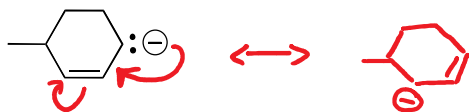


1. Draw an additional resonance structure for each of the compounds shown below. Use curved arrows to show the electron flow.

(a)

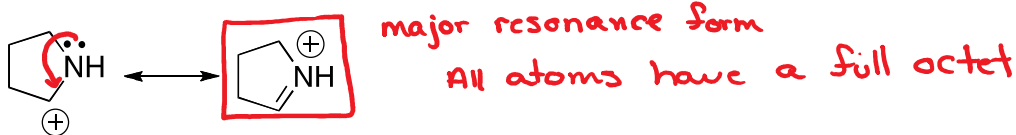


(b)



2. For the pair of resonance structures shown below (i) draw the resonance hybrid and (ii) label them as either minor, major, or equal contributors to the hybrid.

(a)

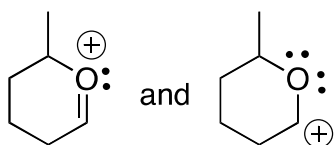


(b)



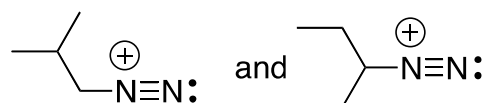
3. For the pair of molecules/ions below, classify them as resonance structures or isomers.

(a)



Resonance
Forms

(b)

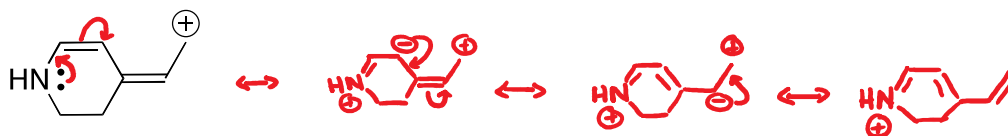


Isomers

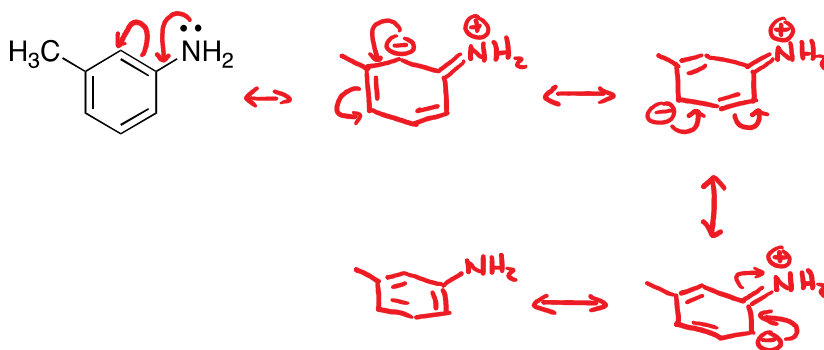
Same molecular formula
Different atom connectivity

4. Challenge problem: Draw ALL possible resonance structures for the molecules/ions below. Be sure to use curved arrows to show the electron flow!!

(a) 4 total structures



(b) 5 total structures



(c) 6 total structures

