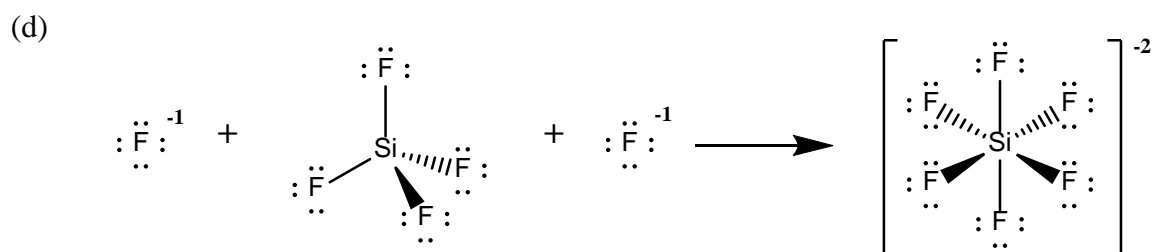
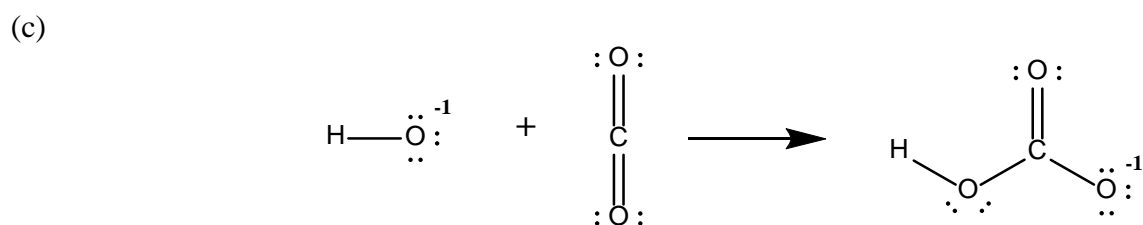
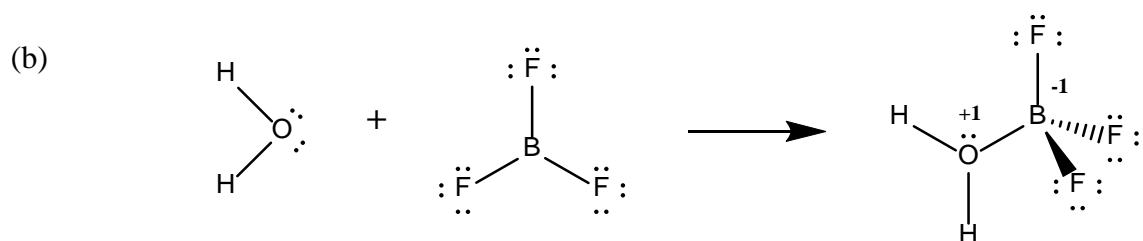
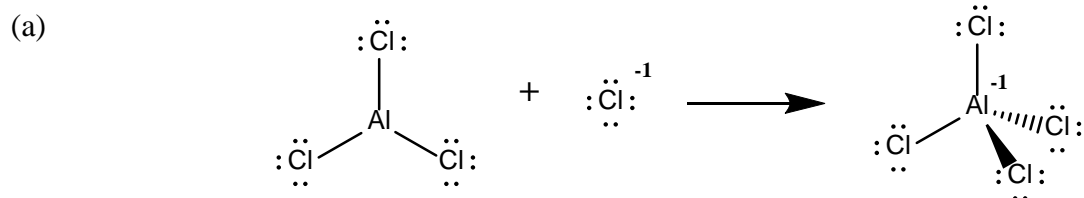


Exercise 10.3

Showing Electron Movement with Curly Arrows

1. For each of the Lewis acid-base reactions shown below:

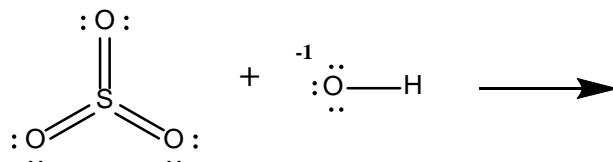
- Identify the Lewis acid and the Lewis base.
- Highlight the electron pairs that have moved between reactant and product.
- If more than one electron pair moves, identify which electron pair in the reactant(s) becomes each “new” electron pair in the product(s). *One way to do this would be to use different colours of highlighting.*
- Use curly arrows to show the movement of the electron pairs.



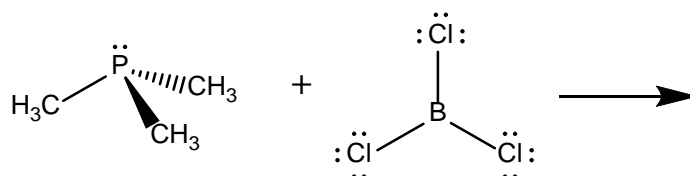
2. For each of the Lewis acid-base reactions below:

- Identify the Lewis acid and the Lewis base.
- Draw a curly arrow from the Lewis base to the Lewis acid showing formation of a new bond from one of the Lewis base's electron pairs.
- If necessary (and possible), draw a second curly arrow showing the movement of an electron pair on the Lewis acid to prevent the central atom from having too many electrons.
- Draw the product of the reaction. (the "Lewis acid-base adduct")

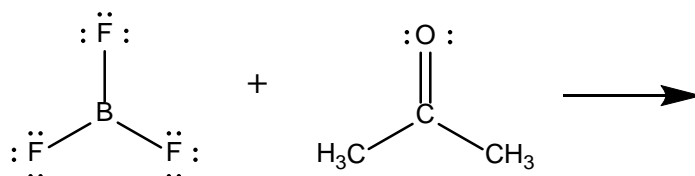
(a)



(b)



(c)



(d) *You do not need to show any lone pairs on Cu. For this question only, you do not need to show formal charges on the product. Instead, draw square brackets around the product, and show its overall charge. You may also write NH_3 instead of drawing all the N-H bonds.*

