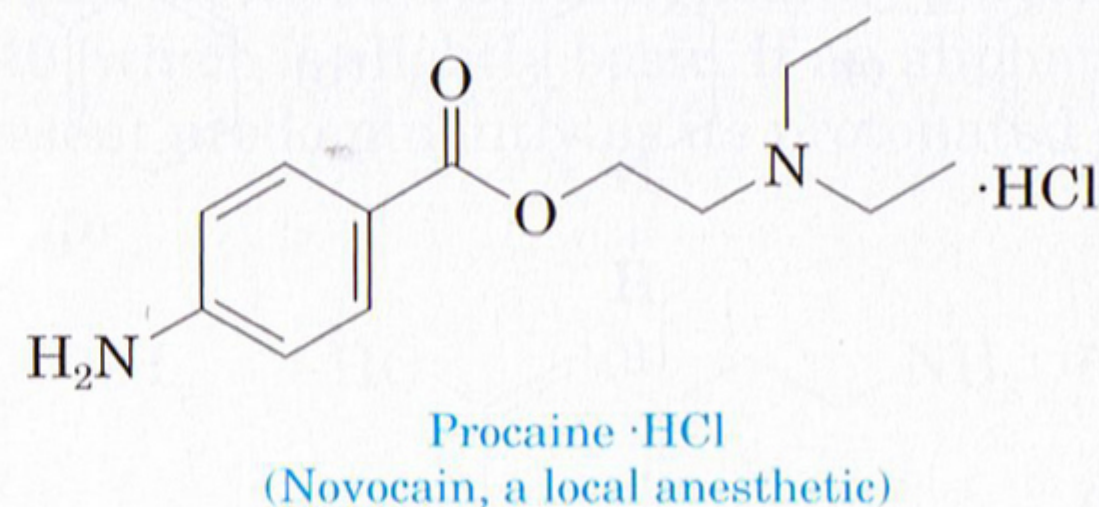
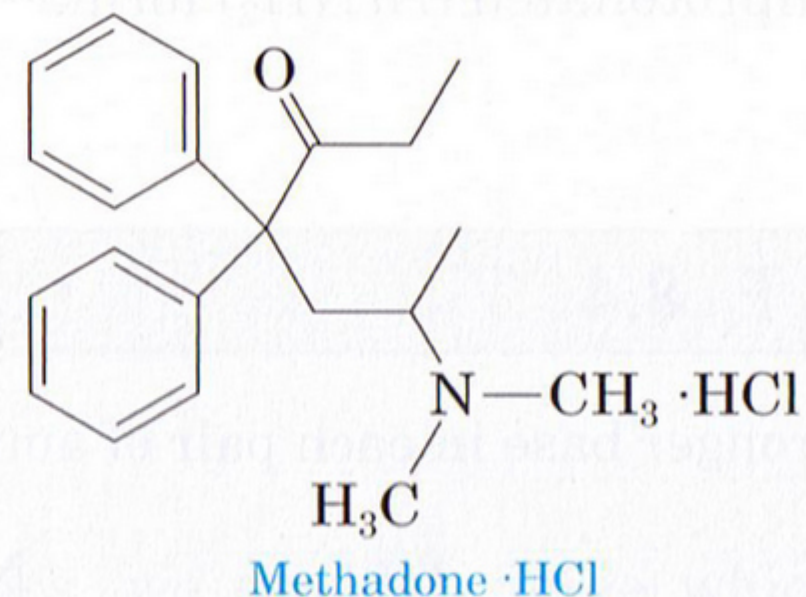




CHEMICAL CONNECTIONS 8D

The Solubility of Drugs in Body Fluids

Many drugs have " $\bullet \text{HCl}$ " or some other acid as part of their chemical formulas and occasionally as part of their generic names. Invariably these drugs are amines that are insoluble in aqueous body fluids such as blood plasma and cerebrospinal fluid. For the administered drug to be absorbed and carried by body fluids, it must be treated with an acid to form a water-soluble ammonium salt. Methadone, a narcotic analgesic, is marketed as its water-soluble hydrochloride salt. Novocain, one of the first local anesthetics, is the hydrochloride salt of procaine.



Beverly March

These two drugs are amine salts and are labeled as hydrochlorides.

There is another reason besides increased water solubility for preparing these and other amine drugs as salts. Amines are very susceptible to oxidation and decomposition by atmospheric oxygen, with a corresponding loss of biological activity. By comparison, their amine salts are far less susceptible to oxidation; they retain their effectiveness for a much longer time.