Tips for Using the ACD Drawing Program

There are two modes in ChemSketch: Structure mode and Draw mode. You can only be in one mode at a time, and each mode has different toolbars and menus to choose from. *You will probably spend most of your time in Structure mode* (which is the default mode). You draw all molecules in Structure mode. Draw mode has typical paint functions, such as lines, circles, boxes, and free text.

NOTE

The button to use if you want to *select* an atom or molecule is right under the "Structure" button. It looks like a gray circle with a red arrow on it. The button to use if you want to *rotate or resize* an atom or molecule is just to the right of the select button. Often, you will have to click the "select" button if you want to highlight a structure.

Molecules with large metal atoms (like ferrocene) don't work on this program to the best of my knowledge. Use the draw mode to make complicated structures such as that of ferrocene.

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To make a molecule, just click on the atom you want on the left of the screen. If it isn't there, use the built-in periodic table (which looks like a tic-tac-toe board). *You don't have to worry about Hydrogens at all; the program knows and puts them in for you.* Just put in the non-Hydrogen atoms. To make a single bond, simply click on one atom on the page and hold the button and drag the mouse a little and then release the button.

To make a multiple bond, click on any atom symbol on the left toolbar and move the mouse over the single bond and click until the double or triple bond appears.

To make an ion, click the red charge on the bottom of the left toolbar. Now use the right button on the mouse to toggle between "+" or "-". Now click on the atom you want to alter until the desired charge appears.

To make your structures look better ("beautified" as CaChe calls it), highlight them and click on the button that looks like a red and white swirl.

Explore the pre-programmed items under Template Window under Templates.

example: to put a water molecule on the screen, just click on the "O" on the left toolbar. Then move the mouse to where you want the water molecule, and click. Notice how the program put in the two Hydrogens for you.

example: to make propane (3 carbons with all single bonds), click on "C". Now go to the page and click once. You should see a "CH_4" where you clicked. Now, move the mouse on the CH_4 and it will become highlighted. Click on it, and drag the mouse a little and release. You should now see "H_3C-----CH_3." Now do the same thing again and you'll get propane, even if you can't see the middle carbon. Use the clean function to make the zig-zag.

example: to make 1-propanol, which is the molecule described above with an "OH" group at one end, make propane as above. Now, select "O" from the left toolbar and add it to one end of propane (in the same way you added the carbons above).

example: to make NH^{2-}, click on "N" on the toolbar and click on the page. This will write NH_3, but you want NH^{2-}!!! So click the charge feature and use right click to get "-". Now click on the Nitrogen *twice* and you'll have NH^{2-}.

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