

*Draw Lewis structures, name shapes and indicate polar or non-polar for the following molecules:*

- a. CH<sub>4</sub>
- b. NCl<sub>3</sub>
- c. CCl<sub>2</sub>F<sub>2</sub>
- d. CF<sub>2</sub>H<sub>2</sub>
- e. CH<sub>2</sub>O
- f. CHN
- g. PI<sub>3</sub>
- h. N<sub>2</sub>O
- i. SO<sub>2</sub>
- j. CS<sub>2</sub>
- k. CO
- l. H<sub>2</sub>O
- m. COF<sub>2</sub>
- n. N<sub>2</sub>
- o. O<sub>2</sub>
- p. H<sub>2</sub>
- q. Cl<sub>2</sub>
- r. HF
- s. O<sub>3</sub>
- t. NI<sub>3</sub>

- a.  $\text{CH}_4$       **tetrahedral, non-polar**
- b.  $\text{NCl}_3$       **trigonal pyramidal, polar**
- c.  $\text{CCl}_2\text{F}_2$       **tetrahedral, polar**
- d.  $\text{CF}_2\text{H}_2$       **tetrahedral, polar**
- e.  $\text{CH}_2\text{O}$       **trigonal planar, polar**
- f.  $\text{CHN}$       **linear, polar**
- g.  $\text{PI}_3$       **trigonal pyramidal, polar**
- h.  $\text{N}_2\text{O}$       **linear, polar**
- i.  $\text{SO}_2$       **bent, polar**
- j.  $\text{CS}_2$       **linear, non-polar**
- k.  $\text{CO}$       **linear, polar**
- l.  $\text{H}_2\text{O}$       **bent, polar**
- m.  $\text{COF}_2$       **trigonal planar, polar**
- n.  $\text{N}_2$       **linear, non-polar**
- o.  $\text{O}_2$       **linear, non-polar**
- p.  $\text{H}_2$       **linear, non-polar**
- q.  $\text{Cl}_2$       **linear, non-polar**
- r.  $\text{HF}$       **linear, polar**
- s.  $\text{O}_3$       **bent, non-polar**
- t.  $\text{NI}_3$       **trigonal pyramidal, polar**

