

Answers to Homework: Lesson 09: Variations on Covalent Bonding, Exceptions to the Octet Rule

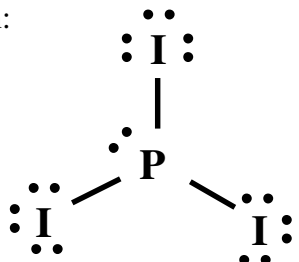
- Read pages 177 – 178 (not shapes and polarity of molecules yet).
- Do questions 14 – 17 on page 178.

Question 14, page 178: the answer on page 211 is clear and correct.

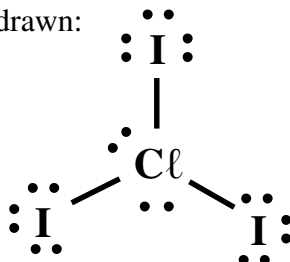
Question 15, page 178: the answer on page 211 is clear and correct.

Question 16, page 178:

PI_3 is drawn:



ClI_3 is drawn:

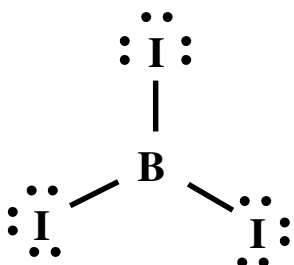


PI_3 has only one lone pair on the central P atom, while ClI_3 has two lone pairs on the central atom.

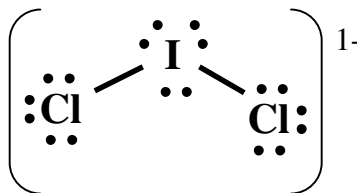
Question 17, page 178: the answer on page 211 is clear and correct.

- Draw the molecular structure of the following molecules. Use the rules for exceptions to the octet rule (insufficient and expanded valence levels).

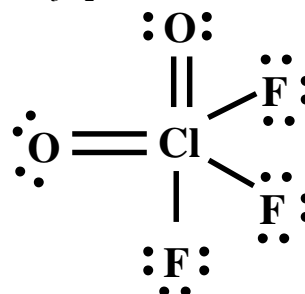
a) BI_3



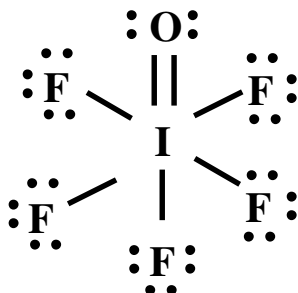
b) ICl_2^{1-}



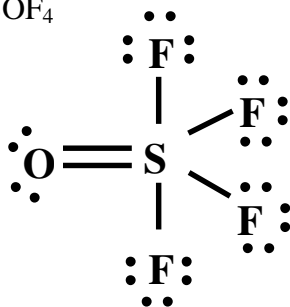
c) ClF_3O_2



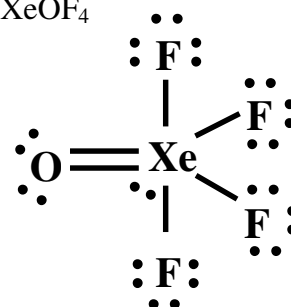
d) IOF_5



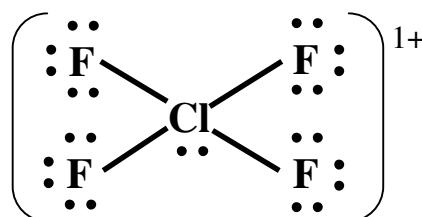
e) SOF_4



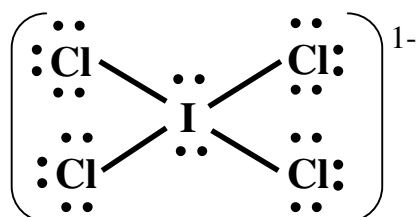
f) XeOF_4



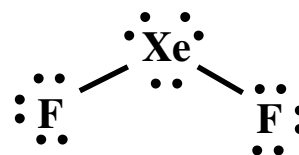
g) ClF_4^{1+}



h) ICl_4^{1-}



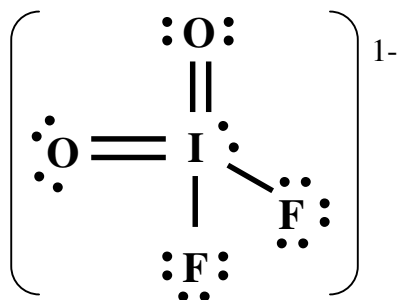
i) XeF_2



j) BeH_2



k) $\text{IF}_2\text{O}_2^{1-}$



l) SF_4

