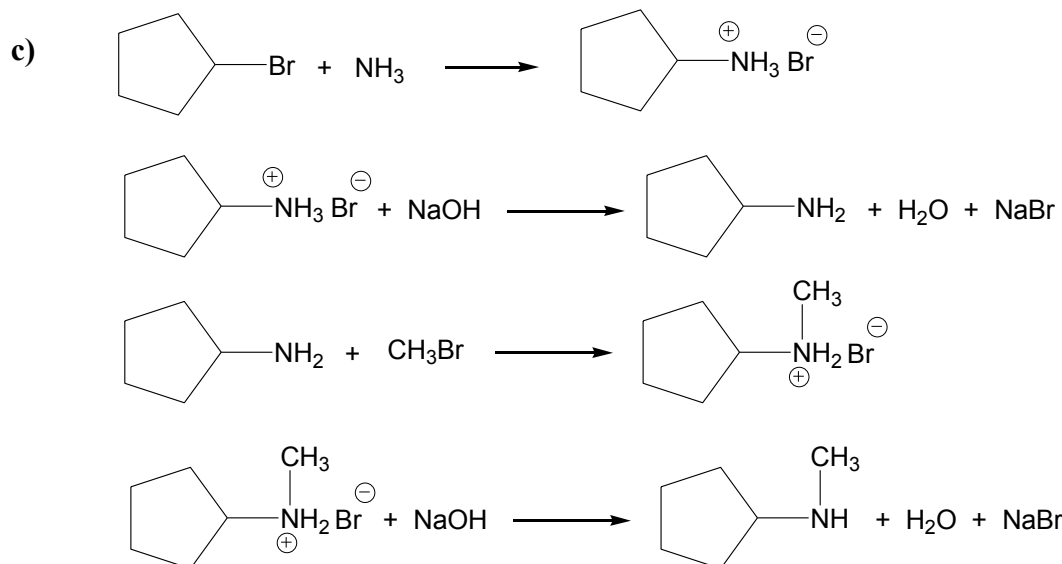
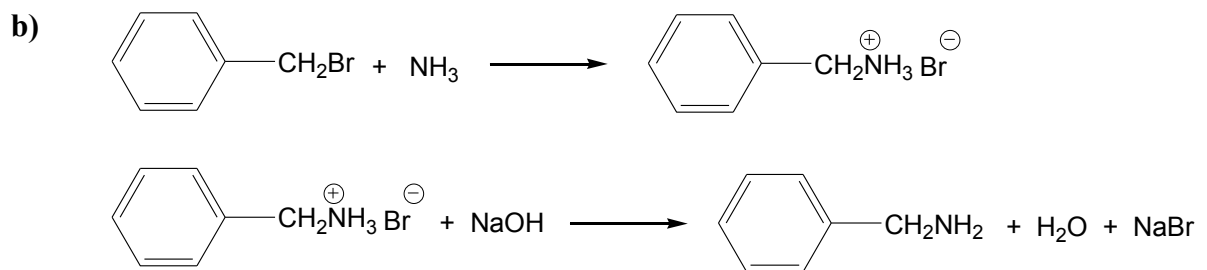
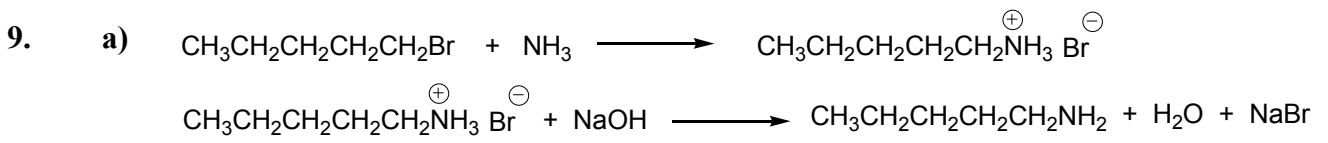
5. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$; $\text{CH}_3\text{CH}_2\text{CH}_2\text{OCH}_3$; $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{NH}_2$; $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{OH}$

6. a) **anilina.** Nella *m*-cloroanilina il cloro ha effetto elettron-attrattore e diminuisce la disponibilità della coppia di elettroni dell'azoto a legare il protone.

b) ***p*-metossianilina.** Il gruppo -OCH₃ ha effetto elettron-donatore e aumenta la basicità.

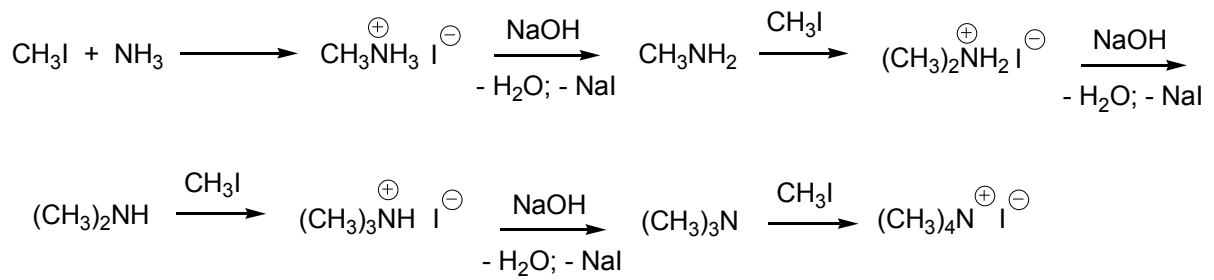


8. **L'ammina B non può essere separata in due enantiomeri a causa del fenomeno dell'inversione piramidale. Il sale di ammonio quaternario può essere risolto nei due enantiomeri perché non dà inversione piramidale (l'azoto non ha più tre legami e un doppietto elettronico ma quattro legami).**

