

Revised August 2011



HONORS WORKSHEET 9d: Building Lewis structures



1. Go to the web site; <http://www.stolaf.edu/depts/chemistry/courses/toolkits/123/js/lewis/>
2. From the drop down menu in the top left corner of the web page, select the **acetate ion**.
3. On the right hand side of the page, two things will appear;
 - (i) a diagram of the **acetate ion** with single bonds showing how the atoms are attached to one another plus the name and formula given above the diagram, and
 - (ii) a box with information about the number of electrons, bonds and charges present in the diagram of the **acetate ion**.
4. Your task is to click on the structure diagram to create single, double or triple bonds, and to add the necessary lone pairs to complete the Lewis diagram. The information in the box should help you achieve the correct structure.
5. When you think that you have completed the structure correctly, click on "check structure" underneath the information box.
6. If your structure is correct, record the structure by hand-drawing it in the table on page 2. If not, continue to work on the structure until you get it right.
7. Repeat the process for each structure listed in the table that follows.
8. **For ONLY the structures indicated** determine the name of the shape of the structure.



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	Draw Structure	Name Shape
Acetate ion		NO shape required
Acetylene		NO shape required
Allene		NO shape required
Ammonia		
Carbon dioxide		
Dihydrogen phosphate ion		NO shape required
Ethanol		NO shape required
Ethylene		NO shape required



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	Draw Structure	Name Shape
Ethyl ether		NO shape required
Hydrogen fluoride		
Hydrogen peroxide		NO shape required
Methylamine		NO shape required
Molecular nitrogen		
Oxygen difluoride		
Phosphine		
Water		