Name(s): _____ Spring 2015

Infrared Spectroscopy: Chemical Functions

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

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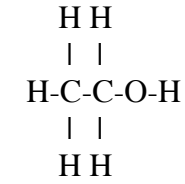
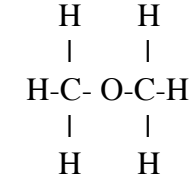
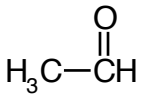
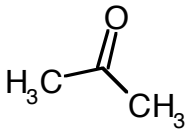
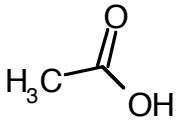
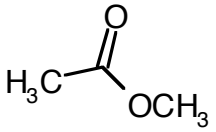
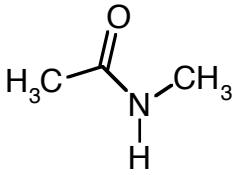
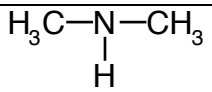
Access the infrared Web spectra for the following 10 unknown compounds.
http://chemconnections.org/general/chem121/IR/ir-unknowns.html

Identify the chemical function present in each Web unknown. Do either the odd numbers or the even numbers. Get the other set from your aspirin synthesis partner. Complete the entire form of 10 unknowns and turn in with the synthesis pre-lab. The selection of compounds is limited to alcohols, ethers, carboxylic acids, esters, ketones and aldehydes (functions that contain oxygen, carbon and hydrogen atoms only). Be sure to provide the key peak(s) in the spectrum that support your assignment of the function (eg. ketone, 1720 cm^{-1}). Refer to pp. 92-97 DVC Chem 121 Lab Manual.

	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	

Key Oxygen & Nitrogen 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		$CH_3CONHCH_3$
Amine		CH_3NHCH_3