

Chem 108: Lab

Week 9

Sign in

Confer with partners from last week & week before.

DO: Alcohol Distillation

To do with Fermentation / Chemical Reactions partner.

Turn in Chemical Reactions Report form;
(Confer with Molview Group if necessary)

Turn in Molview Modeling form with Molview group.

DUE Today
Chemical Reactions

One report with everyone's name

Laboratory Manual: Report Form pp.46-52
DUE Today

Lab:

Discussion, Experiments & Graded Assignments:

- Week #9 Powerpoint [.html](#), [.ppt](#), Print: [.pdf](#) (6 slides per page)

- Laboratory Manual *Chemical Reactions* Procedure pp. 44-45; Report Form pp. 46-52 Complete form DUE Today
- Laboratory Manual: *Molecular Modeling Report Form* Completed (Group) form DUE Today
- (GQ) Viewing: *Molecular Shapes Guiding Questions*



DUE Today: One report with everyone's name

Molecular Modeling

<http://chemconnections.org/general/chem108/Chemistry%20108%20Molecular%20Modeling%20Form%20Fall%202017.pdf>

Molecular Modeling Report Form

These pages replace the Molecular Model Lab, pp. 97-101, of the *Chemistry 108 Experiments Lab Manual*. Complete the following modeling related exercises and include the names of all group members who contributed to the work on the form.

The first column lists formulas for a number of compounds. The bonding type to be determined for these compounds using differences in their respective electronegativity values refers to the δ value (interatomic). The second column is for the electronegativity difference, the absolute value of the difference in electronegativity between the 2 different atoms in the compound, $|EN_1 - EN_2|$. The third column is for the average electronegativity of the two atoms, $(EN_1 + EN_2)/2$.

Compound	$ EN_1 - EN_2 $	$(EN_1 + EN_2)/2$	Bonding Type
HF			
HCl			
HBr			
HI			
CF ₄			
NaF			
CaO			
BaO			
NH ₃			
CH ₄			
CCl ₄			
H ₂ O			
N ₂ O			
SO ₂			
H ₂			
O ₂			

<http://molview.org>Prepare Answers to the following
Questions for Next Week

Question: Which of the following is the most polar?

Question: Which of the following has the greatest electronegativity difference?

Question: Which molecule is the most polar?

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Which of the following bonds is the most polar?

- A) H—F B) H—Cl
- C) H—Br D) H—CH₃

In which of the compounds below is the δ^+ for H the greatest (highest difference in e.n.)?

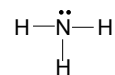
- A) CH₄
- B) NH₃
- C) SiH₄
- D) H₂O

What molecular shape is water?

- a. Tetrahedral
- b. Bent
- c. Trigonal planar
- d. Linear

What is the **electronic** geometry of NH_3 ?

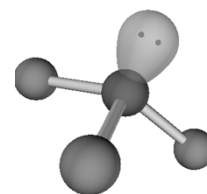
- a. Linear
- b. Trigonal Planar
- c. Tetrahedral
- d. Trigonal Pyramidal



Which of these molecules has a linear molecule geometry?

- a. CO_2
- b. O_3
- c. Both
- d. Neither

Which molecule could be represented with this diagram?



- a. BH_3
- b. CH_4
- c. NH_3
- d. NH_4^+

What is the **molecular** geometry of H_2S ?

- a. Linear
- b. Tetrahedral
- c. Trigonal pyramidal
- d. Bent

Chemical Reactions

To DO Today

Biological Reactions: Enzyme Catalysts

Fermentation / Distillation pp.63-47



<http://www.piney.com/BabNinkasi.html>



