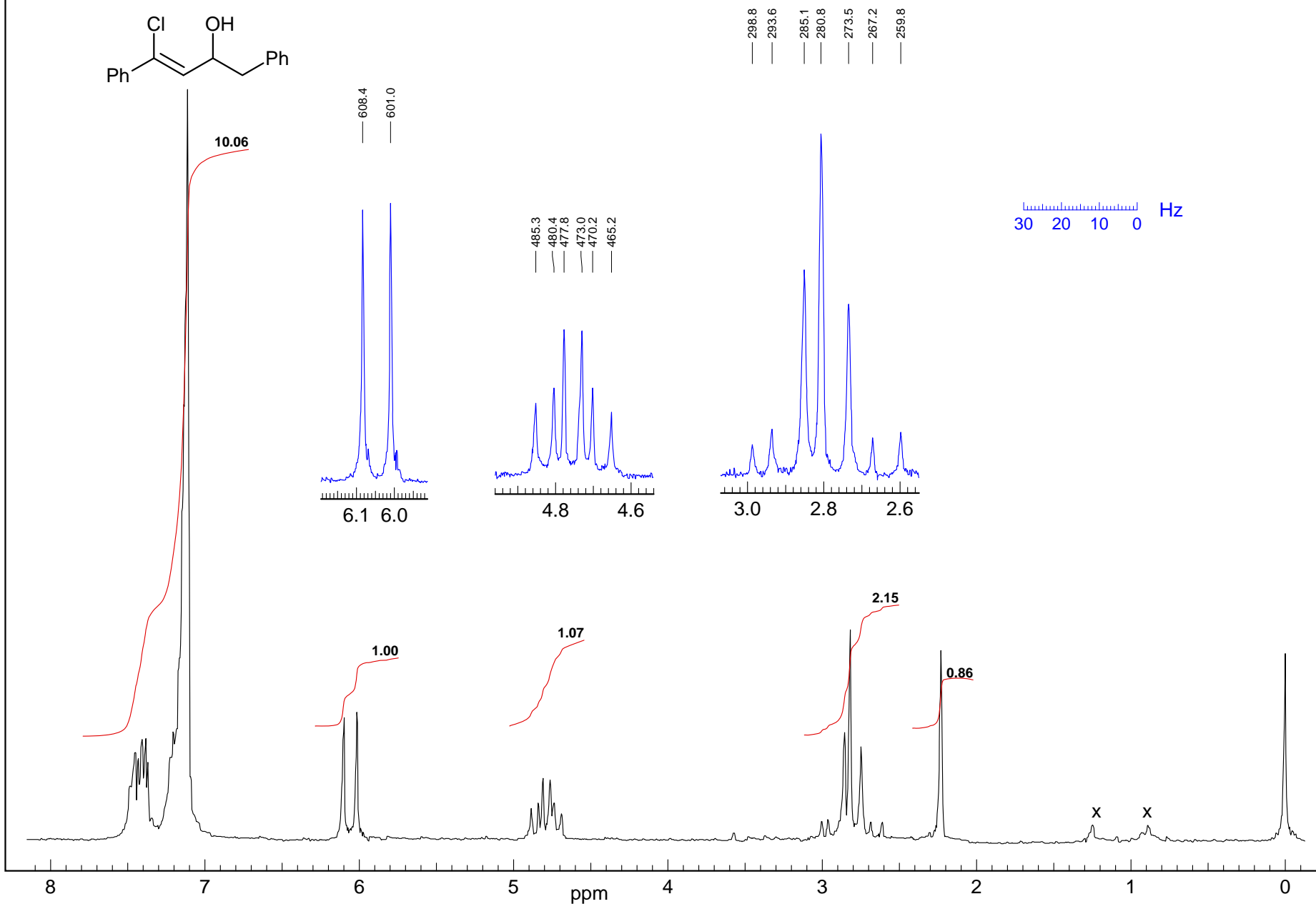
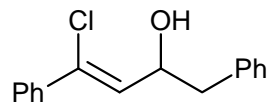


