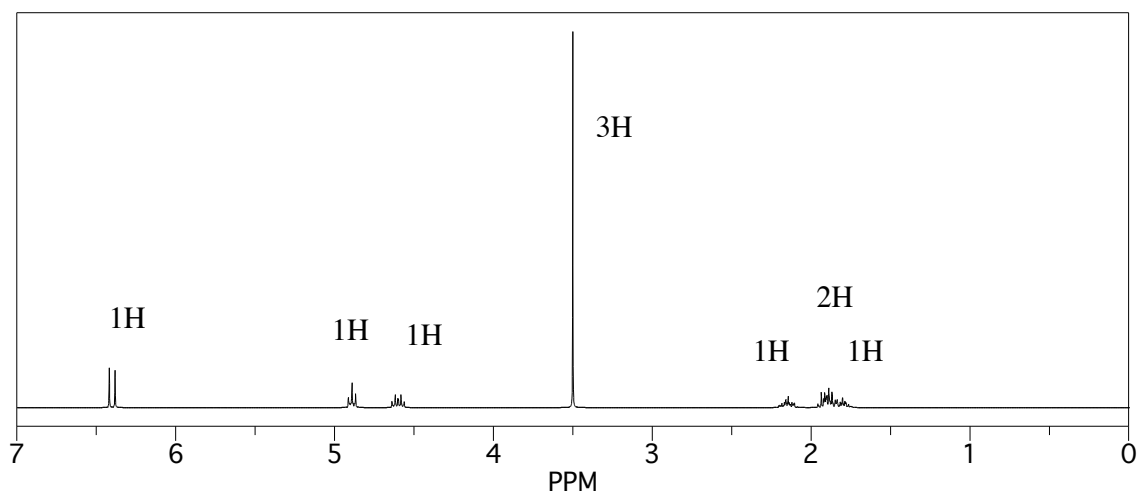


Problem NMR11.2. A compound was shown via high-resolution mass spectrometry to have the probable formula  $C_6H_{10}O_2$ .

- a) What is the degree of unsaturation in this compound?  
b) IR spectroscopy gave the following data: 3105 (w), 2950 (m), 1517 (m), 1235 (s), 1056 (s), 715 (m)  $cm^{-1}$ . Provide a data table with possible assignments for these peaks.

- c)  $^1H$  NMR spectroscopy provided the following spectrum. Provide a data table with partial structures for each peak.



- d) Suggest a likely structure for this compound.