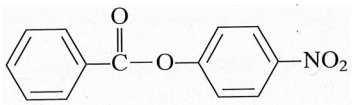
Giuseppe Valitutti – Gabriella Fornari – Maria Teresa Gando
Chimica organica, biochimica e laboratorio
Soluzioni degli esercizi del testo

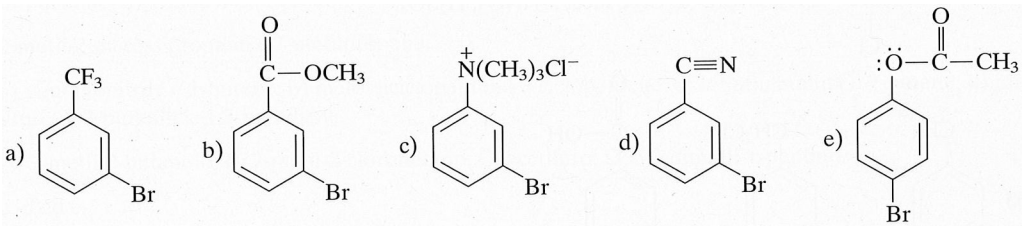
Capitolo 5

5.14

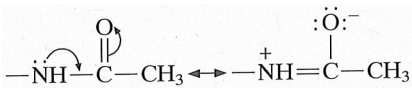


5.15 $C_6H_5NHCOCH_3$ > etilbenzene > clorobenzene > benzammide

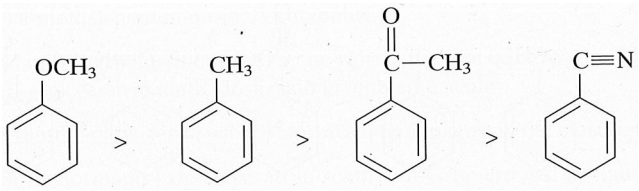
5.16



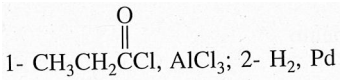
5.18



5.19

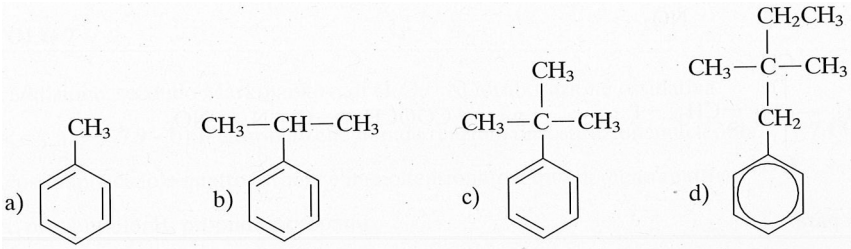


5.20



5.21 a) con CH_3CH_2Cl e $AlCl_3$; b) etilbenzene e $KMnO_4$, H_2O; c) 1- Br_2, $FeBr_3$; 2- HNO_3, H_2SO_4; d) 1- Cl_2, $AlCl_3$; 2- SO_3, H_2SO_4.

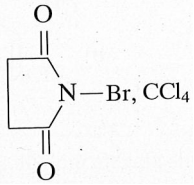
5.22



5.24

a) 1-$AlCl_3$, Cl_2; 2-HNO_3, H_2SO_4 b) 1-$AlCl_3$, Cl_2; 2-$KMnO_4$, H_2O

c) 1-$KMnO_4$, H_2O; 2-Br_2, $FeBr_3$ d) 1-Br_2, $FeBr_3$; 2-

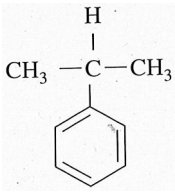


5.25 a) prima l'ossidazione; b) non si può alchilare; c) non si può acilare.

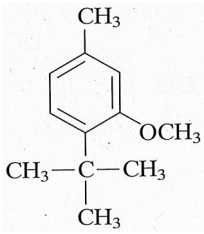
5.26 Attivanti: a), c), b), d), i); disattivanti: e), f), g), h).

5.27 Orto e para: a), b), c), d), i); meta: e), f), g), h).

5.28



5.29



5.30 d) 4 > 2 > 3 > 1

5.31 b).

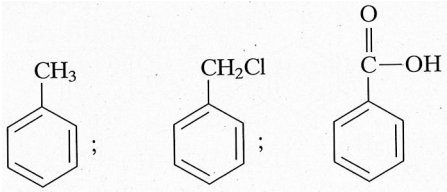
5.32

a) 1– $ClCH{=}CH_2$, $AlCl_3$ 2- Br_2, $FeBr_3$ b) 1- $CH_3\overset{\overset{O}{\|}}{C}{-}Cl$, $AlCl_3$ 2- Br_2, $Fe\,Br_3$ 3- H_2, Pd;

c) 1- CH_3Cl, $AlCl_3$; 2- $CH_3CH_2\overset{\overset{O}{\|}}{C}Cl$, $AlCl_3$; 3- H_2, Pd;

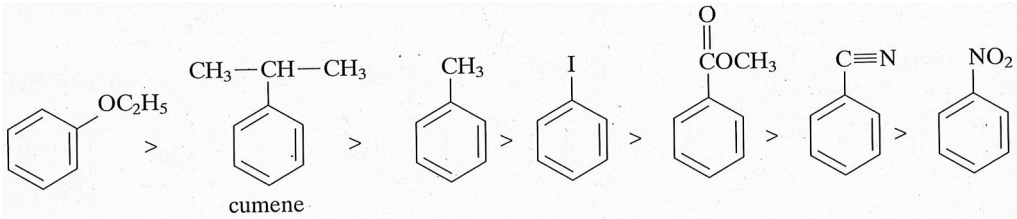
d) 1-$CH_3\underset{\underset{Cl}{|}}{CH}{-}CH_3$, $AlCl_3$; 2-Cl_2 e luce; 3-HNO_3, H_2SO_4

5.33

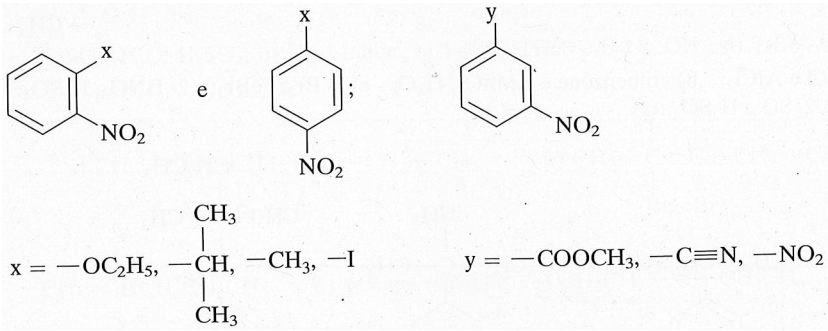


5.34 $C_6H_5{-}CH_2{-}C_6H_5$

5.35



5.36



5.37 orto > meta > para

5.38 a) orto e para; b) para; c) orto e para; d) meta; e) in orto all'etile; f) in orto al metile.

5.39 a) 1- $KMnO_4$, H_2O; 2- HNO_3, H_2SO_4. b) 1- HNO_3, H_2SO_4; 2- $KMnO_4$, H_2O.