Problem R-12K (C₁₆H₁₅ClO)

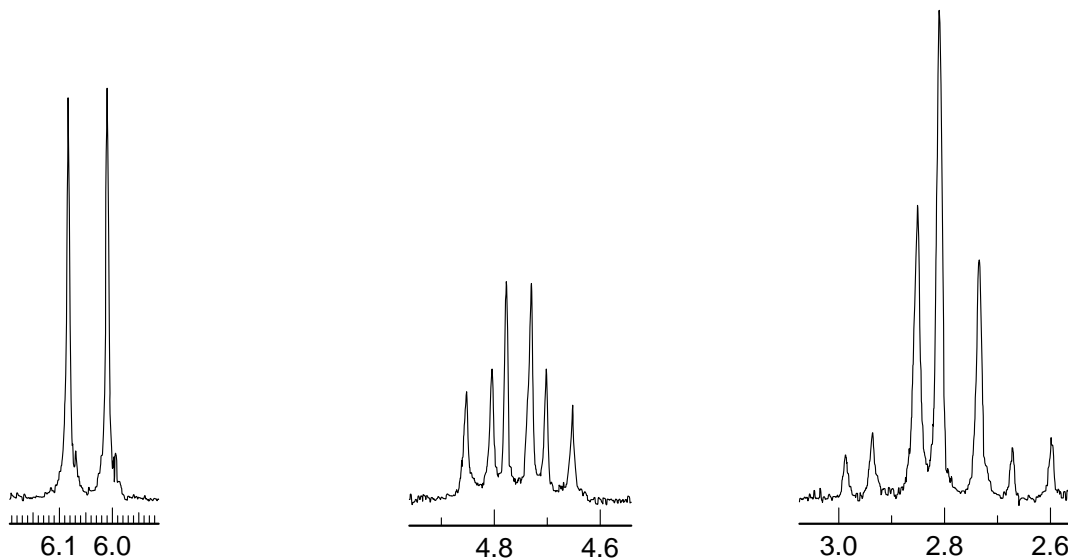
100 MHz ¹H NMR spectrum in CCl₄

Source: Ieva L. Reich (digitized hard copy) g



Problem R-12K ($C_{16}H_{15}ClO$). Determine the structure From the 100 MHz 1H NMR spectrum and the information provided below. Hint: the compound contains two phenyl groups, and no other rings.

- (a) DBE ____
- (b) If the sample is shaken with D_2O the signal at δ 2.2 disappears. What does this tell you?
- (c) Analyze the multiplets shown below. You may use first order analysis. Draw a coupling tree and report δ and J values in the usual format. What part structures are suggested by these multiplets?



- (d) Suggest a structure for the compound. If you have more than one possibility, circle your best choice.
- (e) To check your answer, do a chemical shift calculation for the signals at δ 2.8, 4.8 and 6.05.

Problem R-12K ($C_{16}H_{15}ClO$). Determine the structure From the 100 MHz 1H NMR spectrum and the information provided below. Hint: the compound contains two phenyl groups, and no other rings.

