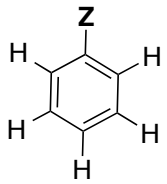
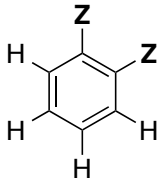
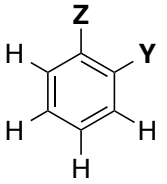
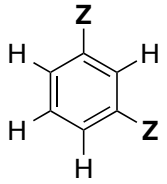
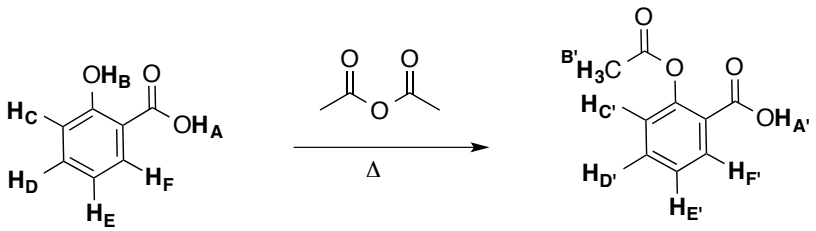
^{1}H NMR Substitution Patterns - *Predict the number of signals and multiplicity for each.*

Monosubstituted	***ortho*-Disubstituted**	***ortho*-Disubstituted**	***meta*-Disubstituted**
			
2H doublet **2H triplet** **1H triplet**			

Synthesis of Aspirin – *predict integration, splitting, and chemical shifts for each proton. Use the simplified NMR tables posted on eCommons. Don't forget to include "observed chemical shifts" when interpreting the spectrum of aspirin.*

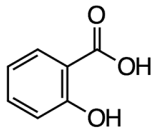


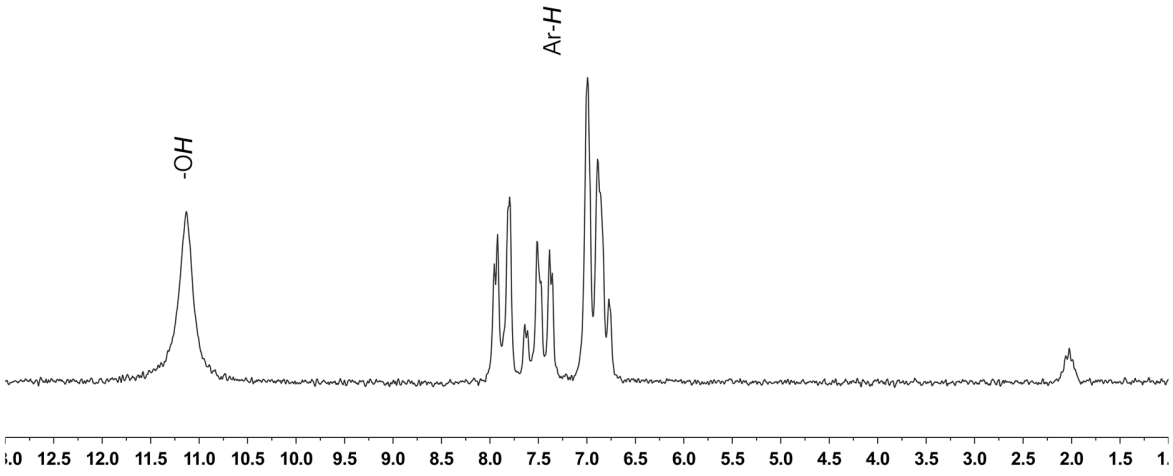
Salicylic Acid **Acetylsalicylic Acid (Aspirin)**

Signal	**Int (#H's)**	**Splitting (m)**	**Expected δ (ppm)**	**Signal**	**Int (#H's)**	**Splitting (m)**	**Expected δ (ppm)**
A				**A'**			
B				**B'**			
C				**C'**			
D				**D'**			
E				**E'**			
F				**F'**			
Only the spectrum of aspirin will be included on the exam.							

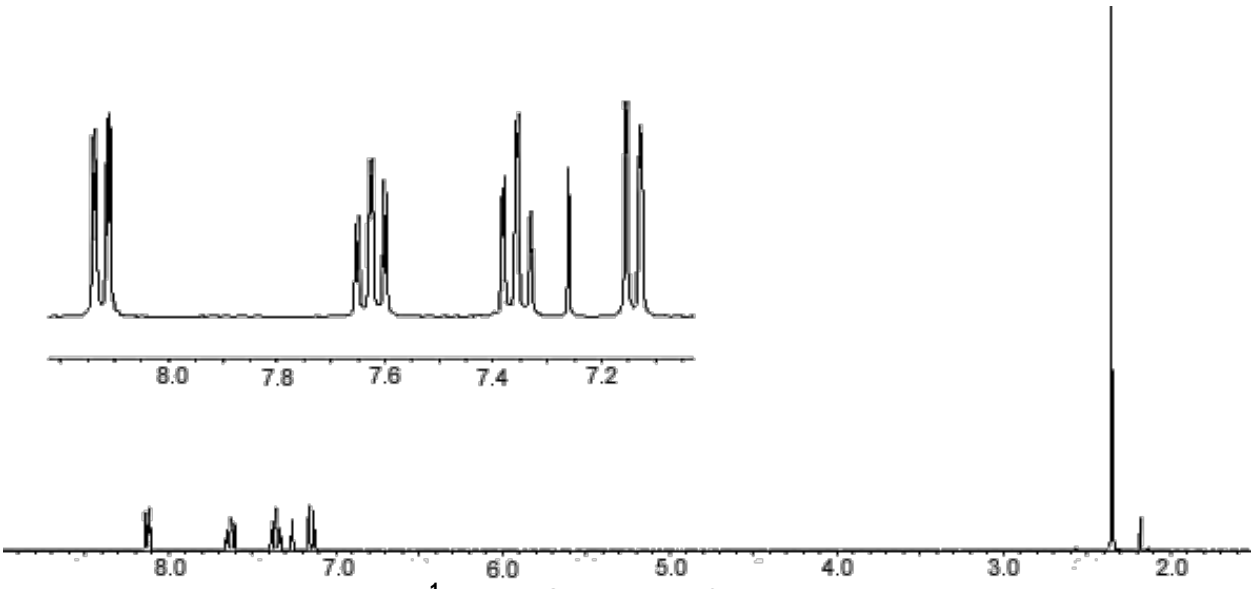
nanalysis

salicylic acid
Frequency: 60.18 MHz
Solvent: d_6-acetone
Concentration: 0.2 M
number of scans: 32
scan time: 4.4 sec
total time: 2.3 min





^{1}H NMR Spectrum of Salicylic Acid



^{1}H NMR Spectrum of Aspirin