Names: _____ Sec._____

Chem 226/ Dr. Rusay *2008*

Infrared Spectroscopy: Chemical Functions

SEE: *http://wwwchem.csustan.edu/Tutorials/INFRARED.HTM*

Access the infrared Web spectra for the following 10 unknown compounds.
http://chemconnections.org/organic/chem226/Labs/IR/ir-unknowns.html

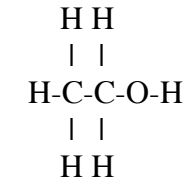
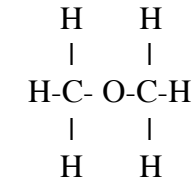
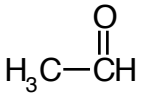
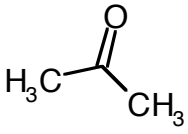
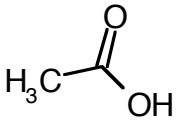
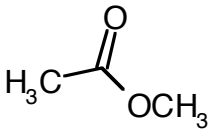
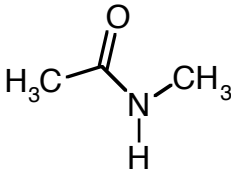
Identify the chemical function present in each Web unknown assigned to you. If your DVC ID ends in an odd number, do the odd Unknowns; if it ends in an even number or zero, do the even. Then, find a partner who has done the other set and explain your assignments of functions and peaks in the spectra that support your choices. Complete the entire form of 10 unknowns. The selection is limited to alcohols, ethers, carboxylic acids, esters, ketones and aldehydes. Be sure to provide the key peak(s) in the spectrum that support your assignment of the function (eg. ketone, 1720 cm^{-1}).

Your DVC ID #: *Student worked with:*	Function and Corresponding IR peak(s) (cm^{-1})
Unknown 1	
Unknown 2	
Unknown 3	
Unknown 4	
Unknown 5	
Unknown 6	
Unknown 7	
Unknown 8	
Unknown 9	
Unknown 10	

After interpreting the Web spectra, run your assigned unknown liquid and the acetate that you synthesized in this experiment on the FT-IR; interpret their respective spectra.

Unknown liquid ID #: ____

Function _____ Peak(s)_____

Key Oxygen Functions		
Alcohol		CH_3CH_2OH
Ether		CH_3OCH_3
Aldehyde		CH_3CHO
Ketone		CH_3COCH_3
Carboxylic Acid		CH_3COOH
Ester		$CH_3CO_2CH_3$
Amide		$CH_3CONHCH_3$