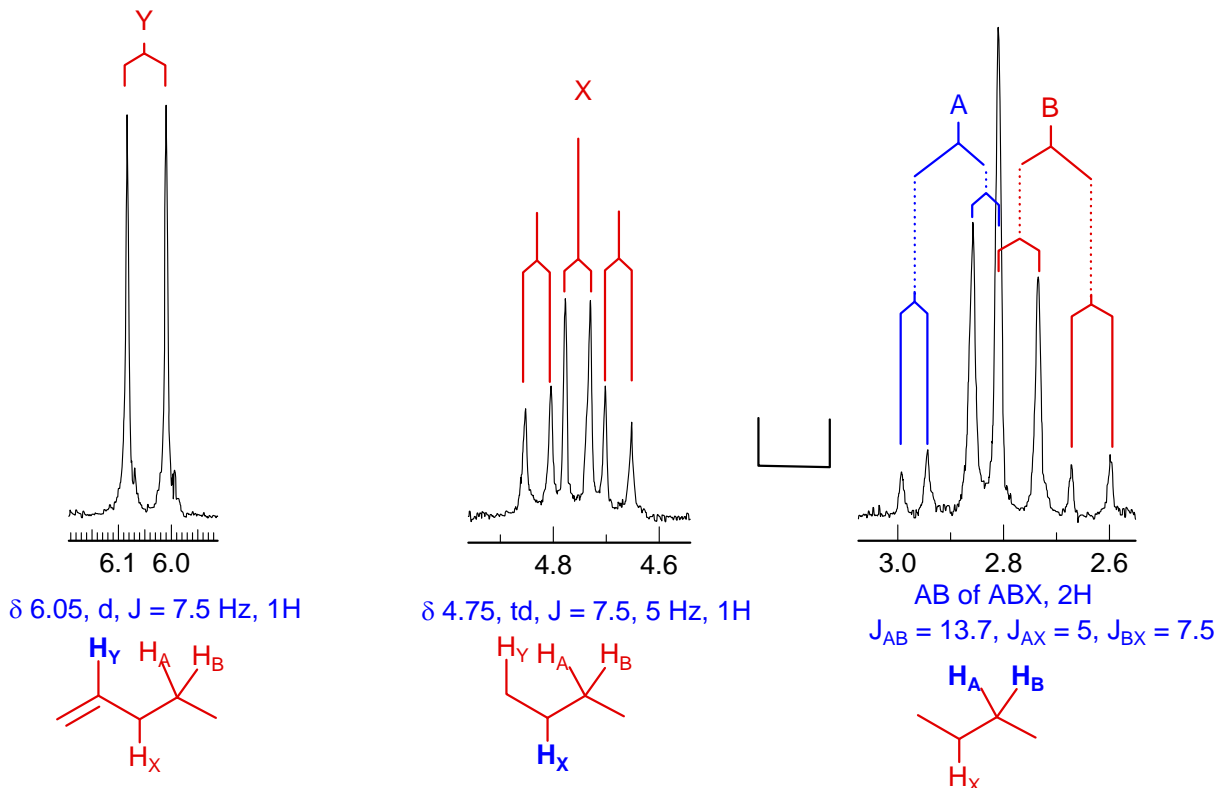
2 (a) DBE 9

(b) If the sample is shaken with D_2O the signal at δ 2.2 disappears. What does this tell you?

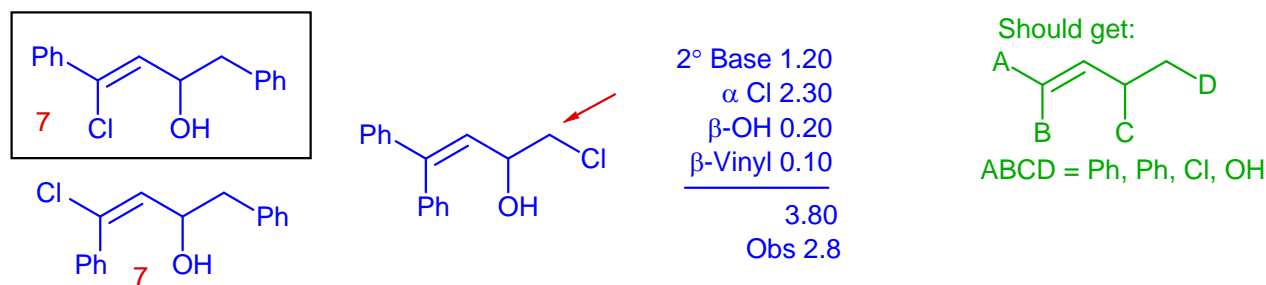
2 This must be on OH peak $R-OH \xrightarrow{D_2O} R-OD + HOD$

(c) Analyze the multiplets shown below. You may use first order analysis. Draw a coupling tree and report δ and J values in the usual format. What part structures are suggested by these multiplets?

6



(d) Suggest a structure for the compound. If you have more than one possibility, circle your best choice.



(e) To check your answer, do a chemical shift calculation for the signals at δ 2.8, 4.8 and 6.05.

