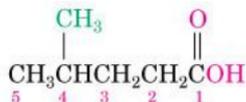
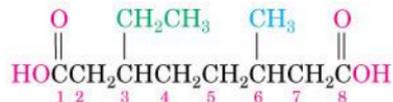




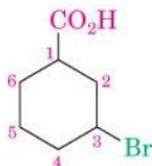
Acido propanoico



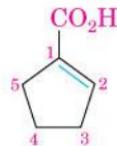
Acido 4-Metilpentanoico



Acido 3-Etil-6-metilottandioico



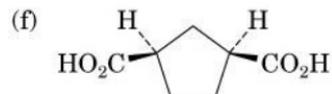
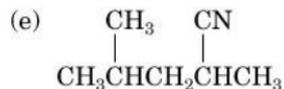
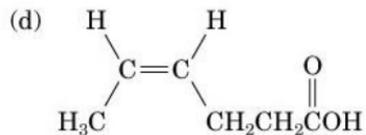
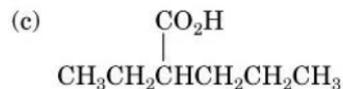
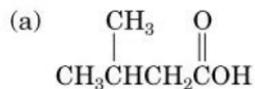
Acido 3-Bromocicloesancarbossilico

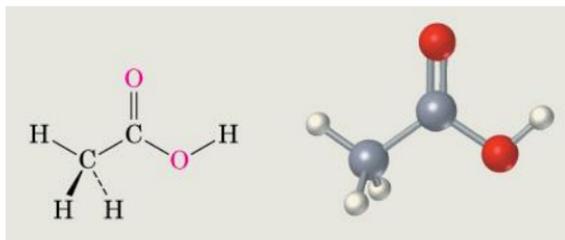


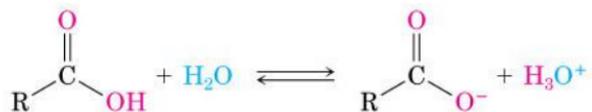
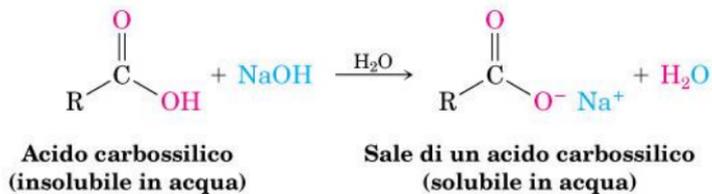
Acido 1-Ciclopentencarbossilico



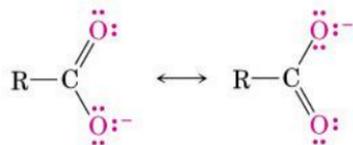
4-Metilpentanonitrile







$$K_a = \frac{[\text{RCO}_2^-][\text{H}_3\text{O}^+]}{[\text{RCO}_2\text{H}]} \quad \text{e} \quad \text{p}K_a = -\log K_a$$



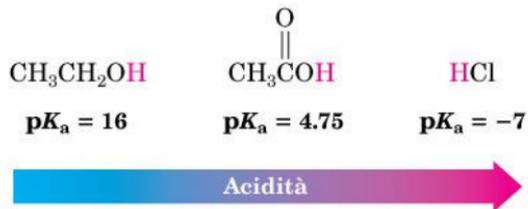
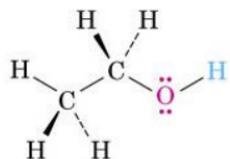
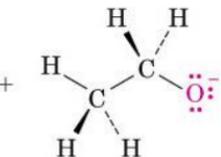


FIGURA 20.1

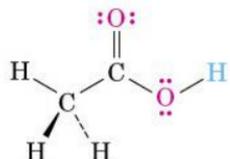
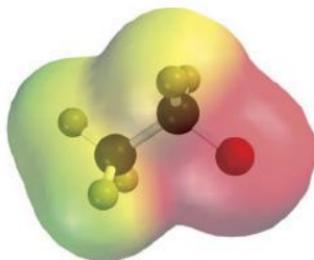
La carica di uno ione alcossido è localizzata su di un solo atomo di ossigeno ed è meno stabile, mentre nello ione carbossilato la carica è delocalizzata su entrambi gli atomi di ossigeno da due forme di risonanza ed è quindi molto più stabile.