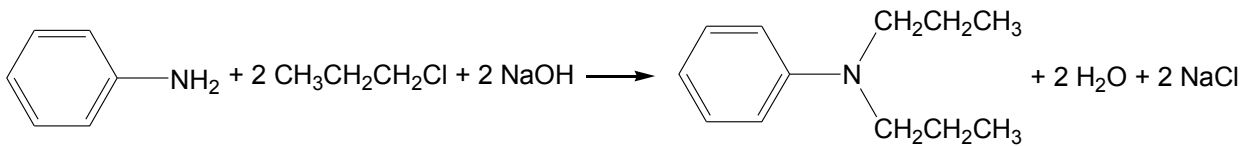


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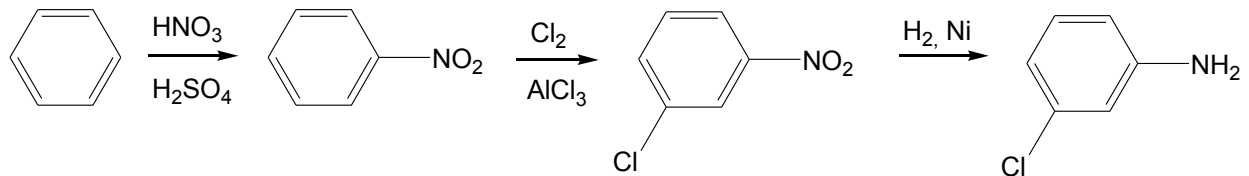
d)



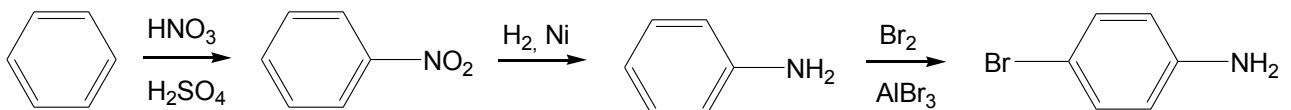
10. a)



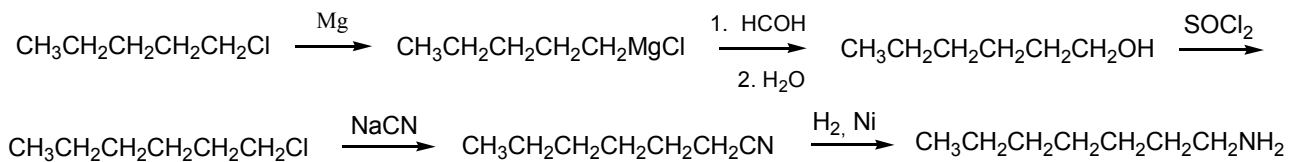
b)



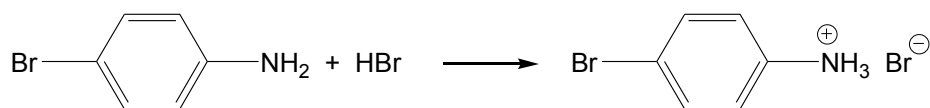
c)



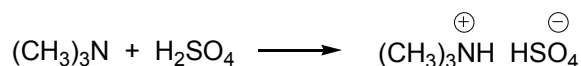
d)



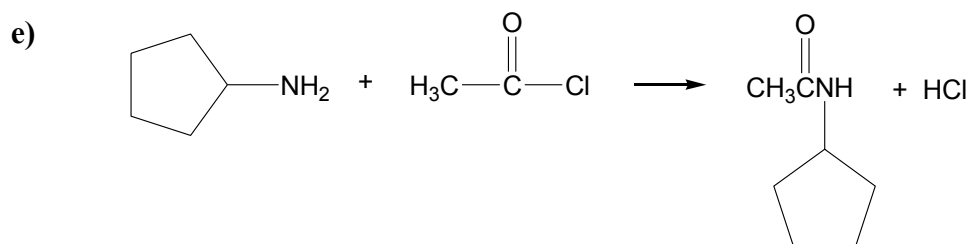
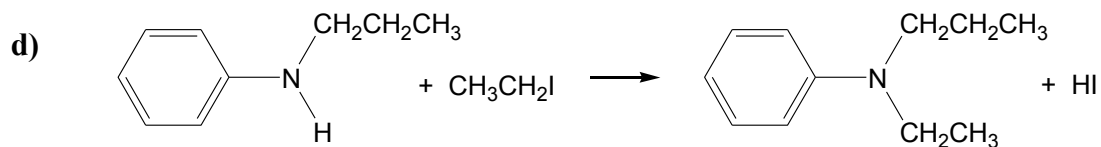
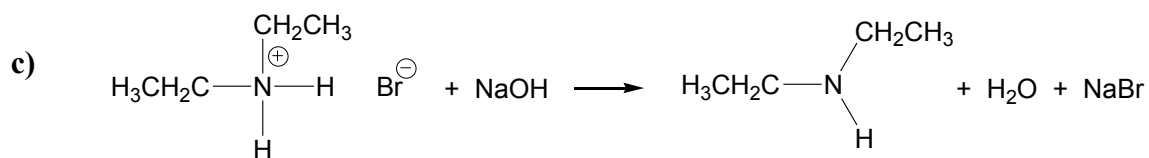
11. a)



b)



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12.

