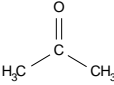
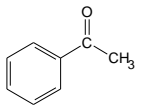
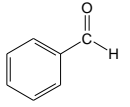
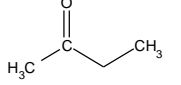

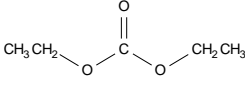
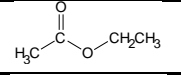
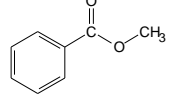
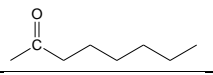
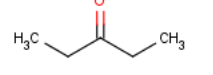
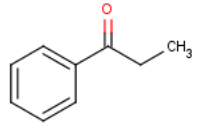


CHEM 30475 - Organic Chemistry Laboratory
IR spectroscopy Data
October 21, 2008

The following table summarizes the experimental $\bar{\nu}_{C=O}$ stretching frequencies obtained in lab. For your laboratory report, (1) rank these compounds in order of C=O bond strength and (2) give chemical explanation for the trends observed. While it may not be possible to fully explain all of the trends observed, several “groupings” can be made which should clearly indicate certain trends.

Compound	Structure	Exptl. (cm ⁻¹)
acetone		1739 (lit. = 1715)
acetophenone		1684
benzaldehyde		1702
2-butanone		1737 (lit. = 1718)
cyclohexanone		1715
diethyl carbonate		1748
ethyl acetate		1770, 1759
methyl benzoate		1725
2-octanone		1716
3-pentanone		1717
propiophenone		1686