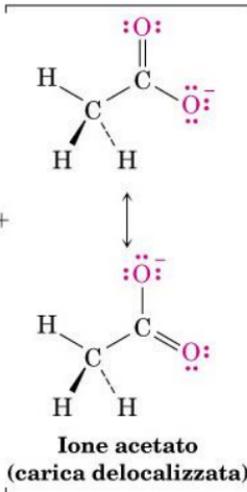
Etanolo



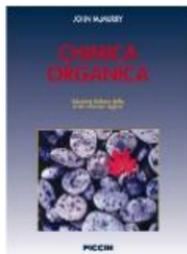
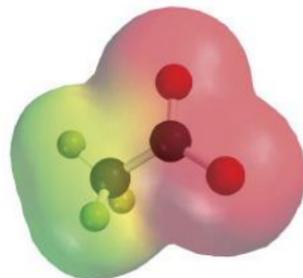
Ione etossido
(carica localizzata)

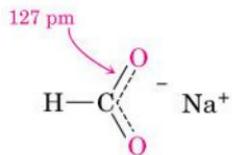
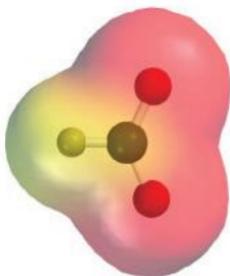


Acido acetico

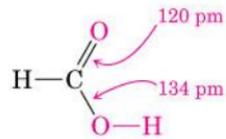


Ione acetato
(carica delocalizzata)

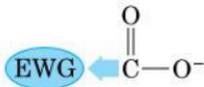




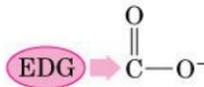
Sodio formiato



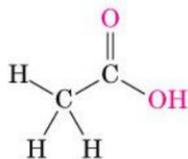
Acido formico



Gruppo elettrone-attrattore
stabilizza il carbossilato
aumentando l'acidità

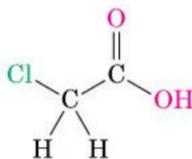


Gruppo elettrone-donatore
destabilizza il carbossilato
diminuendo l'acidità

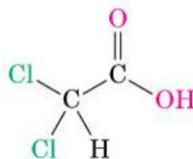


$$\text{p}K_{\text{a}} = 4.75$$

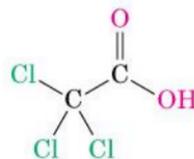
Acido più debole



$$\text{p}K_{\text{a}} = 2.85$$

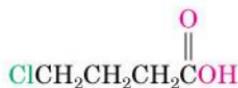


$$\text{p}K_{\text{a}} = 1.48$$



$$\text{p}K_{\text{a}} = 0.64$$

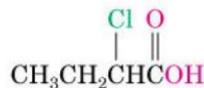
Acido più forte



$$\text{p}K_{\text{a}} = 4.52$$

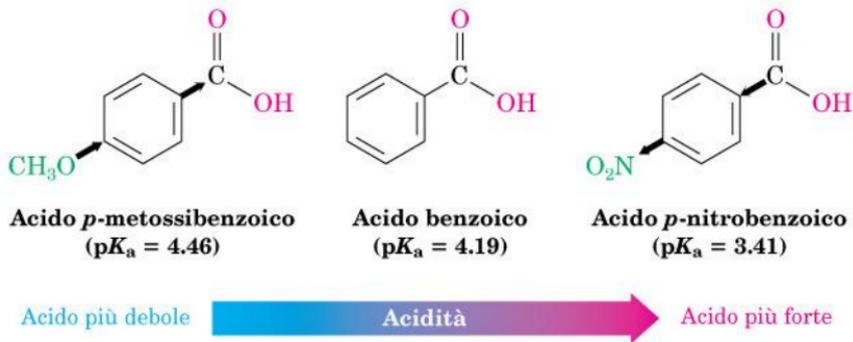
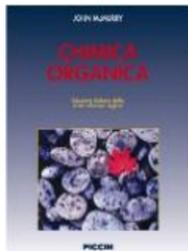


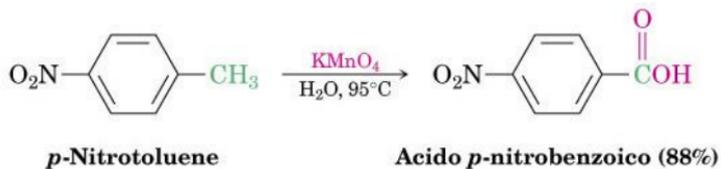
$$\text{p}K_{\text{a}} = 4.05$$



$$\text{p}K_{\text{a}} = 2.86$$







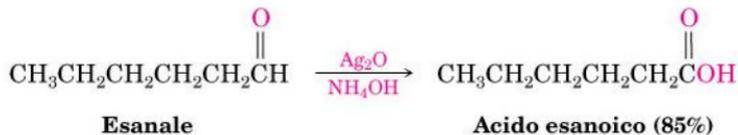
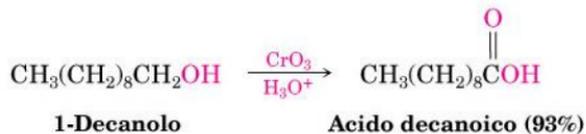
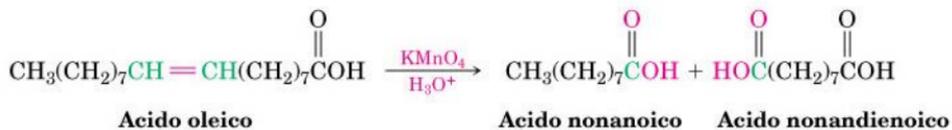




FIGURA 20.2 Alcune reazioni generali degli acidi carbossilici.

