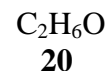


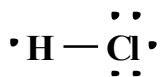
## Pre-lab Exercise KEY for Molecular Modeling

1. Count the total number of valence electrons for each of the following molecules and ions.



2. Are the following Lewis structures reasonable? Consider the total number of valence electrons, and check if hydrogen atoms have duet and the other atoms have octet valence shell electron configuration. If the structure is not reasonable, explain.

1) HCl



8 VE.

Not reasonable, octet  
& duet rule violation.

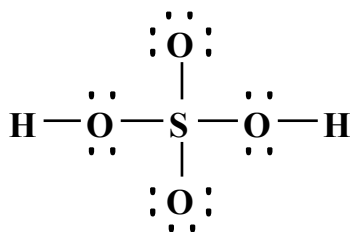
2) H<sub>2</sub>S



8 V.E.

Not reasonable, duet rule violation.

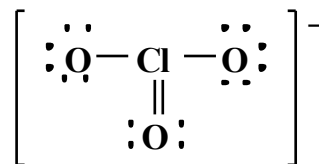
3) H<sub>2</sub>SO<sub>4</sub>



32 VE.

Reasonable.

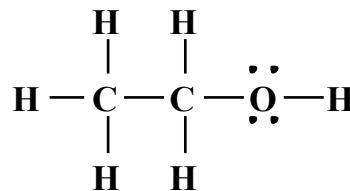
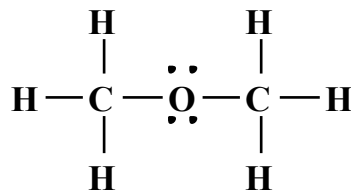
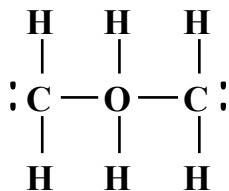
4) ClO<sub>3</sub><sup>-</sup>



26 VE.

Not reasonable. Not enough VE.

5) C<sub>2</sub>H<sub>6</sub>O



20 VE. All are reasonable.