**IR Correlation Table with group frequency motion assignments**

**Alkanes**

**ν (cm-1**) shape group frequency motion assignment

 **2950-2850 s doublet CH2 sym and asymmetric C-H stretch**

 **2900-2800 s doublet CH3 sym and asymmetric C-H stretch**

**1470-1430 ms ~singlet CH2 scissors**

**1360-1410 m ~singlet CH3 scissors**

710 mw br doublet ? CH3 methyl wags

**Alkenes**

**3010-3100 m singlet C=C-H vinyl C-H stretch**

**1610—1680 w singlet C=C vinyl carbon-carbon stretch**

Rest as with alkanes

**Alcohols**

**3200-3650 vs broad OH stretch**

2950-2850 s doublet CH2 sym and asymmetric C-H stretch

 2900-2800 s doublet CH3 sym and asymmetric C-H stretch

1470-1430 ms ~singlet CH2 scissors

**1400-1450 ms br ? C-O-H scissors**

**Bolded lines** are most diagnostic of given functionality

1360-1410 m ~singlet CH3 scissors

**~1020-30 vs singlet CH3**-O stretch

**Ketones**

2950-2850 s doublet CH2 sym and asymmetric C-H stretch

2900-2800 s doublet CH3 sym and asymmetric C-H stretch

**1690-1760 vs singlet C=O stretch**

1470-1430 ms ~singlet CH2 scissors

**~ 1400 ms singlet R-C(O)-R scissor ?**

1360-1390 m ~singlet CH3 scissors

**~1050-1150 mw singlet R-C=O stretch ?**

**Aromatics**

**3110-3020 ms singlet Ar-H stretch**

**1660-2000 w multiplet ring overtones(can indicate # substituents)**

**1590-1630 mw singlet(?) aromatic C=C stretches**

**1480-1520 mw singlet (?)**

**670-870 ms singlets out of plane Ar-H bends**