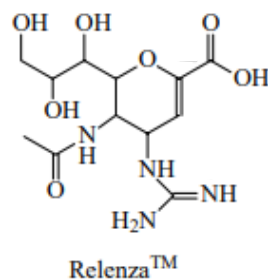
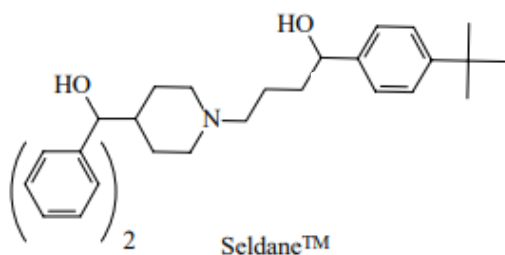


1. Seldane™ is a major drug for seasonal allergies; Relenza™ is a common antiviral.

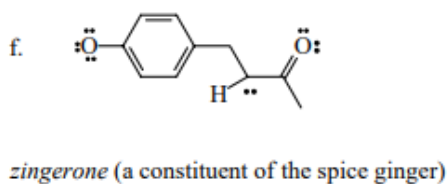
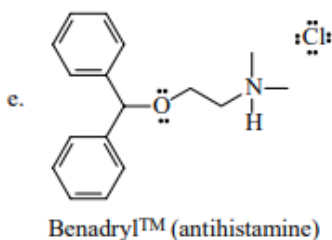


a. Complete the molecular formula for each. Seldane™: C \_\_\_ H \_\_\_ NO<sub>2</sub> Relenza™: C \_\_\_ H \_\_\_ N<sub>4</sub>O<sub>7</sub>

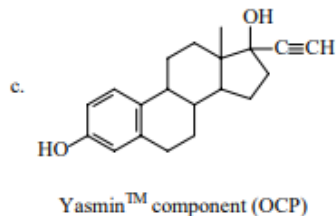
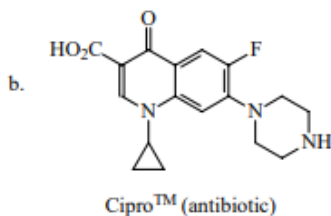
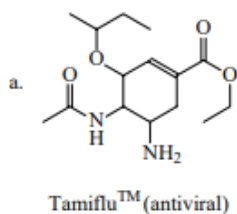
b. Draw all the lone electron pairs in both structures.

2. Place formal charge over any atom that possesses it in the following structures:

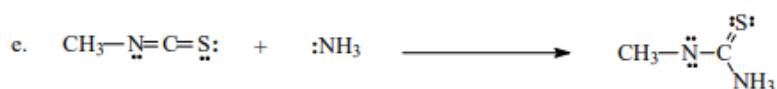
a. :C≡C:      b. H-C≡O:      c. :O≡N=O:      d. the conjugate base of •NH<sub>2</sub>CH<sub>3</sub>



11. Which functional groups are present in each of the following medicines?



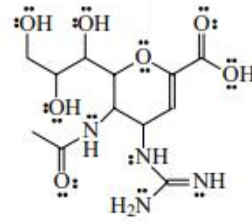
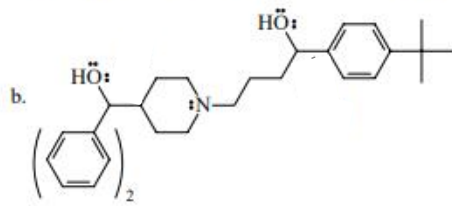
4. Place formal charge on all appropriate atoms. Label the reactants on the left of the arrow as Lewis acids (LA) or Lewis bases (LB) and draw curved arrows to show the movement of electron pairs in each reaction.



SOLUZIONI:

1. a. Seldane™: C<sub>32</sub>H<sub>42</sub>NO<sub>2</sub>

Relenza™: C<sub>12</sub>H<sub>20</sub>N<sub>4</sub>O<sub>7</sub>

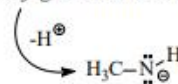
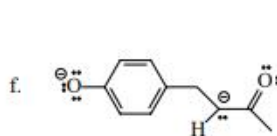
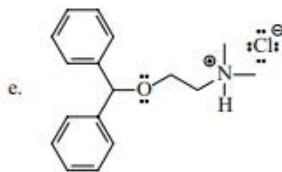


2. a.  $:\overset{\ominus}{\text{C}}\equiv\overset{\ominus}{\text{C}}:$

b.  $\text{H}-\overset{\ominus}{\text{C}}\equiv\text{O}:$

c.  $:\overset{\ominus}{\text{O}}=\overset{\oplus}{\text{N}}=\overset{\ominus}{\text{O}}:$

d. the conjugate base of  $:\text{NH}_2\text{CH}_3$



11. a. alkene, amide, amine, ester, ether

b. alkene, amine, arene, carboxylic acid, halide, ketone

c. alcohol, alkyne, arene.

4.

